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An Analysis on the Effect of Betel Quid Chewing and Its Combined Use with Cigarettes on Mortality: Evidence from the Elderly in Taiwan

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Abstract

Ten percent of the world population use betel quid, making betel quid the fourth most used substance in the world. In Taiwan, there are estimated 1.5 million users and the majority of them are also smokers. The joint use of betel quid and cigarettes has brought serious health consequence to Taiwan. The number of people died of oral cancer rose more than 5 times from 1987 to 2006. Unlike smoking and drinking, evidence on the health effect of betel quid chewing remains quite thin. In this study, we employ propensity scores matching (PSM) to examine the health effect of betel quid chewing, in particular the health effect of its combined use with cigarettes.

PSM provides an alternative to IV in solving the problem of self selection. We find that betel quid chewing and smoking have significant negative effect on health.

Joint use of betel quid and cigarettes doubles the 10 year death hazard as opposed to abstainers. We also find that betel quid chewing is as harmful to health as smoking. Policies discouraging the use of betel quid and cigarettes can effectively save lives.

JEL: I10, I12, I18

Key words: Mortality, Cox Proportional Model, Betel Quid, Smoking, Self-selection

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Introduction

Betel quid (or areca nut) is the fourth most used substance after tobacco, alcohol, and caffeine in the world and is used daily by nearly 10% of the world population (Gupta and Warnakulasuriya, 2002). Its use is common in South and Southeast Asia and among migrant communities in Europe and North America. In Taiwan, it is estimated that 14.4% and 1.5% of males and females aged 18 and over were current betel quit chewers, an equivalent of 1.5 million users. More importantly, nearly all of these betel quid chewers (93%) are smokers as well (NHI, National Health Interview Survey, 2001).

Betel quid chewing has been recognized as the major risk factor associated with a number of diseases. A comprehensive study conducted by IARC (International Agency for Research on Cancer, 2004) reviews related medical research and concludes that betel quid chewing is the main cause of oral cancer and cancer of the oesophagus. The odds ratio of mortality for chewers relative to nonchewers ranges from 6 to 40 depending on the frequency and duration of use and whether chewing with tobacco¹. Betel quid chewing is also associated with cardiovascular diseases (Guh *et al.*, 2007; Yen, 2006), liver cirrhosis (Boucher and Mannan, 2002; Sarma *et al.*, 1992) and peptic ulceration (Ahmed *et al.*, 1993). Psychological studies

¹ A good review of the health effect of betel quid chewing can be found in IARC (2004).

(Winstock, 2000; Winstock, *et al.*, 2002) even suggest that, similar to smoking and

drinking, chronic betel use may lead to dependence and withdrawal symptoms.

The surge in popularity of betel quid and its combined use with cigarettes have brought serious health consequence to Taiwan. The number of people died due to oral cancer alone rose more than 5 times (423 to 2,202) from 1987 to 2006, making oral cancer the 6th most deadly cause of death from cancer. Moreover, the medical costs associated with treating oral cancers caused by betel quid chewing and smoking topped \$NT 2.8 billion in 2003 (Department of Health, 2003).

Areca nut growing and sales in Taiwan increased significantly after the opening of the cigarette market in 1987. The consumption of betel quid per capita was 4.6kg in 1987 and reached its peak of 9.5kg in 2001 and declined to 7.5kg in 2006 (DGBAS, 2006). Prior to 1987, tobacco market was controlled by the state-run Taiwan Tobacco and Wine Monopoly Bureau which dictated the production and marketing of cigarettes. Sales of cigarette were available only at contracted retailers. Market opening allowed foreign tobacco companies to establish alternative retail outlets by selling cigarettes at many betel nut stalls conveniently located along the roadsides around the island. With the addition of cigarettes to their sales, the number of betel nut stalls multiplied, providing an easy venue for smokers to access to betel quid and consequently increases betel quid sales. This may explain why the majority of betel

quid chewers are smokers. Betel quid sold in Taiwan consists of betel leaf, areca nut, slaked lime, and spices. These ingredients are hand-wrapped in betel quid stalls by so called “betel quid darlings” who dress coquettishly to lure buyers of betel quid and cigarettes.

While the behaviors of smoking and drinking and their consequences on health and labor market have been examined extensively in economic literature (Cook and Moore, 2000; Chaloupka and Warner, 2000; Lye and Hirschberg, 2004; Auld, 2005; Keng and Huffman, 2007), evidence of the health effect of betel quid chewing remains quite thin, in particular, the effect of its joint use with cigarettes. To our knowledge, only two epidemiological studies consider the health effect of the interaction between betel quid chewing and smoking. Using community-based survey data, Wen *et al.* (2005) examine the behavioral and mortality relations between betel quid chewing and smoking in Taiwan. The results show that betel quid chewing significantly increases the risks of dying from oral and other cancers. Compared to abstainers, the odds ratio of dying from oral cancer increases from 2.1 for those who smoke only to 5.9 for joint users of cigarettes and betel quid. When considering death from all causes, the odds ratio for joint users remains 1.5 times higher than abstainers. They also find significant health effect of the interaction between betel quid chewing and the intensity of smoking. The odds ratio of oral

cancer for light smoking chewers is 2.4 as opposed to abstainers. It climbs to 12.2 for heavy smoking chewers. Nonetheless, the authors fail to identify the independent effect of betel quid chewing on health due to limited number of non-smoking chewers in the sample.

Yen *et al.* (2008) use patient data from a hospital to investigate the association between betel quid chewing, smoking, alcohol and the contraction of oral cancer. The results indicate that both betel quid chewing and smoking significantly increase the probability of having oral cancer whereas the effect of drinking is not statistically significant. The effect of betel quid chewing is 2 times greater than that of smoking. Moreover, people who chew betel quid only are 11 times more likely to develop oral cancer than the abstainers. This risk jumps to 40 for the joint users of betel quid, cigarettes and alcohol.

Like other studies of program evaluation, the main difficulty in estimating the health effects of betel quid chewing and smoking arises from the non-random selection of people into these risky behaviors. Because random experiments involving human is impossible for obvious reasons, epidemiological studies often view betel quid chewing as exogenous and pay limited attention to this problem. However, economists (Grossman, 1972, 2006; Becker and Murphy 1988) consider lifestyle such as smoking and betel quid chewing as a choice. As a result, betel quid

chewing may depend on unobserved variables such as the discount factor that also influences health through other channels. If this is the case, the estimates from those epidemiological studies will be inconsistent. Numerous economic studies (Williams and Skeels, 2006; Van Ours, 2006; Adda and Lechene, 2004; DeSimone, 2002; Evans and Ringel, 1999; Rosenzweig and Schultz, 1983) have shown that endogeneity is important and should be accounted for. Secondly, the validity of the findings and policy implications in the epidemiological studies are limited because they rely on clinical, autopsy or hospital data. These data are either small or not population representative.

This paper contributes to the literature by examining the effect of betel quid chewing on the mortality of elderly using propensity score matching and data from a population representative longitudinal survey. In particular, we focus on estimating the combined health effect of betel quid chewing and smoking. Deviate from traditional instrumental variable approach, we adopt the propensity score matching proposed by Rosenbaum and Rubin (1983) and Lechner (2002) to handle the problem of endogeneity caused by self-selection into betel nut chewing and smoking. Under certain independence conditions, we can construct a counterfactual for the treatment group by matching with balancing score (or propensity score). We then use a nonparametric Kaplan-Meier estimator along with semiparametric Cox proportional

hazard model to estimate the average effect of betel quid chewing and smoking on the mortality of the elderly.

This paper proceeds as follows. Section II outlines the conceptual framework and empirical strategies, followed by an introduction of the data in Section III. Section IV reports and discusses the empirical findings and section V concludes the paper.

Conceptual Framework and Empirical Strategies

The empirical model is based on the concept of investment in health (Grossman, 1972; Becker and Murphy, 1988). Given the budget constraint, an individual maximizes the utility function that depends on a vector of “bads”, b , a composite good, c , and the health status, h :

$$U = U(b, c, h) \tag{1}$$

In our context, the “bads” refer to betel quid chewing and smoking. The health production function takes the following form:

$$h = h(b, x; \varepsilon) \tag{2}$$

where h is the health status; x is the observed characteristics and other health inputs and ε is the unobserved health endowment or environmental factors. We further assume that the time of death of an individual is determined by his/her health status. Consequently, the equation for the time of death can be expressed as follows:

$$Deathtime_i = f(betel_i, smoking_i, X_i, \varepsilon_i), \quad i = 1, 2, \dots, n \quad (3)$$

where $Deathtime_i$ is the time of death of individual i ; $betel_i$ is an indicator of betel quid chewing, which equals one if the person is a current chewer and 0 otherwise; Similarly, $smoking_i$ equals 1 if the respondent is a current smoker and 0 otherwise; and ε_i denotes the unobserved factors influencing the health status and hence the time of death of a person.

We apply the method of propensity score matching developed by Rubin (1973, 1974, 1977, 1997) as our strategy of identification. Caliendo and Kopeinig (2008) give a good review of propensity score matching. The basic idea is that an individual can choose between two states in which 1 represents treatment state and 0 denotes non-treatment state. Let Y^1 be the potential outcome if an individual receives the treatment and Y^0 be the potential outcome if the person chooses non-treatment state. Define S as a treatment indicator that equals 1 if an individual receives treatment and 0 otherwise. The causal effect is the difference of the two potential outcomes, which is so called the average treatment effect on the treatment (ATT):

$$\theta_{ATT} = E(Y^1 - Y^0 | S = 1) = E(Y^1 | S = 1) - E(Y^0 | S = 1) \quad (4)$$

This treatment effect cannot be estimated because the last term in equation (4), the counterfactual of the observed outcome, is never available in the sample.

However, under conditional independence assumption (CIA), which states that treatment assignment is random conditional on a set of observed covariates, the causal effect can be identified. That is, conditional on a set of individual attributes, the assignment is independent of the potential non-treatment outcome:

$$Y^0 \perp S | X = x, \forall x \in X \quad (5)$$

which implies $E(Y^0 | S = 1, x) = E(Y^0 | S = 0, x)$. This suggests that conditional on a vector of attributes, we can construct a counterfactual from the untreated group and hence identify the treatment effect on the treated.

The construction of the counterfactual is done by matching the treatment and untreated groups on x . However, matching on x can be problematic if x is of high dimension. Rosenbaum and Rubin (1983) shows that matching by balancing score (or propensity score), $p(S = 1 | x)$, the probability of receiving the treatment, can reduce the dimension of the conditioning set to one. Therefore, we have

$$E(Y^0 | S = 1, p(S = 1 | x)) = E(Y^0 | S = 0, p(S = 1 | x)). \quad (6)$$

In addition, propensity score matching also requires the following common support condition to hold:

$$0 < p(S = 1 | x) < 1 \quad (7)$$

It states that for each set of x , there must be people who do not get treated (betel quid chewing or smoking). The implication of this condition is that if there is some x for

which everyone in this subgroup chews betel quid (smokes), we will not be able to construct the counterfactual outcome for this group. Once the balancing score is obtained, we can estimate the average effect of treatment on the treated by matching with the balancing score:

$$\theta_{ATT} = E\{E[Y^1|S=1, p(x)] - E[Y^0|S=0, p(x)]|S=1\} \quad (8)$$

Lechner (2002) extends binary PSM to the analysis of multiple treatments. Let $\{Y^1, Y^2, Y^3, \dots, Y^M\}$ be the potential outcomes for M mutually exclusive treatments. Treatment assignment is indicated by variable $S \in \{1, 2, \dots, M\}$. The analysis of multiple treatments focuses on a pairwise comparison of the effects of treatment m and j for participants in treatment m . The average treatment effect on the treated can be expressed as:

$$\theta_{ATT}^{m,j} = E(Y^m|S=m) - E(Y^j|S=m) \quad (9)$$

$\theta_{ATT}^{m,j}$ is the expected effect of treatment m relative to treatment j for an individual randomly drawn from the participants in treatment m . Note that, if participants in m and j are different in the distribution of the attributes, the treatment effect on the treated will not be symmetric ($\theta_{ATT}^{m,j} \neq -\theta_{ATT}^{j,m}$).

Identification and Matching Algorithms

Similar to the binary case, the identification of the effect in a model with multiple treatments also relies on the following CIA and common support condition:

$$Y^1, Y^2, \dots, Y^M \perp S | X = x, \forall x \in X \quad (10)$$

$$0 < p(S = m | x) < 1, \forall m = 1, \dots, M, \forall x \in X \quad (11)$$

Equation (10) states that the potential treatment outcomes are independent of treatment assignment for a given vector of attributes, x . Equation (11) requires that for all $x \in X$, there is a positive probability of every treatment to occur. Lechner (2001) shows that when the CIA and common support condition are satisfied, the effect of treatment m as opposed to treatment j on the participants of treatment m can be expressed as:

$$\theta_{ATT}^{m,j} = E(Y^m | S = m) - E_{p_{mj}^j(x)} [E(Y^j | p_{mj}^j(x), S = j) | S = m] \quad (13)$$

where $p_{mj}^j(x)$ is the balancing score representing the conditional probability of participating in treatment j for the subsample of all participants in treatments m and j :

$$p_{mj}^j(x) = p_{mj}^j(S = j | S \in (j, m), x) \quad (12)$$

Once a consistent estimator of $p_{mj}^j(x)$ is available, the dimension of the estimation is reduced to one and the counterfactual can be constructed by matching with balancing score. In the following analysis, we estimate the conditional probability by a logit model for all combinations of m and j .² To estimate $\theta_{ATT}^{m,j}$, we need to estimate $E(Y^j | S = m)$. The counterfactual is constructed by forming a comparison group of selected participants in treatment j that has the same distribution of the balancing

² Lechner (2002) shows that the conditional probabilities obtained by binary probit and multinomial probit are highly correlated. As a result, the results are expected to be the same regardless how propensity scores are derived.

score as the group of participants in treatment m .

We apply the two most common algorithms to implement matching with balancing score, namely, the nearest neighbor matching with replacement and the caliper and radius matching with replacement. We allow the same comparison observation to be used repeatedly to form the comparison group because the number of participants in treatment m may be larger than that of participants in donor treatment j . Note that, this procedure has the potential problem that a few observations may be heavily used, which in turn inflates the variances.

The nearest neighbor matching estimator matches treated unit i in treatment m to unit z in comparison group j with the closest propensity scores to obtain the counterfactuals,

$$|p_i - p_z| = \min_{r \in \{S=j\}} \{p_i - p_r\} \quad (14)$$

The caliper and radius matching requires two additional constraints for which only observations that are within a pre-specified radius of the treated unit's propensity score, ε , are considered and the closest match is selected. In the following analysis, we set ε equal 0.005.

$$\varepsilon > |p_i - p_z| = \min_{r \in \{S=j\}} \{p_i - p_r\} \quad (15)$$

Duration Analysis

Since the treatment effect is defined as the timing of death, we use a

nonparametric duration model to compare the death hazards between treatment m and its matched comparison counterfactual constructed from treatment j . We first apply the Kaplan-Meier method (Kaplan and Meier, 1958) to estimate the survival function. The survival function gives the probability of an individual surviving past time t . Assume that the respondents can die in any time periods, $t_1 < t_2 < \dots < t_z$. In each t_l , there are n_l respondents survives and d_l respondents die. The Kaplan-Meier estimator of the survival function is defined as follows:

$$S(t) = \prod_{l|t_l \leq t} \left(\frac{n_l - d_l}{n_l} \right) \quad (16)$$

We next compute the death hazard using the estimates of the survival function, $\hat{S}(t)$ along with a kernel smoothing procedure suggested by Ramlau-Hansen (1983).

The Kernel function method has been applied widely to smooth an empirical distribution generated by a counting process. We use Epanechnikov's kernel function which takes the form of $k(x) = 0.75(1 - x^2), |x| \leq 1$.

We consider four treatments in this study, namely, (1) no chewing and no smoking (B0S0), (2) betel quid chewing only (B1S0), (3) smoking only (B0S1), and (4) both chewing and smoking (B1S1). Four sets of pairwise comparison with each set containing three pairwise comparisons are performed:

$\theta_{ATT}^{m,j}; m = B0S0, B1S0, B0S1, B1S1; j = B0S0, B1S0, B0S1, B1S1; m \neq j$. This allows us to identify, say, the treatment effect should an abstainer become a

non-smoking chewer, non-chewing smoker, or a joint user of betel quid and cigarettes, respectively. We obtain the average treatment effect and its standard errors by bootstrapping. Lechner (2002) has shown that the estimated treatment effect from bootstrap is comparable to the one generated by the matching protocol in his paper. Due to intensive use of computation time, we limit the bootstrap to 1000 replications.

Data

The data for this analysis are from five waves of the Survey of Health and Living Status of the Middle Aged and Elderly in Taiwan, administered jointly by the Taiwan Provincial Institute of Family Planning and the Population Studies Center at University of Michigan. The original cohort included 4,049 individuals aged 60 and over in 1989, who were reinterviewed in 1993, 1996, 1999, and 2003. By the end of 2003, 2,133 respondents had deceased. The sample is representative of the elderly population and the response rates in each follow-up survey remained above 90%.

The survey collects detailed information on demographic characteristics, household income, living arrangement, health insurance coverage, health care utilization, current health status, medical conditions, work history as well as lifestyle variables such as the histories and quantities of consumption of betel quid chewing, smoking and drinking. We merge the data with the Record of Deaths in 2003, which provides information on the month, year, and the cause of death, to calculate the

duration of the survival spell in months for each individual. After deleting missing values, 3,742 respondents in 1989 are used for the analysis.

Column (1) of Table 1 shows the summary statistics of the original cohort in 1989. The mean age of the sample was 68 with an average monthly income of \$NT 18,034 (\$US 575) and average years of schooling of 3.845. Five percent of the elderly were current chewer, lower than the prevalence rate of 11.4% for people aged between 50 and 69 reported in the NHI 2001. This large discrepancy is no surprise because betel quid chewing was much less popular in 1989 than it is now. On the other hand, the prevalence rates of smoking and drinking were much higher, namely 35% and 21%, respectively.

We further divide the sample into four treatment groups using self-reported smoking and chewing in 1989. If an individual reported smoking (chewing) in 1989, he/she is categorized as a smoker (chewer). There were 2,378 abstainers (63.6%), 49 non-smoking betel quid chewers (1.3%), 1,156 non-chewing smokers (30.9%), and 159 joint users of cigarettes and betel quid (4.2%). More importantly, we find that more than 75 percent of the betel quid chewers were also smokers while only 12 percent of the smokers were chewers.

The P-values in Table 1 suggest strong heterogeneity and self-selection into different treatments. Take abstainers as the reference group, non-smoking chewers

have fewer years of schooling, lower income, more health problems, and are more likely to be aborigines, drinkers, laborers, living alone and residing in the south and east regions, but are less likely to be males and living in the urban. On the other hand, non-chewing smokers are younger, healthier, have higher income and more years of schooling, are more likely to be males, drinkers, laborers, living alone, and are less likely to be aborigines and married. The joint users have higher income, are more likely to be healthier, younger, males, drinkers, laborers, living alone and residing in the south and east regions, and are less likely to live in urban areas.

One potential problem of using 1989 data for classification is that the respondents' smoking and chewing behavior may change over time. Although it is unlikely for abstainers to start smoking and chewing at such old age, smokers and chewers may choose to quit due to health or other considerations. Consequently, we may underestimate the detrimental effect of smoking and chewing betel quid should many elderly stopped chewing or smoking after 1989.

To assess this possibility, we examine the percentage of respondents who reported betel quid (cigarette) use in 1989 but quit the substances after 1989. Table 2 provides detailed information on the patterns of cigarettes and betel quid use in subsequent surveys by respondents' survival time. The rows represent the cumulative frequency of reported betel (cigarette) use after 1989 survey. For

example, column A row G (cell AG) in Panel B shows that 44.5 percent of the betel quid chewers who died between 1996 and 1999, reported betel quid use in both 1993 and 1996 surveys. On the other hand, cell AI in Panel D indicates that 33.8 percent of the betel quid chewers who died after 2003, reported betel quid use in each of the subsequent surveys.

As expected, nearly all non-chewers (non-smokers) remain abstained from the substance after 1989. The majority of chewers (smokers) continue to use betel quid (cigarettes) after 1989 except for those who died between 1993 and 1996, a group of respondents that only accounts for about 10 percent of total sample. Panel E shows that 72% (83%) of the betel quid chewers (smokers) continued to chew betel nut (smoke) at least once after 1989. Table 2 also suggests that reported frequency of betel quid (cigarette) use is positively related to survival time. This finding is consistent with the literature that health status affects consumption behavior. In general, the data reveal that the majority of smokers and betel quid chewers continue their use of these substances after 1989. Our method of classification may not cause significant bias.

Distribution of Propensity Scores and Common Support Condition

We use a logit regression to estimate the propensity score. Logit regression includes variables that influence both participation decision and the outcome variable,

the death hazard. Eleven variables are included: age, years of schooling, gender, marital status, income, alcohol consumption, self-reported health, employment status, and a group of dummy variables indicating the regions of residence, whether the respondent is an aborigine, and whether the current or last job that the respondent held was a laborer.

The frequency distributions of the propensity score for all four sets of pairwise comparison are reported in Figures 1-4. In each panel, the upper histogram corresponds to the treatment group while the bottom histogram corresponds to the comparison group. To avoid flooding the readers with excessive tables and discussions over 12 conditional logit models, we only focus on a particular set of pairwise comparison here, namely, the effect of being an abstainer.³ Panel A of Figure 1 shows that both distributions are highly skewed. Fifty percent of the comparison group (b1s1) lies above the 95th percentile of the treatment group (b0s0) while 53 percent of the treatment group is below the 5th percentile of the comparison group. Similarly, panel B indicates that 39 percent of the comparison group (b1s0) lies above the 95th percentile of the treatment group whereas 79 percent of the treatment group lies below the 5th percentile of the comparison group. The discontinuity in the lower histogram is due to small sample size of the comparison

³ The logit estimates are available upon request. Figures 2-4 have similar frequency distributions.

group (n=49). In Panel C, 28 percent of the comparison group (b1s0) lies above the 95th percentile of the treatment group and 48 percent of the treatment group lies below the 5th percentile of the comparison group.

These figures show that the probabilities vary considerably for observations participating in the same treatment. This suggests that the participants of the same treatment are quite heterogeneous with respect to their characteristics. One important implication is that there is sufficient overlapping in probabilities that the common support conditions are satisfied. Nonetheless, like other matching studies we are forced to use only a small number of comparison observations in the lower tail to construct the counterfactual for a larger number of treated observations, for example, there are only 49 participants of non-smoking chewers and 159 joint users.

To ensure that any combination of characteristics observed in the treatment group is also observed in the comparison group, we use minima-maxima comparison approach in which we exclude observations whose propensity score is smaller than the minimum and larger than the maximum in the opposite group. The share of the observations that are lost due to the imposition of common support varies across treatments, ranging from 1% to 8%.

We evaluate the quality of matching by comparing the means of selected characteristics between matched treatment and comparison groups using nearest

available neighbor with replacement.⁴ The results are given in Table 3 and, for simplicity; we only report the level of statistical significance. Differences in characteristics between the matched pairs were evaluated using the sign-ranked test for continuous variables and McNemar's test for binary variables. The matched samples in our analysis are fairly balanced except for $\theta_{ATT}^{BOS0,j}$ and $\theta_{ATT}^{BOS1,j}$. The imbalance is mainly caused by small donor sample relative to the treatment sample and could induce biases in the estimation of the treatment effect. For the purpose of model robustness, we will implement a Cox proportional hazard model on the matched samples to account for the differences in attributes after matching.

Empirical Results

The treatment effect is defined as the difference in hazard rate of death between matched comparison and treatment groups. Table 4 reports the Kaplan-Meier estimates of the mean effect of betel quid chewing and smoking on their respective participants 5 and 10 year after 1989 using both nearest neighbor matching and caliper matching. The standard errors for the matching estimators are based on 1,000 replications.

The numbers on the main diagonal are the mean hazard rate for each of the four treatments. The treatment effect is reported in italic and shown off the main

⁴ Results from caliper matching are similar.

diagonal. Our estimates all have expected signs and are significant at 5% significance level. A positive number suggests that the effect of the row treatment compared with column treatment is a higher death hazard for participants of the row treatment. For instance, the fourth row of panel A indicates that the mean effect of being a joint user compared with being an abstainer is 0.002 (0.006) of additional increase in the 5 (10) year death hazards for participants of joint users. Note that the treatment effects shown off the main diagonal are not symmetric implying that participants in m and j are quite different in the distribution of the attributes.

Since estimates from the nearest neighbor and caliper matching are similar, we use the estimates of the nearest matching for the remaining discussion. The results confirm that joint use of cigarettes and betel quid has the most detrimental effect on health. The first row of panel A shows that compared with the effect of being a joint user, the effect of being an abstainer is 0.0042 (0.0052) of additional decline in the 5 (10) year death hazards for abstainers. Rows 2 and 3 also indicate that relative to the effect of being a joint user, the effect of being a non-smoking chewer (non-chewing smoker) is 0.001 (0.0014) of additional decrease in the 5 year hazard and 0.0001 (0.0019) of additional decrease in the 10 year hazard for non-smoking chewers (non-chewing smokers). Similar conclusion can be found in the fourth row of panel A.

Abstainers, on the other hand, have the lowest death hazard. As opposed to the effect of being a non-smoking chewer (non-chewing smoker), the effect of being an abstainer is 0.0049 (0.0021) of additional decrease in the 5 year death hazards and 0.0047 (0.0027) of additional decrease in the 10 year death hazards, respectively for abstainers. The 10 year death hazards for the joint users will experience the largest decline should they become abstainers (-0.006, 65%), followed by becoming non-chewing smokers (-0.0046, 50%) and non-smoking chewers (-0.004, 43%). Given that betel quid chewers also tend to be smokers, our findings suggest that policy discouraging betel quid and cigarette use can effectively save lives lost to diseases related to betel quid chewing and smoking.

The findings in Table 5 are mixed on whether smoking is more harmful to health than betel quid. While betel quid chewing is shown to have greater harmful effect on the 5 year death hazards, $\theta_{ATT}^{B0S1,j}$ and $\theta_{ATT}^{B1S0,j}$ in rows 2 and 3 indicates otherwise for the effect on the 10 year hazards. The 10 year death hazard of non-chewing smokers declines by 0.0014 (23%) should they were non-smoking chewers. On the other hand, the 10 year death hazard of non-smoking chewers increases by 0.0015 (27%) should they were non-chewing smokers.

Figure 5 provides the dynamics of the treatment effects with the vertical axis representing the difference in hazard rates and horizontal axis denoting time in

months. We report the nearest neighbor matching estimate only because the caliper estimates are similar. Once again, a positive number indicates that participation in treatment m , represented by the horizontal line would increase the death hazard as opposed to receiving comparison treatment j in question. Although the dynamics of the average effect is nonlinear, these curves largely confirm the overall findings set out in Table 4. That is, use of betel quid or cigarettes has adverse effect on health. Abstainers have the lowest hazard rates whereas joint users show the opposite. Both non-chewing smokers and non-smoking chewers have higher death hazards than abstainers. More importantly, the results in Table 4 and Figure 5 strongly suggest that betel quid chewing is as harmful to health as smoking.

When the attributes of the matched samples remain unbalanced as shown in Table 3, the matching estimates reported above may be subject to bias. To check model robustness, we also apply Cox proportional model on the matched sample to account for the differences in attributes. The estimated difference in hazard rate is measured in percentage and reported in Table 5. Similarly, a positive number indicates that participation in program m increase the death hazard in percentage as opposed to receiving treatment j for participants in treatment m .

All results are statistically significant except for row 2 in both panels, which is attributed to small sample size of non-smoking chewers (n=49). Consistent with

the results in Table 4, the joint use of cigarettes and betel quid has the highest death hazards. Since the results are similar in both panels, we will focus on estimates from the nearest neighbor matching. The mean effect of being an abstainer compared with the effect of being a joint user is 97% lower in death hazard for abstainers. That is, joint use of betel quid and cigarettes nearly doubles the death hazards. For Non-chewing smokers, the effect of quit smoking is to lower death hazard by nearly 45%. Similarly, the mean effect of becoming an abstainer for joint users is to decrease the death hazard by 87% (57% in panel B). Rows 2 and 3 of both panels suggest that smoking might have greater adverse health effect than betel quid chewing. Compared with the effect of being a non-smoking chewer, the effect of being a non-chewing smoker is 52% higher in death hazard for non-chewing smokers.

Concluding Remarks

Betel quid chewing in Taiwan has gained popularity in recent years partly due to market opening of cigarette in 1987. With estimated 1.5 million chewers and the majority of them being smokers, betel quid chewing presents a serious threat to the health of the population on this island.

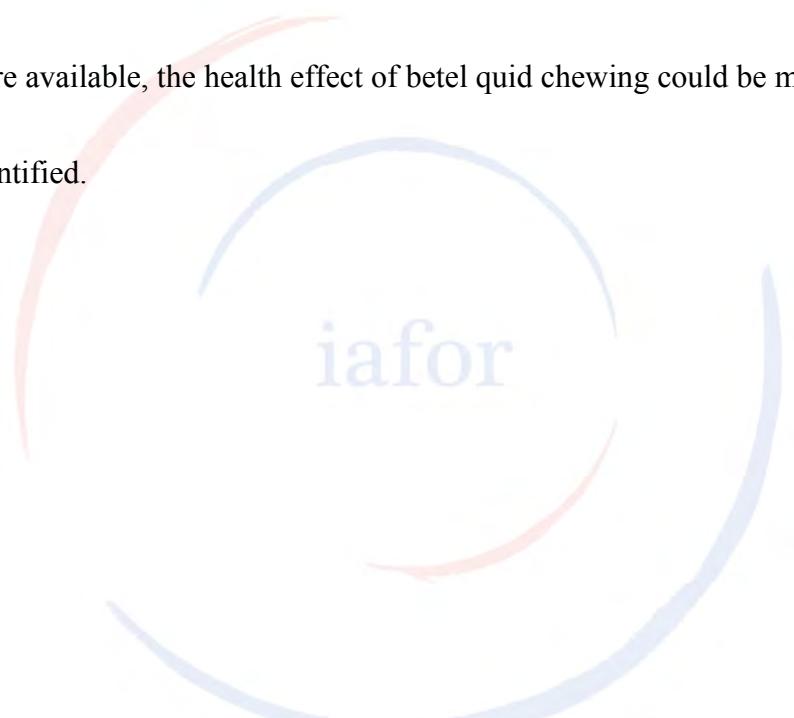
This paper uses propensity score matching to examine the extent to which betel quid chewing and smoking affect elderly mortality. Propensity score

matching allows us to remove the bias caused by self selection, a problem often ignored by medical and epidemiological studies. Both Meier-Kaplan and Cox proportional estimates strongly suggest that consuming both betel quid and cigarettes more than doubles the 10 year death hazard for abstainers. Consuming either betel quid or cigarettes also has significant adverse effect on health. On the average, the death hazard jumps by 31% (55%) if an abstainer becomes a non-chewing smoker (non-smoking chewer).

While 10% of the world population, mainly in underdeveloped and developing countries, use betel quid on a daily basis, the evidence of its health effect is of great importance. Our findings have important public health implications particularly while most betel quid chewers are also smokers. Policies that discourage betel quid chewing and smoking is expected to effectively save lives and the medical costs of treating diseases caused by these unhealthy lifestyles. While many countries have taken effective measures to discourage smoking, similar actions remain lacking in the consumption of betel quid. Given that our results suggest that betel quid chewing is equally harmful to health as smoking, policy makers may need to require retailers of betel quid to print health warning sign on the label, raise public awareness to the hazard of betel quid chewing, and even impose betel quid taxes.

Two limitations of this study are worth mentioning. First, since the majority of

betel quid chewers are also smokers, the number of non-smoking chewers is small and hence we may not precisely identify the independent effect of betel quid chewing on health. Secondly, since our sample includes people older than 60 in 1989 only, their consumption of betel quid clearly was not affected by the opening of cigarette market in 1987. Consequently, the number of betel quid chewers in the sample is relatively small. Had data covering younger cohorts who were influenced by 1987 market opening were available, the health effect of betel quid chewing could be more robustly identified.

The logo consists of three concentric circles. The innermost circle is light blue, the middle circle is pink, and the outermost circle is light blue. The word "iafor" is written in a lowercase, sans-serif font, centered within the pink circle.

iafor

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Table 1: Sample Characteristics as of 1989 by Types of Consumption of Betel Nut and Cigarette

Variables	Definition of Variables	Total	Abstainers	Non-smoking	P Value	Non-chewing	Pvalue	Joint Users of Cigarette and Betel Nut (5)	P Value
		(1)	(2)	Chewers (3)	(2)-(3)	Smokers (4)	(2)-(4)		(2)-(5)
BETEL	Dummy of current betel quid chewer	0.06 (0.229) ¹	0 (0.0)	1 (0.0)		0 (0.0)		1 (0.0)	
BETELAMT	Number of betel quid chewed daily	0.51 (3.046)	0 (0.0)	9.47 (8.327)		0 (0.0)		9.23 (9.814)	
SMOKING	Dummy of current smoker	0.35 (0.477)	0 (0.0)	0 (0.0)		1 (0.0)		1 (0.0)	
DRINKING	Dummy of current drinker	0.21 (0.409)	0.11 (0.318)	0.20 (0.407)	0.052	0.38 (0.484)	<0.001	0.51 (0.501)	<0.001
MALE	Dummy of gender	0.57 (0.494)	0.38 (0.487)	0.27 (0.446)	0.08	0.93 (0.252)	<0.001	0.81 (0.397)	<0.001
EDU	Years of schooling	3.84 (4.516)	3.44 (4.631)	1.96 (2.723)	0.026	4.81 (4.487)	<0.001	3.47 (3.293)	0.896
AGE	Age of the respondent	67.91 (6.272)	68.46 (6.503)	67.55 (6.373)	0.331	67.04 (5.787)	<0.001	66.26 (5.011)	<0.001
MARRIED	Dummy of marital status	0.93 (0.253)	0.95 (0.211)	0.98 (0.142)	0.385	0.88 (0.326)	<0.001	0.96 (0.191)	0.602
INCOME	Monthly income in thousand \$NT dollars	18.034 (21.89)	17.46 (19.74)	10.53 (12.83)	0.014	19.47 (18.83)	0.004	18.38 (53.02)	0.631
ALONE	Dummy of living alone	0.09 (0.292)	0.07 (0.438)	0.20 (0.407)	0.001	0.13 (0.336)	<0.001	0.10 (0.302)	0.219
URBAN	Dummy of living in urban area	0.47 (0.498)	0.48 (0.499)	0.18 (0.391)	<0.001	0.48 (0.499)	0.884	0.28 (0.448)	<0.001
ABORIGIN	Dummy of being an aboriginal	0.02 (0.131)	0.01(0.094)	0.16 (0.373)	<0.001	0.01(0.082)	0.554	0.18 (0.382)	<0.001
NORTH	Dummy of residing in the north	0.36 (0.48)	0.36 (0.48)	0.10 (0.242)	<0.001	0.40 (0.49)	0.019	0.14 (0.352)	<0.001
CENTRAL	Dummy of residing in the north	0.26 (0.437)	0.27 (0.443)	0.16 (0.373)	0.006	0.23 (0.423)	0.018	0.28 (0.448)	0.834
SOUTH	Dummy of residing in the south	0.31 (0.461)	0.31 (0.464)	0.55 (0.502)	0.002	0.28 (0.449)	0.054	0.35 (0.479)	0.302
HEALTH	Dummy of good health	0.77 (0.418)	0.75 (0.431)	0.63 (0.487)	0.053	0.82 (0.382)	<0.001	0.77 (0.423)	0.688
LABORER	Dummy of being a laborer in the last job	0.46 (0.198)	0.41 (0.493)	0.73 (0.446)	<0.001	0.51 (0.50)	<0.001	0.75 (0.435)	<0.001
<i>Number of Observations</i>		3742	2378	49		1156		159	

1. Standard errors are in the parentheses.

Table 2: The Cumulative Frequency of Elderly Reporting Betel Quid or Cigarette Use After 1989 Survey by Types of Users and the Time of Death

Cumulative Frequency	Report Betel Quid Use in 1989		Report Cigarette Use in 1989	
	Yes (A)	No (B)	Yes (C)	No (D)
Panel A: Respondents Who Died between 1993 and 1996				
0 (E)	17 (53.1)	403 (97.7)	49 (29.7)	261 (96.7)
1 (F)	15 (46.9)	9 (2.3)	116 (70.3)	9 (3.3)
Total	32 (100)	403 (100)	165 (100)	270 (100)
Panel B: Respondents Who Died between 1996 and 1999				
0 (E)	7 (25.9)	373 (97.1)	30 (17.1)	225 (95.3)
1 (F)	8 (29.6)	6 (1.6)	37 (21.1)	8 (3.4)
2 (G)	12 (44.5)	5 (1.4)	108 (61.8)	3 (1.3)
Total	27 (100)	384 (100)	175 (100)	236 (100)
Panel C: Respondents Who Died between 1999 and 2003				
0 (E)	14 (34.1)	653 (97.6)	46(16.9)	415 (94.5)
1 (F)	8 (19.5)	11 (1.6)	43 (15.8)	15 (3.4)
2 (G)	5 (12.2)	4 (0.6)	48 (17.7)	5 (1.1)
3 (H)	14 (34.2)	1 (0.2)	134 (49.6)	4 (1.0)
Total	41 (100)	669 (100)	271 (100)	439 (100)
Panel D: Respondents Who Died after 2003				
0 (E)	10 (13.5)	1572 (97.2)	66 (12.7)	1109 (94.7)
1 (F)	14 (18.9)	23 (1.4)	54 (10.4)	28 (2.4)
2 (G)	11 (14.9)	11 (0.6)	82 (15.7)	17 (1.4)
3 (H)	14 (18.9)	6 (0.4)	114 (21.8)	8 (0.7)
4 (I)	25 (33.8)	6 (0.4)	205 (39.4)	9 (0.8)
Total	74 (100)	1618 (100)	521 (100)	1171 (100)
Panel E: Percentage of Elderly Reporting Betel Quid or Cigarette Use After 1989				
Chew Betel Quid at Least Once	0.724	0.023		
Once After 1989				
Smoke at Least Once			0.831	0.05
After 1989				

Percentages are in the parentheses.

Table 3: Statistical Significance for Testing the Difference in Selected Characteristics Between Matched Samples Based on Nearest Neighbor Matching with Replacement

Variables	$\theta_{ATT}^{B0S0,j}$			$\theta_{ATT}^{B1S1,j}$			$\theta_{ATT}^{B1S0,j}$			$\theta_{ATT}^{B0S1,j}$		
	B0S1	B1S0	B1S1	B0S0	B0S1	B1S0	B0S0	B0S1	B1S1	B0S0	B1S0	B1S1
<i>DRINKING</i>	*	-	***	-	-	-	-	-	-	-	**	*
<i>MALE</i>	-	***	-	-	-	-	-	-	-	-	-	**
<i>EDU</i>	-	***	-	-	-	-	-	-	-	-	**	**
<i>AGE</i>	-	***	***	-	***	-	-	-	-	-	**	*
<i>MARRIED</i>	**	***	****	-	-	-	-	-	-	-	**	-
<i>INCOME</i>	-	***	***	-	-	-	-	-	-	-	**	**
<i>ALONE</i>	-	***	-	-	-	-	-	-	-	-	**	-
<i>URBAN</i>	***	**	***	-	-	**	-	-	-	-	**	**
<i>ABORIGIN</i>	***	-	-	-	-	**	-	-	-	-	-	-
<i>NORTH</i>	***	*	***	-	-	-	-	-	-	-	***	-
<i>CENTRAL</i>	***	-	***	-	-	-	-	-	-	-	***	***
<i>SOUTH</i>	***	-	***	-	-	*	-	-	-	-	***	***
<i>HEALTH</i>	***	***	***	-	-	***	-	-	-	-	***	-
<i>LABORER</i>	***	***	*	-	-	**	-	-	-	-	***	-

* Significance at 10% level. ** Significance at 5% level. *** Significance at 1% level.

Table 4: Matching Estimates, $\theta_{ATT}^{m,j}$, Based on the Nearest Neighbor Matching and Measured as The Difference in Hazard Rate Five and Ten Year after 1989

Difference in Hazard Rate in Percentage Points for The Following Treatment j								
Group m	5 Year				10 Year			
	B0S0	B1S0	B0S1	B1S1	B0S0	B1S0	B0S1	B1S1
Panel A: Nearest Neighbor Matching								
B0S0	0.0035	-0.0049***	-0.0021***	-0.0042***	0.0041	-0.0047***	-0.0027***	-0.0052***
B1S0	0.003***	0.0058	0.002***	-0.001***	0.002***	0.0055	-0.0015***	-0.0001
B0S1	0.001***	-0.0016***	0.0038	-0.0014***	0.002***	0.0014***	0.0062	-0.0019***
B1S1	0.0018***	0.0012***	0.0024***	0.0053	0.006***	0.004***	0.0046***	0.0093
Panel B: Caliper Matching								
B0S0	0.0035	-0.005***	-0.0018***	-0.0047***	0.0043	-0.0043***	-0.0027***	-0.0048***
B1S0	0.003***	0.0053	-0.0018***	-0.0014***	0.002***	0.0053	-0.0022***	-0.0012***
B0S1	0.0005***	0.002***	0.0038	-0.0014***	0.002***	0.004***	0.0059	-0.0019***
B1S1	0.0013***	0.0014***	0.0013***	0.0053	0.0044***	0.0015***	0.0037***	0.008

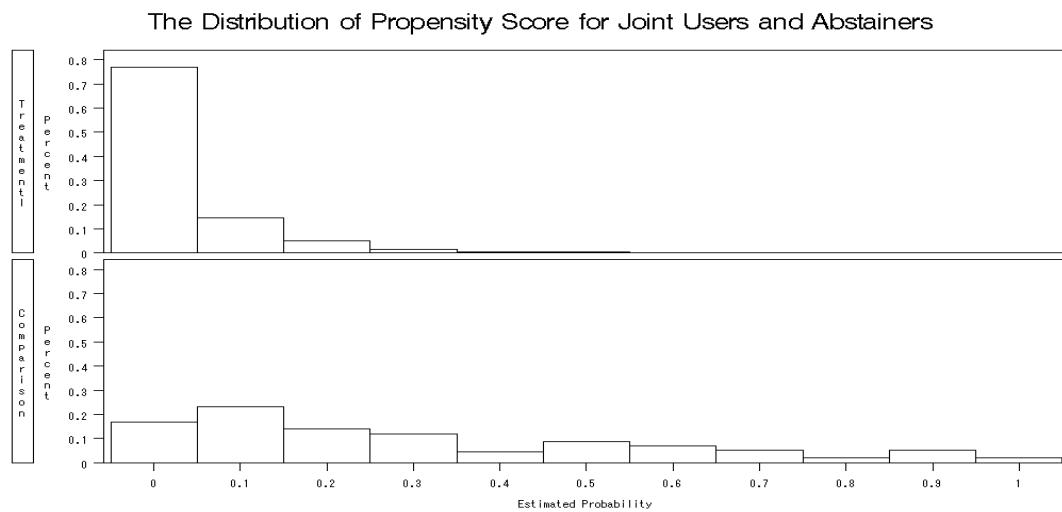
Table 5: Difference in Matching Estimates of Death Hazard, $\theta_{ATT}^{m,j}$, Based on Cox Proportional Model

Group m	Difference in Hazard Rate in Percentages for The Following Treatment j			
	B0S0	B1S0	B0S1	B1S1
Panel A: Sample Based on Nearest Neighbor Matching				
B0S0	-	-54.62% (0.048)***	-30.79 (0.042)***	-97.41 (0.049)***
B1S0	8.14 (0.338)	-	-43.21 (0.349)	-49.44 (0.301)*
B0S1	44.95 (0.06)***	52.28 (0.101)***	-	-21.83 (0.06)***
B1S1	87.33 (0.168)***	49.1 (0.182)***	52.32 (0.119)***	-
Panel B: Sample Based on Caliper Matching				
B0S0	-	-57.16 (0.049)***	-30.58 (0.042)**	-96.43 (0.051)***
B1S0	24.08 (0.343)	-	-4.36 (0.499)	-79.42 (0.494)*
B0S1	46.58 (0.06)***	47.22 (0.122)***	-	-20.03 (0.063)***
B1S1	57.24 (0.181)***	44.57 (0.178)**	60.92 (0.241)***	-

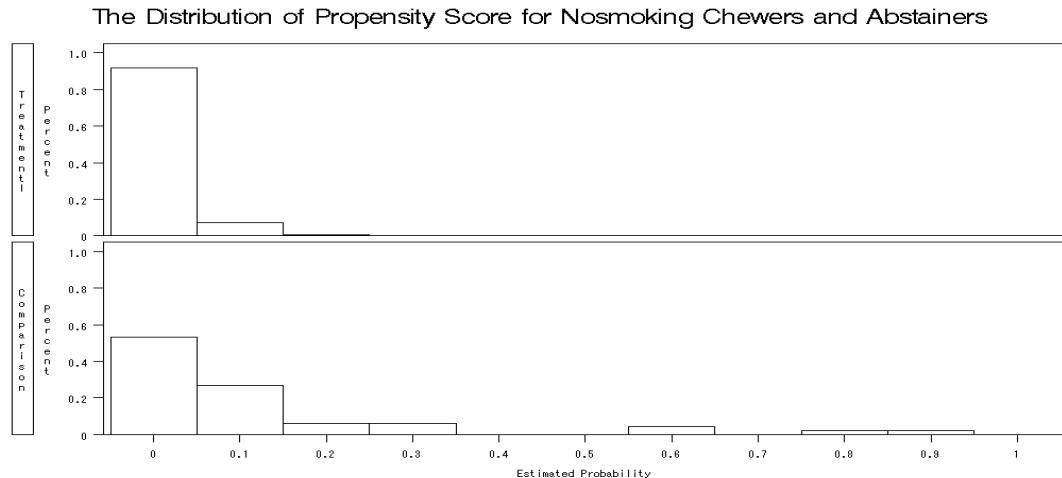
Numbers are in percentage and standard errors are given in parentheses. * Significance at 10% level.

** Significance at 5% level. *** Significance at 1% level.

Panel A: $P(S=\text{joint user}|x)$



Panel B: $P(S=\text{non-smoking chewer}|x)$



Panel C: $P(S=\text{non-chewing smoker}|x)$

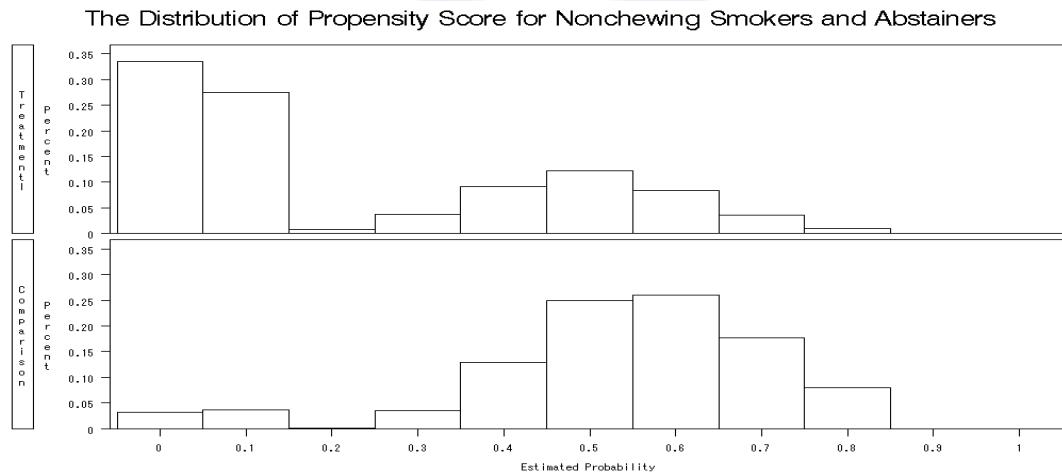
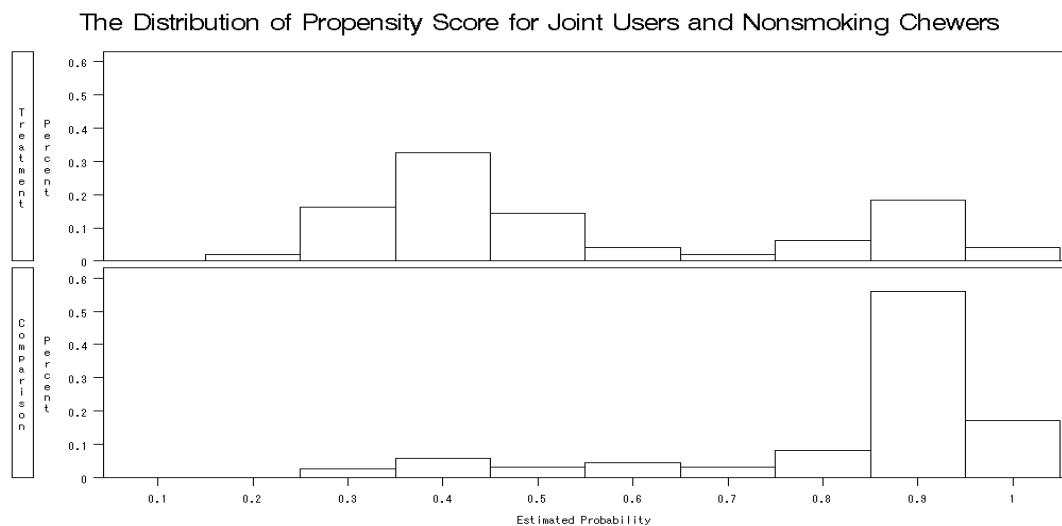
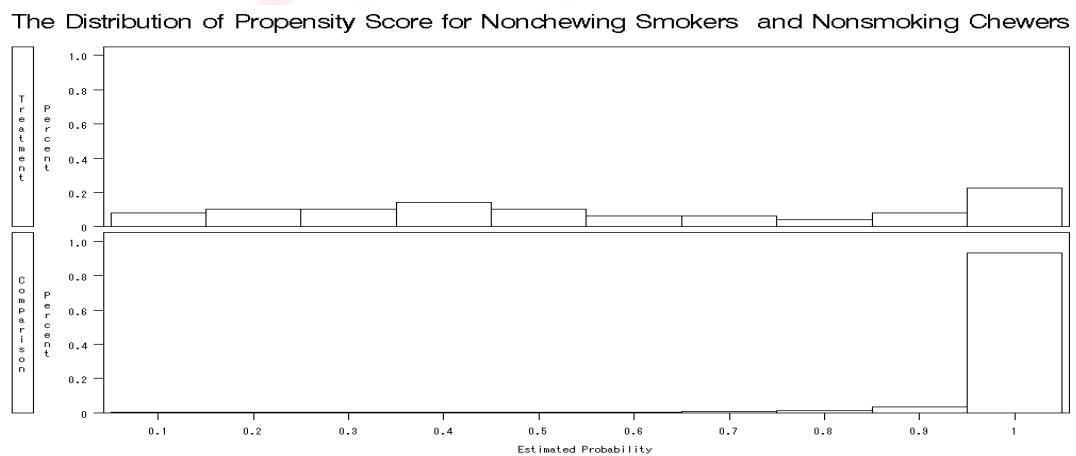


Figure 1: Frequency distribution of the propensity score with abstainers as the treatment group

Panel A: $P(S=\text{joint user}|x)$



Panel B: $P(S=\text{non-chewing smoker}|x)$



Panel C: $P(S=\text{abstainer}|x)$

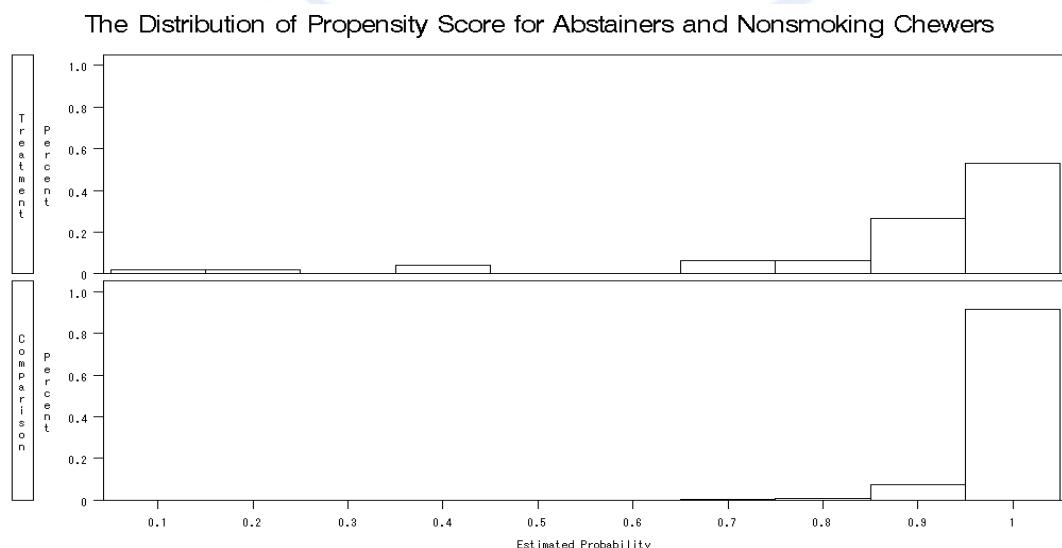
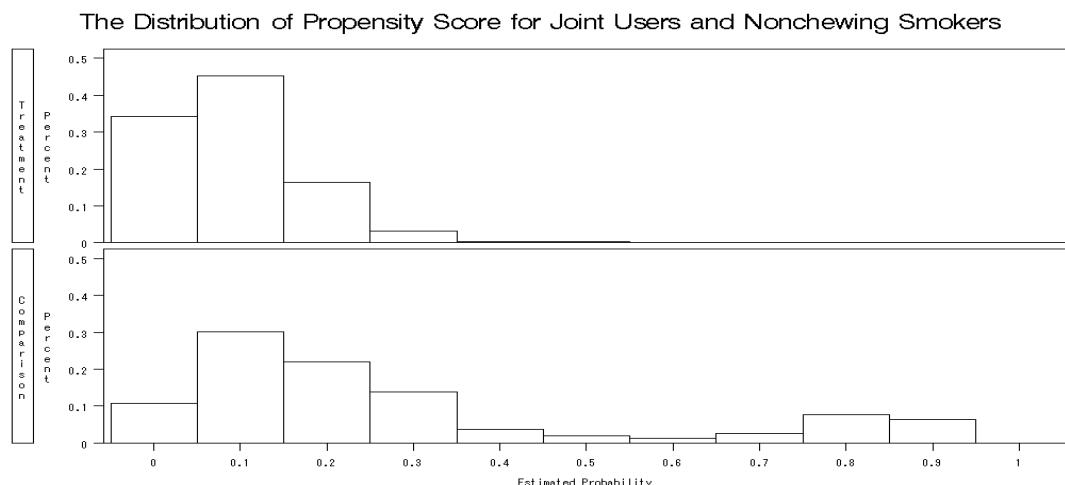
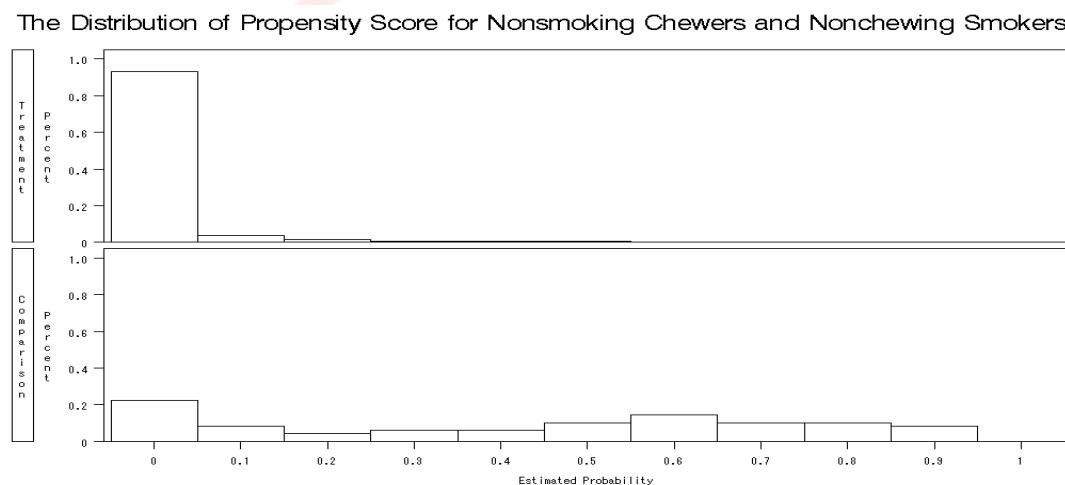


Figure 2: Frequency distribution of the propensity score with non-smoking chewers as the treatment group

Panel A: $P(S=\text{joint user}|x)$



Panel B: $P(S=\text{non-smoking chewer}|x)$



Panel C: $P(S=\text{abstainers}|x)$

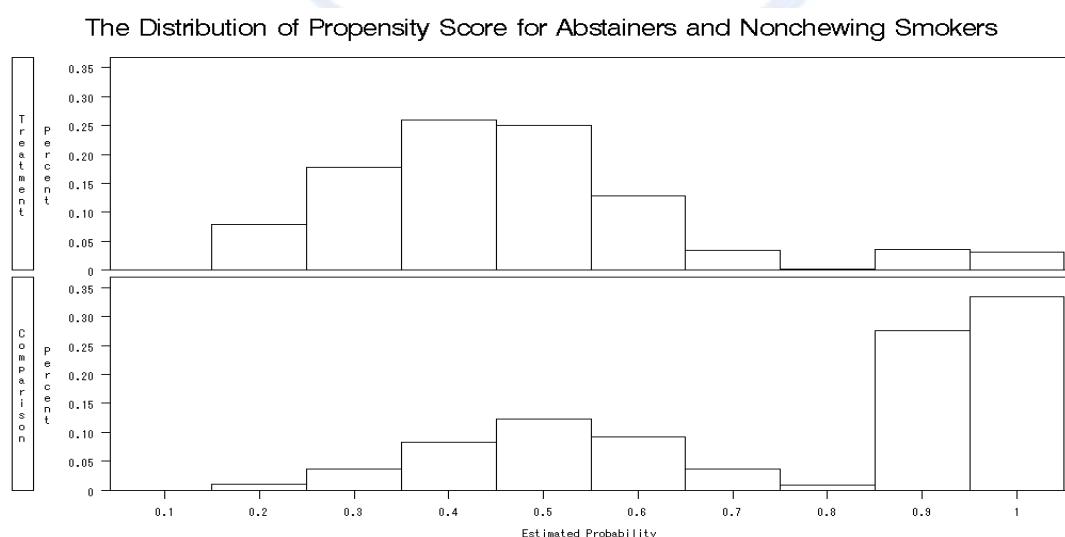
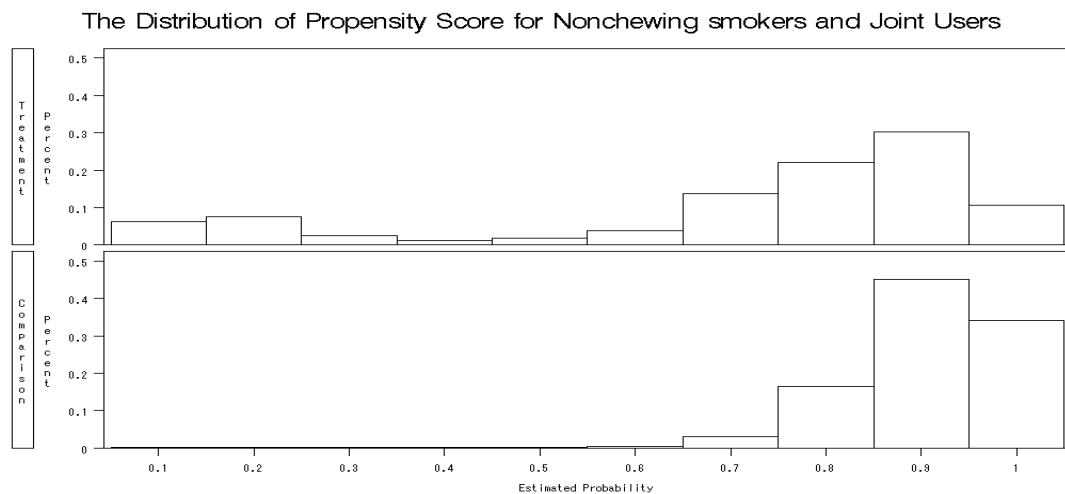
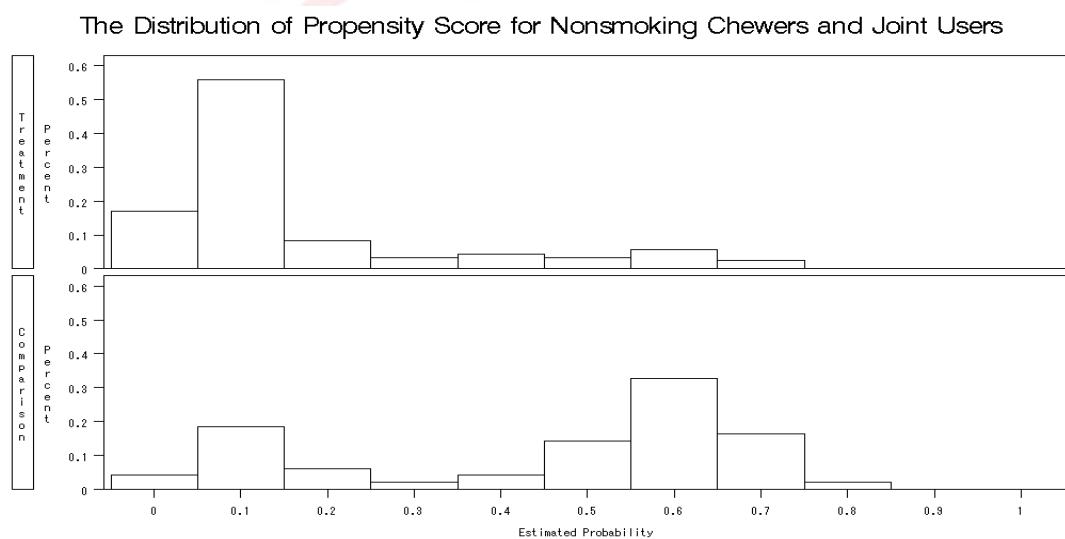


Figure 3: Frequency distribution of the propensity score with non-chewing smokers as the treatment group

Panel A: $P(S=\text{non-chewing smoker}|x)$



Panel B: $P(S=\text{non-smoking chewer}|x)$



Panel C: $P(S=\text{abstainers}|x)$

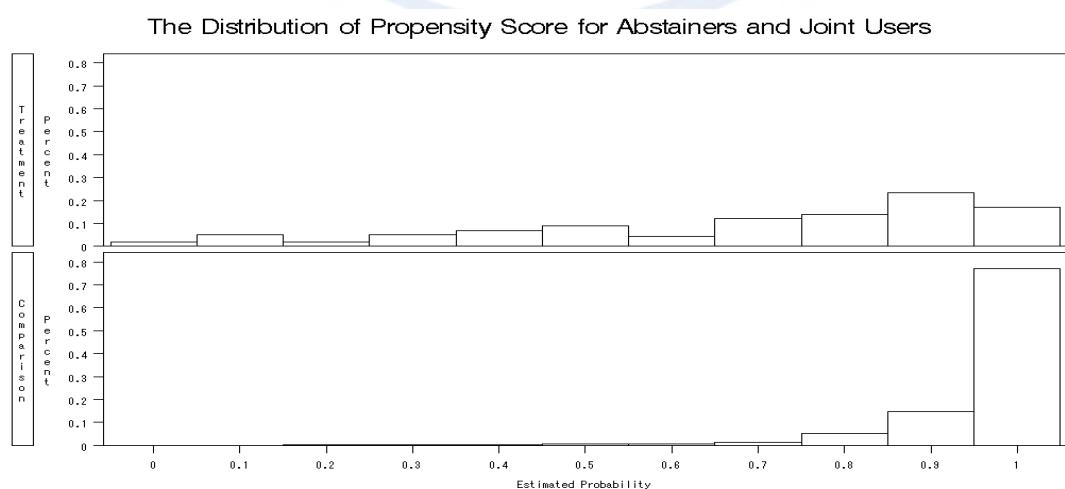
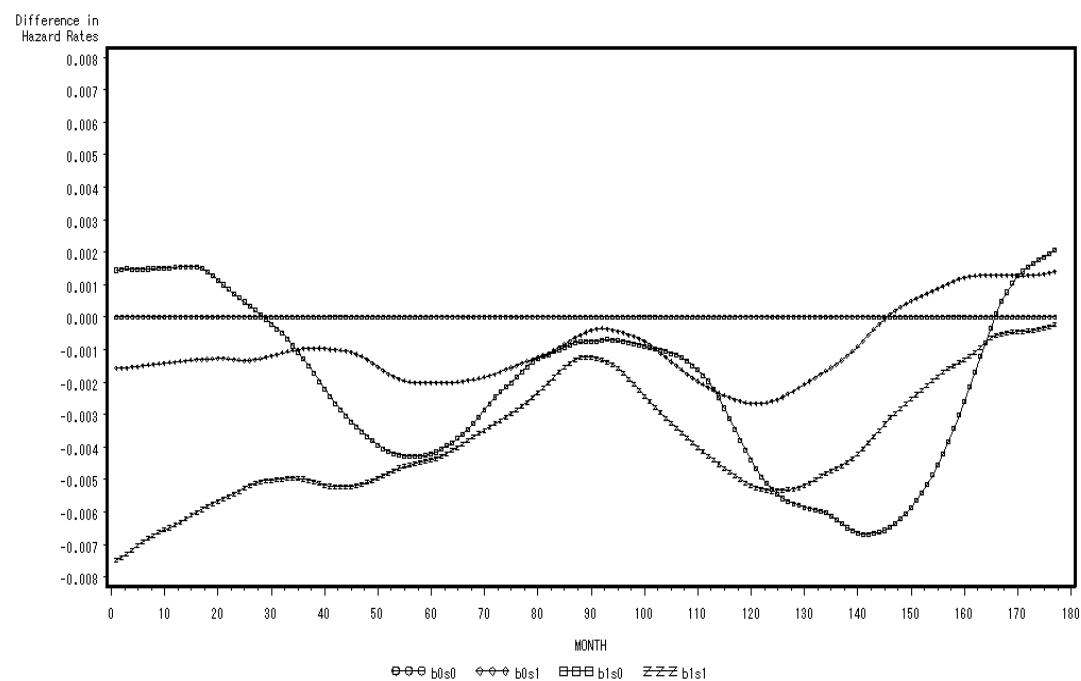


Figure 4: Frequency distribution of the propensity score with joint users as the treatment group

Panel A: Treatment group is abstainers

Dynamics of Average Effect Since 1989 Based on Nearest Neighbor Matching



Panel B: Treatment group is non-chewing smokers

Dynamics of Average Effect Since 1989 Based on Nearest Neighbor Matching

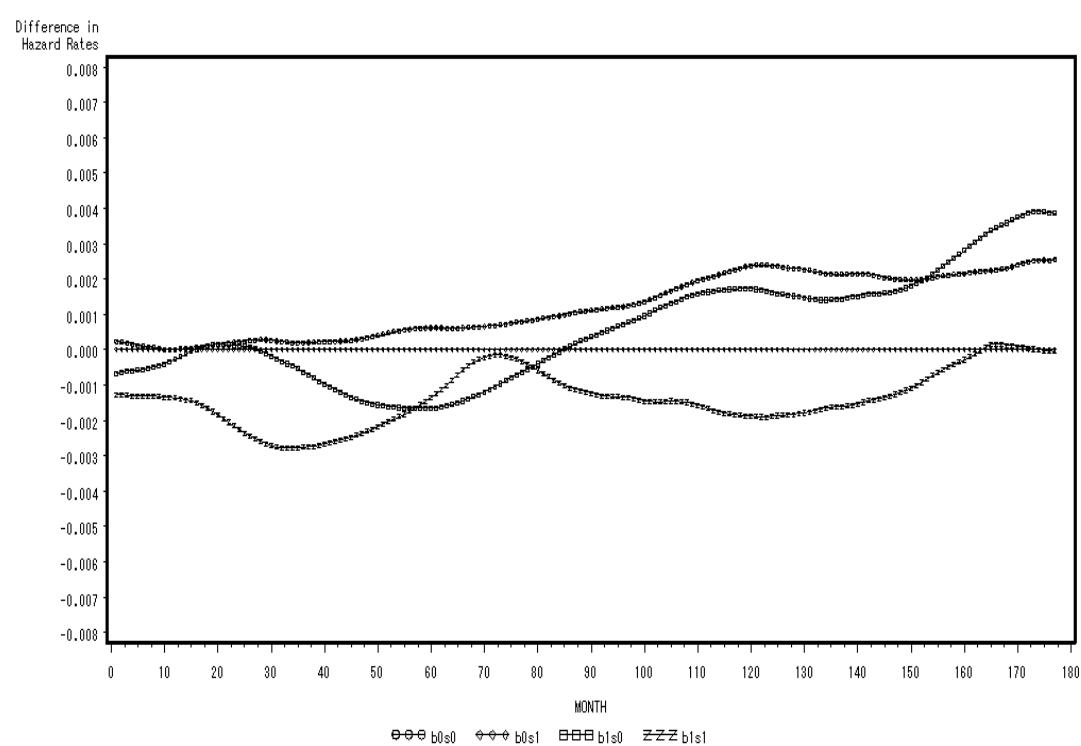
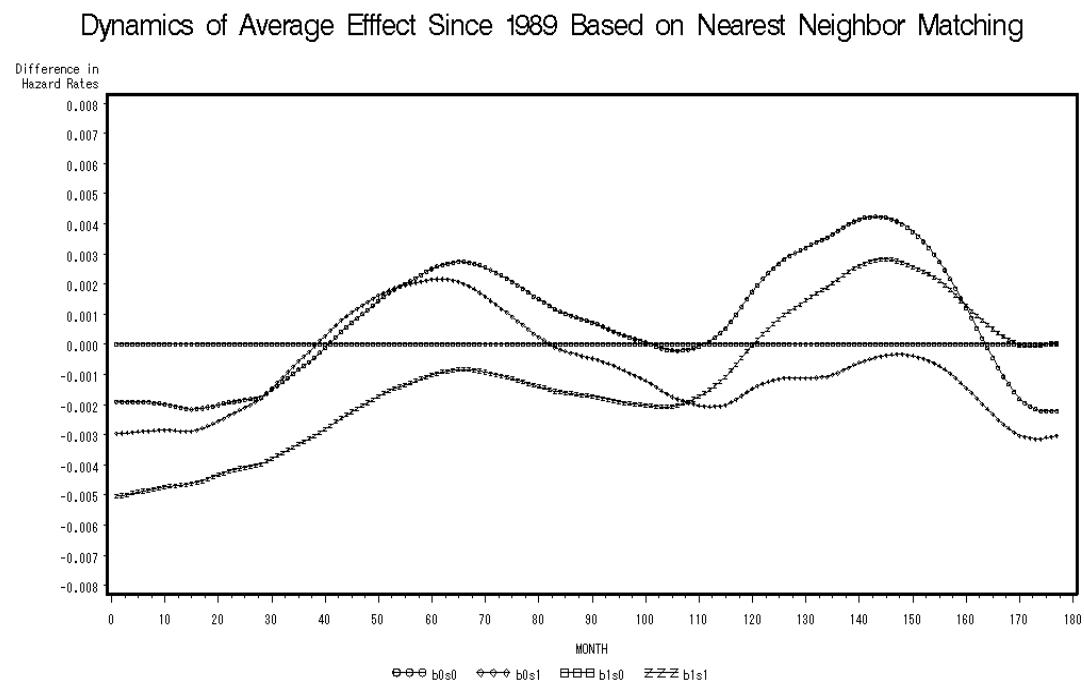


Figure 5: Dynamics of average effects after the 1989 survey

Panel C: Treatment group is non-smoking chewers



Panel D: Treatment group is joint users

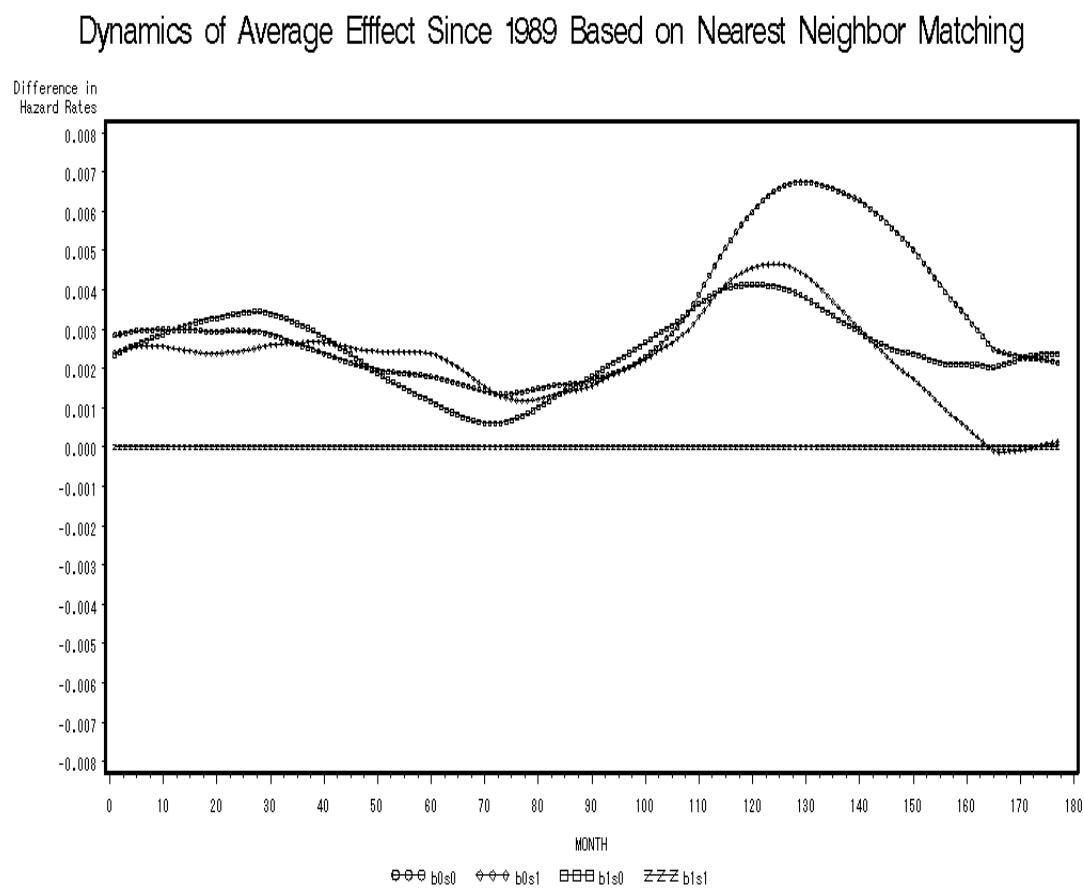


Figure 5: Dynamics of average effects after the 1989 survey

Building a Social Network Service for Enhancing Parents and Children Communication

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Abstract

Recently, Social Network Service (SNS) has become more popular, many people start to use it not only share their information, but also interact with people on internet, include their friends, families, or even people they didn't know before. At begin, the most users of SNS are young people, but since this social technologies have become a useful platform for social interaction and communication, different generations join this "social theater" and shows many innovative using behaviors when using SNS. The new social technologies enrich and benefit social life indeed.

However, this social technology also brings in some new issues in family. There are always generation gap between parents and children because of the different grown up experience and living environment, and the different communication way. Even the family plays an important role of people's social ability, but the problem of communicate in the family also has been the most difficult for people to deal with.

This research proposal intends to build an online Social Network Service aim to enhance the communication between parents and children. we call it "Translator" for focusing its function on help generation gap in "translating" their communication, to reduce the problem costs by the different express way when communicate, and makes them use a more acceptable and understandable way to makes them understand each other. So this research project plan will investigate the current communication ways due to parents and children, and the problem they had, then use the characteristic of SNS which gathers the power of public, make SNS as a platform allow parents and children interact on it, and the translator which enhance the communication between parents and children by translate their express way into the way other generations easily accept, not only because of the expression way, but also convinced people by the power of public. This research is mainly aim to improve the parents and children Communication by provide this innovation online service design.

Key words: Social Network Service (SNS), Family, Communication, Translator, Generation Gap

1. Introduction

1.1 Motivation and Background

As the Internet environment and social technologies have been growing, people increasingly use the cyber social space to interact with other people. The promotion of Social Network Service (SNS) has put this phenomenon even further. The SNS plays as a platform which allows people to build up relationships, share experience with each other, provide support, and gather information and ideas on it (Li, Bernoff 2009). However, this new social technology also brings in some new issues in modern social life, especially the family.

Family plays a critical role in shaping people's social attitude and social ability, since home is the place where everyone spends most time, the behavior and attitude one person shows are influenced by family most, and the relationship of emotion contact with family has consistency, so family has a further effect on children's development of both physiological and psychological (Hurlock, 1974). People learn how to interact with others first from family, and the interacting mode in the family is daily repeated; the effect of personal emotional experience and social ability is strong and further (Teyber, 1997, 2000). But different values, living environment, grown up experience, and an inappropriate communication way cause generation gaps, it makes parents and children growing further apart, and also generates misunderstandings.

The rising value of proposed "Economics of happiness" indicates that the closed social life is the fundamental need of modern society. The definition of happiness is the degree of satisfaction of life and components by both positive and negative emotion feeling one accepts, and personal happiness comes from the satisfaction of needs, including the need of Physiological, Security Requirements, love and belonging needs, self-respect needs, and Self-realization needs. Economics of happiness points out that currently our living quality has become lower and lower, so if we want to increase the quality of our life, we need to have a good social life, and the social life always depends on the close relationship. According to research, if parents and children can keep good and stable relationships, the happiness of children will be improved. This research will focus on investigating whether SNS helps to satisfy the need of love and belonging, and promotes the happiness of the family.

The Social Technology is inherently designed to serve as a tool for Interpersonal communication, and the parent-child communication plays an important role for everyone on their Interpersonal communication and social ability, so the motivation of this research is to explore how we can use the character of technology to satisfy the requirement of communication between parents and children, and further enhancing their relationship.

1.2 Research Objective

This research will focus on the communication of parents and children, and design to utilize the power of sharing and information exchange by public of SNS to improve the communication in the family. And the Social Network service platform will be focused on

Facebook, which is the SNS most people use it.

Social Network Service focus on the “Social” service, people can see and learn how other families interact on Social Network Service, and the contribution of this research is we will use SNS to help the communication between parents and children. The communication problem between parents and children has exist before the SNS appear, so even we use a new communication tool, but the problem we try to solve is also the problem we will meet in our “offline” life. In this paper, we are not try to invade users’ life, but expand a space, and improve the communicate way by technology and the power of social group.

1. 3 Research Questions

This study aim to build a SNS for enhancing parents and children communication, and it will be the center topic of the research category. Through extensive findings by collecting and arranging international literature related to Social Network Service and generation gap, this research gather related concepts and construct the motivation to fill the objectives to further build an online Social Network Service for enhancing the communication between parents and children.

The research questions include:

- (1) *What are the problems between parents and children, what costs them?*

This question wants to find out when offline what questions has already exists in the communication between parents and children, and see if SNS can do anything to them.

- (2) *What are the characters of the using behavior when different generations show on using SNS?*

Find out the common and different point, include the function they think is most important, the goal when using, and the degree of acceptance, using rate, and the role they play.

- (3) *What are the characters of SNS? And what are the new opportunities and future develop possibility of SNS?*

- (4) *Since SNS provide a service for social, but why it haven’t satisfied family? What are the influences of social technology to family? Why?*

In follow chapters, this research will analyze the definition, characteristics, current statement, following problems and reasons of the communication gap between parents and children and Social Network Service, and use literature review to investigate the research questions.

1. 4 Research Structure

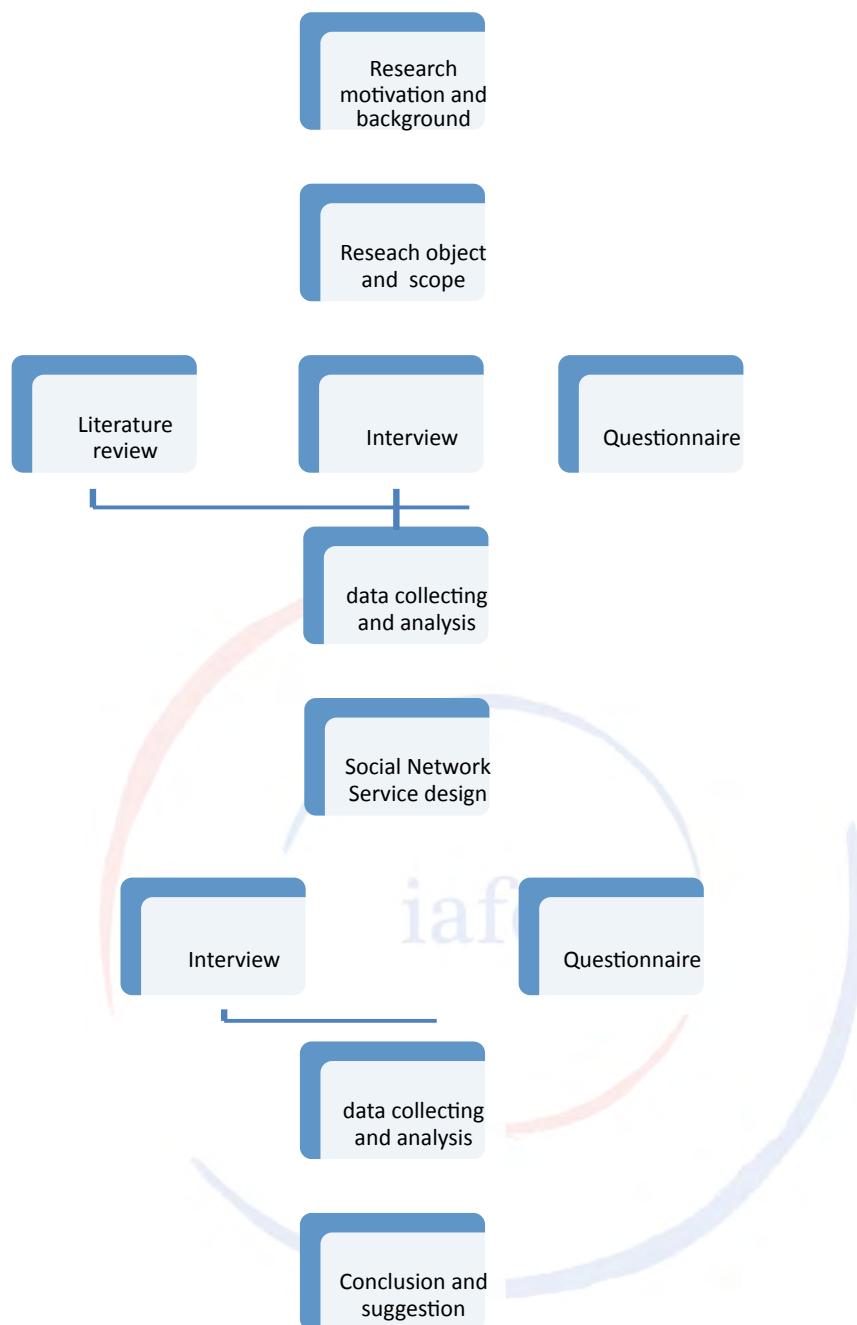


Fig.1 Research Structure

2. Literature Review

Since this research aims to build a Social Network Service for enhancing parents and children communication, the literature review will divided in three parts: 1. Currently, what are the communication and generation gap problems in family, and why these problems occurs. 2. The role a family plays in personal social ability and in the whole society, and find out that whether the relationship between family members related to one's happiness or not. 3. What are the characters and functions of SNS and what potential functions could be used to enhance the relationship between parents and children.

2.1 Communication problem in families and Generation Gap

Since whole society changed, the structure and type of families have also been changed, and come out with new problems in families, what families need is through better communication to enhance their relationship. There are many theories about families communication, many scholars use different points to discussed "Communication", and the most often discussed theories are "family systems theory" and "family development theory".

Through family system theory to see the problem of family communication, it's more focus on the interacting relationship between family members but not individuals, there are three main subsystems in a family, parents-children subsystem, husband and wife subsystem, brothers and sisters subsystem, any subsystems will influence each others, and the relationship and interacting way between family members become a complicated interacting network, and also form a individual and complete family system. Through communication, it can gather the members in the family, and generate power by the subsystems. If any subsystem lose its balance will costs the communication problem and influence every members in the family, so we can see that the communication should involve in everyone in the family through family system theory, each members are all important.

Through family development theory to see the family communication issue, we can find that to a family, in each stage when developing, the family will face to different tasks and has different characters, in this time; members in the family should communicate to each other to solve the problems they face to. According to Duval, Barnhill, and Longo (1978), there are eight stage of family development.

Stages		tasks	pressure
1	married couple	Promise between husband and wife.	Accept each other and build up relationship with mate's family.
2	childbearing family	Learn how to accept children's personal characters.	Accept new life.
3	preschool children	Lead children into organizations.(School, church...etc.)	Face to the pressure from both family and work.
4	school children	Accept the conversion of children's Physical, psychological, social and gender roles change.	Children's problem and behaviors with teacher, classmates.
5	teenagers	Teenagers start to be independent	Teenagers problems.
6	launching children	Accept children's adult role.	Need adjustment for empty nest life
7	middle-aged parents	Children leave, and face to mate again.	Need adjustment for new family type.
8	aging family members	Face to later life.	Need adjustment for lose mate, and illness.

Virginia Satir(1916~1988), one of the best-known and most successful practitioners of family therapy mentioned four communication style people shows especially when facing pressure or threaten , the four communication styles are: Placater, Blamer, Computer, and Distractor. The Placater always agrees, in an attempt to avoid anger. Beneath the surface is generally frustrated rage. The Blamer hides fear by blaming others before they can blame him/her. The Computer searches for security by intellectualizing everything, lest a real emotion break through and s/he "fall apart." The Distracter protects him/herself by distracting, changing the subject, shifting the frame of reference, etc.

Virginia Satir found that in most families, they mixed few communication types, and we avoided conflicts by these four "Inconsistent communication ", but what we pay for is we lose real satisfy and freedom, and lose the close relationship with family members. So what we need to learn is the "consistent communication" , which means when we communicate with family members, let the thoughts, feelings, and the message express are all consistant.

Generation gap is the difference in values and attitudes between one generation and another, especially between young people and their parents. The main reasons cost generation gap are the different grown up environment, values, living experience, the communicating and express way. Parents over control their children is also the reason coasts generation gap, when parents want to control their children on everything, children will act totally opposite behavior to resist their parents, social and behavioral scientists turned their attention to this youth rebellion and

observed that one of the consequences of the new youth movements was a "generation gap." The amorphous term has been used to describe a variety of phenomena ranging from a clash of values to a lack of communication between adults and youth. (Freeman, Harvey R., 1972).

While generation gaps have been prevalent throughout all periods of history, the width (differences) of these gaps have widened in the 20th and 21st centuries. How to use the power of Social Technology to decrease the width of these gaps will be the goal of this research.

2.2 Happiness economy

Happiness economics is the quantitative study of happiness, positive and negative affect, well-being, quality of life, life satisfaction and related concepts, typically combining economics with other fields such as psychology and sociology. It typically treats such happiness-related measures, rather than wealth, income or profit, as something to be maximized. The field has grown substantially since the late 20th century, for example by the development of methods, surveys and indices to measure happiness and related concepts.

In resents, happiness economy emphasis that while our quality of daily life has being decreasing, people need to have good social life, and the good social life is always depends on the close relationship - family. If parents can keep good and stable relationship with their children, the happiness of children will be increased (Frits van Wel, Hub Linssen, Ruud Abma, 2000). People' s happiness come from the satisfy of needs, includes the need of Physiological, Security Requirements, love and belonging needs, self-respect needs, and Self-realization needs. This research will focus on investigate will SNS help to satisfy the need of love and belonging, and promote the happiness of family.

2.3 Social Network Service

Social Networking Sites (SNS), like MySpace, Facebook, Friendster and LinkedIn are the latest technologies and trends in online communication. They have become extremely popular in recent years (Lipsman, 2007) and continue to attract a large number of users (Bausch & Han, 2006). SNS encourage users to connect to other users on the site, establishing and/or maintaining a group of friends (Ulrike Pfeil, Raj Arjan, Panayiotis Zaphiris, 2009).

Currently, most research into SNS sites focuses on the population of younger people, mainly on college students (e.g. Boyd, 2008; Ellison et al., 2006). It is widely acknowledged that young people use social software like blogs, SNS and online communities more often than older people, leading to an intergenerational 'digital divide' . (Ulrike Pfeil, Raj Arjan, Panayiotis Zaphiris, 2009), but actually older people also have some interesting preferences and behavior when using SNS, for example, they like to quote articles and use big words to express what' s in their mind, and don' t like to share much personal information on the internet. To the young people, they use more informal words to express their thoughts, and willing to share personal information than older people. We can see that people in different generations shows different prefer types when using SNS in Fig.2.

The percentage of each generation in each Social Technographics category

	Youth (12-17)	Youth (18-21)	Gen Y (18-26)	Gen X (27-40)	Younger Boomers (41-50)	Older Boomer (51-61)	Seniors (62+)
Creators	34%	37%	38%	24%	12%	8%	5%
Critic	24%	37%	41%	30%	22%	15%	13%
Collectors	11%	16%	22%	15%	9%	6%	4%
Joiners	51%	70%	59%	33%	15%	8%	4%
Spectators	49%	59%	63%	55%	46%	39%	30%
Inactives	34%	17%	25%	27%	48%	55%	66%

Base: US online consumers

Source: North American Social Technographics Online Survey, Q2 2007 and North American Consumer Technology Adoption Study Q4 2006 Youth Media & Marketing And Finance Online Survey

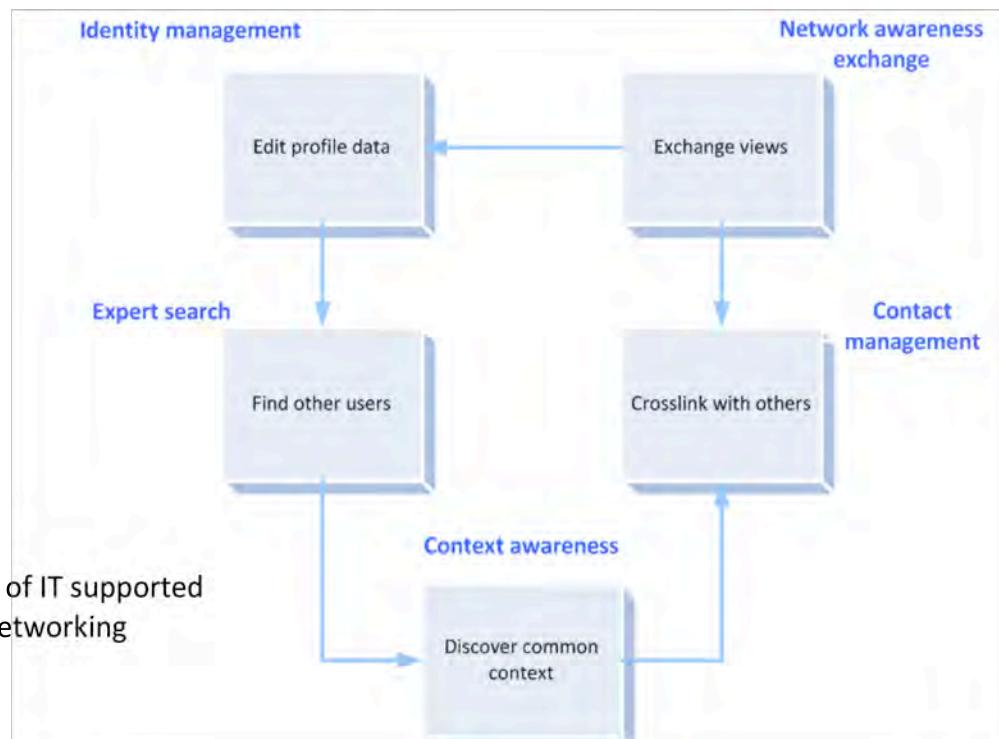
Fig.2 The percentage of each generation in each Social Technographics category.

SNSs provide a convenient way not only to manage existing social relationships, but also to build new relationships with many others, including even total strangers (Yoojung Kim, Dongyoung Sohn, Sejung Marina Choi, 2010). Since SNS has the power of gathering people together, it can also provides one the social support. Marianne Helsen, Wilma Vollebergh, and Wim Meeus(1999) point out those who experience little social support in the relationship with their parents will probably turn to their friends for such support and succeed in doing so.

There some different types of SNS, people use different type for different purpose: (1) People creating: blogs, user-generated content, and podcasts: Shows self expression/ creative motive. (2) People connecting, like social networking and virtual worlds: Keeping up (new) friendships. (3) People collaborating, like wikis and open source: belongingness/altruistic impulse. (4) People reacting to each other, like forums, ratings, reviews: self/social validation. (5) People organizing content, like tags: social learning. (6) Accelerating consumption, like rss and widgets: helping fond the right bits of content. Alexander Richter and Michael Koch (2008) propose a list of six basic functionalities of SNS:

- (1) Identity management
- (2) Expert finding
- (3) Context awareness
- (4) Contact management
- (5) Network awareness
- (6) Exchange.

Fig.3 shows the relationship between these function.



(Alexander Richter & Michael Koch, 2008)

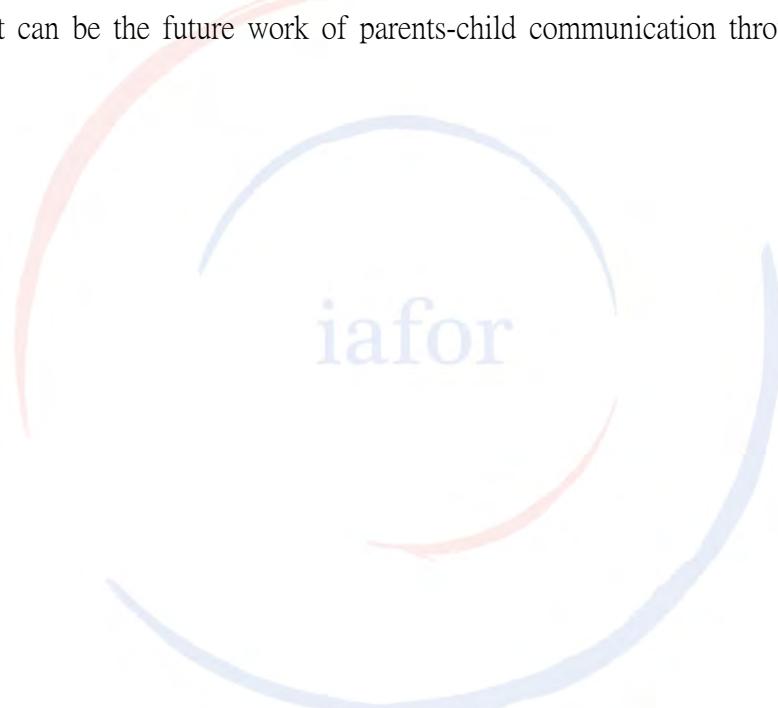
Fig.3 Functions of SNS.

According to above scholars, we can see family plays an important role to one's personal social ability, and also find out currently the reasons cost generation gap most are because of and the different value and communication way. We can also find out even on SNS, different generations shows different using behaviors. How can we use these differences to fit the function of SNS, exchange and contact, and the character of SNS, build up and maintain relationship, to reduce the generation gap and enhance the communication between parents and children will be main concept in this research.

3 Research Methodology

3.1 Introduction

To understand the interact mode between different generations especially parents and children on SNS, this research design an online Social Network Service platform- “Translator” as a research tool for observing and evaluating users’ behavior. Before the users start to use the platform, they will be interviewed and fill questionnaire first, so we can understand their current interact status. Then observe the behavior and the responses those users in different generations make on the “Translator”. After using the translator, users will fill another questionnaire to let us get the feedback from them, and we also will interview some users again, to understand if the “Translator” brings any influence to their intergeneration communication. Finally, according to the feedbacks to adjust the SNS platform, and make a conclusion, then find out what can be the future work of parents-child communication through SNS or other media.



3.2 Research flow

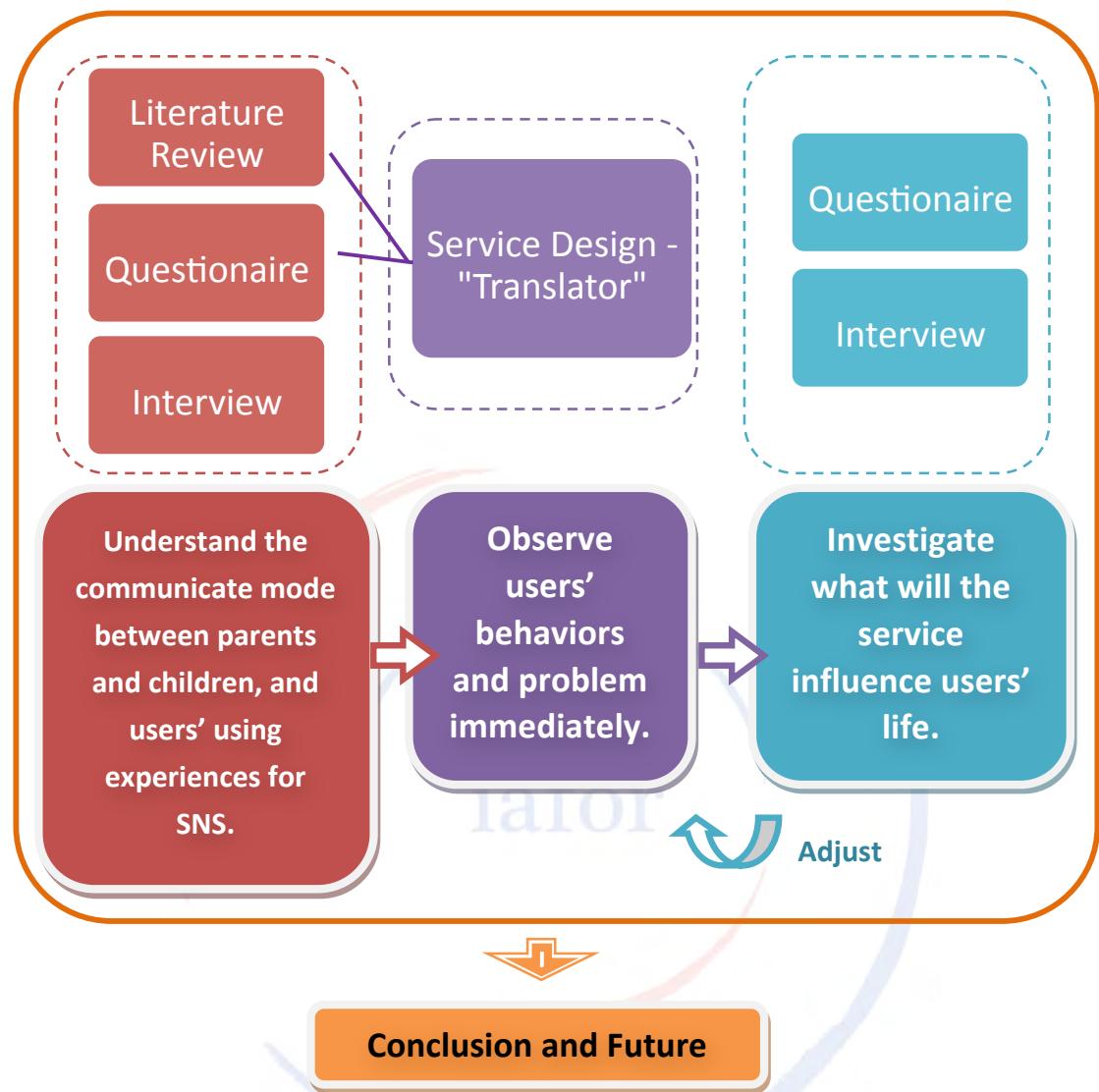


Fig.4 Research flow.

3.3 Research Design and data collection

3.3.1 Interview and questionnaire

Before the SNS service design, this research will use questionnaire to know what are the common problem and experience of generation gap recent, and also understand the common using behavior of SNS. Then, researcher will choose some people to join the interview, to know about what communication problems they have in the family, and what costs these problems. In the interview this research also wants to find out the using behavior of users, and what form these behaviors.

We will also apply the concept Transactional analysis, it commonly known as TA to its adherents, is an integrative approach to the theory of psychology and psychotherapy. It is described as integrative because it has elements of psychoanalytic, humanist and cognitive approaches. TA was developed by Canadian-born US psychiatrist, Eric Berne, during the late 1950s. It mentioned a model called The Ego-State (or Parent-Adult-Child, PAC) model, according to TA, there are three ego-states that people consistently use:

● Parent

This is our ingrained voice of authority, absorbed conditioning, learning and attitudes from when we were young. We were conditioned by our real parents, teachers, older people, next door neighbours, aunts and uncles, Father Christmas and Jack Frost. Our Parent is made up of a huge number of hidden and overt recorded playbacks. Typically embodied by phrases and attitudes starting with 'how to', 'under no circumstances', 'always' and 'never forget', 'don't lie, cheat, steal', etc, etc. Our parent is formed by external events and influences upon us as we grow through early childhood. We can change it, but this is easier said than done.

● Adult

Our 'Adult' is our ability to think and determine action for ourselves, based on received data. The adult in us begins to form at around ten months old, and is the means by which we keep our Parent and Child under control. If we are to change our Parent or Child we must do so through our adult.

● Child

Our internal reaction and feelings to external events form the 'Child'. This is the seeing, hearing, feeling, and emotional body of data within each of us. When anger or despair dominates reason, the Child is in control. Like our Parent we can change it, but it is no easier.

In the interview and questionnaire, we will also use the ego gram to know the common ego state of the user, and help the following data collecting and analysis.

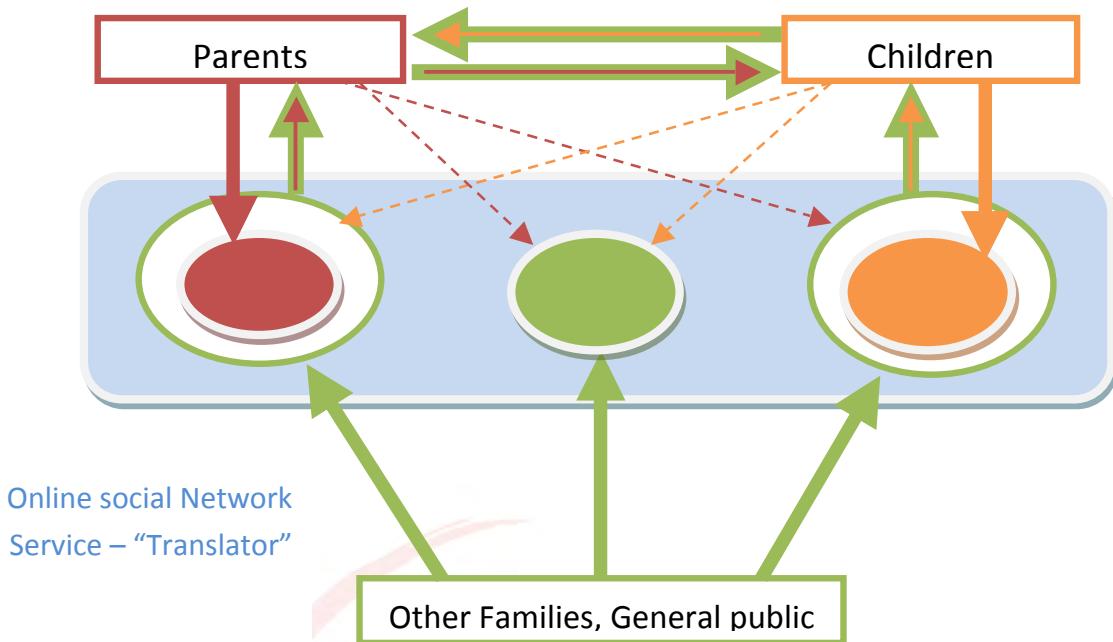
3.3.2 Online Social Network Service platform- “Translator”

The research is based on the innovation Social Network Service design, the service is designed as a platform, allow people in different generations join and post what they want to say. The platform has two mainly basic characteristics:

- Let parents and children share information on it, and also allow them to comment these posted information; provide a new communication media through Social Network Service.
- The platform is opened, so there will be not only single family post information and make comment on it, but also other families interact on this platform. When parents and children want to interact with each other, they can also see what other families are doing in the same time.

These two functions are common in current Social Network Service – Facebook page, besides using these two basic functions to improve the online communication between parents and children, this research also try to design an innovation service - make the Social Network Service platform as a translator between different generations. Because different generations used to use different express way to show what they are thinking, so the role of the “Translator” will plays as to translate the different expression into the way other generation accept easier, but the translating is by general public, when one person post the information, other people can use comment to suggest other ways to show the same meaning. In the translating process, it gathers the power of public, make the result of translating more objective, and also convinced the people who receive this translated information by the power of public.

The concept of the Online Social Network Service platform - “Translator” shows in the Fig.5.



of the Online Social Network Service platform - “Translator” .

As we can see once the parents or children post message on the Translator, other people can help to translate the content into another expression way, like to repackaging the original content, and the author of the original message can use the new way to communicate with the other generation. And also, they can see how other families and other people interact with each other, and make comment on them.

3.3.3 Data collection:

Since this research aims to improve the communication through SNS, we use SNS platform as our data collecting tool, we build a platform as the pretest of our service “Translator” and post some common issues about the communication problem between parents and children, and encourage people join this platform to share what’s their opinions and what will they do when they meet the same problem. The issues we chose focus on five main area:

- (1) The issue about social life, like curfew, dating issue, and dress code.
- (2) The issue about school life, like academic achievement, study attitude, behavior in the school, and further education goal.
- (3) The issue about living attitude, like room cleaning, the use of pocket money, mobile phone problem, and watching TV.
- (4) The issue about the relationship in family, like parental discipline and sibling get along.
- (5) The issue about value and religious belief, like law-abiding, honest, smoking,

drinking, drug use, ethics.

After the pretest, we will collect all the comments and analysis the data, to understand the reflections of each kind of people when they meet the same situation, and apply this finding to the “Translator”. We will observe the users behavior on the “Translator” directly, and use questionnaires and interview to gather data, which have two parts, for intergeneration communication and for the usage of Social Network Service. In questionnaire, the data will be more wide, the amount will be large, but the interview will be deeper, to ask users why these feedback generated. Then analysis the collected data, and adjust the Social Network Service design.



4 Expect Result, Conclusion and future work

Following are some expect result of this research.

- 4.1 The SNS provides a new communicate media for parents and children, makes them start to exchange some information which that didn't have opportunities to share with each other.
- 4.2 By sharing information and thought on SNS, parents and children start to figure out a different role of each other, for example, let children know that their Mother is also a woman.
- 4.3 By the innovation SNS - "Translator", parents and children find a new communication mode, and through the process of "translating", they can understand what and why the different expression way occurs, by this understanding, the problem of generation gap will be reduced, and the communication relationship between parents and children will be enhanced.

Through the literature review and interview, we found that currently social network service has become a popular way for people to communicate and interact with other people, the power of public and information sharing has also been the feature of the SNS. However, SNS hasn't been helpful for parents and children's communication, since family plays an important part in one's social life, we want to change this situation, and after this research, we found that SNS does have the potential to help people in different generations to communicate with each other. In the future, this platform can also be applied to other kind of communication, it can be developed to be a more complete platform to help people who don't know how to communicate with other people, not only parents and children, but also friends, couples or anyone has the problem in communicating. This platform is not designed to invade people's original life; contrary, it is a new choice and opportunity which provided to people to use and help them to enhance their communication with others. We also expect to see more and more people will be benefited by this kind of platform.

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A Case Study of the Service Innovation Management by 7 S Strategy Model on Call Centre Reforming

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Abstract- Call centre is the core of building customer relationship management system. Under the strong competitive stress, it becomes a new profitting challenge for a successful enterprise. Call centre is a department not only to provide customer service but also to bring business profit. This is the qualitative case study in Taiwan bank service industry which goes on deeper exploration, and analysis by business interviews and industrial analysis. This study starts from the establishment, development, and management after the reforming of the case call centre. Through SWOT analysis, and d industrial analysis, this study adopted 7s strategy model to explain how the call centre reforms from service oriented to profit oriented and from cost management to profit management. The result indicated how service innovation management promotes call centre to be operated as a market profit competition centre. The recommendations are indicated to support the call centre on marketing profit by service innovation management.

Keywords: Call centre; 7s strategy model; Service Innovation Management

I. INTRODUCTION

With the conscious of service oriented increasing, it is essential to build a good relationship with target customers. All companies try to establish the shortest contact with customers. Therefore, the scale of service industry keeps growing up year by year. However, Taiwan service industry is not as developed as the US or Japan. Taiwan market still has some growth space. A traditional call centre is only a department to answer customer's questions and that is only provides a basic condition of market competition. Zeithaml, Bitner, & Gremler (2008) indicated that all products include service and all services are products. The market competition is turned from product to service. Due to the new market demand, a new overlord can build a department by understanding, providing and creating customer's demands that call centre is established for. (Schultz & Doerr, 2009) The service quality of call centre provided direct influences on customer satisfaction. Therefore, more and more business focus at the operation of call centers which is the key to win the market share.

II. THE BACKGROUND OF E-BANK CALL CENTRE

E-bank was established on 21 February, 1992 and the call centre was operated on the same year. The E-Financial Holding Co was also established on 28 January, 2002 that provides a comprehensive service. The management characteristics of E-bank are (1) to build a foundation of continuing management; (2) to create a the best bank brand; (3) to gain the best profit and value on customer's mind in Taiwan market.

Oliver (1997) stressed that service quality is an overall evaluation for the service provided from the company. However, to measure service quality is not an easy job; especially call centre ran a hung cost. Moreover, staffs of call centre are not stable with the high pressure. To avoid eliminating is to increase the value of call centre and to enlarge the profit. So that call centre must reform to a profit department. Solomon (2008) indicated that there are many difficulties to reform to a profit department like customers' privacy, internal challenges, service high quality requirement and so on. Although E-bank combined the service from branches and credit card systems, call centre served on the credit card members mainly. The major credit cards are VISA, MasterCard and JCB. E-bank circulated credit card since 13 April, 1993. E-bank developed its own core competitiveness and market Strength which was reformed from cost to profit.

Parasuraman, Zeithaml, & Berry (1988) highlighted that the characteristics of service quality are tangibles, reliability, responsiveness, assurance, empathy. Hence, call centre had not a traditional operation to reply one by one to customer only. Call centre operated from the customer concept to manage the relationship for extending more business transactions to earn more profit. Call centre provided a professional service on process improvement and system operation which can promote the service efficiency and efficacy. Call centre is base on customer service to cross and link different department of E-bank. Call centre understood more about customers' demands and knew more about strength and weakness on service providing of E-bank by the interacted customer resources and coordinated customer's problem solutions. With internet technology development, Virtual and actual mult-channels are linked as a systematized service network through telecom and information integration. Additionally, call center is an airborne bank system to operate systematized and service concentrated which all to provide a better service to customers. As well, call centre classified customers by their contribution for E-bank. All changes promoted the efficiency up, cost down, customer's problem reduced, satisfaction increased, customers' potential demand created and customers' repurchase. (Granered, 2004; Wilson & Wilson, 2009)

Call centre provided a multi-channels system (Figure 1) to solve customers'' problems and to call out target customers to send the concern for strengthening customer relationship and delivering products information which can stimulate customers having more transaction opportunities with E-bank. Call centre is to build up a double win relationship to create customers' continuing value by service innovation. (Wilson & Wilson, 2009)

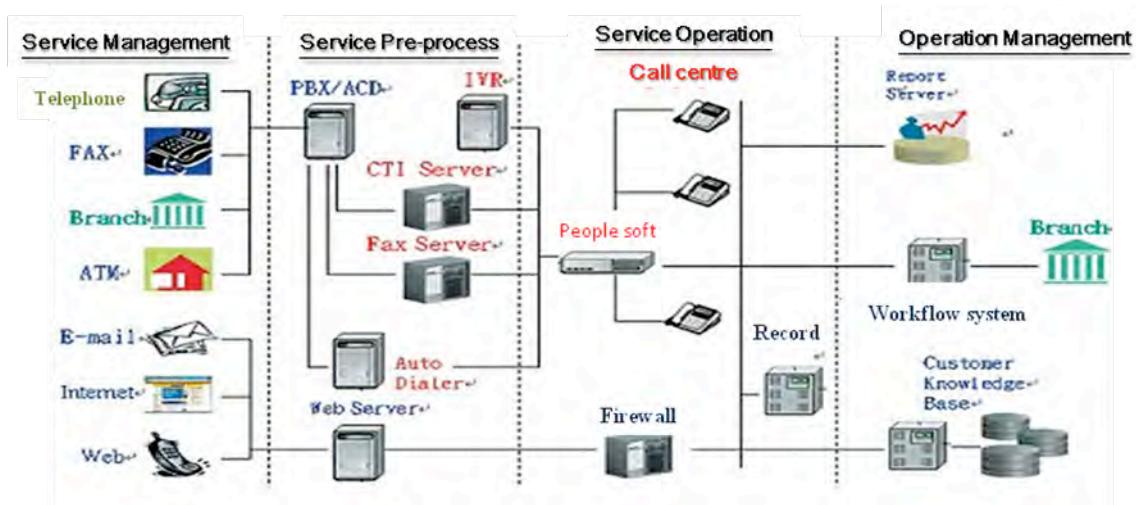


Figure 1: Multi-Channels System of Call Centre

III. SWOT ANALYSIS

This study aims at the SWOT analysis of E-bank to explain the difference and changes. First, strength covers four elements.

(1) A professional brand image on first level of service quality :

E-bank is the only enterprise gaining 3 national quality prizes and has the honor to get the first position of Enterprise community responsibility prize. This helps E-bank build a value brand image to extend stably the market share by customer satisfaction and loyalty.

(2) Well integration on information system :

E-bank has the honor to win AS/400 Innovation Application of IBM Asian and Pacific area innovation prize. By a well integrated information system, call centre can follow with each single customer who has the problem to provide the best and completed service. As well, call centre can aim at the target customers due to their flavors and consuming behavior by integrated information system. This helps promote marketing activities success to increase business profit.

(3) A specialized CRM Team :

A specialized CRM Team provides not only standard service but also customized service so that call centre becomes a team to be trusted from customers. This helps customer satisfaction go up and increase loyalty.

(4) Classified customer management :

To classify customers support to satisfy different levels of customers' demands and to achieve the promises for different level customers. This helps firm customer satisfaction and loyalty to promote E-bank a positive market public praise. With the positive market public praise, customers will recommend for friends which can

strengthen the market position of E-bank.

Second, weakness consists of two components.

(1) High cost for system integration :

It is a huge project to integrate multi-systems from different departments of E-bank. Of course, the cost for system integration is high and the process takes time. Call centre becomes a heavy load for E-bank under high cost reason.

(2) Service representative training is difficult and the withdrawal rate is high :

To train a good service representative takes around 6 months. However, service representative is always under high pressure according to the reasons like customers' complain, in shifts schedule etc. That makes Service representative not easy to stable at the same position. Once they move, the training becomes a resources waste.

Third, opportunity makes up four ingredients.

(1) Wonderful working atmosphere and environment :

A team work creates a happy atmosphere and E-bank provides a good working environment. This helps congregate in all members of call centre and increase the sense of achievement for call centre representatives.

(2) Virtual and actual service integration to push efficiency :

It results more benefit by integrating Virtual and actual service for branch customers and credit card holders. For example, cost down.

(3) Economical scale management :

Call centre operation results an economical scale management by a resources conformity including HR, technology, managing system and so on

(4) customization service :

By customer information integration, call centre can make a special marketing plan for the target customers to increase the customers' contribution for E-bank.

Finally, Threat is a group of four factors.

(1) Staff career planning difficult :

The reward is according to the business achievement of call centre. Staffs cannot make a long term career planning so that call centre has to face the problem on the high labour turnover rate.

(2) The barrier between new CRM system and current branches :

New CRM system and current branches cannot connect immediately because of different business characters. During the reforming period, it may rise up the HR rotation or job leaving risks. Knowledge management is not easy to establish from service oriented reforming to profit oriented.

(3) The influence for a new reward on original business culture :

A new reward attacks original business culture that may brings the incompatibles. That might increase a risk for failure on call centre reforming.

(4) Repeated marketing problem serious :

The problem is serious on customer resources overlap. Hence repeated marketing problem is serious. This outcomes customer complains which is called negative public praise.

IV. 7S STRATEGY MODEL ANALYSIS FOR THE CALL CENTRE OF E-BANK

7S strategy Model (figure 2) is indicated since 1980s by Thomas and Waterman of McKinsey & Company. 7S strategy Model is to promote enterprise profit ability and enterprise organization growing strategy by 7 essentials to analyze and improve. 7S strategy Model presented that E-bank should take into considerations on shared values, strategy, structure, system, style, staff and skill.

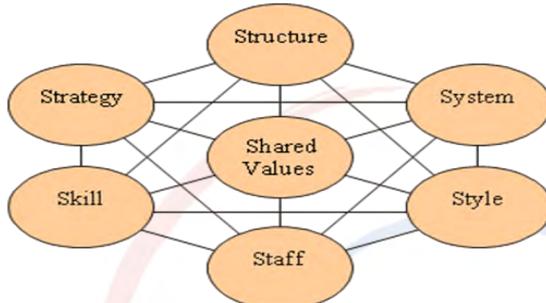


Figure 2 7S Strategy Model Structure (Thomas and Waterman, 1982)

Moreover, this study focuses on the service innovation management on Call Centre Operations of E-bank. This study probes into 7S strategy Model to analysis and explain the reforming result of E-bank call centre. Next are reforming discussions on service innovation management by 7S strategy model for the call centre of E-bank.

- (1) **Shared Values:** The core of 7S strategy Model is shared values and it is also the super ordinate goals of E-bank. Therefore, all departments and employees should agree with organization's common value cognition to understand the future that the organization is going for. Therefore, business target will be achieved and vision will be completed. So that E-bank establishes their own shared values on seven core common values. They are (a) brand image value, (b) quality first, (c) customer satisfied, (d) customer value created, (e) accepting challenges, (f) social responsibility.
- (2) **Style:** Business style is a key to identify from others. Bank industry in Taiwan is conservative generally. However, the most service representatives of e-bank call centre are under 30 year olds that is formed an active style. The active business style pushes service representatives to join self-study. They race with themselves and they are better than themselves yesterday. Hence, the service representatives are always proud of providing best service for their customers.
- (3) **Staff :** The best value Staff for call centre is the high quality service representative. Garbarino & Johnson (1999) indicated that the staff is an asset for the company. E-bank takes respects individual as the management principle to provide program training the best service representatives. So that call centre always has the satisfied customers by

- best service. (Krampf, Ueltschy,& d'Amico, 2003)
- (4) **Skill:** A good service representative should be supported by professional skills, such as communication skills, marketing skills, telecom skills and computer skills etc.
- (5) **Strategy:** A successful Business is decided by strategy plans correct or not. A well and completed strategy helps set resource-allocation and development plans which promote the target reached. Therefore, strategy covers process plan and process result. In past decade of bank competition, enterprise tried to take the biggest market share and collect more and more customers as possible as they can. For example, to cut down transaction fee, to send the gift for new customers, to run the short term contracts. That usually can gain result and profit in the short-term. However, this is not the foundation for continuing management forever. That result more and more customers lost. That is why E-bank makes call centre reforming from service oriented to profit oriented. Because E-bank realizes that customer is the centre of a successful business. In this way, call centre switches customer resource into a value asset to deep manage current customers. The best way to gain high profit is to aim the target customers and to create the most contribution customers. (Krampf, Ueltschy,& d'Amico, 2003) Call centre exists is to extend customer value to satisfy customers and promote the loyalty. It is to make sure that E-bank can stand at the top position in bank industry in Taiwan.
- (6) **Structure:** Strategy must be supported and completed by structures. Organization Structure is the business foundation for continuing existing from the keen competition. The structure of E-bank is to collect all service units from different departments as a completed call centre which organizes customer service management. Before, call centre was a attached unit in E-bank. Today, after reforming, call centre is a profit unit which can earn profit independently. The structure of call centre makes passive into active to touch customers. Call centre can handle cost and gain profit. (Cronin, Brady & Hult, 2000) Customers are more satisfied and E-bank stands firmly in bank market. Consequently, this is three-win structure.
- (7) **System:** System includes a business and operation precess, such as finance, HR, achievement evaluation and so on. (Garbarino & Johnson, 1999)It direct influences the result of the business achievement, if the system runs coordinated or not. So that call centre carries out the systemic and friendly management. Hence, with a coordinated system and a well communication, call centre can make elaborate performance to gain the greatest profit for E-bank.

V. DISCUSSION

The 7S strategy is the origin from the shared value of E-bank. For E-bank, person is not as important as unit; unit is not as important as enterprise; enterprise is not as important as sociality. To perform the social responsibility is the most important for E-bank. This result the strong culture characteristic to birth call centre.

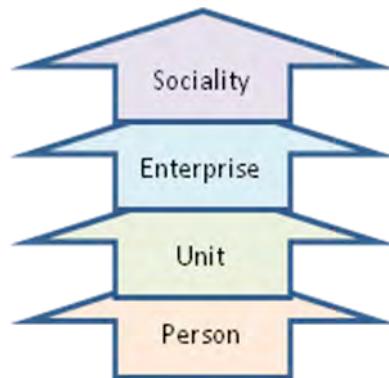


Figure 3 E-bank's Culture Performance

The service representative in call centre has his own schedule running around 24 hours a day. Hence, call centre develops a culture that is self-study for all service representatives. It helps the service representative intensify his skills and Knowledge during the available time. (Cronin, Brady & Hult, 2000; Krampf, Ueltschy,& d'Amico, 2003) A new style fits for call centre management after reforming so that is result a better performance to achieve business target. Right person at right position is the major concept on call centre management. During reforming period, call centre links with people, system, department culture, organization behavior and so on which helps service representatives in call centre treat customers as their friends and see E-bank as their family business. Thus, staff satisfaction increases and job leaving reduced.

Moreover, the service representative direct influences service quality if he has not proper skills (Cronin, Brady & Hult, 2000). For example, communicating with customers can enhance customers' contribution for E-bank. According to each link with customers, E-bank can make profit. Call centre plays the port to communicate with customers and a channel to acquaint with E-bank. Zeithaml and Bitner (1996) indicated that service is tangibles, , responsiveness, assurance and empathy. (Parasuraman, Zeithaml, & Berry, 1988) Service representatives should first accept the product or service which they are going to promote to customers. Hence, call centre aims at inter-marketing to Service representatives to ensure that they can provide the best service and achieve each single marketing target. The demands of customers are always changed. Single service can not satisfy customers any more. More and more customers request one stop service, they want to contact one counter to get service what they need. (Pham, Cohen, Pracejus, & Hughes, 2001) One stop brings a new opportunity to push customers' contribution for E-bank and a chance to firm cooperate image and customers' loyalty.

The advantage of service and marketing is the ability of customer data conformity strength.

There are three major strategies applied. They are integration information system, customer data marketing, and customer value. E-commerce is acceptable by integration information system. By customer data, call centre selects potential customers to give what service they need. By knowing what they need, call centre makes suitable service for them to catch high service quality, high customer satisfaction, and to build a strong customer relationship. (Pham, Cohen, Pracejus,

& Hughes, 2001; Schultz & Doerr, 2009) That is call centre of E-bank doing now.

VI. CONCLUSION

Under the keen bank competition, service innovation management can result the greatest profit by lowest cost. E-bank realizes that call center plays the key role. That is why E-bank has call centre reforming project by service innovation management. There are five achievements reached from service innovation management by 7S strategy model on call centre reforming.

- (1) Total service quality increase
- (2) Management information handle
- (3) Information upgrade and cost down
- (4) Staff's creation and improvement
- (5) Performance and achievement both promoted

E-bank should understand what customers think, provide service they want and create what they need to stand at the top of the bank industry. A successful reforming call centre, E-bank proves that service innovation management does work by 7S strategy model operation.

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Efficiency Analysis and the Effect of Pollution on Shrimp Farms in the Mekong River Delta

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Economics and Management



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1 Introduction

The areas and production levels of Vietnamese shrimp farms have been increasing dramatically in recent years. This has contributed greatly to the national economy, poverty alleviation and job creation [15]. Farmed shrimp production in the Mekong River Delta (MRD) has also played a key role in the shrimp industry of Vietnam [26].

There are typically 3 modes of shrimp farms: intensive, semi-intensive and extensive. They differ in density of inputs used, which are highest for intensive and lowest for extensive farms, as well as relative scarcity of land use¹. Kiet and Sumalde [26] studied the shrimp industry in the MRD. The results indicate that in the world market, the MRD has a strong comparative advantage in producing and exporting shrimp, with an average resource cost ratio² of 0.17, and intensive shrimp farms have a higher comparative advantage score than that of semi-intensive farms.

Despite the obvious strength of the industry, some shrimp farmers experience financial losses and some farms have had a negative impact on the environment. Sinh [39] reports 30 percent of all shrimp farms experience financial loss and Tho et al. [41] report that in the Ca Mau province there are problems of salinity and sodicity (excessive sodium in the soil) resulting from shrimp farming. Den et al. [13] found that less technically efficient shrimp farmers are more likely to be exposed to financial loss. Among the three, which is the best shrimp farming model? In principal, intensive and semi-intensive shrimp farms use more inputs and hence produce more output than extensive farms. Thus, it is commonly thought that intensive and semi-intensive shrimp farms can generate more income for growers. However, from an economic perspective, as yet there is no definitive answer to the question of which shrimp farming practice is the most efficient.

In 2002, the Ministry of Fisheries in Vietnam issued a decree (04/2002/QD-BTS) regulating shrimp farming activities. According to the decree, all shrimp farming regions must be isolated from other sources of pollution such as industrial, residential and agricultural waste. We assume that shrimp farms are not affected by any activities except other shrimp farms. It is well known that the more intensive a shrimp farm is, the more polluting it becomes. Many upstream shrimp farmers dump wastewater, which is typically contaminated with chemicals, unconsumed feed or even diseases, into rivers. Downstream shrimp farmers may pump the contaminated water from rivers for use in their growout ponds. Since water quality is essential to shrimp production, the central empirical question is whether there is any evidence of downstream shrimp farm production being affected by pollution from upstream shrimp farms. This question has remained unanswered in the literature.

To obtain a better understanding of these issues, the present paper has two goals. First, we estimate technical efficiency (TE), allocative efficiency (AE), scale efficiency (SE) and cost efficiency (CE, also known as economic efficiency) of shrimp farms across all three modes of production in the MRD. Second, we compare the TE of upstream and downstream farms. The results will give direction to policy makers for the improvement and promotion of the most efficient production technology to shrimp farmers as well as indicating whether the development of the industry is sustainable.

2 Literature Review

A deterministic production frontier is one for which all observations lie on one side of the frontier, whereas, in a stochastic frontier the observations lie on both sides of the production frontier. A deterministic production frontier, also known as a nonstochastic or nonparametric production frontier, is constructed by a linear

¹ See Victoria [43] for further discussion

² See Bruno [3&4] for further discussion

programming technique. In contrast, the stochastic production frontier is constructed using econometric estimation. Attempts to measure production frontiers empirically begin with Farrell [16]. To obtain the production frontier, he uses a linear programming method. Subsequently, this method forms the basis of the data envelopment analysis (DEA) method by Charnes, Cooper and Rhodes [9]. The stochastic frontier, originated by Meeusen and van den Broeck [28] and Aigner, Lovell and Schmidt [2], uses econometric methods to estimate the frontier. The stochastic approach and DEA have been extensively used [34]. The stochastic frontier approach involves econometric estimation and hence requires a specific functional form for the underlying technology [28&2]. DEA uses linear programming to estimate the frontier based on the best-performing observations (known as decision making units (DMUs) in the literature: [9]). This implies that the parametric assumption of the underlying technology as well as a distributional form for the inefficiency term is relaxed and hence technologies with multiple inputs and outputs can be easily handled. Additionally, DEA is the better approach for spatial data. In this study, accordingly, we use DEA to analyse spatial data collected from different provinces.

Hayami and Ruttan [19] first defined the metaproduction function as the envelope of commonly conceived neoclassical production functions. From this Battese and Rao [7], Battese et al. [8] and O'Donnell et al. [31] define the meta-frontier to be the frontier of an unrestricted production set and propose a framework to estimate it. Thus, the meta-frontier, which allows one to compare technical efficiencies of firms classified into different technologies or regions, can be measured either by the parametric or non-parametric approach.

Table 1 briefly reports efficiency results of previous studies on aquaculture with either the SF or DEA approach in many different countries. All studies find that there is room for efficiency improvements in farms, meaning that there no cases where 100 percent of aquaculturists are technically efficient. The average TE scores in these studies range from 0.46 to 0.93. The studies also find that farmers applying the same technology differ greatly in their performance. The literature does not contain any paper comparing TE across different technologies for the same aquaculture product (e.g., shrimp, fish).

Studies on the technical efficiency of shrimp farming in Vietnam are very limited. Den et al. [13] use the stochastic production frontier approach to analyze the technical efficiency of intensive/semi-intensive and extensive technologies using 193 observations (surveyed in 2004) in Bac Lieu province, MRD. The results suggest that less technically efficient farms are prone to more substantial financial losses. The estimated TE scores of the 2 shrimp practices with respect to the group-frontier are not comparable since the 2 group-frontiers have different benchmarks. However, although it is not an appropriate comparison, Den et al. [13] conclude that intensive/semi-intensive shrimp farmers are more technically efficient than extensive farmers.

Table 1: Summary of some previous studies on the technical efficiency of some aquaculture goods.

Author(s)	Year	Country	Commodity	Method	TE estimate
Sharma et al.	1998	Nepal	Carp	SF	0.77
Iinuma et al.	1999	Malaysia	Carp	SF	0.42
Sharma	1999	Pakistan	Carp	SF	- Intensive/Semi : 0.67 - Extensive : 0.56
Dey et al.	2000	Philippines	Tilapia	SF	0.83
Chiang et al.	2004	Taiwan	Milkfish	SF	0.82
Kumar et al.	2004	India	Shrimp	SF	0.69
Den et al.	2007	Vietnam	Shrimp	SF	- Intensive/Semi : 0.71 - Extensive : 0.47
Poulomi	2008	India	Shrimp	SF	- Intensive/Semi : 0.61 - Extensive : 0.49
Reddy et al.	2008	India	Shrimp	SF	0.93
Sousa-Junior et al.	2004	Brazil	Shrimp	DEA	TE=0.68; AE=0.61; SE=0.68
Sharma et al.	1999	China	Fish	DEA	0.74
Mehmet et al.	2006	Turkey	Trout	DEA	TE=0.82; AE=0.83; CE=0.68
Hoof et al.	2005	Netherlands	Fish	DEA	0.84
Devi	2004	India	Shrimp	DEA and SF	- Semi-Intensive : 0.79-0.91 - Extensive : 0.52-0.88
Huy et al.	2009	Vietnam	Shrimp	DEA	0.83

The second paper, by Huy [21], studies the technical efficiency of 64 intensive shrimp farmers in Khanh Hoa province. The author applies the DEA method and finds that the farmers are highly technically efficient. However, the studied area is not representative of the shrimp industry in Vietnam since its contribution to the

national output in terms of shrimp yield is much smaller compared to that of the MRD. Moreover, Huy [21] does not study the TE of semi-intensive and extensive farms.

To fill in the gaps of the above papers, this paper contributes partly to the aquaculture literature, especially to the literature on the shrimp industry, by carrying out an efficiency comparison allowing for different technologies. O'Donnell et al. [31] use the concept of a meta-frontier to compare the efficiencies of firms classified into different technological groups and applied to agricultural data. These techniques have not yet been applied to aquaculture data and, as such, this paper represents pioneering work in the area.

A measure of TE for a decision-making unit may be used by the decision maker as an indicator of potential efficiency gains as well as policy-makers interested in industry-wide productivity. Moreover, correlations between TE scores and socio-economic factors such as experience, education, and so on may be examined. Such correlations may suggest to the policy-maker potential avenues to raising productivity. Boris et al. [5] summarizes the socio-economic factors related to technical efficiency in developing world agriculture from previous studies. The factors vary from paper to paper with the most common factors being education, experience, and farm size.

Factors related to TE in aquaculture from previous studies are also similar to those in agriculture. Dey et al. [14] show that the total farm area, education, and age of the farmers are some of factors which relate to the TE of tilapia production in the Philippines. Similarly, Mehmet et al. [29] discover that smaller trout farms, especially pond farms, are relatively more technically and economically efficient. Den et al. [13] suggest that experience in shrimp farming and the level of education attained by farmers affect the technical efficiency of shrimp farms. Thamrong et al. [42] find that education of the household head, proportion of female labour employed and age of the household head have positive effects on the technical efficiency while experience, ownership of land and the extension agency as a source of knowledge have negative influences on technical efficiency in shrimp production. Finally, Reddy et al. [33] suggest that age of respondent, stocking density and farm size are factors affecting the estimated technical efficiency of shrimp production. The present paper also investigates the relationship of socio-economic factors with TE.

3 Methodology and Data

3.1 Methodology

3.1.1 Using DEA to estimate TE, AE, CE and SE

The DEA approach has been developed for more than three decades and there have been many studies applying the method to estimate the efficiency of a DMU due to its simplicity. Charnes et al. [9] first introduced DEA to measure the efficiency of a DMU such as a firm or a public sector agency. The original DEA model applied only to technologies characterized by constant return to scale (CRS). Banker et al. [6] extended the model to accommodate technologies that exhibit variable return to scale (VRS). Since there are 3 shrimp technologies, we need to estimate 3 group-frontiers.

The CRS input-oriented³ DEA allows one to estimate TE - the effectiveness with which a given set of outputs is produced by a set of inputs, AE - the efficiency with which inputs and outputs are allocated and CE - the use of resources so as to minimize the production cost of outputs. The CRS model of K inputs and M outputs of N firms or DMUs is as follows:

$$\begin{aligned} \min_{\lambda, x_i^*} & w_i^* x_i^* \quad \text{subject to} \quad -y_i + Y\lambda \geq 0 \\ & x_i^* - X\lambda \geq 0 \\ & \lambda \geq 0 \end{aligned} \tag{1}$$

where w_i is a vector of input prices for the i-th firm; x_i^* is the cost-minimizing vector of input quantities for the i-th firm and is calculated by linear programming and λ is the Nx1 vector of constants; X is the KxN input matrix; Y is the MxN output matrix; and y_i is the output vector of the i-th firm. In this context, the models comprise 1 output and multiple inputs. Using the DEAP Version 2.1 Program introduced by Coelli [10] to estimate the above model, the program will report a TE, AE and CE score for each shrimp farmer classified into one of the three shrimp models.

³ An output-oriented DEA gives similar results. Given the possibility that shrimp farming causes pollution, the efficiency of input use is of more interest.

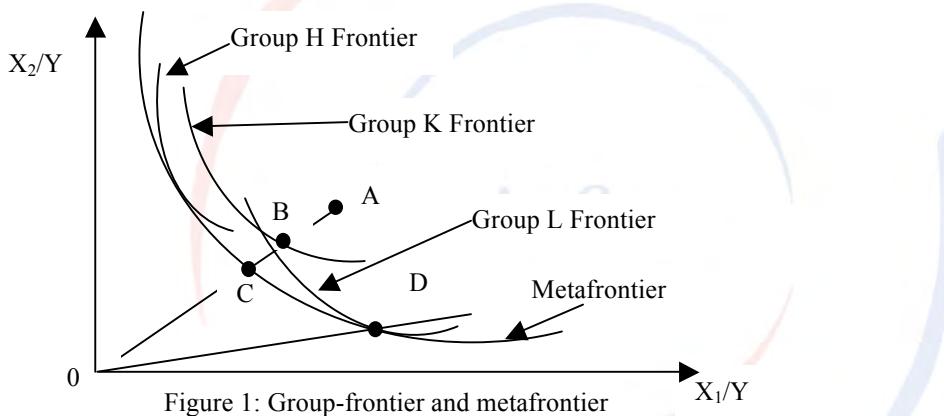
VRS input-oriented DEA allows one to investigate SE - the potential productivity gain from achieving optimal size of a firm. Using DEAP Version 2.1, the estimation of the VRS model is as follows:

$$\begin{aligned} \min_{\lambda, \theta} \theta & \quad \text{subject to} & -y_i + Y\lambda & \geq 0 \\ & & \theta x_i - X\lambda & \geq 0 \\ & & N1' \lambda = 1 & \\ & & \lambda \geq 0 & \end{aligned} \tag{2}$$

where x_i is the input vector of the i -th firm and $N1$ is an $N \times 1$ vector of ones. The SE score as well as TE_{CRS} and TE_{VRS} will be reported by DEAP 2.1 for each firm in the sample. The value of θ obtained will be the efficiency score for i -th firm. It will satisfy $0 \leq \theta \leq 1$, with a value of 1 indicating a point on the production group-frontier and hence a technically efficient firm.

3.1.2 Using the meta-frontier to compare TE across shrimp technologies

The frontier of each technology is estimated by running (1). However, one cannot expect to compare the TE of the 3 shrimp technologies by comparing the TE obtained from the group-frontiers because the 3 technologies may have different benchmarks. To make the 3 technologies comparable (see O'Donnell et al. [31]), the metafrontier will be estimated through the DEA approach. DEAP 2.1 will rerun model (2) with all shrimp farmers. Figure 1 illustrates group-frontiers and the metafrontier which is the lowest envelope of the group-frontiers.



Firm B is technically efficient under the group K frontier but technically inefficient under the metafrontier. The inefficiency is measured by the distance CB. Hence the metatechnology ratio or technological efficiency of B is calculated as $MTR = OC/OB$. Similarly, $MTR = TE^k/MTE$ where, MTE is the TE of firm B with respect to the metafrontier.

MTR indicates that given the output level, the amount (equal to 1-MTR) of all inputs can be reduced by firm B from group (technology) K, which is feasible using the meta-technology. D is technologically efficient ($MTR=1$).

3.1.3 Using Tobit regression to determine factors affecting efficiencies and the location effect

Apart from the technology of shrimp farming, individual farm characteristics may also have an impact on productivity. For example, farmers attending training on shrimp farming are expected to perform better than those who don't (provided that they are operating under otherwise similar conditions). Thus, we aim to explain variation in TE by socio-economic factors, following Timmer [40] and Muller [27].

The TE score for each farm, serving as a dependent variable, is censored between zero and one. The maximum likelihood estimation of the Tobit model will yield unbiased estimates⁴. The Tobit model is as follows:

$$TE = \alpha + \beta_1 \cdot X_1 + \beta_2 \cdot X_2 + \dots + \beta_n \cdot X_n$$

⁴ See McDonald et al. [30] for further discussion.

where TE_i is the TE score (with respect to group and meta-frontier) for farm *i* obtained from above, β_i is a constant, β_j is parameter *j* associated with socio-economic variables *j*, x_j , ε_i is an error term. There are *M* explanatory variables relating to TE including dummy variables which are used to find the differences between the two provinces and between upstream and downstream farms. If untreated waste (polluted) water resulting from upstream shrimp farms imposes negative impacts on downstream farmers' production, downstream farmers will need to use more chemicals to treat the water used by their farm. In this case, downstream farmers will incur higher production costs, which will be reflected in lower TE scores.

3.2 Data

292⁵ shrimp farmers, practicing intensive, semi-intensive and extensive farming in Bac Lieu and Tra Vinh province, were randomly (with a frequency of 5) surveyed in 2009 by students and researchers of the School of Economics and Business Administration, Can Tho University, Vietnam. The data for the DEA analysis comprise output yield (kg/ha), input factors which are seed (1000ind/ha), feed (kg/ha), labor (hour/ha), fertilizer (kg/ha) and fuel (litter/ha) and theirs corresponding prices. Key socio-economic factors used for the analysis are education of household head (years of schooling), family size (persons), female over 16 and male over 16 ratio, shrimp farming experience (years), training on shrimp farming (training times).

An important addition to the aquaculture literature by the present paper is that we investigate the effect of upstream pollution on the productivity of downstream farmers. Water quality is essential to shrimp farming. Farmers need to treat or clean water appropriately before releasing baby shrimp into ponds. After harvest, the water from shrimp ponds, polluted with unconsumed feed, chemicals, and possibly even diseases, is dumped directly into rivers. Downstream farmers that pump water needed for growout ponds from polluted rivers are therefore exposed to potentially negative impacts. To measure the extent of pollution on downstream shrimp farms we analyze maps of river flow and, for each province, are able to classify farms as either "upstream" or "downstream" relative to the flow of the river.

As mentioned earlier, shrimp farming areas are isolated from other sources of pollution. Following the river flow, we expect that pollution from upstream farms imposes negative effects on downstream farms. Tra Vinh province is located between the Hau and Tien rivers (the two big branches of the Mekong River). Shrimp farmers in the Tra Vinh sample are located in 4 districts—Chau Thanh (CT), Cau Ngang (CN), Tra Cu (TC) and Duyen Hai (DH). DH is located in the southern-most part of Tra Vinh while the other 3 districts lie to the north. Thus, consistent with the river flows and , farmers located in DH are defined to be "downstream" while farms located in CT, CN, and TC districts are defined to be "upstream". In the early 1990s, a "fresh waterization" project for the Ca Mau peninsular – comprising Can Tho city, Hau Giang, Soc Trang, Bac Lieu, Ca Mau and part of Kien Giang province – was carried out. The project aimed at promoting shrimp farming in the region by creating a system of channels and dams which bring fresh water from the Hau river and prevent seawater intrusion. Following the flow of the river, farms located in Bac Lieu town and Hoa Binh (Vinh Loi district) are defined to be "upstream" and farms located in Long Dien and Ganh Hao (both in the Gia Rai district) are "downstream"⁶.

4 Results

Generally speaking, the TE, AE, SE and CE of each shrimp technology are quite low, as shown in Table 2. The results indicate that farmers are, on average, operating technically and economically inefficiently, suggesting that there is room for improvement by re-allocating and reducing inputs used. Compared to the study by Reddy et al., [33], shrimp farmers in India on average have higher TE score than that of shrimp farmers in Vietnam. Specifically, the TE scores are 70%, 53% and 31.3% for semi-intensive, intensive and extensive farms respectively (Table 4, first row), meaning that on average, semi-intensive, intensive and extensive farmers can improve their productivity by reducing 30%, 47% and 68.7% of the inputs without reducing the output, respectively. The results are in line with study by Den et al., [13].

Similarly, on average, the scale efficiency of intensive, semi-intensive and extensive farmers is 67%, 80% and 53% respectively (Table 2, second row). The Table also shows that 12% of the intensive farmers, 20% of the semi-intensive farmers and 8% of the extensive farmers are operating at optimal scale (CRS). Further, 85% of

⁵ Eight were discarded due to unavailability of data.

⁶ The upstream and downstream definition is also consistent with advices of experts at the department of fisheries of the two provinces.

the intensive, 58% of the semi-intensive and 88% of the extensive farmers exhibit IRS. This means that these farms are operating at below the optimal scale; they can hence decrease costs by increasing production. On the other hand, the farms that exhibit DRS — 3% of the intensive farmers, 22% of semi-intensive farmers, and 4% of extensive farmers — can increase their technical efficiency by reducing production.

The CE scores in Table 2 indicate that the intensive, semi-intensive and extensive shrimp farmers of the sample need to reduce their production costs by 76%, 62% and 91%, respectively, to reach maximum profit. Following this, the AE scores suggest that they need to reduce their inefficiencies in a combination of the inputs used by 52%, 30% and 64% respectively, given the respective relationships among the prices of the inputs, because the AE measures indicate that some inputs are being used in proportions which are not optimal.

Table 2: Efficiencies with respect to group-frontiers

		Intensive (N=95)	Semi-Intensive (N=69)	Extensive (N=128)
TE	Average	0.530	0.700	0.313
	S.D	0.269	0.242	0.278
	Min*	0.075	0.103	0.014
SE	Average	0.674	0.799	0.528
	S.D	0.272	0.220	0.293
	Min*	0.095	0.166	0.047
AE	Average	0.476	0.695	0.362
	S.D	0.205	0.182	0.226
	Min*	0.066	0.318	0.037
CE	Average	0.235	0.384	0.089
	S.D	0.167	0.161	0.119
	Min*	0.007	0.064	0.005
No. of farms	IRS	81 (85%)	40 (58%)	113 (88%)
	DRS	3 (3%)	15 (22%)	5 (4%)
	CRS	11 (12%)	14 (20%)	10 (8%)

*max is always one

Overall, the results suggest that given level of output, farmers are using more than optimal level of inputs. Since pollution may impose higher production costs, results suggest that pollution may play a role in the inefficiency of shrimp farming.

Table 3 shows results the Tobit regressions relating to the TE of each type of shrimp farming to socio-economic factors. The natural logarithm of household size is found positively and significantly related to the TE for intensive shrimp farmers, meaning that the shrimp farmers with more family members have higher TE score than farmers with less family members. However, this has an insignificant effect on the TE for semi-intensive and extensive farmers. A possible explanation for this is that intensive shrimp farming is more sensitive to water and soil quality⁷, hence having more people taking care of the production is better.

Experience is found to have a negative and significant relationship with the TE for intensive farmers, a negative and insignificant relationship for semi-intensive farmers, and a positive and significant one for extensive farmers. The estimates indicate that the more years a farmer practices intensive shrimp farm, the lower productivity of the shrimp farm; the opposite is true for extensive farmers. The surprising result is actually in line with other studies on environmental impacts of shrimp farms (e.g. Golez [17], Khang [25], Hung et al. [20], Tho et al. [41] and Joyce et al. [23]). In fact, the longer shrimp are intensively cultivated, the more the soil is degraded⁸, which in turn imposes negative impacts on shrimp farming itself as well as other agricultural activities such as rice farming (Tho et al. [41]). Extensive shrimp farms cultivated by more experienced farmers tend to be more efficient. This is consistent with other studies (Den et al. [13], Kumar et al. [24]). This finding is also consistent with experience being negatively related to the TE. Given intensive shrimp farm is the most polluting, soil at intensive shrimp farms deteriorates the most.

The amount of training is positively and significantly related to the TE of semi-intensive farmers, with the interpretation that more training helps semi-intensive farmers increase their productivity. However, training has a negative but insignificant effect for intensive and extensive farms, consistent with Reddy et al. [33].

⁷ Golze [17] found that shrimp farming has deteriorated soils due to presence of acid sulfate. Acid sulfate soils reduce water quality in shrimp ponds, and ground water. Consequently, this has negative effects on shrimp production.

⁸ The soil deteriorates due to water pollution from shrimp farming in the sense that there is an excessive level of salt and sodium.

The TE for farmers in Bac Lieu province is positively and significantly higher for intensive shrimp farms, meaning that intensive farmers in Bac Lieu are more technically efficient than farmers in Tra Vinh province. This might be explained by other factors which are not captured in the Tobit model such as weather, land quality, or water quality.

Given that the shrimp farmers in both provinces are practicing the same 3 technologies, intensive, semi-intensive and extensive and other things are equal, one might expect that pollution from upstream farms would impose negative impacts on downstream farms. Table 3 shows the upstream dummy variable is positively and significantly related to the TE of intensive and extensive farms but insignificant for semi-intensive farms. The estimates show that upstream intensive and extensive farms are more technically efficient than downstream intensive and extensive farms, respectively.

Table 3: Tobit regression results

TE is dep. variable	Intensive, N=95	Semi-intensive, N=69	Extensive, N=128	MTE is dep. var. (N =292)
Education	.0025	-.0174	.0067	-.0028
LnHHSIZE	.1676*	.0916	-.0358	.0727
Female16/Male16	.0681	-.00002	-.0154	.0014
Farm Size	.0139	.0268	.0068	.0136*
Experience	-.0116**	-.0010	.0140**	.0068**
Training Time	-.0015	.0577*	-.0120	-.0028
BL dummy	.2357***	.0925	.0222	.1492***
Upstream dummy	.2030***	.0445	.116**	.1388***
Intensive dummy				-.0514
Semi-intensive dummy				-.1540***
Constant	.1019	.5777**	.1628	.10912
Pseudo R ²	.5605	.2032	.1707	.6105

*significant at 10%, **significant at 5%, ***significant at 1%

TEs with respect to group-frontiers are not comparable, as discussed earlier. Therefore, we estimate the meta-frontier and results are reported in Table 4. Extensive farmers on average are more technically efficient than intensive and semi-intensive farmers with the MTE of 0.429, 0.324 and 0.222, respectively. The results are robust, as the Tobit regression (Table 3) reports that extensive farms have significantly higher MTE than that those of semi-intensive and of intensive farms. The MTE measures suggest that, on average, shrimp farmers in the two provinces are inefficient. Similarly, extensive farms are also more technologically efficient than intensive and semi-intensive ones. The MTR of 0.602, 0.304 and 0.833 indicate that given the output level, on average, 39.8%, 69.4% and 16.7% of all inputs can be reduced by an intensive, semi-intensive and extensive farmer, respectively. Intensive and semi-intensive farms produce more yield than extensive does but also use many more inputs. This may explain the reason intensive and semi-intensive farms are found to be less efficient. This result will challenge shrimp farmers and policy planners in Vietnam to promote more efficient technologies since intensive and semi-intensive shrimp farms are more polluting but less efficient than extensive farms.

Table 4: Meta-frontier estimates of technical efficiency

Factor		Intensive	Semi-intensive	Extensive
Meta-frontier TE (MTE)	Average	0.324	0.222	0.429
	S.D	0.212	0.138	0.330
	Min	0.047	0.016	0.016
	Max	1.000	0.695	1.000
Technological Efficiency = TECRS/MTE	Average	0.602	0.304	0.833
	S.D	0.156	0.114	0.247
	Min	0.276	0.130	0.066
	Max	1.000	0.695	1.000

The TEs are comparable under the meta-frontier approach. The Tobit regression to find factors related to the MTE are reported on Table 3 (last column). We find that famers aged over 45 are slightly more efficient than

younger farmers, which is consistent with older farmers having a better knowledge of shrimp farming. A similar result is found by Reddy et al. [33]. Farm size and experience are found to be positively related to TE; indicating that an increase in farm size and experience can improve the MTE. Similar correlations were also found by Den et al. [13] and Reddy et al. [33]. The upstream dummy is positively and significantly related to the MTE, meaning that upstream farms are more technically efficient than downstream farms. This result confirms the earlier results for each type of shrimp practice. Hence, the difference in the TEs between upstream shrimp farms and downstream shrimp farms suggests that pollution may be a factor in the shrimp industry. A similar result is found for the provincial effect, the Bac Lieu dummy variable is positively related to TE, suggesting that farmers in Bac Lieu are more technically efficient than farmers in Tra Vinh. Again, other factors might explain this difference.

5 Conclusion

The estimated technical efficiency of shrimp farms with respect to the group-frontier in the two provinces are, on average, 53%, 70% and 43% for intensive, semi-intensive and extensive farms, respectively. With respect to the metafrontier, extensive farming is found to be the most efficient with the MTE of 43%, followed by intensive farming, 32% and semi-intensive farming, 22%. In general, the three practices perform far below the optimal levels. Intensive farming is usually thought of as the most profitable practice but is found to be less efficient. This “shrimp paradox” may reflect the pollution problem which is a by-product of shrimp production. Treating shrimp practices separately (TE estimated with respect to group-frontier), it is found that experience is negatively related to the TE of intensive farms and positively related to the TE of extensive farms. With respect to the metafrontier, age of household head, farm size and experience are found to be positively related to the MTEs of the farms. The TE with respect to either the group-frontier or the metafrontier is found to be positively related to the upstream dummy; everything else equal, the productivity of downstream farms is lower than upstream farms. This result indicates that pollution may play a key role in explaining efficiency differences between downstream farms and upstream farms.

Our empirical findings indicate that shrimp farmers and policy makers in the MRD should take the pollution issue seriously. The pollution caused by a shrimp farm not only imposes negative impacts on others but also over time on the shrimp farm itself. As pointed out by Tho et al. [41], farmers that experience shrimp farming failure often also experience rice farm failure with the same cultivated area due to salinity and sodicity resulting from shrimp farming. Therefore, results suggest that reducing the pollution resulting from shrimp farming should be prioritized so that sustainable development of the industry as well as the region can be targeted.

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**The influence of first language and culture on the production of collocations in the writing
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Abstract

It is widely acknowledged that collocations play an important role in second language learning, particularly at the intermediate and advanced levels. However, learners' difficulties with collocations have not been investigated in detail to date. This study examined Iranian postgraduate students' use of Lexical and Grammatical collocations in their writing. Further, this study intended to determine the underlying causes of collocation misuse by exploring the influence of L1 and the cultural background of learners on the proper production of collocations. Fifteen Iranian postgraduate students participated in this study and their academic writings have been analyzed to determine the collocational errors they made and to identify the basis for their difficulties in producing collocations. The result showed that learners have difficulties with both lexical and grammatical collocations in their writing. First language influence appeared to have a strong effect on the learners' production of collocation. In addition, as language and culture are not separable, the cultural difference between the first language and target language caused students to come up with odd lexical collocations. The results indicated that learners are often not aware of the collocations and are not able to control their collocation production.

Introduction

This paper intended to investigate the influence of L1 and cultural background of the EFL Iranian learners on the production of collocations. In addition this study investigated learners' use of collocations by analyzing the learners' written work based on multiple choice tests and a writing task. Collocations are two or more words which have a strong tendency to co-occur in a language as a prefabricated combination of two or more words in a particular context. (Halliday, 1968) They are one of the difficulties that second language learners, in particular, adult second language learners, have to deal with in the process of learning English. Students often come across quite a large number of difficulties in all language skills. These difficulties depend on a variety of variables such as students' native language (L1) background, age, and personality, vary in their intensity and nature.

Native speakers of a language have thousands of words at their disposal. Theoretically, by using their knowledge of grammar, they are able to use the words to produce and understand an

unlimited number of sentences that they have never heard or said before. They use a large number of ready-made chunks of words by putting them together in different ways according to their communication needs. Words become bound, as it were, to each other pursuant to repeated use in the same chunks by members of the language community. Sometimes, the dramatic effect of a single use of a group of words together or the prestige of the user may be enough to link the words into one chunk in the memory of language users. Words have the ability to predict each other's occurrence when they are combined in a chunk. Conversely, because in the memory of non-native speakers, English words are not linked in ready-made chunks, inappropriate and odd word combinations are often produced.

The majority of Iranian EFL learners have some knowledge of English grammar and vocabulary; however, they seem to have serious problems with the use of collocations. For instance; "make a mistake" is an acceptable collocation in the English language. Iranian learners using the Persian language say "*bimari sakht*" which literally means "difficult illness" and when it comes to English they think in their first language and instead of "*serious illness*" they write or say "*difficult illness*." This example is a semantic expansion, in which learners impose a corresponding word meaning into target-language word, reflecting influence from Persian *sakht* = "difficult" and "serious". This inefficiency is most likely due to the lack of knowledge of word combinations among Iranian EFL students, and to a large extent, the inadequate emphasis given to the teaching of collocational patterns in their textbooks, and the type of instruction they receive.

In language pedagogy and in lexicography collocations are an unrecognized area and little understood. With this lack of collocation awareness and knowledge, as Pawley & Syder (1983) mention, it is difficult to see ESL/EFL speakers' English as ordinary, natural or fluent. Their expressions can be judged to be 'unidiomatic', 'unnatural', 'odd', or 'foreign' even though they are grammatically correct. Therefore, in order to attain fluency, collocations should become a focus of ESL/EFL pedagogy. Producing collocations in writing raises particular difficulties. English teachers have been making significant efforts to enhance EFL learners' writing by spending a lot of time for correcting students' writing and trying to identify the areas of difficulty. In spite of this effort, the same errors continue to occur. Bahn and Eldaw (1993) declare, in fact it is usually the case that the majority of EFL learners have different problems in their oral and written production. According to Hill, "Students with good ideas often lose marks because they don't know the four or five most important collocations of a key word that is central to what they are writing about" (Hill, 2000:5). Accordingly, longer, verbose ways of explaining or discussing the issue raise the chance of further errors. These problems are the consequence of insufficient knowledge about the "companies that words keep." The use of phrases in written text is plentiful and often contributes to better communication than the actual form of a sentence. L2 non-native speakers do appear to experience a difficulty in this area often choosing to overuse some well worn phrase(s) showing their limited range or repertoire. Hill writing in Lewis (2001) points out, "within the mental lexicon, collocation is the most powerful force in the creation and comprehension of all naturally occurring text" (pg.49). In using collocation in their writing learners will develop the ability to create more native like sentences. That is to say, to enhance learners' writing ability, they need to use collocation in their writing.

Literature Review

According to Robins (1976), studies on collocations started 2.300 years ago in Greece. The Greek Stoics related collocations to semantics and used the concept of collocation to study the meaning relationships between words. According to these ancient scholars, words “do not exist in isolation, and they may differ according to the collocation in which they are used” (Robins, 1967, p.21). The British linguist J. R. Firth, who is the father of collocational studies in modern times, is in the tradition of the Greek Stoics. Many of his statements about collocations are similar to the ancient Greek scholars; for example “words are mutually expectant and mutually comprehended” (Firth, 1957, p.12) or “you shall know a word by the company it keeps” (p. 11). Although, it is widely accepted that Firth is the first linguist in modern times to explicitly introduce the notion of collocation into a theory of meaning, Mitchell (1971) believes that Firth in the selection of the term collocation may have been influenced by Palmer’s monograph on collocations.

After Palmer’s work in 1930s, second language teachers have looked at collocations as both an opportunity and a problem. There have been some factors in recent years, which helped collocations in particular and ‘formulaic language’ in general to come into focus for second language learners: The expansion of computerized texts and works of Sinclair (1987) showed the quick spreading of the use of collocation. For Pawley and Syder (1983) multi-word ‘lexicalized’ phrases have the important role in producing fluent and idiomatic language; regular and odd chunks are at the heart of those usage-based models in both language description and first language acquisition (Tomasello 2003). Based on Smith’s (2005) statement including collocation in the curriculum is very important. The first reason is when non-native speakers encounter extensive difficulty in selecting the accurate combination of words, even in cases where the learner knows the individual words, collocations are still likely to be problematic. According to Lewis (1993) the second reason is the need for learners to go beyond the ‘intermediate plateau’. These students can cope in most situations, but they tend to ‘avoid’ or ‘talk around’ the more challenging tasks of advanced language learning. Collocation instruction is especially motivating for upper level students (Williams, 2002). The third reason is that possessing knowledge of frequently occurring collocations increases vocabulary knowledge and improves fluency and helps stress and intention (Williams, 2002). The final reason is that collocation errors are more damaging to the communication process than most grammatical errors. The result is unnatural sounding expressions or odd or possibly out of date phrasing. While the need for research on collocations has been identified a long time ago, academic investigations have only been conducted recently. Statements on the degree of L1 influence on lexis in general are contradictory. On the one hand, it has been claimed that L1 influence is not very important in the area of lexis (Martin 1984) while on the other hand, that lexis is among the levels of language most likely to be affected by transfer (Ellis 1996: 315). Among the small number of recent studies on collocation there is a study by Burgschmidt and Perkins (1985) cited in Nesselhauf (2004). They have observed frequent transfer by advanced learners. The same result is obtained by Baigent (1996), though in neither study is this influence quantified. With regard to individual types of phraseological units, the findings are also contradictory. For collocations, a whole range of claims can be found. Some authors conclude on the basis of their studies that L1influence is very weak. For example, Farghal and Obiedat (1995: 320) in their elicitation test and Lombard (1997) in her production study observe transfer in about 10% of the non-native-like collocations produced by advanced learners (cf.

Section 1.2). Biskup (1992) observes a somewhat greater degree of L1 influence in a translation test on collocations, but also a considerable difference between groups with different L1s. She finds 21% L1 influence on inappropriate collocations with German learners and 48% with Polish learners.

Unfortunately, these studies don't provide the desirable information regarding the general proficiency level of the subjects or statistical information on the test instruments used. To some extent, it is difficult to know exactly how solid their findings are because most of them have used a lexical approach and eliminated the grammar aspect.

The study

This paper intended to investigate the influence of L1 and cultural background of the learners on the production of collocations. In addition this study investigated learners' use of collocations by analyzing the learners' written work based on multiple choice tests and a writing task. The next sections of this paper will explain the classification of collocations, research questions, methodology, and result and discussion.

Classification of collocations

Based on Benson, Benson, and Ilson (1986), collocations fall into two categories: Grammatical collocations and Lexical collocations. Following Benson, Benson, and Ilson (1986), a grammatical collocation generally is a dominant open class word (noun, adjective or verb) and a preposition or particular structural pattern such as an infinitive or a clause. The major types of grammatical collocations are: Noun + Preposition/ to infinitive/ that clause (access to, agreement that...), Preposition + Noun (in advance, to somebody's advantage), Adjective + Preposition/ to infinitive/ that clause (aware of, necessary to, afraid that...), a verb combining in different ways with a preposition, an infinitive with to, an infinitive without to, a verb form ending in -ing, that clause (Adjust to, begin to, keep doing, think that...).

A lexical collocation, on the other hand, normally does not contain infinitive or clauses. It typically consists of open class words (Noun, Adjective, verb or adverb). According to syntactic characteristics, Lewis (2001, p. 51) classifies lexical collocations into six major types: Adjective + Noun (*strong tea, major problem, key issue*), Noun + Noun (*a pocket calculator, sense of pride*), Verb + Noun (*make an impression, set an alarm*), Verb + Adverb (*spell accurately, live dangerously, smiled proudly*), Adverb + Adjective (*strictly accurate, completely soaked, happily married*), and Noun + Verb (*companies merged, pose a problem*).

Research Questions

This study intends to answer the following two research questions.

1. Which type of collocations do EFL Iranian learners produce in their writing, grammatical or lexical?
2. To what extent do L1 and cultural background influence the production of collocations?

Methodology

Subjects

The participants in this study are 15 Iranian, male and female, postgraduate students at UKM (University Kebangsaan Malaysia) University. Their age varies from twenty four to thirty five. Their level of English is intermediate and above as it is compulsory for students to have a minimum IELTS 5.5 to be able to register at the university. English language is their foreign language. Those students who do not have IELTS are required to take a placement test and they are required to score at least 80%. The university has an intensive English course program to accommodate those who score less than 80% in the placement test. Placement test consists of speaking, listening, writing, and reading skills. Students remain in this program until they managed to obtain the university's admission requirement.

Instruments

The data collection instruments used in this study were a collocations test and a writing test. For analyzing the data SPSS (Statistical Package for the Social Sciences) V19 has been used to show the quantitative data clearly.

Writing test

Students were asked to write about the following topic:

1. Write about unforgettable experience you have had.
2. How did you spend your last Norouz holiday (Iranian New Year holiday)?

In order to make it easier for students to complete the writing test a number of things were considered in the selection of these titles. First, writing about an unforgettable experience is a personal matter and therefore it is assumed to be motivating and thought-provoking. Second, the topic related to friends, family, and culture are familiar enough to write about easily for the students. The participants were asked to write an essay on a topic provided for them. They had 45 min to write the essay. They were asked to write an essay not shorter than 250 words. The subjects' writing production was used to analyze the use of their lexical and grammatical collocations. Uses of collocations were measured by the quantity, variety, and accuracy of collocations. Frequencies of occurrence of lexical and grammatical collocations were counted both in quantity and variety.

Collocation test

A multiple-choice test of collocation was considered. It included 50 items selected from the *Oxford Collocation Dictionary*. This test, which was made up of both lexical and grammatical collocation, was divided into 4 parts. The parts offered the following types of collocations:

1. noun+verb
2. verb+noun
3. adjective+noun
4. noun+preposition

Data analysis procedure

There was a coding procedure after data collection. All the materials were placed into folders with an identifying number on each. To assure participants' anonymity, identifying numbers were used instead of names.

Procedure for scoring the data from the test

The test of collocation consists of 50 sentences or items in a multiple choice format. The scores on the collocation test show the participants' knowledge of collocations. The maximum score for answering 50 questions correctly was 50 points. The researcher scored the test with the help the BBI Dictionary, Mr. Stockdale's Dictionary of collocations (2000), and Oxford Dictionary of Collocations (2009).

Statistical procedures

The subjects' scores on the Collocations test and the frequency of Collocations use in the writing test analyzed to show the influence of L1 and cultural background on the production of collocations by learners. As a quantitative research for analyzing the data, Statistical Package for the Social Science (spss 19) version 19 was used for the computing sections.

Results and Discussion

Table 1: Frequency of use in the collocation test

Statistics					
	Correct_Nou n_verb	correct_Verb noun	correct_Adj_ Noun	correct_Nou n_prepositio n	
N Valid	15	15	15	15	15
Missing	0	0	0	0	0
Mean	7.0000	10.1333	6.5333	9.6667	
Std. Deviation	2.72554	1.45733	2.16685	2.52605	
Minimum	4.00	8.00	4.00	6.00	
Maximum	11.00	12.00	10.00	14.00	

Table 1 shows the results on the collocation test. It illustrates that some types of collocations have broader differences in the level of difficulty. To be more accurate, there is a statistically significant difference between the performance of the subjects on *adjective+noun* collocations and other types of collocations. The mean for *adjective+noun* collocations is 6.5, whereas the mean for the others is at least 7. In addition it illustrates that *adjective+noun* collocations and *noun+verb* collocations are the most difficult ones for the students while, on the other hand *verb+noun* collocations are the easiest category for the subjects.

Table 2: Frequency of use in the writing samples

Type of Collocation	Subtypes	Frequency	Percent (%)	Total collocation
Grammatical	Verb+ Proposition	38	65.5	58
	Proposition + Noun	13	22.4	
	Adjective + proposition	7	12.1	
Lexical	Verb + Noun	76	66.1	115
	Adjective + Noun	26	22.6	
	Noun + Noun	9	7.8	
	Verb + Adverb	1	.9	
	Verb + Adjective	2	1.7	
	Noun + Adjective	1	.9	

Table 2 shows the frequency of use for both grammatical and lexical collocation by the subjects in their writings. The following conclusions can be drawn from table 2:

- a) Lexical collocations are easier for learners to acquire than grammatical collocations. The total number of grammatical collocations is 58 whereas the total number for lexical collocations is 115.
- b) The performance of the subjects on different subtypes of lexical collocation is significantly different. Among different subtypes of lexical collocation, *verb + noun* appear the easiest for learners to acquire in comparison with other types of lexical collocations.
- c) The subjects' performance on three subtypes of grammatical collocation is significantly different. In grammatical collocation, *verb + proposition* appeared easier for the subjects than *noun+preposition* and *adjective+proposition*.

Discussion

With the lack of awareness of collocations and without knowledge of collocations, as Pawly & Syder (1983) mention, which has been later supported by Lewis (2004), it is difficult to see ESL/EFL learners' English as ordinary, natural or fluent. Their expressions can be judged to be unnatural, odd, and foreign even though they are grammatically correct. However, during second language learning, two practical restrictions not present in L1 acquisition determine that there is a significant difference between L1 and L2 lexical development processes. The first restriction is the poverty of input in connection with both quantity and quality. Classroom L2 learners often lack sufficient, highly contextualized input in the target language. As a result, this makes it very difficult, if not impossible, for an L2 learner to extract and create semantic, syntactic, and morphological specifications about a word and integrate such information into the lexical entry of that word. EFL learners usually focus on the individual words and neglect other important information, that is to say, what these individual words co-occurred with. They learn collocations as separate words rather than in chunks. As a result, when they want to produce collocation, they refer to their first language to find a suitable word for producing collocation in target language. When that happens the consequences are under the influence of L1 on L2. This phenomenon is referred to by linguists as *transfer*. Transfer can be positive or negative. Positive transfer occurs when the patterns of L1 and L2 are the same. Negative transfer occurs when the patterns of students' L1 and L2 are different, in which case problems may arise.

Positive transfer

It was clear that in responding to certain test items, participants were aided by positive transfer from Persian. In other words, some collocations had equivalents in Persian, and thus were easy for students to respond to. The following items are among the positively-transferred items listed by their number in the Test of Collocations:

1. **album** comes out
13. **ball** rolling
16. do **housework**
33. blank **tape**

36. golden opportunities

39. preference to

43. success in

Predictably, the collocations in the list above can be classified as high-frequency collocations, which were answered by the largest number of students. Learners' reliance on their first language (L1) in learning English was examined by various SLA researchers. Biskup (1992), Bahns and Eldaw (1993), and Gitsaki (1999) found that, in ESL, collocations that had equivalents in students' L1 were easier, and thus were more likely to be elicited than the ones having no equivalents in students' L1. For this reason, Bahns and Eldaw (1993) and Biskup (1992) suggested that, since the number of collocations is too large to cover, the deliberate teaching of collocations should be limited to collocations that have no equivalent in students' first language.

Negative Transfer

Based on the results, negative transfer like positive transfer is a common phenomenon among second language learners. The data showed that students had problems with collocations that had no equivalents in Persian. As a result, when students did not know a certain collocation, they relied on their first language and negatively transferred collocations from their L1. The collocation *blame falls on*, for instance, was one of the problematic collocations. In addition to the fact that such a collocation does not have a Persian equivalent and thus cause a difficulty to students. As such, the difficulty students had with *blame falls on* may be explained by either the nature of the collocation or negative transfer factors. Another source of difficulty can be the cultural factor. Culture and language are not separable. Culture is passed from one generation to another through the use of words. This shows that in any language both culture and vocabulary are very closely related aspects. Therefore, there is a close relationship between culture and the choice of words used to accomplish this cultural transmission. While, in practice, in the teaching of foreign language extensive effort is spent on acquiring vocabulary and learning grammar, the culture of the language is often minimally addressed.

Another factor that influences on the production of collocation is culture and background of the subjects. It is widely accepted that language and culture are not separable. Language is a part of culture and plays a significance role in it. Therefore, language concomitantly reflects culture and is affected and formed by it. Since culture consists of people's historical and cultural background, it is considered as the symbolic representation of people and also as their way of living and thinking and their approach to life. Learners construct the new knowledge by using their previous knowledge they have acquired. Their previous knowledge comes from past experience, culture and environment. In other words, learning is social and it happens within a culture. Learners make new meaning by relying on the previous knowledge and the action of this construction is mental and it happens in the mind. As learning is a social activity, learners' knowledge and their learning is associated with their connection with other human being, their teachers, their peers, their family and in general with society. Every language form we use has meanings, carries meanings that are not in the same sense because it is associated with culture and culture is more extensive than language. People of different cultures can refer to different things while using the same language forms. According to Cowie (1998), "cultural background refers to information that is most difficult to formalize, as it is connected with semantics in a

very indirect and still unexplored way. We say that a word or a word-combination has 'cultural background' when it possesses a clearly discernible ideological aura associated with a historical situation, a political movement, a fashionable trend, and so on." There are two collocations used by learners in this study which are related to culture of the subjects. The first one is *darkening hair* and the second one is *8 to 4 job*. Cultural background can be discerned in such lexical collocations. Collocation *dye hair* in English has an equivalent in Persian, but Iranian learners usually say *darken hair* instead of *dye hair*. Considering the learners' culture, an explanation is that the use of the verb *darkening* is a result of cultural interference because people usually don't see the hair of ladies and they see the hair of men. In Iran men only dye their hair black. The other collocation is *8 to 4 job* whereas in English it is *5 to 9 job*. This collocation is related to society and culture as in Iranian system people work at the office from 8 to 4 and not 5 to 9. It is clear that this learner has relied on his background knowledge and produced this collocation. However, cultural patterns differ from one language to another language and from culture to culture. Therefore, as L2 English learners' culture is different from the culture of the target language, so it causes them to produce collocations which sound raw and unacceptable to the native speaker of English.

Conclusion and implication

This study investigated the influence of L1 and cultural background of the learners on the production of collocations. In addition this study investigated learners' use of collocations by analyzing the learners' written work based on multiple choice tests and a writing task. This study illustrated that *adjective+noun* collocations and *noun+verb* collocations were the most difficult ones for the students while on the other hand *verb+noun* collocations were the easiest category for the subjects. When there was a confluence between the English collocations and Persian equivalents, the students tended to provide the correct collocation but in an opposite manner, when there was a deviation between the collocations in the two languages, students faced difficulty with the items.

Based on the findings of this study it is recommended that:

1. Considering difficulty of the production in collocations, learners are in need of more practice producing collocations. Also, they should receive as much collocation input as possible.
2. Non-congruent collocations should receive more attention in language teaching without neglecting congruent collocations as some researchers suggested (Bahns, 1993).
3. In teaching collocations, more attention should be given to teaching those collocations, which the results showed to be more difficult, if not a challenge, to the participants.

Collocations are very important in writing and using them properly enhances the writing skill. Acquisition of specialized collocations will enable learner to communicate in a professionally acceptable way. In addition to, when time is limited to formulate a message and get it across in writing, writers would feel a more pressing need to use prefabricated expressions to save processing time and energy. Including collocations in curriculum and preparing the students to use collocations effectively and appropriately in writing will contribute to efficient communication. Particularly, with adult ESL/EFL learners, who are uncomfortable about their limited structural and lexical knowledge, the teaching of collocations can have additional advantages. This is because collocations can decrease their affective filter by providing them with ready-made chunks and prepackaged building blocks so that their worry about structure and lack of words can be reduced.

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A comparison of two contemporary solo violin pieces: *Four Nocturnes (Night Music II)* (1964) and *Solo für einen Solisten: für Violine* (1981)

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Abstract

In the present study, two contemporary composers, George Crumb (b. 1929) and Nicolaus A Huber (b. 1939), were examined and compared. Two of their works, *Four Nocturnes (Night Music II)* (1964) and *Solo für einen Solisten: für Violine* (1981), reflect the influence of musical ideas and compositional skills prevalent during the decades of the 1960s and 1980s. In this article the similarities and differences between them are compared, and the values involved in learning both pieces for solo violin are discussed.

Key Words: contemporary violin playing techniques; George Crumb; Nicolaus A Huber; Avant-garde music; graphic notation

1. Introduction

Contemporary music is close to our life because it is written by existing composers who experience the world in similar ways as we do. During the inter-war period of the first half of the twentieth century, music underwent crucial changes. After 1960, composers and musicians attempted to break traditional boundaries and had an open palette of musical shapes and colours to work with. The elements of music consisted, as it still does today, of graphic notation, Western and non-Western cultural motifs, the experiments of modernism, and the use of music technology and dance. This research will explore two compositions written between the 1960s and 1980s for the violin by George Crumb (b. 1929) and Nicolaus A Huber (b. 1939). It will focus on similarities and differences between the two compositions including compositional ideas, musical influences, as well as the use of graphic notation.

During these two decades, two of the most important developments in contemporary music were the notation system and the rise of avant-garde music. Anthony Prysor defines graphic notation in *The Oxford Companion to Musicas* a system that “develops in the 1950s by which visual shapes or patterns are used instead of, or together with, conventional musical notation.”¹ Graphic notation was developed in

¹ Anthony Prysor, “Graphic Notation,” in *The Oxford Companion to Music*, ed. Alison Latham (Oxford: Oxford University Press, 2002), 537.

the 1950s and it is still often used in combination with traditional music notation.² It is commonly used in experimental music, which is different from traditional aspects of music writing. Between the 1960s and 1970s, graphic notation appeared in some works written by avant-garde composers and experimental music composers in the United States and Germany such as Morton Feldman (1926-1987), Karheniz Stockhausen (1928-2007), John Cage (1912-1992) and Earle Brown (1926-2002). *Makrokosmos*, a series of four volumes pieces composed by George Crumb in 1970s, is an example of the use of graphic notation. (See Figure 1).



Figure 1. An example of graphic notation by George Crumb (b. 1929).³

After the death of Anton Webern in 1945, avant-garde music⁴ appeared in many contemporary compositions and was utilised in different musical styles and genres of art music. Although in the 1950s the term avant-garde music was mainly associated with serial music or so-called serialism, today avant-garde music refers to any other modernist music not defined as experimental music. *Mikka* (1971) and *Mikka "S"* (1976)⁵ for solo violin composed by Iannis Xenakis (1922-2001) are examples of avant-garde music written in 1970s. (See Figure 2).



Figure 2. *Mikka "S"* is an example of avant-garde music by Iannis Xenakis.

These two composers have demonstrated the use of avant-garde ideas and graphic notation in different ways. In addition, they apply various conventional and non-conventional playing techniques in their works.

²

³ Picture is available from Roger Bourland, "Crumb's graphic scores," Roger Bourland: writes about music and life, 29 October 2006, [Internet online], available from <<http://rogerbourland.com/2006/10/29/crumb-s-graphic-scores/>> [25 September 2010].

⁴ Paul Griffiths, "Modern Music: The Avant Garde since 1945" in *Music Educators Journal*, Vol. 68, No. 4 (December, 1981), 63-64.

⁵ Iannis Xenakis, *Mikka "S"*, (Italy: Éditions Salabert, 1976).

2. George Crumb (b. 1929) and his *Four Nocturnes (Night Music II)* (1964)

George Crumb, an American composer, is noted for his modern and avant-garde compositions as well as his use of graphic notation. Crumb's musical style ranges from the western art-music tradition, such as hymns and folk music, to non-Western music.⁶ Robert Morris has ever said:

"George Crumb's remarkable music came on the scene in the late 1960s and represented a new and unprecedented voice in American new music". "His emphasis on exquisite and elegant timbres in the context of performance ritual was immediately noticed and applauded by European composers, who had up until that time only been interested in the most radical of American composers, mainly Charles Ives and John Cage."

Many of Crumb's musical compositions are written for an eclectic combination of instruments such as *Four Nocturnes (Night Music II)* (1964) for violin and piano and *Black Angels (Images I): Thirteen Images from the Dark Land* (1970) for electric string quartet. The premier performance of *Four Nocturnes (Night Music II)* (1964) was given by Paul Zukofsky, violinist, and George Crumb in Buffalo, New York on 3 February 1965.⁷ Crumb explained his idea of composition in *Four Nocturnes* as "a further essay in the quiet nocturnal mood" of his *Night Music I for soprano, keyboard, and percussion*, which he composed in 1963.⁸ Crumb stated on *Four Nocturnes (Night Music II)*⁹:

I had attempted a modification of the traditional treatment of the violin-piano combination by exploiting various timbral resources of the instruments. Thus a certain integration in sound is achieved by requiring both instruments to produce harmonics, pizzicato effects, rattling sounds (on the wood of the violin; on the metal beams of the piano). The gentle rustling sounds which conclude the work are produced by the application of a percussionist's wire brush to the strings of the piano.

Four Nocturnes (Night Music II), is a piece that demonstrates the extreme delicacy and the prevailing sense of "suspension in time"¹⁰. Crumb attempted to explore instrumental resonances in new ways, experimenting with new writing styles and innovative performance techniques which limited the freedom of the piano and the violin. For example, in *Four Nocturnes (Night Music II)*, Crumb created different symbols for the piano and the violin whose significance he clearly explained in the performance notes. For instance, " is used as an indication "to normal 'breath' or

⁶ Robert Starobin, "The Life," *George Crumb- The Official George Crumb Home Page*, [Internet online], available from <<http://www.georgecrumb.net/life.html>> [6 December 2010].

⁷ George Crumb, "Four Nocturnes (Night Music II)," *Composition -The Official George Crumb Home Page*, [Internet online], available from <<http://www.georgecrumb.net/comp/4noct-p.html>> [1 May 2011].

⁸ Robert Starobin, "The Life," *George Crumb- The Official George Crumb Home Page*, [Internet online], available from <<http://www.georgecrumb.net/life.html>> [6 December 2010].

⁹ George Crumb, "Four Nocturnes (Night Music II)," *Composition -The Official George Crumb Home Page*, [Internet online], available from <<http://www.georgecrumb.net/comp/4noct-p.html>> [17 October 2010].

¹⁰ George Crumb, "Four Nocturnes (Night Music II)," *Composition -The Official George Crumb Home Page*, [Internet online], available from <<http://www.georgecrumb.net/comp/4noct-p.html>> [17 October 2010].

pause” and the “termination of the event”. Both performers have to learn these symbols together and discuss the ways of interpreting the music as to the composer’s expectations as possible. For example, Crumb indicated the pianist to play inside the piano and the violinist to discover different kinds of *pizzicato*, *glissando* and a wide range of dynamics. .

3. Nicolaus A. Huber (b. 1939) and his *Solo für einen Solisten: für Violine* (1981)
Huber, German composer, was born in Passau in 1937. He was a pupil of Luigi Nono (1924-1990), Josef Anton Riedl (b. 1929) and Karlheinz Stockhausen. During the 1960s, Huber received guidance in composition from Karlheinz Stockhausen in Darmstadt and Luigi Nono in Venice.¹¹ This work exemplifies Huber’s compositional style during the 1980s, which included avant-garde music, experimental music, and electronic music.¹²

In his compositions of the 1980s, Huber explored a wide range of expressive possibilities within a modernist sensibility. Huber emerged as one of the most distinctively radical, yet equally recognizable personalities on the German contemporary music scene. He also produced a substantial body of work of considerable originality and dramatic power, frequently involving theatrical elements.¹³ *Solo für einen Solisten: für Violine* is an example of it. He utilises dance and whistle in the violin performance and indicates the violinist to play, tap dance or to whistle at the same time.

Solo für einen Soliste: für Violine is a piece that opens up an entirely new way of sound production and performance technique for the violinist and the audience. For example, Huber explains that *For Genre II*, not only does the soloist need shoes with leather soles and hard leather heels, but the violinist also must be able to whistle while playing. Another example consists in Huber’s use of “v.” to indicate *vibrato*, and “*” to indicate *mute string at pause*.

4. Similarities and differences

Crumb and Huber have some similarities in compositional styles, ideas and musical developments. These two selected works also show differences that reflect their diverging cultures, musical influences, and compositional skills and ideas.

4.1 Similarities

Similarities between Crumb and Huber are as follows:

- Crumb and Huber’s music reflect important approaches in avant-garde

¹¹ Nicolaus A Huber, *Biografie*, [Internet online], available from <<http://www.kir.esen.de/asp/frame.asp?KOMPONIST=29>> [27 March 2011].

¹² Schulich School of Music, McGill University, *Biographies Page*, [Internet online], available from <http://www.music.mcgill.ca/~cp/extra_files/old_files/huber/public_html/docs/biograph.html> [27 March 2011].

¹³ John Warnaby, *The Music of Nicolaus A. Huber*. *Tempo*, 57, 22-38, 2003.

music and in compositional skills. Based on concepts of music and compositional skills, Crumb and Huber are very similar.

- Crumb and Huber displayed a substantial body of work of considerable originality and dramatic power, frequently involving theatrical elements.
- These two works manifest similar historical and musical awareness. Crumb exploited the various timbral resources of the violin and the piano.
- In these two selected pieces, both Crumb and Huber incorporate theatre as an element of performance. *Four Nocturnes (Night Music II)* is requested to be performed in a larger hall and to interpret the theatrical atmosphere using sound while playing. *Solo für einen Solisten: für Violine* indicates the violinist should tap dance or whistle while playing.
- Crumb and Huber illustrate the significance of mental and physical preparation before the performance. Similarly, both composers also challenge the performer and the audience through visuals and sounds. Both composers discover the possibility of timbres and how to choreograph and motivate the performance. Crumb's music requires the violinist and the pianist to seek a balance between unusual gestures and tone production. Huber's music requires the violinist to balance the playing of the violin the playing of the violin while tap dancing or whistling. On the other hand, in these two pieces, both performers have to be well-trained in listening and be able to maintain an excellent physical condition.

4.2 Differences

Both Crumb and Huber are avant-garde music composers, utilising graphic notation and a variety of electronic musical ideas in these two selected compositions. However, differences between Crumb and Huber are as follows:

- Between the 1960s and 1970s, Crumb started to gain global attention for a series of compositions for various instruments and ensemble. During this time, Huber just studied in Germany and Italy under Stockhausen and Nono's guidance in composition.
- Most of Crumb's 1960s compositions have shown that his philosophy of composition is not simply based on one concept such as avant-garde and graphic notation. Most of his works are written with extended concepts for large scales and combination of instrumentation. The dimension of Huber's compositions is smaller and simpler than Crumb's works.
- Crumb's own compositional style is rooted in his past, specifically the Appalachian river valley where he spent his childhood, which he says influenced his particular "inner ear or echoing acoustic". This acoustic is a hallmark of Crumb's music – amplification, echoes, extensive structured silence, and long natural decay play an important part in his works. Another great influence on Crumb's music has been the poetry of Federico Garcia Lorca, which he first discovered in the 1950's. He found himself drawn to its intense, surrealistic imagery and simultaneous joyful and tragic moods.¹⁴.

¹⁴ School of Music, DePauw University (2000-2011), "Music of The 21ST Century: 2003-2004: George Crumb,"

By contrast, Huber's influence is based on German traditions and Italian styles. During the 1960s, Huber studied with Stockhausen in Darmstadt and with Luigi Nono in Italy. Nono encouraged Huber to explore "a more thorough-going means of eradicating tonality, through a study of psychology in order better to understand human responses."¹⁵ Crumb provided the pianist of the violinist with detailed instructions on how to perform their instruments. He also illustrated the setting of the piano and drew the diagram of the instrument in the performance notes. However, Huber simply wrote short sentences on the music and gave more freedom to the violinist. He only requested the violinist to tap dance or whistle while playing.

- Crumb and Huber applied similar symbols or features to indicate various playing techniques. However, these symbols did not refer to the same techniques. For example, Crumb used "— with direction" to indicate the *glissando* for the piano and the violin. Huber used "—" and "→" to indicate different bowing techniques such as playing *from tremolo to sautillé*¹⁶.

5. Conclusion

Today, there are many ways to play contemporary works written for the violin. The most important thing before discovering this music is to read the performance notes provided by the composer carefully. It is necessary to understand a composer's compositional and musical ideas as well as the theatrical elements of the composition when performing it live. Thus simple practice-and-performance may not be enough for the modern performer. Once we start to learn contemporary composition - interpreting music, gestures and producing sound as a result - the relationship between learning and performance is not as simple as used to. Like George Crumb has explained in *Music: Does it have a future?* "Perhaps of all the most basic elements of music, rhythm most directly affects our central nervous system."¹⁷ Different performers might interpret and perform different musical works with diverse viewpoints and thoughts. "Each new work seems to require a special solution, valid only in terms of itself."¹⁸ Each performance is unique, exciting and unpredictable. The most fascinating aspect of contemporary performance is the adventure it offers both the performer and the listener.

[Internet online], available from <<http://www.depauw.edu/music/events/21stCentury/03-04/index.asp>> [12 December 2010].

¹⁵ John Warnaby, "The Music of Nicolaus A. Huber", *Tempo* 57, no. 224 (April): 22-37, 2003.

¹⁶ Sautillé (Fr.). Springing. Type of bowing, like spiccato, the bow lightly rebounding off the string.

¹⁷ George Crumb, "Music: Does it have a future?", *The Writings - The Official George Crumb Home Page*, [Internet online], available from <<http://www.georgecrumb.net/future.html>> [17 October 2010].

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A two-period Bertrand model of brand marketing strategy



A two-period Bertrand model of brand marketing strategy

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Abstract

This paper developed two-period Bertrand models to describe firms' marketing strategy when considering the following two parameters: degree of product substitution and power of marketing technology. When facing Firm B (capable of no power of marketing technology and larger degree of product substitution), Firm A (capable of power of marketing technology) will invest in marketing cost in Period 1 to achieve the goal of expanding its product demand in Period 2. Although Firm A shared the costs, while Firm B did not in Period 1, Firm A outperformed Firm B in product demand in Period 2. Integrating the outcome of the two periods, the profit of Firm A was better than that of Firm B. I further considered that Firm A and Firm B were both capable of power of marketing technology. By analyzing the new model, I found that the expanding effect of product demand in Period 2 disappeared no matter the degree of product substitution. Although the two firms obtained their product brand loyalty separately in Period 2, consumers' behavior between the two products was indifferent in both Periods 1 and 2. Furthermore, the larger the power of marketing technology was, the more serious the situation was for firms to compete in product prices and profits.

Keywords: Bertrand model, marketing strategy, product substitution

Introduction

In the changing and competitive environment, enterprises engage in seeking various marketing strategies to outperform their competitors and to improve their performance. However, these marketing strategies are too complicated and technical. Therefore, how to coordinate and combine activities of advertising, product R&D and design, and customer service has become a very important mission for enterprises. The cases of the successful enterprises in Taiwan identified that the most important goal of marketing is to build brands.

It is obvious that brands can create a powerful and abiding relationship with consumers. Additionally, the goal of marketing today is to build the consumers' preference for brands because humans rely more on perception than rationality when making decisions.

This paper developed two-period Bertrand models to describe firms' marketing strategies when considering the following two parameters: degree of product substitution and power of marketing technology. When evaluating Firm B (capable of power of marketing technology or

not), I analyzed what Firm A (capable of power of marketing technology) will do about pricing strategy and further compared their market share and profits.

Literature Review

Brand strategy can be classified as line extensions, brand extensions, multi-brands, new brands, and co-brands (Kotler, 2000). The definitions are as follows:

1. Line extensions: adding new type, color, size, additive, and so on among the same brand name and product.
2. Brand extensions: extending the existing brand name to new product types.
3. Multi-brands: introducing new brand names to the same product types.
4. New brands: offering new brand names to new product types.
5. Co-brands: two or more famous brand names are included.

Kotler (2000) indicated that brand extensions compared with new brands result in a higher survival rate of a product. He also found that strong brands, symbol brands, brands supported by powerful advertisements and marketing, and brands entering the market early succeeded easily in brand extensions. This paper only considered the brand marketing strategy (BMS) of brand extensions and discussed two firms owning two substitute products in Period 1 and brand products in Period 2.

Cobb-Walgren, Ruble, and Donthu (1995) showed that introducing a new and potential brand into markets cost about \$100 million, and the survival rate was only 50%. Therefore, companies seeking sustainable development always prefer having existing brands as sales targets. In the late 1980s, several American enterprises merged with each other, which showed that firms thirsted for the intangible asset called “brand.” This paper adopted the BMS of brand extensions by considering brand marketing cost.

Martin (1993) found that when the advertising benefits can promote not only the current market demand but also the future one in the oligopolistic market, firms will inherit the current brand images in the future due to sales achievements. Once new entrants have entered the market to compete with the existing firms, they must pay much more advertising costs to build their own brand images because the existing firms’ brand images have already been built. Therefore, Martin (1993) believed that the advertising benefits spanning two periods can create an entrance barrier for new entrants on one hand, and can create the absolute cost advantage for existing firms on the other. This paper accepted the concept of advertising benefits which can span two periods. The economic model in this paper was set as a two-period duopoly Bertrand model, and the firm could expand its market demand in Period 2 if it paid the brand marketing cost in Period 1. Furthermore, Martin’s demand function of duopoly Bertrand model was cited in this paper. The function is as follows:

$$q_i = a - p_i - \gamma(p_i - \bar{p}) = a - c - \left(1 + \frac{\gamma}{2}\right)(p_i - c) + \frac{\gamma}{2}(p_j - c) \text{ for } j \neq i \quad (1)$$

where c , γ , and \bar{p} represent fixed marginal and average cost per unit, degree of diversity, and average price, respectively.

Konishi and Sandfort (2002) concluded that if the advertising cost was low, the two firms would result in both advertising equilibrium and identical pricing and profit when they competed in price. However, if the advertising cost was high, the firms would result in neither advertising equilibrium nor identical pricing and profit when they competed in price. If the advertising cost was moderate, the equilibrium would be that one firm advertised and the other did not. Through the advertising benefits, firms can lower their price, expand their market demand, and then make their profit exceed the one with no advertisement. The basic model in this study applied the concept of the advertising benefits and expanded the effect across two periods. Thus, firms can build their brand image easily in the future if they pay brand marketing costs at present when their current market demand is high.

Methodology and Framework

The key subject of this paper is discussing what Firm A (capable of power of marketing techniques) and Firm B's (capable of power of marketing techniques or not) pricing strategies are when considering the following two parameters: degree of product substitution and power of marketing techniques. This study will analyze the level of market demand and profits of Firm A and Firm B for the two periods.

In Period 1, which is the product manufacturing stage, the products of the two firms are substituted, and the two firms compete in price. In Period 2, which is the brand marketing stage, the brand images are built and result in diversity due to brand marketing costs involved in Period 1.

This model supposes that all decisions are made under perfect information, and the concept of sub-game-perfect equilibrium is used to solve the optimal questions. In this study, the method to obtain the sub-game-perfect equilibrium is backward induction. The construction of backward induction is that the later information can be perfectly expected by the former decisions. Therefore, the later questions must be solved first, and then the Bertrand equilibrium for Period 1 and Period 2 can be solved sequentially.

Basic Model

Up until now, product designs and manufacturing capability of firms have become more and more homogeneous. In order to make profits, BMS must be considered so that products can be differentiated and then value can be created. In this section, I applied equation (1) and expanded it to the product manufacturing stage in Period 1 and the brand marketing stage in Period 2.

Hypotheses

I supposed that there are two firms, A and B, in the market that compete with each other across two periods. Period 1 is the product manufacturing stage (compete in price), and Period 2 is the brand marketing stage (compete in brand). I further supposed that Firm A has the brand marketing

technology (BMT), while Firm B does not. I let P , D , and π represent the product price, market demand, and profits separately, and let the first suffix represent firms and the second suffix represent period. Additionally, I let parameter $\beta \geq 0$ represent expanding coefficient, and $\gamma \geq 0$ represent the degree of product substitution.¹ The marginal cost of the two firms is zero in Periods 1 and 2. For the convenience of numerical analysis, I supposed the parameter a in the initial function is equal to 100. The market demand function and firms' profit function for the two periods are as follows:

(1) Market demand functions:

Firm A:

$$D_{A1}(P_{A1}, P_{B1}; \gamma) = 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{A1} + \frac{1}{2} \gamma P_{B1} \quad (2)$$

$$D_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = \begin{cases} 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{A2} + \frac{1}{2} \gamma P_{B2} + \beta(P_{B1} - P_{A1}) & \text{if } P_{B1} \geq P_{A1} \\ 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{A2} + \frac{1}{2} \gamma P_{B2} & \text{if } P_{B1} < P_{A1} \end{cases} \quad (3)$$

Firm B:

$$D_{B1}(P_{A1}, P_{B1}; \gamma) = 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{B1} + \frac{1}{2} \gamma P_{A1} \quad (4)$$

$$D_{B2}(P_{A2}, P_{B2}; \gamma) = 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{B2} + \frac{1}{2} \gamma P_{A2} \quad (5)$$

(2) Firms' profit functions:

Firm A:

$$\pi_{A1}(P_{A1}, P_{B1}; \gamma) = \begin{cases} P_{A1} D_{A1}(P_{A1}, P_{B1}; \gamma) - \gamma(P_{B1} - P_{A1}) & \text{if } P_{B1} \geq P_{A1} \\ P_{A1} D_{A1}(P_{A1}, P_{B1}; \gamma) & \text{if } P_{B1} < P_{A1} \end{cases} \quad (6)$$

$$\pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = P_{A2} D_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) \quad (7)$$

$$\pi_A(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = \pi_{A1}(P_{A1}, P_{B1}; \gamma) + \pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) \quad (8)$$

Firm B:

$$\pi_{B1}(P_{A1}, P_{B1}; \gamma) = P_{B1} D_{B1}(P_{A1}, P_{B1}; \gamma) \quad (9)$$

$$\pi_{B2}(P_{A2}, P_{B2}; \gamma) = P_{B2} D_{B2}(P_{A2}, P_{B2}; \gamma) \quad (10)$$

$$\pi_B(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \gamma) = \pi_{B1}(P_{A1}, P_{B1}; \gamma) + \pi_{B2}(P_{A2}, P_{B2}; \gamma) \quad (11)$$

The discount rate is not considered in the model. $\gamma(P_{B1} - P_{A1})$ represents the brand marketing cost for Firm A. When $P_{B1} \geq P_{A1}$, which will lead to $D_{A1} \geq D_{B1}$, most consumers continued to buy Firm A's cheaper product in Period 2. In order to expand its market demand, Firm A must pay brand marketing costs in Period 1 to create its brand product in Period 2. Otherwise, Firm B must revenge with price in Period 2. On the contrary, when $P_{B1} < P_{A1}$, which will lead to

¹ According to Martin's supposition, $\gamma = 0$ represents perfect independence and $\gamma \rightarrow \infty$ represents perfect substitution.

$D_{A1} < D_{B1}$, most consumers continue buying Firm B's cheaper product. Therefore, I supposed that even if Firm A paid brand marketing costs in Period 1, it could not attract enough consumers to buy its brand product to offset its brand marketing costs. Hence, Firm A will give up the BMT at this time.

Thus, under $P_{B1} \geq P_{A1}$, the higher γ or $(P_{B1} - P_{A1})$ it is, the higher Firm A's brand marketing cost in Period 1 must be in order expand its market demand in Period 2. Therefore, I let $\gamma(P_{B1} - P_{A1})$ represent Firm A's brand marketing costs. While $P_{B1} < P_{A1}$, Firm A will suffer losses if it proceeds with BMT; it will then give up this technique that generates zero brand marketing costs. I set the profit function of Firm A in Period 1 as equation (6).

$\beta(P_{B1} - P_{A1})$ represents the expanding market demand for Firm A in Period 2. When $P_{B1} \geq P_{A1}$, the higher $P_{B1} - P_{A1}$ and Firm A's relative market demand are in Period 1 ($D_{A1} - D_{B1}$), the higher Firm A's expanding market demand will be in Period 2 by brand products because most consumers prefer Firm A's product. When $P_{B1} \geq P_{A1}$, the higher β or $P_{B1} - P_{A1}$ is, the higher Firm A's expanding market demand will be in Period 2. I let $\beta(P_{B1} - P_{A1})$ represent Firm A's expanding market demand through BMT. While $P_{B1} < P_{A1}$, Firm A will give up BMT that results in zero expanding market demand. So I set the market demand function of Firm A in Period 2 as equation (3).

Analysis

I used the method of backward induction to solve the dynamic price equilibrium through Stage 1 and Stage 2 separately.

Stage 1: Solving the maximum profit equilibrium Bertrand prices for Period 2,

First order conditions (FOC) for Firm A and Firm B in Period 2 are as follows:

$$\begin{cases} \frac{\partial \pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma)}{\partial P_{A2}} = 0 \\ \frac{\partial \pi_{B2}(P_{A2}, P_{B2}; \gamma)}{\partial P_{B2}} = 0 \end{cases}$$

I obtained

$$P_{A2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{4[50(4+3\gamma) + \beta(2+\gamma)(P_{B1} - P_{A1})]}{(4+\gamma)(4+3\gamma)} \quad (12)$$

$$P_{B2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{2[100(4+3\gamma) + \beta\gamma(P_{B1} - P_{A1})]}{(4+\gamma)(4+3\gamma)} \quad (13)$$

Second order conditions (SOC) are as follows:

$$\begin{cases} \frac{\partial^2 \pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma)}{\partial P_{A2}^2} < 0 \\ \frac{\partial^2 \pi_{B2}(P_{A2}, P_{B2}; \gamma)}{\partial P_{B2}^2} < 0 \end{cases}$$

Thus, the equations (12) and (13) are equilibrium prices of maximum profits for Firm A and Firm B in Period 2.

Stage 2: Solving the equilibrium Bertrand prices for maximum sum of two-period profits.

After equations (12) and (13) are substituted into equations (7) and (10), the following equations can be obtained.

$$\begin{cases} \pi_{A2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{8(2+\gamma)[\beta(2+\gamma)(P_{A1} - P_{B1}) - 50(4+3\gamma)]}{(4+\gamma)^2(4+3\gamma)^2} \\ \pi_{B2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{2(2+\gamma)[\beta\gamma(P_{A1} - P_{B1}) - 100(4+3\gamma)]}{(4+\gamma)^2(4+3\gamma)^2} \end{cases}$$

Thus, the two-periods-profit-sum functions for the two firms can be represented by P_{A1} , P_{B1} as endogenous variables and β , γ as exogenous variables (parameter) as follows:

$$\begin{aligned} \pi_A(P_{A1}, P_{B1}; \beta, \gamma) &= \pi_{A1}(P_{A1}, P_{B1}; \gamma) + \pi_{A2}(P_{A1}, P_{B1}; \beta, \gamma) \\ &= P_{A1} \left[100 - \left(\frac{1}{2}\gamma + 1 \right) P_{A1} + \frac{1}{2}\gamma P_{B1} \right] - \gamma(P_{B1} - P_{A1}) + \\ &\quad \frac{8(2+\gamma)[\beta(2+\gamma)(P_{A1} - P_{B1}) - 50(4+3\gamma)]}{(4+\gamma)^2(4+3\gamma)^2} \end{aligned}$$

$$\begin{aligned} \pi_B(P_{A1}, P_{B1}; \beta, \gamma) &= \pi_{B1}(P_{A1}, P_{B1}; \gamma) + \pi_{B2}(P_{A1}, P_{B1}; \beta, \gamma) \\ &= P_{B1} \left[100 - \left(\frac{1}{2}\gamma + 1 \right) P_{B1} + \frac{1}{2}\gamma P_{A1} \right] + \\ &\quad \frac{2(2+\gamma)[\beta\gamma(P_{A1} - P_{B1}) - 100(4+3\gamma)]}{(4+\gamma)^2(4+3\gamma)^2} \end{aligned}$$

By FOCs that are as follows,

$$\begin{cases} \frac{\partial \pi_A(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{A1}} = 0 \\ \frac{\partial \pi_B(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{B1}} = 0 \end{cases},$$

P_{A1} , P_{B1} represented by exogenous variables can be obtained.

$$P_{A1}^*(\beta, \gamma) = \frac{1}{4} \left\{ (4+\gamma)^3 (4+3\gamma)^3 (200 + \gamma(152 + \gamma)) - 4\beta^2 (2+\gamma)(4+\gamma)(4+3\gamma)(1600 + \gamma(1600 + \gamma(500 + \gamma))) - 3200\beta^3\gamma(2+\gamma)^3 - 200\beta(2+\gamma)(4+\gamma)^2(4+3\gamma)^3 \right\} \frac{1}{(4+\gamma)^2(4+3\gamma)[(4+\gamma)^2(4+3\gamma)^3 - 8\beta^2(2+\gamma)(16 + \gamma(16 + 5\gamma))]} \quad (14)$$

$$P_{B1}^*(\beta, \gamma) = \frac{1}{4} \left\{ 12800\beta^3\gamma(2+\gamma)^3 + 2(4+\gamma)^3(4+3\gamma)^3[400 + \gamma(300 + \gamma)] - 16\beta^2(2+\gamma)(4+\gamma)(4+3\gamma)[1600 + \gamma(1600 + \gamma(500 + \gamma))] \right\} \frac{1}{(4+\gamma)^2(4+3\gamma)[(4+\gamma)^2(4+3\gamma)^3 - 8\beta^2(2+\gamma)(16 + \gamma(16 + 5\gamma))]} \quad (15)$$

Checking SOC, the following result can be obtained:

$$\begin{cases} \frac{\partial^2 \pi_A(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{A1}^2} < 0 \\ \frac{\partial^2 \pi_B(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{B1}^2} < 0 \end{cases}$$

By this result, equations (14) and (15) are the equilibrium Period 1 prices to maximize the sum profit of Periods 1 and 2. Substituting equations (14) and (15) into equations (12) and (13), I obtained the following results:

$$P_{A2}^*(\beta, \gamma) = \frac{8[6400 + \gamma(200\beta^2(2+\gamma) - \beta(2+\gamma)(4+\gamma)(4+3\gamma) + 25(640 + 9\gamma(64+3\gamma(8+\gamma)))])]}{(4+\gamma)^2(4+3\gamma)^3 - 8\beta^2(2+\gamma)[16 + \gamma(16+5\gamma)]} \quad (16)$$

$$P_{B2}^*(\beta, \gamma) = \frac{4[800\beta^2(2+\gamma)^2 + \beta\gamma^2(4+\gamma)(4+3\gamma) - 50(4+\gamma)(4+3\gamma)^3]}{8\beta^2(2+\gamma)[16 + \gamma(16+5\gamma)] - (4+\gamma)^2(4+3\gamma)^3} \quad (17)$$

Substituting equations (14) to (17) into functions (2) to (11), I further obtained the equilibrium solutions for four demand functions that are $D_{A1}^*(\beta, \gamma)$, $D_{A2}^*(\beta, \gamma)$, $D_{B1}^*(\beta, \gamma)$, and $D_{B2}^*(\beta, \gamma)$, and six profit functions that are $\pi_{A1}^*(\beta, \gamma)$, $\pi_{A2}^*(\beta, \gamma)$, $\pi_A^*(\beta, \gamma)$, $\pi_{B1}^*(\beta, \gamma)$, $\pi_{B2}^*(\beta, \gamma)$, and $\pi_B^*(\beta, \gamma)$. Because these ten functions are polynomials that are too complicated, I analyzed them by diagramming them instead of showing them using polynomials.

Before analyzing the optimal behaviors for the two firms, I assumed the situation that Firm A want to implement BMS as a stable condition, which I called the “brand marketing condition” (BMC). BMC includes the following three sub-conditions.

1. Basic condition: Prices and demands exceed zero. This means that $P_{A1}^*(\beta, \gamma) > 0$, $P_{B1}^*(\beta, \gamma) > 0$, $P_{A2}^*(\beta, \gamma) > 0$, $P_{B2}^*(\beta, \gamma) > 0$, $D_{A1}^*(\beta, \gamma) > 0$, $D_{A2}^*(\beta, \gamma) > 0$, $D_{B1}^*(\beta, \gamma) > 0$, and $D_{B2}^*(\beta, \gamma) > 0$.
2. Technology condition: Firm A’s price must not exceed Firm B’s price in Period 1. This means $P_{A1}^*(\beta, \gamma) \leq P_{B1}^*(\beta, \gamma)$.
3. Profit condition: Firm A’s profit sum in Periods 1 and 2 under BMC must always exceed the one under no-BMC. This means $\pi_A^*(\beta, \gamma) > \pi_A^*(\gamma)$ (See Appendix A).

To combine the above three sub-conditions of BMC, I obtained several complicated inequalities. To simplify these results, I diagrammed them on a two-dimensional plane with horizontal axis as γ and vertical axis as β , as shown in Figure 1. In Figure 1, BMC for Firm A is the shadowed section, which represents all combinations of β and γ that satisfy the BMC for Firm A. On the other hand, the section that is not shadowed represents that Firm A does not implement BMS. Next, I proposed the following five propositions.

P1: The stronger the degree of product substitution (γ) is, the more motivation of implementing BMS Firm A has if it obtains a higher expanding coefficient (β).

As shown in Figure 1, when there exist strong substitute products, the expanding coefficient

must be higher if Firm A wants to build its own brand and enhance its profit and market demand.² Otherwise, if the expanding coefficient is too low, Firm A will suffer greater losses when it implements BMS than when it does not: $\pi_A^*(\beta, \gamma) < \pi_A^*(\gamma)$ because the demand expanding effect in Period 2 for Firm A will be smaller than the substitute consuming effect toward Firm B's product in both Periods 1 and 2. At this time, Firm A will prefer to compete with Firm B by Bertrand price competition in Periods 1 and 2 independently.

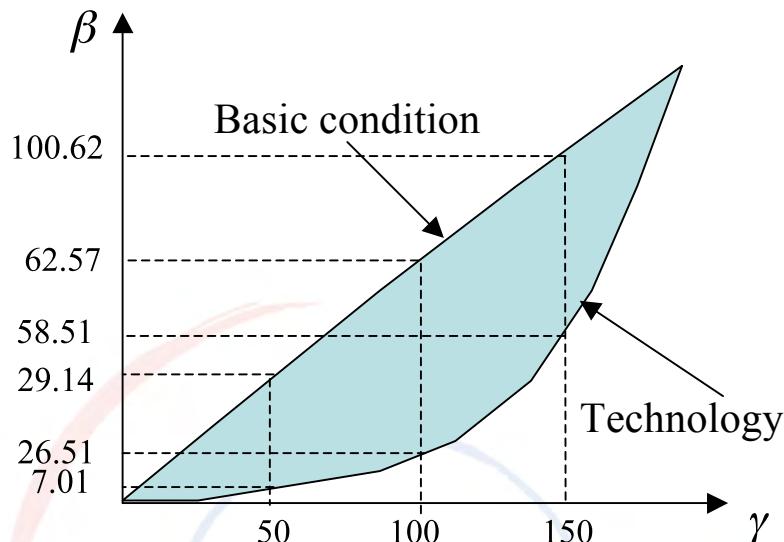


Figure 1. Brand marketing condition (BMC)

The following are analyses of pricing strategy, market demand, and profit for Firm A and B according to BMC.

Analysis of pricing strategy

I plotted equations (14) to (17) on BMC, which are shown in Figure 1, and obtained the iso-price curves that are shown in Figure 2.

P2: Considering BMC, Firm A and Firm B's prices are negative to β and positive to γ in Period 1 (product manufacturing stage), while Firm A and B's prices are positive to β and negative to γ in Period 2 (brand marketing stage).

From the longitudinal section of Figure 2(a), the higher expanding coefficient β is, the stronger the motivation Firm A has for implementing BMS. That is, Firm A will lower its price in Period 1 (P_{A1}) in order to obtain significant demand expanding effects in Period 2 and to popularize its brand. However, because Firm A lowers its price to implement BMS, Firm B is forced to compete with prices (P_{B1}) to avoid loss. Therefore, Firm A and B's prices are both negative to β in Period 1.

² As shown in Figure 1, when $\gamma = 50$, $\beta > 7.01$; when $\gamma = 100$, $\beta > 26.51$; when $\gamma = 150$, $\beta > 58.51$ \square

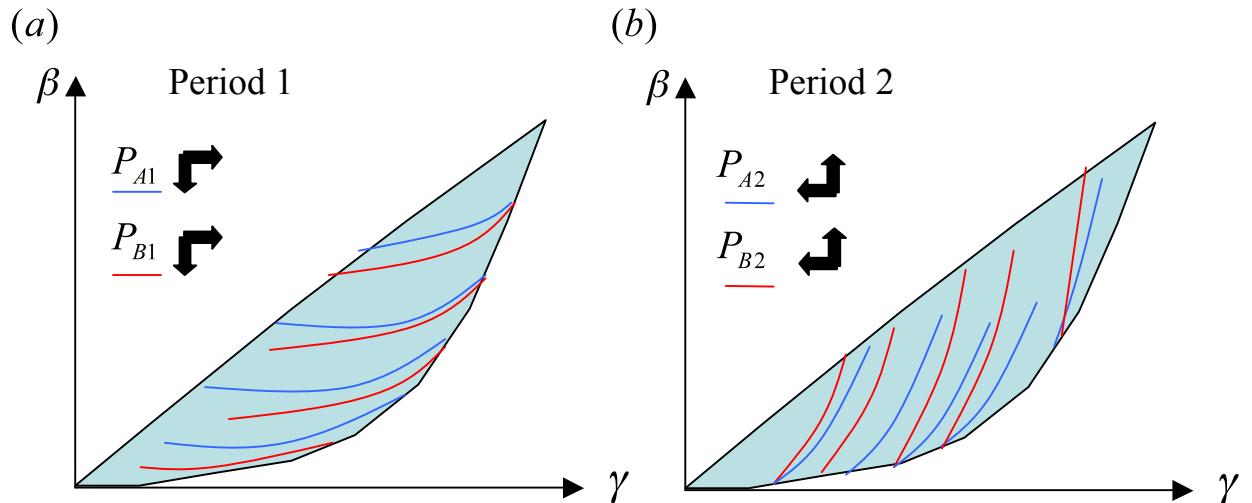


Figure 2. Iso-price curves

From the longitudinal section of Figure 2(b), the higher β is, the higher Firm A's price in Period 2 is (P_{A2}). That is, in Period 2, Firm A's product becomes a brand product which is different from Firm B's substitute product due to Firm A's BMS. However, Firm B will make a lower price (P_{B2}) for its substitute product, while Firm A make a higher price for its brand product. By this, Firm B can attract consumers who care about prices only, but who do not care about brand. In addition, the higher Firm A's brand product price is, the higher Firm B's substitute product price is. Therefore, Firm A and B's prices are both positive to β in Period 2.

From the cross-section of Figure 2(a), the higher γ means a stronger substitute consuming effect between Firm A and B's products. At this time, the motivation that Firm A wants to create high-priced brand products to differentiate from Firm B's low-priced substitute products by BMS will not be stronger. That is, Firm A will not prefer lowering its price in Period 1. However, the price competition in Period 1 will involve Firm B, and Firm B will make a pricing strategy similar to Firm A's. Thus, Firm A and B's prices are both positive to γ in Period 1.

From the cross-section of Figure 2(b), in Period 2, the higher γ is, the stronger the substitute consuming effect is. That makes Firm A unwilling to invest in the brand marketing cost, and hence, the brand image of Firm A created in Period 2 is not significant. In the above situation, the price of Firm A's brand product is lower, and therefore the price of Firm B's substitute product is reduced. Therefore, Firm A and B's prices are both negative to γ in Period 2.

Analysis of market demand

I plotted the functions $D_{A1}^*(\beta, \gamma)$, $D_{A2}^*(\beta, \gamma)$, $D_{B1}^*(\beta, \gamma)$, and $D_{B2}^*(\beta, \gamma)$ on BMC, which is shown in Figure 1, and obtained the iso-demand curves that are shown in Figure 3.

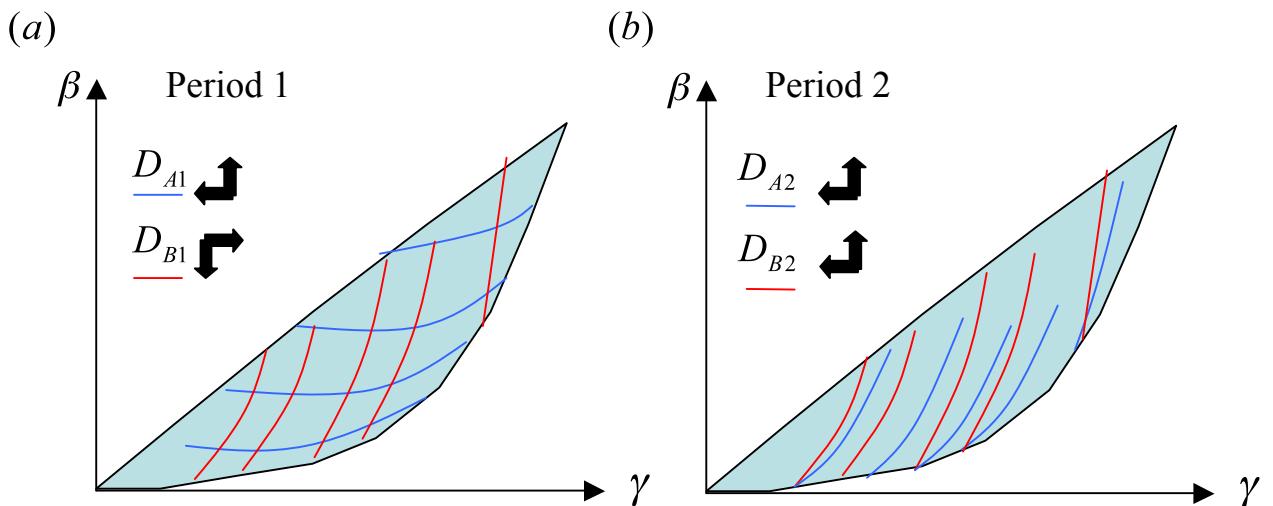


Figure 3. Iso-demand curves

P3: Considering BMC, Firm A's demand is positive to β and negative to γ , and Firm B's demand is negative to β and positive to γ in Period 1, while Firm A and B's demands are both positive to β and negative to γ in Period 2.

From the longitudinal section of Figure 3(a), in Period 1, the higher β is, the much lower Firm A's price is. In this situation, Firm A can expand its demand in Period 1, and then open up its market of brand product in Period 2. However, because of Firm A's lower price, Firm B's market demand will decrease. Therefore, Firm A's market demand is positive to β while Firm B's market demand is negative to β in Period 1.

From the longitudinal section of Figure 3(b), in Period 2, the higher β is, the stronger brand image Firm A has. Therefore, although Firm A's price is high, it can still attract consumers who love his brand product. However, consumers who only care about price, but not about brand, will prefer Firm B's low-priced substitute product over Firm A's high-priced brand product. Thus, Firm B's market demand is also promoted like Firm A's. Therefore, Firm A and Firm B's market demands are both positive to β in Period 2.

From the cross-section of Figure 3(a), in Period 1, the higher γ is, the stronger the substitute consuming effect between Firm A and Firm B's products is, and thus, the weaker motivation Firm A has for implementing BMS. That is, Firm A will not be willing to lower its price in Period 1 to expand its market demand in Period 2. However, the stronger substitute consuming effect will enhance Firm B's market demand of its substitute product. Therefore, Firm A's market demand is negative to γ and Firm B's market demand is positive to γ .

From the cross-section of Figure 3(b), in Period 2, the higher γ is, the less significant the brand image of Firm A's product in Period 2, and hence, the incremental demand of brand-loving consumers is limited. However, because of Firm A's insignificant brand image of its product, consumers who only care about price, but not about brand, may buy these two products randomly, and hence, Firm B's incremental substitute consuming demand is also limited. Therefore, Firm A and Firm B's market demands are both negative to γ .

Analysis of profit

I plotted the functions $\pi_{A1}^*(\beta, \gamma)$, $\pi_{A2}^*(\beta, \gamma)$, $\pi_A^*(\beta, \gamma)$, $\pi_{B1}^*(\beta, \gamma)$, $\pi_{B2}^*(\beta, \gamma)$, and $\pi_B^*(\beta, \gamma)$ on BMC, which is shown in Figure 1, and obtained the iso-profit curves that are shown in Figure 4.

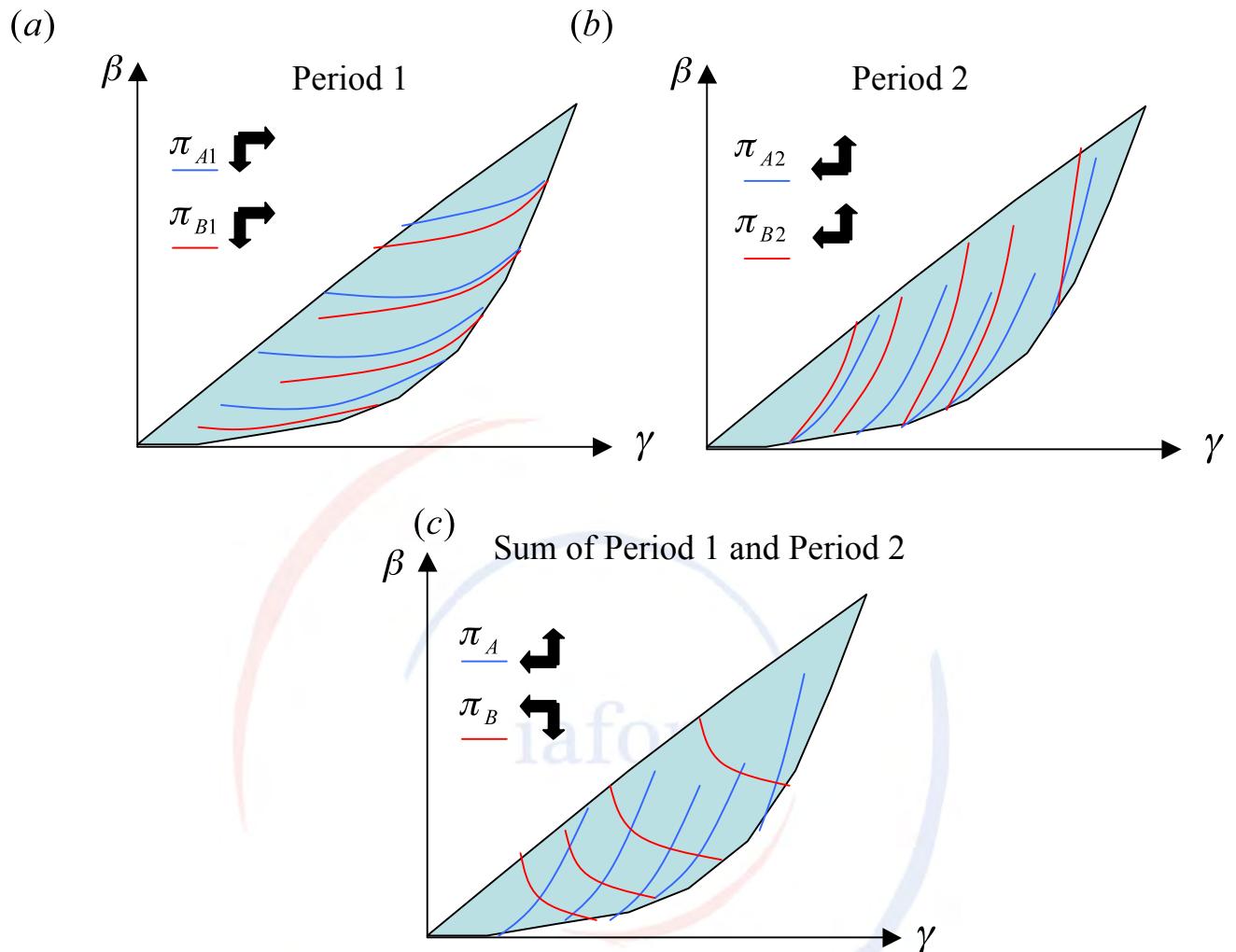


Figure 4. Iso-profit curves

P4: Considering BMC, Firm A and Firm B's profits are both negative to β and positive to γ in Period 1, while Firm A and Firm B's profits are both positive to β and negative to γ in Period 2. Summing up the two periods, Firm A's profit is positive to β and Firm B's profit is negative to β , while Firm A and Firm B's profits are both negative to γ .

From the longitudinal section of Figure 4(a), the higher β is, the more demand expanded in Period 2 will occur by Firm A's BMS. At this time, Firm A will aim at Period 2 and make its main profit in Period 2. Therefore, it will lower its price in Period 1 as low as possible in order to have a significant cross-period effect. Although the market demand is greatly promoted by Firm A's lowering of its price, a huge difference between Firm A's and Firm B's prices still results in enormous costs for Firm A, which causes Firm A to have much lower profits than Firm B, and even causes Firm A to suffer losses.³ In addition, because Firm A's lowering of price strategy

³ When $\gamma = 100$ and β equals its top value 62.57, I obtained the total revenue $P_{A1}^*(\beta, \gamma)D_{A1}^*(\beta, \gamma) = 133.03$

seizes Firm B's market, causing Firm B to earn less, Firm A and Firm B's profits are both negative to β in Period 1.

From the longitudinal section of Figure 4(b), the higher β will encourage Firm A to invest more in brand marketing costs; this will cause Firm A to create a product with a strong brand image in Period 2. Although this brand product is costly, it can attract brand-loving consumers⁴ and thus Firm A can make more money. However, Firm B's substitute product, which is cheaper than Firm A's brand product, can attract other consumers who only care about prices,⁵ so Firm B's profit is also promoted. Therefore, Firm A and Firm B's profits are both positive to β in Period 2.

From the cross-section of Figure 4(a), in Period 1, the higher γ , which represents a strong substitute consuming effect, will encourage Firm A not to invest brand marketing costs, and this will cause Firm A's profits in Period 1 not to be too low due to brand marketing costs. From Firm B's standpoint, Firm A's insignificant BMS causes Firm A's prices not to be too low, and thus Firm B's prices can be promoted as similar to Firm A's prices due to price competitions between Firms A and B. At the same time, Firm B's market demand can be expanded due to Firm A's not-too-low price,⁶ and then Firm B's profit is promoted. Therefore, Firm A and Firm B's profits are both positive to γ in Period 1.

From the cross-section of Figure 4(b), in Period 2, the higher γ will result in more difficulties in creating Firm A's brand product. At the same time, Firm A's profit is not as good as its profit under the complete brand product. However, the higher γ makes Firm B's price and demand in Period 2 lower, so its profit becomes lower.⁷ Therefore, Firm A and Firm B's profits are both negative to γ in Period 2.

As discussed above, we can know that when Firm A (capable of BMT) competes with Firm B (incapable of BMT), instead of always implementing its BMS, the implementation of this strategy for Firm A will depend on market conditions, which are the expanding coefficient β and degree of product substitution γ . That is, Firm A will be willing to implement BMS only under BMC; otherwise, other strategies outside BMC will cause Firm A to suffer losses.

Under BMC, Firm A always lowers its price to expand its market demand of brand product in Period 2. However, although Firm B's profit decreases due to Firm A's BMS in Period 1, there exist differences between the two products due to Firm A's creating its brand product; thus, Firm A and Firm B own their respective consumers in Period 2. This means that Firm A owns brand-loving consumers and Firm B owns substitute-loving consumers. Therefore, if we only

and the brand marketing cost $\gamma[P_{B1}^*(\beta, \gamma) - P_{A1}^*(\beta, \gamma)] = 151.13$, hence $\pi_{A1}^* = -18.1$.

⁴ As P2 and P3 said, β is positive to P_{A2} and D_{A2}

⁵ As P2 and P3 said, β is positive to P_{B2} and D_{B2}

⁶ As P2 and P3, γ is positive to P_{B1} and D_{B1}

⁷ As P2 and P3, γ is negative to P_{A2} , D_{A2} , P_{B2} , and D_{B2}

consider Period 2, Firm A's BMS will result in a win-win situation for Firm A and Firm B. That is, Firm A and Firm B's profits at this time will both be better than those outside BMS.

Extended Model

As discussed in the above section, I supposed that only one firm, that is Firm A, is capable of BMT. In this section, I suppose that the two firms are both capable of BMT, and the analysis of price competition and equilibrium is noted as follows.

Hypotheses

When the suppositions are extended to both firms being capable of BMT, the market demand function and the firms' profit function for Firm A and Firm B for the two periods are as follows:

- (1) Market demand functions:

Firm A:

$$D_{A1}(P_{A1}, P_{B1}; \gamma) = 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{A1} + \frac{1}{2} \gamma P_{B1} \quad (18)$$

$$D_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = \begin{cases} 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{A2} + \frac{1}{2} \gamma P_{B2} + \beta(P_{B1} - P_{A1}) & \text{if } P_{B1} \geq P_{A1} \\ 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{A2} + \frac{1}{2} \gamma P_{B2} & \text{if } P_{B1} < P_{A1} \end{cases} \quad (19)$$

Firm B:

$$D_{B1}(P_{A1}, P_{B1}; \gamma) = 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{B1} + \frac{1}{2} \gamma P_{A1} \quad (20)$$

$$D_{B2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = \begin{cases} 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{B2} + \frac{1}{2} \gamma P_{A2} + \beta(P_{A1} - P_{B1}) & \text{if } P_{A1} \geq P_{B1} \\ 100 - \left(\frac{1}{2} \gamma + 1 \right) P_{B2} + \frac{1}{2} \gamma P_{A2} & \text{if } P_{A1} < P_{B1} \end{cases} \quad (21)$$

- (2) Firms' profit functions:

Firm A:

$$\pi_{A1}(P_{A1}, P_{B1}; \gamma) = \begin{cases} P_{A1} D_{A1}(P_{A1}, P_{B1}; \gamma) - \gamma(P_{B1} - P_{A1}) & \text{if } P_{B1} \geq P_{A1} \\ P_{A1} D_{A1}(P_{A1}, P_{B1}; \gamma) & \text{if } P_{B1} < P_{A1} \end{cases} \quad (22)$$

$$\pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = P_{A2} D_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) \quad (23)$$

$$\pi_A(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = \pi_{A1}(P_{A1}, P_{B1}; \gamma) + \pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) \quad (24)$$

Firm B:

$$\pi_{B1}(P_{A1}, P_{B1}; \gamma) = \begin{cases} P_{B1} D_{B1}(P_{A1}, P_{B1}; \gamma) - \gamma(P_{A1} - P_{B1}) & \text{if } P_{A1} \geq P_{B1} \\ P_{B1} D_{B1}(P_{A1}, P_{B1}; \gamma) & \text{if } P_{A1} < P_{B1} \end{cases} \quad (25)$$

$$\pi_{B2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = P_{B2} D_{B2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) \quad (26)$$

$$\pi_B(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) = \pi_{B1}(P_{A1}, P_{B1}; \gamma) + \pi_{B2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma) \quad (27)$$

Analysis

I used the method of backward induction to solve the dynamic price equilibrium through Stage 1 and Stage 2 separately.

Stage 1: Solving the maximum profit equilibrium Bertrand prices for Period 2,

first order conditions (FOC) for Firm A and Firm B in Period 2 are as follows:

$$\begin{cases} \frac{\partial \pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma)}{\partial P_{A2}} = 0 \\ \frac{\partial \pi_{B2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma)}{\partial P_{B2}} = 0 \end{cases}$$

I obtained

$$P_{A2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{2[100(4+3\gamma) + \beta(4+\gamma)(P_{B1} - P_{A1})]}{(4+\gamma)(4+3\gamma)} \quad (28)$$

$$P_{B2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{2[100(4+3\gamma) + \beta(4+\gamma)(P_{A1} - P_{B1})]}{(4+\gamma)(4+3\gamma)} \quad (29)$$

Second order conditions (SOC) are as follows:

$$\begin{cases} \frac{\partial^2 \pi_{A2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma)}{\partial P_{A2}^2} < 0 \\ \frac{\partial^2 \pi_{B2}(P_{A1}, P_{B1}, P_{A2}, P_{B2}; \beta, \gamma)}{\partial P_{B2}^2} < 0 \end{cases}$$

Thus, the equations (28) and (29) are equilibrium prices of maximum profits for Firm A and Firm B in Period 2.

Stage 2: Solving the equilibrium Bertrand prices for maximum sum of two-period profits.

After equations (28) and (29) are substituted into equations (23) and (26), the following equations can be obtained.

$$\begin{cases} \pi_{A2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{2(2+\gamma)[100(4+3\gamma) + \beta(4+\gamma)(P_{B1} - P_{A1})]}{(4+\gamma)^2(4+3\gamma)^2} \\ \pi_{B2}(P_{A1}, P_{B1}; \beta, \gamma) = \frac{2(2+\gamma)[100(4+3\gamma) + \beta(4+\gamma)(P_{A1} - P_{B1})]}{(4+\gamma)^2(4+3\gamma)^2} \end{cases}$$

Thus, the two-periods-profit-sum functions for the two firms can be represented by P_{A1} , P_{B1} as endogenous variables and γ as exogenous variables (parameter).

$$\begin{aligned} \pi_A(P_{A1}, P_{B1}; \beta, \gamma) &= \pi_{A1}(P_{A1}, P_{B1}; \gamma) + \pi_{A2}(P_{A1}, P_{B1}; \beta, \gamma) \\ &= P_{A1} \left[100 - \left(\frac{1}{2}\gamma + 1 \right) P_{A1} + \frac{1}{2}\gamma P_{B1} \right] - \gamma(P_{B1} - P_{A1}) \\ &\quad + \frac{2(2+\gamma)[100(4+3\gamma) + \beta(4+\gamma)(P_{B1} - P_{A1})]}{(4+\gamma)^2(4+3\gamma)^2} \end{aligned}$$

$$\begin{aligned}\pi_B(P_{A1}, P_{B1}; \beta, \gamma) &= \pi_{B1}(P_{A1}, P_{B1}; \gamma) + \pi_{B2}(P_{A1}, P_{B1}; \beta, \gamma) \\ &= P_{B1} \left[100 - \left(\frac{1}{2} \gamma + 1 \right) P_{B1} + \frac{1}{2} \gamma P_{A1} \right] - \gamma (P_{A1} - P_{B1}) \\ &\quad + \frac{2(2 + \gamma) [100(4 + 3\gamma) + \beta(4 + \gamma)(P_{A1} - P_{B1})]}{(4 + \gamma)^2 (4 + 3\gamma)^2}\end{aligned}$$

By FOCs that are as follows

$$\begin{cases} \frac{\partial \pi_A(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{A1}} = 0 \\ \frac{\partial \pi_B(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{B1}} = 0 \end{cases}$$

P_{A1}, P_{B1} represented by exogenous variables can be obtained.

$$P_{A1}^{**}(\beta, \gamma) = P_{B1}^{**}(\beta, \gamma) = \frac{2(4 + \gamma)(100 + \gamma)(4 + 3\gamma) - 800\beta(2 + \gamma)}{(4 + \gamma)^2 (4 + 3\gamma)} \quad (30)$$

Checking SOC, the following result can be obtained:

$$\begin{cases} \frac{\partial^2 \pi_A(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{A1}^2} < 0 \\ \frac{\partial^2 \pi_B(P_{A1}, P_{B1}; \beta, \gamma)}{\partial P_{B1}^2} < 0 \end{cases}$$

By this result, equation (30) is the equilibrium Period 1 prices to maximize the sum profits of Periods 1 and 2. Substituting equation (30) into equations (28) and (29), I obtained the following result.

$$P_{A2}^{**}(\gamma) = P_{B2}^{**}(\gamma) = \frac{200}{4 + \gamma} \quad (31)$$

Substituting equations (30) and (31) into functions (18) to (27), I further obtained the equilibrium solutions for four demand functions that are $D_{A1}^*(\beta, \gamma)$, $D_{A2}^*(\gamma)$, $D_{B1}^*(\beta, \gamma)$, and $D_{B2}^*(\gamma)$, and six profit functions that are $\pi_{A1}^*(\beta, \gamma)$, $\pi_{A2}^*(\gamma)$, $\pi_A^*(\beta, \gamma)$, $\pi_{B1}^*(\beta, \gamma)$, $\pi_{B2}^*(\gamma)$, and $\pi_B^*(\beta, \gamma)$.

$$D_{A1}^{**}(\beta, \gamma) = D_{B1}^{**}(\beta, \gamma) = \frac{800\beta(2 + \gamma) + 2(4 + \gamma)(4 + 3\gamma)(100 + 49\gamma)}{(4 + \gamma)^2 (4 + 3\gamma)}$$

$$D_{A2}^{**}(\gamma) = D_{B2}^{**}(\gamma) = \frac{100(2 + \gamma)}{4 + \gamma}$$

$$\begin{aligned}\pi_{A1}^{**}(\beta, \gamma) &= \pi_{B1}^{**}(\beta, \gamma) \\ &= \frac{4[(4 + \gamma)(100 + \gamma)(4 + 3\gamma) - 400\beta(2 + \gamma)][400\beta(2 + \gamma) + (4 + \gamma)(4 + 3\gamma)(100 + 49\gamma)]}{(4 + \gamma)^4 (4 + 3\gamma)^2}\end{aligned}$$

$$\pi_{A2}^{**}(\gamma) = \pi_{B2}^{**}(\gamma) = \frac{20000(2 + \gamma)}{(4 + \gamma)^2}$$

$$\begin{aligned}\pi_A^{**}(\beta, \gamma) &= \pi_B^{**}(\beta, \gamma) \\ &= \frac{4[(4+\gamma)(100+\gamma)(4+3\gamma)-400\beta(2+\gamma)][400\beta(2+\gamma)+(4+\gamma)(4+3\gamma)(100+49\gamma)]}{(4+\gamma)^4(4+3\gamma)^2} \\ &+ \frac{20000(2+\gamma)}{(4+\gamma)^2}\end{aligned}$$

Compared with the basic model, it is interesting for this extended model that although the price, demand, and profit functions in Period 1 are functions of β and γ , which are the same as the basic model, these three kinds in Period 2 are functions of only γ , which is different from the basic model. Furthermore, these three kinds in Period 2 under both firms implementing BMSs are the same as those under both firms not implementing BMSs.⁸ The following are BMC and its three sub-conditions in this extended model.

1. Basic condition: $P_{A1}^{**}(\beta, \gamma) > 0, P_{B1}^{**}(\beta, \gamma) > 0, P_{A2}^{**}(\beta, \gamma) > 0, P_{B2}^{**}(\beta, \gamma) > 0,$
 $D_{A1}^{**}(\beta, \gamma) > 0, D_{A2}^{**}(\beta, \gamma) > 0, D_{B1}^{**}(\beta, \gamma) > 0, \text{ and } D_{B2}^{**}(\beta, \gamma) > 0;$
2. Technology condition: $\begin{cases} P_{B1}^{**}(\beta, \gamma) \leq P_{A1}^{**}(\beta, \gamma) \\ P_{A1}^{**}(\beta, \gamma) \leq P_{B1}^{**}(\beta, \gamma) \end{cases}$
3. Profit condition: $\begin{cases} \pi_A^{**}(\beta, \gamma) > \pi_A^*(\gamma) \\ \pi_B^{**}(\beta, \gamma) > \pi_B^*(\gamma) \end{cases}$

To combine the above three sub-conditions of BMC, I obtained the following inequality:

$$0 < \beta < \frac{16\gamma + 16\gamma^2 + 3\gamma^3}{400(2+\gamma)} \quad (\text{See Appendix B}) \quad (32)$$

P5: When considering Firm A and Firm B (both capable of BMT), the motivation of both firms lowering their prices in Period 1 in order to expand their own market demand will become stronger if β is higher and both firms' profits are lower in Period 1. Moreover, whatever level β is, there exist two perfect substitute brand-products.

As discussed above, the higher β will strengthen the motivation of two firms lowering their prices in Period 1 in order to expand their respective market demand, and this will result in lower profits for the two firms in Period 1.⁹ Furthermore, whatever level β is, there exist two perfect substitute brand-products.

Conclusions

If I further supposed that Firm B has learning power, and that it is its learning process from the basic model to the extended model, I can briefly explain the interactions of pricing strategies in the instant noodle industry between Uni President Enterprises Corporation in Taiwan and Ting-Hsin International Group in China.

⁸ As shown in Appendix A

⁹ Because $\frac{\partial \pi_{A1}^{**}(\beta, \gamma)}{\partial \beta} = \frac{\partial \pi_{B1}^{**}(\beta, \gamma)}{\partial \beta} < 0$

Several years ago, Ting-Hsin seized the instant noodle market in Taiwan by utilizing a super-low pricing strategy, successfully occupying more than 20% of the market share in the Taiwanese instant noodle market, and earning significant profits. After this, Uni President could not fight back except by offering a 20%-discount-rate preferential pricing strategy in order to recapture the market share.

From the above case, we can see that Ting-Hsin enhanced its product's value by using a low-price strategy. Uni President started to learn Ting-Hsin's marketing strategy after suffering the threat of Ting-Hsin's BMS. We can forecast that these two firms will again compete with each other with perfect substitute products in the near future. These results match my suppositions of the basic model evolving into the extended model.



Appendix A

When Firm A gives up its BMT, its brand marketing cost is zero in Period 1 (that is $\gamma(P_{B1} - P_{A1}) = 0$), and the expanding market demand in Period 2 due to BMS is zero as well (that is $\beta(P_{B1} - P_{A1}) = 0$). At this time, equations (3) and (6) are situations under $P_{B1} < P_{A1}$, and the demand and profit functions for the two firms are symmetrical in structure. Therefore, under the situations that Firm A gives up its BMT, both firms' pricing strategies cannot cause cross-period effects anymore. That is, both firms compete with each other in Bertrand price competition in Periods 1 and 2 independently. The solving processes are as follows:

FOC for profit functions in Period 1:

$$\begin{cases} \frac{\partial \pi_{A1}(P_{A1}, P_{B1}; \gamma)}{\partial P_{A1}} = 0 \\ \frac{\partial \pi_{B1}(P_{A1}, P_{B1}; \gamma)}{\partial P_{B1}} = 0 \end{cases}$$

I obtained $P_{A1}^*(\gamma) = P_{B1}^*(\gamma) = \frac{200}{4 + \gamma}$

SOC:

$$\begin{cases} \frac{\partial^2 \pi_{A1}(P_{A1}, P_{B1}; \gamma)}{\partial P_{A1}^2} < 0 \\ \frac{\partial^2 \pi_{B1}(P_{A1}, P_{B1}; \gamma)}{\partial P_{B1}^2} < 0 \end{cases}$$

I am sure that these are equilibrium solutions to maximize profits in Period 1. Then, I substituted the equilibrium prices into other functions and obtained

$$D_{A1}^*(\gamma) = D_{B1}^*(\gamma) = \frac{100(2 + \gamma)}{4 + \gamma}$$

$$\pi_{A1}^*(\gamma) = \pi_{B1}^*(\gamma) = \frac{20000(\gamma + 2)}{(4 + \gamma)^2}$$

Similarly, the equilibrium solutions of all functions in Period 2 are as follows:

$$P_{A2}^*(\gamma) = P_{B2}^*(\gamma) = \frac{200}{4 + \gamma}$$

$$D_{A2}^*(\gamma) = D_{B2}^*(\gamma) = \frac{100(2 + \gamma)}{4 + \gamma}$$

$$\pi_{A2}^*(\gamma) = \pi_{B2}^*(\gamma) = \frac{20000(\gamma + 2)}{(4 + \gamma)^2}$$

Then $\pi_A^*(\gamma) = \pi_{A1}^*(\gamma) + \pi_{A2}^*(\gamma) = \frac{40000(\gamma + 2)}{(4 + \gamma)^2}$

$$\pi_B^*(\gamma) = \pi_{B1}^*(\gamma) + \pi_{B2}^*(\gamma) = \frac{40000(\gamma + 2)}{(4 + \gamma)^2}$$

So the profit condition is $\pi_A^*(\beta, \gamma) > \pi_B^*(\gamma) = \frac{40000(\gamma + 2)}{(4 + \gamma)^2}$



Appendix B

By basic condition: $0 < \beta < \frac{(4 + \gamma)(100 + \gamma)(4 + 3\gamma)}{400(2 + \gamma)}$

technology condition: $\beta > 0$

profit condition: $0 < \beta < \frac{16\gamma + 16\gamma^2 + 3\gamma^3}{400(2 + \gamma)}$

Combined with the above three, I obtained that the BMC is $0 < \beta < \frac{16\gamma + 16\gamma^2 + 3\gamma^3}{400(2 + \gamma)}$



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The Determinant of Children's Music Aptitude: An Analysis of Mothers' Music Aptitude, Socioeconomic Status and Musical Parenting in Central Taiwan

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Purpose: The purpose of this study was to examine the relationships among mothers' music aptitude, socioeconomic status, musical parenting and children's music aptitude.

Background: Music aptitude is an important element in music education. It was noted that music aptitude is "the results of genetic endowment and maturation plus whatever musical skills and sensitivities may develop without formal music education" (Boyle and Radocy, 1987, p. 139). It is unclear whether genetically inherited talent and developmentally acquired skill have equal role for a child's music aptitude.

Method: A total of 672 children (1st to 4th graders) and 556 mothers were randomly recruited from five public elementary schools in central Taiwan. The Gordon's Primary Measures of Music Audiation (PMMA) and Gordon's Musical Aptitude Profile (MAP) were used to measure the music aptitude in the children-mother dyad. The musical parenting style was measured by The Survey of Mother's Musical Parenting Attitudes that was developed by author.

Results: The findings indicated: 1) a bipolar phenomenon of "Authoritative" and "Neglectful" in the musical parenting style among recruited mothers, 2) birth order was a factor for music aptitude that youngest child showed higher musical aptitude than those who are the only child in the family, 3) there was no significant correlation between children's music aptitude and mothers' socioeconomic status and musical parenting, 4) there was a significant relationship between children's music aptitude and mothers' music aptitude.

Conclusion: Genetically inherited musical talent is an influential factor on children's music aptitude than parent's socioeconomic status and musical parenting.

Keywords: Music Aptitude , Children , Mother, Socioeconomic Status , Musical Parenting

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1. Preface

Music aptitude is one of the important topics of music education research (Lehmann, 1968; Boyle, 1992) which represents music learning potential that formed by natural genetic (nature) and upbringing (nurture). American music psychologist, Gordon (1987) found that children of early stage from five to eight are in the most critical stage of individual music aptitude development. After nine, children's music aptitude will gradually stabilize. Therefore, Gordon regarded the aptitude of children in early stage before nine the "development of music aptitude" and stressed the impact early music education has to music aptitude. Boyle and Radocy (1987) pointed out that : "music aptitude is an innate talent with the mature results." In Taiwan, issues about music aptitude focused mainly on test compile with the mode of mining research just like the first set of music aptitude test developed by National Taiwan Normal University (Ching-Ming Lu, Shoo-May Chen, and Li-Chou Chen, 1981), the second set of music aptitude test (Yan-Ming Fang, Mao-Shuen Chen, Ching-Ming Lu and Shoo-May Chen, 1990), and the recent third set of music aptitude tests (Ching-Chih Kuo, Yu-Huei Su and Shun-Wen Wu, 2005). that aimed to provide our primary and secondary school enrollment of music talent identification, in addition to general personal study of network and computerized musical aptitude test (Yi-Ting Chen, 2003), music aptitude and music achievement (Yu-Huei Su, 1998), personality traits (Pei-Lun Hsiesh, 2000), music environment (Yu-Huei Su, 2003; Shiow-Yueh Cheng, 2003), and the relationship between college students' musical aptitude and maternal education (Yu-Huei Su, 1996). The subjects of front-mentioned researches are children in stable stage of musical aptitude aged above 10. There are less researches of children music aptitude that aged below 10. The subject in particular, included parents as an investigating factor is even more inadequate that compacted with the necessity of depth discussion. According to Yu-Huei Su's (1996) study, college students' music aptitude has certain relationship with the maternal education. That is to say, music aptitude of a mature individual is related to sociological variants. The purpose of this study aimed to examine the relationships among mothers' music aptitude, socioeconomic status, musical parenting and primary stage children's music aptitude, that can be a reference of social psychology and music related researches.

2. Research Questions

1. What type does the mothers' music parenting reveal?
2. What population variation is related to children's music aptitude?
3. Is children's early stage music aptitude related to the maternal socioeconomic status?
4. Is children's early stage music aptitude related to maternal music parenting?
5. Is children's early stage music aptitude related to maternal music aptitude?

3. Term Interpretations

(1) Childhood

Parted from human cognitive process and ability test, it can be divided as children of the early stage (5 to 8 years old), children of the late stage and adolescence (9 ~ 14 years old). In this study, it is mainly focused on the elementary school first to the fourth graders in developmental musical aptitude.

(2) Developmental music aptitude

Music aptitude is the individual potential of music learning, including individual sound perception capabilities and the ability to judge the aesthetic sound. The "developmental music aptitude" in the research refers to the measured sound perception ability an individual gained in "Primary Measures of Music Audiation" by Gordon (1986)including " tonal aptitude," "rhythm aptitudes," and the score sum from the two sub-tests of tone and rhythm, also known as "overall music aptitude."; The higher the test score is, the higher the developmental music aptitude will be.

(3) Music nurturing attitude

The word nurture means raising, breeding and parenting. Music aptitude is the result of nature and nurture. In this study, the theoretical framework applied in this study was formed by application attitude (Cuietta, 1992) and defined the maternal "music parenting attitude" as the affect, cognition and behavior reaction revealed by parents while nurturing their children. Attitude can not be directly observed but measured indirectly. "Music education attitude" refers in this research is the children's respondent reaction when answering "maternal music parenting attitude questionnaire" designed by the researcher that adopted Likert scale with five point scoring. The higher score indicating more positive attitude toward music education. Based on the results of respondents, the maternal music parenting attitude is divided into four types: high demand, high response (liberal authoritative type), high demand, low response (tyrannical authoritarian type), low demand, high response (loose laissez type), and low demand, low response (ignore unconcerned type).

(4) Socioeconomic status

Socioeconomic status referred in social science usually emerges education level and occupation as the evaluation index. The socioeconomic status referred in this research constructed the five classes of social status index based on "Two factor index of social position" by American scholar A.B. Hollingshead (1957). The sum total was obtained by multiplying by 7 according to "occupational rating index," and multiplying "education index" by 4. In this study, maternal index of socioeconomic status was calculated accordingly and convert the average into family socioeconomic status. Socioeconomic status of mothers is divided into groups of high, medium and low with grade I and II as

the group of high socioeconomic status, III as the group of medium socioeconomic status and IV and V as the group of low socioeconomic status.

4. Method

There are three methods applied in this research which are Gordon's PMMA, Gordon's MAP and "maternal music parenting attitude questionnaire" compiled by the researchers. Students of public elementary schools in Central Taiwan and their mothers are the main group of the research subjects with purposive sampling to select one elementary school in these five cities and counties in Central Taiwan (Miaoli County, Taichung County, Taichung City, Changhua County, Nantou County) and randomly select first graders to fourth graders in the school for the survey of children's musical aptitude and maternal music parenting attitude. The total sample number gained from the children is 672 with 112 of the deletion of single-parent, failed to answer and questionnaires not return, while total 556 samples were obtained from the mothers. The study also had 76 individual volunteers from the mother samples for the individual music aptitude test.

The total scale Cronbach α coefficient of the self-compiled "maternal music parenting attitude questionnaire" is up to .9291. Principal Component Analysis was adopted to analyze the factors based on the response of each question in "maternal music parenting attitude questionnaire" and came up with the result of three factors selected: Factor I, music education values; Factor II, respond to their children's music learning; Factor III: requirements towards children's music learning.

In this study, the correspondence from the subjects leveled above and below the average was transformed into four types: high demand, high response; high demand, low response; low demand, high response and low demand, low response in accordance with "the maternal requirements towards children's music learning" and "maternal respond to their children's music learning." (A) High demand, high response (liberal authoritative type): the mothers scored above the average in "demand", and above the average in "response." They paid attention to children's needs, encourage children's development in music, expecting that their children can have a sufficient musical performance. They communicate with their children and establish clear codes of conduct while the decision still made by the mothers.(B) High demand, low response (tyrannical authoritarian type): the mothers scored above the average in "demand" but below the average in "response." They strictly control their children for expressing their needs and force them to obey the demands. They punish their children severely once they fail to obey the requirements. (C) Low demand, high response (loose laissez type): the mothers scored below the average in "demand" but above the average in "response." Mothers of this type rarely demand and restrict their children toward music and allow their children to make their own decisions. They give a high degree of response toward their children's needs. (D) Low demand, low response (ignore unconcerned type): the mothers scored below the average in "demand" and below the average in "response." This type of mothers are very busy with their own business with little time to spend on accompanying their children of music learning, thus, they seldom give emotional support or firm requirements.

5. Results and Discussion

(1) The type of maternal music parenting attitude revealed two opposing extremes of "liberal authoritative" and "ignore unconcerned."

"Liberal authoritative type"(high demand, high response) of maternal music parenting attitude has the largest number of 229 people which 41.1% of the total samples followed by "ignore unconcerned type " (low demand, low response) of 170 people and 30.6% of the total amount. " tyrannical authoritarian type " (high demand, low response) ranked as the third with 83 people and 14.9% of the total amount while "loose laissez type"(low demand, high response) ranked as the last of 74 people and 13.3% of the total amount (Table 1). Therefore, high demand, high response (liberal authoritative type), and low demand, low response (ignore unconcerned type) are the two main types adopted in this study of maternal music parenting attitude. The two opposing extremes caused by the exam-oriented education in Taiwan society today that still focuses on academic performance of cognitive orientation rather than the beauty of artistic disciplines. Furthermore, music learning required huge investment in education, most of the mothers will require their children to have the certain musical performance (high demand, high response) after they spent the time and money, leading the extremes phenomenon happened.

Table 1 The proportion chart of maternal parenting attitude

Types of music parenting attitude	Number of people (N)	Percentage (%)
Liberal authoritative type(high demand, high response)	229	41.1
Tyrannical authoritarian type (high demand, low response)	83	14.9
loose laissez type (low demand, high response)	74	13.3
Ignore unconcerned type (low demand, low response)	170	30.6
Total	556	100

(2) Children's music aptitude would be affected by the order of birth. The youngest child has higher music aptitude than the only child of a family.

The overall music aptitude $[F = 3.564, p < .05]$ (Table 2 - Table 3) and rhythm aptitude $[F = 3.572, p < .05]$ (Table 4 - Table 5) of children with different birth order is significantly different, but not tone aptitude $[F = 2.538, p > .05]$ (Table 6). The cause of the significant higher music aptitude a youngest child has than an only child might be that the youngest child has more objects to learn and imitate from and the mother has richer experience in children's education, although they have considerable music learning resources with the only child. Thus, the youngest child has significantly higher music aptitude than an only child. The study found that an only child may be lack of learning and imitating opportunities between brothers and sisters, leading the disadvantages of his musical aptitude development.

Table 2 The variance analysis chart of children birth order and overall music aptitude

Birth order	Numbers	Average	Standard deviation	Standard error	Group	Square sum	Degree of freedom	Average square sum	F Test	Comparis
Oldest child	201	70.98	8.835	.623	Between the group	793.198	3	264.399	3.564	
Middle child	81	70.84	7.195	.799	Within the group	40955.023	552	74.194		Youngest child
Youngest child	225	72.32	6.605	.440	Total	41748.221	555			Only child
Only child	49	68.04	15.431	2.204						
Total	556	71.24	8.673	.368						

Table 3 Comparison Chart of children birth order and overall music aptitude

	Oldest child	Middle child	Youngest child	Only child
Oldest child (M=70.98)				
Middle child (M=70.84)	.14			
Youngest child (M=72.32)	-1.35	-1.48		
Only child (M=68.04)	2.93	2.80	4.28*	

*P<.05

Table 4 The variance analysis chart of children birth order and tone aptitude

Birth order	Numbers	Average	Standard deviation	Standard error	Group	Square sum	Degree of freedom	Average square sum	F Test
Oldest child	201	36.26	4.571	.322	Between the group	160.187	3	53.396	2.538
Middle child	81	35.96	4.020	.447		11614.192	552	21.040	
Youngest child	225	36.42	3.731	.249		11774.379	555		
Only child	49	34.84	7.938	1.134					
Total	556	36.29	4.606	.195					

Table 5 The variance analysis chart of children birth order and rhythm aptitude

Birth order	Numbers	Average	Standard deviation	Standard error	Group	Square sum	Degree of freedom	Average square sum	F Test	Comparison
Oldest child	201	34.72	5.123	.361	Between the group	248.184	3	82.728	3.572	
Middle child	81	34.88	4.328	.481		12782.600	552	23.157		Youngest child
Youngest child	225	35.57	3.712	.247		13030.784	555			Only child
Only child	49	33.20	7.837	1.120						
Total	556	34.95	4.846	.205						

Table 6 The comparison chart of children birth order and rhythm aptitude

	Oldest child	Middle child	Youngest child	Only child
Old child (M=34.72)				
Middle child (M=34.88)		-.16		
Youngest child (M=35.57)	-.86		-.70	
Only child (M=33.20)	1.51	1.67		2.37*

*P<.05

(3) Children's music aptitude is not significantly related to the mothers' socioeconomic status.

Maternal socioeconomic status has no significant relationship with children's overall musical aptitude [$r = .044, p > .05$], tonal aptitude [$r = .059, p > .05$] and rhythm aptitude [$r = .022, p > .05$] (Table 7). That is to say, children's music aptitude is irrelevant with maternal socioeconomic status. The low socioeconomic status does not represent their children's music aptitude is low, relatively with high socioeconomic status, their music aptitude may not be high accordingly. In addition to the innate intelligence, their musical ability would be able to develop by providing good music education and appropriate and rich music environment. Therefore, education should pay attention to the children's musical ability and thus inspire their musical potential by teaching with the principle of equal opportunity but not discrimination.

Table 7 The relationship between children's overall musical aptitude and Maternal socioeconomic status

	Children's overall music aptitude	Children's tone aptitude	Children's rhythm aptitude
Maternal socioeconomic status	.044	.059	.022

4. Children's music aptitude is not significantly related to the mothers' music parenting attitude.

Maternal music parenting attitude has no significant relationship with their children's overall music aptitude $[r = .004, p > .05]$, tonal aptitude $[r = .015, p > .05]$ and rhythm aptitude $[r = .007, p = > .05]$ (Table 8). Taiwan's academic-oriented education might be the main cause since most of the parents emphasize their children's academic performance. Therefore, the attitude the mothers have might be slightly varied toward children's music learning attitude. Thus, the development of children's music aptitude will not be different by the mother's parenting attitudes which worth further exploration of whether or not it would highlight the relevance between music aptitude and congenital inheritance.

Table 8 The relationship between children's overall musical aptitude and Maternal music parenting attitude

	Children's overall music aptitude	Children's tone aptitude	Children's rhythm aptitude
Maternal music parenting attitude	.004	.015	-.007

5. Children's music aptitude is significantly related to the mothers' music aptitude.

Children's overall music, tone and rhythm aptitude has significant correlation with maternal music, tone and rhythm aptitudes with correlation coefficients ranged between .622 - .939, and $p < .001$ (Table 9). It means that the mothers' music aptitude has significant relevant with children's music aptitude. If we further explore the relationship between mothers' music aptitude of tonal imagination, harmony imagination, rate imagination, and temple imagination and children's music aptitude, maternal rate imagination has the highest effect to children's music aptitude followed by maternal temple imagination and tonal imagination while maternal harmony imagination has the least effect to children's music aptitude (Table 10). From above, the viewpoint of congenital music aptitude is supported by the results that music aptitude stems from congenital inheritance. Especially music potentials as maternal rate imagination, temple imagination, tonal imagination and other musical imaginations have medium to high correlation with children's musical aptitude that is fully supportive to the viewpoint of innate musical aptitude.

Table 9 The relationship between children's music aptitude and mothers' music aptitude

	Children's overall music aptitude	Children's tonal aptitude	Children's rhythm aptitude
Mothers' overall music aptitude	.939***	.887***	.781***
Mothers' tonal aptitude (tone imagination + harmony imagination)	.725***	.668***	.622***
Mothers' rhythm aptitude (rate imagination + tempo imagination)	.932***	.888***	.766***

*** $P < .001$

Table 10 The relationship between children's music aptitude and mothers' music aptitude

	Children's overall music aptitude	Children's tone aptitude	Children's rhythm aptitude
Mothers' tone imagination	.752***	.669***	.675***
Mothers' harmony imagination	.280***	.292***	.199
Mothers' rate imagination	.952***	.875***	.821***
Mothers' tempo imagination	.782***	.786***	.594***

*** $P < .001$

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Establishment of A Family Court: Towards Sustainability of Family Institution in Malaysian Context

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Abstract

The diversity of the Malaysian populations resulted in the enactments of various laws governing their daily matters. In the administration of family laws, the Muslims and the non Muslims population are governed by separate legal systems that establish separate courts having exclusive jurisdictions on each population. In both jurisdictions, there is no single court which provides a comprehensive solution for family conflicts. The adjudication of family cases by different courts at present would only bring more hardship and pain to the families as it involves prolonged proceedings, high costs in terms of legal fees, time consuming and lack of appreciation and understanding on the part of different officials and legal personnel. The matter exacerbates especially in family disputes involving spouses having different religion because it involves jurisdictional conflict between the Shariah and the Civil Courts. The establishment of a family court system for both Muslims and non Muslims, with complete jurisdiction in all children's and family matters and manned by specialized judges who have the assistance of helping professionals, such as psychiatrists, psychologists, and marriage counselors seems to be the best alternative for family disputes resolution. The procedure would be less stressful and traumatic for the parties concerned and this in turn may encourage parties to resolve their differences amicably. Hence, it may significantly reduce litigation on family related disputes and promotes towards sustainability of family institution as a whole. This paper seeks to discuss the concept and philosophy of family court system and the justification of its establishments in Malaysia. The paper will also briefly discuss the implementation of family court system in Australia and Singapore as these countries have established a well developed family court system. The purpose is to learn their experiences in providing a comprehensive solution in resolving family related disputes.

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Introduction

Family institution is a fundamental part of the society. It is a special kind of structure whose principles are related to one another through blood ties or marital relationships, and whose relatedness is of such nature to entail mutual expectations that are prescribed by religion, reinforced by law and internalized by the individual.¹ The relationships carry different rights and obligations and the basis of these matters are very much determined by religion, law and culture of that particular society. Family affairs are widely accepted as private matters. However, it does not mean that the society has no concern at all. Where the situations in a family become unmanageable, the authority which represents the society at large, is to take whatever action necessary to control or handle family conflicts. This is because the stability of family is a very influential factor to maintain stability in society.²

Distinct Features of Family Disputes

Despite the fact that family relationship is the matter that the people considered most, failures in family relationship continue to exist, resulting in various issues to come out. It is not only legal issues that arise, but more serious is extreme emotional feelings destroying family bond and ultimately affecting the whole institution of family. Scholars agreed that resolutions of family disputes involve different approaches as compared to resolution of other civil matters due to its distinct features.³ These features include, firstly, future arrangement of the family life after divorce which may be reassessed by the court if the effect of the arrangement has developed differently to what had been expected. Secondly, the involvement of the interest of third party primarily the children; who will mostly be affected by the family breakdown. Thirdly, high level of involvement with courts proceedings and lawyers. As family disputes issues generally entails change of status, it necessitate the parties to take legal proceeding in court and thus requires lawyers to advice and act for them. However, such high level of resort to the court and lawyers is seen as one of the reasons which will dampen the effort of settling the family disputes amicably. Fourthly, the legal process is regarded as undesirable forum for the resolution of family disputes as the disputes also concern non legal issues related to adjustment of life after separation.⁴ Furthermore, family disputes involve parties' proximity, emotional strains and bitter hatred against each other, which need to be resolved through comprehensive approach⁵ in order to maintain the peace and happiness of the family involved.⁶ The distinctive features of family disputes necessitate a special court that provides a wholesome legal mechanism of family disputes resolution while at the same time preserving the family relationship from getting worse.

¹ Hamudah, 'Abd al-Ati. (1995). *The Family Structure in Islam*, American Trust Publications. at 19.

² Ibid.

³ Dame Brenda Hale, David Pearl, Elizabeth J. Cooke & Philip D. Bates. (2002). *The Family, Law and Society Cases and Materials*, 5th Edition, Lexis Nexis, at 227.

⁴ Ibid, 280

⁵ See Molly Cheang. [1985]. "Family Court: Lets have it". MLJ Jan –Jun cxlviii at cxlix.

⁶ Nor Aini Abdullah. (1996) "Wanted: A Family Court" in , Mimi Kamariah Majid (Ed.) *A Collection of Socio-Legal Essays*, Kuala Lumpur. University of Malaya Press, at 180.

The Philosophy and Concept of Family Court

Historically, the concept of family court is originated from the United States that grew out of juvenile court and was first established in Chicago in 1899. Brown (1966) observed that the underlying concept of the American family court is the concept of family as a social unit. In order to promote justice to this unit, it is necessary to treat family matters as a single part, consider the matter as a whole and not to put several fractions to the family matters. If the matters are treated separately, several matters might be left unresolved.⁷ According to Cheang (1985), the general concept of family court is based on its philosophy in which family disputes and issues often present complex question of the analysis and prediction of human behaviour that cannot be resolved by simple application of a legal formula.⁸ She suggested a ‘therapeutic approach’ to family conflict resolution whereby the court’s role is like a therapist who is responsible to find a cure, rather than to give sanction of who is right and who is wrong.

Another important concept of family court is the element of concentration, in the sense that the court is presided over by a specialist judge with adequate legal jurisdiction and authorization to handle all family disputes. Thus, adjudication on family matters could be expedited and may reduce back log cases. Family court would also promote collaboration between lawyers and experts in the process of investigation. Those experts include psychologists, marriage counselors, social workers, medical officers and other specialists who are trained and possessed adequate skill. The facts investigated shall be reported to the court and discussed together before determining what is best for the family.⁹

Conciliation and mediation becomes the central point of the application of non adversarial system of litigation in family court. It is seen as an alternative way of dispute resolution that provides different approach in handling family conflicts. From the shariah perspective, mediation which is known as *sulh* has been long recognised as a means to resolve disputes amicably. In the Quran, it has been clearly stated that arbitrators or mediators should be appointed if there is a conflict between husband and wife.¹⁰ Thus, in a mediation process, the parties to a dispute, with the assistance of a mediator, will identify the disputed issues, develop options, consider alternatives and endeavor to reach an agreement.¹¹

The family court would also reduce the psychological, social and financial impact on the parties involved because it promotes amicable settlement of the family disputes through mediation or conciliation. As mentioned above, in a family court’s mediation process, the parties are encouraged to resolve their disputes amicably. This will lead the parties to reach to an agreement

⁷ L. Neville Brown. (1966). “The Legal Background to the Family Court” in Edward Lover, Hermann Mannheim, Emanuel Miller (Eds.). The British Journal of Criminology, London: Steven & Sons Ltd, at 139

⁸ Molly Cheang, n. 4, at clii.

⁹ Ibid, cli

¹⁰ An-Nisa’ verse 35: “If you breach between them twain (the man and his wife), appoint (two) arbitrators, one from his family and the other from hers: if they both wish for peace, Allah will cause their reconciliation. Indeed Allah is Ever All-Knower, Well-Accquainted with all things”.

¹¹ Mek Wok Mahmud & Sayed Sikandar Shah Haneef. (2008). “Mediation in Resolving Marital Conflicts: An Appraisal of Classical and Contemporary Application”, paper presented during the 4th Asia-Pacific Mediation Forum Conference held at the Harun M. Hashim Law Centre, IIUM, 16th – 18th June.

that would end the prolonged conflicts. Consequently, hatred and animosity between the family members and the trauma suffered would be inevitably reduced.

The proceeding in the family court also involved fewer procedures and the court would be entrusted with wide discretionary powers in making decisions. Therefore, the process of adjudication will be much simpler and the court's cost and time will also be reduced¹²

Family Laws in Malaysia

Malaysia exercises dual system of family law, namely family law for Muslims and for the non-Muslims. The basis of this system is originated from the diversity in the components of Malaysian citizens. Malaysia consists of people from various races and religion. Family law is the only area of law which divided the citizen based on religions. Due to the existence of the dual system of family law, different court has been established to administer family law for Muslims and non-Muslims separately.

In Malaysia the family constitutes the subject matter of a number of legislative enactments for the establishment of husband-wife and child relationships. As for the non Muslims, all these are essentially found in Law Reform (Marriage & Divorce) Act 1976. However, there are various other enactments which deal specifically in nature, for instance in domestic violence cases under the Domestic Violence Act 1994; whereas cases related to children could be found in various statutes such as the Adoption Act 1952, Guardianship of Infant Act 1961, Legitimacy Act, Distribution Act, Inheritance (Family Provision) and the Child Act 2001. Other statutes which contain provisions on family matters are the Penal Code, law governing family planning, labour and fiscal regulations. As for the Muslims, there are the Administration of Family Law Enactments in various states and also the Administration of the Shariah Enactments in each state, dealing with the procedures. Hence it would appear that although family law exists as definite body of principles regulating rights and duties of spouses, parents and children; yet it is not administered as a consistent whole. Different courts are constituted to hear and adjudicate on these matters pertaining to family law.

Application for divorce, nullity, custody, judicial separation, declaration of legitimacy, division and disputes over matrimonial property by non-Muslims are invariably heard in the High Court while adoption cases either High Court or Subordinate Courts. Applications and successions cases under the Inheritance (Family Provision) Act come before either the Subordinate Courts or the High Courts depending on the value of the estate(s). Juvenile delinquents are brought before the Juvenile Court and protection orders, punishments and redress on domestic violence cases are dealt in criminal or civil Court. For the Muslims, the administration of family law is under the jurisdiction of Shariah Court. Shariah Subordinate Court adjudicates upon all cases concerning marriages and divorces, whilst cases relating to custody of children and distribution of property are dealt by the Shariah High Court. Nevertheless, in cases of domestic violence, the Muslims are also subjected to the criminal and civil courts' jurisdictions.

¹² Muhammad Nizam Awang @ Ali. (2004). Mahkamah Keluarga di Malaysia: Suatu Pandangan (Family Court in Malaysia : An Overview). KANUN Vol. 1, at 21-23.

Even though Malaysia has yet to establish a family court system, the Civil High courts are heading towards specialization. One of the categories of specialization is by setting up a family division. However such practice is only done in the Kuala Lumpur High Court. This division could be considered as a prototype or a model of family court for Malaysia. Formerly, family division was a part of the civil division but at present it is a division by itself and hearing matrimonial cases under the Law Reform (Marriage & Divorce) Act 1976.¹³ Although the setting up of a family division is seen as a good endeavour but it is claimed that the court is restricted in its potential because it does not have special procedures for the cases it hears.¹⁴

The Need for a Family Court in Malaysia

The adjudication of family cases by different courts in the present court system would only bring more hardship and pain to the families as it would involve prolonged proceedings, high costs in terms of legal fees, time consuming and lack of appreciation and understanding on the part of different officials and legal personnel of the long term consequences of their fractional legal solution for the family life. Although there is an effort moving towards specialization of the court in the present system, nevertheless it is not implemented as a whole since the implementation was only done in the Kuala Lumpur High Court.

The cumbersome procedures of the different courts would also deny the judge to view the problems as a whole resulting dissatisfaction to the parties in term of remedy. Jurisdictional conflict between the Shariah and Civil court particularly in family cases involving spouses with different religion have further exacerbate the problems.

Further, the nature of the present court system which is adversarial in nature does not promote amicable disputes settlement. Family disputes are usually being adjudicated in a similar manner of a normal civil case in which the contending parties can settle claims of right and wrong. This inevitably will lead to a family dissolution at the request of the other parties, which will not solve anything but create bitterness and hatred among the family members. Resolution of family disputes require special procedures as it deals not only with legal rights and obligations of the parties but involves a delicate balance of personal emotions, social issues and social stigma which need to go further than simply issuing formal legal remedies.

Conciliation or mediation is an important process of a non-adversary system of litigation of family court. The present Law Reform (Marriage & Divorce) Act 1976 which governs the non-Muslims provides a similar conciliation process in divorce cases under section 106. Nevertheless, it is claimed that the implementation of the provision has given rise to a number of problems. For instance, the mandatory reference of matrimonial difficulties to a conciliatory body before the presentation of divorce petition under the provision is not comprehensive enough as there is no rule of practice and procedure to be observed during the conduct of the hearing and inquiries. Members of these bodies are on their own as there are no specific rules. Thus, the implementation of the provision has been haphazard. Further, the members of

¹³ "Jurisdiction of High Court," http://www.kehakiman.gov.my/bukulaporan/LaporanENOld/JD110376_Txt_6.pdf (accessed 13 October, 2008).

¹⁴ Caroline Hong, "All prepared for Family Court," *News Strait Times*, 17 November, 2000, at 14

conciliatory bodies were always changing, resulted the involved parties to repeat their marital pain whenever new members appeared.

From the above discussion, litigations in family matters in the present court system are subjected to various weaknesses and loopholes. Hence, it is suggested that a suitable competent family court should be established in Malaysia dealing specifically with the administration and procedures of family law and family related disputes.

Family Court in Australia

The Family Court of Australia was formally established in 1976 by the Family Law Act 1975. The main purpose of its establishment is to have a uniform judicial system for the administering of family law throughout Australia, as opposed to a different system operating in each state. As the Australia's superior court in family law, the family court is to determine cases with the most complex law, facts and multiple parties, cover specialized areas in family law, and provide national coverage as the appellate court in family law matters. The Family Law Act 1975 has imposed the process of counseling in divorce cases to be attached to the family court and introduce simple procedures and reduces courts' formalities. One of the most important features of the Australian family court is its family mediation. It provides opportunities for the family to resolve dispute without going to the court.¹⁵ Thus Family Relationship Centres (FRCs) were established in 2006 in order to provide information, advice and family dispute resolution in form of mediation and other services to help the parents reach for an agreement.¹⁶

Besides hearing cases within court rooms, a sophisticated videoconferencing network has been established to improve the access to remote parties and witnesses.¹⁷ Since 2002, a 'Casetrack' has been introduced which is case management support system integrated by the court to improve case management and at the same time provide the client on-line access to information in the future.¹⁸ This 'casetrack' allow the cases and clients of the Family Court of Australia, the Federal Magistrates Services and the Family Court of Western Australia to be manageable through one system.

Family Court in Singapore

Family court in Singapore was formally established in 1995 as a specialized court for the citizen to seek legal redress for all family-related disputes. Similar to Malaysia, Singapore practice dual legal systems particularly in family matters. The Women's Charter is the law

¹⁵ Eithne Mills, Butterworths *Tutorial Series Family Law*, 3rd ed., LexisNexis Butterworths, 2008, at 38.

¹⁶ Donna Cooper & Mieke Brandon, Navigating the Complexities of the Family Law Dispute Resolution System in Parenting Case, 2009 AJFL LEXIS 13, Volume 23, April 2009, through LexisNexis.

¹⁷ Alastair Nicholson, Sixteen Years of Family Law: A Retrospective, 2004 AJFL LEXIS 8, Volume 18, May 2004, through LexisNexis.

¹⁸ Alastair Nicholson, Sixteen Years of Family Law: A Retrospective, 2004 AJFL LEXIS 8, Volume 18, May 2004, through LexisNexis.

regulates the non-Muslim in the formation of marriage and the relationship between the spouses, and at the same time regulates all Muslim and non-Muslim regarding the relationship between parents and children and the economic relationship of members in a subsisting marriage.¹⁹ The Muslim or any person who married under Muslim law is governed by the Administration of Muslim Law Act where the matters will be dealt by Shariah Court Singapore. The Shariah Court Singapore has the jurisdiction to hear divorce, ancillary matters and inheritance. The court processes are including registration, counseling, issuance of summons, mediation stage, pre-trial conference, trial stage, hakam stage and appeal stage.²⁰ There is also marriage counseling programme provided for the Muslim parties.

One of the characters of the Family Court is to enable member of the family to resolve their dispute harmoniously in one easily place at affordable cost.²¹ The Supreme Court of Judicature (Transfer of Matrimonial, Divorce and Guardianship of Infants Proceedings to District Court) Order 1996 had made the family court the one stop centre for the family needs.²² The harmonious resolution of dispute is offer whereby it provides assistance for the family members to resolve their dispute and help them to continue their role after the separation.²³ In order to achieve their mission, the Family Court has introduced programmes which are conducted by the counselors and psychologist of the Family and Juvenile Justice Centre.²⁴ For instance, Counseling and Psychological Services (CAPS) which is to provide holistic and integrated approach to the cases related to family matters. The members of the CAPS are consisting of professionals and its multi-disciplinary team includes social workers, counselors and psychologist.²⁵ The CAPS provides many programmes for the community to give some ideas about issues relating to the family. The programmes provided for divorce such as; divorce information session, project HEART, CHILD programme, counseling, KINDSET, project IMPACT and project CONTACT.²⁶

Despite the fact that Muslim family matters are under the jurisdiction of the Shariah court, nevertheless, the Family Court acknowledged the order made by the same court and has the jurisdiction to enforce such order. For instance, one of the Muslim family matters which fall under the jurisdiction of Family court is the enforcement of maintenance orders made by the Shariah court.²⁷

Singapore Mediation Centre (SMC) has been established as a part of the family court system. It has developed a Family Law Mediation Pilot Project in order to help the parties to solve the family matters faster and cheaper.²⁸ The aims of the Project are; to encourage a constructive and conciliatory approach, to resolve the dispute in effective and timely way, to help maintain long term family relationship, and to ensure the cost are kept affordable for parties. Besides highly

¹⁹ Leong Wai Kum, *Elements of Family Law in Singapore*, LexisNexis, 2007, at 889.

²⁰ http://app.syariahcourt.gov.sg/syariah/front-end/CourtProcess_General_E.aspx

²¹ Leong Wai Kum, *Elements of Family Law in Singapore*, LexisNexis, 2007, at 889.

²² See Section 135.

²³ Leong Wai Kum, p.893

²⁴ <http://www.lawgazette.com.sg/2003-1/Jan03-col.htm>

²⁵ <http://app.subcourts.gov.sg/family/page.aspx?pageid=3658>

²⁶ <http://app.subcourts.gov.sg/family/page.aspx?pageid=13221>

²⁷ “Family Court”, The Subordinate Court of Singapore <http://app.subcourts.gov.sg/subcourts/>

²⁸ http://www.mediation.com.sg/mediation_family_law_pilot_prj.htm

qualified and skilled Principal Mediators on the SMC panel, SMC will be accrediting experienced Family Law Practitioner as SMC Associate Mediators for the Family Law Mediation Pilot Project.²⁹

Conclusion

In establishing a unified family court in Malaysia, Singapore model of family court is more suitable to be adopted as compared to Australia's model since Singapore has more or less similar historical and legal background to Malaysia. Australia has undergone tremendous changes in its family law development. Although Australia has more experience in administering the dual system of government that includes the division of jurisdictional power between the federal court and state courts in family matters, however, it is viewed that the Australian Family Court and its legislations are more complicated to be adopted as a model for Malaysia. In addition, the nature of family life in Australia is very much different with Malaysia.

The establishment of family court in Malaysia is hoped to rectify all the problems arising out of the present administration of family law in Malaysia. Its establishment should develop, improve and enhance the quality of courts and judiciary body. It also provides a proper forum for the disputing family members to search for the best solution for their conflicts and at the same time preserve their family bonds.

²⁹ <http://www.mediation.com.sg/pdf/SMC%20Family%20Law%20Mediation.pdf>

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Registration as Legal Mechanism to Sustain Institution of Marriage

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Abstract

In Malaysia, different societies express themselves in different ways in performing a marriage ceremony. The non-Muslims in Malaysia practices the dual system of marriage (namely the customary marriage and the civil law of marriage), up to 1 March 1982. After that date, the Law Reform (Marriage and Divorce) Act 1976 came into effect, and is practised until today. Previously, marriage under the Chinese customary law was recognised in Peninsular Malaysia by the application of the principle that where the local law was wholly unsuited to the conditions of the parties, due to peculiarities of religious opinion and usages, then their own laws and or usages were applied to them. As such, it is observed that the validity of a Chinese customary marriage merely requires a consensual marriage and the requirements of a ceremony and a repute of marriage are evidentiary only and not essential. Unlike the Chinese customary marriage, the priest solemnising the marriage and the expert evidence findings, relating to the rites and ceremony rather than the mere intention to form a permanent union, determines the validity of a Hindu marriage. The discussion proves that requirement of registration is introduced as a medium to facilitate proof of marriage for the non-Muslims. It is initiated to avoid uncertainty relating to the status of marriage especially involving marriage solemnized according to customs. The objective of this paper is to establish that the requirement of registration of marriage is vital for the sustenance of marriage. It is to manage legal issues pertaining to it and to avoid disputes, which may give rise to uncertainty in terms of whether a marriage has occurred. It is also to enlighten the people at large the importance of registration as a legal protection mantle assisting them (especially the wives and children) when matrimonial difficulties crop up.

Introduction

Proper registration is of extreme importance not only to the parties themselves but also to others (including government departments) who may wish to have evidence of their marriage. Registration as part of the legal formalities of marriage will ensure among others that the parties do not enter into marriage in an ill-considered or frivolous way, with the existence of a formal record of marriages, and that anyone who wishes to object to the marriage can do so.¹ It begins with the Universal Declaration of Human Rights² (herein after referred to as UDHR) in determining the legal rights of men and women particularly in matters of marriage.³ To ensure equal rights for both spouses in connection with marriage, Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriage (herein after referred to as the Convention) is established,⁴ in respond to Article 16 of the UDHR.

UDHR, being an international instrument, supports the right of the State to legislate on formalities prior to marriage and in relation to the solemnisation of marriage, and recognises the right of the States to insist on registration of marriage. The Convention adds to Article 16 of the UDHR the importance of regulating minimum age of marriage;⁵ free consent of both the contracting parties to marriage; that the marriage be solemnised by a competent authority and of witnesses.⁶ The said marriage is also to be registered in an appropriate official register by a competent authority.⁷ After solemnisation is completed, marriage is required to be registered in an official register for public record⁸ but this has no effect on validity.⁹ The requirement of registration would, in future, make it far easier to prove a marriage. No longer would the parties have to rely on the recollection of witnesses of events long gone, and the evidence of experts as to customs, both ancient and changing. However, attempts to introduce registration procedures have met with considerable opposition especially in Islamic states where there is no codified legislation.¹⁰

¹ Jonathan Herring, *Family Law*, Longman, 2001 at 39.

² Other human rights instruments such as the European Convention on Human Rights, and the International Covenant on Civil and Political rights also recognized such rights above.

³ The objective of Article 16 UDHR spells out that men and women of full age, without any limitation due to race, nationality or religion shall have the right to marry and start a family; that they are entitled to equal rights as to marriage, during marriage and as its dissolution.

⁴ This Convention opened for signature and ratification by General Assembly Resolutions 1763 A (XVII) of November 7, 1962. Entered into force: December 9, 1964. It calls for States parties to establish a minimum age for marriage. It also stipulates that no marriage is to be legally entered into by any person below such minimum age, except where a competent authority has granted a dispensation, for serious reasons, in the interest of the spouses. The Convention also obliges States parties to register all marriages in an appropriate official register.

⁵ Principle 2 of the Convention states that State parties shall take legislative action to specify a minimum age of marriage and that no marriage shall be legally entered into by any person under this age, except where a competent authority has granted a dispensation as to age, for serious reasons, in the interest of the intending spouse.

⁶ Principle 1 of the Convention states that no marriage shall be legally entered into without the full and free consent of both parties, such consent to be expressed by them in person after due publicity and in the presence of the authority competent to solemnise the marriage and of witnesses, as prescribed by law.

⁷ Principle 3 of the Convention states that all marriages shall be registered in an appropriate official register by the competent authority.

⁸ Ibid.

⁹ Section 11 of the Matrimonial Causes Act 1973; section 33 of the Women's Charter; and section 34 of the LRA.

¹⁰ JÉMAL J.NĀSIR, *The Islamic Law of Personal Status*, 2nd Edition, Graham & Trotman, London, 1990, at 70.

Research Methodology

The research is primarily library research. The discussion mainly focused on the relevant provisions provided for under the family law statute that governs the non-Muslims in Malaysia. It is a line-by-line analysis of the statutory provisions under the Law Reform (Marriage & Divorce) Act 1976 that govern the application of the law regarding the registration of marriage. Reference was also made to decided cases that related to issues pertaining to the solemnization of customary marriage (before and after 1 March 1982) and requirement of registration. The study also examined the influence of customs and the impact of registration on such practices among the Chinese and the Hindus in Malaysia. This was because there were a few judges who gave recognition to customs as to prevail to the need to register in determining the validity of marriage and to sustain it.

Registration of Marriage in General

According to Cretney¹¹ registration is to ensure that there is a public record of an event that has important legal consequences both for the parties themselves, and third parties, and for the State. The parties need such a record as evidence of their marriage so that they can present proof of it to others. Third parties need it so that they can determine the status of the parties and the status (e.g. legitimacy) of themselves and others as far as that is dependent on the marriage of the parties. The State needs it because upon it may depend rights and obligations owed by or to the State in relation, for example, to tax, social security, and allegiance. An effective system of registration affords means of proof or disproof and to avoid uncertainty where certainty is essential. In addition, registration provides statistics regarding marriage that are vital for any serious research into legal, social or demographical problems. Meanwhile, registration according to Jennifer Corrin Care and Kenneth Brown (1974),¹² furnishes women with two clear advantages, that is, ease of proof of the marriage, and an automatic access to the protective mantle of statute law on issues such as custody, matrimonial property, maintenance and domestic violence.

Registration of Marriage for non-Muslims in Malaysia

Different societies express themselves in different ways in performing a marriage ceremony. Some of these customs and traditions were gradually developed to be the backbone of most marriage laws of today. In a multiracial¹³ society as in Malaysia, it is expected that the various races do practice their own customs, religions and traditions. Malaysians enjoy and continue to enjoy the government's respect for her peoples' personal laws and customs, and recognition of and tolerance towards religion. These are reflected in our marriage laws of today.

The non-Muslims in Malaysia practices the dual system of marriage (for non-Muslims) i.e. the customary law of marriage including polygamy and the civil law of marriage (monogamy), up to 1st March 1982 (herein after referred to as the appointed date). After that

¹¹ S.M.Cretney, *Principles of Family Law*, 1979 at 24.

¹² Jennifer Corrin Care & Kenneth Brown, Marit Long Kastom, *International Journal of Law Policy and the Family*, April, 1974. 12.

¹³ Namely the Malays, Chinese and Hindus as the majority groups and other minority races.

date, a new law, the Law Reform (Marriage and Divorce) Act 1976 came into effect, and is practised until today.

On 4th February 1970, His Majesty the King appointed a Royal Commission on Non- Muslim Marriage and Divorce Laws, with the following terms of reference:

To study and examine existing laws relating to marriage and divorce (other than Muslim marriages) and to determine the feasibility of a reform, if any is considered necessary, in particular, in the light of a resolution of the United Nations Convention on consent to marriage, minimum age of marriage and registration of marriage.¹⁴

The Royal Commission made its recommendations, and the Law Reform (Marriage and Divorce) Bill 1972 was introduced in Parliament. This led to the Law Reform (Marriage and Divorce) Act 1976(Act 164) (herein after referred to as LRA 1976), which came into force on the appointed date. The Schedule to the LRA 1976 describes it as:

An act to provide for monogamous marriages and the solemnization and registration of such marriages; to amend and consolidate the law relating to divorce; and to provide for matters incidental thereto.¹⁵

The LRA 1976 is the main statute governing the marriages and divorces of non-Muslims.¹⁶ A prominent feature of the LRA 1976 is the concept of registration that is provided for in Part IV of the LRA 1976 from sections 27 to 34. Proper registration is of extreme importance not only to the parties but also to others (including government departments) who may wish to have evidence of the marriage.¹⁷ It is also a mechanism to protect the interest especially of the wife and children. A question arises concerning the validity of a marriage solemnised according to custom and where such a marriage is not registered. If a couple goes through a ceremony of marriage according to customary practice but does not have their marriage registered or solemnised by the registrar or person appointed by the registrar,¹⁸ would their marriage be valid? The issue is significant as it may, among others, involve the status of children of the union.

However, section 27 of LRA 1976 stated that: “The marriage of any person ordinarily resident in Malaysia and of every person resident abroad who is a citizen in Malaysia after the

¹⁴Article 16 of the Universal Declaration of Human Rights which provides that men and women, without any limitation due to race, nationality or religion, have the right to marry and to start a family; that they are entitled to equal rights as to marriage, during marriage and at its dissolution; and that a marriage shall be entered into only with the free and full consent of both parties.

¹⁵Article 3 of the United Nation Convention on the Consent to Marriage, Minimum Age of Marriage and Registration of Marriage, which provides that all marriages shall be registered in an appropriate official register by the competent authority.

¹⁶Section 3 (3) of the LRA, which provides that the Act shall not apply to a Muslim or to any person who is married under Muslim law.

¹⁷See N.V. Lowe and G. Douglas, *Family law*, Butterworths, 1997 at 37.

¹⁸Sections 24 (2) and 28 (3) indicate that only a person who is appointed by the Minister to act as Assistant Registrar of Marriages for any Marriage district may after delivery to him a statutory declaration under subsection (3) of section 22, solemnise any marriage in accordance with the custom or usage which the parties to the marriage, or either of them practice.

appointed date shall be registered pursuant to this Act.” Therefore what remains to be decided today is the validity of marriages solemnised according to custom after the appointed date. Would such marriages have to be registered as well before validity is conferred upon them?

On the other hand, section 22 (4) of LRA 1976 states that: “Every marriage purported to be solemnized in Malaysia shall be void unless a certificate for marriage or a licence has been issued by the Registrar or Chief Minister...” A reading of this section indicates that it is mandatory for marriages to be registered and solemnised according to the LRA 1976.

Nonetheless, section 34 of the LRA 1976 states that: “Nothing in this Act or the rules made thereunder shall be construed to render valid or invalid any marriage which is invalid or valid merely by reason of its having been or not having been registered.” The issue is whether section 34 is in contradiction with the spirit and letter of the LRA 1976.

Relation between Validity of Marriage and Registration

To understand the problem relating to the validity of marriage with the procedure and registration of marriage, relevant cases and provisions relating to registration are crucial to be discussed as the requirement of registration does not conclusively determine the validity of a marriage but merely facilitate proof of a marriage.¹⁹

In Malaysia, as has been explained by Tan Sri Datuk Prof. Ahmad Ibrahim,²⁰ previously there were three statutes providing provisions relating to registration, namely Civil Marriage Ordinance 1952²¹ (herein after referred as CMO 1952), Christian Marriage Ordinance 1956²² (herein after referred to as CMO 1956) and Registration of Marriage Ordinance 1952²³ (herein after referred to as RMO 1952). These statutes had different legal effects on registration prior to the implementation of the LRA 1976. Under the CMO 1952, failure to register a marriage would make it void.²⁴ The CMO 1956 provided that failure to register a marriage did not render it invalid. The person who solemnized a marriage under the CMO 1956 was, however, required to effect the registration of the marriage and if he failed to do so he would be guilty of an offence and liable to punishment.²⁵ The RMO 1952 required the parties to a marriage solemnized or contracted in Peninsular Malaysia, other than a marriage where one of the parties at the time of such marriage professed the Christian or Muslim religion, to have the marriage registered.²⁶ It

¹⁹ Registration is important in determining the legality of a marriage as the Registrar has the duty to enter the prescribed particulars of the marriage in the marriage register immediately after the solemnisation. See also section 22 of the IFLFTA 1984, section 22 of the IFLSE 1984, section 26 of the IFLJE 1990, section 21 of the IFLKE 1984, section 22 of the IFLKE 2003.

²⁰Ahmad Ibrahim, Family Law, 1997, Malayan Law Journal Publication Ltd., at p.16.

²¹ No. 44 of 1952 (Reprinted No 1/1970).

²² No. 33 of 1956.

²³ No. 53 of 1952.

²⁴CMO 1952, sections 26 and 30..

²⁵Ibid. See CMO 1956, sections 35.

²⁶RMO 1952, section 4.

was expressly provided that neither the registration of nor the omission to register any marriage would affect the validity of the marriage, nor would any error in the particulars recorded, nor any omission to record any particular which ought to have been recorded, affect the validity of the registration of the marriage.²⁷

Anusha Santrasthipam,²⁸ secretary of Soroptimist International of Petaling Jaya pointed out that many non-Muslim women in Malaysia (especially those in the rural areas) were ignorant of their legal status of marriage although the law since 1982 requires parties to register their marriage. These women thought that the religious ceremonies alone, such as the “tying of thali” for Hindus and the Chinese tea ceremony, are recognized under law. She concluded that the public should be made aware that registration with the Registry of Marriages is not an engagement.

Varying interpretations of section 34 of the LRA 1976 by judges have resulted in conflicting decisions regarding the legal effect of registration. The first view²⁹ upheld by the judges was that the customary marriages solemnized after the appointed date were valid as in the cases of *Tan Sai Hong v. Joremi Bin Kimin*³⁰ and *Chong Sin Sen v. Janaki a/p Chellamuthu*.³¹ This view was also observed in case of *Leong Wee Shing v. Chai Siew Yin*.³² RK Nathan J. in this case relied on section 34 and held that the provision is intended to validate all marriages that had occurred before 1st March 1982 and had not been registered. This is to avert any catastrophe such as, the effect of bastardizing issues and causing disarray upon inheritance.

However Noraini Abdullah³³ in her article commented on the decision in *Leong Wee Shing*'s case that the learned judge had erred in his interpretation of the law. She said that customary marriages solemnized after the enforcement of the LRA 1976 must adhere to the procedure of solemnization of the present law to make it valid, in which the solemnization must not only follow the rites or the custom but the person solemnizing it must be authorized to do so and it is him, that is the authorized person, who will have to ensure that immediately after the solemnization under section 24 of the LRA 1976, he enters the prescribed particulars in the marriage register, failing which, it will not make the marriage valid.

The second view observed by the judges was that all customary marriages solemnized after the appointed date and not registered was void *ab initio*.³⁴ In the case of *Yeoh v. Chew*,³⁵

²⁷ RMO 1952, section 11.

²⁸ Toh An Nee, “Vital to know your marriage law,” *The Sun*, 24 October, 1994, 12.

²⁹ Both cases involved dependency claim and the parties had not registered their marriage after they had gone through the Chinese customary marriage.

³⁰ [1997] 5 CLJ 614.

³¹ [1997] 5 MLJ 411.

³² [2000] 1 CLJ 439.

³³ Noraini Abdullah, “Marriage”, *Survey of Malaysian Law*, 2000. 186-188.

³⁴ As in the case of *T v. O* [1994] 4 CLJ 593. The learned judge, Mahadev Shanker J. (as he was then) held that the marriage was a non-event or in other words it was not a voidable marriage but one, which was void *ab initio*. He referred to two key sections i.e. sections 22(4) and 24(2) of the LRA 1976 as the marriage was solemnized on 27th May 1988 that is after the appointed date.

YA Dato Abdul Hamid Embong J. held that after the appointed date, all marriages of non-Muslim Malaysians and persons of Malaysian domicile were only valid if there was registration accompanying customary marriages. His Lordship correctly pointed out that customary marriages could still be celebrated at places of worship, but to receive legal recognition, the celebration must be coupled with registration.

Balwant Singh³⁶ in his article commented that the second view referred to by the judges is in line with the Explanatory Statement to the Law Reform (Marriage & Divorce) Bill 1972 that says that the primary virtue of reforms is certainty, so that parties need not wait for the determination by the courts as to the validity or otherwise of a marriage. The requirement of registration would, in future, make it far easier to prove a marriage. No longer would the parties have to rely on the recollection of witnesses of events long gone, and the evidence of experts as to customs, both ancient and changing. He also stressed that section 27 of the LRA 1976 is a mandatory provision for registration as it is consistent with the United Nations Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriage referred earlier. As for section 34 of the LRA 1976, he said that it clearly refers to marriages of persons of Malaysian domicile who validly entered into marriage in foreign jurisdictions, but not registered under the LRA 1976. Section 34 does not even ‘save’ such marriages, as their validity is governed by the *lex loci celebrationis*. It only serves to recognize valid marriages. The LRA 1976 preserves its penal sanctions against their non-registration.

Finally, the long awaiting landmark decision by the Federal Court in the appeal case of Chai Siew Yin v Leong Wee Shing³⁷ ruled that marriages solemnised under any law, custom or religion not registered subsequent to 1 March 1982 are invalid. The Federal Court granted leave to Chai Swee Yin to appeal against the Court of Appeal’s decision to determine the question on whether section 34 of the LRA 1976 applies to marriages solemnised under any law, religion or custom prior to the appointed date or does it validate marriages under any law, religion or custom subsequent to the appointed date.

The three-member panel comprising the Federal Court judges, Datuk Pajan Singh Gill and Datin Paduka Rahmah Hussain and Court of Appeal judge Datuk Richard Malanjum was unanimous in allowing the appeal and ruled the marriage was void. According to Datuk Pajan Singh J section 34 should not be read in isolation but in harmony with the other provisions of the LRA 1976 which encapsulated the overall intention of the legislature in enacting the said Act. He further held that to do otherwise would defeat the purpose and the intention of the LRA 1976 which was enacted to provide for monogamous marriages and solemnisation and registration of such marriages.

As conclusion, it is crystal clear that by the Federal Court’s ruling, all marriages after the appointed date must be registered as it confers valid matrimony status. No longer will there be debate whether parties should or should not register the marriage. With this decision the sustainance of a valid marriage is easily ascertain by way of registration.

³⁵ [2001] 4 MLJ 373.

³⁶ Balwant Singh, “Married or not Married – That is the question,” 3 MLJ (2000). 10.

³⁷ 2004, January 29. Customary Marriages unregistered after 1 March 1982 invalid. Bernama The Malaysian News Agency, pp. 1-2. <http://www.accessmylibrary.com/comsite5/bin/comsite5.pl> >(accessed on 23 January, 2008)

Suggestions and Recommendations

1. Definition of the words ‘solemnisation’, ‘marriage’, and ‘married woman’

The first suggestion is that the words ‘solemnisation’, ‘marriage’, and ‘married woman’ must be defined under the LRA 1976 so as to avoid uncertainty in the usage of section 34. It is suggested that the word ‘solemnisation’ should be defined as the procedure of contracting a marriage or affecting a marriage in accordance with the law, religion, custom or usage of the parties or any of the parties thereto according to the requirement under Part III of LRA 1976. The term ‘marriage’ should be defined as a legal union between a man and a woman solemnized by the appointed Registrar or Assistant Registrar according to the procedure specified under the LRA 1976 and lastly the term ‘married woman’ should be identified to include any woman whose marriage is solemnised in accordance with any law, religion, custom or usage as provided by the LRA 1976.

2. The legal effect of section 34

The second recommendation is that section 34 should be interpreted to validate only marriages which have been solemnised in a foreign jurisdiction in accordance with the laws in a foreign country but not marriages that are solemnised in the Malaysian Embassy in that country in accordance with section 26 of the LRA 1976 and failure to register the foreign marriage within six months at the nearest available Registrar there or when either or both parties return to Malaysia. Such marriages would be recognized as valid only if it is valid according the law of the place of celebration. The non-registration under this LRA 1976 would not render them invalid as the function of section 34 is to assist, in the interest of the comity of nations. Therefore the section is to be applied to marriages as above and not to be used to approve marriages which are solemnised but not registered in Malaysia.

3. The status of a child born out of a marriage (solemnized after the appointed date)

It is also suggested that judges in arriving at a decision relating to the status of the child or children of the marriage, bear in mind that there is no issue of bastardizing the children of the unregistered marriage. Section 75 (2) LRA 1976 clearly provides that the child shall be treated as legitimate if, that either party at the time of the marriage reasonably believed that the marriage is valid.

4. Publicizing the importance of registration of marriage

Publication relating the importance of registration of marriage must be made nation wide. The Registration Department of Malaysia (Jabatan Pendaftaran Negara) must take pro-active actions by announcing and placing more information relating to the importance and the legal effect of registration to the public (although this provision has been around for the past years). Displaying posters and advertisement at auspicious places such as at the Registration Office itself, community halls, temple etc. will remind the parties of their responsibility to register their marriage. For example in the unreported case of Heng Hwa Ching and Chia Miau Lim.³⁸ The Chinese customary marriage was solemnised on 12 December 2001 in Pulau Ketam and was not registered. A year after that, Chia found out that she had been divorced by her husband in a newspaper advertisement. She later complained to the Malaysia Chinese Association (MCA)

³⁸Chow Ee-Tan, “Woman ‘dumped’ by hubby through newspaper advert,” *The Malay Mail*, 21 February, 2003, 68.

public service and was advised that by virtue of section 34, her unregistered marriage was recognised as valid as she had undergone Chinese customary rites and therefore she could claim for ancillary relief. This notion is totally wrong and needs to be corrected. In order to apply for divorce parties must prove as discussed before that one of the requisite conditions is that the marriage is registered or is deemed to be registered. As the marriage is solemnised after the appointed date, therefore validity of customary marriage alone is not sufficient to support application for divorce. The parties in question must furnish evidences to prove the validity of marriage as provided under the LRA 1976 and register their marriage.

5. Others

Another alarming situation is the trend where there is an increased member of non-Muslim male especially Chinese men who are marrying foreign women.³⁹ According to Datuk Tan Chai Ho, Deputy Minister of Ministry of Internal Affairs, the statistics of the women in 2006 were 2,038 from Indonesia, 1711 from China, 931 from Vietnam and 1185 from Thailand, which shows an immense increase if compared to yesteryears.⁴⁰ Most of the marriages with these women were arranged by marriage agencies. The problem arising from this situation is that there are unscrupulous marriage agencies that did not register the marriage held at the foreign place where the marriage was solemnised. As such, when marital problems occur, the parties could not resolve their difficulties as the so-called marriage was not registered on their behalf by these agencies. Since there is no registration, the court has no jurisdiction to hear their cases. Therefore, it is recommended that the government should be strict with these marriage agencies and to take action on agencies that did not fulfil the proper procedure of marriage as provided for under the LRA 1976.

Conclusion

In order to sustain marriage at present time, registration is the mechanism that confers the legal protection to the parties involved. Until and unless the marriage registered, the court would not have jurisdiction to entertain especially in matters such as application for divorce and matters incidental to it, claims of husband's property who died intestate, custody, status of child born out of the said so called marriage, domestic violence and other claims where production of a certificate of registration of marriage is laid down by legislation.

³⁹, Male (non-muslims) are marrying more foreigners ,*Harian Metro*, 9 November 2006, 22.

⁴⁰ Abdul Yazid Alias, Ramai lelaki tempatan kahwin wanita asing, 9 November 2006, 6.



The Coexistence Between Online Commerce and Logistics: an Application of Vector Autoregression(VAR) Model

Chih Cheng Chen^{*} Po Wei Huang^{**}

Abstract

In this paper, we are going to investigate the coexistence structure or the so called mutual causality phenomenon, between the development of online commerce and of logistics. We argue that most online transactions need logistics to deliver goods from sellers to buyers, which means that the expansion of online commerce might enlarge the industry scale of logistics and the development of logistics might inversely support the expansion of online commerce. Therefore to investigate the coexistent structures between online commerce and logistics is an important issue. We apply the “vector autoregression(VAR)” econometric method to investigate the phenomenon mentioned above. Our empirical results confirm the not only the growth of online commerce will enlarge the scale of logistics industry, but the scale expansion of logistics industry will also support the further growth of online commerce, which prove the co-evolution structure between the online commerce and the logistics industry, even though such mutual causality structure is asymmetric. We also suggest that the industry promoting policies should consider these two industries at the same time to fire up the spiral effects.

Keyword: vector autoregression(VAR), online commerce, logistics, mutual causality

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1. Introduction

Online commerce is one of the most popular issues for business in nowadays. It involves multiple transactions or the transfer of payment information across a secure Internet connection in exchange for goods and services. With the emergence of the online commerce, the trade, commercialism, mercantilism and all other business transactions for business, personal or commercial activities have the sole objective on applying online transaction mechanism.

Since the expansion of the internet usage, the online commerce has been prospering all around the world and the amount of online transaction expanded continuously. According to Taiwan's E-Commerce Yearbook(2010), the market scale of global e-commerce (B2C¹+C2C²) will increase enormously from \$782 billion in 2008 to \$951 billion in 2010. As for individual country, Forrester(2010) pointed out that the market scale of e-commerce in USA is more than \$156 billion in 2009, a little higher than the amount in 2008(\$141 billion). In japan, according to the report of Nomura Research Institute in 2010, the scale of ecommerce is ¥6575 billion in 2009, a 15.5% growth than the amount in 2008. As the survey of Taiwan Network Information Center (TWNIC) in 2010, it showed that approximately 40 percent of internet users in Taiwan shop online directly. In addition, the report of Taiwan's Foreseeing Innovative New Digitservices (FIND, 2010) also showed that the total number of internet users in Taiwan is more than 10.7 million and predicted that the total sales of B2C+C2C are more than NT\$358 billion in 2010. With the continuously expansion of internet, FIND also predicted that the retail sales on the internet will reach NT\$430 billion in 2011.

Besides, most online transactions (especially these with physical good) need logistics to deliver traded goods from sellers to buyers. In narrow definition, logistics represents the work to transmit goods in sales only, such as manufacturers deliver the goods to retailers, or retailers deliver the goods to consumers, or manufacturers deliver the goods to consumers directly. In a broader view, the logistics include the all tasks to move goods or products from raw materials to the end users. In Taiwan, the number of logistics firm was 11,074 and the revenue of industry was around 706.33 billion NT dollars in 2008, a little growth from NT \$ 663.5 billion in 2007. In this study, the function of logistics is to transmit goods traded in the online transactions only. Therefore, the "logistics" here in referred to the meaning of the narrow one.

According to the phenomenon mentioned above, the expansion of e-commerce might enlarge the industry scale of logistics due to the derived transportation demands of logistics

¹ B2C (Business-to-Business) e-commerce mans that the businesses sell their commodities to the general public.

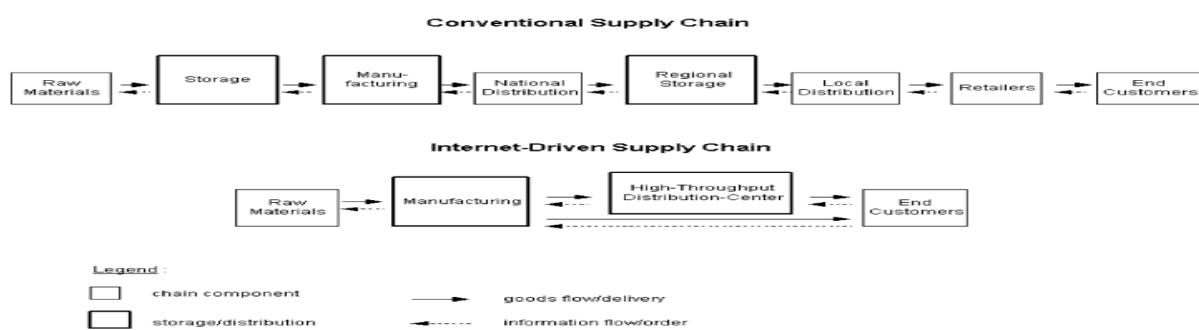
² C2C (Consumer-to-Consumer) e-commerce means that sites offering free classifieds, auctions, and forums where individuals to buy and sell goods through online payment systems. eBay's auction service is a great example of where person-to-person transactions take place everyday since 1995. As for the B2B (Business-to-Business) e-business means that companies do their business with each other, such as manufacturers sell their commodities to their distributors or the wholesalers sells goods to the retailers.

after an online transaction happened. But the positive impact might happen too from the inverse side because the developments of logistics might furthermore support the convenience of online transaction and thus expand its developments. In other hand, there might exist the co-evolution or the interdependence between the development of logistics industry and the online commerce.

In this study, we are going to apply the “vector autoregressions(VAR)” econometric method to investigate the interdependence between the development of logistics industry and the online commerce mentioned above in Taiwan. In addition, we will include the numbers of internet user as the third variable in our model because that the expansion of this number is the basis of the development of online commerce. We will review the literatures related to the relationship between the development of online commerce and the logistics in section 2. In section 3, we will introduce our econometric VAR model in detail as our analysis methodology. In section 4, we will discuss our data and show our empirical results in detail. Besides, the Granger’s causality test will be performed in this section too to reply our main claims in this paper. We finally discuss our main discoveries form our study and offer some suggestion for future research in section 5.

2. The Literature Review

In the past, people want to go shopping, must move to a physical store to buy what they want. Since the emergence of electronic stores, people started to enjoy the convenience without going out, and the development of online shopping also showed more people prefer the features of online commerce. Since people choose go shopping online, the action “go out” has been replaced by “wait for delivery of goods”. Therefore, the supply chain of online commerce is different from the conventional. (Bayles, 2001; Hesse, 2002). As figure 1 showed, the entire supply chain was shortened since people do the online shopping. As a result, not only the consumers, but also the online sellers who without the intermediary like the wholesaler or retailers, are all benefited from such transactions. To sum up, online shopping is equivalent to that the manufacturers (website) sell their commodities to the consumers directly without any problem in inventory. Therefore, online commerce also reduced the bullwhip effect(Gunasekaran and Sarkis, 2008).



Source: Hesse(2002), modified from Abby et al.(2001).

Figure 1: the difference between the convention and internet-driven supply chain

After physical goods are purchased in online stores, the operators of such stores have to deliver the traded goods by themselves originally. But in fact, they prefer outsourcing the commodity deliveries to logistics companies because of their highly efficient performance of specialized division of labor and reduced the transportation costs for the operators. Furthermore, as more people shop online, the more needs for merchandise delivery. Therefore, we can conclude that the prosperity of online commerce induce the development and growth of logistics industry(Gunasekaran and Sarkis, 2008).

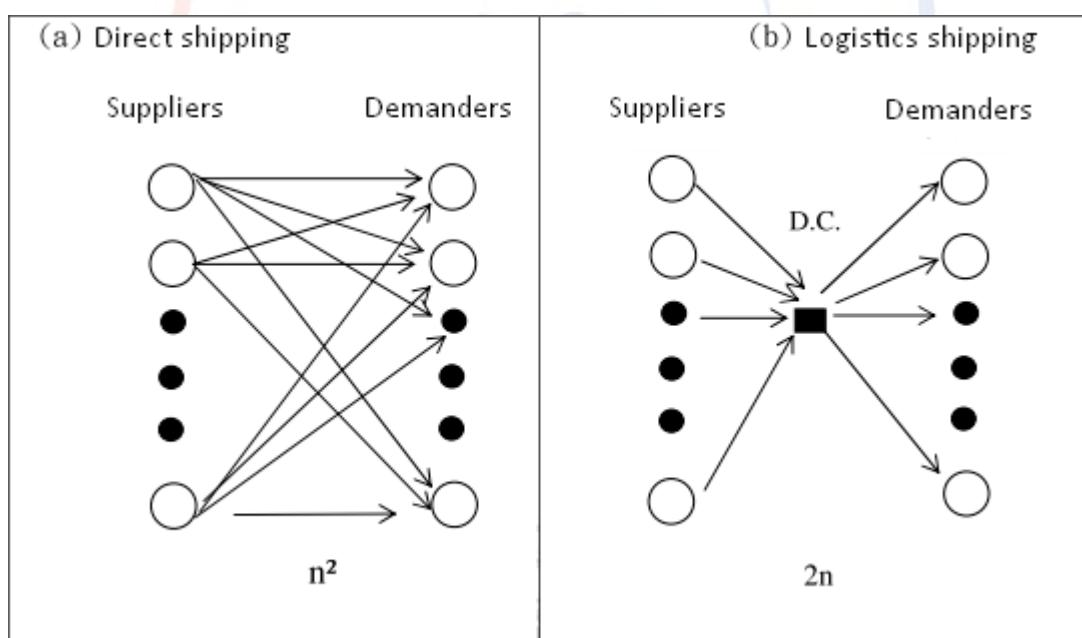
Now that the internet-driven supply chain offer the business opportunities for the logistics firms, researches related to how a Internet seller chooses its logistics attracted some attentions recently. For instance, Rabinovich et al (2006) applied the strategic network theory to show that online commerce firms choose these logistics providers who offer the transportation networks bundling many complementary logistics services. In addition, logistics service providers make these services available across new and existing relationships with online commerce firms, their customers, and their vendors. Ramanathan (2010) also pointed out that the efficiency of a logistic firm is the most significant factor influencing customers' loyalty on this logistic firm.

It is not easy to find the literatures concerning with the impact of logistics of online commerce. We can only find some papers which are related to the developments of global logistics and figure out their helpfulness for the development of production globalization. Besides, we can use their results to infer to the possible impacts of the development of logistics on the development of the online commerce.

In recent years, in order to enhancing organizational competitiveness and reduce the costs, firms vigorously reorganize their organizations to be more streamline by removing some units with high costs and low performance. Besides, they also move some parts of their production lines to overseas as the outsourcing. All these strategies are considered as “division of work” and make themselves become more specialization. In this trend, lots of companies remove their

logistics department and outsource them to the third party logistics (3PL)³ (Gunasekaran and Sarkeris, 2008).

Before the concept of the third party logistics, enterprises used to deliver their merchandises from manufacturers to wholesalers or dealers by themselves, and then wholesalers or dealers deliver merchandises to retailers by themselves too. This traditional shipping system is in a terrible mess because they have to do deliver the all commodities in small amount by themselves. As the distribution centers emerge, merchandises of wholesalers or dealers can be stored centrally and the volume of each single delivery can be improved. Such a 3PL delivery is more efficient than the traditional delivery method because it generates the economic of scale(Hesse, 2002). The reason is as follows: suppose there are n points of supply and demand point in each. If the merchandises transport directly, they require n^2 times to complete the commodities exchange fully. If there exist a distribution center(D.C), the whole process will contract to $2n$ lines and complete all exchanges too. Assuming each line represents a cost, the total cost in the "direct delivery" method will increase geometrically with the number of lines. On the contrary, the counterpart cost in "3PL delivery" will increase with the number of lines in an arithmetic way. Thus, as the value of " n " getting larger, the cost gap between two methods will become larger too.



Source: National Kaohsiung Marine University, Department of Logistics Management Web-site materials. (link: <http://logmgt.nkmu.edu.tw/>)

Figure 2: The costs difference between direct shipping and logistics shipping

³ Third Party Logistics (3PL): A 3PL provider is a firm that provides a one stop shop service to its customers of outsourced (or "third party") logistics services for part, or all of their supply chain management functions.

Figure 2 show up the costs difference between direct shipping and logistics shipping. In part (a), suppliers have to hire their own staff, drivers and warehouse to deliver their commodities, which require extra operation expenditure in the production line. Besides, the increase of delivery lines also results in the burden of consumers by the increase of good receiving times. If such delivery process is transferred to a D.C., as part b in figure 2, it not only reduces the delivery costs resulted in companies but also the ones of the customers'. Therefore, the later delivery method could cause the process be more efficient and reduce the overall social costs.

According to the analysis above, we discovered that past studies mainly concerned that, on the one hand, as the construction of Internet infrastructure, how the firms in logistics industry strengthen their service capabilities by using Internet networks or how the development of logistics promote the progress of online commerce. In the other hand, previous researches also focused on how the development of online commerce enlarges the development of logistics industry. There is no paper studying the co-evolutionary process between the developments of these two industries at the same time. Thus, in this paper, we integrate these two separated analysis in an econometric model to help us analyzing them at the same time.

3. Methodology

3.1 Empirical Model

In the past researches of social science, few focused on the relationships of two variables at the same time. But the mutual causality phenomenon is widespread in social science. Sim(1980) propose the “vector autoregressions(VAR) ” model by assuming that all variables in a macroeconomic model are endogenous without any presumed limitation between their relationships. In this study, we are going to apply this model to estimate the coexistence (the mutual causality) structure between online commerce and logistics industry whether exist or not.

In this paper, we consider a three variables VAR(p) model, where p is denoted as the lagged periods of dependent variables included in the explanatory variables. These dependent variables are the growth rate of Internet users(denote as \mathcal{M}), growth rate of revenue of online commerce(u'), and the growth rate of logistic(R'). The most difference between the VAR(P) and an autocorrelation(AR) model is that VAR(p) considers the cross-variable dynamics between the variables in the model . The complete model of VAR(p) is as equation (1):

$$y_{\mathcal{M}}^{\text{lag}} = f \leq + \dots \quad (1)$$

Where $y_{\mathcal{M}}^R [M]$, $y_{u'}^R [M]$, $y_{R'}^R [M]$, $i=1, 2, 3, \dots, p$, JJH^T , and

$$\begin{aligned} & \text{variables: } u_{it}^{11213}, \\ & x_{it}^{212223}, \\ & x_{it}^{313233}, \\ & \text{coefficients: } \leq_{ii}^{11213}, \leq_{ii}^{212223}, \leq_{ii}^{313233}, \\ & \text{lagged terms: } \leq_{it}^{11213}, \leq_{it}^{212223}, \leq_{it}^{313233}, \\ & \text{error term: } \epsilon_{it}^{11213}, \epsilon_{it}^{212223}, \epsilon_{it}^{313233}, \\ & \text{index: } i=1, 2, 3, \dots, p \end{aligned} \quad (2)$$

We denote \leq_i^{jk} as the effect of variable k on variable j in the lagged i period. Take the lagged 1 period as the example, if \leq_i^{23} and \leq_i^{32} are both positively significant, we can prove the development of logistics industry in period t-1 (R_{t-1}) will promote the development of online commerce in period t (u_t) and the development of online commerce in period t-1 (u_{t-1}) will also influence the development of logistic industry in period t (R_t). According to such results, we can prove the co-existence(or co-evolution) development structures between the logistics industry and the online commerce.

Another problem is the lag length we have to include in a VAR(p) model. That is to say we have to determine the value p in our empirical model. In this paper, we will apply the Akaike information criterion(AIC), Schwarz information criterion(SC), and Hannan-Quinn information criterion(HQ) as the basic conditions to determine the lag length. But we will also consider the model fitness of a lag length to decide the final lagged period we will include in our model.

3.2 Granger Causality test

Granger Causality was proposed by Granger(1969) and its meaning is considered as predictive causality. In other words, if variable x can offer enough information to predict variable y, we say that variable x "Granger cause" variable y. In practical, we test this Causality relationship by regressing the following equation:

$$y_{tp} = \beta_0 + \beta_1 y_{t-1} + \beta_2 y_{t-2} + \dots + \beta_p y_{t-p} + \epsilon_{tp} \quad (3)$$

If $\beta_1 = \beta_2 = \dots = \beta_p = 0$ in equation (3), we say that x won't "Granger cause" y . In this paper, we will also offer the test results of Granger Causality test to discuss the co-existence structures between the online commerce and logistics industry.

3.3 "Impulse Response Function" and "Variance Decomposition"

In the analysis of a VAR model, we also apply the concepts of "impulse response function" and "variance decomposition" to predict the interactions between variables. As for "impulse response function", it means that, as other impulses hold fixed, how a specific impulse can influence the developments of the endogenous variables. As for "variance decomposition", it decomposes the variance of predicted error of an endogenous variable into different channels in

percentages, which mean that how much percentage of fluctuations on endogenous variables can be explained by a specific impulse. We incorporate these two concepts in this paper to figure out the mutual causalities between the growth rate of online commerce, Internet users, and the scale of logistics industry.

4. The Data and Empirical Results

4.1 Data

To estimate the empirical model in section 3, we have to collect Taiwan's data which fit our analysis objects. The optimal data should be the revenue of online commerce industry, logistics industry, and the numbers of internet user in Taiwan. The numbers of internet user is the one we can easily get because the Foreseeing Innovative New Digitservices(FIND) in Institute for Information Industry(III) began conducting "Survey of Internet subscribers in Taiwan" since 1996 and has been accumulating data for 14 years.⁴ The survey is conducted quarterly each year. Therefore, we have the growth trend for the numbers of internet subscriber in season.

As for the revenue of online commerce industry, it's not easy to get the data in season because there is no such statistic in Taiwan. We only find some yearly data from 2003 because the online commerce is one kind of newly emerging industries in Taiwan. Such yearly data are not usable for our model estimation because the numbers of observation is too small. Besides, no official data is available in season or in month in Taiwan. Therefore, we have to collect the revenue data from the firms who offer online commerce in Taiwan. But it's impossible for us to collect the monthly revenue data for every firms from their beginning, therefore we only focus on the main players of online commerce in Taiwan. According to the report "Development Trend of Taiwan's Online Store Survey 2010" by Market Intelligence & Consulting Institute(MIC), the top 6 used websites of internet subscribers to have transactions online in Taiwan in 2009 were "Yahoo Shopping Center"(68.5%), PC home Shopping Center(40.1%), Books Store(31.8%), and "Yahoo shopping master" (30.0%), Payeasy(21.3%), and PC Home Store Street(20.9%). Other online commerce sites were used less than 16% by internet subscribers. Thus we neglect them in our dataset. These 6 big players belong to 4 individual firm. We ask them to offer their detail revenue data from their business start, but they answer us that it's the business secret for company and is impossible to offer. But fortunately, the PC home is the only one whose stock is public offering in Taiwan between these 4 firms and has de-closed its financial report in every month and season in public. Thus we can collect its revenue data from 2002 and use this dataset as the proxy variable of online commerce revenue.

As for the industrial revenue of logistics industry, we can only get the yearly data. As for

⁴ Please refer to the website for more details: <http://www.find.org.tw/eng/home.asp>.

the monthly or quarterly revenue data of individual firm, we were also rejected by the firms for the same excuse in online commerce firms. Therefore, we have to find other proxy variable which could represent the meaning of industrial revenue. Usually, the total number of employment in industry level is used to represent the scale of an industry. Such kind of statistic data could be obtained from “Monthly Bulletin of Earnings and Productivity Statistics”. But unfortunately, the total number of employment in logistics industry is contained in a wider Statistic category, Transportation and Storage industry, and is impossible to identify the precise numbers of employment belonged to logistics industry. Therefore, we have to use such a rough industry data in our empirical model. We use the statistic data in the month of March, June, September, and December from 2002~2010 as its quarterly data.

As we mentioned before, we collected the quarterly data of three variables from 2002 spring to 2010 winter. There are 36 observations in every variable. Table 1 list the basic descriptive statistic. As Table 1 shown, the average number of internet users in Taiwan from 2002 to 2010 is about 9.63 million people, the scale of online commerce data is about 472 million NT dollars, the employees of logistics is about 259.5578 thousand people.

Table 1 Descriptive Statistic- Raw data

	Number of Internet User (in million)	Revenue of PC home (in million NT \$)	Employment of Transportation and Storage (in thousand)
Mean	9.63	472.06	259.56
Median	9.70	552.20	259.78
Maximum	10.79	1060.43	265.15
Minimum	7.90	316.51	251.18
Observations	36	36	36

In order to make sure that the data series is stationary, we also transform the data from the absolute value to quarterly percentage change of each data series. We list the descriptive statistic of transformed data in table 2. Table 2 shows that internet users in Taiwan and the scale of online commerce have slightly increase in average from 2002 to 2010, but the scale of logistics industry is slightly negative.

Table 2 Descriptive Statistic- Quarterly Percentage Change Rate(%)

	Number of Internet User	Revenue of PC home	Employment of Transportation and Storage
Mean	0.008974	0.117391	-0.000640
Median	0.006600	0.098200	-0.000700
Maximum	0.033400	0.811700	0.013600
Minimum	0.000000	-0.157900	-0.027700
Std. Dev.	0.007778	0.177114	0.007584
Observations	35	35	35

4.2 Empirical Results

To estimate our empirical model in equation (1), we have firstly to determine how many log periods we have to include in our model as using the quarterly growth rate as our analysis data. We use several statistic criterions to investigate our data and the results are list in table 3. According to the calculated criterions in table 3, all criterions indicate that the best lag period of lag period in our VAR model should be 1. Therefore we will firstly estimate a VAR model with only 1 lag period all variables as their explanatory variables and used the estimated results as the basic model. If the estimated results are not significant enough, we will try to include other lag period, such as lag 2 or 3 periods, and then compare their estimated results with the basic model and choose the model with higher significant level of model fitness.

Table 3 VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	241.4819	NA	1.44E-11	-16.447	-16.306	-16.403
1	256.6834	26.209*	9.47E-12*	-16.875*	-16.309*	-16.698*
2	260.6593	6.033	1.37E-11	-16.528	-15.538	-16.218
3	263.6475	3.916	2.20E-11	-16.114	-14.699	-15.671
4	268.607	5.473	3.27E-11	-15.835	-13.996	-15.259
5	283.1236	13.015	2.76E-11	-16.215	-13.952	-15.507
6	297.618	9.996	2.71E-11	-16.594	-13.907	-15.753

Note: * indicates lag order selected by the criterion; LR: sequential modified LR test statistic (each test at 5% level); FPE: Final prediction error; AIC: Akaike information criterion; SC: Schwarz information criterion; HQ: Hannan-Quinn information criterion.

After we estimate the VAR model with lag 1 period of our three variables, we find that the R-square is not high enough and the estimated parameters are not significant at all. Therefore we further estimate the VAR model with lag 2 and 3 periods and find that the estimated results in lag 2 periods reach the highest R-square and some of the estimated parameters are significant. Therefore, we only list the estimated results of VAR model with lag 2 periods in table 4.

From table 4, we find that the number of Internet user in previous period could significantly positive influence the number of Internet user at next period, but negatively influence the employment of transportation and storage industry, the proxy variable of logistics industry in this paper. But the number of Internet user in 2 periods before could significantly increase the growth rate of online commerce presently, which means that, on average, the persons who begin to use Internet will start to participate in the online commerce transaction after 2 seasons later. As for the growth rate of revenue of PC home, the proxy variable of online commerce in this paper, will positively influence the growth rate of number of Internet user after 1 period and significantly(at 10% significance level) increase the growth rate of logistics after 2 periods later. According to this estimated results, we slightly confirm the results in Gunasekaran and Sarkis(2008) which said that the development of online commerce

will induce the development of logistics industry. Finally, the growth rate of Employment of Transportation and Storage industry, the proxy variable of growth rate of logistics industry will positively significant influence the growth rate of online commerce the number of Internet user after 1 period. With such a estimated results, we can confirm the not only the growth of online commerce will enlarge the scale of logistics industry, but the scale expansion of logistics industry will also support the further growth of online commerce, which support our main concern in the beginning of this paper. Such results also tell us that there exist the co-evolution structure between the online commerce and the logistics industry. Finally, given such a mutual causality structure between these two industries, the effects are asymmetric between the directions from online commerce on logistics industry and the inverse one due to the different lag periods of significance of influences.

Table 4 Estimated Results of VAR Model with 2 Lagged Periods

Variables in time t	Number of Internet User	Revenue of PC home	Employment of Transportation and Storage
Variables in lag 1 and 2 periods			
Constant	0.003**(2.131)	0.0186(0.411)	0.003(1.292)
Number of Internet User(lag 1)	0.596**(3.381)	-6.480(-1.176)	-0.612**(-2.491)
Number of Internet User(lag 2)	-0.148(-0.917)	15.789**(3.125)	0.075(0.334)
Revenue of PC home(lag 1)	0.013**(2.442)	-0.144(-0.861)	-0.003(-0.452)
Revenue of PC home(lag 2)	-0.003(-0.561)	0.161(0.895)	0.014*(1.784)
Employment of Transp. and Storage (lag 1)	0.224*(1.754)	9.222**(2.312)	0.284(1.596)
Employment of Transp. and Storage (lag 2)	-0.133(-1.02)	4.209(1.037)	-0.212(-1.169)
R-squared	0.522166	0.345760	0.416785
Adj. R-squared	0.411897	0.194782	0.282197
F-statistic	4.735373	2.290131	3.096742
Log likelihood	133.6817	20.09322	122.7473
Log likelihood		278.4920	
Akaike information criterion		-15.60557	
Schwarz criterion		-14.65325	

Note: the values in the parentheses are the t-values; ** represents at 5% significance level and * represents at 10% significance level.

To confirm our estimated results above, we also perform the tests of Granger Causality mentioned in section 3.2 between variables and show the results in table 5. This table shows that the growth of numbers of Internet user “Granger causes” the growth rate of online commerce and logistics industry. The growth rate of online commerce(Revenue of PC home) “Granger causes” the growth rate of numbers of Internet user but don’t on the growth of logistics industry. Finally, the growth of logistics industry “Granger causes” the growth of online commerce but not the numbers of Internet user.

According to such the test results, it shows that the expansion of online commerce will

cause more people to use internet and vice versa. But such a mutual Granger Causalities seems not exist between the online commerce v.s. logistics industry and between the logistics industry v.s. the number of Internet user. Therefore, if we combine the estimated results in table 4, we might conclude that the complementary support of logistics industry would deepen the development of online commerce but not clearly in the vice versa due to the insignificance of Granger causality test.

Table 5 Tests of Granger Causality

Variable name		Number of Internet User		Revenue of PC home		Employment of Transportation and Storage	
		Chi-square	Probability	Chi-square	Probability	Chi-square	Probability
Number of Internet User		-	-	10.953**	0.004	8.945**	0.011
Revenue of PC home		6.187**	0.045	-	-	3.333	0.189
Employment of Transp. and Storage		3.945	0.139	6.694**	0.035	-	-
Observations		33		33		33	

Note: ** represents at 5% significance level.

After the completion of Granger causality test, we perform the concepts of “variance decomposition” and “impulse response” discussed in section 3.3. We list the estimated results of “variance decomposition” in table 6 and show the results “impulse response” in figure 3. As we mentioned before, the “variance decomposition” means that how much percentage of fluctuations on endogenous variables can be explained by a specific impulse. According to the results in table 6, most fluctuations on endogenous variables can be explained by themselves, such as more than 83% in the numbers of Internet user, 78% in the growth rate of online commerce, and 68% in the growth rate of logistics industry. Only the number of internet user could be used to explain the fluctuation in the logistics industry from 3.1% to gradually increase to 22.6%.

Table 6 Variance Decompositions (in %)

Period	Variance Decomposition of Number of Internet User			Variance Decomposition of Revenue of PC home			Variance Decomposition of Employment of Transportation and Storage		
	Number of Internet User	Revenue of PC home	Employment of Transp. and Storage	Number of Internet User	Revenue of PC home	Employment of Transp. and Storage	Number of Internet User	Revenue of PC home	Employment of Transp. and Storage
1	100.0000	0.000000	0.000000	1.505634	98.49437	0.000000	3.188072	6.708501	90.10343
2	87.54785	6.820022	5.632124	2.326135	85.27971	12.39415	14.18543	7.201319	78.61325
3	84.30855	6.567666	9.123780	7.082517	79.20016	13.71733	21.49063	8.727000	69.78237
4	84.03501	6.869335	9.095652	6.900323	79.39478	13.70490	21.49569	8.676277	69.82803
5	83.64325	7.298217	9.058534	7.033982	79.17806	13.78796	22.42233	8.836375	68.74129
6	83.52386	7.273047	9.203093	7.193321	79.01959	13.78708	22.48158	8.789875	68.72854
7	83.43811	7.258277	9.303611	7.270560	78.88715	13.84229	22.63255	8.798190	68.56926
8	83.40799	7.280765	9.311244	7.270588	78.84588	13.88354	22.66113	8.792348	68.54652
9	83.40377	7.285680	9.310548	7.270448	78.84442	13.88513	22.67527	8.791061	68.53367
10	83.40284	7.286157	9.311002	7.270632	78.84427	13.88510	22.68431	8.789771	68.52592

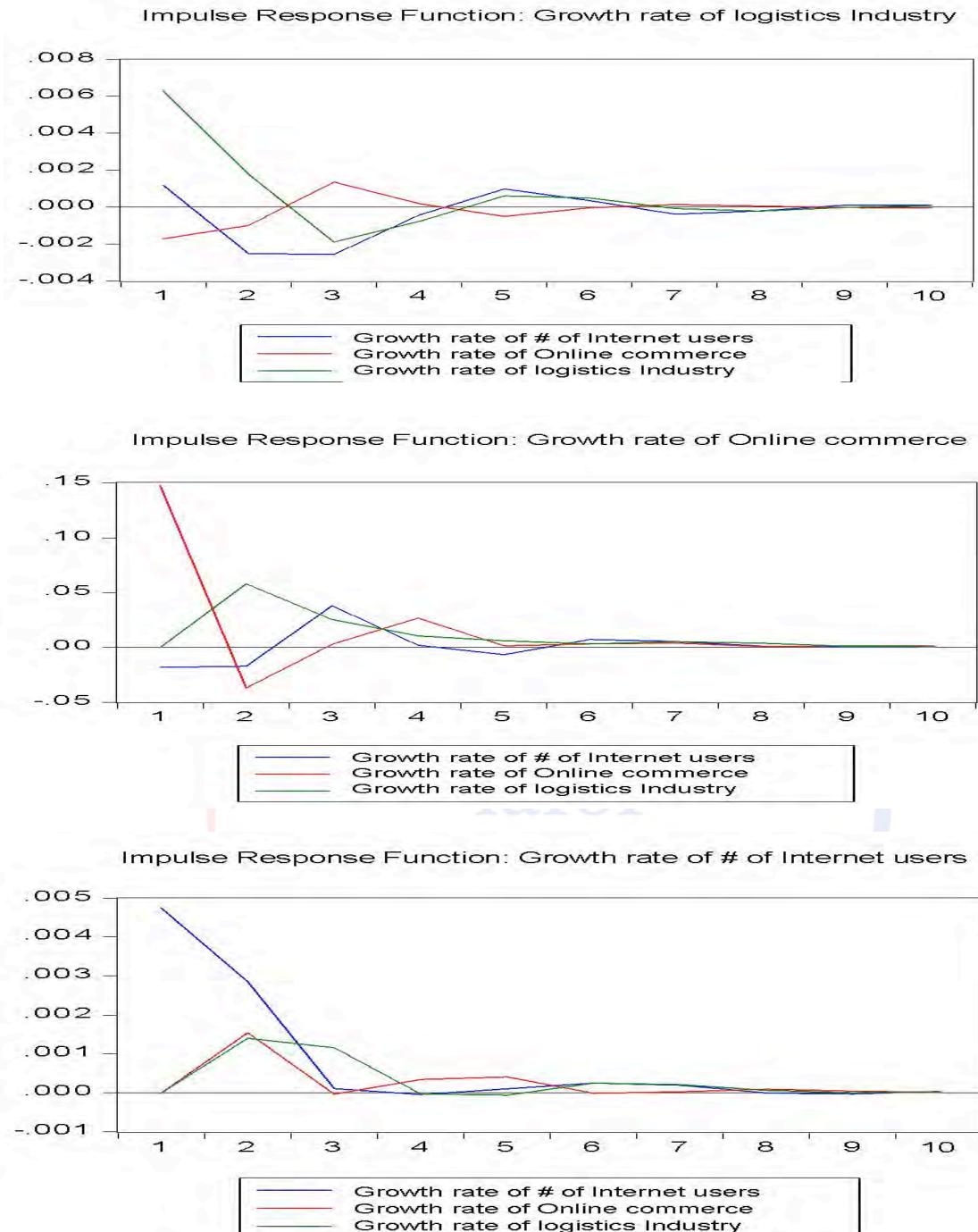


Figure 3 Impulse Response Functions

Finally, the “impulse response function” means that how a specific impulse can influence the developments of endogenous variables. According to the charts above, we find that the growth rate of online commerce will be positively influenced by the growth rate of logistics industry and last at least 4 periods. Besides, the impulse from the growth rate of the numbers of Internet user and online commerce could positively affect the development of logistics industry with 3 periods and 4 periods respectively.

5. Conclusions and Suggestions

In recent years, the development of online commerce has expansion hugely. Some scholars believe that the expansion of online commerce will lead to the development of logistics, and some believe the growth of logistics industry will help the development of online commerce. But there is no previous researches focused on the mutual causality of online commerce and logistics. Thus in this paper, we investigated the possibly coexistence structure(or co-evolution or interdependence) between the development of online commerce and of logistics by applying vector autoregressions(VAR) model.

According to the estimated results of VAR model, we confirm the not only the growth of online commerce will enlarge the scale of logistics industry, but the scale expansion of logistics industry will also support the further growth of online commerce, which prove the co-evolution structure between the online commerce and the logistics industry, even though such mutual causality structure is asymmetric. Furthermore, the mutual Granger Causalities doesn't exist between the online commerce v.s. logistics industry. In addition, the estimation results of variance decomposition also shows that the most fluctuations of endogenous variables can be explained by themselves, and the impulse from the growth rate of the numbers of Internet user and online commerce could positively affect the development of logistics industry.

Such a coexistence structure between two industries offers us some important insights for the policies to develop the emerging industries. Take for our studying results for example, if the policies for promoting the development of online commerce neglect the complementary role of logistics industry in the growing process of it, such policies will not result in some degree of spiral effects between these two industries and the effects of policies might be very slow. On the contrary, if officials in government can admit such mutual causality mechanism and design policies considering the development of these two sections at the same time, which might be much easier to achieve the policy goal because of the spiral mechanism is fired up.

The most limitation of this research is the availabilities of data in the economies scale of online commerce and of logistics industry. Because of the difficulties in data collection, we finally use the quarterly revenue of PC home, the second large online commerce websites portal company in Taiwan as the proxy variable of scale of online commerce. We also use the employees of transportation and storage industry to represent the scale of logistics industry. Even though there are some yearly data for the online commerce and logistics industry, they are too short in time periods to estimate in an econometric model with the loss of degree of freedom in the estimation process. Researches in the future should pay more attention on the adequateness of dataset.

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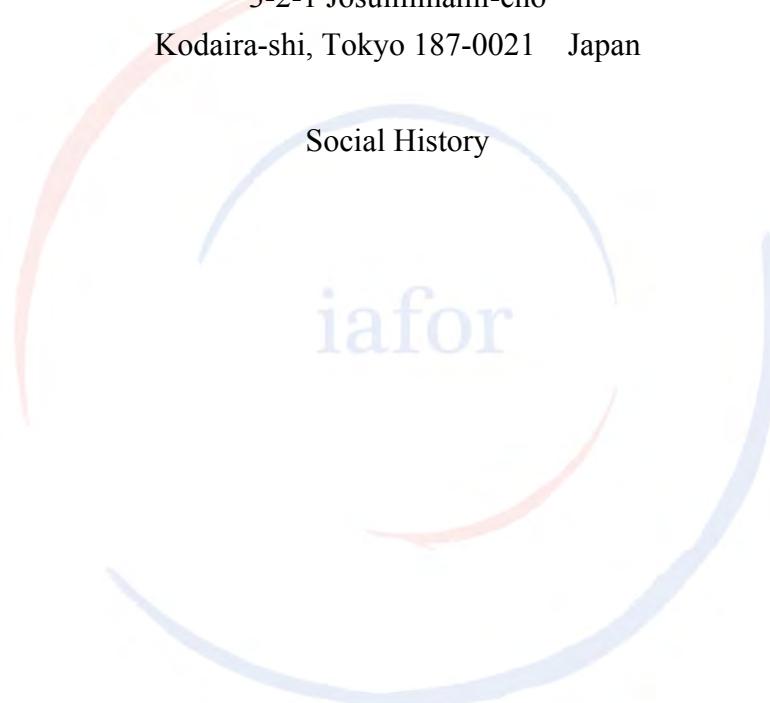
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Intergroup Marriage in a Conflicted Milieu: Marriage between Japanese and
Non-Japanese in the Yokohama Treaty Port

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The Yokohama Treaty Port operated from 1859 to 1899, and was Japan's gateway to the world in the second half of the nineteenth century, having the country's largest overseas trade and international population.¹ In the 1890s, the international population stood at some five thousand.² The international migrants were an amalgam by race and antecedents, drawn from at least seventeen countries globally.³ As a British diplomat described the migrants in the 1860s, they are "...the most curious motley imaginable, English, French, Dutch, German, Italian, Americans, Greeks, Chinese...[Africans] all live together, the most incongruous elements...."⁴ As a visitor wrote in 1891, "...the Old and New Worlds throng Yokohama...and you may hear nearly every known tongue spoken...."⁵ The treaty port was a world of striking ethnocultural diversity. How did marriage between Japanese and the migrants fit into this complex cultural space?

What intimate ties occurred between the two groups? How common was intermarriage and what is known about the marital partners' backgrounds? What is known about couple's experience? How did society receive the mixed marriages?

Below, in giving the names of Japanese, following Japanese usage, surname precedes given name.

Intimate Ties

The treaty port was forced on Japan by various Western Powers, primarily for access to Japan's domestic markets. In these quasi-colonial conditions, Japanese and the migrants no doubt entered into a variety of intimate personal relationships. Three such ties which were especially noteworthy, based upon surviving primary sources, are as follows. First, there was casual prostitution. In 1884, a Japanese newspaper commented: "...we perceive that our women are disposed to emigrate to Yokohama...and many other localities where foreigners are settled, and that there they pursue their profligate trade...."⁶ In the 1890s, some one thousand Japanese prostitutes were in Yokohama.⁷

Prostitution by female migrants in relation to Japanese men also occurred. As one early history of Asian treaty ports noted: "...'China coasters,' as the white harlots...were called....were important elements in...the Far East, and many of them amassed comfortable fortunes by their tours, which usually included all the ports of Japan and of China, Hong Kong, and then Manila."⁸ In 1905, the U.S. consul in Yokohama wrote: "The police report to me that there are now in this city two houses under suspicion of harboring American prostitutes, one contains four women known as Americans and the other two....In addition to these permanent places, there are numbers of women belonging to this class traveling in Japan, and almost every steamer coming from San Francisco brings one or more prostitutes to the Orient...."⁹ In the same year, the U.S. minister to Japan wrote: "The truth probably is that the Japanese prostitute is sufficiently attractive to leave very little demand for Americans or foreigners of any other nationality."¹⁰

Second, there was "temporary marriage" between male migrants and Japanese women, the individuals cohabiting, not legally marrying.¹¹ These arrangements were codified under Japanese law, the woman and man entering into a contract for the woman to be a "wife" for a designated period for an agreed-upon fee. In 1868, an American navy physician stationed in Yokohama wrote: "Let us suppose a case. I am a young bachelor doing business in the place....All I need do is to call on the young lady and hand her \$4, with which she buys a license from the Japanese custom house which entitles her to be my mistress for one month....I now have the right to have connection with the young lady. If she suits me, I tell her I will be her master. I then pay her \$15 to 25 per month and hire a room and servant for her, which costs \$10 per month. Thus at an expense of \$39 I can enjoy all the comforts of a married man."¹² In the 1870s, a migrant observed: "99 of every hundred single [western] men in Japan, had taken a temporary wife."¹³

Third, there was legal marriage, with couples marrying under the law of one or both of the respective home countries. In 1873, the Japanese government passed law permitting Japanese to marry non-Japanese, the marriage to be registered following Japanese legal code.¹⁴ British law may not have recognized marriage performed under Japanese law until late in the century.¹⁵ U.S. consul records show Americans and Japanese marrying under American law as early as 1883.¹⁶ Japanese government records show a marriage between a Japanese and a migrant in the treaty port as early as 1875.¹⁷ Japanese may have married migrants in Yokohama prior to the 1873 Japanese government law. A newspaper in the treaty port of Nagasaki wrote in 1872: "Japanese and foreigners are

beginning to intermarry....there are at least two instances in Japan where foreigners have married Japanese women.”¹⁸

As these observations about casual prostitution, temporary marriage, and conventional marriage suggest, intimate ties between Japanese and the migrants were not simple social acts but nuanced options, shaped by and reflecting a number of dynamics at work in the treaty port world including beliefs about race, attitudes toward gender, dealing with sexual norms, social conventions, economic factors, and addressing political and legal concerns, all grounded within the semi-imperialistic relations which operated in Yokohama. Under the governing treaties, the principle of extraterritoriality applied.¹⁹ In Yokohama, the citizens of a signatory power were exempt from following Japanese law but needed to follow their own national laws. Within this complicated intercultural nexus, some Japanese and migrants chose to marry one another. How many did so and what is known about these individuals’ backgrounds?

Number of Exogamous Marriages and Spouse Background

Unfortunately, no government apparently recorded all marriages by its nationals to non-nationals—nationals marrying according to home country law as well as nationals marrying according to the spouse’s home country law. Total marriages between Japanese and the migrants can be estimated. The Japanese government recorded mixed marriages performed under Japanese law.²⁰ The U.S. consul, as indicated above, did the same for mixed marriages done according to American law.²¹ Americans were the third largest migrant group in Yokohama after Chinese and British, in 1887, the three groups respectively having 256, 634, and 2,573 residents.²² It is not known whether marriage records for the Chinese and British governments are extant. Japanese government and U.S. consul records together list at least 110 mixed marriages.²³ Given this relatively small number of mixed marriages in the two governments’ records, the total number of exogamous unions between all the migrant groups present and Japanese, it is likely, was limited. A projection of a few hundred at most would seem reasonable.

Biographical information is known for some of the spouses in the 110 mixed marriages, allowing for tentative generalizing about the backgrounds of those Japanese and migrants who intermarried.²⁴ From the 110 unions, it is clear migrant spouses were from many lands of origin. Places of origin included Belgium, China, England, France, Germany, Holland, India, Ireland, Jamaica, Malta, Norway, Penang, Russia, Scotland, Switzerland, and the United States.

Almost certainly, most mixed marriages were between Japanese women and male migrants. In 107 of the 110 marriages, the wife was Japanese, the husband, a migrant.

Many, if not most, male migrants in mixed marriages were middle age or older when they married. Marital age is known for 30 of the 107 migrant husbands, average age at time of marriage for the 30 being thirty-eight.

Many, if not most, Japanese women in mixed marriages were under thirty when they married. Marital age is known for 24 of the 107 Japanese wives, average age at time of marriage for the 24 being twenty-five.

Migrant experience pre-arrival Japan is known for 30 of the 107 non-Japanese husbands. At least eleven of the thirty men underwent step migration pre-arrival, lands sojourned in including China, Denmark, France, Germany, Hong Kong, Mexico, and the United States.

These findings collectively suggest mixed marriages may have often been between young Japanese women and male migrants who by age and life experience were “socially mature.” Male migrants who entered mixed marriages may have tended not to be twenty-something-olds just embarking on adulthood.

Finally, to this sketch of exogamous couple background, a word can be added about socioeconomic class. In 1885, L.W. Kuchler, an official at the British consulate, noted about mixed marriages: “...although a few...men...are of good social standing, the greater number belong to the artizan and seafaring classes. The women are, with hardly a single exception, of the lowest class, and...generally...[were] concubine[s] for years before the marriage.”²⁵ Kuchler may have overstated his case but mixed marriage as a rule does seem to have been practiced by local ordinary as opposed to privileged classes.

Couple’s Experience

Why did Japanese and migrants choose outgroup marriage? How “successful” were such unions? As just mentioned, older male migrants may have commonly married Japanese women, and they may have done so in part because of the lack of opportunity to marry within the group. Yokohama, as an overseas trading center, drew many more

men than women, in 1887, some 2,400 male migrants, some 400 female migrants.²⁶ Older male migrants may have found it difficult to compete with younger male migrants to marry ingroup.

But if demography was against older male migrants marrying endogamously, this did not mean such men needed to pursue mixed marriage to experience conjugal arrangements. Given the wide availability of temporary marriage, older male migrants could have their intimate needs met through interacting with Japanese women without marrying them. Sex and domesticity could be purchased as seen fit, certainly a less involved social arrangement than conventional marriage.

No doubt male migrants married Japanese women for a variety of reasons. But the points just made about demography and temporary marriage in combination, however, do suggest the possibility romantic love was a main reason for matches male migrants made with Japanese women. Feelings of attachment could override the attractions of temporary liaison. Unfortunately, no source was found in which a male migrant talks about his reasons for entering a mixed marriage. There is, though, some indirect evidence for romantic feelings being an important factor. Newspaper death announcements and gravestone epitaphs are extant which evoke sentiment being strong in mixed marriage ties. In 1882, one male migrant who had intermarried announced in the newspaper that his “beloved” wife had died.²⁷ Among a total of twenty-two death announcements to appear in the particular newspaper in 1882, only the migrant used a caring descriptor in speaking of the deceased. In 1893, the Japanese wife of a migrant died. The pathos in the epitaph the husband inscribed on his wife’s gravestone seems self-evident: “To the memory of his dear wife....erected by her sorrowing husband....A true woman, a noble mind, a gentle spirit. Faithful unto death and beyond it.”²⁸

Why did Japanese women enter into mixed marriage? Unlike male migrants, Japanese women had marital opportunities ingroup. Assuming L.W. Kuchler’s observation to be accurate that many Japanese women who married migrants were former prostitutes, prostitution did not prevent Japanese women from marrying Japanese men. The American navy physician in Yokohama in the 1860s wrote: “Whenever a Japanese wants a wife, why he hunts up a rich moosmie [young courtesan] and proposes marriage....height of her ambition.....”²⁹ In 1892, a Japanese newspaper wrote: “Of course our geishas and prostitutes are not to be compared with street-walkers in Europe, and to a great extent there is some excuse for men who married hastily among these

classes....”³⁰ Romance may have drawn Japanese women to their non-Japanese partner just as it may have done the same in reverse.

No matter what drew a mixed couple together, once married how successful was the union? Reproduction is known for twenty-six mixed couples, at least twenty of the twenty-six having children. Length of marriage is known also for twenty-six couples, average length of marriage for the twenty-six being sixteen years, nine couples being married more than twenty years.

The fact that mixed couples apparently had offspring and stayed together for decades may also be seen as further evidence of the romantic nature of the matches.

In the Eyes of Society

Mixed couples were not ostracized. They were not segregated—by residential patterns or location of burial plots in the local cemetery.

But they were not fully integrated into local life. The couples were stigmatized, marginalized. Yokohama, with its striking population mix, was highly divided, national, racial, religious, and economic differences deeply splitting the community. As one migrant wrote: our “society is certainly a mosaic...it stands in constant danger of falling to pieces....”³¹ As another wrote: “There are too many kinds of us....You can’t do much uniting in a community that is Chinese, English, American, German, French, Italian, Portuguese, Dutch, Indian, Parsee....Even the white foreigners can’t keep together....”³² Within this conflicted world where seemingly everyone was Other, mixed couples stood out as targets of notoriety.

At play in the social distancing the mixed couples experienced were two main elements. First, there was Western racism. The idea of Western superiority was basic to the treaty port enterprise. As the U.S. minister to Japan wrote in 1899, the year the governing treaties were to expire: Western migrants “...expected trouble under Japanese control; and it is not to be wondered at when it is considered for how many years they have lived in Japan but not of it....They have regarded the Japanese as inferior....”³³ In 1883, a Japanese newspaper commented, the international migrant still “regards the Japanese much as he would regard dirt or a savage.”³⁴

White distancing from Japanese was indeed established practice in Yokohama. Western

migrants customarily did not socialize with Japanese in public. As a local newspaper noted in 1883, “It would be difficult to conceive two communities more complete strangers to each other, so as social intercourse is concerned, than are the Foreigners and Japanese living side by side in Yokohama. They have been within arms length of one another for a quarter of a century and yet they have never shaken hands.”³⁵

The impact of white racism on intimate Japanese-migrant ties—short of formal intermarriage—is clear. Casual prostitution and temporary marriage were in effect extensions of white exploitation and control into the sexual and familial realms. How did these impulses manifest themselves in relation to legal marriage between white migrants and Japanese?

While tentative, a useful distinction might be drawn between European and American response to such unions. As suggested by L.W. Kuchler’s remarks about the inferior social pedigree of Japanese women and male migrants in mixed marriages, some Europeans in the treaty port disparaged the exogamy for reasons of class. There is evidence this thinking persisted. As a recent study of intimate relations between a British military officer and a Japanese woman in early twentieth-century Tokyo observed: the relationship

could be explained as a...physical affair that suited them both, of a sort many had engaged in before....If the couple were now starting to think of what might follow beyond this, they were bound to look at the precedents....Arthur knew there were long-lasting partnerships between European men and Japanese women that fell outside the normal definitions of man and mistress, or “temporary wife”....Western-Japanese marriages were exceptional, though....Their different racial origin ought not to have prevented Arthur and Masa from marrying if and when that point was reached, but Britain and Japan had something...in common, a rigidly hierarchical class system....Masa came from the lower class and was the daughter of a tradesman. Arthur [from the upper class] knew that the differences in their backgrounds were an obstacle, even if other prejudices...could be overcome.³⁶

In 1897, the British minister to Japan noted a rumor about one mixed marriage: the migrant, a longtime respected figure in Yokohama, “had married his wife over a cup of sake! What a tissue of backbiting, gossip and slander seems to be woven here by various people.”³⁷

If for Europeans mixed marriage violated class propriety, for Americans it crossed a biological boundary.³⁸ Interracial intimacy—seen as “mixing” blood—was taboo to most Americans. Marriage law in the United States is mainly at the state level. During the nineteenth century, most U.S. states outlawed interracial marriages. Americans commonly extended this separatist thinking to marriage in the treaty port world. As one young American migrant wrote after seeing a mixed couple on the street: “A Japanese gentleman passed us....the man had an English wife....The lady must have been anxious for a husband....it disgusted me that a member of the Anglo-Saxon race should contrive such intimate relations with a Mongolian. Still this is not as bad as the *American* [emphasis in the original]...girl, blue-eyed, gold-haired, who, mated with a Chinaman. Yes, pigtail, almond eyes and all complete. Disgraceful.”³⁹ As another American wrote upon learning that her uncle, a longtime resident in Yokohama and other treaty ports in Japan, had intermarried: “The news...was...a great surprise....at first, I regretted so much that it had to be known ever by those who loved dear Uncle John...who have always thought of this uncle’s life as almost *perfect* [emphasis in the original], should have to think of this connection with that life, to mar it.”⁴⁰

Second, there was Japanese ethnocentrism. The opening of Yokohama—and other treaty ports in the mid-nineteenth century—was a radical step culturally for Japan. From the mid-1600s until the 1850s, Japan had essentially closed itself to outsiders. The treaty ports, with the interaction they promised with those from abroad, were welcomed by some Japanese, rejected, at times violently, by others. That it took the Japanese government fourteen years after the opening of treaty ports—until 1873—to sanction mixed marriages says something about how vexed outgroup relations remained in late-nineteenth-century Japan. Mixed marriage challenged cultural tradition. It also potentially legitimized the problematic societal arrangements the encroaching Western Powers had forced on Japan through the treaty agreements. Much was at stake through mixed marriage. Writing from the treaty port period by Japanese takes up a number of issues related to such unions. Two newspaper articles, respectively, from 1885 and 1886, help illuminate core concerns for Japanese about mixed marriage.

The 1885 article, an editorial, sees merit in exogamy but believes such matrimony will not become common.⁴¹ Accepting the notion of Western superiority, the editorial calls for Japanese to improve their bodies. “The improvement of the physique of our people is a matter of the highest national importance.” Interbreeding with European stock is

seen, in theory, as the best way to achieve this goal. “Intermarriage with foreign peoples is probably that which will have the most powerful tendency towards the desired end....” But present conditions made this option infeasible. “To hope that intermarriage will prevail all over the country is illusory.” There are two main obstacles to mixed marriage. One is personal sentiment: “[N]ot only are foreign ladies indisposed to enter into matrimonial relations with Japanese, but Japanese dislike them.” Another impediment are the current exploitative treaties. “[I]n the present condition of things the mind of the nation is unsettled, and as yet we are unable to avail ourselves of the beneficial results of treaty revision.”

The 1886 article widens the scope of discussion but reaches essentially the same conclusions as the earlier piece.⁴² “Direct contact with the peoples of Europe and America, and the study of their history, arts, and sciences, have forced upon us the humiliating conviction that we are both mentally and bodily inferior to nations once counted by us a species of educated barbarians....” What was to be done? The writer espouses exogamy as a means of achieving the goal of “race improvement,” but offers two cautions. First, there was the matter of the unfair treaties. There could not be full exchange with outsiders as long as treaty law discriminated against Japan. “[W]e cannot open the country...unless judicial...autonomy be restored to us.” Second, there was the reality of some Japanese not wanting close contact with non-Japanese even if the treaty issues were resolved. The article discusses a proponent of this position, a Mr. Kato. “Mr. Kato admits that the intermarriage of Japanese and European races is productive of good results; but he emphatically rejects such a method of improvement, as being derogatory to the national honour....That we may avoid losing our identity as a race, he would have us develop [sic] our own inherent capacities--which he deems sufficient by themselves to stand us in good stead in the coming struggle for existence between Japanese and Western peoples....” Mixed marriage, at least for some Japanese, was a flashpoint in daily life, putting at loggerheads racial ideology, national and economic interests, and personal feeling towards a possible mate. In words similar to those the U.S. minister to Japan used to describe the treaty port world eleven years later, in 1888, a British visitor spoke of Yokohama as a “No-Man’s land. It is in Japan, and yet not in Japan....”⁴³ For marriage between Japanese and migrants, the port presented a troubled landscape.

Below is biographical information about eight couples in mixed marriages. The information helps ground in individual experience several of the main points presented

above.

Rambert Maigre, French, migrated to Yokohama by 1872, eventually opening a shipyard in the treaty port.⁴⁴ Rambert married, in 1876, Takashima Rin, twenty-five years old, the couple having at least two children. Maigre died in Yokohama in 1879. Takashima operated the shipyard until 1922. She died in the port in 1923.

James Favre-Brandt, Swiss, migrated to Japan in 1863, remaining in Yokohama, where he eventually owned a business in watches and scientific instruments.⁴⁵ Favre-Brandt married, in 1881, at the age of forty, Matsouno Shisa, twenty-eight years old, the couple having at least four children, two being born, respectively, in 1870 and 1875. Matsouno died in 1882. Favre-Brandt died in 1923 in Japan, while on a trip from home.

Anton Geerts, Dutch, migrated to Japan in the late 1860s, taking, in 1877, in Yokohama, a position as a scientific advisor to the Japanese government (Geerts was a medical surgeon).⁴⁶ Geerts married, in 1882, at the age of thirty-nine, Yamaguchi Kiwa, twenty-nine years old, the couple having at least five children, the five being born prior to the marriage. Geerts died in 1883 in Yokohama. Yamaguchi died in Tokyo in 1934.

Nicholas Kingdon, British, spent time in Mexico, migrating no later than 1864 to Yokohama, where he eventually co-owned a trading firm.⁴⁷ Kingdon married, in 1884, at the age of fifty-five, Utagawa Mura, the couple having at least three children, including a daughter born in 1870. Utagawa died in Yokohama in 1892, Kingdon, in 1903.

Robert Meiklejohn, American, migrated no later than 1873 to Yokohama, where he eventually owned a printing business.⁴⁸ Meiklejohn married in 1889, at the age of forty-two, Kurita Yuki, thirty-two, the couple having at least two children, including a daughter born in 1881. Meiklejohn died in Yokohama in 1904, Kurita, in 1909.

William Copeland, American, migrated in 1864 to Yokohama, where he eventually owned a brewery.⁴⁹ Copeland married, in 1889, as a widower in his late forties to mid-fifties, Katsumata Ume, twenty-one. It is not known if the couple had children. Copeland died in Yokohama in 1902, Katsumata, in 1908.

Arthur Otis Gay, American, spent time in China, migrating no later than 1865 to

Yokohama, where he eventually co-owned a trading firm.⁵⁰ Gay married, in 1891, at the age of seventy-one, Hida Toyo, twenty-seven, the couple having at least one child. Gay died in Yokohama in 1901.

Robert Stephan Schwabe, British, spent time in China, migrating in 1868 to Yokohama, where he eventually co-owned a trading firm.⁵¹ Schwabe, married, in 1896, at the age of fifty-five, Miyadera Kinne, forty-seven, the couple having at least three children, born, respectively, in 1877, 1878, and 1889. Schwabe died in Yokohama in 1908, Miyadera, in 1925.

These biographies raise a point suggestive about mixed marriage. Given the timing of birth of some offspring in relation to the just-named marriages, meeting social convention through matrimony was apparently a final choice for some couples. Some couples for years, others for decades, apparently followed their own paths. The final decision to wed may shed light on another reason for marriage besides romance—protecting, under law, children’s inheritance. As a marriage document from 1905 in the records of the U.S. consul speaks about the wishes of one couple: in 1901, the American man and Japanese woman “...entered into a verbal contract of marriage....The result of said marriage...is two male children....The marriage this day [16 January 1905]...is entered into by the parties...for the purpose of confirming the former marriage...and to secure the rights of said children....”⁵² In a world where custom and law worked against realizing mixed marriage, the power of law ultimately could be mobilized to safeguard the rights and interests of the progeny of such unions.

Saida Moyo, nineteen, and Maurice Russell, twenty-two, married in Yokohama in 1879.⁵³ Russell, British, migrated to the treaty port in 1873.⁵⁴ The couple were together until Russell’s sudden death, in the Great Kanto earthquake, in 1923.⁵⁵ Arguably, the most compelling, if not important, arena of human affairs in the opening of Japan was the interaction among ordinary individuals—Japanese and international migrants—on the level of intimate interpersonal relations. On this most human of levels, how did ordinary people from different particularistic groundings come—or not come—together? How were intimate ties forged or not forged?

Regrettably, as in the case with the other couples that entered mixed marriages, few sources survive which help answer these questions for the lives of Saida and Russell.

The couple's experience remains largely beyond the reach of reconstruction. Hints of the experience are extant. Clearly the main framework for the couple's daily life was relative material prosperity. Apparently starting life in the treaty port as business staff member, Russell, for decades, was a successful merchant.⁵⁶ The couple experienced embourgeoisement. What Moyo's and Maurice's experience as a couple was in the middle class in Yokohama remains opaque.

How public were Saida and Russell as a couple about their marriage? Russell was a well-known and active local figure. An obituary noted: "...it was not merely in his business that he was interested. There was no matter touching the welfare of the community in which he did not render assistance. At the time of his death he was Treasurer of the Yokohama General Hospital, a member of the Cemetery Committee...."⁵⁷ Saida's name, in contrast, does not seem to appear on the rolls of local groups. If Saida and Russell were not active as a couple in society, was Saida's inactivity due to choice or exclusion?

How did Saida and Russell make sense of one another's backgrounds? In a newspaper interview in 1909, Russell remarked, when asked about his opinion on the future of business in Japan, native "...industries are waiting for European capital, *but most of all for European supervision* [emphasis in the original]....The Japanese do not know how to pass through the vicissitudes...of early industrial development successfully. Although finally the Japanese may 'get there'...they do not show that grit so necessary for successful work in the early days of commercial development."⁵⁸ How did Russell assimilate what he thought and felt about Saida with what he thought about her "people"?

The same can be asked about Saida. Most especially, how did she make sense of an important element in Russell's identity. Russell was not just a well-off non-Japanese who belonged to the second largest sub-group within the migrant population. If Japanese were "alien" to the migrants, Russell too had the status of Other in the eyes of the majority of those in the migration stream. He was Jewish and publicly active in local Jewish life. At the time of his death, he was president of the local Jewish benevolent association.⁵⁹ Anti-Semitism was a longstanding feature of Western life in the treaty port.⁶⁰ The sense of Jew as "different" was brought to the port by those from the West and took root in everyday life. On the day the treaty port opened, the British minister to Japan had an exchange with a *Japanese* merchant which the minister later described in

these words: ““Why, what does he mean? He asked six itziboos [for his merchandise]...which I have given, and now he wants twelve! What an extortionate Jew!””⁶¹ In 1899, a local Jewish leader wrote to a port newspaper about its coverage: “I...make the most emphatic protest against the gratuitous and unwarranted insult of Jews who now are in Japan, or may come to Japan...your comments must have the effect to stir up racial antagonism....Former articles...showed the same tendency in such a pronounced way that they were commented upon by your contemporaries....”⁶²

Russell—and his co-ethnics—were stigmatized by the general migrant population—just like Japanese were. The obituary cited above took note of Russell’s Jewish antecedents through the following words: “One with whom he had been on intimate terms for the last 40 years speaks of him as an honour to the Hebrew race.”⁶³ Russell needed to come to terms with being “Jewish” in local migrant society. Saida as well needed to understand this side of Russell’s experience. How did she come to grips with Russell’s standing as a minority? Did she convert to Judaism? Did she herself end up “doubly” stigmatized by local Westerners? The historical record is silent on Saida’s thoughts about who Russell was including his religious ties.

Finally, as a mixed couple, what sensibility about cultural difference did Saida and Russell pass on to the offspring—at least seven—which they had.⁶⁴ Did the children embrace their bicultural antecedents? How were they received, for their biculturality, by others? It seems that at least one son married a Japanese woman, the union apparently enduring for decades.⁶⁵

The epitaph on Saida’s gravestone reads: “Beloved Wife.”⁶⁶ The words tell us everything. They also tell us almost nothing. Matches, between Japanese and migrants, were made. Some, maybe most, such unions endured. What we want to know is what did those individuals in mixed marriages “go through”—in society and in their private lives, especially the two partners alone? What united such “cultural” strangers? What did they need to surmount? What “broke” those spouses who did not stay together? We know much less about these matters than we want.

Notes

Abbreviations

DDK	Department of State, United States, Diplomatic Despatches, Japan, Despatches from United States Consuls in Kanagawa, 1861-1897, Record Group 59, File Micropcopy 135
DDY	Department of State, United States, Diplomatic Despatches, Japan, Despatches from United States Consuls in Yokohama, 1897-1906, Record Group 59, File Microcopy 136
GB	Patricia McCabe, <i>Gaijin Bochi: The Foreigners' Cemetery, Yokohama, Japan</i> (London: BACSA, 1994)
JD	<i>Japan Directory</i> (Tokyo: Yumani Shoboh, 1996) Years: 1864, 1865, 1870, 1872, 1892
JWM	<i>Japan Weekly Mail</i>
国際	小山騰『国際結婚第一号』講談社、1995 I am grateful to Reiko Yumura, adjunct professor, Japanese, Komazawa University, for translating the relevant pages (the unnumbered pages between page 262 and page 272, list of marriages [marriage number 1-marriage number 230]).

1. An earlier version of this paper was presented as follows: "He was married with a Japanese lady": Intermarriage between Japanese and Non-Japanese in the Yokohama Treaty Port, 1859-1899," 21st Conference of the International Association of Historians of Asia, Singapore, June 2010; for a valuable introduction to the Yokohama Treaty Port, see: J.E. Hoare, *Japan's Treaty Ports and Foreign Settlements: The Uninvited Guests, 1858-1899* (Sandgate, UK: Japan Library, 1994).
2. *Irish University Press Area Studies Series, British Parliamentary Papers, Japan, Volume 9, Embassy and Consular Commercial Reports, 1892-96* (Shannon: Irish University Press, 1971), 163.
3. *Ibid.*, 429.
4. Hugh Cortazzi, ed., *Mitford's Japan: The Memoirs and Recollections, 1866-1906, of Algernon Bertram Mitford, the first Lord Redesdale* (London: The Athlone Press, 1985), 31.
5. Edwin Arnold, *Seas and Lands* (New York: Longmans, Green, 1891), 161.
6. *JWM*, May 31, 1884, 517.

7. Ibid., September 19, 1891, 337; also see: J.E. De Becker, *The Nightless City or the History of the Yoshiwara Yukwaku* (New York: ICG Muse, 2000), 381.
8. Hallet Abend, *Treaty Ports* (Garden City, New York: Doubleday, Doran, 1944), 17.
9. DDY, roll 4, no. 63, October 4, 1905, Miller to Loomis.
10. Department of State, United States, Diplomatic Despatches, Japan, Despatches from United States Ministers to Japan, File Microcopies of Records in the National Archives: no. 133, roll 81, no. 328, November 6, 1905, Griscom to Root.
11. Gary Leupp, *Interracial Intimacy in Japan: Western Men and Japanese Women, 1543-1900* (London: Continuum, 2003), ix, 152-156, 189-195.
12. Elinor Barnes and James Barnes, eds., *Naval Surgeon, Revolt in Japan, 1868-1869: The Diary of Dr. Samuel Pellman Boyer* (Bloomington: Indiana University Press, 1963), 31.
13. Leupp, *Interracial Intimacy*, 189, 190. For two examples of temporary marriages, see: *JWM*, October 2, 1880, 1,286, 1287; Peter Davies, *The Business, Life and Letters of Frederick Cornes: Aspects of the Evolution of Commerce in Modern Japan, 1861-1910* (Folkstone, UK: Global Oriental, 2008), 27-31.
14. Donald Keene, *Emperor of Japan: Meiji and His World, 1852-1912* (New York: Columbia University Press, 2002), 237; *JWM*, January 24, 1874, 59.
15. Ian Ruxton, ed., *The Diaries of Sir Ernest Satow, British Minister in Tokyo (1895-1900): A Diplomat Returns to Japan* (Tokyo: Edition Synapse, 2003), 156.
16. DDK, roll 14, no. 730, August 28, 1883, Marriage of G.W. Freeman to Gohara Hatsu.
17. 国際, marriage number 11, William A. Crane.
18. *Nagasaki Express*, December 21, 1872, 615; *JWM*, October 18, 1873, 734.
19. James Hoare, “Extraterritoriality in Japan, 1858-1899,” *Transactions of the Asiatic Society of Japan*, third series, 18 (July 1983): 71-97.
20. 国際, list of marriages.
21. DDK; DDY.
22. *Japan Gazette*, August 20, 1887, 3.
23. See note 20 and note 21.
24. For profiles of nine selected couples in mixed marriages, see pages 11-14.
25. L.W. Kuchler, “Marriage in Japan,” *Transactions of the Asiatic Society of Japan* (Tokyo: Yushodo Bookseller, 1964), 134, 135.
26. *Japan Gazette*, August 20, 1887, 3.
27. *JWM*, November 11, 1882, 1,153.

28. *GB*, 23.
29. Barnes, *Naval Surgeon*, 31, 32.
30. *JWM*, March 26, 1892, 413.
31. *Japan Times' Overland Mail*, April 18, 1868, 106.
32. Clarence Ludlow Brownell, *The Heart of Japan: Glimpses of Life and Nature Far From the Travellers' Track in the Land of the Rising Sun* (London: Methuen, n.d.), 77.
33. Jack Hammersmith, *Spoilsman in a "Flowerly Fairyland": The Development of the U.S. Legation in Japan, 1859-1906* (Kent: Kent State University Press, 1998), 219.
34. *JWM*, August 11, 1883, 357.
35. Ibid.
36. Peter Pagnamenta and Momoko Williams, *Sword and Blossom: A British Officer's Enduring Love for a Japanese Woman* (New York: Penguin Press, 2006), 67, 68.
37. Ian Ruxton, *The Diaries*, 156.
38. For this sentence and the next four sentences, see: Chester Proshan, "Maintaining Group Boundaries: The Marital Patterns of Americans in the Yokohama Treaty Port, 1859-1899," *Proceedings of the 8th Annual Hawaii International Conference on Arts and Humanities*, Honolulu, Hawaii, January 2010, 611-627.
39. M. William Steele and Tamiko Ichimata, eds., *Clara's Diary: An American Girl in Meiji Japan, Clara A.N. Whitney* (Tokyo: Kodansha International, 1979), 54.
40. Norman Beecher and Nancy Bartram Beecher, *Fortunate Journey: Our Lives, Our Family, and Our Forebears* (Concord, Massachusetts: Norman Beecher, 1993), 397. For another example of American response to "American"-Asian marriages in Asian treaty ports, see: *JWM*, March 28, 1891, 368, 369.
41. For this paragraph, see: Ibid., May 2, 1885, 416; also see: Ibid., July 10, 1886, 46.
42. For quotations in this paragraph from the 1886 article, see: Ibid., April 24, 1886, 402, 403. For a similar article, see: Ibid., April 24, 1875, 353.
43. Ibid., October 6, 1888, 330; Also see, for example: Arthur Collins Maclay, *A Budget of Letters from Japan: Reminiscences of Work and Travel in Japan* (London: Ganesha Publishing, 2003), 151.
44. For this paragraph, see: *JD*, 1872, 68; *Japan Gazette*, January 15, 1923, 4, 8; Ibid., January 19, 1923, 8; 国際, marriage number 16, Rambert Maigre; *GB*, 382.
45. For this paragraph, see: *Japan Gazette, Yokohama Semi-Centennial*, July 1909, 21-23; *Japan Weekly Chronicle*, August 16, 1923, 231; 国際, marriage number 58,

- James Favre-Brandt; *GB*, 220, 317; *JWM*, November 11, 1882, 1,153.
46. For this paragraph, see: *JWM*, September 1, 1883, 421, 422; *Ibid.*, October 6, 1877, 884; *Ibid.*, September 8, 1883, 459; 国際, marriage number 74, A.J.C. Geerts; *JWM*, February 10, 1883, 81; *GB*, 220.
47. For this paragraph, see: *JWM*, November 14, 1903, 523; *Ibid.*, November 21, 1903, 556; *JD*, 1864, 168; *Ibid.*, 1892, 107; 国際, marriage number 80, Nicholas Phillips Kingdon; *GB*, 425, 426.
48. For this paragraph, see: Department of State, United States, Diplomatic Despatches, Japan, Records of the United States Legation in Japan, 1855-1912, Microcopy no. T-400, roll 59, no. 14, January 6, 1873, Shepard to De Long; *Eastern World*, June 18, 1904, 8; *JWM*, June 18, 1904, 701; DDK, roll 17, no. 170, February 27, 1889, Marriage of Robert Meiklejohn to Kurita Yuki; *GB*, 72, 340.
49. For this paragraph, see: DDK, roll 3, no. 82, February 13, 1902, Death of William Copeland; Mitsubishi Electric, Taste of Japan, William Copeland, 1834-1902, <http://www.mitsubishielectric.com/tasteofjapan/foreigners/copeland/index.html>; DDK, roll 18, no. 194, June 26, 1889, Marriage of William Copeland to Katsumata Ume; *GB*, 30.
50. For this paragraph, see: *JD*, 1864, 155; *Ibid.*, 1865, 238; *JWM*, July 27, 1901, 86, 87; *Eastern World*, July 20, 1901, 8; *Kobe Weekly Chronicle*, July 24, 1901, 78; DDK, roll 18, no. 298 July 12, 1891 Marriage of Arthur Otis Gay to Hida Toyo; DDY, roll 2, no. 57, July 22, 1901, Death of Arthur Otis Gay; *GB*, 66.
51. For this paragraph, see: *Japan Gazette*, January 9, 1908, 4; *JWM*, January 11, 1908, 32; *JD*, 1864, 189; *Ibid.*, 1870, 10; 国際, marriage number 210, R.S. Schwabe; *GB*, 329, 330.
52. DDY, roll 4, no. 226, January 16, 1905, Marriage of James S. de Benneville and Masa Inami.
53. 国際, marriage number 34, M. Russell; *GB*, 279.
54. *Japan Gazette, Yokohama Semi-Centennial*, July 1909, 51.
55. *Japan Weekly Chronicle*, October 4, 1923, 477, 478.
56. *Ibid.*, 477.
57. *Ibid.*
58. *Japan Gazette, Yokohama Semi-Centennial*, 52.
59. *Ibid.*
60. Chester Proshan, “Where Everyone was Other: Jews in the Yokohama Treaty Port, 1859-1899,” *Proceedings of the Asian Conference on Asian Studies*, Osaka, Japan, March 2011, 60-75.

61. Rutherford Alcock, *The Capital of the Tycoon*, Volume I (New York: Greenwood Press, 1969), 145, 146.
62. *JWM*, July 15, 1899, 63.
63. *Japan Weekly Chronicle*, October 4, 1923, 478.
64. *Ibid.*
65. *GB*, 126; see in Devon Mitchells and Some Cornish Too: Maurice Moses Russell, <http://www.devon-mitchells.co.uk/getperson.php?personID=I13&tree=Russia>; George Russell, <http://www.devon-mitchells.co.uk/getperson.php?personID=I26&tree=Russia>.
66. *GB*, 279.



SUSTAINING FAMILY INSTITUTION: AN ISLAMIC PERSPECTIVE.

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Abstract

Islam views the family as a very important institution that should be protected from any element that may weaken it. If the institution cracks or is not stable, it will have a direct impact on society at large. The increase in social problems and criminal activities are among the direct results of unstable marriages. On the other hand, the trend to remain unmarried, avoiding family commitments, will also give a direct impact on the sustainability of the family institution. This paper highlights various safeguards that have been provided by Islamic law in order to ensure that the family institution is protected. The fact that Islam encourages marriage, prohibits celibacy and discourages divorce is highlighted. The roles of parties to the marriage as the key players, as well as the role of their family members in order to keep the marriage intact are examined. The paper also studies the three steps that should be taken by a husband as the leader of the family before resorting to divorce, as provided by the Quran. Finally, the role of the authorities in ensuring the sustainability of the family institution is analyzed.

INTRODUCTION

Islam regards marriage and the family institution as the backbone of society. Without this institution, which has been established from time immemorial, society at large will feel the effect. Islam prescribes in detail how this institution should be protected from various angles and at different levels. In this paper, Malaysian law with respect to the issues discussed is also highlighted. New trends in society which might pose as a threat to the family institution will further enhance the discussion.

THE IMPORTANCE OF THE FAMILY INSTITUTION IN ISLAM

In Islam, the family has always been a major institution in society. From the time of the Prophet Adam a.s., one of the earliest rules prescribed by God was to govern the relationship between man and woman, as at this time siblings were allowed to marry each other.¹ Up to the time of the Prophet Muhammad s.a.w., there are many sayings which show the importance of family and marriage. For example, the Prophet mentions:

¹<http://www.islamweb.net/emainpage/index.php?page=showfatwa&lang=E&Id=87711&Option=Fatwald>
(retrieved on 18 March, 2011)

There are four things which are considered as *sunnah* (way of life) of the Prophet. They are – kohl, perfume, siwak and marriage.²

The importance of the family institution to society can be seen from the analogy below:

The family is needed to ensure a sustained societal health and wellbeing. Societal health presupposes family health. The relation of the family to society is analogous to the relation of each biological cell to the whole body of which it is a part.³

HOW ISLAM ENSURES THE SUSTAINABILITY OF THE FAMILY INSTITUTION

Islam Encourages Marriage

Islam encourages marriage, prohibits celibacy and living together without any marriage relationship. In the Quran Allah mentions:

And marry those among you who are single and (also marry) your good slaves and maid servants. If they be poor, Allah will enrich them out of His Bounty. And Allah is All-Sufficient for His creatures' needs, All Knowing.⁴

There are also many hadith of the Prophet which show how Islam encourages marriage.

Those of you who can support a wife should marry for it keeps you from looking at strange women and preserve from unlawful sexual intercourse but those who are not able (to support) should devote himself to fasting for it is a means of suppressing sexual desire.⁵

Whoever is married, he has indeed perfected half of the religion. He should fear Allah for another half.⁶

The hadith below clearly shows that Islam prohibits celibacy and regards those who do not marry as people who do not follow the *sunnah* (way of life) of the Prophet.

I fast and break my fast, perform prayers and sleep and marry women. Whoever does not follow my sunnah is not from me.⁷

² HR Tirmidzi, Hasan Gharib; <http://www.whyislamisthetruth.com/hadith/short-hadiths.html> (retrieved on 30 March, 2011).

³ Osman Bakar, *The Traditional Family as a Religious and as a Social Institution: Reasserting Its Wisdom in the face of global Threats and Challenges*, Paper presented at International Conference on the Family Institution in the 21st Century: Ideals and Realities held in Kuala Lumpur on 13-14 December, 2010, co-organised by the International Institute of Advanced Islamic Studies (IAIS) Malaysia, The Journalists and Writers Foundation, Turkey and others, p.9.

⁴ The Quran (24:32). See also The Quran (4:3)

⁵ Bukhari and Muslim, http://hadith.worldofislam.info/index.php?page=500_ahadith (retrieved on 28 February, 2011)

⁶ Imam Bayhaqi, www.dakwah.info/utama/wp-content/plugins/download.../download.php?id=5 (retrieved on 28 February, 2011)

One of the important reasons why Islam encourages marriage is to sustain the progeny of mankind and for the survival of human civilization. Allah says:

O mankind! Be careful of your duty to your Lord, Who created you from a single soul and from it created its mate and from them has spread abroad a multitude of men and women.⁸

Another important significance of marriage is the wholesome effect it provides to human beings. Through marriage one attains spiritual, physical, emotional and psychological companionship. This companionship generates and sustains love, kindness, compassion, mutual confidence and solace. It is a legitimate outlet for procreation and happiness as stated in the Quran:

And of His signs is this: He created for you mates from yourself that you might find rest in them, and He ordained between you love and mercy. Lo, therein indeed are portents for folk who reflect.⁹

Islam Discourages Divorce

Islam views marriage not only as a civil contract between two individuals but more importantly as a form of *ibadah* (worship). Thus, the bond created by marriage is very sacred and special in the eyes of Islam. The Quran regards it as a firm and strong covenant.¹⁰ Through a proper marriage relationship, many rights and responsibilities can be upheld and protected. Once this important institution is safeguarded, it is believed that the society as a whole will reap the benefit of it. Thus, as far as possible, marriage should be protected from all kinds of destructive and damaging factors. In the event of conflict, parties should try to resolve their problems with the aim to save the marriage and only resort to divorce as the final way out. This is in line with the hadith of the Prophet which provides that “the most detestable of lawful things in the eyes of Allah is divorce”¹¹. Islam has prescribed in detail the steps that should be taken by parties to the marriage as well as other relevant parties connected to the marriage in dealing with any conflict that might arise.

Roles and Duties of Parties to the Marriage

Husband and wife should work to the best of their ability in order to make sure that their marriage can provide them with the bliss of paradise in this world. One of the important things that needs to be done in order to ensure the smooth running of the marriage is to understand and perform all the responsibilities as accorded by the religion and law. At the same time, both parties may enjoy their rights which are accorded to them because of the marriage. Among the

⁷ Sahih Bukhari; www.islamicity.com/mosque/sunnah/bukhari/062.sbt.html (retrieved on 30 March, 2011)

⁸ The Quran (4:1); See also (7:189).

⁹ Ibid., (30:21).

¹⁰ Al-Quran, Surah An-Nisa' (4:21)

¹¹ Ibn Majah, *Sunan Ibn Majah*, translated by Muhammad Tufail Ansari, 2nd edn., vol.3, New Delhi: Kitab Bhavan, 2003, p. 210.

responsibilities that have to be carried out by a husband are to provide dower (*mahr*) and maintenance to the wife.¹²

Another important responsibility is to treat the wife kindly (*ma'ruf*) as mentioned in the Quran: “And live with them honourably”¹³. According to Ibn Kathir, this means that the husband needs to use kind words when he communicates with his wife and also to observe good conduct as much as he can.¹⁴ As he usually appreciates the same conduct and behaviour on the part of the wife, he should act the same towards her.¹⁵ The Prophet himself as the role model treated all his wives kindly.¹⁶ In order to ensure that all Muslims follow his footsteps, the Prophet in one hadith mentions:

“The best of you is the one who is most kind to his family. I am the most kind to my family among you”.¹⁷

At the same time, the wife must also treat the husband in the same manner. Emphasis is given to the husband in this verse because the husband as the leader of the family must first show a good example to his followers.

Both husband and wife should also take a lesson from the continuation of the same verse which mentions:

“If you dislike them, it may be that you dislike a thing and Allah brings through it a great deal of good”.¹⁸

In the above verse, Allah teaches us that if we dislike something it does not mean that the thing is not good for us. Similarly, in married life, a husband or a wife may find some attributes or characteristics of the spouse that he or she dislikes. Nevertheless, it does not mean that this imperfection is not good. According to Professor Dr. Hamka, every woman in this world has defects and is imperfect.¹⁹ The same applies to men. This is because we are human and not angels. Thus we need to be patient to face this challenge, as surprisingly after some time we may find that the so called ‘bad’ habit will turn out to be good for us. For example, a husband may

¹² Being irresponsible is one of the main reasons for the wife to apply for divorce in Malaysia. See Normi Abdul Malek, *Divorce as a Mode to Resolve Matrimonial Conflict - The First or The Last Resort?* [2010] 3 ShLR 27, pp. 37-39.

¹³ See Al-Quran Surah An-Nisa' (4:19).

¹⁴ Ibn Kathir, Abdullah bin Muhammad, *Tafsir Ibn Kathir*, Jakarta: Pustaka Imam Asy-Syafi'i, 5th edn., vol 2, 2007, p. 259.

¹⁵ See Al-Quran Surah Al-Baqarah (2:228) where Allah mentions "... and they (women) have rights (over their husbands as regards living expenses, etc.) similar (to those of their husbands) over them (as regards obedience and respect, etc.) to what is reasonable, but men have a degree (of responsibility) over them. And Allah is All-Mighty, All Wise". See Muhammad Muhsin Khan and Muhammad Taqiuddin Al-Hilali, *Interpretation of the Meanings of the Noble Quran in the English Language*, 12th edn., Riyadh: Dar-us-Salam Publications, 1995.

¹⁶ There are many incidents to show that the Prophet always treated his wives kindly. For example, narrated Al-Aswad that he asked Aisyah, "What did the Prophet s.a.w used to do in his house?" She replied, "He used to keep himself busy serving his family and when it was the time for prayer he would go to it." See Muhammad Mukhsin Khan, *The Translation of the Meanings of Sahih Al-Bukhari*, 5th edn., Vol. 1, New Delhi: Kitab Bhavan, 1984, p.364.

¹⁷ Ibn Majah, ibid., p.185.

¹⁸ Al-Quran Surah An-Nisa' (4:19).

¹⁹ Abdul Malik Abdul Karim (Hamka), *Tafsir Al-Azhar*, Jakarta: Pustaka Panjimas, vol. 4, 1987, p.302.

find his wife to be a spendthrift. At first this characteristic really disturbs him. Without patience he may have divorced her. Nevertheless, he remains patient and contemplates the wisdom behind this. Finally, he realizes that this is good for him, as only then is he aware of his own weakness that is he is also a person who tends to spend so much money for unnecessary things, but becomes very stingy when it comes to spending money for the cause of Allah. After realizing this, he tries to improve himself and at the same time tries to guide his wife and finally their quality of life is upgraded. This means that both husband and wife should evaluate themselves and not to put the blame totally on the other whenever they face any difficulties or challenges in their marriage. In another verse Allah mentions:

“... and it may be that you dislike a thing which is good for you and that you like a thing which is bad for you. Allah knows but you do not know”²⁰

The situation will be different if the husband in the above case does not exercise his patience and does not try to evaluate himself. He may have divorced his wife after finding out her weaknesses without realizing that the wife might be the best wife given to him by God. This husband will find another wife and unfortunately, with this wife he will still find weaknesses.²¹ In some cases, he may even find a similar form of weakness that existed in the former wife. Thus, his way of solving the problem does not actually resolve the matter. Finally, he is the one who will be the loser as he will never obtain happiness throughout his life.

Dr. Yusuf Qardhawi also mentions that Islam encourages the husband to be realistic and not to expect perfection from his wife. Despite some imperfections in his wife, there are still many other good things that can be attributed to her.²² This is in line with the hadith which mentions:

“A husband should not hate his wife because if he does not like one aspect of her character, he may still like another aspect of her character”.²³

In Islam we are also taught to continuously pray to Allah to help us to face all kinds of challenges in married life. We believe that without the help and blessing of Allah, we on our own cannot do much to make sure that the marriage will run smoothly until it arrives at its destination. Al-Quran mentions:

“Our Lord! Bestow on us from our wives and our offspring who will be the comfort of our eyes, and make us leaders for the pious ones”²⁴

The importance of regular prayer can also be appreciated by the understanding that one of the important duties of Satan is to try as much as possible to cause separation in marriage. One hadith mentions:²⁵

²⁰ Al-Quran Surah Al-Baqarah (2:216).

²¹ Hamka, ibid., p.303.

²² Al-Qardhawi, Yusuf, *Markaz al-Marah fi al-Hayah al-Islamiyyah*, Amman: Dar al-Furqan, 1996, p.105.

²³ See Imam Muslim, *Sahih Muslim*, 1st edn. , vol. 2, Beirut Lebanon: Dar al-Kutub al-Ilmiyyah, 1998, p. 383.

²⁴ Al-Quran Surah Al-Furqan (25:74).

²⁵ Imam Muslim, *Sahih Muslim*, translated by Abdul Hamid Siddiqi, vol. 4, New Delhi: Adam Publishers & Distributors, 1999, pp. 301-302.

“Jabir reported that Allah’s Messenger (may peace be upon him) said: Iblis places his throne upon water; he then sends detachments (for creating dissension): the nearer to him in rank are those who are most notorious in creating dissension. One of them comes and says: I did so and so. And he says: You have done nothing. Then one amongst them comes and says: I did not spare so and so until I sowed seed of discord between a husband and a wife. The Satan goes near him and says: You have done well. A’mash said: He then holds him, embraces him.”

Special Roles of the Husband as the Leader of the Family

Being the leader of the family,²⁶ the husband is accorded with the more important role in order to save the marriage compared to the wife. On the other hand, the wife is expected to become an obedient one, as it is believed that obedience on the part of the wife is one important characteristic that will save a marriage.²⁷ Thus, if the wife commits *nusyuz*²⁸ or becomes disobedient to the husband, such as leaving the matrimonial house without the permission of the husband or withholding her association with her husband,²⁹ the husband might feel that he is no longer be respected and appreciated by the wife and this creates conflict between the parties. If this happens, instead of resorting immediately to divorce as the way to solve the problem, the Quran has provided ways to deal with it, as illustrated by surah An-Nisa’, verse 34. There are a few steps that can be taken by the husband in dealing with *nusyuz* (disobedience). They are:

- (a) to advise the wife
- (b) to refuse to share the matrimonial bed
- (c) to lightly beat the wife.

The first step that needs to be taken in dealing with a *nusyuz* problem is to advise and remind the wife about the responsibility to obey and respect the husband as the leader of the family. This

²⁶ According to Islamic law, the husband is the leader of the family due to several factors including financial (the husband is obliged to maintain the wife and also to pay *mahr* (dower) but he will be entitled to get more proportion in the case of inheritance), physical strength and broad mind. See Al-Quran Surah An-Nisa’ (4:34). See also Al-Quran Surah Al-Baqarah (2:228) where Allah mentions : “... but men have a degree (of responsibility) over them”. See also Al-Qurtubi, *Al-Jami’ li Ahkam al-Quran*, vol. 5, Kaherah: Dar al-Hadith, 2002, p.153; Syaikh Imad Zaki Al-Barudi, ibid., pp. 511-516.

²⁷ In one hadith the Prophet mentions “A believer does not get more benefit of the goods he possesses, after God-consciousness, than a righteous wife. If he commands her, she obeys him, if he casts a glance at her, she pleases him and if he takes an oath against her, she fulfils it and if he is absent from her, she is sincere to him regarding her person and his property”. This means that when there is obedience on the part of the wife, the husband will be satisfied with her and this will strengthen their relationship. See Ibn Majah, ibid., p. 119.

²⁸ The word *nusyuz* comes from the root word *nasyiz* which means high hill. Thus, *nasyiz* means a person who feels that he or she is superior . See M. Ali Ash-Shabuni, *Tafsir Ayat-ayat Hukum Dalam Al-Quran*, translated by Saleh Mahfoed , 2nd edn., vol. 1, Kuala Lumpur: Pustaka Al-Azhar, 1995, p. 816. A wife may feel that she is superior to her husband due to her beauty, wealth, education or social status and thus becomes arrogant and does not want to obey her husband. See Syaikh Imad Zaki Al-Barudi, *Tafsir Wanita*, translated by Samson Rahman, Jakarta: Pustaka Al-Kautsar, 2004, p. 520.

²⁹ See Islamic Family Law (Federal Territories) Act 1984 (Act 303), section 59.

needs to be done with full of love and wisdom. If advice does not work, then the second step is to refuse to share a bed with her. This means that the husband sleeps separately from the wife and avoids having any sexual relationship with her.³⁰ Nevertheless, according to Ibn Abbas, the husband may still share the bed with the wife but does not sleep face to face with her and also avoids having any sexual relationship with her.³¹

If both steps fail, the husband might resort to the third step. This step might appear quite harsh but still it is much better than divorce. Moreover, there are a few conditions that need to be adhered to strictly by the husband before applying this step. The beating should not cause injury to the wife. The husband is prohibited from beating the wife on her face based on the hadith of the prophet.³² According to Ibn Abbas, the husband may only use *siwak* (a stick used for brushing teeth) in order to ensure that the beating should not cause injury to the wife.³³

It must be mentioned here that this beating is very much different to the concept or offence of domestic violence where in some cases the injury is severe. Based on the conditions which need to be strictly adhered to by the husband as illustrated above, it is clear that this beating is only a mechanism in order to bring the wife back to becoming a loyal wife and not with the intention to cause her injury. This way is needed to be applied as this is the best way to solve the conflict if the other two ways do not. Obviously, this way is not applicable to all women but may be applicable to some who may only realize her mistake after being inflicted with some physical punishment.³⁴ What is important to be emphasized here is that if this small punishment can solve the conflict in marriage, it is certainly much better than a divorce which has more bad implications, not only to the family involved, but also to the society at large.

Roles and Duties of Family Members.

If the three methods above still fail to reconcile the parties or it is the husband who causes the problem to the marriage, then the family members from each party who are well respected by them may do their very best to reconcile the parties. Al-Quran mentions:

“If you fear a breach between them twain (the man and his wife), appoint (two) arbitrators, one from his family and the other from her’s; if they both wish for peace, Allah will cause their reconciliation”³⁵

The fact that they are relatives of the parties is an advantage in the sense that they can appreciate the background of the parties involved. Thus, any advice given by them will necessarily take

³⁰ M. Ali Ash-Shabuni, *ibid*, p. 816.

³¹ Al-Qurtubi, *ibid*, p. 155.

³² Muawiyah al-Qushairi reported that the Prophet said: You should also give her food whenever you eat, you should clothe her as you yourself clothe and do not beat her face, do not curse her and do not leave her except at home.”See Abu Daud, *Sunan Abu Daud*, Riyadh: Dar al-Salam, 1999, p. 309.

³³ Al-Qurtubi, *ibid*, p. 157.

³⁴ Syaikh Imad Zaki Al-Barudi, *ibid*, p. 522.

³⁵ See Al-Quran Surah An-Nisa’ (4:35).

into account the nature, family background and situation of the parties. Family members are also generally more sincere and truthful towards the welfare of other family members.³⁶

Roles and Duties of the Authorities

The authorities, as the ‘care-taker’ should also play their roles in helping the parties to solve their problem. Al-Quran mentions:

Allah does command you to render back your trusts to those to whom they are due; and when you judge between man and man, that you judge with justice: verily how excellent is the teaching which He gives you! For Allah is He Who hears and sees all things.³⁷

Thus, if the parties do not get any help from the family members for whatever reason, or efforts made by them to help to resolve the problem still do not work, then they may seek some help from the authorities. In Malaysia, the parties will be referred to various religious offices (Pejabat Agama) throughout Malaysia to handle their problems. In some states, before any application for divorce can be made, parties must produce to the court evidence that their case has been referred to the counseling unit at the religious office.³⁸

If all the efforts to reconcile the parties as explained above are to no avail and it seems that separation is the best way, then only at this stage will the husband or wife make an application for divorce from the court. Section 47 of Islamic Family Law (Federal Territories) Act 1984 (hereinafter referred to as IFLA) states:

“A husband or a wife who desires divorce shall present an application for divorce to the court in the prescribed form ...”

One of the important reasons why divorce can only be done in the court is to ensure that parties only resort to divorce after all efforts at reconciliation fail. This can be seen in section 47 (5) of IFLA which provides:

“Where ... it appears to the court that there is reasonable possibility of a reconciliation between the parties, the Court shall as soon as possible appoint a conciliatory committee consisting of a Religious Officer as Chairman and two other persons, one to act for the husband and the other for the wife, and refer the case to the committee”

This means that even when parties have presented an application for divorce to the court, if the court finds that a possibility for reconciliation is still there, the court will appoint a committee for that purpose. In the case of *Razimah Haneem v Yusuf Hasbullah*³⁹, the petitioner applied for permission to divorce his wife under section 47 of IFLA. In this case, a conciliatory committee was appointed to effect reconciliation. Section 47(6) further provides that when appointing two

³⁶ See further Normi Abdul Malek, *ibid.*, pp. 33-34.

³⁷ The Quran (4:58).

³⁸ For example in the Federal Territory, Kuala Lumpur. See further Normi Abdul Malek, *ibid.*, p. 34.

³⁹ (1993) 9 JH 237.

persons to act for the husband and the wife respectively, the court will give preference to close relatives of the parties who have knowledge about the circumstances of the case. The committee is usually given a period of six months to try to effect reconciliation.⁴⁰ If the conciliatory committee fails to effect reconciliation and divorce has been pronounced by the husband, the marriage can still be continued if the husband *ruju'* (reconciles) with the wife within the period of '*iddah*' (reconciliation period).⁴¹ This is another opportunity given to the husband to save the marriage.

In Malaysia, the husband may only pronounce *talaq* (divorce) in court. This is actually another mechanism to make sure that divorce is only pronounced if there is no other way.⁴² Section 124 of IFLA provides the punishment for the husband who pronounces divorce outside the court. In the case of *Pendakwa Mahkamah Syariah Melaka v Ismail bin Jaafar*⁴³, the husband was charged for the offence of divorcing his wife without the permission of the court. He was found guilty and sentenced to a fine of RM80 or in default three weeks imprisonment. Nevertheless, divorce pronounced outside court will still be effective and must be registered within seven days of the pronouncement of *talaq*.⁴⁴

Thus, from the above discussion it can be seen that Islam promotes marriage and discourages divorce. It has also provided detailed laws in order to sustain family relationship from various angles and at different levels.

HOW ISLAM TACKLES THE NEW TRENDS IN SOCIETY

There are new trends in society which may weaken the institution of marriage such as cohabitation and same-sex marriage. The question is how Islam views these new phenomena? Islam strictly views cohabitation as something unacceptable. Those who commit illegal sexual intercourse are considered as committing a major sin and are subject to severe punishment from God..⁴⁵ Not only Islam prohibits pre-marital sexual relationships but also all other major

⁴⁰ See IFLA, section 47(9).

⁴¹ This means that the husband does not have to remarry the wife. It is enough if the husband says to the wife that he wants to take her back as his wife and resumes cohabitation. Nevertheless, this can only be done after one or two *talaq* has been pronounced. The husband can no longer do so in the case of three *talaq*. See Al-Quran surah Al-Baqarah, verses 229-230. See also IFLA, section 51.

⁴² According to Islamic law, a husband is allowed to effectively pronounce divorce outside the court.

⁴³ (1989) 7 JH 100.

⁴⁴ See IFLA, s.55A. See also the case of *Mejar Mohammed Sultan v Saodah* (1991) 8 JH 266 to find out the role of the court before registering such divorce.

⁴⁵ The Quran provides:"The woman and the man guilty of illegal sexual intercourse, flog each of them with a hundred stripes. Let not pity withhold you in their case, in a punishment prescribed by Allah, if you believe in Allah and the last Day. And let a party of the believers witness their punishment." See The Quran (24:2).

religions in the world including Christianity, Judaism and Hinduism.⁴⁶ Besides this, the effects of living together without marriage are many, encompassing sociology, psychology and law.⁴⁷

Similar prohibition applies in the case of same-sex marriage. The Quran illustrates in many verses pertaining to the severe punishment given to the people of the Prophet Lut a.s. due to their commission of same-sex relationships.⁴⁸ There are other numerous reasons why same-sex marriage does not support the family institution in the eyes of Islam. One obvious reason is that, it is incapable of producing offspring which defeats one of the important purposes of marriage and thus it would have a great impact on the survival of the human race. If the couples resort to adoption as an alternative to have children, their union is not in the best interests of the children as they could never replace the natural father-mother roles in parenting and child-rearing.⁴⁹ Same-sex marriage also endangers society as the practice contributes to the spread of sexually transmitted fatal diseases.⁵⁰

CONCLUSION

Islam highly regards the family institution as the nucleus of society. Everyone who is related to the marriage, from the parties themselves up to the authorities, have their own roles to play in order to safeguard this institution. Thus, it is hoped that if each and everyone plays his specific role to cherish and protect the family institution, this institution will never diminish, but in fact grows stronger for mankind to benefit from it.

⁴⁶Gurganious, Thokozile, *Reasons to not move in together before marriage*, <http://www.helium.com/items/1693745-reasons-not-to-cohabit-before-marriage>, see also http://www.vatican.va/archive/ccc_css/archive/catechism/p3s2c2a6.htm#2335 .(retrieved on 1 April 2011).

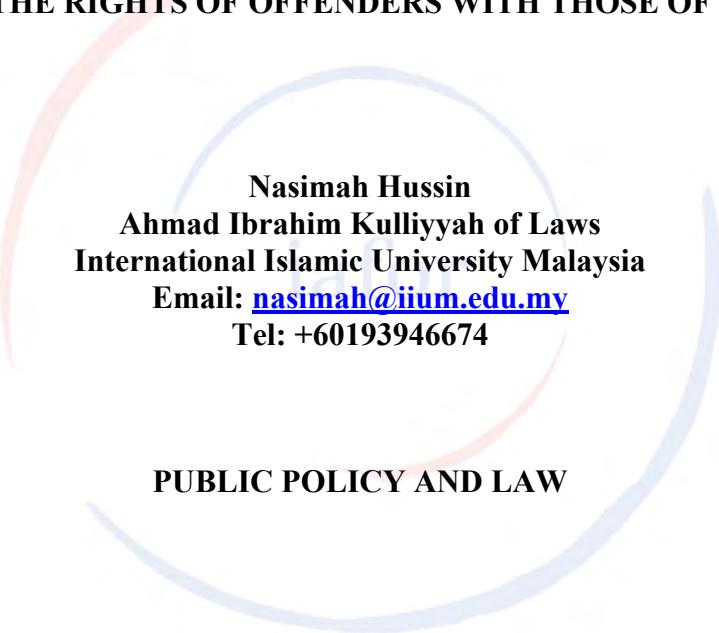
⁴⁷ See Franck, Dennis, *No Marriage? No Ring? No Problem! An Ethical Essay Concerning Unmarried Cohabitation*, http://singles.ag.org/files/cohabitation_issues.pdf, (retrieved on 27 March, 2011); See also Weston, Don, *Twenty Good Reasons Why Not Cohabit Before Marriage*, <http://www.physiciansforlife.org/content/view/242/27>. (retrieved on 20 April 2011); Stets, Jan E, *The Link Between Past and Present Intimate Relationship*, Journal of Family Issues 14 (1993), 236, www.jfi.sagepub.com/content/14/2/236.refs.html, (retrieved on 16 April). ; Popenoe, David and Whitehead, Barbara Dafoe, *Should We Live Together? What Young Couples Need To Know About Cohabitation Before Marriage*, National Marriage Project, 1999, pp. 9-10, <http://www.virginia.edu/marriageproject/pdfs/swlt2.pdf> , (accessed on 14 April 2011).

⁴⁸ See The Quran, (7: 80-84), (11 :77- 83). (15:61-77).

⁴⁹ See Nurul Jannah Muhamad, *The Socio-Legal Aspect of Same-sex Marriage in Malaysian Context*, Master of Comparative Laws's Dissertation, AIKOL, International Islamic University Malaysia, (unpublished), 2010.

⁵⁰See John R. Diggs, Jr., The Health Risk of Gay Sex, Corporate Resource Council, 2002, www.corporateresourcecouncil.org/white_papers/Health_Risks.pdf , (accessed on 6 May 2011), See also N.E. Whitehead, *Homosexuality and Mental Health Problems*, National Association for Research & Therapy of Homosexuality, www.narth.com/docs/whitehead.html, (accessed on 6 May 2011).

**PUNITIVE JUSTICE
IN THE MALAYSIAN CRIMINAL LAW AND ITS SUSTAINABILITY:
BALANCING THE RIGHTS OF OFFENDERS WITH THOSE OF THE VICTIMS**



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PUBLIC POLICY AND LAW

**PUNITIVE JUSTICE
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Punitive justice as exercised in Malaysia today is retributive and rehabilitative in nature. It is a theory of justice that considers punishment as an acceptable response to crime. Many parts of this world use the same theory in their legal documentation. The concept reflects “an eye for an eye” and let the punishment fit the crime. Any criminal act that is committed by the accused is considered as a breach of state’s right and it is not a wrong against the victim. Some argue that the role of criminal justice system should reflect both the offender and the victim involved. The current system’s channel of communication is criminal-centric and it serves as the medium to punish and rehabilitate the offender. It neglects its role to create self consciousness on responsibility and accountability towards the damage that has been done. In addition, as too much emphasis is given with respect to the rights of offenders, the authority tends to ‘invest’ more on them, without any thought of reaping any benefit from the amount expended. Thus, this paper will discuss this scenario in the Malaysian context. It will examine the existing legal framework in Malaysia to check the extent of which it secures the rights of offender and those of the victim and to suggest reforms to the system so that it is responsive and receptive to both parties.

INTRODUCTION

In Malaysia, statistics recorded that there were 984,789 criminal cases through the years 2005 until 2009, i.e. the average of 16413 cases per month and 547 cases per day. The number of reported criminal cases kept on increasing from time to time. In 2009 alone, the number of cases stood at 209417, i.e. the average of 17451cases per month and 582 cases per day.¹ The detailed figures are shown in the table below.

Table 1:

Violent Crimes						
Types of offences	2005	2006	2007	2008	2009	Total
Murder	497	606	590	654	598	2945
Rape	1887	2454	3176	3494	3816	14827
Gang Robbery with firearms	40	67	75	182	128	492
Gang Robbery	1842	2723	7093	21804	24523	57985
Robbery with firearms	317	248	197	76	55	893

¹ Statistics on Crime Index – Whole Malaysia 2005 – 2009, The Royal Malaysian Police.

Robbery	13210	19467	17235	4959	4936	59807
Causing hurt	4246	5843	6793	6648	6682	30212
Total	22039	31408	35159	37817	40738	167161

From the above statistics, it can be seen that violent crime cases which rank highest are robbery, i.e. 59807 cases or 35.8%. The second highest are gang robbery, i.e. 57985 cases or 34.7%, followed by causing hurt, i.e. 18.1% then the offence of rape, i.e. 8.9%, and followed by the rest of the crimes.

Table 2:

Offences Relating to Property

Types of offences	2005	2006	2007	2008	2009	Total
Theft	34317	42472	44646	41215	39874	202524
Theft of Lorry/van	5507	6338	5047	6263	5720	28875
Theft of Motorcar	9711	11154	12428	15198	13888	62379
Theft of Motorbike	51709	65462	67606	67359	61054	313190
Snatch Theft	9617	11074	11106	8205	9687	49689
House breaking Daytime	6923	8792	9160	9118	11396	45389
House breaking Night time	17542	20080	24430	26470	27060	115582
Total	135326	165372	174423	173828	168679	817628

Table 2 reveals that offences relating to property are prevalent. These include theft, house breaking, theft of motor vehicle, snatch theft, etc. The statistics disclosed above are more than enough to describe the seriousness of crime problems in Malaysia.

It can be interpreted from the statistics that if the crime rate is high, the number of the aggrieved parties who are affected by those criminal acts is also large. This is our main concern. The question arises as to what extent the punitive justice manages to curb this problem? Whether the existing law guarantees the rights of the offenders and those of the victims? Do they get fair and just treatment in the present criminal justice system? Are there sufficient remedies to compensate victims' losses and sufferings?

This paper will discuss this scenario in the Malaysian context. It will explain the extent of which the legal protection is given to the offenders and the victims in the existing Malaysian legal provisions.

RIGHTS OF OFFENDERS

Rights of offenders, which range from the right of counsel and a public trial to the right of appeal, are guaranteed by the Constitution of Malaysia, international instrument as well as several other legislative enactments including the Criminal Procedure Code.

In article 5 of the Constitution provides that no person shall be arrested except according to procedure established by law and that such person shall be informed of the reason for his arrest. It further provides that any person held in custody or detained shall be brought before the judge of the nearest competent Court and shall not be further held in custody except upon and in terms of the order of such judge.

In the area of criminal laws and procedure, Article 7 provides the following protections:

- No person shall be punished for an act or omission which was not punishable by law when it was done or made.
- No person shall suffer greater punishment for an offence than was prescribed by law at the time it was committed.
- A person who has been acquitted or convicted of an offence shall not be tried again for the same offence except where a retrial is ordered by a court.

Article 11 sets out that every person shall be presumed innocent until he is proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.

The Criminal Procedure Code also contains several safeguards accorded to the accused commencing from his arrest to the conclusion of the trial. In this process the law also contains several provisions that would ensure a fair trial for the accused.

In terms of punishment, Article 5 of the Universal Declaration of Human Rights provides that no one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment. On this account, UN Declaration of Basic Principles for the Treatment of Prisoners 1990 agreed that prisoners must be treated with the respect due to their inherent dignity and value as human beings and no discrimination on the grounds of race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Criminal justice systems around the world vary, but many include the following rights for offenders:

- The right not to be subject to arbitrary arrest, detention, search or seizure;
- The right to counsel;
- The presumption of innocence;
- The standard of proof (beyond reasonable doubt);
- The right to a public trial by an independent court;
- The right to test the prosecution evidence (e.g., to cross-examine witnesses);
- The right to give and call evidence;
- The right to appeal.

VICTIMS OF CRIME AND THEIR RIGHTS

Victims' rights are cited in one international instrument i.e. the UN Declaration supporting justice for the victims of crime and abuse of power, which was adopted by the General Assembly in 1985.² In the Declaration, nations agreed to draw up action plans to help victims gain better access to legal proceedings, fair treatment, restitution for damages and general assistance in legal proceedings.³

Access to justice and fair treatment

Victims deserve to be treated with compassion and respect for their dignity. They should have access to the mechanisms of justice and should have prompt redress as provided for by national legislation, for the harm they have suffered.

States should create judicial and administrative mechanisms to enable victims to get redress through formal and informal procedures which are fair, expeditious, inexpensive and accessible. Victims should be informed of their rights in seeking redressal of their grievances availing such judicial and administrative mechanisms.

The right to restitution

Offenders or third parties responsible for their conduct should make fair restitution to victims, their families or dependants. Restitution should include the return of property, or payment for the harm or loss suffered, reimbursement of expenses incurred as a result of victimization, the provision of services and restoration of rights.

Restitution should be used to provide a way of offsetting some of the harm done to the victim, and also to provide a socially constructive way for the offender to be held accountable while offering maximum opportunity for rehabilitation. Restitution attempts to establish a relationship between the victim and the offender in an effort to raise the offender's sense of responsibility to the victims and to society. The idea of restitution also attempts to advance a sense of personal accountability to the victim. Some jurisdictions utilize mediation programmes.

Restitution can be implemented in a number of ways at various points throughout the criminal justice process: as a condition of probation, as a sanction in itself, or as an additional penalty. Although restitution is often imposed in a mandatory fashion, it may be entered into voluntarily by the offenders as well.

Attitude of the judiciary towards restitution needs to get changed because in many nations the judiciary thinks that the punishment of the offender alone meet the ends of justice.

The right to compensation

² The United Nation Declaration of Basic Principles of Justices for Victims of Crime and Abuse of Power 1985.

³ For further details see: K.Chokalingam, *UN Declaration of Basic Principles of Justices for Victims of Crime and Abuse of Power*, the 7th Asian Postgraduate Course on Victimology and Victim Assistance, Mito Japan, 2007.

When compensation is not fully available from the offender or other sources, States should come forward to provide financial compensation to:

- a) Victims who have suffered significant bodily injury or impairment of physical or mental health as a result of serious crimes.
- b) The family, particularly the dependants of persons who have died or become physically or mentally incapacitated as a consequence of such victimization.

In reality, in murder case for instance, the victim will no longer earn a living means over his expected future lifetimes. Hundreds or thousands and perhaps millions of dollars in earnings will have been lost. However, the loss to the victim and his family was considerably more than this amount. Any assessment of their loss must account for the tremendous pain, suffering, lost quality of life and grief they have suffered.

The right to assistance

Victims should receive the necessary material, medical, psychological and social assistance through governmental, voluntary, community-based and indigenous means. Information on the availability of health and social services and other appropriate assistance besides access to such assistance should be provided to crime victims.

All relevant agencies such as police, justice, health, social service etc. should receive training to sensitize them to the needs of victims, and guidelines to ensure prompt aid. Care and special attention should be given to the special needs of victims on the basis of the victimization suffered, while providing services and assistance to victims.

BALANCING THE RIGHTS OF OFFENDERS AND THOSE OF VICTIMS IN THE MALAYSIAN CRIMINAL JUSTICE SYSTEM

Article 8(1) of the Federal Constitution guarantees that:

All persons are equal before the law and entitled to equal protection of the law.

The word “persons” in the above may refer to any person including the victim and the offender. Thus, by virtue of this Article, both the offenders and the victims are also guaranteed to get equal rights and treatment before the law. Nevertheless, the status of victim is neither expressly stated in the Federal Constitution nor clearly defined in any legal provisions in Malaysia.⁴

In our system the criminal justice process involving the arrest, trial, conviction and punishment of the accused have little relevance to the victim. Action is taken in the name of the State and not on behalf of the victim. There are no enforceable provisions in the Constitution that are designed to effectively protect a victim of crime. In this background when one embarks on balancing the rights of the offenders with the rights of the victim in the administration of justice, one could see an imbalance with the scales tilted more in favour of the offender than the victim.

⁴ In s.2 of the Domestic Violence Act 1994, “victim” means a victim of domestic violence.

The punitive justice as exercised in Malaysia today focuses more on the punishment that is to be inflicted on the offender. It is a theory of justice that considers punishment as an acceptable response to crime. In many parts of this world, the criminal justice system used to be depicted as a battle between a suspected criminal on the one hand and the state - representing respectable society - on the other. The concept reflects "an eye for an eye" and let the punishment fit the crime.

Generally the offender has no say to settle the case amicably with the aggrieved party once he is arrested. Similarly the victim has no say either to halt the proceeding or to negotiate with the convict. Criminal cases are not handled by the parties involved but it is between the accused and the prosecutor (the state). In some cases which rely on a report made by the victim such as the crime of sexual harassment or defamation the victim will have no chance to reconcile with the offender unless he revokes the police report.⁵ In that case he might lose his right in getting compensation that he possibly will get if the case is settled amicably.

It should be noted that when a crime is committed, it is the victim who is harmed, not the state; instead of the offender owing a 'debt to society' which must be expunged by experiencing some form of state-imposed punishment, the offender owes a specific debt to the victim which can only be repaid by making good the damage caused. The criminal proceeding, however, seems to neglect matter. When the criminal act infringes the right of individual, for instance, voluntarily causing hurt (s.321 of the Penal Code) the convict will be sentenced to imprisonment or fine or both. It is clear that imprisonment is a kind of retribution whilst the fine goes to the government's revenue. The question arises as to what is the compensation available to the victim who has suffered physical pain, fear, trauma, loss of income, medical cost etc. Similarly, in the crimes against property such as theft of motor vehicle (s.379A), whereby the punishment provided for is imprisonment or/and fine. The victim in this case, of course, incurs losses in terms of using the vehicle, the cost to repair it etc. The question arises as to whether the victim has the right to claim restitution from the offender besides the return of property.

It is true that the victim can take a civil suit against the convict to claim compensation but should there be any remedy in terms of monetary compensation from the criminal law itself?

It is a known fact that tort and criminal law are two different areas in the fields of law. As asserted by S.A Alsagoff, it is very surprising to see the law compensate the action in tort which is caused by negligence while ignoring compensation in crime whereby most of it is committed intentionally. Crime is considered a wrong against society while tort is a wrong to the individual. While the prosecution part is handled by the public prosecutor in criminal cases, in tort it would lie with the plaintiff whether or not to bring an action i.e. involving the litigants i.e.; plaintiff and defendants. The law of tort is defined as a wrongful conduct done by one human being to another human being, whether deliberately, intentionally or by way of negligence such as battery, invasion to privacy or intentional infliction on mental suffering. All these kinds of offences

⁵ Subject to approval from the Attorney General's Office.

whether criminal or tort are interrelated in having common results such as physical injury, emotional or psychological injury, pecuniary loss and social stigma⁶.

The current system's channel of communication is criminal-centric and it serves as the medium to punish and rehabilitate the criminal. At the same time, the criminal justice system somehow forgets about its role to create self consciousness on responsibility and accountability towards the damage that has been done. In addition, as too much emphasis is given with respect to the rights of prisoners, the authority tends to 'invest' more on them, without any thought of reaping any benefit from the amount expended. Therefore, the criminal justice system should be responsive and receptive to both parties, i.e. the criminal and the victim. At the same time, the criminal should be responsive to the damage that they have caused, which includes all the different facets of damages, from bodily harm to financial and emotional damages. This is where the line of responsibility will come in.

Imprisonment will only create retributive and punitive sanction in nature. It fails to restore the damage done to the victim. Roughly calculated, our government spent more than million a day for criminals. If this continues, it indicates the concept of social responsibility is lacking. It is therefore submitted that the punishment should not merely focusing on imprisonment per se. Other avenues to compensate the victims in terms of suffering and cost incurred need to be taken into consideration.

Although there are many victimization cases in Malaysia, still the status of victim as neither is not expressly stated in the Federal Constitution nor definition on victim can be tracked in any legal provisions in Malaysia. Furthermore, despite the existence of statutory measures on victim protection like the Criminal Procedure Code (CPC), and the Domestic Violence Act 1994 (DVA), collectively these statutes provide inadequate financial compensation⁷ and provide only physical protection for victims, but not emotional, financial and psychological protection. Conversely, there is also no attractive system for reimbursing transportation, allowances, and accommodation expenses for victims navigating through the criminal justice systems.

In Malaysia, more specific protection for the rights of victims is provided for victims of domestic violence and child abuse. However, there is no such specific legislation that protects the rights of victims of other crimes. It looks as if the victim of other crimes such as rape, murder or robbery etc is neglected in the criminal justice system.

NEW DEVELOPMENT IN MALAYSIA TOWARDS A BETTER CRIMINAL JUSTICE SYSTEM

⁶ Alsagoff, S.A, *Al-diyat as compensation for homicide and wounding in Malaysia*, Kuala Lumpur: IIUM publication, 2006, p.2

⁷ Section 173A CPC provide that the court may order the offender to pay compensation for injury or for loss (in the form of restitution) not exceeding the sum of RM50. the other provision of compensation is section 426 (Order for Payment of Costs of Prosecution and Compensation).

Currently, there are few amendment made to the Criminal Procedure Code⁸ to improve the rights of offenders and uplift those of crime victims. The principal changes are as follows;

- (a) Pre-Trial Conference - section 172A
- (b) Case management - section 172B
- (c) Plea Bargaining - section 172C
- (d) Victim's Impact Statement - sections 173(m)(ii) and 183A
- (e) Proof by written Statement - section 402B
- (f) Proof by Admission - section 402C
- (g) Lesser Restriction for Alibi - section 402A
- (h) Compensation to Victim - section 426(1A)

The above amendment benefits the offenders as well as the victims. Plea bargaining (s.172C) for instance, before the amendment, the courts are judicially prohibited to participate in plea bargaining. There are not bound by the private bargaining between the prosecution and the defence⁹. Plea bargaining is a negotiation between the defendant and his attorney on one side and the prosecutor on the other, in which the defendant agrees to plead "guilty" or "no contest" to some crimes, in return for reduction of the severity of the charges, dismissal of some of the charges, the prosecutor's willingness to recommend a particular sentence, or some other benefit to the defendant. Sometimes one element of the bargain is that the defendant reveal information such as location of stolen goods, names of others participating in the crime, or admission of other crimes¹⁰. Reasons for the bargaining include a desire to cut down on the number of trials thus reduce backlogs, danger to the defendant of a long term in prison if convicted after trial, and the ability to get information on criminal activity from the defendant besides savings of public funds and time.

The interesting part of the system newly introduced is the concept of listening to the victim. The victim would be given a chance to speak and express their grievances through a systematic mechanism use by the court. Previously the victim or his family was not given the opportunity to participate in the sentencing process. The amendment (s.183A) allows Victim Impact Statement (VIS)¹¹ i.e a statement of right given to the victims to appear in court and participate in the criminal justice system. They have been given a right to make a statement on the impact of the offence on the victim or the family such as trauma or harm, economic loss or damages suffered by them. This statement will be taken into consideration in passing the judgment.

Another good news is, this new provision of s.426 (1A) requires the Court, if the Public Prosecutor applies for, to order the convict (or the parent or guardian, in a case of a child) to pay monetary compensation to the victim or the deceased victim's family. In assessing the quantum of compensation, the Court is empowered to hold an inquiry, and specific particulars must be

⁸ The Criminal Procedure Code (Amendment) Act 2010.

⁹ See: New Tuck Shen v. PP (1982) CLJ 38.

¹⁰ For detail discussion on plea bargaining, refer to Micheal Jefferson, Criminal Law, Pearson, 2006, p521.

¹¹ This doctrine is widely applied in most of the countries in the world. Japan has shifted the legal system by bringing in the victims into the court system in 2004. Information gathered from Tokiwa International Victimology Institute, Japan, August 2007.

considered including expenses and losses (including loss of income) suffered by the victim, and the convict's financial capability to meet the compensation.

CONCLUSION

From the above discussion, it can be concluded that Criminal justice system is meant to ensure that an innocent suspect is not unfairly prosecuted or convicted. On the other hand it is designed to strike a balance, in that the interest of the victim in having the perpetrator prosecuted and punished is protected. The existing legislation in Malaysia does have several provisions to protect the rights of the offenders and those of crime victims. However, these provisions are insufficient and limited. Most of the victim-related legislation in Malaysia focuses on the physical protection of victims. Nevertheless, emotional and psychological protections as well as financial compensation are not sufficiently provided.

Any criminal act that is committed by the accused is considered as a breach of state's right and it is not a wrong against the victim. Consequently the victim has little input in the judgment of the court and seems to have little knowledge or comprehension of what is happening in his case. Victims are left only as witnesses. They rarely have a voice in the process. The aggrieved party is not given any option to reconcile with the offender and claim his right against him. If any person commits any crime against the Penal Code, it is a crime that involves the state's right. Therefore the victim cannot interfere in claiming his right directly from the offender.

It should be noted that the court still has the discretion to impose punishment on the offender, where appropriate, if the public interest necessitates it. Likewise, if the offender is convicted for committing a crime that infringes the property or integrity of the victim such as theft or defamation, he should be responsible for the loss incurred by the victim. If he is sentenced with fines, the payment should not go to the government but to the victim instead. However, if the crime infringes the right of the public, the court may consider the plea of mitigation.

It is high time for the authority concerned to incorporate restorative justice as an alternative to punitive justice in the system. Restorative justice is a new movement in the fields of victimology and criminology. It is a process through which remorseful offenders accept responsibility for their misconduct to those injured and to the community that, in response allows the reintegration of the offender into the community. The emphasis is on restoration: restoration of the offender in terms of his or her self-respect, restoration of the relationship between offender and victims, as well as restoration of both offenders and victims within the community.

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The Constitution of Malaysia

The Spread of Japanese Sign Language Among Hearing People:
A Sociolinguistic Outline*

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1. Introduction

The language problems that deaf people face nowadays in many ways exemplifies the plight that has befallen linguistic and cultural minority groups of the world. There are approximately 360,000 hearing-impaired people in Japan, and about 20% of them depend on the use of sign language for intellectual and effective processing and social communication. Although the circumstances surrounding them are still difficult, hearing-impaired people have surmounted various obstacles, finding themselves in an increasingly improved situation in Japan.

Japanese deaf people have played an important role in informing hearing people of the legitimacy of their language and their way of life. Learning Japanese Sign Language (JSL) is now becoming popular among hearing people, while sign language interpretation skills are compulsory for social welfare office workers. To further promote JSL and improve the quality of sign language interpretation, the Japanese Federation of the Deaf (JFD) together with the two sign language interpreters associations: the National Research Association for Sign Language Interpretation (Zen-Tsu-ken) and the Japanese Association of Sign Language Interpreters (JASLI), established a social welfare corporation in Kyoto in 2004 called the National Sign Language Training Center. The center started a national

program of sign language proficiency tests for students of JSL in 2006. In 2010, more than 7,000 people from all over Japan took one of the six test levels offered, from beginners to highly advanced signers.

This presentation describes efforts by the Japanese deaf community to encourage both JSL interpreters and ordinary citizens who learn sign language by offering them proficiency tests and thus promoting better understanding between deaf and hearing citizens.

2. Establishing the Association for Sign Language Interpretation

As sign language activities became more known to the public, sign language interpreting became a bigger issue. A breakthrough came in 1966 when the Kyoto Prefectural Assembly provided sign language interpreting services for a deaf audience while an Assembly person questioned the Governor on issues concerning deaf people. Similarly, in Tokyo, sign language interpretation was provided at a public campaign speech meeting by candidates for the national general election. These episodes had nation-wide repercussions. The importance of sign language interpretation for deaf people was finding its way into the public consciousness (Honma & Kato, 1995).

Deaf organizations resolutely tackled the issue of officially guaranteed sign language interpreting services. They filed petitions and requests with the National, the Prefectural, and the Municipal Governments. In an attempt to gain assistance and cooperation from ordinary citizens, they organized street demonstrations and signature collection campaigns. As a result, the National Government initiated a sign language service volunteer training program in 1970. It also initiated the subsidizing of local governments to work on regional sign language interpreting service programs in 1973 and sign language interpreter dispatch service programs in 1976. Prior to these national initiatives, some local governments had introduced their own sign language service programs and employed sign language interpreters as part-time or full-time public servants. Thus, in 1978, except in remote areas, sign language interpreting was officially guaranteed throughout the country (Honma & Kato, 1995).

As the effectiveness of sign language interpreting in hearing-deaf communication was established, sign language interpreters became more conscious

of their work, and started organizing themselves into a specialist group dedicated to both understanding deaf people and their sign language, and further developing their interpreting skills. In 1974, they established their own national association of sign language interpreting and now two national meetings are held each year, where both discussion and learning activities related to the deaf community take place.

The creation of a national network of sign language interpreters was facilitated by accelerated activities run by local sign language study circles and regional chapters of the national sign language interpreters' association. The association started publishing their own journal, *Issues in Sign Language and Interpreting*, in 1975 to provide information on deaf people, sign language and sign language interpreting.

3. Starting the Proficiency Test for Japanese Sign Language Interpreters

In 1980, the Information and Culture Center for the Deaf, Inc. (ICCD) was established in Tokyo. Later, this center was registered as an information services facility for the deaf under the Tokyo Metropolitan Government in 1991. ICCD aims to advocate for the human rights of people who are deaf and hard of hearing, and to enrich their cultural lives by providing them with various services, projects and programs. One of their services is the offering of a national-level qualification examination and certification for JSL interpreters.

In the past, the Japanese Federation of the Deaf (JFD) had repeatedly filed requests with the Ministry of Welfare (now the Ministry of Health, Labor and Welfare) to certify proficient sign language interpreters as specialists. In 1989, the Ministry responded to these requests by establishing an official certification program. In 1989, the first year, about 200 interpreters were certified.

This nation-wide examination scrutinizes applicants' knowledge of sign language, deaf people and their society, and skills in sign language interpretation. It certifies those who pass the examination as sign language interpreting specialists. The certification examination demands a high degree of specialized knowledge and competence. Therefore, most of the applicants are those who have finished the training programs offered by the national, prefectoral, or municipal governments.

In addition to professional interpreting skills, it examines applicants' understanding of deafness, deaf life, differences between spoken and signed language, and so on. The examination is divided into two parts. The first part focuses on topics, and the second part on skills. Today, the topics which are examined cover: (1) Japanese; (2) basic knowledge of welfare for disabled persons; (3) basic knowledge of hearing-impaired people; and (4) the theory of sign language interpreting. Questions asked about this subject include those on phonology, morphology, syntax, language acquisition, and language in social contexts.

Any JSL trainees who are over 20 years old (20 is the Japanese coming of age) can take the examination. In 2010, 184 interpreters were certified out of the 855 examinees, and the grand total of certified interpreters currently stands at 2,827.

Prior to this certification program, sign interpretation was seen as amateur rather than professional work. This program is therefore a significant step forward in ensuring the professionalism of dedicated and qualified interpreters. Ministry of Labor (now the Ministry of Health, Labor and Welfare) officials participated in the design of the certification program. This was due to the recognition of the need to impress upon government offices and private companies that employ hearing-impaired persons the importance of sign language and sign language interpreting. Consequently, legislation introduced by the then Ministry of Labor promoted the employment of physically-challenged persons. Since the passage of these laws in 1990, the employment of deaf people and the use of sign language in a variety of workplaces have been increasing.

4. NHK's contribution to the spread of sign language

The Japanese Broadcasting Corporation's contribution merit special attention here. NHK's (Japan's only public broadcasting system) Education Channel started the first television program specially designed as a common forum for the nation's 360,000 hearing-impaired people in 1977. Called 'Time for the Hearing Impaired,' the thirty-minute Sunday evening program reports important general news for the first five minutes. In the remaining twenty-five minutes, various topics are presented. Information about occupations, education, people and activities relating to the day-to-day lives of hearing-impaired people is emphasized. Events in the deaf community are also reported. Sign language, finger spelling, speech,

and subtitles are used to ensure the participation of people with different degrees of hearing-difficulties.

Anticipating an increasing number of learners of sign language, the Japanese Broadcasting Corporation also initiated a thirty-minute weekly program for teaching Japanese Sign Language in 1990. Called 'Everybody's Sign Language,' the program reaches every household in the nation. This is probably a first in the world history of television broadcasting. It provides an opportunity for everyone to learn the basics of Japanese signs for everyday use at home. In addition to offering facts and comments intended for better understanding of the experiences of hearing-impaired people, the program is carefully designed to both assist hearing people to become acquainted with signing, and provide hearing-impaired people with new signs and useful expressions.

From the start of the 'Everybody's Sign Language' program, the Japan Broadcasting Corporation also started a five-minute daily news program in-Japanese Sign Language accompanied by Spoken Japanese (now it has grown to a fifteen-minute program). Prior to that, hearing-impaired persons were able to watch sign language news only once a week. Now they are informed of domestic and international news every day. This daily news program also provides a good opportunity for students of sign language to learn many important signs used in news reporting.

5. The National Program of Sign Language Proficiency Tests (SLPT)

As mentioned above, by starting JSL proficiency tests that are certified by the Ministry of Welfare, the status and role of professional sign language interpreters has been improving. Additionally, there are also a great number of amateur sign language interpreters, volunteers, and sign language learners all over Japan. They may join sign language study circles and make friends with deaf people, or learn JSL on several television programs by NHK as described above.

While some of these JSL learners wish to be professional interpreters, others just want to evaluate their level of communication in order to help deaf people or for their own personal satisfaction. For these people, it is very useful to have a testing program designed to measure their JSL proficiency. In fact, being able to communicate with deaf people in sign language is different from being able to work

as an interpreter. The more amateur sign language users, volunteers, and sign language learners there are, the easier and safer it is for deaf people to lead their lives.

In order to meet these social needs, the National Sign Language Training Center started a national program of Sign Language Proficiency Tests of JSL (SLPT) in 2006. All JSL learners are welcome to take this test and there were 7,316 examinees of all ages last year (2010). The next section describes the test in detail.

6. Administration of the SLPT by the Japanese Federation of the Deaf

The test committee consists of the JFD leadership (all of whom are deaf), some non-deaf experts in associated fields, and the leaders of various sign language interpreters associations. This new test is standardized to evaluate and certify the JSL proficiency of non-native signers of all ages. The committee has organized working groups of deaf and hearing people to compile examination questions. The examination is divided into two parts; a written test and a practical test. For the practical examination, the examinee is interviewed in JSL with the interviewers being a deaf person paired up with a hearing person. The interviewers are people who have been recommended by the JFD chapters in each region. In 2010, the JFD chapters in 45 cities and towns were in charge of offering the SLPT all over Japan, and 680 pairs of interviewers administered the test.

Thus, the SLPT is conducted purely by deaf organizations with the support of hearing committees, with the aim being to evaluate examinees' 'communication skills with deaf people.'

6.1. SLPT Test Levels and Comprehensiveness

There are six levels of the SLPT, ranging from level 5 (the lowest) through levels 4, 3, 2, semi-1, and 1 (the highest). The test formats of levels 5 to 3 and levels 2 to 1 are different. While levels 2, semi-1, and 1 test both written and practical skills, levels 5 to 3 only test of practical skills. The test comprehensiveness of each level is as follows (see Table 1):

1. Level 5: The examinees have spent at least six months studying JSL. They are expected to understand at least 200-300 JSL signs and to have mastered an introductory or starter level of communication in JSL. Communicative

competence includes discussing self-introductions, for example.

2. Level 4: The examinees have spent at least one year studying JSL. They are expected to understand at least 500-600 JSL signs and to have mastered a beginner level of communication in JSL. Communicative competence includes discussing family occasions, daily routines, etc.

3. Level 3: The examinees have spent a minimum of one and a half years studying JSL. They are expected to understand at least 800-1,000 JSL signs and to have mastered an elementary level of communication in JSL. Communicative competence includes discussing various experiences in everyday life.

4. Level 2: The examinees have spent a minimum of two years studying JSL. They are expected to understand at least 1,500 JSL signs and to have mastered an intermediate level of communication in JSL. Communicative competence includes discussing life in general and socializing with others.

5. Semi-Level 1: The examinees have spent a minimum of 2 and a half years studying JSL. They are expected to understand at least 2,200 JSL signs and to have mastered an upper-intermediate level of communication in JSL. Communicative competence includes discussing various social activities and some specific topics appropriate for this level.

6. Level 1: The examinees have spent a minimum of three years studying JSL. They are expected to understand at least 3,000 JSL signs and to have mastered an advanced level of communication in JSL. At this level, they are required to communicate on any and all topics using JSL.

6.2. Written Tests for Levels 2 to 1

The written tests for levels 2 to 1 cover the following points:

1. Potential methods of communication with deaf people (e.g., a recognized sign language, lip reading, gesturing, writing) and the functions of each method
2. The anatomy of the ear, hearing disabilities, and the social environment of deaf people
3. The lives of hearing-impaired people
4. The history of deaf people
5. Welfare services for hearing-impaired people
6. A basic linguistic knowledge of sign languages

Level 2 is a multiple-choice test and semi-level 1 is a cloze test. The total number of questions on each test is 25. Level 1 is purely a written test with the examinees giving their own ideas and opinions about the topic shown on the answer sheet. In 2010, the topic was ‘How are the hearing-impaired at a disadvantage during disasters, and what kind of measures do they need to take to prepare themselves?’

6.3. Test of Practical Skill

A test of practical skill and ability is required from examinees of all levels. This test is divided into two parts: the first part is sign language dictation, and the second is an interview. In the interview room, the examinee reads the topic put on the table and gives his/her own ideas in JSL for a few minutes. Then a question and answer session in JSL is held with a deaf and a hearing interviewer. The main points evaluated are: (1) vocabulary, (2) finger spellings, (3) clearness of signing, (4) interpersonal communication skills, and (5) facial expressions. Other minor points may also be taken into consideration.

To pass, the examinee must score a minimum of 70% in each section. A score lower than 70% in any part of the test constitutes a failure. Table 2 shows the relationship between the number of examinees and the pass rate for each level from 2006–2010. Since the SLPT started with 2,103 examinees in 2006, the number of candidates has been rising and a total of 7,316 took the examination in 2010. The test organization expects this number to reach 8,000 for 2011.

7. Improving and Spreading the SLPT

The SLPT exists as the only proficiency test in Japan conducted by a deaf organization which is not just for interpreters, but for all JSL learners of any age. The purpose of the SLPT is to encourage suitably qualified JSL learners and heighten their enthusiasm on understanding deaf people and their language, thereby making it possible for deaf people to participate in more social activities and develop their sign language in a wider social context. In this sense, the SLPT is very important for deaf people in improving their lives. At the same time, they do need to streamline the tests and spread them throughout more hearing communities.

To improve the SLPT, the following points need to be taken into account:

1. Whether the questions for the written tests are appropriate for the level of examinees
2. Whether the practical-skill tests are appropriate for the level of examinees
3. Whether the interviewers can effectively evaluate the examinees proficiency
4. The need to publish textbooks for examinees
5. The need to train deaf and hearing interviewers
6. Better organization of the regional JFD chapters to support the SLPT
7. The need to promote the SLPT is existence to public offices, private companies, and schools, and also explain what tasks individuals with SLPT certification can perform.

The outstanding feature of SLPT is its inclusiveness of all JSL users and learners, and its focus on general communicative skills rather than just vocabulary. As Tables 2-1 and 2-2 show, the test needs more and more interviewers every year, therefore, the training of deaf and hearing interviewers is a very important subject to address. At present, the regional JFD chapters recommend interviewers from among both deaf and hearing people who have taken part in a workshop for interviewers organized by the National Sign Language Training Center. However, most of them have had little experience in evaluating communication skills as an examiner, so those who are recommended are usually the same people every year, and finding new faces for the position is somewhat difficult. The organizer of the SLPT must carefully consider this problem with the JFD regional chapters and figure out a satisfactory solution.

8. Conclusion

In Japan, three important developments have occurred which will further stimulate the efforts to promote the spread of sign language among ordinary citizens. The first is the introduction by the Ministry of Health, Labor and Welfare of a certification program for sign language interpreters, which will considerably enhance their status. The second is the establishment, by the Japan Broadcasting Corporation (NHK), of several sign language television programs. These programs help improve the quality of sign language studies by deaf people and their hearing partners. The third is the administration of Japanese Sign Language Proficiency

Tests (SLPT) for every learner of Japanese Sign Language nationally. Thus, learning JSL is certainly becoming popular among hearing people.

In order that the hearing impaired may secure equal social opportunities and establish sign language as a legitimate language, they particularly need to:

1. develop a sense of self-pride in Deaf Culture and advocate the legitimacy of sign language and the right to use it;
2. encourage a sizable number of hearing people to learn sign language and collaborate with them in helping to spread it;
3. continue to take steps to improve employment opportunities;
4. advocate sign language as a means of instruction in deaf education.

In Japan, deaf people have made remarkable progress in obtaining the above conditions. Yet, since they belong to a minority group in language and culture, it is still hard for them to live in largely hearing communities. It was because of such circumstances that the SLPT began. The obvious linguistic advantages of the SLPT are (1) the learners of JSL would provide a standard for defining and measuring language proficiency that would be independent of specific languages, contexts, and domains of discourse; and (2) scores from these tests would be comparable across different languages and contexts, for example, Japanese, English, Chinese, etc.

Today, the hearing impaired are sufficiently aware of their situation and are seeking equality and self-reliance in their daily lives. Language is the most important tool they have in improving their present situation, so deaf people have continuously been keeping up their actions to spread sign language among the hearing. Due to their efforts, in Japan, the hearing impaired have succeeded in starting the SLPT, and the number of examinees has been steadily increasing.

On March 11th in 2011, Japan was hit by the Tohoku-Pacific Ocean Earthquake and tsunami. Two days after the catastrophic disaster, the Prime Minister and the Cabinet Secretary started to broadcast official statements with Japanese Sign Language interpreters and subtitles (JFD, 2011). This is an important step forward in the familiarizing of Japanese Sign Language, especially during this unprecedented crisis when it was extremely difficult for deaf people to get essential information. The Japanese government's quick response to the state of emergency this time, might show that the government recognizes sign language as 'another

important tool of communication' for Japanese people.

In modern society, it is very common to have differences in language and culture within a nation, but the question of how the minority and the majority understand each other and accept these differences is of great importance. Regarding the hearing impaired and their sign language in Japan, continued efforts by both the deaf and the hearing will certainly set the stage for establishing a 'new Japan'— a nation without any communication barriers.

Table 1. Comprehensiveness of each level of SLPT

Level	period of studying JSL	vocabulary (signs)	comprehensiveness
5 (Introductory)	6 months	200-300	self-introduction
4 (Beginner)	1 year	500-600	family occasions, daily routines
3 (Elementary)	1.5 years	800-1,000	various experiences in everyday life
2 (Intermediate)	2 years	1,500	life in general and socializing with others
Semi-1 (Upper-Intermediate)	2.5 years	2,200	various social activities, specific topics
1 (Advanced)	3 years	3,000	any and all topics

Table 2-1. A Comparison of Examinees and Pass Rates from 2006-2010 (Levels 5-3)

Level	5					4				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Examinees	984	1,156	1,956	2,195	2,310	844	949	1,417	1,960	1,929
Successful Examinees	922	1,120	1,884	2,052	2,253	772	917	1,329	1,856	1,874
Ratio of Success (%)	93.7	96.89	96.32	93.49	97.53	91.5	96.63	93.79	94.69	97.15

Level	3				
	2006	2007	2008	2009	2010
Examinees	/	649	1,047	1,638	1,925
Successful Examinees	/	616	943	1,480	1,788
Ratio of Success (%)	/	94.92	90.07	90.35	92.88

Table 2-2. A Comparison of Examinees and Pass Rates from 2006-2010 (Levels 2-1)

Level	2					Semi-1				
Year	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Examinees	/	236	457	644	797	158	61	95	181	203
Successful Examinees	/	142	341	511	695	31	47	62	162	184
Ratio of Success (%)	/	60.17	74.62	79.35	87.2	83.6	77.05	65.26	89.5	90.64

Level	1				
Year	2006	2007	2008	2009	2010
Examinees	86	91	96	120	152
Successful Examinees	55	70	77	97	112
Ratio of Success (%)	64	76.92	80.21	80.83	73.68

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Introduction

Numerous health benefits have been found to be associated with a diet that is abundant in fruits and vegetables (Neumark-Sztainer, Wall, Perry, and Story, 2003). A strong epidemiological evidence of a protective role for fruits and vegetables in the prevention of cancer (Van Duyn and Pivonka, 2000; World Cancer Research Fund, 1997) and coronary heart disease (Klerk, Jansen,Veer, and Kok, 1998) has been found. WHO indicated that 31% of ischemic heart disease, 20% of esophageal cancer, 19% of ischemic stroke, 19% of gastric cancer, and 12% of lung cancer worldwide could be prevented by increasing dietary intake of fruits and vegetables (WHO, 2004). Low fruit and vegetable consumption was defined by WHO's Panel on Diet, Nutrition, and Prevention of Chronic Diseases as consuming fewer than five servings of fruits and/or vegetables daily. The panel recommends an individual intake of at least 400g of fruits and vegetables a day. The amount is equivalent to five servings of fruit and vegetable (WHO, 1990; WHO/FAO, 2003). Several studies indicated that adolescents' tend to have insufficient fruit and vegetable intake (Baranowski, Cullen, and Baranowski, 1999; Wiecha, Fink, Weicha, and Hebert, 2001). Mongolia is a country of which people living in an environment of more animal food source then plant food source, especially, the lack of fruit and vegetable production. Results from a comparative study indicated that over the past 4 years the average daily servings of fruit (0.8 vs. 0.4) and vegetables (1.6 vs. 1.3) consumed has decreased significantly in Mongolians (Otgontuya et al., 2010). It is important to determine the fruit and vegetable intake and associated factors of middle school students in order to develop effective interventions. The objectives of this study are to assess the prevalence of fruit and vegetable intake among the secondary school students in Mongolia and to determine its associated factors using the questions investigate in the 2010 Mongolia Global Student Health Survey (GSHS). Data for this analysis were performed by SPSS 15. Logistic regression analyses were adopted for predicting fruit and vegetable intake from their associated factors.

Methods

Source of data for this analysis

Data for this analysis were from the Mongolia 2010 GSHS. In 2010, the Mongolian Ministry of Health and the Public Health Institute conducted the first nationwide GSHS under the corporation and assistance from the WHO. The 2010 Mongolia GSHS employed a two-stage cluster sample design to produce a representative sample of 5238 students from grades 7-12 aged 12-18 years old in Mongolia. The GSHS survey questionnaire contains 84 questions including demographics, dietary behaviors, hygiene, violence and unintentional injury, mental health, tobacco use, alcohol use, drug use, sexual behaviors, physical activity and protective factors. For this analysis we selected 17 questions from the questionnaire, 2 for dependents and 15 for independent variables.

Dependent Variables

The two variables related to fruit and vegetable intake served as dependent variables.

1. **Fruit intake.** The question asked ‘Last month how many times per day did you eat fruits (except juice and beverage) such as apple, grapefruit, banana and kiwi?’ The responses were 1 = I did not eat fruit during the past 30 days, 2 = less than one time per day, 3 = 1 time per day to 7 = 5 or more times per day. The responses were recoded dichotomously into 0= less than 2 times (not enough), and 1=2 or more times per day (enough).
2. **Vegetable intake.** The question asked ‘Last month how many times per day did you usually eat vegetables, such as carrots, cabbage and green vegetables?’ Responses were 1 = I did not eat vegetables during the past 30 days, 2 = less than one time per day, 3 = 1 time per day to 7 = 5 or more times per day. The responses were recoded into 0=less than three times per day (not enough), and 1= 3 or more times per day (enough)
3. **Fruit and Vegetable intake.** We merge the fruit intake variable and the vegetable intake variable into a new ‘fruit and vegetable intake’ and recoded it into 0= not enough fruit +not enough vegetable (< 5 times), 1= not enough of fruit + enough vegetable (F+V+), 2= enough fruit+ not enough vegetable (F+V-), 3= enough fruit + enough vegetable (F+V+).
Then students with both adequate in fruit and vegetable intake were classified into the category of adequate fruit and vegetable intake group (FVAD), else were classified into inadequate fruit and vegetable intake group (FVIA).

Independent Variables

Independent variables were classified into 4 categories. They are demographic factors, environmental factors, psychosocial factors, and behavioral factors.

Demographic Factors

1. Gender. 1=Male, 2=Female.
2. Age. The question asked: “How old are you?” The responses were: 1=11 years old or younger, 2=12 years old, 3=13 years old, 4=14 years old, 5=15 years old, 6=16 years old or older. Categories were created into: 1=11 years old or younger and 12 years old (<12), 2=13, 14, and 15 years old (13-15), 3=16 years old or older (> 16 years old).
3. Grade level. The question asked: “In what grade are you?”Categories responses ranging from “1=7th grade” to “6=12th grade”.
The responses were created into: 1=7th grade, 2=8th grade, 3=9th grade, 4=10th grade and 5=11th and 12th grade (11th grade).
4. Body Mass Index (BMI). The BMI are derived from students’ height and weight measurement. Body mass index (BMI) was computed as the individual’s body weight (in kg) divided by the square of his or her height square (in m²). The BMI were coded into: 1= BMI<18.5(underweight), 2=18.5-24.99 (Normal weight), 3= 25.00-27.00 (Overweight) and 4=BMI >27.00 (obese).

Environmental Factors

1. Living location.

The question asked: “Where do you live?” The responses were: 1.Central of city, 2. Rural of city, 3.Aimag center, 4.Soum center, 5.Rural bag. This analysis recoded the responses into two groups, 1= Center of city+ Rural of city, 2= Aimag center + Soum center +Rural bag.

2. Living condition.

The question of living condition was asked “What is your living condition?” The responses were: 1=outdoor in traditional ger, 2=outdoor in the building, 3=dormitory, 4=apartment, 5= private house, 6= some other place.

3. Healthy eating class.

The question asked: “During the school semester, were there any class talk or teach about eat healthy?” 3 responses ranging from 1=“Yes” 2=No and 3=“I do not know”.

4. Physical education class.

The question asked: “During this school year, on how many days did you go to physical education (PE) class each week?” The responses were: 1=0 days, 2=1 day to 6=5 or more days. The responses were recoded into: 1=0, 1, and 2 days (less PE), 2= 3, 4 and 5 or more days (more PE).

Psychosocial Factors

1. Weight concerns

Weight satisfaction. The question asked: “What do you think about your weight?” The 5 responses were: 1= “very skinny” 2=skinny, 3=normal weight, 4= slightly overweight, 5= “very overweight.” The responses were recoded into 3 groups: 1=very skinny and skinny (underweight), 2= normal weight, 3=slightly overweight and very overweight (overweight).

2. Feel hunger.

The question asked: “Last month how often did you feel hungry because there is not enough food at home?” The responses were: 1=Never feel hungry last one month, 2= Rarely, 3=Sometimes, 4= Usually, 5= Always. The responses were coded: 1= never and rarely, 2= sometimes, 3= usually and always.

Behavioral Factors

1. Breakfast frequency.

The question asked: “Last month how many times did you eat breakfast?” responses for this question were: 1.Never, 2.Rarely, 3.Sometimes, 4.Usually, 5.Always. The responses were coded: 1=never and rarely, 2=sometimes and usually, and 3= always.

2. Fast food intake.

The question asked: “Last week how many days did you eat in a fast food from restaurant such as chips, pizza and burger?” The responses were: 1=0 days, 2=1 day, 3=2 days to 8= 7 days. The responses were created into: 1= 0, 1 day and 2 days (<3 days), and 2=3, 4, 5, 6 and 7 days (3 or more days).

3. Soft drink intake.

The question asked: “Last month how many times per day did you usually drink carbonated soft drinks, such as coca cola, pepsi or national Terelj?” The responses were: 1. I did not drink carbonated soft drinks during the last one month, 2. Less than one time per day, 3=1 time per day, 4=2 times per day, 5=3 times per day, 6= 4 times per day, 7= 5 or more times per day. The responses were created for 1=I did not drink carbonated soft drinks during the last one month and less than one time (<1time), 2=1, 2, 3, 4 times and 5 or more times (1 or more).

4. Physical activity.

Leisure time physical activity was assessed by asking participants: "During the past 7 days, on how many days were you physically active for a total of at least 60 min per day?" The responses were: 1=0 days, 2=1 day, 3=2 days to 8= 7 days. The responses were coded: No =0 to 6 days; Yes=7 days.

5. Time spent on sitting.

Leisure time sedentary behavior was assessed by asking participants about the time they spend mostly sitting when not in school or doing homework: "How much time do you spend during a typical or usual day sitting and watching television, playing computer games, talking with friends, or doing other sitting activities?" The responses were: 1.Less than 1 hour, 2. 1 to 2 hours, 3=3 to 4 hours, 4=5 to 6 hours per day, 5=7 to 8 hours per day, 6=More than 8 hours per day. The responses were created into: 1=less than one and 1 to 2 hours per day (< 3 hours), 2=3 to 4, 5 to 6, 7 to 8 hours per day and more than 8 hours per day (3 or more hours).

Data Analysis

Data were analyzed using SPSS version 15.0. Prevalence of fruit and vegetable intake are expressed by N and %. Associations between 2 categorical variables are analyzed by cross tabulations and related significant tests (Pearson χ^2 and Fisher exact test). We used binary logistic regressions to predict fruit and vegetable intake from the independent variables. Odds ratio (OR) and 95% CI of OR are used to indicate the association between the predictor (independent variable) and the predictive (fruit and vegetable intake). Level of statistical significant was set at $P<.05$.

Results

1. Prevalence of fruit, vegetable and combined fruit and vegetable intake

Overall, 32.6% of the students did not eat fruit, 13.4 % did not eat vegetables. Less than 5% (3.7%) of students stated their consumption at fruit while 7.3% vegetable three times per day, respectively. Only 1.2% and 2.2% students ate fruit and vegetable four times per day. In addition, 3.4 % of students reported that when they ate fruits such as apples, grapefruit, bananas and kiwi 5 or more times per day, the rate rose to 10.4% when they ate vegetables were consumed at the same rate.

According to WHO, to be health, students have to eat fruit 2 or more, vegetable 3 or more times per day, and 5 or more times fruit and vegetable daily. One in six students (16.9%) usually ate fruits 2 or more, and 19.9% usually ate vegetables three or more times per day during the past month. Overall, 70.3% of students ate fruit and vegetable less than five times per day during the past 30 days. Only 7.6% of students met WHO recommendations for fruit and vegetable consumption of five or more times per day (Table 1).

Table 1

Distribution of fruit intake, vegetable Intake and combined fruit and vegetable intake of the students

Intake	Fruit N (%)	Vegetable N (%)	Fruit and Vegetable N (%)
--------	----------------	--------------------	------------------------------

<i>Original measurement</i>		
Did not eat	1707 (32.6%)	701 (13.4%)
Less than one time	1573 (30.0%)	1109 (21.2%)
1 time per day	1060 (20.2%)	1510 (28.8%)
2 times per day	447 (8.5%)	845 (16.1%)
3 times per day	192 (3.7%)	380 (7.3%)
4 times per day	64 (1.2%)	116 (2.2%)
5 or more times per day	180 (3.4%)	547 (10.4%)
<i>Fruit intake recoded into 2 groups</i>		
Not enough (<2 times)	4340 (82.9%)	
Enough (≥ 2 times)	83 (16.9%)	
<i>Vegetable intake recoded into 2 groups</i>		
Not enough (<3 times)		4165 (79.5%)
Enough (≥ 3 times)		1043 (19.9%)
<i>Combined counting the fruit and vegetable intake</i>		
FV ^a		3682 (70.3%)
FV ^{+b}		640 (12.2%)
F ⁺ V ^c		474 (9.0%)
F ⁺ V ^{+d}		399 (7.6%)

^aneither Fruit nor Vegetable Enough

^bFruit not Enough but Vegetable Enough

^cFruit Enough but Vegetable not Enough

^dboth Fruit and Vegetable Enough

2. Factors Associated with Fruit and Vegetable Intake

Demographic Factors

Less than 10% of male and female students reported eating enough fruit and vegetable. Males (8.7%) were more likely than females (6.9%) to eat enough fruit and vegetable ($p=.016$). Adequate intake of fruit and vegetable decreased as students advanced by grades. On the other hand, the percentage of those attaining the level of 5 or more times fruit and vegetable was seen with increasing grade levels. Only 3.7% of eleventh grade students ate 5 or more times fruit and vegetable intake daily. Grade was associated with intake of fruit and vegetable ($p=.001$).

In this study, 14.4% were 12 years or younger, 9.0% of students 13-15 years old and reported eating fruit and vegetable 5 or more times daily. Only 4.6% students at 16 years old or older ate fruit and vegetable 5 or more times daily. Age was associated with fruit and vegetable intake ($p<.001$). BMI was associated with fruit and vegetable intake ($p<.001$). In addition, overweight students ate lower percentages of fruit and vegetable 5 or more times daily.

Environmental Factors

Table 2 shows that 8.7% (202) of urban and 6.8% (195) of rural students ate enough fruit and vegetable daily. Enough fruit and vegetable intake was higher among students who live in an apartment (9.7%) than among students who live in a dormitory (5.3%). Living condition was significantly associated with fruit and vegetable intake ($p<.05$). During the school semester, 8.5% of students said that they were taught about healthy eating, 6.5% of students answered that they had

had any healthy eating class in school and ate enough fruit and vegetable. During this school year, 12.6 % of students who went to physical education class 3 or more times each week ate enough fruit and vegetable preceding the survey. Physical education classes were associated with fruit and vegetable intake ($p<.01$).

Psychosocial Factors

Overall, 7.2 % of students consider themselves as “overweight” whereas 7.0% feel “underweight” and they reported eating enough fruit and vegetable during the last 30 days. There was no association between weight satisfactions and fruit and vegetable intake ($p=.512$).

During the past 30 days period, 10.4 % of students described prolonged hunger, 3.7% of students were sometimes hungry, and 8.1% were never hungry and reported eating enough fruit and vegetables. The sensation of hunger was associated with fruit and vegetable intake ($p<.001$).

Behavioral Factors

Breakfast frequency was associated with intake of fruit and vegetable ($p<.001$). Almost one in ten (9.5%) students always ate breakfast, 4.7% of students sometimes partook, and 6.0% did not eat breakfast during the last month and reported eating enough fruit and vegetable. Soft drink intake was associated with intake of fruit and vegetable ($p<.001$). Among the approximately 4% of students who drank carbonated soft drink less than one time per day in the past month ate enough fruit and vegetables. Nearly, 16% of students who drank soft drink one or more time per day during the last 30 days ate enough fruit and vegetables.

According to our study, 6.3% of respondents ate fast food less than 3 times, 13.5% of respondents ate fast food 3 or more times per day over the preceding 7 days ate enough fruit and vegetable. Fast food intake was associated with intake of fruit and vegetable ($p<.001$).

Overall, 9.4% of students were physically active throughout week the studied and ate enough fruit and vegetables. An association was found between physical activity and fruit and vegetable intake ($p<.001$). Overall, 7.9% of students spent 3 or more hours per day at seated activities during a typical or usual day and ate enough fruit and vegetable. These activities were not associated with fruit and vegetable intake ($p=.648$).

Table 2

Distribution of Fruit and Vegetable Intake by Demographic, Environmental, Psychosocial, and Behavioral Factors

Variable	Fruit Vegetable		P value
	Not enough N (%)	Enough N (%)	
<i>Demographic Factors</i>			
Gender			
Male	2045 (91.3%)	194 (8.7%)	
Female	2726 (93.1%)	201 (6.9%)	.016
Grade			
7 th grade	1171 (87.6%)	165 (12.4%)	
8 th grade	1214 (91.8%)	108 (8.2%)	
9 th grade	843 (94.2%)	52 (5.8%)	
10 th grade	787 (95.3%)	39 (4.7%)	.000
11 th grade	727 (96.3%)	28 (3.7%)	

Age			
<12 years old	190 (85.6%)	32 (14.4%)	
13-15 years old	2815 (91.0%)	280(9.0%)	
>16 years old	1773 (95.4%)	85 (4.6%)	
BMI			
underweight	1411 (90.7%)	145 (9.3%)	.000
normal	3103 (93.1%)	230 (6.9%)	
overweight	104 (93.7%)	7 (6.3%)	
obese	55 (90.2%)	6 (9.8%)	.024
<i>Environmental Factors</i>			
Location			
Urban	2116 (91.3%)	202 (8.7%)	
Rural	2657 (93.2%)	195(6.8%)	.012
Living condition			
Ger in the khashaa	1570 (93.2%)	114 (6.8%)	
Building in the khashaa	1576 (92.2%)	133 (7.8%)	
Dormitory	428 (94.7%)	24 (5.3%)	
Apartment	961 (90.3%)	103 (9.7%)	.029
House	216 (90.8%)	22 (9.2%)	
Some other place	29 (90.6%)	3 (9.4%)	
Healthy eating class			
Yes	2559 (91.5%)	238(8.5%)	
No	1537 (93.5%)	106(6.5%)	
I do not know	686 (92.7%)	54(7.3%)	.042
physical education class			
<3 days	4582 (92.6%)	368(7.4%)	
3 or more days	180 (87.4%)	26(12.6%)	.006
<i>Psychosocial Factors</i>			
weight satisfaction			
underweight	812 (93.0%)	61 (7.0%)	
normal	3139 (92.0%)	273(8.0%)	
overweight	834 (92.8%)	65 (7.2%)	.512
Feel hungry			
Never	4019 (91.9%)	356(8.1%)	
Sometimes	621 (96.3%)	24 (3.7%)	
Always	146 (89.6%)	17(10.4%)	.000
<i>Behavioral Factors</i>			
breakfast			
didn't eat	853 (94%)	54(6.0%)	
sometimes	1182 (95.3%)	58(4.7%)	
always	2744 (90.5%)	287(9.5%)	.000
Softdrink			
<1 time	3554 (95.5%)	167(4.5%)	
1 or more times	1239 (84.3%)	231 (15.7%)	.000
Fastfood			
<3 days	3928 (93.7%)	263(6.3%)	
3 or more days	850 (86.5%)	133(13.5%)	.000
Physical activity			
No	3892 (92.8%)	303(7.2%)	
Yes	865 (90.6%)	90(9.4%)	
time spend on sitting			
<3 hours	2795 (92.5%)	228(7.5%)	
3 or more hours	1986 (92.1%)	170(7.9%)	.021
			.648

3. Predicting Fruit and Vegetable Intake from All Factors

In order to examine predicting fruit and vegetable intake from all independent variables binary logistic regression models were constructed to further analyzes the association of

combined fruit and vegetable intake with other variables. Table 3 presents the contribution of predictor variables to the logistic regression models.

Compared to 7th grade, 8th-grade students were .646 times (OR=.646, 95% CI=.490-.852), 9th-grade students were .494 times (OR= .494, 95% CI=.345-.709), 10th-grade students were .379 times (OR=.379, 95% CI= .256-.560), and 11th-grade students were .350 times (OR=.350, 95% CI=.226-.541) as likely as to eat adequate fruit and vegetable.

Students who sometimes felt hungry were .531 times as likely as to have adequate fruit and vegetable intake compared with the students who did not feel hungry (OR=.531, 95% CI= .335-.841). Students who always ate breakfast over the month were more likely to have adequate fruit and vegetable intake than those who never partook of this meal (OR= 1.729, 95% CI=1.217-2.456).

Students who drank carbonated soft drinks once or more were more likely to have adequate fruit and vegetable intake than students who drank carbonated soft drink less than once over the preceding month (OR=3.615, 95% CI= 2.878-4.541). Students who ate fast food 3 or more times per day were more likely to eat adequate fruit and vegetable intake than those who ate it over 7 days (OR=1.903, 95% CI=1.485-2.437). Students with regular physical activity were more likely to have adequate vegetable intake than students with no regular physical activity (OR= 1.339, 95% CI=1.026-1.747).

Table 3

Predicting Fruit and Vegetable intake from all independent variables

Variable	Fruit and Vegetable				
	B	Wald	OR	95%. CI	P value
Grade					
7 th grade (ref)					
8 th grade	-.437	9.597	.646	.490-.852	
9 th grade	-.705	14.682	.494	.345-.709	.000
10 th grade	-.971	23.562	.379	.256-.560	
11 th grade	-1.050	22.299	.350	.226-.541	
Feel hungry					
Never (ref)					
Sometimes	-.632	7.270	.531	.335-.841	.015
Always	.276	.789	1.318	.716-2.426	
breakfast					
Never (ref)					
Sometimes	-.132	.366	.876	.571-1.344	.000
Always	.547	9.325	1.729	1.217-2.456	
Softdrink					
<1 time (ref)					
≥1 times	1.285	122.008	3.615	2.878-4.541	.000
Fastfood					
<3 days (ref)					
≥3 days	.643	25.945	1.903	1.485-2.437	.000
Physical activity					

No (ref)					
Yes	.292	4.616	1.339	1.026-1.747	.032

Variables not in the equation: age, BMI, gender, location, living condition, healthy eating class, and physical education class.

Discussion

Prevalence of Fruit and Vegetable Intake

In this study, less than 10 % of the students consumed fruits and vegetables 5 or more times per day. That means the prevalence of enough fruit and vegetable consumption for Mongolian students was 2.3-5.9 times less than that of their counter parts from countries all other countries, such as Philippines (24%, 2003), Thailand (33.8%, 2008), Indonesia (24.9%, 2007), Libya (12.6%, 2007), Jordan (24.7%, 2004), Uganda (19.8%, 2003), and Seychelles (45%, 2007). This may be related to nation's traditional eating style. Traditionally, Mongolian was a nation of Nomadic with food predominantly from animal sources. However, not all nomadic nations have lower level of fruit and vegetable intake. Take students from Urumqi -a nomadic area in western China as an example, the percentage of fruit and vegetable for students from Urumqi (25.9%) was much higher than that of Mongolian students. The prevalence of fruit and vegetable intake for students from Urumqi was found to be even higher than those from non-nomadic area such as Hangzhou (21.9%) and Wuhan (18.1%) in China.

Results from the Global School-Based Health Survey (GSHS) from seven African countries which showed that children (22.5%) consumed recommended five or more servings of fruits and/or vegetable. This African study showed that Swazi, Ugandan and Senegalese school children had the most insufficient “five or more servings fruits and/or vegetables”, 18.4%, 19.8 and 20.3%, respectively, and Tanzanian, Zambian and Botswana children (43.2, 31.4 and 28.5%, respectively) (Peltzer and Pengpid, 2010).

Factors Associated with Fruit and Vegetable Intake

In this study, we classified the variables to be potential factors for fruit and vegetable intake into 4 groups. Through the binary logistic regression analysis, we have found that among the demographic, environmental, psychosocial, and behavioral factors only grade, feel hungry, breakfast frequency, soft drink, fast food intake, and physical activity predicted the fruit and vegetable intake of the students.

This study found higher grade students were more likely to have inadequate fruit and vegetable intake than lower grade students. Compared to 7th grade, 8th-grade students were .646 times (OR=.646, 95% CI=.490-.852), 9th-grade students were .494 times (OR= .494, 95% CI=.345-.709), 10th-grade students were .379 times (OR=.379, 95% CI= .256-.560), and 11th-grade students were .350 times (OR=.350, 95% CI=.226-.541) as likely as to eat adequate fruit and vegetable. Peltzer and Pengpid found that inadequate fruit consumption was associated with higher education (OR = 1.56, P = .001), however inadequate vegetables consumption was associated with having less education (OR = 0.73, P = .002). Similarly, higher grade students tend to eat inadequate fruit than fifth graders, but younger graders were at greater risk for vegetable intake (Jiménez-Cruz et al., 2002). Prättälä et al. 2006 found that educational level was not associated with vegetable

consumption in Estonia while in the other countries significant educational differences were observed. In Finland, Latvia and Lithuania the highest educated group consumed vegetables the most often. Educational level was associated with the consumption of fruit in all countries and with the consumption of vegetables everywhere apart from Estonia. In the more highly educated groups, fruits and vegetables were consumed more often. The youngest had a higher risk of low fruit and vegetable consumption (Hall et al., 2009; Blanck et al., 2008; Tamers et. al., 2009; Britten et al., 2006). Prättälä and colleagues found that in Estonia the youngest age group consumed fruit the most often, in Finland the oldest. However in Latvia and Lithuania, no age differences were observed.

Among the feel hungry variable in the psychosocial factor group predicted the fruit and vegetable intake. Students who sometimes felt hungry were .531 times as likely as to have adequate fruit and vegetable intake compared with the students who did not feel hungry (OR=.531, 95% CI= .335-.841). Students who always ate breakfast over the month were more likely to have adequate fruit and vegetable intake than those who never partook of this meal (OR= 1.729, 95% CI=1.217-2.456). Neumark-Sztainer et al (2003) guided absence of hunger was food security measurement. Researchers studied correlates of home availability of food included social support for healthy eating, family meal patterns, family food security, and socioeconomic status. Researchers concluded that interventions to increase fruit/vegetable intake in adolescents need to target socio-environmental factors such as greater availability of fruits/vegetables (Neumark-Sztainer et al., 2003).

According to the Lorson and colleagues study determined that children living in food insecure households had higher vegetable intakes than children and adolescents living in fully food secure households. Although no differences existed across income levels for vegetable intakes. Similarly, children and adolescents living in households determined food insecure without hunger had the lowest mean intakes of total vegetables and fruit, but the differences across food security status were not significant (Lorson et al., 2008). It is not clear whether the reasons for this association are lack of financial resources to purchase fruits and vegetables or lack of knowledge as to the benefits of fruit and vegetable intake and/or motivation to consume a healthy diet. In addition it is not clear if there is a lack of availability of fruits and vegetables at home (Lorson et al., 2008).

In a study conducted in Minnesota in (2003), factors such as family food security associated with fruit and vegetable intake among adolescents were explored (Neumark-Sztainer et al., 2003). Low fruit and vegetable consumption may be related to income for several reasons. It is interesting to note that the relative price of fruits and vegetables has increased in relation to the consumer price index (Sturm et al., 2005); this may negatively impact consumption of fruits and vegetables, especially in low income families. Lower-income families are more likely to live in neighborhoods with fewer grocery stores, and the nearby stores may not offer healthful foods at an affordable price (Oliver et al., 2005). Drewnowski et al., (2005) has explored fruit intakes which are commonly higher in households with greater household incomes.

Among the breakfast frequency, soft drink, fast food, physical activity variable in the psychosocial factor group predicted the fruit and vegetable intake. Breakfast frequency was associated with fruit and vegetable intake ($p<.001$). Students who drank carbonated soft drinks once or more were more likely to have adequate fruit and vegetable intake than students who drank carbonated soft drink less than once over the preceding month (OR=3.615, 95% CI= 2.878-4.541). Students who ate fast food 3 or more times per day were more likely to eat adequate fruit and vegetable intake than those who ate it over 7 days (OR=1.903, 95% CI=1.485-2.437). Students with

regular physical activity were more likely to have adequate vegetable intake than students with no regular physical activity ($OR=1.339$, 95% CI=1.026-1.747).

Some researchers insist that eating breakfast has been shown to be associated with higher fruit, but not with higher vegetable intakes (Huang et al., 1997; Neumark-Sztainer et al., 1998; Chung et al., 2005). An African study showed that inadequate fruit consumption was associated with going without food ($OR = 1.50$, $P = .001$), but not vegetable intake (Peltzer and Pengpid, 2010). The negative association between the frequency of breakfast eating and vegetable intake might have been because the typical breakfast in campus residence halls is dairy and fruit (Huang et al., 1997).

There was association between vegetable intake and physical activity was found ($p<.001$). Another study found that gender, and risk behavior such as physical inactivity and less sedentary behavior were associated with inadequate fruit consumption (Peltzer and Pengpid, 2010). Billson et al., (1999) who showed a negative association between fruit and vegetable consumption.

Omidvar and colleagues examined the relationship of some behavioral, cognitive, personal, and environmental factors to low fruit and vegetable intake in 9th, 10th, 11th grade students. Researchers reported that youths with no regular exercise were more likely to have inadequate fruit and vegetable intake ($OR=1.45$, 95% CI=1.04–2.02, $P= .03$; $OR=2.07$, 95% CI= 1.29–3.07, $P= .00$) (Omidvar et al., 2003).

Conclusion

Insufficient fruit and vegetable intake is common among Mongolian adolescents. Our findings identify the important risk factors related to fruit and vegetable intake for adolescents. The results of this study highlight the importance of targeting risk factors such as no healthy eating class, not having a physical education class, and physical inactivity in school health education and promotion programs. This study found that six factors: grade level, feel hunger, breakfast frequency, soft drink, fast food consumption, and physical activity can predict fruit and vegetable intake among secondary school students in Mongolia.

Lifelong fruit and vegetable intake is very important to long-term health. The cross-national data on inadequate fruits and vegetable intake from Mongolia point to the conclusion that programs are needed to improve fruit and vegetable consumption of the adolescent population.

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‘The crystallisation of McCrystal’s leaked and leaky policy paper’



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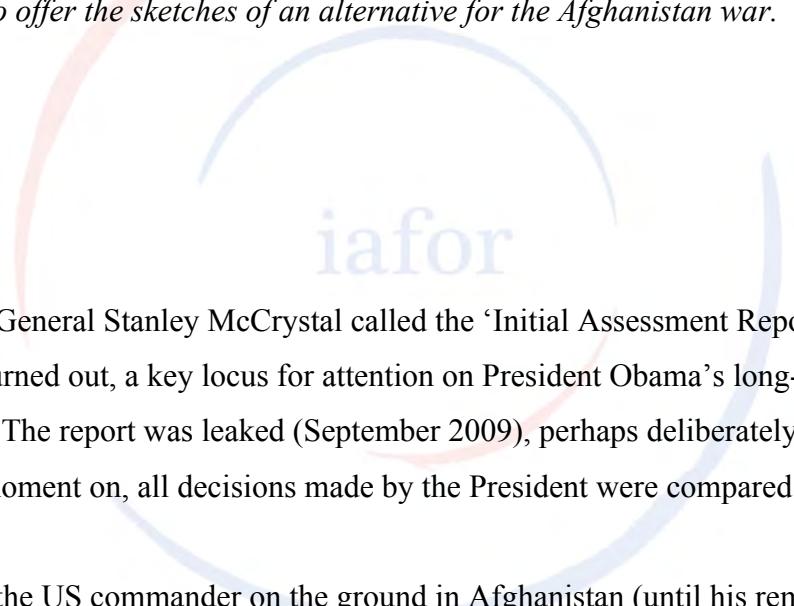
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‘The crystallisation of McCrystal’s leaked and leaky policy paper’

This Paper looks into how a policy paper for foreign policy could be written, with a poststructural insight, for the US government on the War in Afghanistan. Noting the hidden weaknesses of positivism at the heart of traditional policy making, the Paper will analyse the odd traction of tropes of policy making, and the apparent lack of real belief in positivism. The Paper intends to offer the sketches of an alternative for the Afghanistan war.



The report by General Stanley McChrystal called the ‘Initial Assessment Report’ (McChrystal, 2009), was, it turned out, a key locus for attention on President Obama’s long-term strategy in Afghanistan. The report was leaked (September 2009), perhaps deliberately by the ‘writer’, and from that moment on, all decisions made by the President were compared to the report.

The report by the US commander on the ground in Afghanistan (until his removal on 23 June 2010) offers several bits of insight into the nature of Foreign Policy Analysis (FPA). The way it was used reveals the complexity of the FPA field, stretching from the policymaking elite to the mass media. The report displays the depersonalisation of, or neutralisation process, of the FPA reports, in seeking to be ‘scientific’. The report displays a lack of any epistemological foundations. In all respects, the leaked report offers insights (unintentionally) into the leaky (i.e. unconvincing) nature of normal FPA.

The paper of McChrystal also raises the issue of the unique difficulties in writing foreign policy: there are no statistics to rely on, no material consequences of actions, in contradistinction with education or health policy. In fact, it is all about the flow of *ideas*,

which is coincidentally at the heart of poststructural analysis. Yet FPA is the one area of public policy where poststructural policy ‘how to’ guides (i.e. textbooks for practitioners) have not been written.

Hidden in the leaked document is a leaky series of unquestioned assertions as to the nature of truth. These assertions come out of the culture of diplomacy and foreign policymaking. But these also turn out to be leaky claims of the universal, and through Stanley A. McChrystal’s paper the cracks can be revealed.

This issue is rarely raised in the traditional positivist analysis where the analyst sees themselves as *outside of politics*, the politics is regarded as a bit dirty and sordid, and if push comes to shove, the political should be changed to better suit the *rational* analysis.

Problems of positivism

Despite the repeated lack of success of positivism, its grip on the academic world and thinktanks outside of North Europe in the field of international relations is unquestionable. The language of ‘facts’ as opposed to ‘values’ (the ‘fact-value dichotomy’ (Bernstein, 2003)) is a language that receives a warm reception as it appears ‘scientific’ and in line with ideas that have appeared to create great improvements in human life.

Postivism uses a ‘kill-argument’ of science as the be all and end all. This fetishization of science results in a general besmirching of the political process in the way it uses the ‘scientific’ papers produced. It is a “subtle antipathy towards democratic processes... if the politics doesn’t fit into the methodological scheme then politics is the problem” (Hajer & Wagenaar, 2003, p. 213). Yet we know now that modern science was not merely a search for disinterested truth, but it was enmeshed in social and historical realities. It is a socio-cultural activity set in specific contexts historically and linguistically.

On Poststructuralism

The starting point in this Paper is the mindset of Poststructuralism. This is an epistemological positioning that has profound consequences for the nature of the research and the issues that should be at the heart of FPA.

Poststructuralism with its tendency to be frustrated with the state-centric positioning of IR, has not delved deep into the behaviour of states until fairly recently. It has concentrated on the marginalised, the ‘Other’, that are typically left out of the dominant ideas that are replicated in IR departments, as well as among the broader IR practitioners. But its ideas that questioned the privileging of scientific rationalism, the use of one methodology (deductivist-empiricism) and one research orientation (problems-solving) (see (Ashley, p. 227)) came under attack as early as 1984 by Ashley (see ‘On analysing Foreign Policy’ below).

This focus on the ‘security intellectuals’, the foreign policy community, in their representations and spatial assumptions is, according to this Paper, unusually pertinent to the FPA of Afghanistan. Thinktanks, for this Paper, are of special interest, and are regarded as the second line of the foreign policy *community* after the first line of ‘punditocracy’ of newspaper editorials and others anointed by the media.

On analysing Foreign Policy

The area of Foreign Policy Analysis (FPA) was for many years ignored by IR practitioners.

Many of the academics involved in FPA appear to be oddly unconcerned with the foundational epistemology for their beliefs on how to conduct FPA. The trope of ‘national interest’ is wheeled out to explain all plans of action, without thought as to the nature of the ‘interest’. Richard Ashley’s farsighted critique debunked much of Neo-Realism (The Poverty of Neo-Realism), describing it as “a self-enclosed, self-affirming joining of statist, utilitarian, positivist, and structuralist commitments” (p228).

The Poststructuralism position in FPA reached a critical moment with David Campbell's 'Writing Security' (1992). This book radically re-considered the nature of American policy as the constitutive force of the USA as a nation-state¹.

His work argues for the centrality of identity, and views foreign policy as the primary means to achieve it. Identity is constituted by difference (the 'Other') and this creates insecurity which then in a recursive loop feeds ideas of identity. The state is a "manifestation of identity performances" (Lott, 2004). Taking the idea of 'performative' from Judith Butler's notion of gender, he radically argues the state as "having no ontological status apart from the various acts which constitute its reality" (p.8).

Campbell turns the attention away from seeing FPA as "concern with the intentional acts of pre-given subjects" towards "foreign policy as a political practice central to the constitution, production, and maintenance of American political identity" (Campbell, 1992, p. 8). This makes for a counter-intuitive foundational claim: "The constant articulation of danger through foreign policy is thus not a threat to a state's identity or existence: it is its condition of possibility" (p.13).

Nevertheless, Campbell's book does not attempt to look at specific policy decisions or options. Like traditional IR Realism it is concentrating on a overarching, unaccredited, power, and not an agency. Jack Holland (Holland, 2010) offers a first attempt to meld 'foreign policy culture' with the notions of Agency/Structure dualism of Barnett (Barnett, 1999) to enable a way to consider decisions of government in foreign relations.

Questions and methods

The FPA only offers a 'solution' in the context of the reinforcing of identity, through values appealed to, utilising power on offer to generate certain notions of 'truth'.

¹ "the boundaries of a state's identity are secured by the representation of danger integral to foreign policy", (p.3)

The policy paper--such as McCrystal's or a thinktank's-- can be imagined as a *meso-discursive* instrument. As a policy paper, it is privileged in the systems of recognitions of discourses. It is found within the congealed symbolism of the foreign ministry (and its building), itself a series of structuring discourses or signals for determining what is understood as foreign policy.

Policy papers come into practice when there is a *deep sense of an obstacle ahead that cannot be crossed*. The answer with a traditional policy paper is to 'solve' the problem, and the solution usually involves an assertion of a technological twist on a matter.

How to utilise Poststructuralism

What an analyst can offer to a government official only could be used if four issues are in play. The vast *foreign policy culture* must be understood, the *way the particular issue is narrated* in that foreign policy culture, the *desires of the foreign policy governmental elite*, and the fit of the foreign policy expert offering advice and *its reverberation to the peoples*. The foreign policy expert in offering advice is part of the elite foreign policy structure, but this must be understood as constituted within the overall foreign policy culture.

The peoples will accept a foreign policy strategy if it appeals to their concern for their national identity to offer *beneficence*. It must make them feel they are on right side of history and on the winners' side (Bloom, 1993).

Engaging with the notion of foreign policy *strategy* is difficult for Poststructuralism as it assumes agency. This problem must be resolved for this Paper since without it questions of the notion of 'policy', FPA, and so on, mean very little. That is, arguing about 'what to do' only makes sense if it can be pinned down 'who' is doing it. The danger of Poststructuralism is to find agency everywhere and nowhere. Jack Holland's strategy is to re-imagine the problem of structure-agency as one 'thing', to answer how something was possible and how the agents decided to utilise it. The figure below clarifies his position:

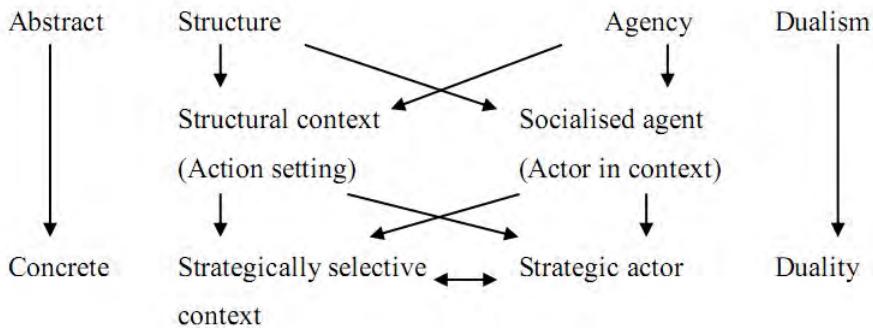


Fig. 1 Agent/Structure dynamic

Foreign Policy (FP) is part of a much larger cultural discourse. The traditional approach is to ignore this obvious point, leaving the persuasion of the masses as a separate ‘political’ matter.

Foreign ‘policy’ is the ‘lead-edge’ of this cultural site of ‘foreignness’. The foreign policy ‘moment’ is when those processes and people involved in the seemingly esoteric process of foreign policy determine --as least for a moment-- how the world is viewed. But this process is an assemblage of enmeshed views of public and the elite, the policy makers. The public’s views may be vague, ambiguous or contradictory, but they still enmesh within an organic process of growing ‘foreign policy’ (see (Toal & Dalby, 1994; Toal, Geopolitics Global Problems and Regional Concerns, 2004)).

This complex enmeshing of various ideas and attitudes has been called ‘foreign policy culture’ by Toal. The culture are the ideas of how a country ‘fits’ in the world, how a country’s identity is formed by its interaction with a world, how the country’s role is enabled and perceived by its people(s).

Actors within can ride on the coattails of older narratives and certain notions of American identity to start fresh policies, to re-shape events, and make certain cues and actions seem the ‘right thing’. The issues of embedded foreign culture and *resonance* to an audience are crucial for eliciting advice to an actor in the field of foreign policy.

Why Afghanistan is so opportune for a poststructural analysis

The US seeks a win in the Afghanistan war . What is interesting is that even mainstream analysis has noted this will not be a win with the ‘bells and whistles’ of a win. This disconcerting *non-win win* makes for an interesting analysis of what is a win. In recognising the contingency, the mainstream media perhaps for the first time in three generations must question many underlying themes of the positivist mainstream.

In Afghanistan, the enemy will not *offer* a frontline, it will not even *offer* an enemy. A poststructuralist account is particularly interested in the need for a performance, for a story. The Taliban have not read the script that the USA wrote. A poststructuralist procedure for considering the war in Afghanistan would suggest crucial points worthy of analysis that can display the complex interplay of American motives and actions in Afghanistan.

The McCrystal Paper is a crucial *end-point display* of these vast encompassing ideas. Typical positivist criticisms of the War would abstractly offer criticism using empty referents such as ‘national interest’ and ‘quagmire’ (Cole, 1999), failing to be aware of the embedded unquestioned discourses in the political practices and knowledges found within.

McCrystal paper

McCrystal’s Assessment paper is full of the elisions that tide over the FPA machine. “The objective” of the American position is the people (“our objective must be the population”).

And the enemy is as surprising. The concern is not with “local power struggles”. It is with a threat: a “resilient insurgency”, and not the “30 years” of power struggles. The people, are simultaneously a *wholesome unified group*, and yet are also faced within by interminable power struggles.

The Commander makes an impressively poststructuralist point: this fight is a “war of ideas”. Oddly, he insists on saying “many” say this and he merely “believe[s] it to be true”. He does not want the ‘credit’ of this claim.

The US is offering one idea-- democracy in some sense-- and the Taliban is offering something else. If the Afghan people(s?) decide for fundamentalist Islam then how would that fit into a US strategy that makes no description of the underlying values. The issue of values is linked to identity and this is ultimately the question of 'meaning' in the World. McCrystal neither raises the question nor offers an answer.

Ways to offer a policy analysis

The crux of the matter is responding to the traditional policy analyst, who having been critiqued by a Poststructuralist, asks "what would you do?". A Poststructuralist recognises that the politician is part of a way of thinking and is limited by certain framings, bound by forces of society.

The Poststructuralist looks around and sees that 'foreign policy' is part of a framework for 'realising' the world. The words of people, their behaviours, attitudes, the dramas of life and the performances at events, signify a way of viewing the world. Foreign 'policy' is the 'lead-edge' of this culture of site of 'foreignness'. This is an assemblage of enmeshed views of public and the elite, the policy makers. The public's views may be vague, ambiguous or contradictory, but they still enmesh within an organic process of growing 'foreign policy'.

The policymaker in traditional analysis would be an *agent*. Poststructuralism risks presenting him as a dupe. Since the discourse of FP is made up of so many overlapping, enmeshing networks, the person at the point of the decision appears to have little... agency. This is because they can only think what they think. The World as they understand it is what they are led to believe the world is. And they can only know how the world is from the narrations of it they hear and see. Colin Hay and Bob Jessop (Hay & Jessop, 1995) regard them as having the ability of 'strategic calculation'. The policy makers have a *strategy in a context*, and that strategy is within that framed (as understood by (Barnett, 1999)) environment.

A story is needed to sell a war in Afghanistan. But the policy maker is not the storyteller, they are not above the narrations and plots of the foreign policy culture, they are, in fact, deeply enmeshed within it (there motives in any event simply cannot be worked out, as at a

deep level they are unaware of them). The issues of embedded foreign culture and *resonance* to an audience are crucial for eliciting advice to an actor in the field of foreign policy. And the advice is centred around the *creation of the story* of the event that is to follow is the most crucial aspect of the policy, not the actualisation of the policy.

Roots of Foreign Policy, the military angle

This Paper wants to tell a story of a statecraft so trapped in its positivist mode of thinking that a way of *anti-policymaking* has developed that totally envelops the system; the story of the Operational taking control of the Strategic is this story.

It is difficult not to believe that a shrewd US military strategy has ‘gamed’ the civilian policymaking (i.e. thinktank) community. The sense of agency by the military over the thinking of the thinktank and wider foreign policy elite is reflected in the way that reports by other parts of the American state, such as its intelligence community, or reports by the United Nations appear to have little effect on the mindset of the community. There are, of course, other possibilities, which is why a story must be built up to reveal the agency, the point that reveals what framework is operated on and has power effects.

The thinktanks routinely suggest defined ways to measure success, and call these data streams ‘metrics’. The problem is these ‘facts’ can be construed in any sense that is wished. An increased number of American soldiers killed can indicate progress or lack of progress.

An interview with Petraeus reveals this dilemma is recognised by him and shows his resolution is outside the boundaries of positivist/rationalist analysis. The interviewer asks “Can’t wishful thinking make every metric that flashes a warning sign look like a light at the end of the tunnel?”. Petraeus argues that “he tries to guard against such feedback loops by developing a “fingertip feel” for the war’s fortunes” (Ackerman, 2010).

This is war, and that famously means the ‘fog of war’ is an inevitable part of it. Yet this use of a positivist/rational argumentation (‘metrics’) is the only way that the thinktanks know. The game of policymaking demands this style of thinking. Yet the military knows this cannot work once violence becomes the primary tool.

The epistemic framework for the military is centred around a nexus of Grand Old Men (dead Colonels and Generals) and Field Operations Manuals. Carl von Clausewitz is the clear Grand Old Man of the art of war through his masterpiece, ‘On War’ (Clausewitz, Howard, & Paret, 1976). Interestingly, some of Al Qaeda also appear to feel the same way². That this masterpiece, ‘On War’, has been *less read than relied upon* is a key point in explaining the odd position it holds in the epistemic framework of positivism and non-positivism. It is taken as good as the Bible in its importance. Yet the observations based on its writings tend towards the shallow.

For the counter-insurgencies wars, the main works are tightly centred around Western experiences of colonial counter-insurgencies. David Galula (Galula, 1964) is the chief example. The end product of the army’s studies of the various books on counter-insurgency is the Army Manual for COIN (FM3-24 'Counterinsurgency' , 2006). It claims to lay down rules of reality (i.e. military dogma), and so reify truth, for fighting that was based on fights with different aims and different start states. Already, the danger of the military’s understanding of truth being at odds with the material essentialism they may encounter is quite real.

The military understanding of the world is built through manuals; there are 542 manuals in use (Burke, 2007). The key manuals for the Afghanistan situation are the Operations Manual (FM5-0 'Operations Manual', 2010), the Stability Operations Manual (FM3-07 'Stability Operations Manual', 2008) and the now famous Counter-Insurgency Manual (FM3-24 'Counterinsurgency' , 2006). These manuals offer a prescriptive, dogmatic model of military planning closer in style to Jomini (see his ‘The Art of War’, (Jomini, 1971)). De Jomini was a rival of Clausewitz , whom Clausewitz relentlessly mocked ((Clausewitz, Howard, & Paret, 1976), Ch.3). De Jomini’s style was rule-based, prescriptive, linear-minded and didactive; it tries to take the thinking out of the process. The USA army has tended to push Clausewitzian quotes into this prescriptive form of writing. Yet it is precisely because Clausewitz does not ‘say’ these things that he is not widely read, only quoted³.

² “In 2001 a journalist covering the Afghanistan war discovered a copy of an Everyman edition of Carl Von Clausewitz’s ‘On War’ inside an al-Qaeda safe-house”, (Ouardani, 2009)

³ “It is said that Clausewitz is more often quoted than read. The reason is simply that he is hard to read linearly”, (Czerwinski, p. 57)

The position is then a military craving rules on how to do things. These rules, doctrines, have in recent years attempted to co-opt and neuter new ideas for engaging in fights in a more complex arena. It appears that the military is clinging to the linear logic that falls within positivism. Yet looked at as a meta-framing of military thinking we can utilise Clausewitz to analyse the American military mind and reflect, that in a surprising sense, its very rejection of new ideas places it in the tradition of Clausewitzian non-positivist notions of war and fighting. And it is this that has got the better of the civilian thinktanks.

One of Clausewitz's key points is the inability of any military text to be able to offer rules to the military practitioner. So Clausewitz position is to start by rejecting possibility of the Field Operations Manuals' ways of framing fighting. Instead, Clausewitz sees his book as to offer insight and help in the creative process of strategy-making. Clausewitz looks to the 'hero' as key resolution to the complexities and confusion of war. Only the hero figure can disentangle the broader complexity of linking military strategy with the constant interaction of the political. It would make no sense to Clausewitz for the army to import ideas of problematizing into army doctrine. Yet the tools of the manuals do offer a non-positivist framework partly because the framework simply cannot *digest* the ambiguities of the military role, and partly because of the confusion with the interaction of the outside, such a politics. In other words, the military may not like a specific reference on paper, but the overall effect of the manuals is to invite certain non-positivist ways of doing.

What Clausewitz writes about is the place of war in the social and political life (Clausewitz, Howard, & Paret, 1976, p. 6); he noted that all aspects of the operation must be related to the political: the strategic planning, the conduct, the social and economic preparation. It should be "suffused with its political impulse" (p. 7). There can be no "purely military evaluation".

Limited aims to Clausewitz did not mean limited effort. If the enemy needs to be negotiated with, then all pressure must be applied to bring him to the table (Clausewitz, Howard, & Paret, 1976, p. 21). He noted war is a dialectic between violence and reason (Howard in (1976, p. 29)). He notes the politician should always remain involved in the big strategy (Clausewitz, Howard, & Paret, 1976, p. 31). The big framework for Clausewitz is the trinity of the passion of the people, government policy, and military probability.

David Petraeus, when still the rank of Major, wrote an article in which he recognises the interaction of the military with the political. And the article, in a sense, predicts (preempts?) a key component of his strategy for Afghanistan: “the American effort, therefore, should be designed to raise immediate doubt that the United States will permit a war to become protracted” (Petraeus, 1986, p. 48).

For Clausewitz, the war’s victory was an intersubjectivity of the state with the enemy, he called it a ‘commerce’, because of the element of negotiation. For the negotiation to be taken seriously there had to be the extreme threat of violence. Note how this works with Afghanistan. America denies any negotiations are ongoing yet the Afghan government continues with its reconciliation programme, a form of ‘reach-out scheme’ to Taliban (Bleur, 2008).

All these tools tell the army professionals to be aware of the complexity and confusion of war. They tell them to be aware that a major danger is the friction of their home side. And they tell them to take control of the strategy. And that means ensuring the civil leadership go along with the military idea of success—since the military in the Stability Operations manual look at a broader view of success as that which brings a sense of beneficence to the American people. Petraeus has consistently succeeded in avoiding decisions that would have only been read as failure.

General Petraeus, *like everyone else*, does not know how to ‘win’/‘succeed’/improve things but he knows from the knowledge in Clausewitz that more and more time can lead to a story of success. Two crucial tools are the-- now trademarked-- ‘The SurgeTM’, and the non-withdrawal strategy⁴. The former offers a narrative framework of ‘success’ and the non-withdrawal allows him to press the elite foreign policy community to not decide to decide. The Surge can work if a series of tropes that imply success can be lined up to show a ‘victory’, at that moment a rapid de-escalation and a heading for the exit could be a textbook victory. The non-withdrawal position requires that the USA never actually have a moment of withdrawal. Just as in Iraq, masses of US troops remain, and yet as a story, they are gone. The key point for Petraeus is to ensure a growing gap between *the symbolic* of success and *the ‘real’* of chronic unknowns.

⁴ Withdrawal is raised as a notion only in order to dismiss the notion. (Engelhardt, 2007)

Note the gap between the COIN population-centric plan and the actual strategy of Petraeus. General Petraeus appears to have a limited ‘real’ interest in COIN. He is in favour of anything that goes along with its COIN’s implicit compassionate message— who could actually be against such a kind, non-violent, democracy-loving way of ‘fighting’. In the meantime, Petraeus is busy killing everything that walks/talks/dresses like a Taliban with a massive escalation of air strikes (Shachtman, 2010) and an increase in hit squads of elite soldiers (Ackerman, 2010). He understands there is no such thing as ‘a Taliban’ organisation. But he knows a future storyline requires a negotiation with what is, in a sense, a non-existent body. So, anyone that declares themselves Taliban must be highly pressured now to make themselves agreeable to a very hard negotiated piece. Of course, he can’t say this is what he is looking at, since this would then undermine its purpose. The Taliban must not yet believe he wants to negotiate— which is why he has to go around killing and ruining any apparent negotiations going on.

It is this Paper’s intention to argue that the irony for all this is the origins of the thinktanks derived from a similar *non-positivist* style of strategy. It is the romantic/unscientific works of Winston S. Churchill and Rudyard Kipling that give the thinktanks their ideas about what makes the Afghans click. The epistemology of the thinktanks appears as a vast delusion. Only the military have grasped the true way to a ‘win’. The game they must now play is to ensure delay after delay and non-decision followed by non-decision, if this means having to reel off nonsense about ‘progress being made’, and an approving smile towards conservative’s talk of a need for more ‘willpower’, then that is what they will do.

It appears Petraeus has seized control of the war from the Pentagon, that he appears to be calling the shots. But a more subtle analysis is suggested. The Pentagon does not wish to be seen not giving the commander on the ground all the help they can offer. But also the interaction of the strategy and the politics makes a messy arena. The strategy is an operational level manoeuvre that requires ‘owning’ the strategy level. The positivist traditions of analysis seem unsuitable in the circumstances. But Petraeus has not simply seized ‘power’, but a particular understanding of the past has invited fresh institutional change, the *framework of military thinking* has altered.

The Drives of the Thinktanks, Anything but Scientific

The American narrative for the area of Afghanistan is a patchwork of secreted knowledges and foundational assumptions that go far back, and have bled into discussions and discourses of present policy making. But significantly, the notion of Afghan-ness and the meaning of Afghanistan for anyone living in the region is as an exposure to the West, particularly the Russian Empire and the British Empire. The English ‘settler state’ of the United States simply extends this role of generating identity through intersubjective experiences. The American and his understanding of Afghanistan, even with very limited knowledge of the area can still possess an ‘attitude’, or a ‘feeling-tone’, to the country. But these feeling-tones generated derive from texts with an overt agenda.

Rudyard Kipling’s-- one of the great writers on the borderland of Afghanistan-- ‘big lesson’ for Afghanistan was to stress the importance of minimising regulations in governance (St John, 2000, p. 69). Kipling’s books and articles⁵ are a systematic attack on John Stuart Mill’s hitherto successful appeal (Stuart Mill, A system of logic, ratiocinative and inductive, 1949) for “dependable data and logical analysis” (p.69). Stuart Mill broadened his point, by privileging logic as the science of sciences, to suggest the British Empire should throughout use the same simple rules (based on logic) and only vary or modify for the local environment (Stuart Mill, Considerations on representative government, 1958). Kipling’s view reflected the popular notion in his area of the Raj that direct experience should override theorizing, allowing for the suspension of laws if the need be in response to the local customs and needs. Kipling’s idea somehow won out in the borderlands of modern day Afghanistan and Pakistan. But his writings can have effects years later far removed from any intentions of his.

How to resolve the contradictions

If reality-- that brute material essence-- cannot be controlled with a universal knowledge that turns out to be not universal then a change is in order; the degree of change becomes the only issue. The nature of power in resisting that change is the gap, the unknown. The foreign policymaking is a form of closure, it seeks to delineate the relevance of issues. Yet if it

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See ‘The Head of the District’, (Kipling, The Mark of the Beast: and, The Head of the District, 1923)

cannot absorb the issues it claims then a threat to the understanding of knowledge arises, that threatens the (Berger's) *nomos*, the (Foucault's) *episteme*.

The diplomat is engaged in a *practised incapacity*. The rules used to determine how to play and dramatise a certain staging of the World had their uses, but the *rules that evoked the rules* are under threat. The foundations of modernity are unable to answer the questions asked, they indeed prefer to answer different questions. The answers-- those thoughts that assist the position of the diplomats-- are often hidden in plain sight.

The answers, in so far as they can be, rely on a certain knowledge of the world which is at odds with the meaning of diplomacy. The way to answer undermines the traditional elements of statecraft. But if the question is how to understand and employ the mechanisms of statecraft in the tactical assemblages of statecraft, then the wobbly foundations of current diplomacy can no longer be ignored. It is self-discrediting of the profession of diplomacy that no policy guide has been written for its actors. In the meantime, diplomats do not see the way they toil to be a fiction, a drama that collapses with the instantiations of brute reality that crop up in the manoeuvrings of nation-states in times of violence.

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Title:

The role of successful aging process for elders in community organization-Example of Chuang-Rong community in Tainan, Taiwan

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The role of successful aging process for elders in community organization- Example of Chuang-Rong community in Tainan, Taiwan

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Research motivation and purpose

Conducting successful aging has become an important concept to promote the care service in the geriatric community. To make the elder acquire a better local life and care service and help them possess successful aging, it's necessary to actively arrange the activity to encourage the elder and enrich their daily life, and make the community organization and dwellers manage their life in the community with the elder.

Under the direction of this concept, the elder who was regarded as a vulnerable group needs to be provided with care service in the way of delivering the social welfare service. However, when we help the elder acquire the successful aging as the orientation, the main point is no longer limited to one-way offer of welfare service, but to attach more importance on how to make the elder transform from care-receiver into primary role in each community. In addition, with the direction of community organization and the assistance by the community members, the elder will start paying much attention to managing their life in the community, enrich its inside meaning, and carry out health care and management. The transformation mentioned above is the purpose that the concept of successful aging needs to put into practice.

However, what the the practice of successful aging in the community emphasizes is not only to make the elder actively participate in the life with their subjective viewpoint, but the objective environment also needs changing. Therefore, the organization in the local community has to throw away the past concept of the provision of geriatric welfare, and actively assist the elder in offering the appropriate environment and activity, by which successfully promote the care service in the geriatric community and enthusiastically provide the elder with the opportunity of taking part in the community affairs. On the other hand, the elder also need to have more close interaction and cooperation with their friends in the community, by which make the elder posses complete support and support in their life in the community.

This research adopts participant observation, and takes Chung-rung community in Tainan city in which there has been promotion of care service for six years and long-term involving in geriatric community care and possesses a great experience in community empowerment. Three principles are adopted to put scrutiny into practice: Reduce the risk of disability resulting from sickness; Maintain physical and mental

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function; Active interaction and participation.

Under these three principles, this study will take the elder as life subject, and probe into the peculiarity that generates from the promotion of care service in the community to present the meaning that encourages the elder to manage self-life in the community by the operation of community organization, by which will be taken for the other community organization as references.

Literature Review

The presentation of the concept of successful aging lies in advocating the positive perspective of aging to push ahead the elder's health and actively enjoy their life(Shiu Huei Jiuan 2003). The related research in successful aging is quite extensive, which covers the related issue of society, economic, and health care (Baltes & Baltes 1990). Nevertheless, the more extensively and systematically used perspective is the three elements that Rowe & Khan (1997) issued: the avoidance of sickness and disability; the maintenance of fine mental and body function; more active and dynamic life.

When these three perspectives can be accomplished at the same time, the most successful condition of aging will come into play. What this perspective intends to emphasize is that single individual should get aging well, instead of not getting aging, whose key lies in how to mold the connotation and attitude of health life.

However, the elder who need to acquire appropriate care service and necessary assistance will play an important role forming health life. The mechanism of delivering community care service is the philosophy that quickly rise and develop in England in 1980, whose primary purpose is to "de-institutionalize" to save the government expenditure, and make the elderly who live in the community get more human and flexible prospect of care. In recent years, advocating community care to construct care network in local life through local community organization has been taken into consideration.

Bulmer (1997) ever indicated that what community care means is to consider family, friends, or neighbors as a tool of offering care service, this kind of care usually combine with the community where the elderly lives, and it is also the main local where they manages dairy life. Tzeng Szu Yu (1997) also mentioned that the ideal living environment intends to make the elderly live in their accustomed environment where they can keep maintaining the original interaction with the society and dwell independently. Therefore, it is quite important for the elderly to keep living in the familiar community. Besides, in order to make the elderly acquire the successful aging in local life, the community organization should play an important role in offering services, including dining service, geriatric centre, health examination,

dairy inquiry by phone, anti-crime patrol, and home transport service.

Research methods and objects

This research adopts actual observation and deep interview as research method and takes Chung-rung community in Tainan city in which there has been promotion of care service from 2003 to 2011 as case study to analyze its specialty and behavior of which the residents maintain the successful aging. Besides, the concept of successful aging by Rowe & Kahn will be taken as reference to probe into the peculiarity of successful aging that the community organization should come into play.

Chung-rung community, located in the north district, Tainan, is the case study(figure 1). Chung-rung community used to be an old military village, and ten military villages were combined into Chung-rune lane due to the reconstruction. It's a typical high congregate housing in which there are twenty three buildings with fourteen floors, and each floor has four households. With the beginning of environmental issue, Chung-rung community that has a great experience of the construction of community per se has been actively and continuously participating in the construction of community and afterwards the activities since 1991, including community patrol and communication, preservation and investigation of community history, community recreation and performance, reconstruction of living environment...etc.

Due to the rapid aging population in the community (the elderly population accounts for 28%~32%) and after the reconstruction of public housing, the community organization gives first place to the association of community development, and combines the office in the community with community management committee, both of which cooperate with each other(table 1). Therefore, since 2003, the care service plan, also called the plan of "Ease and enrich the elderly life", in the geriatric community was drafted to create an appropriate health community as a target for the elderly who can enjoy a retired life. This research takes this promotion projectas the primary case study.



Figure 1 The location of Chung-rung community

長榮社區: Chung-rung community,

成大醫院: National Cheng Kung University Hospital

中山公園: Zhong Shan Park

國立成功大學: National Chen-Kung University

臺南市火車站: Tainan railway station

Table 1 Chung-rung community,

Name	Location	Environmental community Attribute	Service content organization	Location of service
Chung-rung North community district, Tainan	Urban	Association of community development	dining service	Evergreen refectory
		village office	Visit and care service	Community centre
		community management committee	Health service and promotion	Health station
			Chung-rung trope	Community centre
			Study group	Community centre

The program result and discussion

(1)The program result

The elderly care service that Chung-rung community promotes primarily adopts three cases with different intensity and nature to carry out the avocation:Long-term service location; Regular community activity; Specific festival activity.Long-term service location is to continuously provide a long-term or regular service (table 2), in which the elderly can participate anytime in dairy life. Its orientation lies in making the care service get into their dairy life in the community, by which brings the basic function of care and companion into full play. Besides, this will guide the elderly walking outside to interact with others more actively, and conduct the basic care and health management.

The plan of long-term care service location has been promoted in the way of setting up the service location since 2004. The provision of care service for the elderly in the community was first primarily promoted and, evergreen refectory (dining service) and health station (health service and promotion) were gradually launched along with the visit and care service. The plan of setting up the location to provide the elderly with care service has been launched half-year earlier than that by Ministry of interior, and the main reason lies in that the community organization is self-aware of the severity of the aging population in the community. Therefore, the community spontaneously reacts to this situation.

Table 2 Chung-rung community 「The plan of care service in the geriatric community 」 --- Long-term service location

item	title	Service location	Partners	Date d/m/y
1	Evergreen refectory	Community centre	Association of community development	Since 01/02/2004
2	Care and visit	Community centre	Village office Association of community development (team of care angel)	Since 01/03/2004
			Community management committee	

3	Health location	Community centre	Association of community development	Since 01/03/2004 The promotion of exercise
		Village office		Since 18/06/2004 The health location
				Since 30/06/2006 The hiking activity

On the aspect of regular community activity, the community organization has promoted this activity since 2006 (table 3). The study group in the community was first launched, and it intended to make the elderly acquire another opportunity of self-involvement and growth. Since 2009, the number of the member in the study group has increased to 50, and conducted the first graduation for the members. So far, the second study group has been launched. The content of study group contains the participation and co-discussion of various forms and issues, whose purpose is to encourage the elderly express their thought and opinion. In addition, this will further represent their reaction and impression in the real life, which not only respect the elder's right of expressing their own thought, but also provide them with modification in life. This is another way of self-realization to put their ideal into practice.

During the promotion of this plan, Chung-rung trope was also launched and regularly rehearsed for the stage play, in which there were about thirty participants. In the stage play, the elderly and community volunteers drew up the story together, and conducted the play during the visit by the guests or out competition. This is also another important plan to encourage the elderly actively taking part in the play and express their opinion toward it. This kind of regular community activity can not only make the elderly participants receive learning and growth, but also enrich their content of real life in the community.

Table 2 Chung-rung community 「he plan of care service in the geriatric community」 --- Regular community activity

item	title	Service location	Host	Date d/m/y
1	Chung-rung study group	Community centre	Association of community development	Since 28/04/2006 Once two weeks
2	Chung trope	Community centre	Association of community development	Since 16/06/2006 Once two weeks

. On the aspect of specific festival activity (table 4), it primarily comprises of the festivals in the community such as New Year or Double Ninth Festival...etc. During the activity consciously conducted by the community organization, each activity contains its theme or meaning to make the elderly and their family members possess further understanding and interaction among each other. Besides, it also makes their family members understand how the elderly live in and receive the care service in the community, by which the family members could generate more concern and care on the elderly. And also, the concern and care from the members can also combine with the care service to assist the elderly in acquiring proper care service and external resources with the provision of necessary information in life for the elderly.

Based on the thought mentioned above, Chung-rung community has transformed the Mahjong culture in their original military village into the community activity to celebrate New Year since 2004. In every New year, the community will hold the Mahjong competition, in which the elderly and their family members all can take part. This competition is also an important platform that the members can keep company with the elderly. Besides, the culture record is also carried out through the activity of story-telling by the elderly women. In 2006, the community also held a competition of story-telling by grandmother with cheongsam. In addition to the expression of community culture, this activity can make the descendants understand the tough life in the early military village, and enhance the elder women's community and family status. In 2007, a century wedding was also held in the community, in which the elderly couples who had get married over 30 years could recapture the joy and old experience of wedding with the companion of family members. Furthermore, this could show the elder's devotion to the family, and make the family members reconsider the meaning of care service and orientation of the elderly in a family, by which enhance their willingness and coordination in offering care service with the

community.

Table 3 Chung-rung community 「he plan of care service in the geriatric community」 --- Specific festival activity

item	title	Service location	Partners	Date d/m/y
1	Mahjong competition	Community centre & Community courtyard	Association of community development	Since 2004 New Year
2	Interviews by Door-to-door the community mothers		Village office	Association of community development
3	Performance by the grandmother with cheongsam	Community centre	Village office	Association of community development
4	Chung-rung century wedding	Community centre	Village office	Association of community development
				Since 2007 National Festival
				Since 2007 National Festival
				Village office

Discussion and Analysis

According to the peculiarity and the role that local community organization should possess and play in promoting and facilitating the successful aging, along with the progress of analysis of care service in Chung-rung community case study, we can sum up that the promotion of care service in Chung-rung community has generated the following peculiarities:

1. The avoidance of sickness and disability,
- (1) Provide the elderly with lifetime warranty and activity space

Chung-rung community has been providing five-day care service in a week since 2003 through the Evergreen refectory and health location that are promoted by the

community organization to fit into the elderly dairy life. With the conduction of this kind of long-term location of service, it makes the community centre become the locale for dairy activities. To advocate the health exercise, the health location also works in coordination with the activity locale, community courtyard and park, to manage the separation of pedestrian and vehicle. This also can make sure that the elderly can easily have the activity space of going outside, and consolidate the base of arranging outdoor activities in their dairy life. Besides, this arrangement provides the elder with the fundamental assurance of life quality assurance.

And the provision of Evergreen refectory, health location and care visit that the community organization holds will make the elderly in the community easily acquire necessary service, by which provides fundamental assurance of their life in the community.

(2) Set up the disabled facilities in the community

Chung-rung community handles the facilities in any kind of activities with the barrier-free concept to conduct the work of repair and maintenance, especially in the public facilities in the community, such as community centre, public lavatory, courtyard, activity square, park, walking trail, and recreation facilities. The barrier-free concept considers making the elderly, even on the wheel-chair, can easily get access to the locale. This not only guarantees the elder's right of basic life in community, but also actively facilitates them, in the condition of disability, to carry on their original life tempo. Besides, this also can maintain the original social network, and facilitate the important basic elements for the elder who can continuously live in the community.

(3) Build up the mechanism of the safe care and assistance connection

With the provision of long-term service location by Chung-rung community, this plan will effectively integrate the managers, volunteers, community citizens to work in coordination with the original management system of reporting and regular location service, by which makes the elderly who has encountered any accidents or needs any help in the community activities or dairy life can find someone to inform the family member or offer any necessary assistance in the first place. This will reduce the damage caused by the accidents and guarantee the elder's safety in the community. The mechanism of safety protection in the community will make the elderly generate more willingness to step outside to do the exercise of health care and participate in the activities in the community by which makes them become a mode and culture of co-residing in the community.

2. Maintain physical and mental function.

(1) Facilitate the atmosphere of active exercise

The elderly has been dining in the Evergreen refectory and done the health

measurement in the health location that are promoted by the community organization for seven years ceaselessly along with a five-day service in a week, by which makes this kind of service fit into their dairy life. For the elderly who have the need of meals, the regular dining and gathering has become an essential activity for the elderly who need basic meals and conduct routine outdoor exercise.

The health measurement in the health location is also one of the important incentives that can make the elder regularly do the activities at the courtyard, by which the elder will go to the health location to do the blood pressure measurement and work in coordination with the exercise of hiking activity. Besides, with the assistance by the community citizens, it will help the elder have the habit of stepping outside the community to go hiking and for a walk, which is not only good for their health, but also makes the elder possess a great motivation to more regularly make arrangement and long-term management.

(2) Provide the elder with the opportunity of maintaining cognition and creativity

With the promotion of regular community activities by Chung-rung community, this will make the elder who participates in the rehearsal have the chance to perform their creativity through the rehearsal and performance by Chung-rung trope, and further gain the self-affirmation. Besides, with the arrangement of various classes in the study group, this not only makes the elder re-capture the opportunity of learning, but also facilitates the interaction and discussion with group members. At the same time, with the direction and arrangement in class, it will re-activate the elder's expectation toward the arrangement in life, and make them re-concern the surroundings and actively get the opportunity of offering a comment on each affair. The conduction of study group will help the elder keep learning and maintain high cognition and possess the opportunity of creative thinking, by which makes their life in the community more active and positive.

(3) The promotion of basic health measurement and referral system

With the health measurement in the health location by Chung-rung community, this has made the elderly attach more importance on basic health care and self-management of health. Through the concept of preventive care and health facilitation, it will further combine with the medical treatment and social welfare resources, and provide the elderly with basic health examination and consultation in every year, by which make the elder can control their health condition and make the arrangement of health care and exercise to facilitate the accomplishment of health life. In addition, through the practice of health location and care visit, the community organization also combines the medical treatment with social welfare to actively provide the elderly with referral service, such as the application for house service or the referral service of medical treatment institution, by which will make the elderly

can actively acquire the supportive care in live and help them maintain the best function in physical condition and self-management.

(4) Facilitate the opportunity of learning novelties and discussion for the elderly

With the practice of health location by Chung-rung community, it has been conducting many different classes in health talk for a long time, by which teaches the elderly how to correctly do exercise or face the accidents and disease at their old age. This normal arrangement of classes will help the institution build up the community organization and medical or academic platform of interaction, and teach the elderly the way of health self-management to possess a healthier life in community. The more active meaning lies in developing the habit that the elderly will learn new knowledge and take the subject they concern into discussion. This kind of habit cultivation will help the elderly re-adjust the construction of well interaction with others themselves, by which facilitates the circulation and interaction of interpersonal relationship and health message to make the elderly put their health life in the community into full play.

On the other hand, with the arrangement in various classes by study group, this will directly provide the elderly with the opportunity of learning and discussing novelties about common society and life issues. Chung-rung trope has provide the elderly with opportunity of collectively learning how to conceive and discuss the plot of a play, and it also further makes them consider how to make themselves play appropriate roles in each play with others. This choice and method of multiple learning and discussion can offer the elderly different needs, and build up their health lifestyle in the community in accordance with different needs.

3. Active interaction and participation

(1) Hold festival activities and enhance the combination of interpersonal relationships among the elderly.

Through the promotion of festival activities in the community with related issue about original life in military village by Chung-rung community, such as Mahjong competition, performance by the grandmother with cheongsam, and Chung-rung century wedding...etc. Its starting point lies in actively considering how to continue the original culture of military village and enrich the life. For example, “mahjong competition” will bring about joy in life, “performance by the grandmother with cheongsam” talks about the story of changing times in the past, “century wedding” has realized the elder’s wish...etc. this kind of continuity and way of creating community festival activities will closely combine the elderly and family in the military village with the community residents, meanwhile it also actively facilitates the interaction with each other and recognition toward the community. Besides, this also starts another new way of interpretation and inheritance for the creation and elaboration on

community culture in the future, by which generates positive meaning in relative life and cultural transmission.

(2) Build up the mechanism of voluntary service in the community organization

With the plan of various services and activities by Chung-rung community, all are conducted by the volunteers in the community. Especially the services conducted in the long-term service location, they all hold a principle of “Let the health care the un-health” to make the elderly residents build up a voluntary mechanism of self-help and mutual help. Besides, through the progress of voluntary service, it will increase the interaction among the elderly and other residents, and also their confidence and self-affirmation to enhance their status in the community, by which makes them more actively and dynamically face their own life. On the other hand, through the mechanism of voluntary service in the community, it encourages the elderly to diligently operate their life in the community, and further facilitates the mutual support and assistance among community volunteers, by which creates another life culture that the elderly take part in the voluntary service. This will help the elderly acquire the successfully aging.

Summary

Under the scrutiny with the concept of successful aging, the result of the long-term plan in which care service in the geriatric community is promoted by Chung-rung community has shown the following peculiarities: Provide the elderly with life assurance and activity space; Set up the environment with disabled facilities; Build up the connection mechanism of safety care and help; Facilitate the atmosphere of active exercise; Provide the elder with the opportunity of maintaining cognition and creativity; The promotion of basic health measurement and referral system; Facilitate the opportunity of learning novelties and discussion for the elderly; Hold festival activities and enhance the combination of interpersonal relationships among the elderly; Build up the mechanism of voluntary service in the community organization.

To summarize, with regard to Chung-rung community which has high destiny of geriatric residence and promotes care service in, and under the concept that leads the elderly to the trail of successful aging, working in coordination with the provision of community environment in which the elderly can live their retired life would make the elderly gain the most possibility of independent living in the community. In addition, it will also strengthen the interaction and combination among the elderly, community residents, and the community organization. Furthermore, it is also necessary to support the elderly recognizing the “community” and constructing the local life. Meanwhile, with the care service offered by community organization, this will also help the elderly build up their local life in the community and realize the purpose of

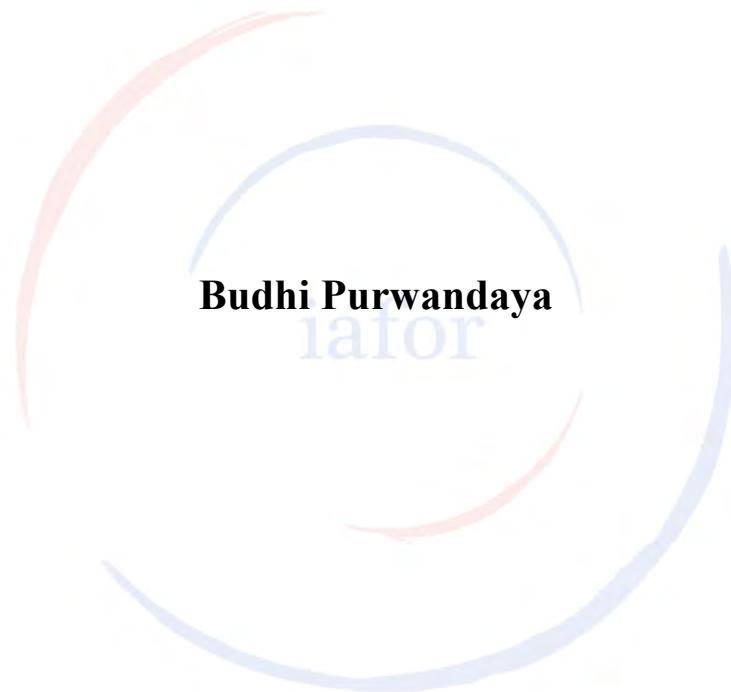
successful aging in their local life.

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Poverty, Growth and Water: The Case of East Java, Indonesia



**Stekpi, School of Business and Management,
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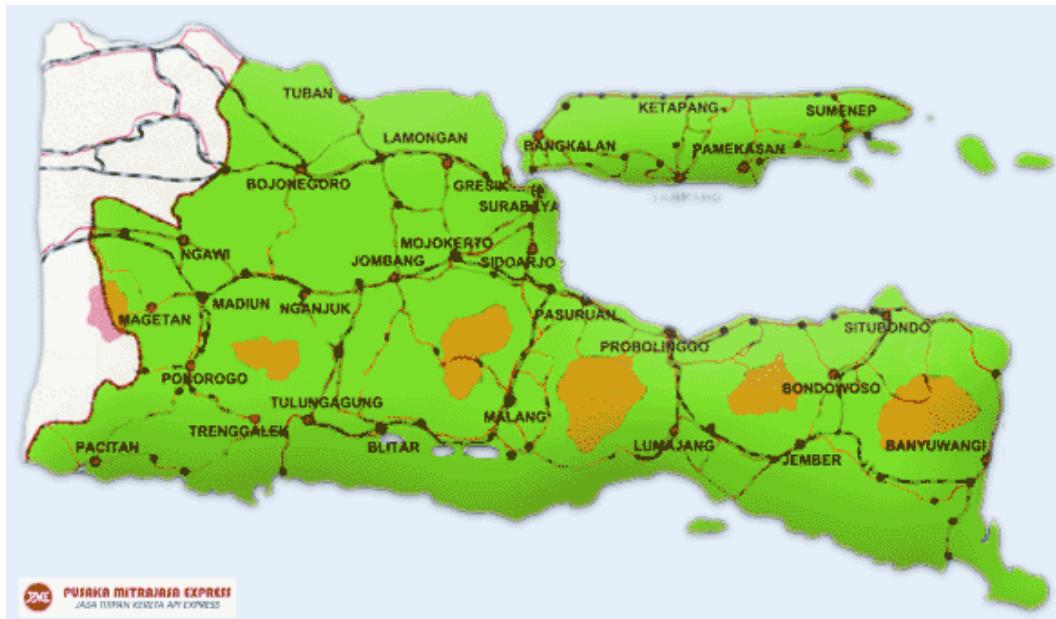
Introduction

Economic growth is something that is always expected in many economic systems since it is believed that growth will create more jobs, increase income and in the end produce more welfare to the people. Improvement in the living condition, including income, will also reduce poverty, so many people have believed. However many scholars have repeatedly criticize that notion, and warned that there is no clear cut pictures that economic growth will lead to poverty reduction. Many studies have indicated that economic growth will not automatically erase poverty in relative or absolute terms, though Brazil, to some extend, China and India may be an exception (Ravallion and Chen 2000; Kakwani and Pernia 2000; Foster and Szekely 2001; Ravallion 2001). Study on Brazil by Ferreira, Leite, and Ravallion (2007), and cross-country study by Dollar and Kraay (2000) and another study by Kraay (2004) provide the opposite results, or in the language of Dollar and Kraay “growth is good for the poor”. Study that provides result something “in the middle” such as the one conducted by Timmer (2004) in Indonesia, might suggest another point of view. In his words, he proposed “*The poor in Indonesia have been very closely connected to economic growth in the country, benefiting differentially when the economy was growing rapidly, and suffering disproportionately when the economy is not growing*”(Timmer, 2004). The debates on the issue of growth and poverty is still going on and more studies are needed before the conclusive evidence is settled down.

This paper is presenting another empirical evidence on the relationship between economic growth and poverty, taking special case of East Java, one of the provinces in Indonesia. In particular the paper is also taking the important role of access to clean water in poverty reduction. It is organized as follow; after the introduction part, in the second part existing condition on poverty in East Java is discussed briefly. Part three describes the model and data used in the study. Results and discussion are presented in part four and finally the concluding remarks are presented in part five.

Poverty in East Java

The province of East Java is located in the eastern part of the island of Java. It is in 111.0' to 114.4' East longitude and 7.12' to 8.48' South latitude. Geographically East Java is divided into mainland, which covered about 90 percent of the area and the island of Madura plus some other tiny islands, as the rest of the area. Total area of this province is about 47,922 sq.km. To the west of East Java is the province of Central Java. North of East Java is the Java Sea, while Madura and Bali straits separate it with Madura and Bali islands. There are 29 kabupaten (regencies) and 9 municipalities in East Java. The map of East Java is shown below:



Poverty is a real problem in the Indonesian, including East Java, economies. The Indonesian Statistics released data shows that in 2010, poverty, based on headcount index, reached 13.33 percent of the total population or about 31 million people. Meanwhile the number for East Java is 15.26 percent or 5.529 million people by March 2010. This number is lower than the one found in 2009 which is 16.68 percent or around 6 million people. Comparison on both growth and poverty for Indonesia and East Java can be seen on the table below;

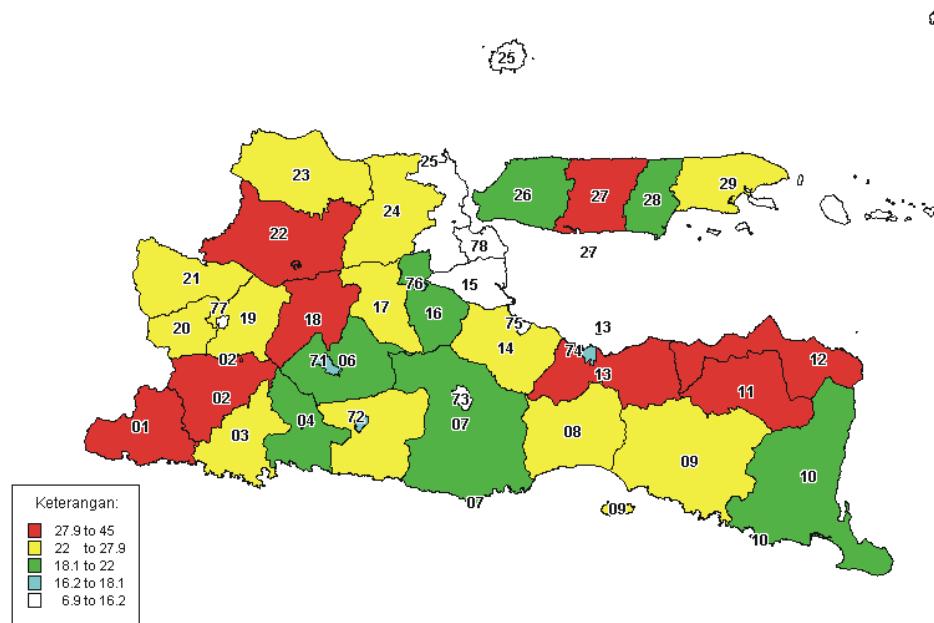
Table 1. Poverty in Indonesia and East Java (2007 – 2009)

	Numbers of Poor People (in 1000)			Poverty (%)			Economic Growth
	Urban	Rural	Total	Urban	Rural	Total	
East Java							
2007	2,575.7	4,579.6	7,155.3	14.7	25.0	20.0	6.1
2008	2,310.6	4,340.6	6,651.3	13.2	23.6	18.5	5.9
2009	2,148.5	3,874.1	6,022.6	12.2	21.0	16.7	5.0
Indonesia							
2007	13,559.3	23,609.0	37,168.3	12.5	20.4	16.6	6.3
2008	12,768.5	22,194.8	34,963.3	11.7	18.9	15.4	6.0
2009	11,910.5	20,619.4	32,530.0	10.7	17.4	14.2	4.6

Source : Statistics Indonesian, 2010

It seemed there is a tendency of lowered the number of poor people over time in East Java. It's interesting to note that at the same time economic growth in this region has been recorded close to six percent and in an increasing (2002-2007) then decreasing trend (2007-2009). At a glance, by just looking at these two numbers, one might interpret the variables are closely related by suggesting that the lower poverty rate is caused by higher growth in East Java. Or, the other way around, lower rate of poverty is accompanied by lower growth, which is a contradiction to the conventional thought on poverty alleviation.

Bank Indonesia (2001) is indicating poverty in East Java by showing it in a poverty map. The map shows different colors for different poverty intensities for each kabupaten (regencies) and municipalities. The red color indicates the area (regencies and municipalities) that have poor households between 27.9 – 45 percent of population, while the yellow and green color show the area that has poor households between 22 - 27.9 percent and 18.1 - 22 percent. The blue area is the regencies and municipalities that have 16.2 – 18.1 percent and the last is white color that shows the area where poor households in between 6.9 to 16.2 percent of its population. It can inferred that the red area is those regencies/municipalities with large number of poor households and the white area is the one with the small number of poor households.



Source: Bank Indonesia, 2001

The poverty map above showed that heavy poverty are concentrated to the part of western regions, north part of eastern regions and one region in the island of Madura. People living in East Java largely come from the ethnics of Javanese and Madurese. However Hartley (1984), an Australian sociologist, has suggested that culturally there are some other sub-ethnical Javanese exist in East Java, namely Mataraman, Arek and Pendhalungan. The Madurese live the island of Madura. The inhabitants of the 14 regions on western part of East Java are mostly those of mataraman. Arek people live the eleven regions in the central area and the eastern part of East Java, in nine regions, live predominantly the pendhalungan people. However, the cultural classification based on sub-ethnicity is not exactly defined following the administrative regions, since the mixture of those people are found almost everywhere in East Java.

Empirical model and data.

To test empirically the association between poverty and growth, the model developed for this study is based on the one used by Meng, Gregory and Wang (2005). In the model,

they include price indices for food as well as non-food, in addition to growth, savings and inequality as the explanatory variables. However, due to unavailability of a complete data on price indices for each region, as the determinant of poverty, this variable is excluded from the model in this study. In fact, data on price index or inflation rate is available only for three out of nine municipalities and absent in the rest 29 regencies. The other two independent variables were also dropped from the equation for the same reason.

Adopting the Indonesian models proposed previously by BPS (2009) and Suselo and Tarsidin, (2008), the model for this study is then extended to include the access to clean water along with other demographic variables such as health and education. Water is essentials for human being and other living forms. The cycle of poverty is proliferated, among others, by the lack of access to clean water (WEDO 2003). United Nations and the World Bank (2006) have long acknowledged the very important roles of access to clean water in helping the poor people in many developing countries.

Variables in the study are therefore poverty, growth, unemployment, access to clean water, health and education. The relationship is estimated by a panel regression for this study that covers 38 regions in East Java over the period of 2002 to 2008. The model is explicitly expressed as follow;

$$\text{Poverty} = \alpha_0 + \alpha_1 \text{Growth} + \alpha_2 \text{Unemployment} + \alpha_3 \text{Health} + \alpha_4 \text{Education} + \alpha_5 \text{Access} + \epsilon_{it}$$

Data for poverty are taken from the data based on head count index as the proportion of the poor people from the total population in particular region. Growth is estimated by the rate of change of the regional output between two consecutive years. As for unemployment, the data used is the unemployment rate for each region. To have a proxy for health, the study used the average life expectancy while for the education; the number of years of schooling is utilized. All the variables are in the logarithm forms and ϵ_{it} are the error components. Secondary data, published by East Java Statistics (BPS Jawa Timur), are employed in this study.

Results and discussions

Three different regression methods were applied, the Pooled Least Square and those of Fixed and Random Effects of Panel Regressions. The results are tested by the F and Hausman test and then compared. For the case of East Java as a whole, results of the Random Effects are found better than the one estimated by the Pooled Least Square methods. Comparing the Fixed and Random Effects of panel regression shows that the later regression fits the model better. Estimated results from Pooled LS and RE model are presented on the next table.

**Table 2. Estimation Results for coefficients, standard errors and P-value
For East Java**

Variables	Pooled LS	RE
Growth	0.0003	-0.0200
	0.0233	0.0432
	0.9900	0.6430
Unemployment	0.1435	0.1735
	0.0608	0.0529
	0.0190	0.0010
Water	-0.7068	-0.7132
	0.2412	0.2690
	0.0040	0.0080
Health	2.2136	-0.2448
	0.7121	1.1606
	0.0020	0.8330
Education	-2.2020	-1.5920
	0.1859	0.2444
	0.0000	0.0000
constant	0.5427	9.9904
	3.0817	4.7639
	0.8600	0.0360

Table 2 above shows the estimated coefficients, together with the standard errors and p-value for both the pooled least squares and random effects panel regression models. In general, except for the constant terms, the coefficients obtained from the pooled regression are overestimated. Furthermore, four out of the five explanatory variables are statistically significant in the common coefficients model. However the sign in front of the coefficient are not as expected for the independent variables growth and health.

Estimation by the random effects model produce better estimated coefficients, as the F-test and Hausmann tests also indicated. The sign for all independent variables are as expected. However variable health is found not statistically significant. As in the case of common coefficient model, again the variable on growth does not have a relationship with poverty in a statistical sense. Or in it can be inferred that economic growth does not have any effect on poverty, both on the pooled least squares model as well as the panel random effect one.

Other than growth and health, the other explanatory variables such as unemployment, access to clean water and education are significantly affecting the poverty. More people in a particular area have a higher educational level, the less poverty is predicted in that area. The elasticity on this variable is more than unity, implying that, on average, the percentage change in poverty is larger than the initial percentage change in number of school years. As people in a region have more access to clean water the lower the poverty rate found in such region. As unemployment is less in a region, the poverty is also reduced since more people are able to have income from their employment to support their well being.

**Table 3. RE Estimation Results for coeffiecents, standard Error and P-Value
 For Mataraman, Arek, Pendhalungan and Madura regions**

Variables	Cultural Regions in East Java			
	Mataraman	Arek	Pendhalungan	Madura
Growth	-0.0559	0.0134	-0.0372	-0.5392
	0.0609	0.0841	0.0578	0.3513
	0.3580	0.8730	0.5200	0.1250
Unemployment	0.1613	-0.0182	0.1976	0.1282
	0.0848	0.1425	0.1075	0.1129
	0.0570	0.8980	0.0660	0.2560
Water	-0.8467	-0.3835	-1.5590	-1.1774
	0.3890	0.8930	0.7221	0.4266
	0.0300	0.6680	0.0310	0.0060
Health	-7.3760	-0.1356	-1.0098	7.6894
	2.9747	4.7402	1.4758	9.6195
	0.0130	0.9770	0.4940	0.4240
Education	-1.7936	-1.7904	-1.5509	-0.7687
	0.3397	0.6295	0.3876	1.0792
	0.0000	0.0040	0.0000	0.4760
constant	41.8224	8.3088	16.9609	-14.1264
	12.9539	19.3651	5.4836	33.2742
	0.0010	0.6680	0.0020	0.6710

As it is found in the case of East Java as a whole, in each cultural regions growth is not significantly affecting the poverty. In particular it even has an opposite expected sign in the Arek region, but since it is statistically insignificant it can be ignored. Put it in other words, growth in East Java during the period of observation, has very small or even is not benefiting the poor. The finding is not in line with what Dollar and Kray (2000) have proposed, or the growth in East Java is, in fact, not pro-poor. It is also another supporting evidence for Timmer (2004) study in Indonesia, for the period following economic crises in 1998.

The results above suggest that economic growth brings about disparity, by region and by economic sectors. An indicator of disparities among region is found by looking at the Williamson Index, and in inequality by the Gini ratio. Study by the Ministry of Finance (2006) suggested that Williamson Index for East Java is 0.81. While the Gini index is close to 0.33. The magnitude of the two indices indicating the existence of disparities and inequality and it relatively stays the same during the period under study. Growth favors the secondary (manufacturing) and tertiary (services) sectors and poor people mostly in rural agricultural area are left behind. Similar finding was reported by Booth (2000) for Indonesia. As was mentioned by Ravallion and Chen (2004), growth that are not targeted on rural and agricultural development and not improving inequality distribution would not have much impact on the reduction of poverty.

The decoupling between growth and poverty could be explained another way probably through investment and employment. Economic growth in East Java, as in Indonesia as a whole, largely comes from consumption. Investment has not yet played significant role in it, therefore employment creation is lacked behind. Without employment, which is the important determinant of poverty, growth could reach the lower quintile of the

population. Growth does not directly link to job creation and therefore is not helping the poor.

A study by Universitas Indonesia (2005) produced a report indicating that employment elasticity has declined from 0.4 during 1985-1995 to 0.25 recently. It means that for every one percent of growth will induce 250.000 new jobs, a number which is lowered from the one found during 1980-1990s. Less new employment will bring less income to more increasing new job seekers, increasing the number of unemployed people and might give a stagnant or even increasing the number of poor people.

Results of the estimation on different regions based on Javanese sub-ethnics and Madurese produce some interesting findings. Table.3 pictures those findings. In Mataraman region, access to clean and safe water together with health and education are associated significantly with poverty. The more people have access to water, the better health care they receive and the longer education they pursue, the less poverty would be in the region. Relationship between unemployment and poverty is slightly less significant but still could have some explanation on the poverty changes.

Mataraman is predominantly agricultural areas and due to its fertile land, along the big rivers, its main crops are traditionally rice with some plantations scattered around. Two big rivers run across the region, namely Solo and Brantas River. Rivers bring blessing as well as a curse for people in the area, for flood occur annually as less and less forests remain in the up-streams due to deforestation process. However well developed irrigation systems help the region with rice production. It's a well known fact that employment in such primary sectors provides relatively low income. In such surrounding, unemployment significantly influence poverty as the result indicated above.

Poverty map in Figure 3. shown that large number of poor households concentrated in Pacitan, Ponorogo, Nganjuk and Bojonegoro regencies, the areas with red colors. Except Nganjuk, the land in the other three regencies are not as fertile as the rest area in Mataraman regions. People have to work harder to utilize the land with some other crops with even lower income. Therefore unemployment is another significant independent variable found in the model. Whenever people are unemployment in traditional agricultural, they can easily slipped into poverty.

In those areas above, water is also hard to find since the area surrounding is mostly mountainous and dry. Drought comes when the rainy season is over. People with less access of water have to walk long distance to bring it home. Consequently they would have fewer hours to spend in income generating activities. Policies to provide a deep well in the area with less water resources would help them to solve this problem and could also improve their health and income and in the end might reduce poverty. Water is not only an essential thing in their live, but also an indispensable requirement to improve the living condition, having a better health and helping the poor to escape from poverty.

The Arek regions lay relatively in the central region of East Java. Running from Lamongan regency in the north, down to Malang regency in the south, passing Gresik, the city or Surabaya, and Sidoarjo. It can be said that the region is largely urban, except Lamongan and Malang regencies. It is an industrial or manufacturing area, with

Surabaya-Malang industrial belt, historically was started by the sugar mills plants built by the Dutch during colonialization periods. The petro-chemical industries were located in Gresik, followed by consumer goods manufacturing plants in Surabaya and Sidoarjo, tobacco industries were located along the main Surabaya-Malang road together with other food and beverages plants and end with some sugarmills plants in Malang. Lamongan and the rest of Malang regency is mainly agricultural. With these economic characteristics, relationships between poverty and some explanatory variables in the model gives a rather different picture compare to the other cultural regions in East Java.

Within the Arek region, only education matters on poverty, the more education will reduce poverty. The other explanatory variables are not significant, though the signs are as expected, for except unemployment and growth. It's interesting to note that access to clean water, health and unemployment do not affect poverty significantly. In this region which is largely urban or sub-urban area the secondary and tertiary industries grow faster than the traditional primary sector and therefore plays more roles in the employment creation. In such environment, demand for more education of the job seekers is higher than in the other areas.

Six out of eleven regions are mostly urban including two large cities, Malang and Surabaya and other small city of Mojokerto and Batu. Surabaya is the capital city of East Java. Compare to the other regions, people living in this area have relatively higher educational level and most of well-known higher education institutions are located in Arek region. Employers are more demanding in the job they offered than in other regions, education is one of the requirements. People with less education will have a less bargain power, and most likely will be unemployed, which in turn will make them have less income and easily fall below the poverty line, become poor and increase poverty based on head count ratio. In such a case, it's understandable that education has a significant effect on poverty.

Unemployment has the wrong sign and statistically not significant and can be ignored. One explanation that can be provided to answer the fact, is that many people are willing to work in the very low paying jobs in the informal sector, particularly ones in the urbans. Income they get from employment is so low, unable them to be out of poverty. Poor people have jobs but keep them poor.

Access to clean water and health have the correct signs, but they are statistically insignificant. As more people have access to clean water and healthcare, poverty seemed remain unchanged. The local government policies on helping the poor, which focus more on reducing their expenditures by providing more access to healthcare and clean water have not yet succeeded as it is planned. Poor people have more access to water and healthcare subsidies but they stay poor.

In contrast to the Arek region, Pendhalungan is mostly agricultural regions dominated by the perennial (hard) crops, such as cocoa, coffee, tea and sugarcane plantations. Unfortunately not all of the land are as fertile as the one found in the mataraman and arek region. Although some rivers run through this region, climatically Pendhalungan is drier than the two previous regions. Access to water is not as plentiful as in the counterpart area, arek and mataraman regions. Northern part of Pendhalungan is ever drier than the

one in the south. Many poor households are found in regencies as it is shown in the poverty map with red colors.

With these characteristics, it is not surprising to find that access to clean water becomes a very significant determinant on poverty. The results have indicated that as more people have access to clean water, the less poverty would be in the area. As the poor have more access to clean water, they (and mostly women), have more time allocated to take productive income generating and other activities. It means a lot for the poor who have low family income. They also have more time to raise their off springs and encourage the children to attend schools. The study by LP3ES (2007) and World Bank (2010) in Lumajang and Lamongan found the similar findings.

Education is another factor which influences poverty significantly. The more educated people in the area, the less poverty is found in such region. Improvement on the access to clean water provides ample time to poor households to send their children to schools. Schooling in a long run investment which will improve human resources ability and competencies. Public policies on school assistances and subsidies, from the central and local government, has helped the poor in many regions in East Java.

Statistical evidence from the model on health and unemployment have the correct signs but not significant. There is not enough data to prove that the two determinants are affecting the poverty. People are so poor that having no employment does no longer matter or the other way around having employment would not improve their income significantly. This fact is still a puzzle to be solved by other careful studies.

Concluding remarks

Results of this study has demonstrated that growth in East Java has not been very friendly with the poor or using a rather extreme words, growth does not benefit the poor, at least during the study period. It does not matter to poverty alleviation in all the regions under different cultural background. As Ravallion and Chen has suggested, growth that does not accompanied by an improvement in the income distribution would have small or no effect on poverty. Growth that neglecting agricultural and rural development would produce even worse situation, it widened the disparity among regions and between urban and rural areas. Suspiciously that it could have happened in East Java. The trend of lowered poverty as the recent data has shown would probably exist due to other contributing factors but growth.

Another important finding suggests that access to clean water significantly affects the poverty in most of the cultural regions including East Java as a whole, except Arek region. Regions (regencies and municipalities) that provide more access to clean water to its population are predicted to have less poverty relatively compare to those that does not. Easy access to clean and safe water, including sanitation, will drive more income generating activities for low income people and allow them to let their family member, especially the children to attend school.

Education is another contributing factor in poverty alleviation, except in Madura. An investment in human resources that started more than a decade ago in East Java has paid its toll. People in East Java are recently better equipped with knowledge and competencies compare with those who do not have enough education, has helped them to escape from poverty. Similarly, public policies on school assistances and subsidies from the central and local government, has help the poor in many regions in East Java.

Health is found to be an explanatory variables significantly affecting poverty in East Java and Mataraman region. Provision of better healthcare for people, especially to those with low income, will bring about a healthy population increase employment and productivity and in the end reduce poverty in the region. However it is not strongly supported in Arek, Pendhalungan and Madura regions. More specific and careful consideration should be taken in further studies.

If education has a long run effect on poverty, the short run one is found on the factor of unemployment. Unemployment is statistically significant for East Java and Mataraman only. Unfortunately the evidence is not so convincing for the case of Arek, Pendhalungan and Madura regions. Low paying employment in rural and agricultural could play a role in this case.

Different surrounding due to differences in topographical can geographic as well as cultural background have shown various impacts on poor population. Differences among cultural regions produce different results on the determinants of poverty in East Java.

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Relationship between the Public Transportation Networks and Urban Land Development in Hong Kong Using Space Syntax

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Abstract

Space Syntax theory concerns the relations between different “spaces”. In urban studies, “space” is an urban element such as districts, areas, or even a streets or allies. With a topology graph whose relations (or transportation link) are included to connect all these elements (nodes), spatial analysis can be performed. Therefore, the topological characteristics become the core and primary elements of the theory and traditional physical distance or time cost becomes relatively not as important. Hong Kong is one of the most compacted cities in the world which heavily relies on massive public transportation along with the highway system. Most of the trips generated in the city are by public transportation. The railway and highway network therefore play a significant role in the urban development pattern of Hong Kong. Urban development is a complex process which involved different forms of landuse conversion. Besides, the intensity of different land-uses in an area is also critical while it can indicate the strengths of certain land-use. The theory of Space Syntax provides another approach to measure accessibility which based on topology characteristics and connectivity of a network. This paper attempts to explore the relationship between the topological characteristics of these transportation networks and urban development of Hong Kong from 1988 to 2007. In addition, with the examination of the patterns of transportation networks and urban development in the study period, the paper also aims to explore its implication on the development of sustainable transportation of the city.

Key Words: Urban Development, Sustainable Transportation, Space Syntax, Land Use

1 INTRODUCTION

The city of Hong Kong is unique of its extreme urban characteristics – limited land of approximately 1104 square kilometer (mostly mountain area) and a population of over 6.8 million resulting to be one of the densest places in the world (Census and Statistics Department, 2006, Lands Department, 2010). Of its limited land resources, the urban development of Hong Kong is always related to land resources management – allocation of different types of land-uses in the urban development process. However, with these constraints Hong Kong still made itself becoming one of the most developed cities in the world. In addition to the linear form traditional city core, northern coast of Hong Kong Island and Kowloon peninsula (Tong and Wong, 1997), new development areas are placed in the city periphery, the New Territories in the North, in order to accommodate the ever growing population and all types of activities. In the last three decades, the resulted huge volumes of traffic, the constraint on limited and expensive land resources, and the over centralization of the urban area became the motivation of the government to “rethink the accessibility of its space” in the urban area (Tiry, 2003).

It is the matter of transportation in other words. Relationship between urban development and transportation is always the interest of researchers. So far perhaps the most detailed study was conducted by Newman and Kenworthy (1991) in their survey which collected data from most major cities in the world. They found that there are several variables related to transport are correlated with urban density. And public transport related variables were found positively correlated with urban density. While public transports can reduce the transport related energy consumption per head which is one of the key concepts of sustainable development, these three elements – urban development and density, transportation and sustainable development – then become inter-connected with each other.

Most of the transportation systems around the world are in forms of network where different places are connected with each other so that people can travel from one place to another in the network. The theory of space syntax (Hillar and Hanson 1984) suggests that topological distance rather than physical metric distance should be considered in the accessibility degree of a space while accessibility plays an important role in the urban function of that space (Read 1998). This approach has been adopted in the perspective of urban studies where it is also incorporated into Geographic Information System to perform spatial analysis about urban spaces (Jiang, Claramunt & Klarqvist, 2000, Jiang & Claramunt, 2002). In the context of Hong Kong, the city is already a city of network. The public transportation systems particularly the rail system and bus system are one of the best in the work which have covered almost the entire territory. According to the by-Census in 2006, over 74% of the working population travel from their home to work place by either rail or public bus (Census and Statistics Department, 2006). The linear bus route information and the rail-line map become one of the daily necessities of the residents of the city. Other than the tradition parameters of time cost and physical distance answering question such as how long /far it takes from one place to another, people also want to know how to go to one place from another place; in other words, people are concerning how a place is connected to other places. Connectivity, therefore, draws connection between the theory of Space Syntax and the urban development of Hong Kong.

While the theory of Space Syntax provides another approach to measure accessibility which based on topological characteristics and connectivity of a network, the study of this paper aims to explore the possibility to examine the urban land-use change and the development of transportation networks of Hong Kong from 1988 to 2007 and attempts to explain how the topological structure of transportation network influence the pattern of urban development and changes. The paper will also examine the implications of the findings on the travelling pattern of people in Hong Kong and sustainability of transportation strategy of

the city. Being one of the urbanized cities in the world with one the best transportation systems in the world, the findings of the paper aims to provide a meaningful implication on sustainable transportation especially in the high density urban areas.

2 URBAN DEVELOPMENT

There are two forms of land-use change related to urban development – (1) rural-urban conversion at the city periphery and (2) urban land-use change inside the urban area, which indeed also are two aspects of the urbanization process. In recent years, land-use change detection has been intensively studied in remote sensing and monitoring algorithms for land-use/land-cover change (Mas 1999, Coppin *et al.* 2003, Wu 2009). “Where” and “what” have been change have been answered. A new field of research regarding to post-change detection analysis is a further step to answer the question of “how” and “why” the change occurs. Understanding the spatial and temporal process and the identification of driving factors of this dynamic process of land-use change is important (Huang, Li, & Wu, 2009). While urban population is increasing, land-use change and its implications upon different aspects of urban development has become one of the most important issues for governments around the world. In response, these governments are developing different strategies concerning to such process. Although the growth of urban area (and urban population) provides room for economic development and the land-use change within the urban area often indicates economic development, numbers of impacts do come along with the conversion processes such as impact on agricultural production, heat island phenomena, increasing demand of food, water, and sewerage, etc., which will/have already become challenges of governments and policy makers in the 21st century. Therefore, understanding this urban development process becomes important.

Urban development is a complex process. The non-urban land-use to urban land-use conversion is one of the processes of urban growth, which involves numbers of social economic, political, and environmental factors. Previous studies have focused on different driving forces including natural, environmental, demographics, economy, transportation, preference for proximity, neighbourhoods, and government policies (e.g. Cervero and Wu 1997; Mayer and Somerville 2000; Smersh *et al.* 2003; Angel *et al.* 2005). In addition to the non-urban-to-urban conversion, the change of intensity degree of different land-uses in an area is also critical while it can in turn influence and even alter the behaviours of the urban population. Therefore, other than land-use distribution pattern, land-use intensity should also be considered in order to analyse the impact of different land-use types upon the surroundings. Consequently, understanding the spatial pattern of urban land-use change and the underlying meaning has become important of its implications to urban development.

The land-use structure of urban area has long been studied by scholars across disciplines. In the early 1800s, a German economist von Thünen (1825) proposed a theory of concentric economic rings, which paved the way for the later urban morphology theories such as concentric zone theory (Burgess, 1925) and the central place theory (Christaller, 1933). Following these concentric and symmetric urban structure theories, the sector theory (Hoyt, 1939) and multiple nuclei theory (Harris and Ullmann, 1945) recognized the influence of transportation, industrialization, and multiple centers of specialized activities which lead to an asymmetric patch mosaic urban land-use pattern. Besides these theories of urban morphology, the changes of urban areas have also been studied with comparison to global economic activity (Beaverstock *et al.* 2000), world cities (Sassen 2001), local factors (Beauregard 1995) and socioeconomic changes (Knox 1991). However, there is still a need to study the spatial patterning implication of the physical process of land-use change within the

urban area and the underlying socioeconomic process (Seto, 2005), in which this spatial patterning of land-use reflects underlying human processes and influences the urban environments.

3 THE CITY OF HONG KONG

Hong Kong, one of the densest cities in the world, is located in the southeast coast of China. The city is one of the most compacted cities in the world which heavily relies on massive public transportation including transit and railway systems. The railway and highway network therefore play a significant role in relation to the urban land-use distribution pattern of Hong Kong.

During the last decade of the 20th century and the first decade of the 21st century, Hong Kong had undergone a series of major changes. Politically the sovereignty of Hong Kong had been returned to China from Britain. Economically the city had experienced the economic growth throughout the early- to mid-nineties, economical crisis if 1997, and the slow recovery period afterwards. Along with these major changes, land-use change also occurred. This paper attempts to explore the possibility to study the relationship between the topological characteristics of these transportation networks and urban development in terms of land-use change from 1988 to 2007.

3.1 Railway

The major railway system in Hong Kong currently is Mass Transit Railway (MTR). MTR was merged from two railway systems, MTR and Kowloon Canton Railway (KCR), in 2007. In 1988, there were only three MTR rail lines (Island Line, Kwun Tong Line and Tsuen Wan Line) and one KCR rail line (East Rail).

During the period between 1988 and 2007, a number of new lines were constructed to expand the coverage of the rail network. Tung Chung Line started operating in 1998 connecting the Tung Chung new town to the main urban area. Tseung Kwan O Line was completed in 2002, providing railway service to Tseung Kwan O new town. In addition, West Rail and Ma On Shan line were completed in 2003 and 2004 to serve the Northwest New Territories and Shatin/Ma On Shan area, respectively. Although the Disneyland Resort Line is completed in 2005, it is a tourist rail in nature and not quite influential to urban development; therefore, it is not considered in the analysis. Light Rail, however, of its nature of local transportation, it is not considered as well. Lok Ma Chou Extension shown in figure 1 is completed in 2007.

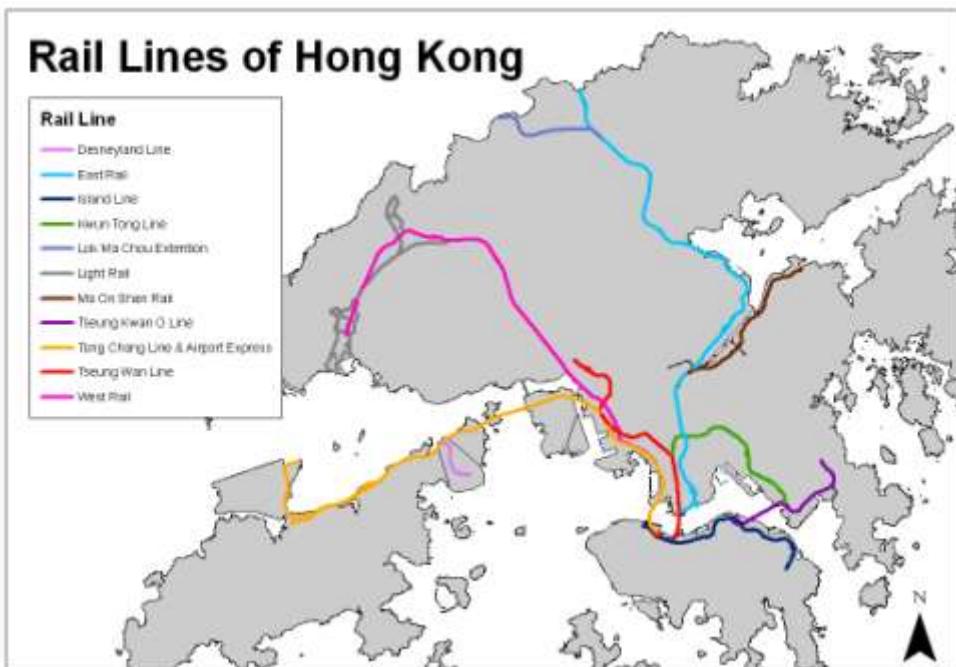


Figure 1: Rail Lines of Hong Kong

3.2 Highway System

Although the rail system plays a significant role in trip generation, the highway system of the city of Hong Kong is also important to the transportation system. And the system provides the infrastructures allowing a comprehensive bus system moving people between districts.



Figure 2: Strategic Highway System of Hong Kong

By 2007, the highway system in Hong Kong was comprised of eight strategic routes (Route No.1, 2, 3, 5, 6, 7, 8, and 9 and these routes will be also defined as highway in the rest of this paper). All Route No. 1, 2, and 3 (completed in 1966, 1991 and 1998, respectively) are north-south running routes from Hong Kong Island (Aberdeen, Quarry Bay, and Sai Ting Pun, respectively) to Shatin, Ma Liu Shui, and Yuen Long through Central, East, and West Kowloon, respectively. Route No. 4 (1984) runs along the northern coast of Hong Kong between Chai Wan to Kennedy Town. Routes No. 5 (1968) and 7 (1961) are east-west running routes from East Kowloon and Tseung Kwun O to Tseun Wan and Kwai Chung, respectively. Route No. 8 connects Shatin to the Hong Kong International Airport but only the section from the airport to Tsing Yi was completed in 1997. The rest of the route was not completed until 2009. Route No. 9 is the longest strategic route in Hong Kong circumscribing the New Territories. The route was completed section by section from 1978 to 2007 (the route did not become real “circular” until the section between Chai Wan Kok and Shek Wai Kok was completed in 2007).

4 SPACE SYNTAX

Urban space is comprised of different forms and intensity of land utilization connected by streets (Kim and Sohn, 2002). A network of streets and different transportation tools such as transit and railway construct a transportation network and accessibility therefore can be generated from the transportation networks. The research in this paper aims to study how these networks are related to the land utilization with the application of the basic concept of space syntax (Hillar and Hanson 1984). The theory of space syntax suggests that topological distance rather than physical metric distance should be considered in the level of accessibility of a space while accessibility plays an important role in the urban function of that space (Read 1998).

Urban form can often be seen as a distribution pattern of different urban elements (Batty, 2004). These urban elements, however, are our urban experience of different activities and functions which involve spatial characteristics.

These elements can be interpreted as locations or areas identified by people and the relations between these elements can be any types of associations and linear transportation routes such as roads and rail-lines. In a sense, these locations and routes can be represented by a graph where the locations can be interpreted as a node and the relations between the locations can be interpreted as a link defined as:

$$l_{ik} = \begin{cases} 1 & \text{if a relation exists between } i \text{ and } k \\ 0, & \text{otherwise} \end{cases} \quad (1)$$

where i and k refer to the nodes and the binary value l refers to the existence of relationship between the nodes. There are two assumptions. This relationship is symmetric in which $l_{ik}=l_{ki}$ and the self-linkage (l_{ii}) is not considered important. Therefore l_{ii} is set to zero.

While our “urban experience” might not be physic and can be abstract, the nodes and links in this graph can be abstract as well. Therefore, although these links often refer to transportation routes in most urban form study, they can also be abstract such as capital flow from region to region. However, in urban form study, linear transportation links such as streets, roads, and rail-lines are usually taken into consideration. This approach of analysis places its focus on “accessibility” of each node in a network where distance between nodes in the graph is also calculated.

This form of spatial representation as graphs has been widely used by researchers in different aspects including measurement of transportation networks (Kansky 1963), population

systems (Stewart 1947), accessibility identification (Hansen, 1959; Wilson, 1970), and even representation of in-door connectivity between rooms (March and Steadman, 1971).

While accessibility has attracted the attentions of many researchers attempting to simulate the clustering pattern of human activities, it is often represented by either physical travel distance or travel time cost as the weight of the links connecting the nodes. This concept of accessibility in terms of physical distance and travel time cost are therefore becoming common in urban study. Such pattern of accessibility is concerned by planners while new transportation infrastructure is developed.

The concept of accessibility represented by graphs of nodes and links provides the basis of the theory of Space Syntax. The theory is proposed by Hillier which aims to establish a set of parameters to quantify spatial elements (Hillier and Hanson, 1984). At first the theory was applied by architects in designing in-door space. Then the application of the theory expands to the field of urban study which considers a city as a building particularly regarding to the flow of pedestrians and vehicles (Hiller, 1993; Peponis et al., 1997; Penn and Hiller, 1998). Therefore, the urban elements of an urban area mentioned in previous paragraphs can be seen as different forms of spatial unit in a building such as rooms, lobby, and corridor.

The theory of Space Syntax concerns the relations between different “spaces”, or spatial units and how these “spaces” are connected in a network. In terms of urban study, “space” and spatial unit are urban elements such as locations, regions, districts, areas, or even a streets or allies. Through a graph which relations (or transportation link in terms of accessibility/connectivity study) are included to connect all these elements (nodes) together, spatial analysis can be performed with the topology of the graph. As a result, “connectivity” comes to the scene. Topological characteristics become the core of space syntax and traditional physical distance or time cost become relatively not as important.

4.1 Large and Small Scale Space

As the theory of Space Syntax concerns connectivity and requires a connectivity graph for analysis, translating our surrounding space into the node-link graph is thus crucial. According to the theory, space can be generally categorized into two levels: large and small scale. The logic is relatively simple. Small scale space is a space where we can experience from one fix point; large scale space, however, in reverse, is a space that we are not able to experience from one fix point. And a large scale space is formed by a number of connected small scale spaces.

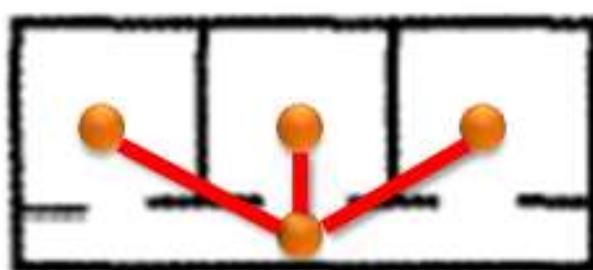


Figure 3

For example, figure 3 shows a floor plan of three rooms and a corridor. Under the concept of large and small scale space, a room and a corridor is a space that one can experience directly and therefore belong to small scale spaces. Thus, they can be considered to be a node in a graph as shown in the figure. The door connects the rooms to the corridor and therefore

they can be seen as a link between two nodes in the graph. As a result, these connected rooms and corridor as a whole form a large scale space as an entire floor plan.

4.2 Primal Problem and Dual Problem

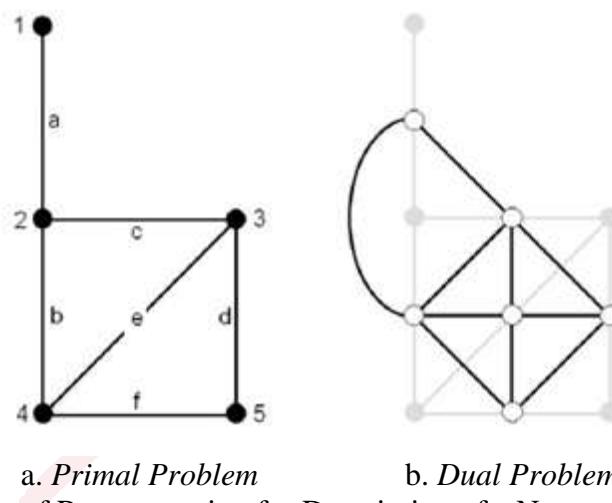


Figure 4: Two Types of Representation for Description of a Network Graph (Batty, 2004)

There are two types of representation for network graph description. Figure 4a shows a *primal problem* where the focus is on the nodes, which refer to street junctons while the links refer to the streest in this occasion. The basic unit of *primal problem* is node. The other representation is *dual problem* where relations between the links are traced. Relationships between streets are identified and the nodes become the connection points. In *dual problem*, the basic unit is link. In a sense, the original node-link graph of figure 1a can be transferred to figure 1b. Links become nodes and nodes become links. This representation is relatively abstract yet it considers link/street segments as objects and the nodes/junctions are relationships between these objects (Batty, 2004).

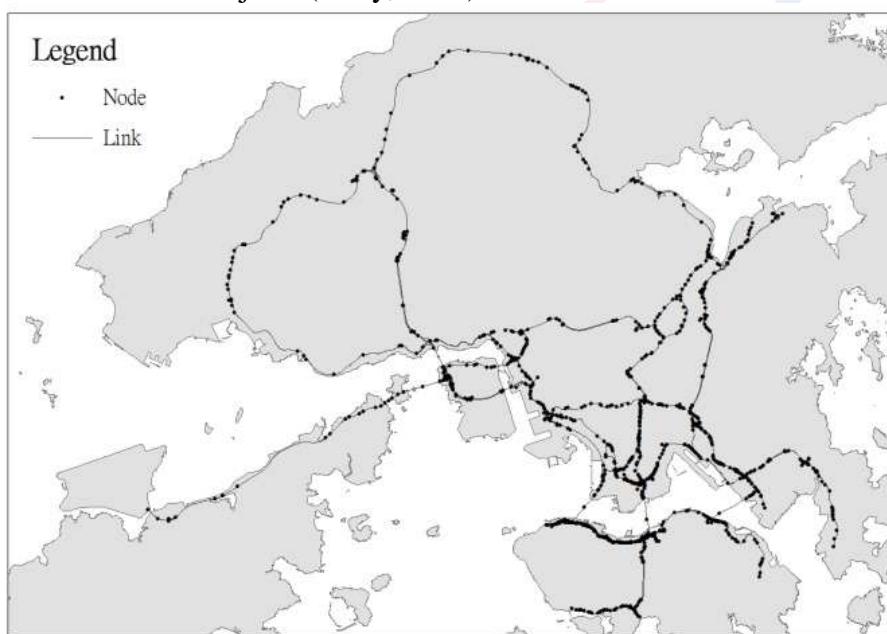


Figure 6a: Highway Network of 2007

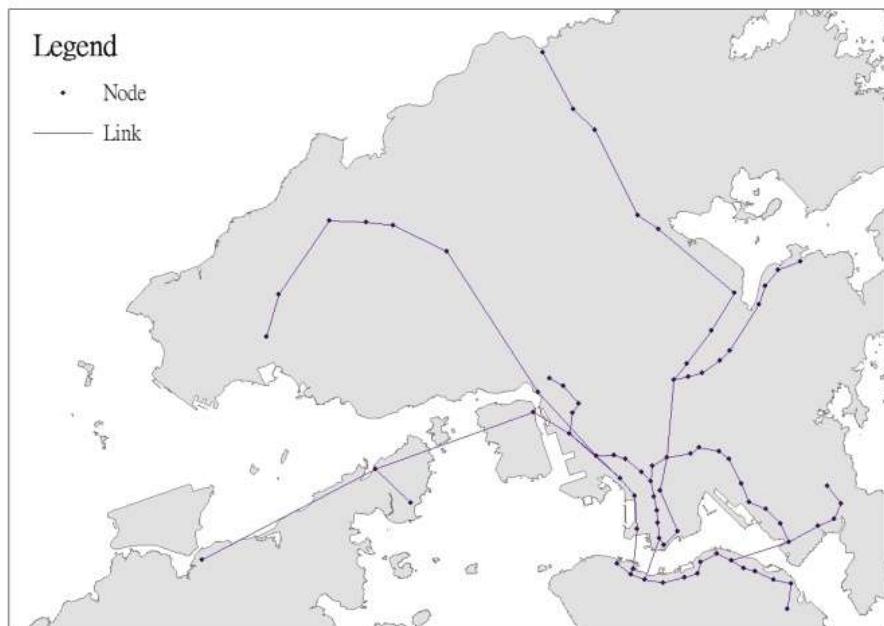


Figure 6b: Railway Network of 2007

Spatial Analysis Parameters

With the connectivity graph established from the process mentioned in the previous section, a set of parameters can be generated. The first parameter is Connectivity, which refers to the number of node directly.

$$C_i = k \quad (2)$$

where C is connectivity and k is the number of node directly connected to node i .

Control value is the second parameter which indicates the degree of control of a node over its connecting nodes.

$$ctrl_i = \sum_{j=1}^k \frac{1}{C_j} \quad (3)$$

where $ctrl$ is control value and k is the number of node directly connected to node i and C_j is the connectivity value of the j^{th} node connected to node i .

Depth value is another parameter. The value refers to the distance from a node to all the other nodes of a graph. Therefore, given that d_{ij} is the shortest distance from node i node node j , the following is the depth value (d_{ij} in this paper is determined by the number of step from a node to another node; in other words, it is the number of node to be passed through from the starting point to the destination):

$$Depth_i = \sum_{j=1}^n d_{ij} \quad (4)$$

where n is the number of node in the connectivity graph.

And with the depth value the mean depth value is as follows:

$$MD_i = \frac{\sum_{j=1}^n d_{ij}}{n-1} \quad (5)$$

Integration is another parameter. It is the degree of a node integrated to the entire system. There are two values: Relative Asymmetry (RA) and Real Relative Asymmetry (RRA).

$$RA_i = \frac{2(MD_i - 1)}{n-2} \quad (6)$$

and

$$RAA_i = \frac{RA_i}{D_n} \quad (7)$$

where

$$D_n = \frac{2 \left\{ n \left(\log_2 \left(\left(\frac{n+2}{3} \right) - 1 \right) + 1 \right) \right\}}{(n-1)(n-2)} \quad (8)$$

where D_n can be used to obtain a standardized value for the integration degree (Kruger, 1989).

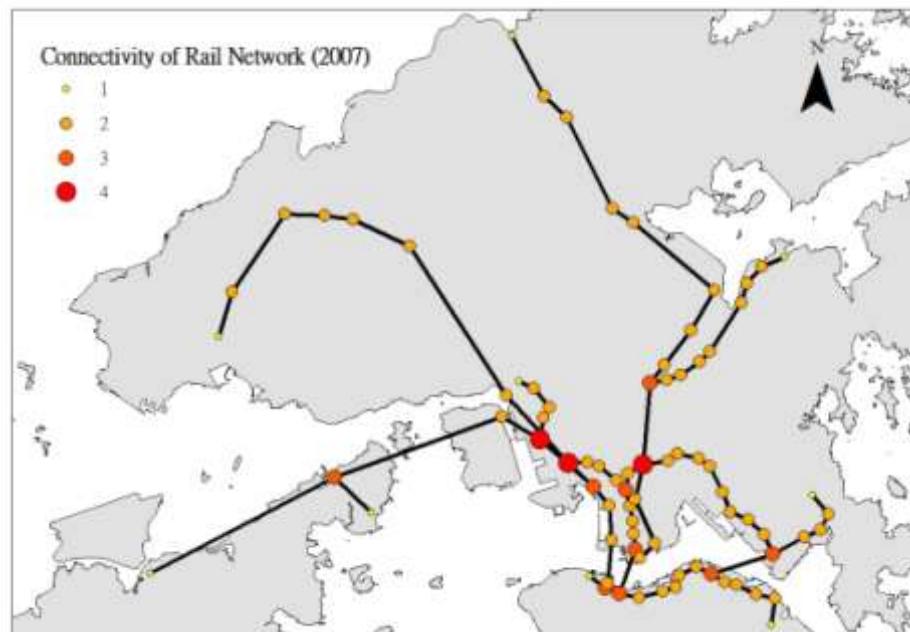


Figure 7a: Connectivity of Rail Station (2007 Rail Network)

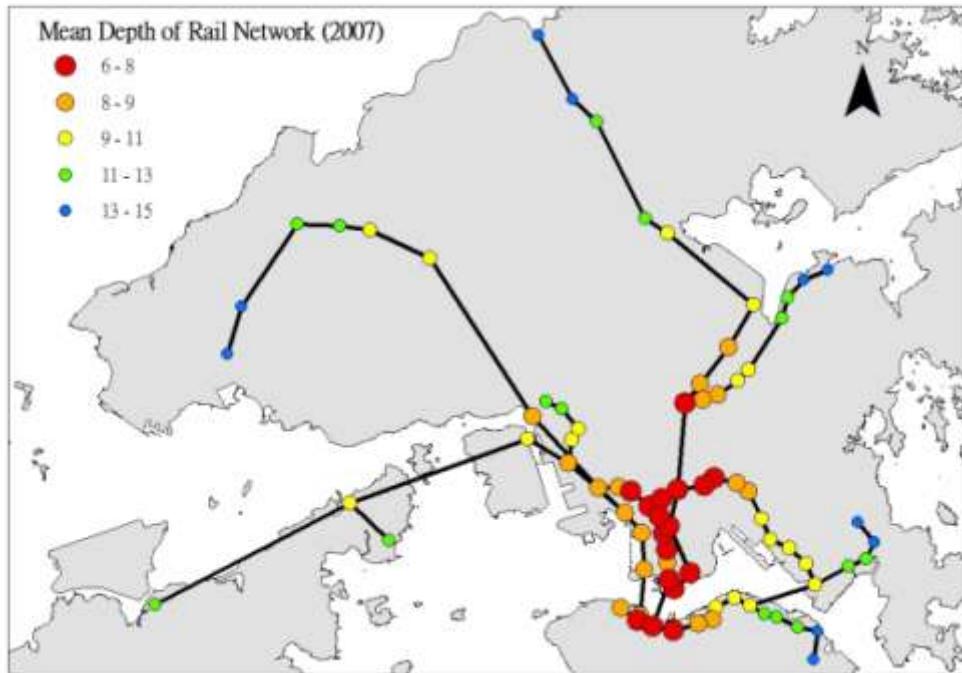


Figure 7b: Mean Depth of Rail Station (2007 Rail Network)

5 DATA

Space Syntax approach is adopted in the study of this paper. A set of space syntax parameters of connectivity and integration of both rail and highway network of Hong Kong in 1988 and 2007 would be obtained following the equations mentioned. While both networks aim to connect one place (point) to another place (point) and our behaviours occur around these points, the road segments/rail tracks in this context are not involved in these activities but passenger flow. Therefore, it is a primal problem (refers to figure 4). Rail stations and road junctions are nodes and rail tracks and road segments are links. The following table shows the parameters.

Table 1: Space Syntax (SS) Parameters

Code	Variables	Code	Variables
1988_RR_C	Connectivity of 1988 Railway Network	1988_HW_C	Connectivity of 1988 Highway Network
1988_RR_Ctrl	Control Value of 1988 Railway Network	1988_HW_Ctrl	Control Value of 1988 Highway Network
1988_RR_MD	Mean Depth of 1988 Railway Network	1988_HW_MD	Mean Depth of 1988 Highway Network
1988_RR_RA	Relative Asymmetry of 1988 Railway Network	1988_HW_RA	Relative Asymmetry of 1988 Highway Network
1988_RR_RRA	Real Relative Asymmetry of 1988 Railway Network	1988_HW_RRA	Real Relative Asymmetry of 1988 Highway Network
2007_RR_C	Connectivity of 2007 Railway Network	2007_HW_C	Connectivity of 2007 Highway Network
2007_RR_Ctrl	Control Value of 2007 Railway Network	2007_HW_Ctrl	Control Value of 2007 Highway Network
2007_RR_MD	Mean Depth of 2007	2007_HW_MD	Mean Depth of 2007

Code	Variables	Code	Variables
	Railway Network		Highway Network
2007_RR_RA	Relative Asymmetry of 2007 Railway Network	2007_HW_RA	Relative Asymmetry of 2007 Highway Network
2007_RR_RRA	Real Relative Asymmetry of 2007 Railway Network	2007_HW_RRA	Real Relative Asymmetry of 2007 Highway Network
D_RR_C	Change of Connectivity of Railway Network	D_HW_C	Change of Connectivity of Highway Network
D_RR_Ctrl	Change of Control Value of Railway Network	D_HW_Ctrl	Change of Control Value of Highway Network
D_RR_MD	Change of Mean Depth of Railway Network	D_HW_MD	Change of Mean Depth of Highway Network
D_RR_RA	Change of Relative Asymmetry of Railway Network	D_HW_RA	Change of Relative Asymmetry of Highway Network
D_RR_RRA	Change of Real Relative Asymmetry of Railway Network	D_HW_RRA	Change of Real Relative Asymmetry of Highway Network

Land-use data of Hong Kong in 1988 and 2007 are also applied for the land-use analysis. Ten categories are examined in the analysis including private residential, public residential, rural residential, temporary residential, commercial, institutional, industrial, open space, agricultural and fish pond. The following tables are all the variables of these land-uses and the relevant code.

Table 2: Ten Categories of Land-use for Analysis

Code	Land-use (LU)	Code	Land-use (LU)
PriR	Private Residential	D_PriR	Change of Private Residential
PubR	Public Residential	D_PubR	Change of Public Residential
RurR	Rural Residential	D_RurR	Change of Rural Residential
TemR	Temporary Residential	D_TemR	Change of Temporary Residential
Com	Commercial	D_Com	Change of Commercial
Ins	Institutional	D_Ins	Change of Institutional
Ind	Industrial	D_Ind	Change of Industrial
OS	Open Space	D_OS	Change of Open Space
Agr	Agricultural	D_Agr	Change of Agricultural
FP	Fish Pond	D_FP	Change of Fish Pond

The smallest spatial unit for analysis is the territory planning units (TPU) and the boundary follows the definition of the 2001 by-census. There are 427 TPUs in total and only those with the highway junctions and rail stations located are included in the analysis (134 TPUs in total). The values of the parameters of each TPU are retrieved as follows:

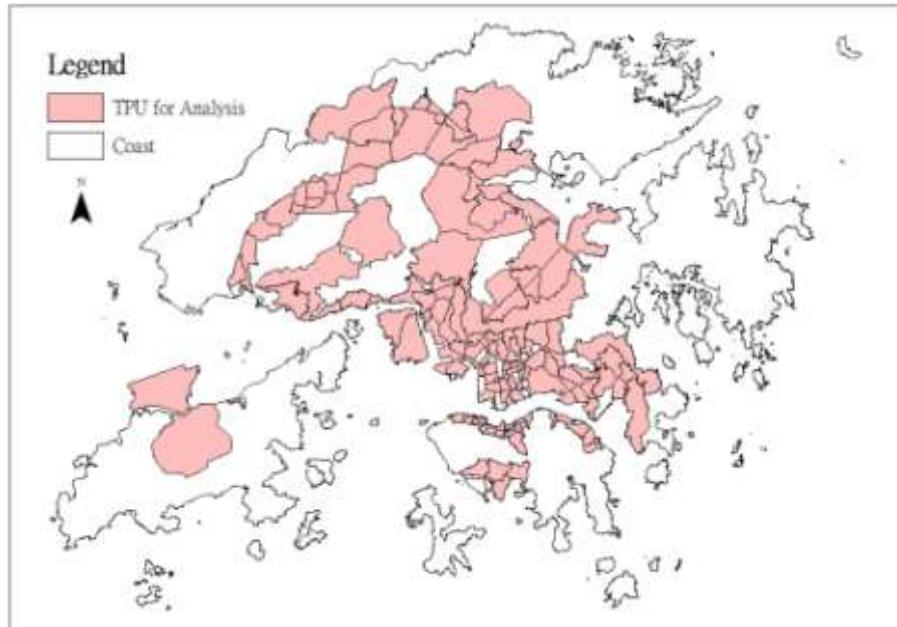


Figure 8: 134 Territory Planning Units for Analysis

Space Syntax Variables:

$$TPU_k SS_i = \frac{\sum_{j=1}^{n_k} TPU_k SS_{ij}}{n_k} \quad (9)$$

where SS_i is Space Syntax variable, n_k is the number of node of highway or railway system within TPU_k .

Land-use intensity degree is represented by the following parameters. In this study, only the size of the different land-uses in a TPU is accounted.

$$TPU_k LU_i = \frac{LU_{ki}}{Land\ Area_k} \quad (10)$$

where LU_{ki} is the area of land-use i in TPU_k and $Land\ Area_k$ is the land area in TPU_k .

6 ANALYSIS

6.1 Principal Component Analysis

Principal Component Analysis (PCA) is adopted for the analysis for the land-use change data (from 1988 to 2007). PCA is a statistical data reduction method to reduce a set of variables into a smaller number of variables. The resulted variables (components) are uncorrelated and most of the variance of the original set of variables is accounted for by the resulted components. The resulted components maybe meaningful and consequently can be adopted for interpretation. Significant principal components which eigenvalues higher than 1 are extracted and significant relationship of loadings over 0.5 are adopted for interpretation, which would determine the meaning of the principle components.

6.2 Stepwise Linear Regression Analysis

Linear regression analysis is designed to model the relationship between the dependent variable and the independent variable(s) with the linear function:

$$y = \sum_{k=1}^n b_k x_k + C \quad (11)$$

where y is the dependent variable, x_k is the independent variables, and b_k is regression coefficients relevant to the independent variables. A value of R^2 is also generated in the analysis representing the measure of goodness-of-fit of the regression model, which is the proportion of the dependent variable's variance accounted for by the regression. And stepwise linear regression aims to build a best explanatory regression model with the minimum number of independent variables.

7 RESULTS AND INTERPRETATIONS

7.1 Results

Principle Component Analysis

Principle Component Analysis is applied for the land-use change data for all ten categories of land-use.

Table 3: Total Variance Explained in Principle Component Analysis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.757	17.571	17.571	1.757	17.571	17.571	1.676	16.756	16.756
2	1.334	13.338	30.910	1.334	13.338	30.910	1.367	13.673	30.429
3	1.301	13.014	43.923	1.301	13.014	43.923	1.289	12.894	43.324
4	1.154	11.543	55.466	1.154	11.543	55.466	1.148	11.478	54.802
5	1.007	10.069	65.535	1.007	10.069	65.535	1.073	10.734	65.535
6	.912	9.118	74.653						
7	.870	8.699	83.353						
8	.677	6.766	90.119						
9	.594	5.939	96.058						
10	.394	3.942	100.000						

Extraction Method: Principal Component Analysis.

Five components with eigenvalues higher than one are extracted where 65.5% of the variance is accounted for by these components.

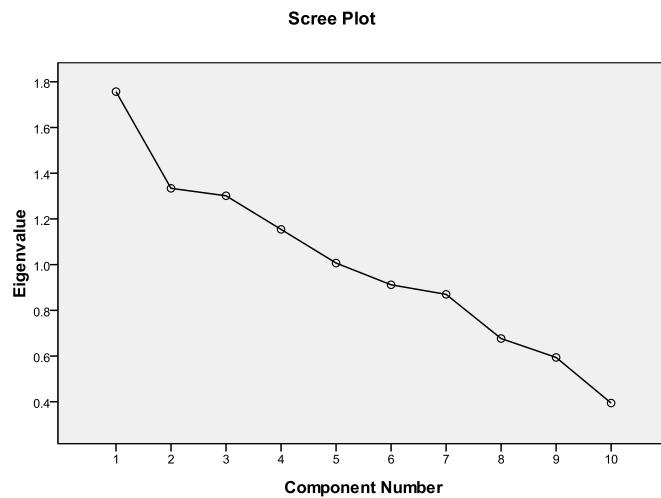


Figure 9: Screen Plot of the Principle Component Analysis

Table 4: Component Matrix^a

	Component				
	1	2	3	4	5
D_PriR	.282	-.790	.035	-.034	-.024
D_PubR	-.161	-.160	.713	-.136	.089
D_RurR	.587	.304	.054	.089	.183
D_TempR	-.010	.011	-.686	.077	.423
D_Com	-.225	.681	.029	.031	-.171
D_Ins	.022	.286	.236	-.712	.264
D_Ind	.770	.155	-.134	.044	-.082
D_OS	-.204	.121	.284	.699	-.149
D_Agr	-.747	-.092	-.364	-.190	-.145
D_FP	-.253	-.009	.174	.295	.798

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Table 4 is the component matrix of the five components showing the loadings of these components bear towards different categories of land-use. Only loadings higher or lower than +0.5 or -0.5 are highlighted for interpretation.

According to the loadings table, the five new extracted components can be interpreted as five new explanatory variables. The following table shows interpretations of these new variables and based on the loadings.

Tables 5: Interpretation and Code of the Extracted Components

Component	Name	Code
1	Change of Rural Area	C_RA
2	Change of Urban Area	C_UA
3	Change of Public and Temporary Residential	C_PTR
4	Change of Institutional and Open Space	C_IOS
5	Change of Fishpond	C_FP

Stepwise Linear Regression Analysis

Stepwise Linear Regression is applied to construct a model attempting to examine components 1, 2 and 3 (C_RA, C_UA, and C_PTR) while these three types of changes reflect the major elements of urban development (growth of commercial, residential, and industrial activities and the retreat of agricultural activities). Therefore, three regression models are built with these three components set to the dependent variables. All the space syntax parameters (both 1988 and change data) and the land-use data of 1988 are imported to the model as independent variables.

Regression Model of C_RA as Dependent Variable

The following tables show the stepwise linear regression results.

Tables 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.840 ^c	.706	.679	.38674071

Tables 7: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
3 (Constant)	-.956	.308		-3.106	.004
1988Ind	-3.787	.564	-.653	-6.720	.000
1988_HW_MD	.022	.006	.403	3.950	.000
1988PriR	-1.490	.384	-.395	-3.876	.000

The regression model of C_RA shows that only three parameters are considered significant and the rest are removed from the model. They are industrial and private residential land-use of 1988 and the mean depth of highway network of 1988. The standardized coefficients show that the industrial land-use of 1988 plays the most contribution of -0.653 while the private residential land-use of 1988 and the mean depth of highway network of 1998 follow by 0.403 and -0.395, respectively. R square is 0.706 which indicates 70.6% of the variance is accounted for by the regression model.

Regression Model of C_UA as Dependent Variable

Tables 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.902 ^c	.813	.796	.57810436

Tables 9: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
3 (Constant)	-.542	.139		-3.907	.000
1988PriR	5.291	.555	.748	9.526	.000
1988Com	-4.467	.956	-.360	-4.673	.000
D_RR_C	-.260	.100	-.204	-2.596	.014

The regression model of C_UA indicates only three parameters considered being significant and the rest are removed from the model. They are commercial and private residential land-use of 1988 and the change of connectivity railway network. The standardized coefficients show that the private residential land-use of 1988 plays the most contribution of -0.748 while the commercial land-use of 1988 and the change of connectivity railway network follow by -0.360 and -0.204, respectively. R square is 0.813 which indicates 81.3% of the variance is accounted for by the regression model.

Regression Model of C_PTR as Dependent Variable

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.884 ^b	.781	.767	.57537589

Table 11: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
2	(Constant)	.102	.145	.702	.488
	1988TemR	27.310	2.685	.835	10.170
	1988Ins	-2.229	.890	-.206	-2.505

The regression model of U_PTR shows that only two parameters are considered significant and the rest are removed from the model. They are temporary residential and institutional land-use of 1988. The standardized coefficients show that the temporary residential land-use plays the most contribution of 0.835 while the contribution of institutional land-use of 1988 is -0.206, respectively. R square is 0.781 which indicates 78.1% of the variance is accounted for by the regression model.

7.2 Interpretations

In the regression analysis, the space syntax variable of mead depth of 1988 highway network is found significant contributing to the dependent variable of C_RA while the change of connectivity value of railway network is found contributing to C_UA and no space syntax variable is found important in the regression analysis of C_PTR.

The results of the principle component analysis shows that the areas where industrial and rural residential land-uses increase are also the areas where agricultural land-use decreases (component 1, C_RA), indicating the process of rural-urban conversion. As agricultural activities in Hong Kong is retreating, more and more farmland or animal husbandry land are converted into industrial or residential use. However, these areas are geographically located in the northern New Territories away from the traditional city core. Therefore, the standardized coefficient of 1988_HW_MD is positive, indicating the changes are located in the area where the level of integration toward the highway network is low.

Component 2 extracted from the principle component analysis illustrates the “urban-scape” of Hong Kong which is related to private residential (negative loading) and commercial (positive loading) land-uses in majority. The regression analysis indicates a positive contribution of private residential land-use in 1988 and a negative contribution of commercial land-use in 1988 and the change of connectivity of the railway network. It signifies that the

areas where the commercial land-use intensity increased between 1988 and 2007 are probably located in the areas where the intensity of private residential is high. This particularly can be implied to the Kowloon peninsula (Tsim Sha Tsui area), the new business complex in Quarry Bay and the new shopping malls. Also, the increase of private residential land-use intensity is also contributed by the intensity of commercial land-use and the increase of railway connectivity value.

While connectivity value is about the number of node that a node is connected to, the area where connectivity increases therefore is the area near to a new interchange rail station connected to a new rail line or the area where new stations are completed. And the new interchange rail stations are often associated with new residential development along with shopping malls. The new rail lines between 1988 and 2007 include Ma On Shan Line, West Rail, Tseung Kwun O Line, Tung Chung Line. In common these rails all connect the new towns (Shatin/Ma On Shan, Yuen Long/Tuen Mun, Tseung Kwun O and Tung Chung) in the New Territories (except Tung Chung which is in Lantau Island) to the major rail system. During the studied period, a lot of private residential developments were completed in these areas.

Component 3 generally describes the distribution of public housing development. The result of the regression analysis indicates that the major contributor is the intensity of temporary residential land-use in 1988 and no space syntax parameters are found significant. While the development of public residential area are often planned by the government aiming to provides affordable housing to the relative poor people, the locations of the development are often located at where the temporary residential areas are originally located. And these areas are not necessarily directly connected to the highway and railway system but indirectly through local roads.

The result or the analysis shows the pattern of the relationship between transportation and urban development from 1988 to 2006. While the rural-urban conversion in the rural part of the city occurred along with the development of the highway systems, the urban development in the urban area shows a different track of its tie with the improvement of connectivity contributed by the rail development.

8 TRANSPORTATION AND SUSTAINABLE DEVELOPMENT

Urban development related land-use change has become a highlighted issue in the urban area globally. While developable space is limited in a city like Hong Kong, understanding the pattern and the contributors of urban land-use change is essential for a better planning and utilizing of space. Land-use change analysis therefore serves to be an important role for the understanding of such process.

Transportation is always linked to land-use. Newman and Kenworthy examined the history of cities and concluded that transportation is always the key to city development and it allows the developments to be located in the narrow transport corridors (1996). However, the appearance of automobile broke this link and contributed to the problem of urban sprawl especially in the North American cities. The resulting environmental, economic and social costs of such issue have already become a worldwide problems, especially the transportation related carbon emission is one of the major contributors of the anthropogenic climate change.

The original plan of the new towns development in Hong Kong aimed to provide employment opportunities for people in the new towns. This is similar to some of the western cities which employment centers are planned in the suburban area as a non-urban working locations (Cervero and Wu, 1998) in order to minimize the distance and volume of trip generated. This is the reason why there are industrial complexes in some of early new towns in Hong Kong such as Shatin and Taipo. However, the situation gradually changed along

with the decline of secondary industry and the rise of tertiary industry particularly financial industry in the 1990s in Hong Kong. The availability of work came back to the high density financial district (located in the center of urban core). According to the 2006 By-Census conducted by the Census and Statistics Department of HKSAR, only about 19% of the workforce lives in the urban core (Yau Tsim Mong, Central & Western, Wan Chai, and Eastern Districts); yet around 41% of work is located in these districts (table 11). This economically related urban change lead to the change of travel pattern. The new towns in Hong Kong are basically residential in nature now and this huge number of population has to travel from home to work every day with different means of transportation.

Table 11: No. of Work Force (Residence and Place of Work) by Districts

Districts	Population	No. of Work Force (Place of Residence)	No. of Work Force (Place of Work)
Central & Western	250,064	110,090	330,860
Wan Chai	155,196	65,311	257,033
Eastern	587,690	252,480	206,812
Southern	275,162	114,665	72,884
Yau Tsim Mong	280,548	119,418	362,899
Sham Shui Po	365,540	140,314	173,613
Kowloon City	362,501	146,221	139,488
Wong Tai Sin	423,521	165,821	71,099
Kwun Tong	587,423	233,244	252,724
Kwai Tsing	523,300	207,210	197,573
Tsuen Wan	288,728	122,778	127,114
Tuen Mun	502,035	212,978	102,956
Yuen Long	534,192	207,795	100,792
North	280,730	112,988	63,118
Tai Po	293,542	121,947	61,657
Sha Tin	607,544	260,629	159,172
Sai Kung	406,442	179,824	63,367
Islands	137,122	51,351	82,296
Total	6,861,280	2,825,064	2,825,457

Under this circumstance, railway is the best option for its massive passenger capacity and low emission rate per passenger than all other transportation systems running on road and the results of the analysis of this paper also indicates that in recent years private residential development is closely related to the railway development. This complies with the recommended strategy in its preferred development option that clusters the development around the rail station in order to “facilitate fast and mass movement of people in an environmentally friendly mode of transport” (Planning Department, 2009). This is the direction the development of Hong Kong is moving towards where railway serves to be the backbone of the city. Although bus system currently is the major means of transportation for its capacity and huge network coverage, it is not as sustainable as railway in environmental perspective. Therefore, long distance and cross-districts bus line should be limited and the role of bus should be limited in local connection to the railway stations. Not surprisingly, all these strategies will result in creating high-density development surrounding the rail station. Generally, other than staying in the strategy of a railway “backboned” city, the government should also at the same time consider to create or relocate job opportunities into the new towns for a better job-housing balance so that the number of trips to the urban core can be reduced. The government should keep monitoring the balance between the patterns of

people's travel behavior and urban development for a sustainable transportation system. For the huge transportation need generated every day, any changes would result in significant environmental, economical, and social impact.

9 CONCLUSIONS

In general, the space syntax theory provides another approach to study accessibility and the spatial distribution pattern of urban development other than traditional methods. Although traditional determinants such as physical travel distance and travel time cost are still important in accessibility and urban development study, the results of this paper show that urban development change can also be viewed and studied from a different approach. While space syntax concerns connectivity of a network and there are a number of studies which have found that the theory provides a possible way to study how people perceive space and how space structure alters our behaviour (Hiller, 1993; Peponis et al., 1997; Penn and Hiller, 1998). However, most of these previous studies adopted the *Dual Problem* approach. This makes sense in a relatively small community and local road networks. In the context of a high-density and railway-linked city as Hong Kong, the situation becomes more complicated.

While railway has become the major means of transportation in the city, these rail stations become different centers of the city. In the recent years, there were a number of iconic shopping malls and high-priced private residential complexes built along the rail networks. Rail stations become the centers of the city. Therefore, in such network, rather than the *Dual Problem* approach, the *Primal Problem* approach which focuses on junctions is probably more suitable especially within the urban area. The analysis of this paper attempts to apply such approach in analysing the relationship between transportation network and urban land development process. As the result of the analysis of the paper showed that the change of urban land use is related to the structure of rail network, it paved the way for future researches regarding how connectivity shaped by such structure affects the urban development especially when such structure does not directly related to physic distance as the theory of space syntax proposed. In other words, the structure of a transportation network may alter the definition of distance and stimulate the urbanization process in some distanced places with rail network provided and at the same time may improve the percentage of people using such energy efficient mean of transportation. We are living in a network. And the network structure does have impacts upon our behaviour.

However, while the land-use intensity in this paper only considers the total area of each land-uses and it is 2-dimension-based; the issue of building height is not considered. Therefore, results may contain some degree of error in some areas particular the financial districts where high-rises and skyscrapers are located; the difference between the old residential buildings in the inner city (generally shorter in height) and the new residential buildings in new development area also cannot be accounted. As a result, in the future urban land-use study, building height should be included in the calculation of land-use intensity in order to stimulate the real life 3-dimensional space.

This paper adopted a space syntax approach for analysis which attempts to examine the pattern of change of urban development of Hong Kong through the topological characteristics of a network. Connectivity is the concern of this approach and physical distance is relatively not important under this concept. The study of this paper identified the highway and railway system as *primal problem* of their nature as a transportation providing service between districts. From the sustainable transportation perspective, railway is better than transportation relying on road network. Therefore, clustering the development near the rail station is more desirable. With the results of the analysis of this paper, it is likely that that there is a relation between the railway network and urban development which indicates that the urban

development of Hong Kong is following this strategy in the past decades. The analysis of this study can provide a reasonable and meaningful result describing the distribution patterns of urban development and transportation network and the implication of these patterns on sustainable transportation, which could provide a case study to governments around the world.

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PUBLIC EXPENDITURE ON EDUCATION AND ECONOMIC GROWTH IN ASSAM



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PUBLIC EXPENDITURE ON EDUCATION AND ECONOMIC GROWTH IN ASSAM*

The recent revival of interest in growth theory has revived interest among researchers in verifying and understanding the linkages between the fiscal policies and economic growth. The sustained rise in the size of government expenditure in most of the developing economies in the past has frequently engaged the development economists in evaluating the effects of expenditure on economic growth.

Endogenous growth theory gives governments a theoretical basis for actively fostering growth. The effect of government spending is endogenous in the growth models as it has tax implications and income generating effects. The main message of endogenous growth models with fiscal policy is that higher taxation unambiguously reduces output, but such losses maybe offset, by using the proceeds for productive spending items (Barro 1990; Turnovasky 2000).

Over the past, a substantial volume of empirical research has been directed towards identifying the elements of public expenditure that bear significant association with economic growth. There are certain current expenditures by the government like education, health, transportation, which are quite productive and contributory but the capital expenditure if not exploited properly may be quite unproductive.

There has been a phenomenal increase in the level of government expenditure in relation to state income in Assam in the past few years. Although central funds are available for state economic development spending, a significant portion of economic development spending is funded with state taxes. There have been persistent attempts by all the governments including the Centre to contain revenue expenditures and thereby to bridge the revenue deficits in the budgets as set out in the Fiscal Responsibility and Budget Management Bill legislated by the Centre in the parliament and mandated in the budget. Against this background it is found imperative to examine whether revenue expenditure has adversely affected the economic growth, or has helped the economy to grow, along with examining the growth effects of public expenditure by sector. Our aim in this paper is, therefore, to find which specific components of government expenditure have a significant impact on economic growth.

Our disaggregated analysis is expected to be valuable from the policy perspective. The results for the growth effects of public expenditures by individual sector of the State economy will be particularly useful for the State, which is resource constrained and therefore the allocation of limited public resources between the sectors is an issue of paramount importance.

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The paper is organized as follows. Section 2 outlines some theoretical concepts with respect to the growth effects of fiscal policies. Section 3 discusses our data and the methodology adopted. Section 4, presents an analysis of the impact of government expenditure categories on growth. Section 5 concludes.

2. Theoretical background

The neoclassical growth model views that fiscal policies cannot bring about changes in the growth of output. The introduction of endogenous growth models that incorporate the government section has led to the opposite conclusion that fiscal policies can effect the long run growth of an economy (Barro & Sala-i-Martin, 1992). Models of endogenous growth suggest an active role for public policy in promoting economic development through direct and indirect investments in human capital formation (education), infrastructure, and research and development.

The main message of endogenous growth models with fiscal policy is that higher taxation unambiguously reduces output, but such losses may be offset, by using the proceeds for productive spending items (Barro, 1990; Turnovsky, 2000). Many empirical studies have been carried out to test the predictions of endogenous growth theory. In a major debate regarding the evidence of OECD countries, Kneller, Bleaney & Gemmell (1999) examined the structure of the impact of taxation and public expenditure affecting the steady-state-growth rates in endogenous growth model evidenced that an increase in productive expenditure significantly enhances growth while an increase in distortion taxes significantly retards growth.

Some economists theoretically argue for low level of government expenditure as to promote economic growth, some favors for higher expenditures for boosting up the level of economic growth. Aschauer (1989) and Barro (1990) have indirectly related public investment with growth. Finding positive effects of public investment on private investment and productivity, they infer that private investment is growth enhancing. Easterly & Rebelo (1993) from the regression result found that although public enterprise investment have no effect on growth but the general government investment including the infrastructural investment on transport & communication in developing countries consistently lead to higher private investment and economic growth. In there survey of literature Nijkamp & Poot (2004) observed that there is a clear evidence of relationship between public infrastructure and economic growth. Therefore they conclude that public infrastructure together with education promotes economic growth.

Khundrakpam (2001) from the application of ARDL model evidenced that although public expenditure has a positive influence on economic growth over the long run but trade off between the two occurs in the short run suggesting for maintaining a proper balance between public sector expenditure and investment for economic growth.

As observed from the above survey, there is no agreement regarding the direction of causality between public spending and economic growth. The main conclusion that can be derived is that it is the capital expenditure which contributes to growth. There are certain current expenditures by the government like education, health, transportation are quite productive and contributory but capital expenditure if it is not explored properly may be quite unproductive. To sum up, though funding of government activity may hamper growth a sensible composition of government expenditure would appear to boost economic growth.

3. Data and Methodology:

Data source: In this study, time series data of Government revenue expenditure are collected for the period 1981-2007 from various issues of ‘Assam Budget in Brief’ published by the Directorate of Economics and Statistics, Assam. In order to convert the nominal expenditure into real, the nominal data sets are deflated with respect to GSDP at factor cost deflator. The data sets of the various variables relevant to the study are included in the Appendix-A.

Methodology: The study in order to examine the impact of government expenditure on economic growth, first estimates the trend of GSDP using regression estimates. Secondly, the growth rates of GSDP have been calculated for the years to capture the annual change in the growth of GSDP. Thirdly, the shares of Revenue & Capital Expenditure to Total Expenditure are calculated to find out whether revenue or capital is more prominent. Finally, to pin down which specific components of government expenditure significantly impact on economic growth, we estimate the following regression model, which incorporates important fiscal variables. The model can be written as-

$$Y(t) = \alpha + \beta Y(t-1) + \gamma \tau(t) + \sum \rho g_i(t) + \varepsilon(t)$$

Where,

$Y(t)$ = Log of GSDP per capita at time t

$\tau(t)$ = ratio of total government revenue to real GSDP in logs at t

$g_i(t)$ = ratio of government expenditure to real GSDP in logs at t e.g., expenditure on education, health, etc
The model takes into consideration GSDP lagged by one period as the time path dependency has been considered. In this way, growth effects of variables other than the fiscal ones are also taken into consideration. The ratio of total government revenue to real GSDP is taken to serve as a proxy to total tax burden of the economy and at the same time it acts as a proxy for government size.

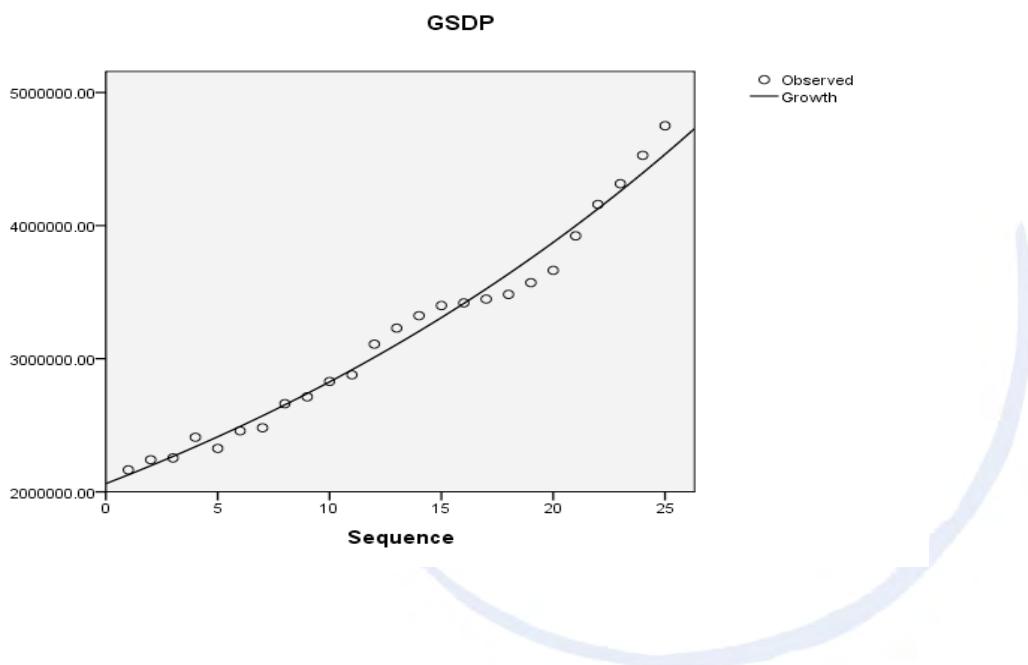
4. Results and Analysis:

The estimated trend of GSDP is-

$$\text{GSDP}(t) = 14.539 + 0.032 t \quad (R^2=0.984)$$

The GSDP trend has been shown in the Figure A below, where it is observed that GSDP has been rising at an increasing rate over the time period taken in the study. The trend is supported by a significant value of the coefficient of determination ($R^2=0.984$).

Figure A: **Trend of GSDP**



Further, from the growth rates of GSDP presented in Table 1, it is found that except for a negative growth rate in 1986-87, GSDP growth rate was all along positive ranging from 0.58 percent in 1984-85 and 1997-98 to 8.03 percent in 1993-94.

Table-1: **Public Expenditure and Growth Rates of GSDP**

Year	GSDP	Growth Rate	Revenue Expenditure	Capital Expenditure	Total Expenditure
1982-83	2164538	4.9847	236802.4	219496.6	456299
1983-84	2241190	3.5413	295577.4	157737.5	453314.9
1984-85	2254180	0.5796	306870.6	346252.6	653123.2
1985-86	2409975	6.9114	334881.6	245273	580154.6
1986-87	2326266	-3.473	360483.5	162483.5	522967.1
1987-88	2457953	5.6609	549953.7	289255.6	839209.3
1988-89	2481212	0.9463	391480.6	218698.7	610179.3

1989-90	2661871	7.2811	412555.6	218710.5	631266.1
1990-91	2713802	1.9509	410749.5	437151.8	847901.2
1991-92	2829178	4.2515	424970.4	262719.6	687690
1992-93	2878547	1.745	443641.1	253851	697492.1
1993-94	3109625	8.0276	496545.7	248729	745274.7
1994-95	3229850	3.8662	455795.7	34960.45	490756.2
1995-96	3323348	2.8948	507785.7	440293.6	948079.3
1996-97	3399416	2.2889	477024.1	423337.8	900361.9
1997-98	3419225	0.5827	504231.6	494028.5	998260.2
1998-99	3447967	0.8406	491082.9	504832.4	995915.2
1999-00	3483319	1.0253	584567	531524	1116091
2000-01	3571503	2.5316	622552	614389.2	1236941
2001-02	3664165	2.5945	654756.9	720716.1	1375473
2002-03	3923328	7.0729	642861.1	733551.3	1376412
2003-04	4159534	6.0206	742997.3	766735.1	1509732
2004-05	4314967	3.7368	840203	867963.3	1708166
2005-06	4528242	4.9427	825208.3	293661.7	1118870
2006-07	4750151	4.9006	844650.3	149541.8	994192.1

Examining the pattern of public expenditure and economic growth in Assam it could be observed from Table 2 given below that the share of public expenditure to GSDP ranged between 20 percent to 29 percent till 1998-99 except for a dramatic fall to 15 percent in 1994-95 which was due to the fall in capital expenditure. From 32 percent in 1999-2000, the share increased to 39 percent in 2004-05. The share, however, fell drastically to 24.7 percent in 2005-06 and further to 20.92 percent in 2006-07. The fall in the proportionate share of total expenditure to GSDP is accounted for by a fall in capital expenditure which registered a negative growth rate in both the periods. Revenue expenditure whose growth rate was negative in 2005-06 was highly positive in 2006-07.

Table- 2: Share of Total Expenditure to GSDP and Revenue & Capital Expenditure to Total Expenditure

Year	Share of total expenditure to GSDP	Share of revenue expenditure to total expenditure	Share of capital expenditure to total expenditure
1982-83	21.0806647	51.89631	48.10369
1983-84	20.2265264	65.20354	34.79646
1984-85	28.9738706	46.98411	53.01491
1985-86	24.0730563	57.72282	42.27718
1986-87	22.4809661	68.93044	31.06956
1987-88	24.2689613	65.53237	34.46763
1988-89	24.5919857	64.15831	35.84171
1989-90	23.7151281	65.35368	34.64632
1990-91	31.2440347	48.44308	51.55692
1991-92	24.3070611	61.79681	38.20321
1992-93	24.2306996	63.60517	36.39483
1993-94	23.9667074	66.62587	33.37413
1994-95	15.1943948	92.87621	7.12379
1995-96	28.5278375	53.55941	46.44059
1996-97	26.4857828	52.98137	47.01863

1997-98	29.1955093	50.51105	49.48895
1998-99	28.8841288	49.30971	50.69029
1999-00	32.0410218	52.37628	47.62372
2000-01	34.6336301	50.32996	49.67004
2001-02	37.5385117	47.60231	52.39769
2002-03	35.0827747	46.70556	53.29444
2003-04	36.2957091	49.21384	50.78616
2004-05	39.5870064	49.18743	50.81257
2005-06	24.7087053	73.75373	26.24627
2006-07	20.9296947	84.95846	15.04154

An estimation of the trend of capital and the revenue expenditure over the time period of our study reveals an insignificant co-efficient of determination (R^2) for capital expenditure whereas for revenue expenditure it is statistically significant Appendix-B. The study therefore, takes the six biggest potentially growth effecting outlays of Assam state government revenue expenditure, for the estimation of the growth effects of the various components of government expenditure.

To pin down the growth effects of the fiscal variables, we run regression on the model specified in the methodology. The coefficient of determination (R^2) and adjusted coefficient of determination (\bar{R}^2) have been obtained together with the F-values. These values are found to be significant, revealing a good fit of the model. The results are summarized in Table 3.

Table 3- Regression results

Model	R^2	\bar{R}^2	F
1	.964	.948	57.482*

* indicates significant at 1% level

Turning to the analysis of the growth effects of the fiscal variables, it is striking to find that total government revenue receipts seems to have an impact on the economic growth of Assam. Thus the total tax burden might have been excessively high in the period 1981-82 to 2006-2007. The results also provide strong evidence for a positive growth impact of education and health. The estimations presented in Table 4 show significant coefficients of these expenditure items.

Table 4. Estimated coefficients

	Coefficients	t
Constant	1.990	2.374**
GSDP(t-1)	.444	2.013***
Revenue receipt	.110	2.246**
Education	-.249	-2.855*
Health	-.095	-1.924***
Agriculture	-.026	-.924

General services	.032	1.133
Social welfare	.013	0.758
Transportation	.040	0.987

*Significant at 1% level; **significant at 5% level;

***Significant at 10% level

The results concerning education and health confirm theoretical prediction. On the other hand the findings for the coefficients of expenditures on agriculture, general services, social welfare and transportation are statistically insignificant. This reveals that expenditures on these components are not conducive to growth.

5. Findings:

Our principal findings can be summarized as:

1. The share of government revenue expenditure in GSDP is positively and significantly associated with growth, while the growth effect of capital expenditure is insignificant.
2. At the sectoral level, government expenditures in education and health are the only outlays that remain significantly associated with growth throughout the analysis.
3. Public expenditures in other sectors (transport and communication, social welfare, agriculture, general service) are not associated with economic growth in any significant manner.
4. The revenue receipt share of GSDP is associated with economic growth in a significant and positive manner.

8. Conclusion:

Our analysis strongly supports the prevalent view in the modern growth theory that education is an important key to economic growth. This is true when we consider total expenditure in education (in a model that focuses on sectoral expenditures). Accordingly, from policy perspective, our analysis prioritizes the allocation of scarce government resources towards the education sector. Further, our analysis also suggests that aggregate capital expenditure has no effect on growth, whereas aggregate revenue expenditure has a positive effect. This implies that, for Assam, decisions on current versus capital expenditure should (at least in the aggregate) favor the former in order to enhance growth.

Since expenditure on health has a positive impact on growth, expenditure on both education and health should be increased taking care of how these are financed. Since revenue receipts has a positive impact on growth, therefore, further study is needed to see whether tax revenue receipt of government has any impact on growth.

Appendix-A

Year	GSDP per capita	Revenue receipt	Education	Health	General service	Social welfare	Transport
81-82	11285	36218	10228	3736	13140	1836	1979
82-83	11590	43904	11473	4875	14736	3656	2877
83-84	11736	55072	18953	3988	18616	8729	3518
84-85	11542	69905	18411	9542	24805	7464	3794
85-86	12065	93752	21920	9940	29099	7461	3697
86-87	11388	120995	30231	8401	34155	10147	3286
87-88	11770	124109	29312	15834	89918	11513	5113
88-89	11628	137286	33538	17038	45036	12684	6383
89-90	12217	153208	39408	17251	53529	9063	7064
90-91	12207	177664	44984	22448	59583	10753	8869
91-92	12478	241767	55990	25930	53498	13141	11826
92-93	12449	331746	64623	22559	86564	11343	12485
93-94	13187	296141	79191	25768	103705	16604	11596
94-95	13431	337574	87003	28860	121321	15340	13496
95-96	13551	385581	97438	32712	122135	15524	12927
96-97	13613	432566	103462	33999	131639	17873	13029
97-98	13477	450654	116250	38171	155820	20106	13398
98-99	13399	484094	136198	36906	159355	23103	16518
99-2000	13365	563764	166437	47714	246190	23604	19237
2000-01	13545	596486	194116	56751	254785	80593	20818
2001-02	13635	679334	187137	52548	292552	30477	20451
2002-03	14362	776510	199706	51964	311219	38131	22238
2003-04	15006	993727	236248	56438	352912	43463	24691
2004-05	15348	1204539	250251	82398	368891	93593	30899
2005-06	15885	1366695	251560	82123	420161	65027	34662
2006-07	16439	1532492	275112	89728	430236	82908	38665

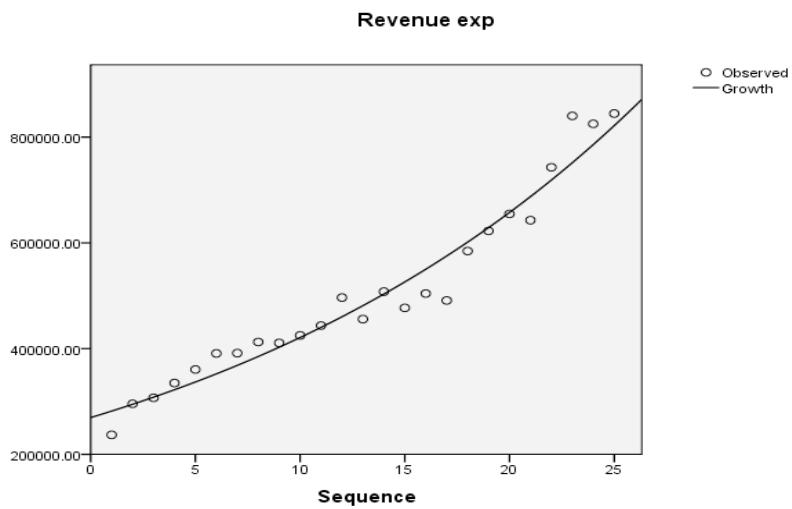
Source: Assam Budget in Brief, various issues of Directorate of Economics & Statistics, Guwahati.

Appendix – B

Revenue Expenditure

The trend of Revenue Expenditure

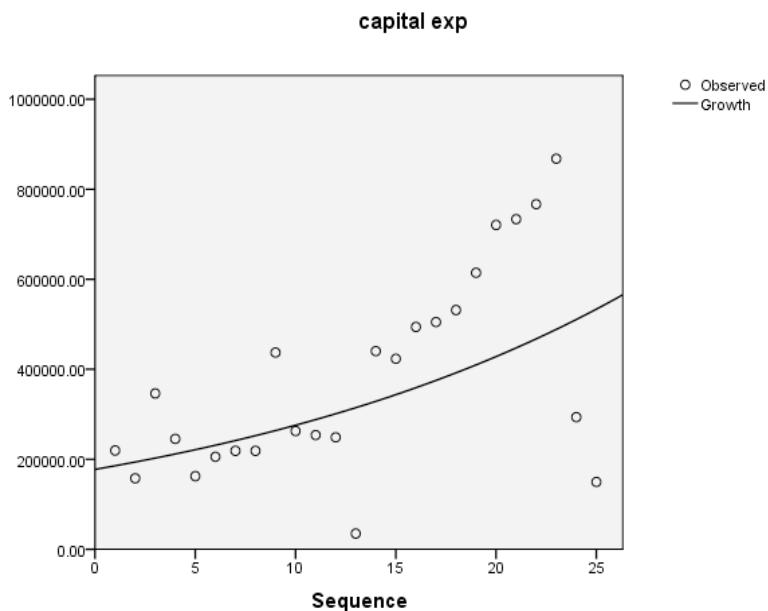
$$\text{REV } (t) = 12.505 + .045 t \quad (R^2=0.952)$$



Capital Expenditure

The trend of Capital Expenditure-

$$\text{CAP } (t) = 12.087 + 0.044t \quad (R^2=0.214)$$



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Academic Achievement in Adulthood as a Function of Perceived Father's Acceptance-Rejection in Childhood

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Topic of Submission

Psychology, Cognitive Science and the Behavioural Sciences
(Abstract No. 0135)

Academic Achievement in Adulthood as a Function of Perceived Father's Acceptance-Rejection in Childhood

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Abstract: - The objective of the present study was to determine relation of the adult's perceived father's acceptance-rejection in childhood with their current academic achievement. It was hypothesized that "perceived childhood father's acceptance-rejection as measured through Adult Parental Acceptance-Rejection Questionnaire/Control: Father-Short Form would predict its negative relation with academic achievement in adulthood". Participants included 197 (99 males & 98 females) selected university students who were given introduction and their consent was taken. After completion of demographic information form, Adult Parental Acceptance-Rejection Questionnaire/Control: Father-Short Form (Adult PARQ/ Control: Father -Short Form, Rohner, 2005, Urdu Version translated by Munaf, Kamrani & Hussain, 2009) was administered to them for assessing perceived childhood father's acceptance-rejection. Participant's percentage of previous semester was noted to evaluate their academic achievement. After scoring, Simple Linear regression model and Pearson product moment correlations were applied which indicates that the result is statistically significant. Hence it can be interpreted that from paternal acceptance in childhood we can predict academic achievement in adulthood which would be high and from paternal rejection in childhood we can predict low academic achievement in adulthood. Further academic achievement is also significantly related in negative direction with PAR total score, followed by scores of sub domains of an Adult PARQ, i.e aggression/hostility, indifference/neglect and warmth/affection. With undifferentiated neglect it is insignificantly related. It is concluded that through university student's perception of childhood paternal acceptance-rejection we can predict their academic achievement in adulthood. Hence the study has positive implications as going through this study those Pakistani fathers who adopts strict, hostile and rejecting role with their children, may also realize the constructive side of being accepting and showing warmth to their offspring. In the end limitations of the study and recommendations have also been given.

Key-Words: - Perceived, Father, Acceptance-Rejection, Childhood, Predict, Academic achievement, Adulthood.

Introduction

In this section firstly short history highlighting start of research work centering parental acceptance/rejection would be mentioned. Then literature related to paternal rejection and academic achievement would be given, followed by purpose of the study, hypothesis and research design.

Background:

In the years following 1890 we can see research work related to impact of parental acceptance and rejection (Stogdill, 1937).

Rohner (1960, 1975) gave his famous Parental acceptance-rejection theory and came with other related work which attempts to explore, describe and predicts consequences of parental behavior that they exhibit toward their children. Parental behavior can be better comprehensible with their acceptance and rejection for their child. Warmth and affection are considered as acceptance and withholding of warmth and affection through neglect, indifference and other related negative attitudes comes under rejection. Parental behavior toward their child is negative then it has its negative consequences. It may not only effects their personality development but also contribute in the development of psychological and academic problems. Ansari (1975) found that in Pakistan there was positive correlation between academic achievement and democratic family pattern, which is a clear indicative of importance of parental attitude in academic life of students.

Therefore the present research investigates the predictive power of parental acceptance-rejection theory in academic achievement of Pakistani university students.

Literature Review

Variety of physical, social and psychological variables such as own health, level of intelligence, climatic condition, school environment, attitude of teachers, peers, child abuse, socioeconomic status, home environment for example family structure, relationship with family members, parental relations with each others, parental divorce, separation, parental use of drugs, their illness, parental attitude with children and parental interest in child progress and achievements are some factors out of many which has its impact on academic of students. Although there are many etiological factors as mentioned earlier that have been identified to influence academic achievement of students, but parental rejection is considered as one of the significant factor influencing academic achievement in negative direction. Therefore our focus would be on the impact of father's acceptance i.e. warmth and affection and rejection i.e. withholding of warmth and affection through neglect and indifference attitude.

Study by Starkey (1980) in early years of parental acceptance rejection theory revealed that there was a significant positive correlation between academic scores on Science Research Associate Achievement test and grade point average with children's perception of parental warmth.

Parental involvement in school is a key factor to secure long term effects, its relationship exist with decreased drop out rate and increased high grade and school completion (Barnard, 2004). However Imam's (2004) study on 119 female students indicate insignificant difference in perceived maternal warmth and personality disposition of high and low achiever.

According to the findings of retrospective study parental participation in preschool and kindergarten level was associated with higher reading achievement (Miedel & Reynolds, 1999). Interventions as method were used for changing children's school related behavioral and learning problems. Carlson and Christenson (2005) results showed that parent and family interventions were effective in changing children's school learning and behavior. The influence of parental involvement on student's grade point average was large and significant regardless of ethnic groups.

Parental involvement had a significant and direct effect on students' achievement. The results imply that early parenting aspects have an important role in children's academic achievement (Michelle, Amy, Gloria, & Byron, 2004). Different aspects of parental behavior including their expectations, discussion of school activities with adolescents, involvement in school activities and parent-school academic links were strongly associated with post secondary enrolment (Sandefur, Meier, & Campbell, 2006).

The relationship of paternal involvement with children's education and student's achievement was beyond than that accounted for by mother's involvement (McBride, Shoppe-Sullivan & Ho, 2005). An association of the good father child relationship is not restricted to the absence of emotional and behavioral difficulties of adolescences but also in greater academic motivation. Paternal involvement at the age of 7 was strongly related to children's afterward educational achievement and independently predicts their higher educational attainment by age 20 regardless of genders (The National Literacy Trust, 2001).

Constructive societal interactions and relationships tend to play an important role in the academic success of adolescent girls. The father-daughter relationship quality is very important in both academic achievement and self esteem (Cooper, 2009). Furthermore it is indicated that boy's academic performance enhanced when they are more dependent on their fathers regarding concrete need fulfillment and similarities in their attitudes and beliefs with their father. Regarding relational quality there was positive association between perceived relationship quality with father and academic achievement (Jones, 2004).

Hence from the literature it is indicated that the role of parents particularly father in childhood is not only significant in academic life of their children in early years but also in achieving academic excellence in adulthood.

Purpose of the Study

Going through literature, resulted in raising a question in the mind of researchers that whether in Pakistani culture also involvement and taking interest of fathers in children's concerns, effects academic activities of their children and whether they can have remarkable achievement in their later life or not ?

Therefore the objective of the present study as mentioned earlier, was to determine relation of the adult's perceived father's acceptance-rejection in childhood and their current academic achievement. Here we would try to find out whether academic achievement of university students of Karachi, Pakistan is a function of perceived childhood father's acceptance-rejection and whether perceived childhood father's acceptance-rejection predicts academic achievement negatively in adulthood or not ?

The results of this research will be helpful to fill the gap in our knowledge about whether father's acceptance- rejection during childhood play significant role in the academic achievement of university students of Karachi also or there is difference in the results due to cultural factor. Implications of the research would be positive as results would be beneficial in organizing awareness programs for parents and would provide knowledge about importance of parental attitude in childhood and its impact on academic achievement in later life. Additionally it will be useful for school psychologist as not to consider low intelligence as only factor responsible in academic problems but also emphasize about the importance of parenting while dealing with their clients. University student's counselors may also take into consideration parental behavior while handling academic problems of their students.

Hypothesis

Perceived childhood father's acceptance-rejection as measured through Adult Parental Acceptance-Rejection Questionnaire/Control: Father-Short Form would predict its negative relation with academic achievement in adulthood”.

Research Design

In this research relationship of academic achievement of perceived childhood father's acceptance-rejection would be determined. Perceived paternal acceptance-rejection in childhood was our independent variable and relation of it with academic achievement in their adulthood as university students was dependent variable. Regression was applied for analysis of predictive value of childhood paternal acceptance-rejection upon academic achievement in adulthood. Further Pearson product moment correlation was applied in order to find out relationship of academic achievement with PAR total score and sub domains of it i.e. aggression/hostility, indifference neglect, warmth/affection and undifferentiated neglect.

Methodology

In this section we would focus on research methodology including subsection of participants', measures, procedure and statistics adopted to test the hypothesis. Then results would be mentioned in table 1, 2, 3 and 4 followed by discussion of the results.

Participants

Initially participants included 206 (103 males & 103 females) university students of different universities of Karachi, Pakistan. They were selected through convenient sampling technique. Their age range was between 18-38 years. They were student of Bachelor and Masters Programs of different faculties. They belonged to all three: upper, middle and low socioeconomic classes and both joint and nuclear family structures. However due to nonavailability of complete and clear academic record of 09 university students' only scores of 197 university students (99 males & 98 females) were taken for data analysis.

Measures

a) *Adult Parental Acceptance-Rejection Questionnaire/Control (Adult PARQ/Control: Father Short Form, Rohner, 2005, Urdu version translated by Munaf, Kamrani & Hussain, 2009)*:

The questionnaire has 29 items from five sub domains. Four sub domains measures warmth/affection, aggression/hostility, indifference/neglect and undifferentiated neglect. It has additional one control subscale. The questionnaire assesses father's behavior toward his child during the age of 7-12 years. It has good psychometric properties. Its' cumulative score indicates paternal behavior in terms of acceptance (scores below cut off score) and rejection (scores above cut off scores). The correlation between Urdu and English versions of Adult PARQ/Control: Father Short Form is .87.

b) Academic Achievement

It included obtained marks in examination of previous semester which was calculated as percentages, e.g. a student studying in class B.A honour 3rd year, then it was his/her 6th semester, therefore the obtained marks (total marks) in examination of 5th semester was noted down and it's percentage was calculated.

Procedure

After giving the introduction about the research and taking consent for voluntarily participation in the study, subjects were requested to fill demographic information form. Adult PARQ/ Control: Father -Short Form- Urdu Version was then administered on the participants for assessing their perceived childhood father's acceptance-rejection. Their obtained marks in previous semester were also taken from university official records to have a score of their academic achievement.

Statistics

Simple Linear regression model and Pearson product moment correlations were applied using SPSS for statistical analysis of collected data.

Ethical Considerations

Through Introduction to participant and informed consent form, participants were given introduction of the research. The purpose was mentioned and questionnaire used were mentioned. They were requested to voluntarily participate in the study. Further they were informed that efforts were made to minimize the possibility of any physical and psychological risk for them. They were assured that individual information would remain confidential however collective data would be used for research purpose. They also reserved the right to withdraw from the research at any time during administration of Questionnaires.

Operational definitions

Parental Acceptance:

It refers to the warmth and love parents gives to their children. Warmth and affection involve praising, complementing, saying nice things to or about a child. Expression of it can be verbal/ physical or both.

Parental Rejection:

Paternal rejection is referred to, absence of warmth or significant withdrawal of warmth, affection or love by parents towards children. It takes three major forms i.e. hostility/aggression, indifference neglect and undifferentiated neglect (Rohner, 1975).

Results

Table 1.

Summary of linear regression showing perceived childhood father acceptance-rejection as predictor of academic achievement in adulthood

Predictor	R	R ²	Adjusted R ²
PAR	.228	.052	.047

Table 2.

Analysis of variance for linear regression of perceived childhood father acceptance-rejection as predictor of academic achievement in adulthood

Model	SS	df	MS	F	Sig.
Regression	533.775	1	533.775	10.740	.001
Residual	9691.636	195	49.701		
Total	10225.411	196			

Table 3.

Coefficient for linear regression of perceived childhood father acceptance-rejection as predictor of academic achievement in adulthood

Model	Unstandardized Coefficient		Standardized Coefficient B	t	Sig.
	B	SE			
Constant	74.256	2.243		33.221	.000
PAR	-.186	.057	-.228	-3.277	.001

Table 1, 2 and 3 shows that the result is statistically significant indicating perceived paternal acceptance-rejection in childhood as predictor of academic achievement in adulthood

Table 4.

Correlation of Academic scores in adulthood with childhood perceived parental acceptance-rejection scores and scores of its sub domains

Scores		Perceived Parental Acceptance-Rejection	Warmth/Affection	Aggression/Hostility	Indifference Neglect	Undifferentiated Neglect
Academic Achievement	Pearson Correlation	-.228(**)	-.127(*)	-.211(**)	-.191(**)	-.113
	Sig. (1-tailed)	.001	.038	.001	.004	.057
	N	197	197	197	197	197
Perceived Parental Acceptance-Rejection	Pearson Correlation		.634(**)	.599(**)	.734(**)	.579(**)
	Sig. (1-tailed)		.000	.000	.000	.000
	N		197	197	197	197

** Correlation is significant at the 0.01 level. *Correlation is significant at the 0.05 level.

As high score at PARQ indicate high rejection and low score mean high acceptance, therefore in table 4, negative correlation of PARQ scores (high score) with Academic scores(low score) indicate that when father's rejection was given in childhood then in adult life academic scores were low. Similarly when childhood father's acceptance was given (low score) then academic scores in adult life were high. Further more significant negative correlation of sub domains shows that aggression/hostility, indifference neglect and lack of warmth/affection are related to adults academic scores in similar direction, whereas childhood undifferentiated neglect does not seem to play important role in later academic life.

Discussion

This research focuses on importance of childhood paternal acceptance –rejection in later academic achievement of university students of Karachi, Pakistan. After literature review it was hypothesized that “perceived childhood father’s acceptance-rejection as measured through adult parental acceptance-rejection questionnaire /Control: father-short form, would predict its negative relation with academic achievement in adulthood”. To test the hypothesis Adult PARQ/ Control: Father -Short Form- Urdu Version was administered on university students and their academic achievement score of recent past semester was noted down. The result of research hypothesis is statistically significant ($R^2 = .052$, $F = 10.740$, $t=-3.277$, $p<.01$) indicating academic achievement in adulthood is a function of perceived father’s acceptance-rejection in childhood. Further significant negative correlation of total PAR score and sub domains scores of aggression/hostility, indifference neglect and warmth/affection make it obvious that if children are faced with frequent aggression/hostility of father in childhood then it severely affects their academics in later life. Likewise indifference neglect and lack of father’s warmth and affection also works in negative direction. However undifferentiated neglect does not seem to play important role in negatively influencing academic life. It can therefore be interpreted that from paternal acceptance in childhood we can predict their academic achievement in adulthood which would be high and from childhood paternal rejection we can predict low academic achievement in adulthood. The findings of our hypothesis are consistent with the results of study conducted by Kim and Rohner (2002). According to them 26% of the total sample raised by authoritative and permissive father performed better than youths raised by authoritarian father. Perceived paternal and maternal warmth was positively associated with student’s grade point average (GPA) and maternal control also has a moderate effects.

In another study results show that father’s absence worsen the scholastic functioning of young people (Mboya & Nesengani, 1999). Fathers’ have the capacity to motivate their children to acquire, develop and use literacy and influence their children’s literacy learning. They serve as resource and meaning makers in the family and community environment (Saracho, 2007).

Literature does indicate that other factors together with father’s acceptance also contribute in having good grades. Smith (2007) documents that level of paternal education had an impact upon student educational expectation and paternal recognition of achievement of school grades had clear effects upon student’s grades, educational expectation and aspiration. Different factors such as gender, educational ambition, amount of time spending on studies, physical health, stresses and father’s education has significant relationship with academic performance of university students (Chow, 2007).

Conclusion

On the basis of the results of our study and related findings as reported by other researchers across the world, it may be concluded that through student's perception of childhood paternal acceptance-rejection we can predict their academic achievement in adulthood. It is expected that those children who had experienced high father's acceptance then in adulthood their academic achievement would be high and those experiencing high father's rejection in childhood then in adulthood their academic achievement would be low.

Implications

The results of the present study has its positive implications as going through this study those Pakistani fathers who adopt strict, hostile and rejecting role with their children ,may also realize the constructive side of being accepting and showing warmth to their children.

Limitations of the Study

Participants of present study were representing university students from city of Karachi only. Therefore care need to be taken while generalizing the study result to entire population.

It would have been more imperative and interesting if statistics would have been applied to various variables mentioned in demographic information form such as, parent's education, occupation, family structure and birth order. Complete picture of relation of different variables with father's acceptance-rejection would help us to understand extent of contribution of combination of factors upon academic results.

Recommendations

It is recommended that future researcher may take larger sample size covering participants from all four provinces of Pakistan in order to generalize results with fair degree of reliability.

It is further recommended to replicate the study over different segments of academic population like schools and colleges of rural as well as urban educational institutes of different cities and towns of Pakistan in order to generalize the concept of father's acceptance –rejection as predictor of academic achievements.

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Title

Citizen Participation in Urban Governance: The Marginalized Population in India¹

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Citizen Participation in Urban Governance: The Marginalized Population in India²

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Abstract:

The Indian infrastructure sector has seen several structural and regulatory readjustments since 1991. One of the fundamental changes has been the creation of a new apolitical space for decision making through formal public participation forums. Empirical exploration of public participation in the electricity sector revealed 19.2% participants from the marginalized population. This paper is an exploration of these participants in their characteristics, level of awareness and motivation to participate. While the overall awareness levels were found to be low, two significant, and unexpected, results stood out. One, the positive impact of the institutionalization of public deliberation structures was evident. It had, to some extent, encouraged consumers to actively engage with the industry. Two, perceived positive characteristics and trust associated with the structural and regulatory readjustments got emphasized as the lead motivation for these groups to participate. The results collectively reflect the sense of social empowerment both, psychological and social, which has accompanied these initiatives. The paper concludes by highlighting possible avenues for policy enquiry.

Key words: India; urban planning; citizen participation; marginalized groups; social empowerment

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INTRODUCTION

Over the past few years Indian public has become much more involved in several aspects of policy formulation and governance. Rapid constitutional reforms of urban governance has included formal establishment of public participation institutions for several sectors, especially related to infrastructure (*for details about the electricity industry reforms see Dubash and Ranjan, 2001; Gurtoo and Pandey, 2001; and Prayas, 2003*). Several reasons have promoted this initiative, namely, citizen awareness and demand for deliberations on decisions which impact their lives; changing governance values; and legislative push towards public participation (Arnstein, 1969; Collins and Mack, 1996). This is critical for the developing countries, where governance is covered in an atmosphere of public alienation and distrust of government institutions (Fiorino, 1989; Juanillo and Scherer, 1995; Waddell, 1996). Hence, public involvement can also be seen as a part of process of socio-political modernization (Van Tatenhove, 1999; Mol, 2002).

However, the question of public participation goes beyond the establishment of the legal framework. A more complete understanding of public participation rests in exploring it in practice (Dubash and Rao, 2008; Byrne and Govindarajalu, 1997). In particular, how do these inclusive and deliberative policy processes sit alongside the realities of consumer knowledge and understanding of these policy processes, with all the technocratic tendencies and interest politics of an industry?

This paper explores these questions, taking the case example of the urban marginalized population in the Indian electricity industry, through a questionnaire survey in the Indian state of Karnataka, conducted during 2007-2008. In particular, we explore the characteristics of the participants, their level of awareness and what motivates the informal sector to participate in governance. Exploring marginalized population's participation is critical. It contains those citizens who have not been able to organize themselves in pursuit of their common interest dues to certain constraints like casual nature of employment, ignorance and illiteracy, small and scattered size of establishments (Mazumder, 1976; Portes et al., 1986; Pradhan, 1989). These include people like cart vendors, hawkers, small store assistants, road side cobblers, pedal rickshaw drivers and housemaids.

India has about 93% of its working population as part of this population working in marginalized settings, out of the total labour force of 406 million. Hence, this sector represents an important part of the economy and certainly of the labour market, as it plays a major role in employment creation, production and income generation. However, while the recent trend towards market based economic structures has improved several systems, democratization of these structures still need to be strengthened to include all citizen groups (Dubash and Rao, 2009). Currently, these groups in emerging democracies are largely excluded from the political and economic system (Gurtoo and Williams, 2009). They face the highest risk for poor service, infrastructure instability and development related marginalization, and, hence, the need for a critical review.

LITERATURE REVIEW

The Marginalized Population in India

This sector covers 35 to 40% of the national GDP for several developing economies and plays a major role in employment creation, production and income generation (Schneider and Bajada, 2003). Although, they play a significantly major role in the economy today, their work and actions are extremely vulnerable to socio-economic changes and few are able to survive beyond poverty lines (Baldwin, 2001; Audet and St-Jean, 2007).

First, their work typically operates at very low levels of organization and scale, with little or no division between labour and capital (ILO, 2002, 2006; Gardner and Osella, 2003). For example, street vendors, a common type of informal sector activity, are often self employed, rely on day to day profits for survival, and lack any formal space for operations (Bhalotra, 2002). Furthermore, informal work is not constituted as a separate legal entity, independent of the household. Expenditures as well as accounts do not show a clear distinction of production activities between enterprise and household (Chen, 2006; Nand, 2006; Williams, 2005).

Second, labour relations are based mostly on casual employment, kinship or personal relations rather than contractual arrangements. Minimum wage stipulations are not followed. The workers lack social insurance or government protection required for a decent work environment (ILO, 2002, 2006; Gurtoo, 2008).

Third, therefore, a typical feature of these population is lack of any long term social security like insurance, pension, accident insurance or unemployment benefit (Gurtoo, 2008, Gurtoo and Williams, 2009). Majority of the workforce has no union to provide support, reflecting the fact that they have minimal chance of representation (Schneider and Bajada, 2003; Gurtoo, 2008). Unions play a critical role in balancing power between workers and employers.

Fourth, this economy transacts with the formal system through a sub-sector network of commercial relationships or a value chain of sub contracted relationships (Chen, 2006). One finds varying degrees of subordination and exploitation of this economy, during these interactions. For example, supply of peripheral but essential services, like cleaning, gardening and security of several formal organizations gets subcontracted to this sector, at very low cost. Thus, while the informal economy does give the benefit of flexibility in operations, it also creates vulnerabilities like lack of financial security, is susceptible to exploitation, is directly linked to poverty, lack economic support, and have limited opportunity for sustainable growth.

Complexities of the Indian Democratic System

Moreover, decentralization is successful when participation is expanded to include all constituencies of the society and the democratic institutions can make citizen's participate

(Crook, 2003; Heller, 2001). However, several complexities govern decentralization efforts in India. First, implementation involves several official agencies. This can create administrative gaps among different agencies, thereby leading to lack of coordination and fiscal complexities (Gaiha, 2000; Ghatak and Ghatak, 2002). Second, Indian society is largely poor and marked by divisions of economic and social class (Gough and Steinberg, 1981; Epstein, 1973). These divisions traditionally form the basis of complex social categorization and lead to lack of collective action (combined with lack of awareness) among the socio-economically underprivileged and thus perpetuates weak societal accountability mechanisms (Gaiha, 2000; Gough and Steinberg, 1981). Third, socio-economic status apart, the success of local governance is highly dependent on engagement and the capacity of local actors to hold local bureaucrats accountable (Heller, 2001). Specifically, the following forces are important, namely, civil society organizations and media. Local organization and collective action are seen to be ineffective, unless there is external source of influence in the form of civil society organizations, media etc. to improve downward accountability and responsiveness (Blair, 2000; Evans, 1996). Two, an effective way of encouraging democratic politics is to improve the distribution of information (Crook and Sverrisson, 2001; Dreze and Sen, 1996).

Complexities in the Participation Process

While public deliberative institutions have got formalized, radical shift in people's roles from passive service receivers to active service partners, however, does not occur endogenously. Empirical studies on participation paint a mixed picture of the results.

Full value of the stakeholder engagement requires substantial increase in stakeholder capacity to participate (Byrne and Govindarajalu, 1997; Manowong and Ogunlana, 2006; Rao, 2004). Currently, study of Indian electricity reforms shows thin participation. Large stakeholders like farmers and industry are still underrepresented and lack of access to technical ability and resources limits exploration of full range of consumer interests (Chakrabarti et al., 2009; Dubash and Rao, 2008; Prayas, 2003). Similarly, Thailand shows failure to improve stakeholder trust in the process, leading to difficulty in holding constructive participation and occasional violent confrontations (Klein, 2001; Sombutsiri, 2000).

Cultural complexities are seen in China. Introduced since 2002, public hearings are institutionalized and mandatory under the electricity regulations. They are being earnestly followed too. However, open participation is not intrinsic to Chinese culture as institutions are traditionally highly centralized and top down in decision making (Carter and Mol, 2007; Wang et al., 2006). While about 45 percentage of the population know about these public hearings, few attend them (Zhang, 2003; Zhong and Mol, 2008).

Nations like Bangladesh and Nepal are going through a gradual learning process undermined by lack of governmental capacity for implementation (Momtaz, 2002; Rahman, 2007). Government feels limited need to involve NGOs and citizens from early stages constraint by lack of institutional and technical capacity (Plummer and Slater, 2002; World Bank, 2000). Moreover, complexity of traditional hierarchical nature of the working environment creates an initial uncomfortable truce during participation (Ahmed and Ali, 2006).

However, participants of the deliberative processes view it as valuable and effective means to achieve their goals (Furlong, 1997; Golden, 1998). Over the past few decades, therefore, citizens have become much more actively involved in governance related decision making (Bramson, 2005).

THE SURVEY AND METHODOLOGY

Data analyzed here was collected through a questionnaire survey³ of consumers of four distribution companies in Karnataka (of the total five), during the period September 2007 to February 2008. The survey included demographic questions; questions on public awareness and public participation efforts by utility and regulator; regulatory powers and initiatives; tariff setting process; independent assessments by experts or consumer associations; consumer protection law; presence of institutions for consumer/public participation; and presence of expert groups and community based organizations.

The sampling design was stratified sampling (based on income) with random sampling at the individual level. As survey participation was voluntary only those participants came forward who were interested to answer the questions, of which 19.2% ($n = 215$) were from the socio-economically marginalized population, largely workers from the informal sector. Frequencies, non parametric and paired t statistics were used to analyze the data. The paired *t*-test focuses on the difference between the paired data and reports the probability that the actual mean difference is consistent with zero. This comparison is aided by the reduction in variance achieved by taking the differences. For non parametric tests, the Mann-Whitney U test, also known as the Wilcoxon test, was seen as the best fit as it is an analog to the *t*-test.

RESULTS

General characteristics

Box 1 represents the demographic characteristics of the study participants. The sample represented several occupations, the main ones being factory workers and drivers. The average age of the respondents was 41 years. The average income and monthly electricity bills was 2740.00 INR and 171.00 INR respectively. The average number of hours of power disruption faced was about 5 hours per day. However, two issues stood out significantly. One, 44% of the informal sector people who agreed to participate in the survey were from the lowest income bracket. INR 1500 to 1800 is the range of monthly income fixed as minimum wages in most states of India. Two, 33% of the respondents marked less than 60 minutes (1 hour) of power disruption faced every day. The average power disruption in India stands at 71 minutes (www.domain-b.com, 2009).

³ The questionnaire is part of the surveys developed by the Electricity Distribution Indicator Toolkit (EDIT) team in which the author's team participated.

Box 1: Sample characteristics

Occupation categories	% sample	Average monthly income (USD)	% sample
Factory workers	23	Below 34	44
Drivers	29	35-54	31
Weight carriers	12	55-74	9
Entrepreneurs	17	75-99	6
Daily labours	9	100-174	5
House-helps	10	175+	5
Monthly bill (USD)	% sample	Daily power disruption	% sample
0-2	44	Below 1 hour	33
3-4.5	37	1-2 hours	35
5-6.5	9	3-6 hours	9
7-10	7	6-12 hours	7
10+	3	24 hours +	16

Do these results reflect social as well as system change being witnessed by India in the recent decades? The last two decades have seen significant changes in the Indian economic and social structure. Economy was liberalized and private participation was encouraged in several sectors, including electricity (Dubash and Ranjan, 2001; Gurtoo and Pandey, 2001; Prayas, 2003). This move was initiated to improve the economic and system efficiency. The result of power disruption being near or lower than the national average in several low income areas, could be a reflection of the improved system efficiency. Moreover, Indian government has undertaken several citizen empowerment initiatives like passing a law on citizen's right to information, creating public deliberation and participation forums in majority of the infrastructure related sectors, and building social security schemes for the low income groups (Gass and Biggs, 1993; Udayaadithya and Gurtoo, 2009). These initiatives were part of the citizen capacity building program. Willing participation of the informal/marginalized sector in the survey as well as presence in the public deliberation forums can be seen as one of the consequences of these initiatives. Democratic initiatives, in the long run, do break through the barriers of participation and expression of opinion by the disadvantaged, towards a more inclusive growth (Kilby, 2004). Hence, the key concept witnessed here could be empowerment (Marsden and Oakley, 1990; Marsden, 1991).

Awareness on the New Industry Structures

Exploration of overall awareness on the new structures, however, did not show encouraging results. Overall awareness on the post industry reform changes was very low. Participants knew about the state level governance reforms and about appointment of a regulator to oversee the electricity sector. Only about 9% of the people surveyed had the knowledge on regulatory efforts to involve public and about 7.8% had knowledge about the regulators efforts at collecting stakeholder views. However, participants were more knowledgeable about the tariff setting

process and also actively sought information about tariff to be changed and its changes, through news papers and television. About 26% of the respondents agreed on the tariff being reasonable.

Percentage awareness on general industry related initiatives, however, shows different trends. Three results are noteworthy here. One, larger number of people were aware of consumer laws. About 20% people had basic knowledge about consumer protection laws in general and 10.43% people knew about consumer rights as stated in the electricity regulations. However, specific knowledge about its operation in the electricity sector, that is, as part of the regulators orders, was low. Two, awareness about expert groups and civil society groups and their activities was higher than awareness about the regulator. About 16.08% people were aware of the significant role played by the expert and civil society groups in the industry (versus 8.69% aware about the regulator). Three, with respect to special programs for the low income groups, citizen knowledge was higher on awareness about the schemes as well as on the plans for infrastructure improvement. Moreover, about 8.69% said they had seen infrastructure improvement in their area. Table 1 illustrates these results.

Two explanations for these results are possible. Low awareness levels on certain aspects and higher awareness on others is a reflection of the randomness of information available to the participants. Improvement in the distribution of information has been an important need in the local governance system. Several studies reflect the deficiency in information provision regarding people's rights and local governance structures (Blair, 2000; Crook and Sverrisson, 2001; Dreze and Sen, 1996). On the other hand, these results could be reflecting participant choice of seeking certain information which they find relevant. Decision making is a multitier concept (Ostrom, 1999; Crawford and Ostrom, 1995). Individuals make assumptions on the resources in a situation, valuation assigned to the resources and the situation, use of knowledge and information; and then select a particular course of action (Ostrom, 1999; Crawford and Ostrom; 1995). These then act on the social space where individuals interact. Thus, individuals take institutional rational choices (Ostrom, 1999). In this case participants could have been motivated to select particular information or chains of actions, which would lead to impact at the operational and collective levels.

Exploring Participant Motivations and Concerns

About 20% of the respondents had participated in a public deliberation forum, atleast once. Exploration of what motivated participants to select this particular set of actions, revealed differences with non-participants on knowledge about higher order/ detailed information on the industry as well as perception about the industry. Table 2 and Figure 1 illustrate these results.

Both groups were found to be equally aware on basic issues like presence of consumer protection law in the country and presence of an electricity regulatory agency. However, the participants differed on several other features. One, people who had participated in public hearings had more specific knowledge about the sector, like, participation efforts by the utility, working of the civil society and expert groups and their contribution to the industry, and the powers of the regulators. While both knew equally about the price setting process and regulators role in it, non participants were unaware about regulators influence on the utility's service

quality, accessing information from the utility, holding utility accountable and penalizing it on defaults.

Table 1: Percentage positive response on awareness about public participation initiatives

Parameters	% awareness
Broad industry initiatives	
Encourage public comment on proposed changes /decisions	5.21
Conduct in situ meetings with community based organizations	5.21
Conduct focus groups with specific customer groups / types	5.2
Regulator	
Know there is a regulator	8.69
State level reforms	6.95
It defines quality of service	6.95
It monitors utility performance	2.60
It accesses information and evidence from all stakeholders	7.82
It has right to penalize defaulters	4.34
It has a say in the price setting	5.21
It can call for public hearing and insist on utility to provide information	1.06
It has autonomy in price setting and imposing penalties on utilities	3.47
Tariff setting Process	
Electricity price is decided by the consumers	9.56
Consumers can participate in price setting process	10.60
Tariff setting process is reasonable	16.87
Impact of price on different consumer groups is reasonable	26.95
Know different prices are charged for different consumer groups	16.52
Regularly get information about any price changes	16.52
Tariff information from newspaper	29.56
Tariff information from television	12.80
Consumer protection	
Consumer protection law	20.0
Consumer rights stated in electricity policies	10.43
Consumer rights stated in orders of regulator	12.60
Presence of independent experts	
Experts /community based groups	16.08
They help consumers understand the sector	11.30
They work with the government or utility to benefit consumers	9.56
Have been able to bring about reasonable changes	3.47
Have done independent assessment of tariff	7.82
Have done independent assessment of access	5.21
Subsidies	
Aware of subsidies being given	16.52
Amount of subsidy is reasonable	12.17
Subsidy is justified	34.78
Special programs for low income groups	
Aware of any schemes	31.30
More than one number of schemes	31.30
Specialized payment options	15.65
Plans to improve infrastructure in the area	1546
Implementation of infrastructure improvement in the area	8.69

Table 2: Wilcoxon test of significant difference between participants and non participants

Parameters		Test value	Level of Sig.
Industry	Perception of frequency of power disruption	3.56	0.002
	Encourage public comment on proposed changes / decisions	-2.44	0.014
	Conduct in situ meetings with community based organizations	-2.45	0.015
	Conduct focus groups with specific customer groups / types	-2.44	0.014
Regulator	It defines quality of service	2.23	0.025
	It accesses information and evidence from all stakeholders	2.49	0.014
	It has right to penalize defaulters	2.23	0.025
Tariff setting process	Electricity price is decided by the consumers	2.12	0.010
	Consumers can participate in price setting process	2.56	0.006
	Know different prices are charged for different consumer groups	2.33	0.025
Presence of independent experts	They help consumers understand the sector	-3.46	0.002
	They work with the government or utility to benefit consumers	-2.82	0.005
	Have been able to bring about reasonable changes	-2.64	0.008
	Have done independent assessment of tariff	-3.00	0.003
	Have done independent assessment of access	-2.82	0.005
Schemes for low income groups	Aware of any schemes	-1.73	0.088
	Specialized bill payment options	-2.82	0.005
	Plans to improve infrastructure in the area	-3.00	0.003
	Implementation of infrastructure improvement in the area	-2.44	0.014

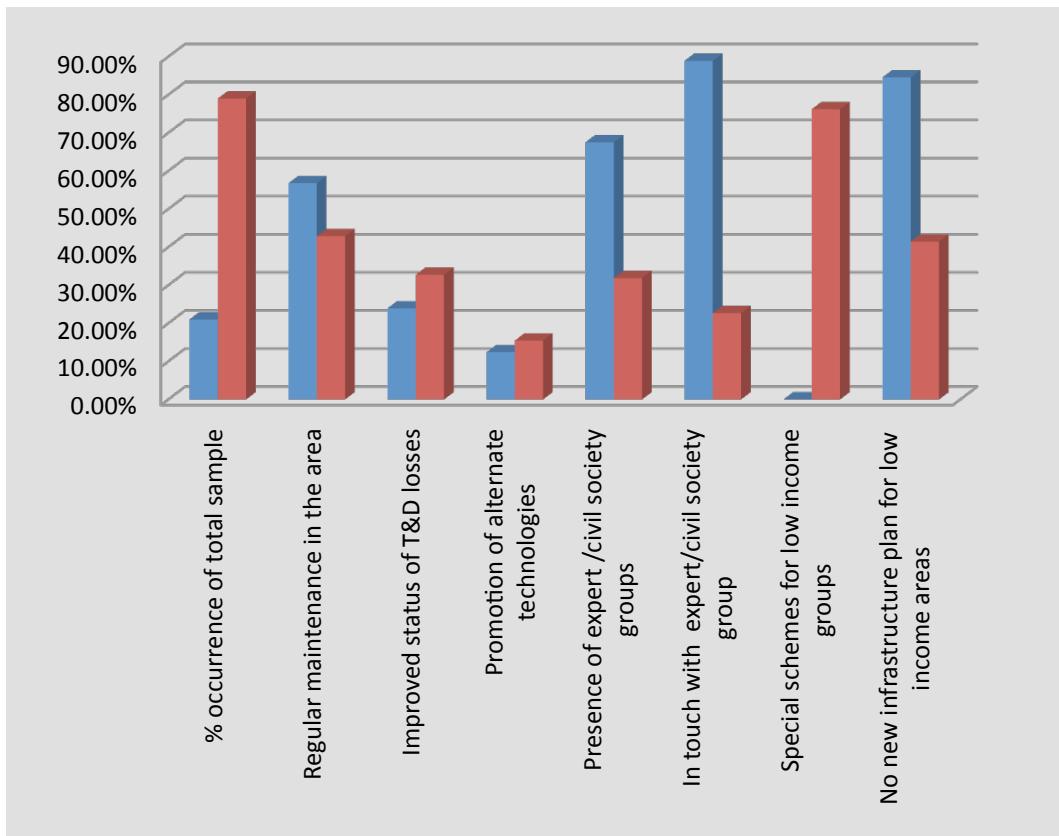
Two, the participants were also significantly more aware of presence of the civil society, NGO/expert groups, more so than awareness about the regulator. About 16.08% people were aware of the significant role played by the expert and civil society groups in the industry (versus 8.69% aware about the regulator).

Exploration of drivers and motivations towards participation revealed their positive perception about the industry and the recent changes. One, their perception on the frequency of power disruption was significantly on the lower side than the non participants. Additionally, they believed that industry has encouraged public comment on proposed changes / decisions and conducted formal meetings with the community on these changes. Two, their participation was motivated by the sectoral improvements like regular maintenance and reduced T&D losses. Specifically, their concern was around implementation of specialized schemes for low income people and implementation for new infrastructure planned in the low income areas. This was also the citizen set in active touch with civil society groups.

The electricity sector in Karnataka has established transparent and inclusive mechanisms through which citizens can regularly voice their concerns (Dubash and Rao, 2008). This participation by

the people from the informal sector clearly reflects the positive and larger outcome of these initiatives.

Figure 1: Important issues and concerns



These systems have created space for marginalized consumers to engage with the regulators, to create better systems. Moreover, this participatory democracy is often referred as a self transformation thesis (Warren, 1992). Studies show efficiency of a government system being contingent on the level of beneficiary empowerment (Jacob et.al, 2006). However, citizens participate when they trust the system and consequently, subsequent involvement is seen to change citizen perception positively about government responsiveness (King et al., 1998; Tuler and Webler, 1999; Thomas, 1998). This in turn enhances quality of participation and improves industry performance. In the participation of citizens from the marginalized economy, we can see the trust in the new system, motivated by the systemic improvements. In the long run this hopes to impact the interaction quality and overall industry performance.

DISCUSSION AND IMPLICATIONS

Summarized, the analysis indicates two broad results. One, institutionalization of public participation has, to some extent, had the expected effect of encouraging consumers to take active engagement with the industry. Two, the lead motivation for the marginalized groups to participate, unexpectedly, was the perceived positive characteristics and change associated with the new industry structure. However, at the general level, awareness about the new industry structure remains low.

Deliberative processes seek to encourage participation by interested parties by providing them with institutionalized access to information and creating participation platforms at various levels. The electricity industry in Karnataka, with the support of the regulatory agency, Karnataka Electricity Regulatory Commission, has created several such platforms. The presence of marginalized population as participants in some of these deliberative platforms is an indication of the positive impact of the governance avenues created. Participants of the deliberative processes view this as valuable and effective means to achieve their goals and have become much more actively involved in governance related decision making. These results also reflect the longer term indirect developmental outcomes which follow democratic initiatives like these. Democratic initiatives, in the long run, do break through the barriers of participation and expression of opinion by the disadvantaged, towards a more inclusive growth (Marsden and Oakley, 1990; Marsden, 1991; Kilby, 2004). Hence, these initiatives may not have substantially raised the participation levels, but the benefits can be seen in the sense of social empowerment which has accompanied these initiatives in the participation of local poor population. The key concept witnessed here is empowerment, both, psychological and social.

What motivated these participants were the positive changes they saw in the new system. Citizen involvement in decision making forums is seen to be governed by two factors, push effects like perceived negative characteristics associated with the agency or pull effects like perceived positive characteristic associated with the alternative (Ek and Soderholm, 2008). Our study reveals the second factor of pull effects working with these participants. They see the positive change and therefore want to engage with the change process. Viability of the democratic component of the public participation initiatives rests in bringing these marginalized or passive groups into the front (Blair, 2000). Moreover, these groups can in combination emerge as viable counter elite, to the traditionally active set of commercial and industrial groups and technology suppliers of utilities, to provide a balance to deliberations and decision making. This will further strengthen the democratic process.

However, this needs measures to create more public awareness. At the current level the overall consumer awareness levels are very low. This low level points to the significant gap in informal dissemination. There are several communications channels like newspaper and television which are actively used by the consumers and can be used for spreading awareness. The survey points to the consumers' regular reference to these channels of communication for industry information. However, the regulatory and governance agencies have not been able to exploit these channels of communication effectively to inform the public about their presence and systems, their initiatives and citizen responsibilities. While regulator is an institutional body formed to protect stakeholder wanting to get involved with the industry, civil society groups and experts actively play the same role at the informal, public pressure level. Survey results also show their active involvement with the participants. Active collaboration between the two could be another effective way to improve information dissemination and industry service quality.



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Topic

**BODY IMAGE DISSATISFACTION AS A FACTOR OF BODY MASS INDEX (BMI)
AND PERCEIVED SOCIAL SUPPORT IN ADOLESCENTS**

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ABSTRACT

The research was conducted to study the association between dissatisfaction with body image, body mass index (BMI) and perceived social support in adolescent students. It was hypothesized that Body image dissatisfaction would be positively related with body mass index and negatively with social support. Through random sampling 80 adolescents (equal from both gender, age ranged 15-20 years were selected from different colleges and schools of Karachi-Pakistan. Their educational level was intermediate. The entire sample was belonging to middle socioeconomic status. Demographic sheet for gathering the information related to age, height, weight etc, Body Esteem Scale for Adults and Adolescents Revised Version and Multidimensional Scale for Perceived Social Support (MPSS) were administered individually. Pearson product moment coefficient of correlation was used for statistical analysis. Our finings indicated that there is no association between body mass index (BMI) and body image dissatisfaction; where as perceived social support was found to be positively related with body image dissatisfaction contrary to what was hypothesized. Limitations of the study with future suggestions were also discussed.

Key words: Body image dissatisfaction; Body mass index; Social support; Adolescents; Correlation

INTRODUCTION

Body image refers to an individual's perception and mental concept about his or her own physical appearance (Wikipedia, 2009). This phenomenon has vastly been studied in western countries since the last two decades. In Pakistan though it is not much investigated, but its gaining importance in young scholars such as Riaz and Iqbal (2008) showed that body image was negatively associated with self esteem in adults who had disturbed eating attitude.

Body dissatisfaction is considered as the emotional domain of the multifaceted concept of body image (such as body image or perception of body weight and further that are how individual feels about their body (Gittlemn et al., 1998). Body image dissatisfaction was a constant objective predictor of body image and disordered eating. Further subjective perception of weight of the once's body and individual body shape were also found to be predictors of disordered eating, body dissatisfaction and they account for a greater proportion of variation (Wilson et

al.,2005). Mikolajczyk et al.(2010) found an association between perception of body weight and body mass index, according to their findings female students across seven European countries are more likely to perceives themselves as too fat even at normal BMI, where as males perceives themselves as too thin. Further overweight individuals expressed the greatest body weight dissatisfaction and body shape dissatisfaction, than normal weight females (Neighbors and Sobal, 2007). Previously it is also showed that increase in body mass is prospectively predicts girls body dissatisfaction (Stice & Whitenton, 2002; Presnell et al.,2004; McCabe et al.,2001). Many researches showed the significant of socio culture factors such as pressure to be slim,(mostly come from family, spouse and friends, others i.e mass communication) that also predicts body image dissatisfaction (Stice & Whitenton, 2002). The exposure to image of thin ideal bodies in the media also predicted change in attitude and behavior such as anger state, anxiety, depression and body dissatisfaction (Cahill & Mussap, 2007). For both genders, BMI exerted its influence on body image directly and indirectly through perception of teasing. Two sources of socio cultural influence, perception of teasing and social pressure to be thin, also directly predicted body dissatisfaction. Gender was found as meditational mechanisms in the relation between Social comparison and internalization and socio cultural influence and body image concerns in females (Chen et al .,2007).

Considering the socio culture factors in body dissatisfaction one cannot neglect the significance of perceived social support. It is a well known fact that Availability of social support provides people good health, vigor and well being physical and as well as psychological, that further enhance people ability to participate in social surroundings. Social support motivate people to improve their personality, to feel comfortable and attached with social network.. When people feel that that are receiving help from others that considere themselves more powerful and confident.(Wikipedia,2009). Stice and Whitenton (2002) suggested people who are not skillful enough to have social support may developed body dissatisfaction because lack of support social network (i.e family and from friends) increase negative feelings and emotions about person's body. It is also observed that if female especially adolescents receive appreciation and approval from their surroundings, they feel more positive and confident about their self and they are better able to avoid pressures (such as to be skinny, or thin) from external word.

Previous researches do show that perceived social support is contributing factor in the development of body image dissatisfaction among adolescents now days adolescents are becoming more and more conscious of their looks its greatly due to the increased influence of media in our society which emphasize the looks greatly leading to the development of body image dissatisfaction that do play a role in self- esteem and psychological wellbeing. The findings would give answers to some questions regarding body image dissatisfaction, body mass index and the significance of social support that is found to be the key factor in mental health. This research is step toward exploring the same phenomenon in our society. On the basis of above literature following hypotheses was tested.

Body image dissatisfaction will be positively correlated with body mass index and negatively with perceived social support.

METHOD

Participants

Sample consisted of 80 adolescents (40 males and 40 females) selected randomly from difference school and colleges of Karachi-Pakistan (such as Bahria College, Karsaz, St Joseph and St Patrick College-Karachi, Pakistan) They were studying in grade 11th , 12th of science, arts, commerce and commuter group. Ages of the participants ranged between 15-20 years. The entire sample was belonged to middle socioeconomic status which was determined on the bases of House hold economic Expenditure Survey conducted by the Federal Bureau of statistics Government of Pakistan(2001).

Measures

Demographic Sheet was used to obtain information related to participant's age, education, gender, birth order, family system, family income level, height and weight.

Body-Esteem Scale for Adolescents and Adults Revised Version (Mendelson White & Mendelson, 1998) was used for measuring the body dissatisfaction among adolescents. It consisted of twenty three items with five response categories varying along the continuum from never to always, where never means "A" and always means "E". It has 3 subscales BE-weight (weight satisfaction), BE- attribution (evaluations attributed to others bout one's body and appearance) and BE-appearance (general feeling about appearance): the subscales have high internal consistency and 3 month test-retest reliability.

Multidimensional Scale for Perceived Social Support: MPSS (Zimmet, Dhelmj, Znet & Aley, 1988) was used to measure persons perceived social support from three sources: Family, Friends and significant others. It consists of twelve items with seven response categories varying along the continuum from very strongly disagree represented by "A" to very strongly agree represented by "G". Scoring. Its internal validity is .88, test retest reliability is .85 and moderate construct validity.

Body Mass Index (BMI) to measure the body mass index participants reported their height and weight on the demographic data sheet. The following formula was used to calculate the body mass index $BMI=kg/m^2$ (weight in kg divided by height in meter square) (Wikipedia,2010). BMI Categories: Underweight = <18.5, Normal weight = 18.5-24.9 ,Overweight = 25-29.9 ,and Obesity = BMI of 30 or greater

Procedure

Initially the researcher obtained the permission from the principals of school and colleges. Than the list of students and classes were taken from the college administration. The sample was selected randomly from different section of 11th and 12th grade. The participants were briefed about the study and the confidentiality was assured further they were allowed to withdraw from study they want. Then the participants were given consent form followed by demographic form, Body Esteem revised scale for adolescents and adult (Mendelson, White & Mendelson, 1998)

and Multidimensional Scale for Perceived Social Support (Zimmet et al.,1988). They were asked to complete the form at their own pace; after participants completed the form they were thanked for their cooperation. **Scoring** was done according to the standard method given in the manuals. Pearson product coefficient of correlation was used for statistical analysis.

RESULTS

Table 1
Showing the Pearson Product Moment Correlation between Body Image Dissatisfaction (BIDS) and Body Mass Index(BMI)

Variables	M	SD	r	Sig
1.BIDS	71.26	10.252		
2. BMI	21.60	2.904	+0.014	P>0.45

Note: p>.05 shows there is no relationship between body image dissatisfaction and body mass index in adolescents

Table 2
Showing the Pearson Product Moment Correlation between Body Image Dissatisfaction (BIDS) and Perceived Social Support (PSS)

Variables	M	SD	r	Sig
1.BIDS	71.26	10.252		
2.PSS	67.47	12.138	+0.458	P<.000

Note: p<.000 shows there is a significant positive relationship between body image dissatisfaction and perceived social support in adolescents

DISCUSSION

Findings from present study suggested that there is no relationship between body image dissatisfaction and body mass index in adolescents (see Table 1) and it is found that body image dissatisfaction is positively related to perceived social support in adolescents that was contrary to our hypothesis no 2 (see Table 2). Our results are not consistent with previous findings of Stice and Whiteton (2002) they indicated the positive relationship between body mass index and body dissatisfaction, and from Mc Cabe et al.(2001) who found negative relationship between body image dissatisfaction and social support. Further Cheng (2006) found out that social support was not significantly associated with body image dissatisfaction.

Our results are different from these studies and even from our hypotheses that was bases on previous findings, here culture factors are playing a great role. In our opinion in Pakistan usually

people have more social support due to joint family system, either people living in nuclear family they are close with their extended family. Usually parents and care takers are very much concerned about children health, their weight and outfit. They give more care to children who show their problems to them. If they show their dissatisfaction from their body image, they may gain more social support, sometime parents, and peers give more attention to them and also give suggestions for maintaining their weight. The reason of this could be the media boom in our society which has created lot of awareness among the individual regarding self grooming and staying fit. Body dissatisfaction is mainly on the psychological level like people with the eating disorders despite of having low weight perceives their bodies as heavy and unattractive.

Body index is not the sole factor which leads to it. Harrison and Cantor (1997) found that media use predicted disordered-eating symptomatology, drive for thinness, body dissatisfaction, and ineffectiveness in undergraduate women. Ideal body internalization and body mass index did not demonstrate significant relations to future increases in body dissatisfaction (Kate,2006). Few studies have found no evidence for greater body dissatisfaction among those who are more obese (Schwartz & Brownell, 2004). Overweight men are less likely to be dissatisfied with their bodies than women (Wardle & Johnson, 2002). The severity of body dissatisfaction among obese women is likely to be affected more by the perception of overweight than by objective BMI (Foster, Wadden, & Vogt, 1997). Nowadays due to the media influence everyone is very sensitive toward their looks etc. there are other factors as well which lead to body dissatisfaction like negative comments from peers, family, and attachment styles which were discussed earlier.

There are some *limitations* of the study due to which the findings are not considered to be generalized on diverse population. First of all we could not conduct this study on a larger sample that should be taken for future research and data should be collected from more institution while considering the other variables, like self esteem, subjective body image, over and under and normal weight (control). As in present study the mean score of BMI was categorized in the normal range of BMI that could be the reason for no relationship. Future researcher should focus on these factors.

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Title

Health impact of water access in urban Tibet

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Abstract

This interdisciplinary study of urban water use in Darchen, Tibet analyses the relation between water management, health issues, and urban design in the context of a fast-expanding and globalising tourism-based economy. The qualitative change in the water management regime in this locality induced by the combined forces of urbanisation and neoliberalisation is an instance of the Asia-wide process of water management ‘modernisation’ that this research programme addresses. Darchen is a small town situated at the foot of the holy mountain Kailash, which lies near the source of five of Asia’s most significant rivers. The town has been expanding steadily over the last decade through the growing influx of pilgrims and tourists, which is expected to increase exponentially in the next few years. Concomitant economic growth is causing significant lifestyle changes for the local population. However, the town, situated in a semi-arid region, is already facing serious environmental issues due to lack of water and sanitation infrastructure, and the way the society is utilizing limited water resources. Problems include inadequate supply of drinking water, water pollution, lack of waste water and solid waste management, and rubbish dumping in rivers. These are mapped using Geographic Information Systems. It is found that drinking water is being polluted by lack of adequate sanitation infrastructure. Further, inhabitants face a number of health issues, which may be related to inadequacy and pollution of drinking water. In policy terms, the study seeks to suggest urban design solutions appropriate to tackling the water management problem, on the premise that analysis of health issues may visualize to decision makers the advantages of urban infrastructure investment enabling adequate and clean drinking water supply. The research can inform Eco-town models for the development of other towns in the region as a visioning of alternative water futures.

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1 Introduction

Ongoing economic growth in developing economies is causing rapid and large-scale expansion of urban areas with concomitant serious effects on poverty, human health and the environment, signalling a co-evolutionary mismatch between natural resources management and urbanisation (Stren et al., 1992; McMichael, 2000; Davis, 2006). Cities tend to consume far more resources than their hinterlands can supply (Rees and Wackernagel, 1996). Further, huge income inequalities (Beall, 2000), the struggle to cover basic needs such as food, housing, health care, and education (Drakakis-Smith, 1997) and lack of sanitation infrastructure rend the urban poor especially vulnerable to environmental risks (McGranahan et al., 2001). Research has addressed these issues from a variety of angles and emphases but in a fragmented manner (Galea and Vlahov, 2005).

Despite the increasing impact of cities on human health, there are relatively few studies focusing on this topic. Many urban studies are either conducted at large spatial scales or look at whole cities or urban regions, although more than half of the world population is concentrated in urban centres with less than 500,000 inhabitants (Bork et al., 2009).

Studies on the built environment tend to focus on the provision of adequate transportation, urban sprawl, air pollution and impacts on the natural environment (Srinivasan et al., 2003). Several studies advocate compact urban form (Chen et al., 2008; Kenworthy and Laube, 1999; Seik, 2001; Tong and Wong, 1997) and underline the importance of studying urban design (Campagnella, 2008; Cuthbert, 2007; Fainstein, 2005; Friedmann, 2002; Zacharias, 2002) but often focus on developed economy contexts and transportation implications (Kenworthy and Laube, 1999; Naess, 2006; Saunders et al., 2008). There are far more studies in the fields of landscape ecology, landscape architecture and others discussing the environmental impacts of urban land use, than on the related issue of the impact on humans (Jackson, L.E., 2003). On developing economy contexts such as China, many urban studies exist focusing on economic transition, globalization, land-use change, and other topics, which remain, however, unconnected (Li and Yeh, 2004; Ma, 2004; Tang, 1997; Zhao et al., 2003), and far fewer studies focus on linking urban design and health issues.

However, new evidence increasingly highlights the relation between the place of living and working and the effect on health (Wilson et al., 1998). Further, many aspects of human health as well as water quantity and quality are directly affected by land use and

development patterns (Cohen et al., 2000; Frumkin, 2002; Ewing et al., 2008; Frank et al., 2004; Rauh, 2003; Weich et al., 2002). Most urban health problems are water-related, for example the spread of diseases due to lack of sanitation infrastructure and lack of access to clean water due to contamination of water resulting from inadequate provision for solid waste collection (Alexander and Ehrlich, 2000; Chanthikul et al., 2004; Satterthwaite, 2000). Although health issues do not directly drive urban design, they were nevertheless the original impetus in the 19th century for the profession of city planning (Jackson, L.E., 2003), for example the discovery that Cholera is a water-borne disease and the impact of this discovery on 19th century London. While causal chains are often complex and not always understood, sufficient evidence exists to reveal urban design as a powerful tool for improving the human condition (Jackson, L.E., 2003). As Hippocrates, the Romans and Jung knew, physical environment affects physical and mental health, and public health has traditionally addressed the built environment to tackle specific health issues such as sanitation, fire codes, etc.: thus, the design of the built environment may hold the key to addressing many public health concerns (Jackson, R.J., 2003).

Thus, urban form offers promising opportunities for health research (Frumkin, 2003; Northridge et al., 2006). Recognizing and understanding the health costs of urban form is a first step in designing solutions (Frumkin, 2002). However, studies on the specific relationship of built environment and health in the fields of transportation engineering, urban and regional planning, architecture, atmospheric chemistry, psychology, sociology, and political science, are, however, typically conducted within one discipline and results are not widely disseminated (Dannenberg et al., 2003). Stemming from different disciplines, these studies have used different theoretical frameworks, disciplinary orientations and terminologies (Galea and Vlahov, 2005), making it difficult to link research results. Developing new frameworks linking public health and urban planning (Hoehner et al., 2003), cross-disciplinary collaboration and further research (L.E. Jackson, 2003), developing appropriate management instruments (Bork et al., 2009), and strategies promoting urban health (Heath et al., 2006) are needed.

The complexity of the relation between water, health and urban growth thus requires new interlinkages between disciplines and pooling of research results (Bork et al., 2009; Frumkin, 2002; Jackson, 2003). The policy relevance of such research is high. Under huge development pressures, urban expansion in China, as elsewhere in Asia, is taking place following a limited, and not necessarily sustainable, set of urban design and planning models, with little conceptual creativity in thinking Eco-cities and towns for the 21st century (Campagnella, 2008; Friedmann, 2005).

More interdisciplinary study is needed to address these issues and devise solutions applicable to future urban development. Therefore, this study takes an interdisciplinary approach in linking urban design and health issues through water management issues in order to illustrate a solution-oriented research approach to alleviating health impacts. The aim of the research is to formulate different alternative development scenarios or water futures, as a basis for participatory discussion. The research further discusses the policy and implementation context, as well as the applicability and appropriateness of these solutions through the participation of a range of stakeholders.

2 Research approach and methodology

This study uses an interdisciplinary research approach whilst focusing on a manageable research unit in the form of a single case study town.

2.1 Case study: Darchen Town, Tibet

The town of Darchen in Tibet is situated at the foot of holy Kailash Mountain, the navel of the world in Buddhist religion and home of Shiva in Hindu religion. It lies near the source of five of Asia's most significant rivers (the Indus, Sutlej, Brahmaputra, Ganges, and Karnali rivers). The site is located on the Tibetan plateau at an altitude of over 4000m, in an ecologically sensitive region which faces water scarcity and desertification threats. Every year, thousands of pilgrims visit Darchen, the starting point of the ritual circumambulation of the holy mountain. Initially, pilgrims have been mainly from Tibet, or from India. However, with the modernization of road infrastructure by the Chinese government to facilitate tourist influx into Tibet, the numbers of pilgrims and tourists have been steadily increasing. Darchen has been expanding accordingly in order to cater to the needs of visitors. When the Kailash Health Clinic¹, which provides basic medical support to the local population, was founded in 1995, Darchen consisted of a cluster of buildings. Today, it is a town of several thousand inhabitants and already faces severe environmental challenges. Further, the local population faces a number of health issues, which are partially linked to inadequate supply and pollution of drinking water. So far, Darchen has been relatively isolated. The next larger town with a hospital, the provincial capital Ali, is a 4 hour drive away. However, the gravel road linking Lhasa as well as Kathmandu to Darchen is currently in the process of being blacktopped, and the construction of an airport near Darchen is underway. It is expected that once these transportation infrastructures are completed in the coming few years, the number of visitors to Darchen will increase exponentially. Thus, Darchen faces large-scale development pressure and imminent further expansion of the built environment to cater to visitors. Environmental issues are expected to worsen dramatically as a result. Also, it seems ironic that a town situated at the source of these great rivers has a water problem.

2.2 Data source and analytical methods

This study uses an interdisciplinary² research approach incorporating a number of methodologies to assess the characteristics of the water supply system, the health and socio-economic situations and discuss urban development. The research methodology is organized according to the 4 different research areas incorporated in the interdisciplinary approach. Methodologies differ according to the type of data required:

1. Water resources management: characterization of the water system, assessment of water and sanitation infrastructure, and identification of water pollution sources using Geographic Information Systems and stakeholder discussion.
2. Health issues: Semi-structured interview survey with local population and medical staff at the Kailash Health Clinic.
3. Socio-economic analysis: Interview survey of households.
4. Urban design: Urban structure development analysis.

¹ <http://www.kailashprojekte.ch>

² For discussion and definitions of inter- and transdisciplinarity see Tress, Tress and Fry, 2005, McIntyre et al., 2000, and Mollinga, 2008.

The data used for base maps is the most recent Digital Globe satellite imagery available on Google Earth from May 2010. Distances were calculated directly in Google Earth.

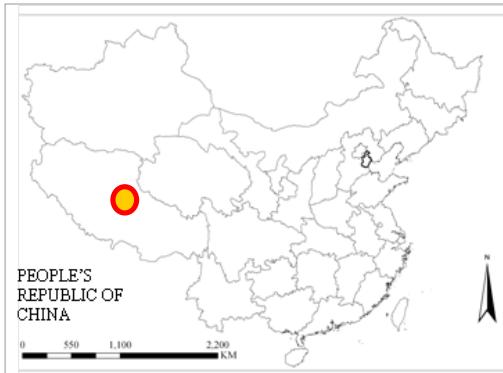


Figure 1: Case study location

3 Results

Results given in this section are organized by research areas outlined in the methodology.

3.1 Water resources

The water system, the availability of water resources in Darchen and how these are being used by the local population were characterized and assessed. There is very little agriculture and no industry in the area around Darchen. Thus it is assumed that water resources are mainly used for drinking, household activities such as cooking, washing, cleaning and personal hygiene, and for livestock watering.



Figure 2: Location of the roads and river in Darchen Town

The study finds that water resources at Darchen are quite limited. The different local sources of water identified were rivers, lakes, groundwater, and rain. There is one river running through Darchen Town. Manasarovar Lake is located at a distance of 30km from

Darchen. Although the road leading to the lake is black-topped, improving transport, the lake is not used as a source of water for Darchen. The groundwater table at Darchen is at 7m below ground level and the water quality is assumed to be adequate for drinking. Rain water is very limited: there is a rainy season between June and September, with the highest amount of precipitation being less than 120mm in July³. Rain water is not being harvested. Thus, the river is the main source of water for the town. The length of the river inside of Darchen is ca. 500m (Figure 2) and the river is approximately 5m wide and less than 1m deep (see Figure 5). This was measured in the rainy season. The river runs from north to south (Figure 2) through the centre of Darchen and its banks are not reinforced, making it easily accessible to the local population.

The extent to which water and sanitation infrastructure exists and is being used at Darchen was assessed. Water infrastructure has been constructed in the past but is not being used at present. A well was constructed to tap the 7m deep groundwater table for drinking water, but its use was discontinued due to maintenance issues. With the help of local monasteries, 6 public toilets were constructed in Darchen. The typical construction of the public toilets is a slab with holes at about 1m above the ground by stone and earth walls to enable collection of faeces from below the slab for use as fertilizer. Walls are built up for privacy. The relative location of water pollution, point sources such as public toilets and rubbish dumping sites, were mapped using Geographic Information Systems.



Figure 3: Unused well and public toilet constructed close to the river edge

The distances of the 6 public toilets to the river were measured at a right angle to the river. It is found that 3 of 6 that is 50% of the toilets were constructed less than 100m away from the river (Figure 4), namely at 17m, 28m and 79m distances from the river respectively (Graph 1). A further 2 toilets that is 33% are located almost exactly 100m from the river, namely at 102m and 104m distance from the river (Graph 1). Only one toilet was constructed at a distance of clearly more than 100m, namely at 267m from the river (Figure 4; Graph 1). All of the public toilets are located in the upper half of Darchen that is in the upstream area (Figure 4).

³ <http://www.biketraveler.net/wordpress/2007/08/25/tibet/>

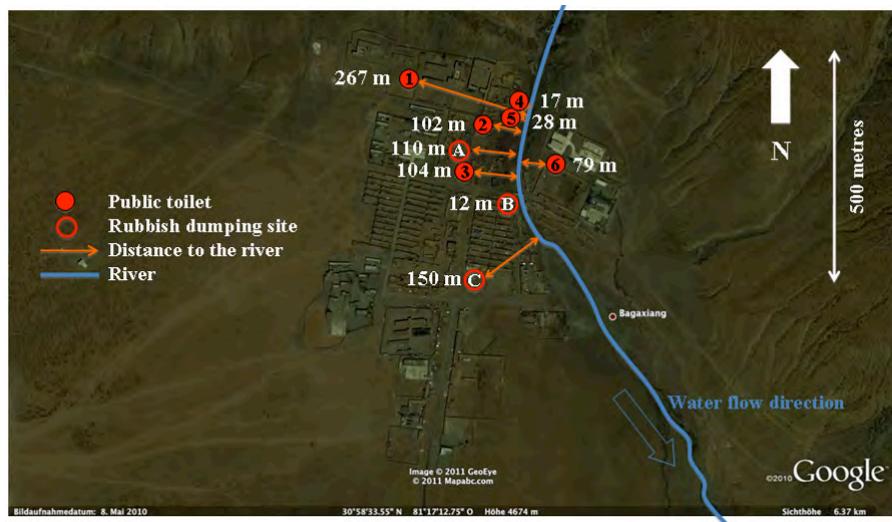


Figure 4: Location of public toilets and relative distance to the river

In terms of rubbish dumping, three main rubbish dumping sites were identified located at a distance of 110m, 12m and 150m respectively from the river (Figure 4; Graph 1).

Source of pollution	Object number	Distance to river (m)
Public toilet	1	267
	2	102
	3	104
	4	17
	5	28
	6	79
Rubbish dumping site	A	110
	B	12
	C	150

Graph 1: Point sources of pollution and relative distance from the river

3.2 Health



Figure 5: Water being procured from the river for household use and patients waiting for treatment at Kailash Health Clinic

During a first field research visit in Darchen in 2009, semi-structured interviews were conducted with medical staff of the Kailash Health Clinic in order to determine health issues. The study finds that diarrhoea is currently predominant among occurring health

issues in Darchen and a majority of the population suffer from this disease. However, diarrhoea is so common amongst the population and occurs so frequently in one person's lifetime that it is regarded not as a disease but as a fact of life. Thus, instances of diarrhoea are not always reported to medical staff and therefore not treated. A predominance of other diseases was not discovered in this first preliminary survey.

3.3 Socio-economic analysis

In the first preliminary survey of Darchen, the socio-economic situation of Darchen was roughly assessed through semi-structured interview survey. Darchen has a population of several thousand inhabitants. The large majority of the population are Tibetan of traditional pastoralist background, with a minority of Chinese and other nationalities.

Every year, thousands of pilgrims and tourists visit Darchen in order to complete the ritual circumambulation of the holy Kailash Mountain. These visitors usually stay over night at Darchen before leaving for Kailash Mountain. Foreign visitors are seasonal from June to October as travel is limited during the winter due to extreme weather conditions. The many visitors to Darchen are the main source of income. Darchen has one Chinese-owned hotel and a large number of Tibetan style guesthouses. The Chinese-owned hotel has about 60-80 rooms with electricity and bathrooms within the individual rooms.

Traditional Tibetan guesthouses usually have about 10 rooms. In addition to being smaller in scale, these traditional guesthouses have a very basic level of services, rooms sometimes being without electricity and always without running water or toilets. Water is provided in hot water bottles for drinking and personal hygiene. Food shops are often Chinese-owned and souvenir and local crafts shops are Tibetan-owned. The Chinese population seems to centre on jobs in the Chinese-owned hotel and shops. The Tibetan population in contrast also work in a number of jobs during the ritual circumambulation of Kailash Mountain: as drivers, as guides, as porters, carrying luggage and as yak herders, where yaks are carrying loads for pilgrims and tourists.



Figure 6: Rubbish consisting mainly of plastic far exceeds capacity of dumping sites

3.4 Urban design

The urban form of Darchen consists of a main road arriving from Manasarovar Lake, which is crossed perpendicularly by a secondary road which is part of the ritual circumambulation of Kailash Mountain (Figure 2). Darchen has two different types of urban structure: the residential area of the local population and several large walled

compounds enclosing larger buildings, such as the Kailash Health Clinic and the Chinese-owned hotel (Figure 7).

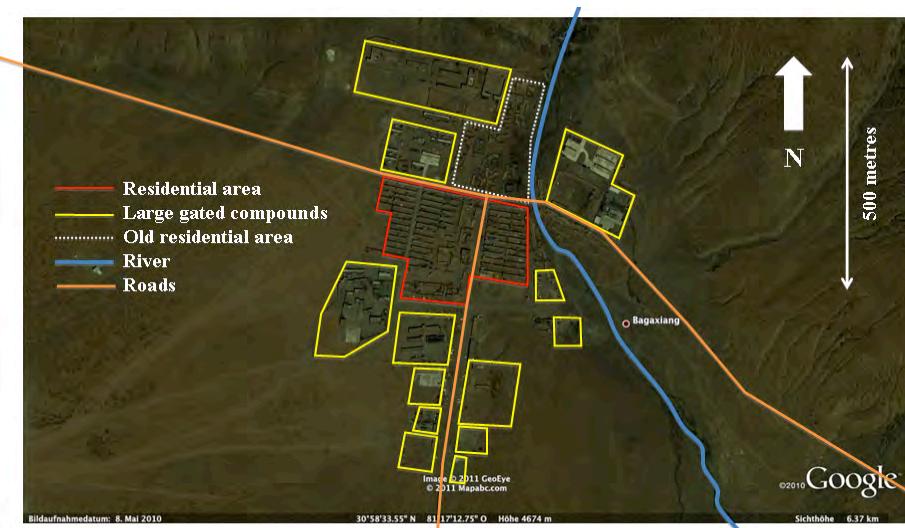


Figure 7: Darchen consists of residential area and large gated compounds



Figure 8: Urban area increase in Darchen 2005 to 2009

Darchen has developed steadily over the past decade along the main and secondary axes. The residential area and the Chinese hotel were added between 2005 and 2009 (Figure 8). Currently Darchen is made up of 13 large compounds, 9 of which border on the primary and secondary roads. Empty land is left along the river banks in a 30m wide strip.

4 Discussion

The “Great Development of the West” (*xibu da kaifa*) campaign (Ögütçü, and Taube, 2002) launched in 2000 deals with the necessity to accelerate economic development in China’s poor western regions. China aims to bring economic development to Tibet using large-scale infrastructure projects (Economy, 2002) and the campaign has led to the

improvement of the region's infrastructure (Gruschke, 2008). However, starting with the Qin Dynasty, followed by Mao Zedong and the post-Mao leadership, China has a long tradition of aiming for economic development and unification of the country through emphasis of large-scale infrastructure projects, which have always caused serious large-scale environmental impacts (Economy, 2002). Tibet is already an ecologically fragile area facing serious environmental challenges due to past policies' impact ("The Scorched Earth," 1992). The region suffers widespread soil erosion, low agricultural productivity, water shortages, and water quality problems, and the threat of irrational development causing significant ecological damage (U.S. Embassy, Beijing, 2000).

There have been several efforts in Darchen to alleviate environmental challenges. The first environmental protection conference in the Kailash Region took place in 2000 including local government representatives, the population and the Kailash Health Clinic. Two environmental studies were conducted in 1996 and in 2004. However, despite the ecological sensitivity of the Himalayan mountain environment and cultural importance of the site, very few academic studies on environmental issues in the region exist, except a wind erosion project by the Swiss Federal Institute of Technology,⁴ which however was terminated ahead of final outcomes. In the following, the findings of this study are discussed by sub-theme.

4.1 Water

This study finds that 50% of the existing public toilets were constructed less than 100m from the river (Figure 4). However, a distance of 100m is recommended by World Health Organization for sources of pollution such as toilets from rivers, in order to prevent contamination of rivers. Since this is not the case, it is assumed that 50% of public toilets at Darchen are polluting river water through ground water seepage and surface runoff.

Further, public toilets are not always used. The number of toilets is insufficient in light of the large number of several thousand inhabitants and visitors to Darchen every year. Public toilets are poorly maintained and rarely cleaned, and thus quite unsanitary, so that people prefer not to use them. Local houses usually do not have a toilet so that residents and visitors have to use facilities outside of the house. Commonly, open land is used for defecation at the edge of the town and un-built empty space left along the river banks, possibly to provide for flooding, which is convenient due to its proximity to the town centre. Therefore, river water is also being polluted more directly by human faeces. Further, animals such as yaks and sheep are watered at the river, so that animal faeces also add to river water pollution. As mentioned above, there is no industry or agriculture in this area, thus humans and animals provide the main source of water pollution.

However, drinking water is procured from the river at the town and boiled for drinking. All 6 public toilets are located upriver from the main residential area (Figure 4). Thus, residents who are procuring water close to their houses are usually accessing polluted river water, with concomitant health impacts. Although the Chinese-owned hotel has sanitation infrastructure there is no functional larger sanitation infrastructure network. Staff at Kailash Health Clinic aware of water-related health issues, travel as far as 1km

⁴ <http://www.kailash-research.ch/>

upstream to procure water from the river for personal use. Foreign pilgrims and visitors consume bottled water, which is too expensive for the local population to afford.

In terms of solid-waste management, an appropriate rubbish dumping site was designated and constructed by a Swiss research institute. However, the designated site outside the town was abandoned because the fuel cost of transporting the rubbish to the out of town proved too expensive. The monasteries around Kailash Mountain and Lake Manasarovar were persuaded to adopt rubbish -collection and -separation. Since 1997, two yearly ritual rubbish collection circumambulations of Kailash Mountain are conducted. However, the volume of rubbish produced by the local population and visitors to Darchen is overwhelming designated rubbish dumping sites (Figure 6) and rubbish collects on the road almost everywhere. Much rubbish is dumped on the empty land along the river banks, polluting the river water.

It seems that so far little environmental planning has been conducted to conserve water resources and enable clean drinking water access. More public toilets at a greater distance from the river but at convenient locations to enable their use are needed. Further, sanitary upkeep of the public toilets needs to be assigned. Water is a limited commodity at Darchen and needs to be protected to ensure access to clean drinking water for the local population as well as visitors.

4.2 Health

Diarrhoea was identified as a predominant disease at Darchen. However, diarrhoea can be caused by a range of and interrelated factors including drinking water, food consumption and lifestyle. For example, the dietary preference among people of Tibetan pastoralist origins traditionally is meat and butter (Gruschke, 2008). From a medical point of view, it is not possible to ascertain a strong causal connection between diarrhoea and water pollution even if both are predominant factors.

Illness and the cost of healthcare are relevant for a considerable number of households has been borne by households since the commune system was dissolved (Gruschke, 2008). Most local people in Darchen have no health insurance, as is the case in many developing country contexts. Private health insurance companies who speculate on health impacts of environmental challenges to sell high and unaffordable premiums dominate the health insurance market.

Although diarrhoea is not perceived as a disease by the local population, its effect can be serious, especially on children and older people. Also, foreign visitors to Darchen are vulnerable to drinking water pollution. A decrease of drinking water pollution is likely to contribute to decrease in occurrences of diarrhoea. Even if no strong causal connection can be made, issues may be highlighted for policy visibility. As health insurance is not mandatory in China and is not provided, health impact is at no cost to the state. Nonetheless, it may be argued that in long term planning the cost of mitigating health impacts may be more than that of constructing water and sanitation infrastructure.

4.3 Socio-economic analysis

It is found that many of the Tibetan population at Darchen are living in relative poverty. The level of technology and infrastructure is extremely low and lack of access to safe drinking water also signifies poverty. Tibet ranks with 0.0228 lower and Shanghai with 0.9848 higher than any country in the world in terms of Human Development Index, and such regional imbalances correspond to ethnic differences (Akder, 1994).

Tibetan traditional nomad pastoralism is decreasing, so that Tibetans are increasingly searching for new employment opportunities (Gruschke, 2008). The recent “returning pastures to grasslands” program calls for the ecological improvement of the grasslands through large-scale enclosure and the resettlement of herders to towns where they are to adopt urban modes of existence (Yeh, 2005). Chinese immigrants to Tibet Autonomous Region (TAR) profit from their structural advantages over local Tibetan residents, such as Chinese language skills, higher levels of education, and access to market networks (Fischer, 2005). Development does not only benefit the Chinese Han but also Tibetan middle-class (Sautman and Eng, 2001). However, there is a very poor, urban, Tibetan underclass (Fischer, 2005). The notion that financial resources are a necessary precondition for accessing new livelihoods and opportunities for improved living conditions is relatively novel to Tibetan nomads (Gruschke, 2008). Yet more high-tech investments, such as the Chinese-owned hotel, a shop, or an internet café yield higher economic gains. For low-paid and hard physical work (construction work) or work requiring certain skills workforce is often brought from outside to benefit Chinese workers (Gruschke, 2008). Thus, local Tibetans do not necessarily benefit from infrastructure development such as road construction in terms of employment opportunities. However, ongoing persistence of subsistence-based livelihood strategies may be understood as a basis from which Tibetan households can act in a variety of strategic ways in the face of rapid transitions and dislocations of traditional forms of livelihood and hierarchy (Fischer, 2008).

As infrastructure development is making Darchen more easily accessible, not only the number of visitors is expected to increase but the type of visitors is also expected to change. International tourists etc. are expected to come to Darchen in increasing numbers. The type of tourism may also change, for example to Wellness or Eco-tourism. Local lifestyles are also changing significantly. With improved access and participation to markets, and the increase in variety of purchased goods, consumption levels have increased substantially in the last decade (Gruschke, 2008). The thousands of pilgrims and tourists to Darchen each year are the main source of income for the local population but also the main source of pollution of natural resources, and thus a serious threat to the fragile ecological environment of this Himalayan mountain region (Figure 9).



Figure 9: Large group of pilgrims and river polluted by rubbish at Kailash Mountain

4.4 Urban design

Urban growth is considered an important part of the economic development of the TAR. Between 2000 and 2010, the rate of urbanization of the TAR was to increase from 9.8 to 22% under Chinese economic growth goals (Yeh and Henderson, 2008). Huge urban growth is taking place (Anonymous, Xinhua News Agency, 2000). “In line with a national program to foster rapid urbanization...the Tibet Autonomous Region plans to establish four urban centres...the urban population of Tibet will reach 780,000 from the present 440,000 by the year 2010” (China Internet Information Centre, 2002).

However, Chinese development since the Mao era has a history of neglecting urban infrastructure development despite using cities as engines of economic growth, leading to physical and economic stagnation (Yeh and Henderson, 2008). Chinese urban planning approaches differ from traditional Tibetan urban planning approaches, for example in that Tibetans do not traditionally see an opposition between the city and the countryside (Yeh and Henderson, 2008). Up to the present, Darchen has developed along the axes of the main and secondary road rather than in a grid pattern (Figure 7). This may suggest that the town expanded mainly following market dictates, rather than being planned. Further, lack of water and sanitation infrastructure and of rubbish collection point to haphazard development (Figure 4). An urban development plan exists but is not public. Economic and concomitant urban growth signify a potential increase in pollution sources, e.g. more public toilets and hotels Environmental problems are expected to intensify in parallel if adequate steps in urban design in terms of water and sanitation infrastructure are not taken in advance of the next stage of development. Without more appropriate infrastructure, it will be difficult to meet the water demand for drinking, cooking and hygiene-purposes of the local and visiting population, as well as deal with the disposal of the resulting waste water and solid waste adequately. So far roads are not blacktopped, an opportunity for adding water and sanitation infrastructure underground.

Urban design solutions in terms of water and sanitation infrastructure may be valuable in terms of avoiding other costs, such as cleaning the landscape or having to import drinking water. But a more beautiful townscape may also help to provide indirect economic benefit by inspiring spending more time and thus more money at Darchen.



Figure 10: Main and secondary roads in Darchen are not black-topped

5 Conclusion

Although the current leadership of China is emphasizing ‘ecological and environmental protection and building’, there is little evidence that this is being realized other than in secondary aspects (Economy, 2002). Instead of a comprehensive approach, Chinese leaders are proposing secondary campaigns which have tended to be highly political with little follow-up, rarely conducted in consultation with the local government, and often do not employ the best policy approaches, technologies, or incentives to change behavior (Economy, 2002).

China-wide water pollution control campaigns have encountered significant difficulties, with local Environmental Protection Bureaus (EPBs) reporting that the sheer magnitude of the pollution problem in certain localities is overwhelming, and officials have no means of ‘preventing polluters from continuing to pollute’, some of which are state-owned companies which cannot be prosecuted (Economy, 2002). This is the case with the rapid and unprecedented urban growth in large and medium-sized cities in eastern China. In Darchen however the issues are much smaller in scale and there may be opportunity to improve urban planning ahead of the next wave of economic growth and concomitant urban development. Chinese Academy of Social Sciences Professor Wu Jinglian argues that “We are already at the doorway of having a market economy; we should use the methods of market economics to open the West” (“Xuezhe Weiyuan,” 2000). Eco-tourism in particular may provide such new economic opportunities to shape Darchen into a model Eco-town.

Currently, the river water quality at Darchen is being decimated despite the fact that economic and tourism increase are conceived as a function of visitors to this important cultural and natural heritage site. A valuation of the river water as drinking water to help reduce river water pollution in policy terms is needed. The problem definition and solution at Darchen seem quite simple, but the stakeholder constellation is complex. In order to address this, the distribution of power and the decision making processes shaping natural resources consumption at Darchen need further investigation.

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Masculinity, Sexuality, and Sexual Health Among Unauthorized Vietnamese Migrant Workers in Thailand

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Topic of the submission (0144): Masculinity, Sexuality, and Sexual Health among Unauthorized Vietnamese Male Migrant Workers in Thailand.

1. Introduction

Migration became a global issue at least since the International Conference on Population and Development (ICPD) in 1994 (United Nations, 1995). Migrant flow is from poor areas to rich areas, from rural to urban, and from developing countries to developed countries. Most migrants are young, unskilled, lack life experience or formal education, and are poor. They move to find a better life. However, they face a wall of migration policies, lack of support for migrants, or the arrest of migrants without the required documents. As a result, migration leads to human trafficking, exploitation, sexual abuse, or violence. Moreover, the support for migrants in terms of sexual and reproductive health facilities is limited.

Male sexual health and reproductive issues receives much less attention than the same matter for women. Most components of reproductive health programs mainly target women, but not men. For men, there is no program that works to prevent unsafe abortions, promoting mother and child health, and no empowerment (United Nation, 1995; Berer, 1998). In the report of ICPD 15+, there is no information about men's sexuality that was mentioned in the first ICPD (UNFPA & Population Reference Bureau, 2008).

Moreover, men should have an active role in promoting gender equality, and positive sexuality among sexual partners (UNFPA, 2009). For example, in Vietnam a woman cannot say "no" if her husband want to have sex (Ha, 2008). UNFPA also suggested that men's involvement is the solution for violence against women (UNFPA, 2009). Men are the ones that make laws and policies because they are the leaders. Men decide all, but most sexual and reproductive health policy and programs and implementation are less of a concern for men.

In Southeast Asia, Thailand is known as "*The Land of Smiles*". The economy has developed fast and it is the golden land for many people from Burma, Laos, Cambodia, and Vietnam. Furthermore, the cooperation in the ASEAN group also brings about many benefits to travel cross-border between two countries. Vietnam is a country in ASEAN. It gets benefits from belonging to ASEAN through visas, and transportation. As a result, many Vietnamese come to Thailand to work as unauthorized workers. From the situation of Vietnamese illegal migrant workers in Thailand and the concern about masculinity, sexuality and sexual health issue in the context of migration, this study was constructed to explore masculinity, sexuality, and their impact on the sexual health of unauthorized Vietnamese male migrant workers (UVMMWs) in the migration context in suburban Bangkok, Thailand.

2. Methodology

Research design: This qualitative study used an ethnographic approach using participant observation, narrative interviews, in-depth interviews, and field notes. Informant selection used the snowball technique.

Research site: Nakhon Pathom province, Thailand

Sample size: 9 Vietnamese migrant workers (7 men and 2 women), 3 Thai people (two people who live in the same area as the Vietnamese migrant workers, one is the food shop owner who employs Vietnamese workers). Moreover, informal conversations was conducted with two groups of Vietnamese workers at the research site.

Data collection methods: The main methods of data collection were participant observation, narrative interviews, in-depth interviews, ethnographic interviews, and field notes.

Data analysis: Data from observation and field notes were recorded in an ethnographic diary. Interviews were recorded by taking written notes and audio recording with the permission of the informants. The files were transcribed word by word. The ethnographic diary and participant profiles were analyzed directly in the original language (Vietnamese) to prevent bias and lost information from translating to another language (English). The process of single case analysis was as with other documents such as rereading, making memos, coding, recognizing themes, and noting data. The results of single case analysis were combined in cross comparison analysis and it was presented by the main meaning with quotations.

3. Findings

3.1. Masculinity in migration context

From stories about men in terms of their role in the family, friends, and social status, this research found five components of masculinity among UVMMWs. They are: masculinity constructing, man identity, in family, and man in friendship, and man in society.

Father, peer group and the society construct masculinity. A man can study the way his father shows masculinity, behavior with parents, children, friends, neighbors, and society. From that, he builds his concept about masculinity. In turn, he becomes a man image for his son to follow. Moreover, the society constructs masculinity by “*tiep xuc*” – touch with society.

When man goes out, he touches with society he will study to become human. A man has high education but he behaves badly with his friends, it means his awareness about society is bad. He should learn from society. I see someone who studies only grade five or six. However, when he goes out, he touches with society much, and then he can speak well with others. He is good at study from society. I have to learn from him.

(Mr. Ngoc, 46-year-old-cook)

The society in UVMMWs' mind is not the place they were born. Society for them comprises the places that they come for work outside their hometown, village, or province. The more places they go, the more lessons they learn. Society teaches them about culture, people, women, owners, family, and life style. The man who "goes outside" will have the character of "nhay ben" – acumen or fast reaction with the environmental change. As a result, man identities are good, strong, be respected, be good with their family, be friendly, and virtuous.

Man should have the virtue if he goes anywhere. I cannot lose my virtue. Good at work or hard working is a virtue. And that man who is good, hard working, are virtue. Thai or Vietnamese like him. However, a man who changes job many time can lose his virtue.

(Mr. Ngoc, 46-year-old-cook)

Virtue creates a phenomenon of man. Man cannot loss his virtue. He must build and keep his virtue by his life style and his work, being a good worker, and not move to many work places.

In family norms, men are the leaders, and controllers. They are father, first son, second son, husband, and son-in-law. UVMMWs' masculinity is shown by behavior with women (wife, mother, and daughter), thinking about man's roles and man's work in the family, and man's power in the family. In the role of a man in the family, men have their family work that they call "viec trong nha" or "viec lon" – big task, or "viec nang" – hard work.

In friendship, UVMMW should be "good friend", "fair play", and not be "dirty play". To be a good friend, a man has to use money widely or largely. It means that a man should use much money for friends and do not make others lose their money. For the person that has "dirty play", their life style is not like others in the Vietnamese group. For example:

Here everyone can earn money like others. I can earn 200 Baht and he does too. I buy water, cigarette for my roommate but my roommate never did it. He never give you money even 20 Baht. He never buys anything for friends. His money is just for him only. When he do like this, we let he be. We never concern about him. For good friend, if police arrest him, we will help them. But for a bad guy, we will ignore.

(Mr. Binh, 24-year-old-waiter)

When you go out, a good guy should play fair with other friends in the friend group. They share in giving a party but only one pay each time. In some society, if you go for a party, all members in this party will share the fee. But in Vietnam, the one who invites you pay everything. After this party, you can pay back by inviting this man to another party. Therefore, you are a fair play person.

3.2. Sexuality in terms of sexual partnership

UVMMWs in Thailand have their own criteria for choosing sexual partnerships. The data from their stories divide the meaning of woman in to four kinds: Women for play, women for marriage, Vietnamese women, and Thai women.

Image of Woman for Play

In Thailand, they find a woman to be their girlfriend for fun, or for play.

My friends do not like to find only one girl. I play with many friends that most of them like to flirt girls on phone for fun only. It is quite a lot on phone. I was a very famous man in terms of flirting girl on phone. I sometimes had four or five girlfriends at the same time. My phone always had two to three girls on phone. Flirt for fun only because I had never thought about married girls that time. I've never thought that I will get married with them. In the first time I am coming to Thailand; I am having a girl for love and for fun only. However, when I spoke with them, I always said to her "love for married" or "Only you are my love".

(Binh, 24-year-old-waiter)

UVMMWs want to have a girlfriend in Thailand just for fun. They never think about whether they will get married with her or not. The reason is “*coming here for working*”. The life in Thailand is not so interesting so they need a friend for “*qua ngay doan thang*” – for the time over faster. Therefore, they can have more than one girl at the same time. Maybe the number is four, five or more. They rarely meet each other. The image of a woman for fun should be “*the one who is beautiful*”, “*talking nice*”, “*lovely*”, “*polite*”, and “*virtue*”. They do not care about the hometown, current working place, friend, or family. On his phone, a man can have his girlfriend’s picture. They will choose the beautiful girl to continue the relationship. If the relationship is good, they can meet with each other for fun. After a short time, they will stop the relationship.

The Image of Woman for Marriage

From the observation diary, there are many men who got married with Vietnamese women in Thailand. UVMMWs work and live in Thailand for a long time, flirt with some girls, and choose one to marry. The image of woman for marriage is based on life style, family, hometown, current working place, and destiny.

It is very difficult to decide a woman for getting married or living whole life with. I have to consider her character, her life style. Moreover, I have to understand their family deeply such as how many sisters and brothers she has, parents, grandparents, etc. In general I know deeply about her life. And then the way her parents and her sibling treat with me, good or not. I have to think much.

(Binh, 24-year-old-waiter)

When men think about women for marriage, they choose seriously. They choose woman who have good family, good character, and suitable lifestyle. Some love and get married with a woman from the same hometown as them. One opinion about wifehood is similar with Vietnamese men who live in Vietnam with the characters of: treating well with outsider and insider (“*doi noi, doi ngoai*”), hardworking, beautiful, intelligent speech, and virtue (“*Cong, dung, ngon, hanh*”). Women for getting married requires many characteristics.

Vietnamese Woman

The image of Vietnamese woman in Vietnamese male’s opinion is “*easy girl*”, “*bad girl*”, or “*play girl*”.

Girls working here is “bad girl”, either married or single ones. They have many bad things. Because of money they work in pub or restaurant. In this place, there is nothing that they do not give to ... (mean give sex to customers). Girls become playgirls (“an choi Girls are easy nowadays.

(Tinh, 24-year-old-waiter)

UVMMW do not like a woman to go out to work far from their house. One said that he had never allowed his wife to come to Thailand for work even with him. The other single men do not want to choose women who work outside the home country.

The Image of Thai Woman

The image of Thai woman is “*normal girl. But they have sweet voice and more polite than Vietnamese*”, Mr. Ninh, 26-year-old-waiter. His girlfriend is his ex-colleague from one year ago. After she moved to another place, they still keep contacting each other. However, he still defines the relationship with a Thai as quite difficult because Vietnamese men are low class than Thai women. They feel their inferiority in front of a Thai woman because they do not have enough money for Thai girls.

Other UVMMWs have a image of Thai woman as the leader in the family. Thai society respects women. As a result, Thai man, especially Thai husband respects and follows Thai women. In a meeting with Vietnamese male group, they expressed their opinion about Thai women:

Vietnamese man cannot love with Thai woman. Thailand respects woman. Ten sentences of a man is not balanced by one sentence of a woman. Rich or poor families respect wife as well. However, we have our own culture. Husband goes outside to learn their respect, but not following woman. Vietnamese man does not love and gets married with Thai woman.

(Ethnographic interviews with Vietnamese community)

Because Vietnamese men do not want to follow their wife, they cannot love and get married with a Thai woman. Living a long time in Thailand brings about the image of Thai woman that Vietnamese man cannot choose. They can have a relationship, but not formal girlfriends (the lover that man introduces to other friends, or family members), or wife. The Vietnamese man who has a Thai girlfriend was negative about her status during the interview.

3.3. Sexual health issues

In the migration context, UVMMWs have to face many sexual health issues such as sexual violence, sexual transmitted infections (STIs), and condom use. Men are harassed by homosexuals. Three respondents talked about homosexuals and sexual harassment with them and their friends.

My friend works for a pub. One day, there were two guys drank in his pub. They treat him that they were drunk and asked him to take them back to their house near there. After that, one took off clothes and asked him to touch his penis. That man asked him "Do you like it?" My friend was very afraid. That guy gave him money and told him stay there. Luckily my friend can come back early by telling lie with them. Here Thai gay like Vietnamese men who are young, small, and white skin. They do not like big man.

(Mr. Binh, 24-year-old-waiter)

None of them report this problem with the police because they are unauthorized workers.

Condom use is the big issue in this group. In this study, the evidence shows that condoms are rarely used with the steady partner, wife, and lover.

I have never used condom with my wife. My wife can use medicine to prevent pregnancy... With the person that I do not decide any future ("xac dinh" – do not want to get married), I will use it. For other, I will not use. No need to use condom for the woman that I decide to live with me whole life.

(Mr. Binh, 24-year-old-waiter)

They decide the people with whom they should use or not use condoms. The person that they "xac dinh" is the one that they do not use condom with. The other idea comes from the trust they have in Vietnamese women – "nguo minh". "nguo minh thi minh tin tuong" mean believe in their Vietnamese women.

However, STIs are still a big problem in this group. None of the participants in this study talked about his STI related symptoms. However, they speak about their friends, their workers... Based on their story, three men were identified as having STI.

Yes they have (UVMMW have STI) because two Vietnamese have STI. They called women's disease to people. And when they have any kind of problem including this kind of disease, they will be treated at home because it's easy to move around to go home. And he offers that they could buy the medicine at the shop pharmacy? The worker said "No. The Thai medicine will not work and not kill my problem". "Most of them refused our good support or assistance".

(Pi Wan, 50-year-old-restaurant owner)

UVMMWs refused to using sexual health service in Thailand. If one has any problem, he will go back Vietnam for treatment. Sexual health services include sexual health information, treatment services, and access to sexual health care resources were inaccessibility for UVMMWs. In this study, none of the respondent received formal education about sexuality and sexual health. Mobility from places to other places also contributes to the inaccessibility with sexual heath care services among this group.

4. Discussion

Masculinity is presented by the power of a man in his family, with friends, and in society. In a patriarchal society, a man has more power than a woman (Ehrenreich, 1995). Similarly, UVMMW play the role as the leader of the family, the good friend of friendship, and the respected person in society. Their power is shown by their role, their behavior, and their identities.

The man's role in the family is as the controller. He is "*the column of family house*". In this study, UVMMWs are the father, the first son, the son-in-law, and the husband. They must go out to earn money. Migration is one way to show love and responsibility to the family. Although living in another country is not easy especially when the living status is unauthorized, men still migrate. In a patriarchal family, man expects to be the leader. They have no choice for any other role. So, they migrate to fulfill their role.

However, UVMMWs cannot show their masculinity in the host country because of their unauthorized status and social status in Thailand. His masculinity is increased in the home country, not in the host country. In the host country, they are unskilled worker and unauthorized migrants. UVMMWs' status is lower than that of Thai people who are owners, customers, colleagues, and friends. And they are poor in Thailand. Therefore, although they think they are manly (more masculine) than Thai man, they cannot show it because they do not have "*the condition*". They have less power of social status, money, or family role in Thai society. As a result, they lose their masculinity, and they have to hide their masculinity in Thailand.

In the migration context, masculinity affects their sexuality by their image of women in terms of sexual partnership. Building the image of Thai woman show the affect of migration context to UVMMWs. The image of Vietnamese woman and Thai woman

of ideoscapes affects man's sexual partnership selection. The image of Thai woman is having high status in the family and society. Thai woman can argue with husband, and can own property. And "*Thái Lan họ trọng nữ. 10 câu nói của người đàn ông mà khi người phụ nữ nói 1 câu thì đàn ông cũng phải nghe*" – means Thailand respect woman, one woman's sentence balances ten sentences of a man. This image challenges patriarchal society where man is the controller such as the son preference with the concept of "*Nhat nam viet huu, thap nu viet vo*" in Vietnam - a family with ten daughters has no children (Gammeltoft, 1999). Vietnamese men should be strong, have power, and be respected by society more than woman. They do not want to be weak, or follow his wife words. They agree that a Thai man is good, gentle, but "*we are Vietnamese, Vietnamese have Vietnamese culture*". They are afraid of being a Thai man when they get married to a Thai woman. In other words, they still want to keep their patriarchal practices to maintain their masculinity. However, the image of woman especially their wife in their mind changes. They respect their wife more than in Vietnam because they "*study the good thing from Thai people*". UVMMWs know they should behave well with their wives but "*it needs time*".

The research finding shows about sexual violence in both men and women. Sexual violence in UVMMW is sexual harassment by homosexuals to UVMMWs. All victims did not report to authorities. They cannot report because they are illegal workers. They can be arrested, put in the jail, and forced to go back to Vietnam. Therefore, the victims of violence have to keep silent. Additionally, the focus of sexual health found in this research is about condom use and STI problems, lack of sexual health care services and information resources, and sexual violence in the migration context. Condom use is a concern because of UVMMW's sexual life in Thailand. UVMMWs are young, live far from their hometown, and are at a sexually active age. They have a very diverse sexual life with multiple partners, an increase of sexual desire in the migration context, and need to maintain masculinity in Thailand. However, they rarely use condoms with Vietnamese partners such as lovers, wives, steady partners, and casual partners. They "*trust*" Vietnamese woman because "*người minh*" – they are our people. They accept sex outside marriage in Thailand where there is no social control. "*Trust*" is one reason for not using condoms, which was also discussed in Thao's study (Thao, 2010). With Vietnamese women, UVMMWs only use condoms to prevent pregnancy, not to protect against STI. Condoms are only for sex with sex workers. The sexual life without using condoms puts UVMMW in a high-risk group. The network of sexual relationship will be damaged if one chain fails. What will happen if one person has STI, especially HIV? UVMMW talk about a friend who had STIs related symptom. But the story seems to be about another person, not them. No one thinks he can be the next victim of STI. This issue is also mentioned in the research of Aung (2007), and in sexuality issues in the Greater Mekong Sub-Region (The Southeast Asian Consortium on Gender, Sexuality, and Health, 2006).

5. Conclusion

In conclusion, Vietnamese unskilled workers come to Thailand and they do so illegally within the context of Diaspora and Landscape. The migration context affects

the masculinity and sexuality of these Vietnamese men so that they behave differently from in Vietnam. In particular, there is a change in their attitude to Vietnamese women. A woman can be somebody to love, somebody to play with, or somebody for sexual relations. In part, this is because the men change their perception of women who are migrant workers when compared to women living in Vietnam. As an outcome there are problems of sexual health, sexual violence, condom use, and sexually transmitted infection. Consequently, dealing with sexual health within this community must be based on their context and not on that in Vietnam. This study is based on a sample of seven people so it is recommended that studies with large number of respondents be carried out to confirm the previous recommendation.

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A Study of Elders Living in Community Environment Base on Adaptation Level Theory
—An Example from ChangRung Community in Tainan, Taiwan

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A Study of Elders Living in Community Environment Base on Adaptation Level Theory —An Example from Chang Rung Community in Tainan, Taiwan

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Abstract

Aging in place has been a international trend of providing elders care service, This trend has allowed community environment plays a key role in elders life. However, what characters should a suitable community environment for elders life possess has been a topic that our research institute concerns about. This topic has also been an important point of future plans arrangement and management of a suitable community for elders long-term inhabitation.

This research that we study is based on Chang rung community, which was evaluated as high-class for taking care of elders in Tainan city in 1990. By using the viewpoint of adapted level Wohlwill(1974) theorized, and distinguishing the community environment into three parts including family, neighborhood and community according to elders living domain, we analysis the research by observing and interview.

The study results that a good elder community need to possess the following characteristics:

1. Easy to distinguish the organization of living space.
2. Ensuring the security and comfortableness of living space.
3. Providing a space that family members live and manage together.
4. Providing a opportunity for neighbors to visit each other.
5. Providing a space that neighbors can chat or discuss something.
6. Providing an occasion that can induce elders to do outside activities.
7. Promoting the community culture of living together.
8. Providing local life support and care service.
9. Building a platform for elders joining community service.

It must establish a safe and comfortable place for elders in any different situations if we want to practice the idea of aging in place. Also, let the elders able to have interaction with neighbor. These will provide elders to have a good lifestyle.

Keyword: community environment, adapted level theory, elders, Chang Rung community.

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The research motivation and purpose

The aging of elders in the local place has been a trend of international co-care services; this trend makes the community environment play an important role in the process of the elderly life of elders. Elders need to have suitable supports and cares from community to assist the elders and their families have the right to create life. The elders have to be encouraged to have their maximum ability to live independently, and to operate their own life at home. On the other hand, elders should be able to have the awareness of living arrangements, and be able to obtain the appropriate assistance and supports to promote further interaction of living with residents. As a result, elders can adapt the long-term life in the community.

The main idea for elders to live independent is that elders need to have the abilities of choice and self-care, also need to get sufficient supports from family and residents in community to assist elders get a good life. By the Adaptation Level, and to probe into that how elders obtain appreciate supports and cares in community, and construct the community hardware environment for elders living independent to mix the software environmental concept of the elders care and community life, and to assist elders to get life supports and management in a good community. The study purpose is that what characters should a good community for elders have, this purpose also focuses on designing for future planning and management and community for long-term living.

The purpose of the research:

1. To explore that how Chang Jung community (Tainan city, Taiwan) assist elders to get independent life and appreciate cares on community environment constructing and elders care service by the Adaptation Level.
2. By Adaptation Level, to explore what characters of care service and hardware environment facilities should have in elder's community , and increase the elder's life quality and interaction with residents in community.

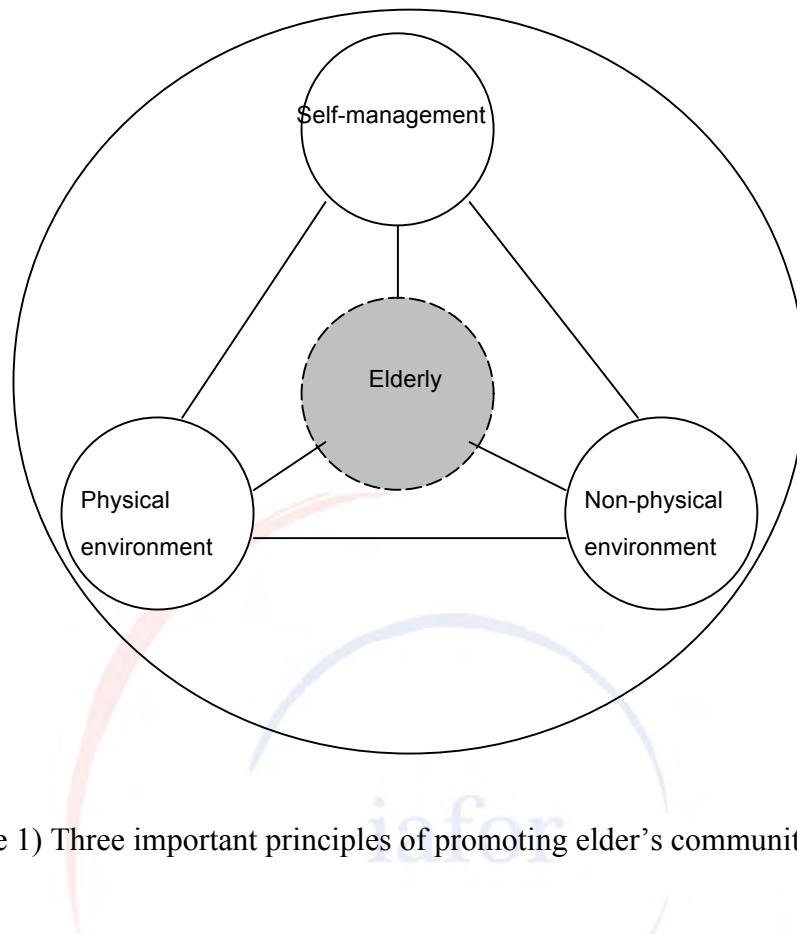
The research methods and target

Through the literature of the way, made the point of view from Wohlwill's theory in 1974(Adaptation level (AL)), Wohlwill (1974) pointed out that if the results support the theory of over-stimulation and emotional, too much stimulation of ideas on the behavior and emotions are harmful. There are also some results support that negative effects caused by too little stimulation; thus, perhaps with intermediate levels of stimulation is ideal. In this study, the elderly and community environment in accordance with the concept of the field, divided into family, neighborhood and community levels of three kinds of environment, and use the participant observation and interview research methods for analysis.

Apply Wohlwill's "Adaptation Level" concept to explore that how it apply in elder's community care service and to organize three important principles of promoting elder's community care service:

1. Supportive physical environment.

2. Interaction of non-physical environment and care.
3. Independent Living Management and Administration.



(Figure 1) Three important principles of promoting elder's community care service.

By promoting the three principles to the actual participant observation and interview research methods, by researching into the Chang Jung Community which is famous for elder's care service and also wins the excellent award in 1990. Chang Jung Community is located in Tainan city, Taiwan (Figure 1), formerly it was an old military dependents village, in response to alterations, ten military dependents villages will be consolidated into Chang Jung village, the so called Chang Jung community. There are 23 buildings within the 14 floors, each set of four high-rise residential, is a typical urban high-rise condominium communities. Now there are about 3,000 residents, 1300 families, 110 community volunteers, and 14 leaders of community activities. Since 2004, Chang Jung Community had begun to promote community care services, participation in cultural and recreational organizations, performance, and transformation of the living environment, so far, it is still running.

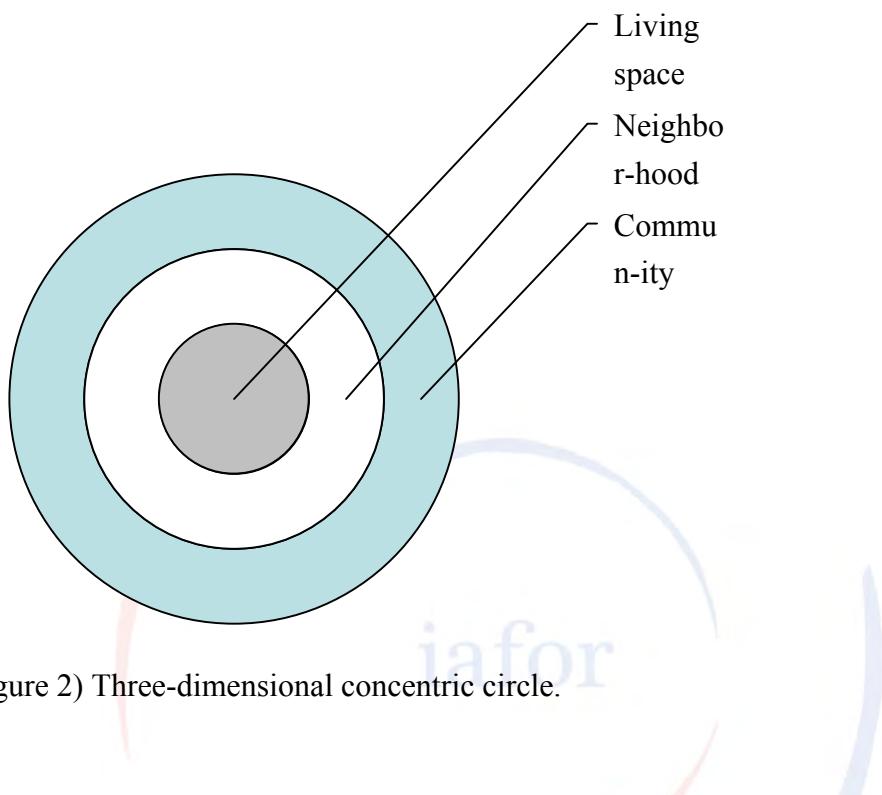


Located in Tainan City, Taiwan.



The Chang Jung Community.

The research method is to observe the community environment and randomly visit 5 doors for sample, two are male elders and three are female elders. By researching biweekly for six months, we use the samples to understand their c in the home, neighborhood and community for the corresponding activities of the three locations and facilities, activities and participation in member activities in the three variables of time to adapt way.



The research results and discussion

1. Plan results

By actual researching , five elderly residents for community observation, six months results are as follows:

(1) Interaction in the home

The main areas of activities at home are the living room, dining room, bedroom, bathroom and the balcony or other space such as the worship place, and etc. The main activities, participants and time of each area are shown below.

	Main activities	Main participants	Main session
Living room	Watching TV, chatting, reading newspaper	Family	10:00-12:00 13:00-14:00 19:00-20:00
Dinning room	Dinning, chatting	Family	06:00-07:00 12:00-13:00 18:00-19:00

Bedroom	Sleeping or listening to the radio or music	Alone	22:00-06:00 14:00-16:00
Others such as bathroom and balcony	Potted plants, wash the drying of clothes, Buddha	Alone	09:00-10:00 20:00-22:00

(2) Interaction in the neighborhood

The main interaction of elders in neighborhood are 1st floor porch and small square. It's a semi-private space. The targets we research will have an interaction with neighbors at the porch or small square after a lunch and dinner.

	Main activities	Main participants	Main session
Porch	chatting, gardening reading newspaper	family members neighbors	07:00-08:00 16:00-17:00
Small Square	Chatting reading newspaper, doing exercise	family members neighbors other community residents	

(3) Interaction in the field in the community

In addition to the semi-private space of activities in the neighborhood, the main activity areas of elders in the community include central hall, sidewalk, garden and activity center, and the garden has children's facilities. Therefore, elders are able to play with their children to increase their relationship. Also, activity center provides some services such as restaurants, care center and multimedia entertainment; these are important gathering places for elders.

	Main activities	Main participants	Main session
Central Hall	walking walking the dog chatting doing exercises	family members neighbors other community residents pets	08:00-09:00 17:00-18:00
Sidewalk	chatting walking doing exercises	family members neighbors other community residents	

Garden	chatting walking doing exercises, walking the dog playing the kids	family members neighbors other community residents pets	
Activity Center	chatting reading newspaper playing cards and chess blood pressure test eating lunch	family members neighbors other community residents volunteers team	08:00-10:00 12:00-13:00 16:00-18:00

2. The environmental features of elder's community

The result of the research reveals that people should follow the principles of promotion mentioned above when they adopt the concept of Adaption-Level Theory to plan and construct the living environment for elder's community to make them become the individuals who can live on their own.

(1) Recognizable living space system

The floor plan of Chang Jung community is mainly quadrate. The arrangement of each household space is concise and basically the same. To the elders, the recognizable space arrangement makes it easier for them to memorize the correct position of each space, and make use of it. Furthermore, the elders feel a sense of security when the arrangement of the house is familiar to them. As to the purpose of the space design which creates a linkage between the living room and the dining room is that it increases the opportunity for the elders to interact with their family while having meals and watching TV. In addition to that, the design also helps the elders avoid being alone because of the different eating pace, and provides a space which the elders can feel more companion and support. The housing space plan of Chang Jung community provides the elders and their family a better access to the ideal of managing their household life. The design of one-story with two households which are separated by the elevator grants every household a sufficient living space. The hallway as the center of the house traverses it. The bathroom is located on the hallway, which is the center of the house. The family members can easily gain access to the bathroom because of the location of it. The basic life functionality of the elders is very convenient. A complete plan meets the various needs and values the details.

(2) Ensuring the safety and amenity of household life

Safety:

The distribution of the community space has its own hierarchical order. Elder residents obtain proper rest and adequate privacy in the semi-private space. When the elders leave for the public area, the porch or the small square become the buffering space between the semi-private space and the public area, which brings the agitation and compression. Chung Jung community sets up security systems, emergency alarms, and other hardware in order to assure the basic need of personal safety of the community residents.

Amenity:

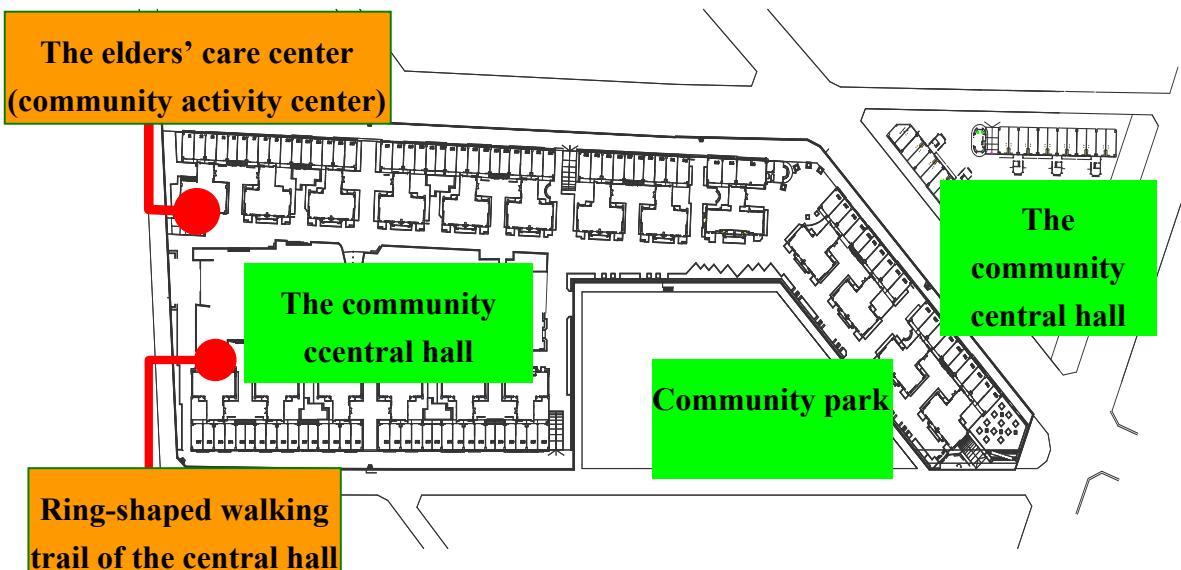
The living space of the residents is average, so it does not cause the alienation among family members like the oversized space does. Moreover, appropriate distance in space enhances the close relationship and emotional support between the elders and their family. Each building of Chung Jung community has its own windowsill and passage, which are designed in accordance with lighting direction and ventilated location to create the sense of comfort. Furthermore, the management system of Chang Jung community is complete. With the neighbor watch and building management organizations, the community guards the safety of the residents. There are also study session, elderly citizens' associations, and other activities in the community. These associations and activities not only provide the opportunity for the elders to take part in society and interpersonal interaction but also help them establish social relationship and emotion supporting system in the neighborhood. In addition, the community has the noise control management. It not only provides the residents with a tranquil space but also alleviate the stress, anxiety and depression causes by the environment and hyper-stimulation.

(3) Providing a space for improving interaction with the family

By observing the family life of the elders, I found out that in the existing living environment the living room and dining room are the primary areas which the elders interact with their family. The living room and dining room with sufficient lighting and landscape of each household in the community are closely linked together. Due to this kind of space arrangement, the dining room plays an important role in the interaction among family members after they come home in the evening. This type of living space properly provides the life style which tends to make the elders feel the identification with their homes. It also helps them acquire the provision of care and support in the process of aging in the future. The main activities of the elders at home are rest, eating, and bathing. They like doing the decoration which has historical value in their rooms. Although they can watch TV in the living room, to those who are unable to move freely, their rooms become the primary living space. During the morning and the afternoon, the primary area which elders do the activities is in the community. Their houses are not the major places for doing the activities.

(4) Providing the opportunity for neighbors to visit

The arrangement of the passage of each building in Chang Jung community allows the residents to greet or chat with their neighbors at the U-shaped porch. While the residents interact with others, they are surrounded by three walls. Due to this reason, they feel a sense of privacy, so they can establish their relationship with others without being disturbed by the stimulation from the public area.



(6) Providing the place which guides the elders to do outdoor activities

Through the community guidance and lectures, the volunteers assist the elders in going to the activity center and participating in the community activities. Coordinating the blood-pressure test in the community, the elders go out regularly, and thus they gain access to meeting other residents. The contact and interaction in daily life help the elders familiarize themselves with other residents, and then form a new social network. They also gain more support and assistance from other residents. Guided by group dynamics, the elders do outdoor activities like walking in the park or on the walking trail of the central hall, doing exercise, and dining at the food court are good for them. The activity center and the park provide spacious and diverse choices for elders to do the activities.

(7) Facilitating the formation of community life pace and construction of culture

The elders establish regular and stable life pace by developing their potential and autonomous living ability, strengthening the skills of care service provided by their family and the residents, and utilizing community resource of integration and assistance of community care. The elders exercise in the community in the morning, and then chat with neighbors after exercising. In the noon, they dine in the food court of the activity center. Watching TV, taking a nap, or playing card and chess are activities which elders do in the afternoon. They relax and

go for a walk with other elders in the evening. The regular life pace was developed because of their adoption to the environment and the well-arranged space. It also improves the interaction among the elders in the community, and consolidates the community function, and constructs the community consciousness, sense of belonging and identification. All of above improve the elders' quality of life in the community.

(8) Providing local life support and community care service

The residents of community join the volunteer group which provides daily blood-pressure test and health care promotion from time to time. The volunteers help the elders who live alone or are disabled dine in the food court or bring food to their house. This action not only provides inexpensive and healthy food but also relieves the burden of the care givers because sometimes they are not able to prepare meals for the elders. The care provided by the volunteers prevents danger from happening to those elders who live alone. On the other hand, the care brings the elders warm feelings, support, and well-being, and it also encourages the elders to interact with others spontaneously. Besides, the elders acquire friendlier living environment because the environment of the community creates the atmosphere of entertainment which suits the elders.

(9) Constructing community service platform for elders

Not only do middle-aged but also elder residents take part in the volunteer group. By being volunteers, the elders obtain a sense of self-identity, affirmation of individual values, and a sense of fulfillment. They find out new interests by helping other people as well. The elders can enrich themselves by engaging in educational and cultural study sessions and various subjects and courses. The community also put much emphasis on environmental issue. The elders can join the volunteer groups to sweep the streets every morning in order to keep the community in good trim. They can also do the gardening to make the main streets in the community green. Eventually, the elders become the providers of the community care service in the ever-green food court, study sessions, Chang Jung troupe, community health-care center and activity center. People used to view the elders as the care receivers and consider them to be in the disadvantaged position. However, this is not the case anymore. The community grants the elders a whole new image of optimism, liveliness and healthiness.



The study session in the community center

Conclusion:

If we need a high-quality community which possesses the nine features mentioned above for elders, we should take many things into account. People need to consider the relationship between the residents and other people, and the interaction and impact between physical environment and non-physical one when they design the living space and community environment. The resident needs to understand the organization and various resources and integrated service. The residents must have the consensus of the community and understand that where they live is a life community. Thus they need to help and take care of each other, make their community thrive, and create a comfortable environment for the elders. In conclusion, to help the elders realize the ideal which is aging in place, the community must construct safe and comfortable living space for them. Furthermore, the community should provide the elders with opportunity to interact with other residents. It grants the elders a chance to lead a complete life and to make the concept of aging in place come true.

A Case Study of Interim Housing Model and Reconstruction of Family Life in Taiwan

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Abstract

Because of Taiwan's adverse geographical environment and inappropriate rural development, large-scale disasters are occurring more frequently. These disasters often require a longer period of rehabilitation and recovery time in order to allow the victims return to normal life again. Therefore, this research focuses on how to provide suitable living conditions for interim housing residents to proceed with recovery and eventually gaining independence.

After Typhoon Morakot hit Taiwan in 2009, the ROC Red Cross Society converted an abandoned barracks into interim housing and conducted research on site. Based on the effect of environmental stress on human, the design of interim housing should meet the following characteristics to assist disaster victims to return to pre-disaster life: (1) planning and design of home environment, (2) care and support of family, and (3) the autonomous operation of community-based organizations.

There are eight key research results on how the design of interim housing helps victims in post-disaster recovery: (1) the provision of housing for individual family units, (2) holistic community planning to encourage families to interact with one another to create a community life , (3) the provision of proper care services to help victims regain normal family life, (4) the transition from informal care services to normal care services, (5) the return of community life with family support (6) the promotion of a healthy family life and business life, (7)the collaboration of public and private sectors to ensure the continuity of family life, and (8) the establishment of community-based organization to strengthen family formation and the integrity of the individual which serves as the basis of assisting victims to return to their normal life.

Interim housing not only reduces the impact caused by environmental stress, but also plays an integral role in helping victims and their families rebuild their lives.

Keywords: interim housing, environmental design, family

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I. Research Aims and Objectives

The main aim in the design and planning of interim housing is to provide the displaced victims with alternative housing equipped with basic living facilities. (Comerio 1997a; Fink, Plumer, Radosevich, Ward & Green, 2008). In recent decades, the heretic environmental and extreme climatic changes have led to the increase in number and intensity of natural hazards-inflicted disasters, which eventually incurred enormous impact and damages to the affected regions.

Besides having to cope with direct impacts, such as fatalities, destroyed buildings, and loss of economic assets, as well as the indirect impacts caused by shortcomings in recovery management, the aftermath of disasters also disproportionately affect the victims physically and psychologically. As the process of post-disaster recovery works usually take a longer period of time to allow the victims return to normal life, these severe impacts very often will deeply affect the socio-economic and environmental foundations of society (Basher, 2008; Rhoades, et al., 2008; Wiek, A. *et al.* 2010). Hence in this paper, using Taiwan as a case study, this research focuses on how to provide suitable living conditions for interim housing residents to proceed with recovery and eventually gaining independence.

II. Literature Review

Natural hazards-inflicted disasters generally refers to results of the interaction between the effects of disasters and the environmental system, thus affecting the survival and livelihood of the affected community (Chang & Peng 2001). Hence, during the recovery stage, the reconstruction of the affected environment should be taken into consideration. The primary problems concerning victims are mainly the sudden increase in demand for temporary housing and its related issues such as housing reconstruction and rebuilding of their lives. Generally, these problems will subsequently affect the supply of interim housing and the planning and design of home environment.

From the perspective of environment stress model (Baum, Singer & Baum, 1981; Bell, et al., 2001; Evan & Cohen, 1987; Lazarus & Folkman, 1984), when an individual is subjected to environmental stress, the individual will usually has to adapt and response to the existing social and practical environmental issues. But when the environmental stress exceed one's tolerance level, inability to cope and adapt and the development of negativities might result.

Although the community-based approach is commonly been used to research on the planning and design of environment, but the definition of "Community" itself consists of numerous perspectives. Bulmer (1987) simply defines it as a form of community networking concept; whilst Parrott (1999) proposes using geographical boundary, communal benefits, social networking and culture experience etc as the fundamental parameters in defining a community. Hsu (2002) suggests using social groups relationship to relate with geographical and/or incident-based parameters, while Chen (1995) emphasizes that a community can only be achieved by the recognition of a common society. On the other hand, Lai (2002) thinks that a community is the result of a group of individuals receiving beneficiary supports from certain projects initialized by certain development organizations or welfare organizations. Whilst another school of thoughts feels that a community could arise due to the propagation of different subject matters or research interests (Chen & Chen 2006). With reference to the various perspectives proposed above, the planning of interim housing will be used as the fundamental parameter to define the community's actual environment boundary.

III. Research Methodology

In this research, a study on the 2009 post-typhoon Morakat recovery in Taiwan was carried out. By looking into the conversion use of abandoned barracks into interim housing by the ROC Red Cross Society, field investigations and oral interviews were conducted on site.

a) Research boundary

Site of interest:	The conversion of abandoned barracks to interim housing, located at Typhoon-affected southern Ping-tung county of Taiwan.
Site area	6.35 ha. consisting of 41 barracks and 10 additional blocks of prefabricated houses; Family units: 111 units; Single units: 11 units
Unit size for family household	Each 50m ² unit consists of 3 rooms, 1 living room, a kitchen and toilet/bath facilities; equipped with basic furnishings and electrical appliances; suitable for 4-6 occupants.

Field investigations conducted on February 2011 revealed that a total of 420 victims (44 households from Tai-Wu village and 67 households from Lai-Yi village) were allocated to the interim housings on 31 December 2009, and the expected date of relocation to their permanent houses is targeted to be July 2011.

Another point to note is that in this study, the research groups are focused mainly on the Paiwan aborigine tribe. As the living habits of Paiwan tribe is generally different from the rest, this study could also be another reference point for future post-disaster recovery works on relocating different aborigine groups.

b) Data collection

Based on past literature reviews and on-site investigations, the design of interim housing should meet the following characteristics to assist disaster victims to get back to their normal daily lives: (1) planning and design of home environment, (2) care and support of family, and (3) the autonomous operation of community-based organizations.

Only one member (age 20 and above) from each household was selected for oral interview, hence a total of 91 individuals were been chosen. Interviewing questionings were mainly focused on the following areas :

- (1) The difficulties they encountered when living in interim houses and how their overcome the problems;
- (2) The availability of community care and support for families living in interim houses;
- (3) Any correlations between the original living environment (such as cultural or environmental similarities etc.) and the present one;
- (4) The victims' expectations towards the reconstruction of their future home.

We used WHOQOL-Brief to measure quality of life score, and compare what different from Tai-Wu village and Lai-Yi village. We conducted all data in SAS.

2. Results and Discussion

Although both Tai-Wu and Lai-Yi village groups are from *Paiwan* tribe, but their living habits (e.g. environment setting, cultural practice, way of thinking etc.) are totally different, hence in the following section, the results and discussion for the two groups will be dealt with separately.

From Table 1-3, majority of the interviewee were female (70.33%) of which most of the female interviewee were from Lai-Yi village. 41.76% of the interviewee received only up to primary school education, and majority of them were Catholics, followed by Christians. With respect to marital status, 64.84% were married and more than half (52.75%) lived with their spouses, children and/or in-laws. Another interesting point to note is the victims' tendency to return back to their disaster-affected home town, of which 51.65% of the interviewee will go back at least once a week. This could be due to the fact that more than half of the interviewee (54.95%) still had some form of agriculture property back home, thus explains a higher percentile in the case of Tai-Wu village (78.38%) as compared with Lai-Yi village (40.38%). 72.53% of the interviewee will continue to live in the interim houses for the year 2011, of which over 70% of the residents lived in the barrack-type buildings. Comparison between the two village groups showed that majority (91.67%) of the Tai-Wu villagers stayed in barrack-type buildings whilst 27.47% stayed in prefabricated houses; In the case of Lai-Yi villagers, only 58.49% stayed in barrack-type buildings and 28.30% in composite houses.

table1 Sample characteristic

	Total sample		Tai-Wu villager		Lai-Yi villager		p-value
	N	%	N	%	N	%	
gender^{*1}							0.001
Male	27	29.67%	18	48.65%	9	16.98%	
Female	64	70.33%	19	51.35%	44	83.02%	
Education							0.138
illiteracy	3	3.30%	1	2.70%	2	3.77%	
elementary	38	41.76%	12	32.43%	25	47.17%	
junior	18	19.78%	12	32.43%	6	11.32%	
Senior	24	26.37%	11	29.73%	13	24.53%	
College	8	8.79%	1	2.70%	7	13.21%	
Marital status							0.389
single	24	26.37%	8	21.62%	7	13.21%	
married	52	57.14%	24	64.86%	34	64.15%	
No spouse	14	15.38%	2	5.41%	7	13.21%	
religious							
Christianity	24	26.37%	8	21.62%	16	30.19%	0.006
Catholicism	52	57.14%	29	78.38%	23	43.40%	
Others	14	15.38%	0	0.00%	14	26.42%	

*1 One person didn't respond

table 2. Sample characteristic continue

	Total sample		Tai-Wu villager		Lai-Yi villager		p-value
	N	%	N	%	N	%	
Live *1							0.001
Along	9	9.89%	4	10.81%	5	9.80%	
With spouse	6	6.59%	3	8.11%	3	5.88%	
With spouse and children	48	52.75%	20	54.05%	28	54.90%	
With children	10	10.99%	4	10.81%	6	11.76%	
With belongings	4	4.40%	3	8.11%	1	1.96%	
With friends	2	2.20%	0	0.00%	2	3.92%	
other	9	9.89%	3	8.11%	6	11.76%	
Return back *2							0.368
everyday	26	28.57%	8	21.62%	18	34.62%	26
Once per week	47	51.65%	21	56.76%	26	50.00%	47
Once per month	8	8.79%	5	13.51%	3	5.77%	8
Once three month	4	4.40%	2	5.41%	2	3.85%	4
Never	4	4.40%	1	2.70%	3	5.77%	4
Cultivation land							<0.001
Yes	50	54.95%	29	78.38%	21	40.38%	50
No	39	42.86%	8	21.62%	31	59.62%	39

*1 nine people didn't respond

*2 two people didn't respond

table 3. Sample characteristic continue

	Total sample		Tai-Wu villager		Lai-Yi villager		p-value
	N	%	N	%	N	%	
Do you still living in here in 2011?* ¹							0.379
Yes	66	72.53%	28	80.00%	38	71.70%	
No	22	24.18%	7	20.00%	15	28.30%	
Residential type ²							<0.001
barrack-style buildings	64	70.33%	33	91.67%	31	58.49%	
prefabricated houses	25	27.47%	3	8.33%	22	41.51%	
Original ³							
Tai-Wu villager	37	40.66%	-	-	-	-	
Lai-Yi villager	35	38.46%	-	-	-	-	
I-Lin villager	16	17.58%	-	-	-	-	
Dan-Lin villager	2	2.20%	-	-	-	-	

*1 ②three people didn't respond②

*2 ②two people didn't respond②

*3 ②one person didn't respond

Interview results concerning their living environment and living standards were compiled in Table 4. Tai-Wu villages are generally more satisfied with their living standards, of which under the society and environmental domain, results obtained were borderline significant . As for the case of Lai-Yi village, villagers are generally more satisfied with the geographical, communal environment and living environment aspects.

Multiple regression method was used to differentiate the effects of various parameters on both village groups and the results are presented in Table 3. It is found that for every one point increase under the psychological category, the Tai-Wu villagers' satisfaction level will increase 0.57. On the other hand, in the case of Yi-Lai village, the more highly-educated the individual is, the satisfaction level towards the living standards under environment category will decrease ($\beta = -0.90 \quad P=0.015$).

With regards to the frequency of 'returning home town ', it appears that for those who consistently return back to home town once a week or once a month/never return back are generally have lower quality of life score in environmental domain. And the person who returned back to home town once a week compared with person who returned back every day showed significant different quality of life score($\beta = -0.88 \quad P=0.029$).

When comparing between barrack-style buildings and prefabricated houses, higher quality of life is observed in the case of composite-type buildings than the barrack-types ($\beta = 1.29 \quad P=0.005$). As for the overall community environment category, majority are satisfied with the current situation ($\beta = 1.62 \quad P=0.004$). Also, if there is a higher level of satisfaction in their psychological ($\beta = 0.33 \quad P=0.004$) and society ($\beta = 0.45 \quad P<0.001$) aspects, a higher level of satisfaction towards environment category will be observed.

table 4. Correlation between environmental variables and Quality of life.*

	physiological	SD	P-value	psychological	SD	P-value	society	SD	P-value	Environmental	SD	P-value
<u>Tai-Wu</u> <u>villager</u>												
Home environment			0.718			0.393			0.095			0.054
unsatisfied	13.40	2.54		11.53	2.10		12.50	2.46		11.13	2.14	
satisfaction	13.75	3.19		12.27	2.92		13.73	1.49		12.47	1.70	
<u>Lai-Yi</u> <u>villager</u>												
Location			0.245			<0.001			0.015			<0.001
unsatisfied	13.06	1.68		11.14	1.82		13.50	1.65		10.95	1.71	
satisfaction	13.80	2.13		13.98	2.85		15.23	3.29		14.78	3.48	
Community environment			0.009			<0.001			0.001			<0.001
unsatisfied	12.57	1.99		11.33	1.82		13.00	1.94		10.69	1.75	
satisfaction	14.10	1.88		13.98	2.85		15.61	3.11		15.22	3.22	
Home environment			0.012			0.003			<0.001			<0.001
unsatisfied	12.26	2.17		11.03	1.72		12.45	1.63		10.30	1.81	
satisfaction	13.98	1.88		13.85	2.89		15.41	3.06		14.74	3.32	

*In this table we showed variables which were significant or borderline significant

V. Conclusion

From the field investigations and oral interviews gathered, the results on how the design of interim housing helps victims in post-disaster recovery could be concluded as follows:

- (1) The provision of housing for individual family units;
- (2) Holistic community planning to encourage families to interact with one another to create a community life;
- (3) The provision of proper care services to help victims regain normal family life;
- (4) The transition from informal care services to normal care services;
- (5) The return of community life with family support;
- (6) The promotion of a healthy family life and business life;
- (7) The collaboration of public and private sectors to ensure the continuity of family life;
- (8) The establishment of community-based organization to strengthen family formation and the integrity of the individual which serves as the basis of assisting victims to return to their normal life.

1. The planning and design of living environment

As most interim housing can provides six to 24 months of accommodation period, hence it is important to take into consideration the fundamental living requirements when designing and constructing the houses.

2. To provide family care and support

To-date, the Taiwan ROC Red Cross organization and the post-disaster recovery centres of both Lai-Yi and Tai-Wu villages played the primary role towards the funding and building of interim housing and also the setting up of care and support system for the affected villages. At the same time, weekly-doctor visit are also been assigned to the villages to provide basic medical support.

3. The cooperation between the government and private bodies to enable autonomous operation

In this study, the villagers have initiated the setting up a management team so as to ensure the proper execution of any village matters. Together with the financial assistance of Red Cross organization, and the support from the local Ping-Tung county council, the entire interim housing village is able to function smoothly like an autonomous community^②.

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Need for INTERDISCIPLINARITY in economics?

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Globalisation and Internationalisation

iafor

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Need for INTERDISCIPLINARITY in economics?

conference paper

Osaka, Japan 2-5. June 2011

Once upon a time on the first lesson of one of my courses at university I had to answer a question: What is economics? My answer, which sounded like this: „the rational analysis of economic processes” was a wrong one. The right answer sounded as follows: the science of decision. This was that time a surprising output for me. Now we live other times. We had the crisis ahead...but looking back this thought got a brand-new sense.

Nowadays we don't have to use the indikativ „rational” before the word „decision”. The „whys” have to be searched in that point, that people are not emotionless machines, but emotional Heads. In case of making a decision there are other factors beyond facts that play a role but –as we are not the same - in the case of each decision-maker (either a manager or a private person) it works differently.

It is enough to examine the way of filling-in of open positions. In case of job interviews it comes to an oral interview. The reasons are clear: for the interviewer sympathy is an important factor sometimes more competent than knowledge. In extrem cases decision is not followed by the assessment of knowledge – which is the most important factor at rational decisions – it is backtracked to the second/third level. The goal of marketing which belongs to applied economics is the wish to react to feelings.

We are writing 2011 now. We are in the middle of a not indicated depression. The mature micro-and macroeconomic factors failed. Why were economists not able to forecast this great crisis? I think, that we should prefer a more real life way of thinking. This theoretical summary is based on this idea.

In this conference paper I try to outline all well-known heterodox, with another word „soft” approaches. I suppose there will a *realignment* go along between mainstream and non-mainstream approaches. The circle of non-mainstream approaches will or should broaden: some of its elements will get out of its circle and some will get into the heterodox-group. Its practical use is to inform politicians how they can build up their economic policy in a better way. If we take an analogy the mainstream is like a “slowly flowing river, which can not bypass from its bed but you have to adapt to it. But you never know when a great flood is coming which can hollow out a new bed for it” (Hámori: 2003, p.21) just as the financial crisis did. One could say it is not possible. But nothing is unimaginable. Let us take an example from China: the yellow river chose another bed although nobody could have imagined it would ever happen. Flood here is an analogy for *possibility* or *need for a renewal*. Tilly said in 1996 that “we are like a canoners, we presume the stream, which conveys us, but you never know when it curves, when it accelerates or when the channel narrows and when it throws to a rock”. These canoners who were able to resist the stream

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were the Nobel-prize winner economists² in the past decades. To broaden their importance let us bare to see- according to the references – that the real great breakthroughs were brought by the heterodox approaches based on other apprehensions (Csaba: 2006). There are pros and cons concerning the importance of heterodox directions. There are some pros: as already mentioned and shown the most school-creators came from this group, and from the financial sphere most decision-makers turn to actors of other sister sciences because of its abstract nature. George Soros stresses in his new book entitled „The new paradigm of Financial Markets - The credit crisis of 2008 and what it means” the practical applicability of intuition in financial decisions. In Hámori’s new book entitled behavioural (emotional) economics emphasizes the importance of marketing, which is not really built on the ratio but on our desires. So, it is high time to give up theories like punctuality, maximalisation, utility, isolated Robinson Crusoe because our globalised world - as the network of actors - needs another perspective in case of decisions, because everything is complex and will be more complex, everything is connected to everything, hundreds of effects appear and try to ruin our well-structured and preplanned world. This holistic approach is needed to get out of the economic labyrinth of today. I think the only way is to become homo socioeconomicus or homo politicus instead of home oeconomicus.

Economics+HISTORY

Evolutionary economics

Everything has begun with Darwin ... he has not only exercised influence on the biology but his thoughts rooted to the ground in every field of life which is very actual today as well. The worth ideas of natural sciences has melt into other social sciences, among them into economics. It is the same with us: during the evolution – with other words development – a living organisation has adapted itself to its circumstances and by this its inner structure has changed (Ritz: 2008, p. 4-5.). By trying to adjust itself smoothly to its new environment and tried to form itself keeping the principle „staying alive” in mind to be functional in its new „Lebensraum”.³

It is of importance to clear that it is not a self-conscious process but an organic evolution of a complex, open, dynamic, in a social and economic environment occurring self-regulating system (Ricz:2008). Evolving is only possible through changes. It is proved that the driving force of development is the change. The terms „growth” and „development” are used in a false context by politicians and professionals. It is of great importance to clear and stress the differences. Growth always means a quantitative change while development a qualitative one (Ritz:2008, Heidemann:2002). During the quantitative transformation we take over the valuable, useful factors from our new environment and by absorbing and identifying with these positive characteristics we set up our new feature-system. Evolutionary economics is unique from that point of view that it is part of both mainstream and non-mainstream

²If we list the Nobel-prize winners in the last years there are many who did research on economics together with another sister science. I also show the emerging importance of the interaction of several sciences. There were even scientists who were awarded the Nobel-prize in the field of economics although they were not economists by profession (like Kahnemann in 2002, he was a psychologist); 2009: Elinor Ostrom: Professor for Political science research field: ecological systems; Oliver E. Williamson: research field: institutionalism; 2008:Paul Krugman; 2002: Daniel Kahnemann: research field: psychology of judgement, behavioural economics; 2001:George Akerlof: co-founder of the Institute of New Economical Thinking from 2009

³in English: living space

processes. „Plain” economics deals with the interplay between selfish and intelligent people while evolutionary economics with interaction between selfish individuals (Krugman:1996) So intelligence is not precondition of change, it is „just happening”. Today, two main directions are differentiated the one by Scumpeter and the other one by Veblen. They are based on two ideologies the „path-dependence” and the „positive feedback”.

The main question of „evolutionary economics” is not *how*, under *which conditions* we should allocate optimal our economic resources in equilibrium which finally gives the state of personal preferences, technologies and institutional conditions. The question instead is: *why* and *how* knowledge, preferences, technology and institutions change during the historical process and which consequences these changes have to the present state of economy at any time (Witt:2006). If we want to carry along evolutionary economics historically we can notice how it has changed, „evolved” during time. At the beginnings it was considered as a science of developing countries and the presence of state was determinant, while later the free market paradigms have spread. In the latter case the actuality of Central-Eastern Europe keeping in mind the Concensus of Washington which has offered an „actionplan-package” – because of Latin-American states – in order to promote the switch-over from the planned economy to market economy of postsozialist states. Evolutionary economics concentrates on processes which formate economics such as industry, trade, employment and growth. Growth becomes development only if people will be able to satisfy their needs on a higher level, their self-respect grows and the circle of choice broadens. (Ricz: 2008, p.22.) These processes are those individuals, groups capable of innovation who are learning from their own experiences and – the cleverer ones – from experiences of other ones, which is an eternal truth in Life.

Economics + **SOCIOLOGY**

Feminist economics

If the interplay of sciences comes into question and we analyse the term interdisciplinarity let's look out to an other field, to humanities, inside literature and pick a citation from a famous writer Oscar Wilde for a second This thought could show us the direction, the feeling which represents the above-mentioned trend started in the 70's most sensitively. The author characterizes the present „hardcore” economists as „a man who knows the price of everything and the value of nothing”. In this case he pulls out the double-concept „price-value” and there are values that are not price-based. Feminist economists bring to the surface different values ascribed to man and woman work. Causes of discrimination are such institutions as family, markets (job, money) and state.” (Sweetman: 2008, p.2.).

Because of providing maternity functions the Woman as an employee falls out from the labor market circulation. Spent time and energy at home can't be turn into money and it is impossible to call back „wasted time” /years from the market's point of view. The fully being-one with the family but to give up carrier. On the other hand man lives fully carrier and partly family. That's why the totally falling-out from work should be prevented since the arrangement of the current world would unfortunately require (if not the total) but continuous work. Maternity, quasi social allowances only function as „first aid” both in the case of finance and carrier. Considering the requirements supported with the 21. century workers the state of women is clearly worse. Other examined factors are the *paid labour demand, origin of the employment segregation, wage-gap between men and women. Division of labour and decision-making* are a further, broader questionable field which should be cleared in the future.”

If we are already living in an emancipated society and women have taken over from the traditional tasks of men they have also taken up work, „need to” make carrier, society should handle the existing imbalances – reducing this way their insecurities – and help women to live their life to the fullest – both in the field of family and carrier.

economics + GEOLOGY

Ecological, (green) economics

The creation of the term ecology is connected to Ernst Haeckel German biologist who created this new term from the Greek words „oikos” (flat, household) and „logos” (science). Under this word he means the summary of those sciences that deals with living spaces i.e. with the connection of creatures and environment. According to a well-known economist ecological economy is „the maintainance of science and management.” (Costanza: 1991). More and more can be heard about ecological catastrophes, about the negative effects caused by changes done to the environment artificially by civilisation including man. If the changes done by us influence our environment in a negative way it shouldn't be handled as an exogen variable. It is our duty to qualify it as a research factor if it influences the life of creatures, in our case people's lives. Economy is for rationalizing man's life i.e. with its theories of decision it was established to make life easier, it is not to develop itself. The three basic factors of ecological economy are nature, fairness and time. (Faber:2007, p.2.) Nature has always been part of our world it is not created by man, today it is considered to be a tool. From a philosophical point of view fairness means the “good life of society” which also includes the harmony with nature. It is a holistic term which concerns each important dimension of social development such as politics, culture, education, economy and man's interaction.” (Faber: 2007, p.7.) We have to mix economy and the use of economy and nature to improve our life. Parallel to this we should work out programmes that promote the preservation of nature. The traditional economic devices are not suitable for this. We need a team-work of human economy and a man embedded in ecosystem. „It is more important to protect nature than the neoclassical paradigm.” (Söderbaum: 1999, p.2.) If our chances of survival, of a better, fuller life are the real values they increase by taking concepts and paradigms into consideration and bring us nearer to a sustainable society then we need to consider these facotrs (Söderbaum 1999).

economics+SOCIOLOGY

Behavioral (emotional) economics

„As the economic science dares out to other field of society sciences, instead of the self-interest follower individuum appears in the economic universum the man in his whole: a man who is prisoner of *passions*, *vain* or *rabid*, *agressive* or *unforgiving*. The utility maximising Robinson Crusoe who makes always unambiguous decisions, carries his point without respect to others is the thing of the past. Instead of it appears a man who is living in society, is from feelings, fixities, rules and traditions influenced. His name is „*homo politicus*” or „*homo soziologicus*. The *homo oeconomicus* yields his place to an more extensive and much more down to earth person or at least the claim is appeared to that larger approach.” (Hámori:2003, p.15.) Earlier, feelings were meant before as a source of irrationality and the barrier of the

well-organised life to forget that life without feelings would be beyond reason. (Hámori:2003, p.16.) Maltus had the opinion, that emotions can rule as the rationality. Human feelings the non-rationality decision-attitude and the institutions-regulating cooperation. In the sphere of the economic of transition has the aggression and envy are of great interest. (Hámori:2003) In our period is both self-restraint and solidarity are of great importance. The acknowledgement of the existence of irrationality doesn't mean to give up rationality approach. The boot is on the other leg. The analysis which drives us to that direction will stay inside of the rational choices. It accepts that people are fallible but the institutions which will come off unbidden or the individuum's wittingly plan will correct these irrationalities. The feelings and other, not stock attitudes will be examined not against the ratio but we would like to prove that these complementary motivations - which have their rules in the economic processes and events – do not harm the examination by mind, don't knock over the basic connections they only vary and modulate them. The rationalist-consumer will calculate then in a correct manner and behave in accordance with it if rationality plays a dominant role in the customer choices against emotions. Well, all experiences of applied economics contradict them. The customer-affecting marketing-actions are not really build on the ratio. (Hámori:2003, p.38.), „The commercials and advertisements are on our desires emotions than on cold calculations. Our preferences are influenced by the interactions with others, but the action between the pure activity of the others without coming into interaction with them” (Hámori: 2003). The examination of ill-will and goodwill, the envy and altruism we can feel is quite actual in the transitional countries where the hasty and robust differensation of consumer possibilities has dredged up envy existing up to now. „For instance, the envy has lots of societal consequences. To mention only the most serious one: envy will set up barriers in front of the enlargement and innovation and finally reduces the societal well-being.”⁴ „The society consisting of envy people achieves little from the possibilities.” (Hámori:2003, p.50.) „The near fallback of the eastern european states is in relationship with the – in these societies dominating motivation-system in which envy stand sin the centre.” (Hámori:2003, p.51) The ability for cooperation is the alpha and omega of the economical success in the world of millenary. The networks – especially in the central-and eastern european countries – are hold together by the reziprokal-altruism. The checkup of the dictatorship has ended but the discipline of the market hasn't been built out yet. There are some people who are not able to make a difference between profit acquisition and loot. This will naturally undermine the trust. Under these circumstances the person depends only upon the relative-friendship network beyond himself in the economy. (Hámori: 2003, p. 68-69)

economics+PHYLOSOPHY

Happiness-economics

⁴ It is called the envy-barrier in developing countries.

In most nations, those individuals belonging to the highest income group report somewhat higher subjective wellbeing than persons with low income (Frey-Stutzer:1999, p.4.) (see table 1). As we can see from the list of countries some members who consist of high national income are not absolutely happier.⁵ There should be other factors which influence the happiness of some people, these could be for instance the genes, and the weather. To live with an example, lots of Norwegian people suffer for instance from great depression because of the low hours of sunlight. Nevertheless it is true that we do not find states with high income at the end of the happiness factor list but it is not sure that the first place is taken by a country with high income.⁶ Several researches and researcher prove the limited (Takács: 2009) „pleasure-giving function” of money⁷ (Takács:2009). According to Mária Kopp the first step from the three etage is consumer satisfaction, which is really based on micro-economical decisions. „But according to the most recent Hungarian researches— *Kopp* and *Kovács*, 2006 – for Hungarian people happiness is the most valuable. (Takács:2009). Taking a foreign example in technical literature it is often referred to an English research according to which people would prefer the government worked in the interest of their happiness instead of increasing economic growth. (Layard, 2005). If the task of economics is actually to move people’s happiness forward then it mustn’t restrict its research field to those well-measurable factors that play a role in increasing our financial matters.” (Takács:2009, p.71) The fact that Kahneman as a cognitive psychologist got the Nobel-prize in Economics proves the slowly acceptance of this approach in economics. Economics – turning back to introduction – is the science of decision and it helps us to reach profit. Let’s suppose that people are intelligent enough not to get stuck at the lowest grade of the Maslow-piramid. After some time then they should blend with other factors to help to reach happiness, the main goal of life. If the concept of maximal individual happiness should be briefly formed it is done maybe most exact by Takács: happiness is not the maximalisation of pleasure giving experiences but people through undoing their talent solve their mission and through this performance their life gains a sense, even through fights and battles the man who he could become (Takács: 2009, p.13.).

economics+BIOLOGY

Complexity (interdisciplinary) economics

Complexity economics is regarded in most listings as part of the heterodox approaches like a stream beyond it but in my point of view it is an analysing process quasi the backstage of all non-mainstream approaches, so it must be handled that way (the author). „Economic systems are complex structures, their workings and their performance tend to change over time, in many countries progressively. The brute fact of complexity and change means that simple theoretical arguments will not explain economic systems very well.” (Nelson: 2001)⁸

All economists know that economy is complex - very complex. That is one of the reasons why society needs economists to try to make that complexity somewhat simpler and more

⁵ for instance see the case of Norway, Russia

⁶ the case of Mexico, Venezuela, Nigeria and it has already happened that Puerto Rico or Guatemala were leading the hierarchy

⁷ see the above-mentioned facts, in these cases people give the importance to other factors

⁸ Brian Arthur doesn’t consider the complexity approach as an independent heterodox approach, it is seen as a gatherer term (according to the Interview of 8. November 2002 with Geoffrey Hodgson)

understandable. A system that is too complicated to be fully understood by agents in the system or researchers studying the system. Complex systems cannot be understood from assumed first principles; they can only be understood through the process of change that underlies them (Brian: 2008). In case of truly complexity individuals who cannot rationally deal with every part of it, making any model based on full global rationality inconsistent with the complex structure of the model. That is why people will develop institutions to deal with the world and these institutions will change their behavior.⁹ Thus the data reduction program in economics cannot be held together by a general equilibrium system that assumes far-sighted rationality (Brian: 2008).

The table below illustrates the differences between the complexity perspective and classical economics. Eric Beinhocker proposes five concepts that distinguish complexity economics from traditional economics. The first five categories are Beinhocker's synthesis, the last four are from W. Brian Arthur as reprinted in David Colander's *The Complexity Vision*.

	Complexity Economics	Traditional Economics
Dynamic	Open, dynamic, non-linear systems, far from equilibrium	Closed, static, linear systems in equilibrium
Agents	Modelled individually; use inductive rules of thumb to make decisions; have incomplete information; are subject to errors and biases; learn to adapt over time; heterogeneous agents	Modelled collectively; use complex deductive calculations to make decisions; have complete information; make no errors and have no biases; have no need for learning or adaptation (are already perfect), mostly homogeneous agents
Networks	Explicitly model bi-lateral interactions between individual agents; networks of relationships change over time	Assume agents only interact indirectly through market mechanisms (e.g. auctions)
Emergence	No distinction between micro/macro economics; macro patterns are emergent result of micro level behaviours and interactions.	Micro-and macroeconomics remain separate disciplines
Evolution	The evolutionary process of differentiation, selection and amplification provides the system with novelty and is responsible for its growth in order and complexity	No mechanism for endogenously creating novelty, or growth in order and complexity
Technology	Technology fluid, endogenous to the system	Technology as given or selected on economic basis

⁹ researched by the heterodox-approach: behavioural economics

Preferences	Formulation of preferences becomes central; individuals not necessarily selfish	Preferences given; Individuals selfish
Origins from Physical Sciences	Based on Biology (structure, pattern, self-organized, life cycle)	Based on 19th-century physics (equilibrium, stability, deterministic dynamics)
Elements	Patterns and Possibilities	Price and Quantity

It is increasingly audible, that a new world are working out. There is no word about more exact pieces of information, we should put up with that. We are fumbling in the dark. But one thing we can see: the macr-and miroeconomical analysis alone were not able to forecast the crisis. It is imaginable, that economics will have another back-seat because in the past one-two decades plenty of depressions described the world economy. We know if things are working wrong stable, there are probably structural standing in the background. Consequently the way of researches, analysis is not adequate or do not stand their ground. There is a need for another attitude.

Everybody has heard about the „butterfly-effect”. Its nature is the following: if small-sized things are happening on a point of the world in the next moment it can provoke apparently unrelated change on a far away place of the world. More economists have already referred to this phenomena. Should everything is connected to everything why couldn't we place the social sciences to that level and on the „it doesn't work” ground we can create from collective power, from their interplay a model which could do more realistic – however the world is not perfect either – solvings. I have set as an aim to line up other sciences for economics so we can find labyrinth of the world our ways with assisting each other, walking arm in arm.

Nobody questions the phenomena of the phenomenon of the globalisation. It is enough to think of forming groups of states into international organisations. This process is breaking up for more decades. Economics might have ignored these processes and was not willing to adapt to the new playing rules of the world like more other sciences did? Was not enough the rows of crisis to realize its importance? Should my work contribute to a forming of a new way of thinking or outlining of new possibilities it was already not waste of time. If we are enough brave to use recent research methods and trust in their efficiency we are able to move mountains. I declare and feel that the interaction of sciences – economic psychology, social economy, economic history, economic geography and his like – with the help of a more complex approach will bring nearer up to find other economic solutions and to create an „better” economics.

The financial crisis has made deeper the crisis of the economic profession, with other words the inner methodology of the economical profession. The new economics needs a new frame, new borders. We are still not a far cry from it. A well-known representative of the mainstream economics, Mankiew pointed out as well, that „God has sent macroeconomist to the Earth in order to solve practical problems and not to set up elegant theories. It is visible that the „let's suppose”-thinking of mainstream economists is not enough if the society faces with such enormous shocks like the current economical crisis. As it can be seen from the „bunch of flowers”, economical processes can be seen and analysed from more point of views. It should be stressed that the dominant mainstream was not able to answer the main questions of the great economical problem which is called the world economic crisis. It's time to think in an

other way, an „interdisciplinary”-manner. Let's be open and accept the changes...only this leads us ahead.



Appendix

Happiness-factors in several countries

Table 1:

HIGH	MEDIUM HIGH	MEDIUM-LOW	LOW
Puerto Rico 4.67	Saudi Arabia 3.01	S. Africa 1.86	Estonia 0.24
Mexico 4.32	Singapore 3.00	Croatia 1.55	Serbia 0.21
Denmark 4.24	Britain 2.92	Greece 1.45	Tanzania 0.13
Ireland 4.16	W. Germany 2.67	Peru 1.32	Azerbaijan 0.13
Iceland 4.15	France 2.61	China 1.20	Montenegro 0.06
Switzerland 4.00	Argentina 2.61	S. Korea 1.12	India 0.03
N. Ireland 3.97	Vietnam 2.59		Lithuania -0.07
Colombia 3.94	Chile 2.53		Macedonia -0.14
Netherlands 3.86	Philippines 2.32		Pakistan -0.30
Canada 3.76	Taiwan 2.25		Latvia -0.70
Austria 3.69	Domin. Rep. 2.25		Albania -0.86
El Salvador 3.67	Brazil 2.23		Bulgaria -0.87
Venezuela 3.58	Spain 2.13		Belarus -0.92
Luxembourg 3.52	Israel 2.08		Georgia -1.11
U.S. 3.47	Italy 2.06		Romania -1.30
Australia 3.46	E. Germany 2.02		Moldova -1.63
New Zealand 3.39	Slovenia 2.02		Russia -1.75
Sweden 3.36	Uruguay 2.02		Armenia -1.80
Nigeria 3.32	Portugal 1.99		Ukraine -1.81
Norway 3.25	Japan 1.96		Zimbabwe -1.88
Belgium 3.23	Czech Rep 1.94		Indonesia -2.40
Finland 3.23			

Source:



iafor

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**On the Policy-Reality Gap
in Indonesian Urban Economic Policy Regionalization
(Case: Sumatera and Java-Bali Islands)**

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Topic of Submission: Social Science

On the Policy-Reality Gap in Indonesian Urban Economic Policy Regionalization (Case: Sumatera and Java-Bali Islands)

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Abstract

Indonesia is currently entering an urban age where more people live in urban areas than in rural ones. However, the country has not been able to tap the utmost benefits of this phenomenon because it has limited amount of urban policies—both at national as well as local levels—that fully reflect the realities of urban economies in the archipelago. The fact that the city economy as a whole constitutes 44% of the total national economy shows the importance of the urban economies as well as their appropriate policies. If implemented consistently, a reality-based urban development policy would potentially boost economic development and welfare improvement.

This paper explores one of the most significant policy-reality gaps. It points to the way spatial development policy—on which the national urban policy currently being formulated is based—is regionalized. The current guiding principle is to regionalize national development policies based on the big islands such as Sumatra, Java, Kalimantan, Sulawesi and Papua as well as on the big groups of islands such as Maluku and Bali-Nusa Tenggara. While such a regionalization can be fully understood from a simplistic-geographic point of view, it dangerously conceals the realities of inter-island economic linkages that in many cases are as important as—if not stronger than— intra-island economic ties. A closer look at the economic linkage between Lampung on Sumatra island and Jakarta on the adjacent island of Java, for example, indicates that strong inter-island linkage does exist. Many other examples can also be found elsewhere across the archipelago. For this study, only focus on case Sumatera and Java-Bali islands.

While it will never be easy to find the most suitable regionalization of spatial development policies in this vast archipelago, this study of various inter-local linkages provides caveats for the current development policies that are based on the big-island grouping. Furthermore, a series of exercises using described IRIO (Inter Regional Input Output) data and other relevant data has been conducted in a number of regions to gauge the extent of such linkages and their possible implications to the national policy scenarios. Results from IRIO data shows the highest goods flow of value inter provinces indicating linkages of the economic realms between areas in the archipelago. The study then suggests a set of recommendations that may reduce the policy-reality gap in spatial development policy and therefore may make urban economic development policy more effective.

Preliminary

Indonesia is the first archipelagic state in the world which has the most amounts of islands in the world, 13,000 islands. It then called as Nusantara (Archipelago Between). From the width of its lands, Indonesia is in number 16 of countries in the world. However, only 6000 of the islands are inhabited. Generally, it has 33 provinces and five large islands, they are Sumatra, Java-Bali, Kalimantan, Sulawesi, and Papua (Figure1).

Figure1. Indonesian Islands and Provinces

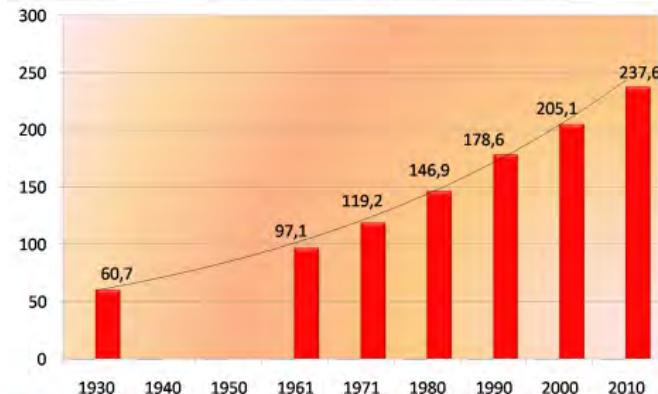


The population of Indonesia has been growing quite rapidly. In 2010, it reached 237.6 million of people. At the moment, people live in urban areas are more than 50% of the total population. The per capita income is US\$ 2,499.5 in 2009. Based on 2008-2009 data from Global Competitiveness Report, Indonesia competitiveness was ranked 55th from the 134 countries being surveyed. The ranks show negative trend.

Of all the islands in Indonesia, Sumatra and Java-Bali are the biggest from their national economic activities. First is in Java-Bali islands then Sumatra island. Their contributions are 61% of the Java-Bali and 22% of Sumatra (2005). This is quite interesting, considering that the land of Java-Bali islands are only about 7% of the total area of Indonesia.

Indonesia continues to experience the evolution of regional planning. The principle of *laissez-faire* is mostly applied in urban management. It which is usually characterized by allowing the working of markets and little government intervention is no longer appropriate in modern regional development (Harmadi, Bulletin 2009). The city has many public goods due to its enormous population in each city and for accommodating many individual interests, including those of the local city government. Because of this, government intervention is needed. Development of urban planning becomes important in order to optimally serve the interests of all society elements of the city.

Figure2. Population



Source: Indonesian Statistics , 2010

Aim of the Paper

This paper explores one of the most significance on economic policy-reality gaps. The study then suggests a set of recommendations that may reduce the policy-reality gaps in spatial development policy and therefore may make urban economic development policy more effective. Boundary of the study focus on two big islands, there are Sumatera and Java-Bali islands.

Method of Research

A series of exercises using description IRIO (*Inter Regional Input-Output*) data and other relevant data has been conducted in a number of regions to gauge the extent of such linkages and their possible implications to the national policy scenarios. Results from IRIO data indicate linkages of the economic realms between areas in the archipelago.

Fact and Gap

Policy

Since Indonesia issued a Five Year National Development Plan (RPJMN) 2010-2014, many policies have been established following the model. It is to group the islands into seven, called regionalization. The seven groups are regions of Sumatra, Java-Bali, Kalimantan, Sulawesi, Nusa Tenggara, Maluku, and Papua. The model also contains some policies, on transportation, economic, environmental, research and others.

One very relevant urban policy challenge is also included in the document. The policy is applied by the government to accelerate the development of regions outside Sumatra and Java-Bali Island, and, at the same time, maintaining their successes. The reason behind this policy is the fact that the islands have always been considered to be the most advanced ones compared to others. This implies that policies for all sectors will always use the model to prioritize the development of large yet outside both of the two islands.

Urban Contribution and Indicators

More than 50% of world economic contributed by urban. In some Latin American countries and countries of Europe (UN-Habitat, 2004) the number is higher: over 80% of it is contributed by urban economics. It, therefore, becomes important to know how to manage urban. As we know that the current urban population in Indonesia has reached 53% of the total population. This condition is a positive trend or an increase from the years before. Moreover, residents of the cities could reach 68.3% estimated in 2025. Consequently we have to prepare a variety of possibilities, especially regarding how to plan of the urban economy.

Cities are formed because each individual cannot provide for themselves (O'Sullivan, 2007). Cities have a common characteristic, which is formed by tertiary sectors activities, such as trades and services. Urban economic activities have contributed significantly to national economic activity. Administratively, the numbers of cities are only about 20% of all regions, that the urban areas contributes nearly half of total national Gross Domestic Product (GDP), i.e. by 44%. If we include calculating the urban area, it should be larger than these figures, such as inserting metropolitan area.

Metropolitan region is generally defined as "an area that has a large concentration of population, economic and social unity that is integrated and characterized the activity of the city ", and the area population exceeding 1 million inhabitants. The situation also called conurbation. Indonesia currently has at least a few metropolitan areas. Among them are JABODETABEKJUR (Jakarta, Bogor, Depok Tangerang Bekasi and Cianjur), Bandung Raya, MEBIDANG (Medan, Binjai and Deli Serdang), KEDUNGSEPUR (Kendal, Demak, Ungaran, Salatiga, Semarang, and Purwodadi) MAMMINASATA (Makassar, Maros, Sungguminasa, Takalar), SARBAGITA (Denpasar, Bandung, Ganyar, and Tabanan), and GERBANGKERTOSUSILA (Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo, Lamongan).

Table1.
City and Regional GDP contribution to National GDP

Islands	City (Non Oil and Gas)	Regional	
		Oil and Gas	Non Oil and Gas
Sumatera	0.0522	0.2006	0.1725
Java-Bali	0.3314	0.6149	0.6585
(Other)	0.0580	0.1845	0.1690
National	0.4416	1.0000	1.0000

Source: Indonesian Statistics (2006), processed

Both of at city and regional level, the islands of Sumatra and Java-Bali have been contributing significantly to national economic. From non oil and gas sector Java-Bali has been donating 33% for cities and 66% for regional. The second high was Sumatera, but only 5% for City contribution, which was almost the same as the other regions of islands in Indonesia, which is still divided into the 3 other major islands. The similar

condition found in regional contribution; Sumatra has a little bit higher contributions than other islands in Indonesia. Sumatera is accounted for more contribution in oil and gas.

Some other examples can be found in cities. GRDP (Gross Regional Domestic Product) is one of the indicators that can be used to explain the influences that engine the growth. For example, Medan is a typical metropolitan city which is located in North Sumatera (SUMUT). It contributes 29% of SUMUT Province's supplies which covers 30 areas (both rural and city). The biggest chunk of 9% goods of production inputs flow in SUMUT is supplied from West Java (JABAR).(Figure4).

Income per capita is another important indicator for measuring the advancement of a region. Take metropolitan cities Medan and Bandung as examples. Medan has greater income per capita than Bandung. This fact shows that even though Sumatra has been giving smaller contribution to the national economy compared to Bandung, it has a better welfare. It seems that this phenomenon has not been touched by the policy.

Assuming that regions around the city (the province) as the hinterland, urban areas and the provinces can actually develop synergetic efforts. For example, the 30 regions in SUMUT can be assumed as the hinterland of Medan. As the region's economic development policy is important, the studies to improve the cities' welfare then must be conducted.

Almost all cities in all regions of the island have the economic structure that relies on tertiary sector (Table 2). This applies generally to all typologies of metropolitan cities, i.e., big, medium and small. Few exceptions are found on the typology of metropolitan cities and medium cities. Bandung, as metropolitan city, is almost totally dominated by the tertiary sector. While Batam, as another major city, is included in the typology of medium, namely the structure of economic convergence in the secondary sector, which is concentrated in the manufacturing industry.

Table2.
Cities Economic Indicators in Sumatera and Java-Bali Island

Indicator	City Tipology			
	Metropolitan	Big	Midle	Small
Sumatera Island				
Economic Structure (P/S/T)	0.03/0.28/0.70	0.02/0.65/0.33	0.26/0.26/0.47	0.25/0.14/0.63
Income Per capita (in million rupiahs)	13.17	30.23	3.04	6.69
Economic growth (%)	7.77	7.09	5.81	5.53
Economic Governance Index	48.60	60.10	49.10	55.80
Economic Density (in million rupiahs)	102,739.07	30,181.86	72.71	579.18
Java-Bali Island				
Economic Structure (P/S/T)	0.003/0.00/1	0.07/0.19/0.74	0.029/0.41/0.56	0.031/0.22/0.75
Income Per capita (in million rupiahs)	10.55	15.74	1.76	7.16
Economic growth (%)	8.24	6.79	4.54	5.17
Economic Governance Index	60.70	68.7	70.50	70.50
Economic Density (in million rupiahs)	148,540.99	39,462.79	10,349.21	52,211.02

Sources : BPS and KPOD, Processed

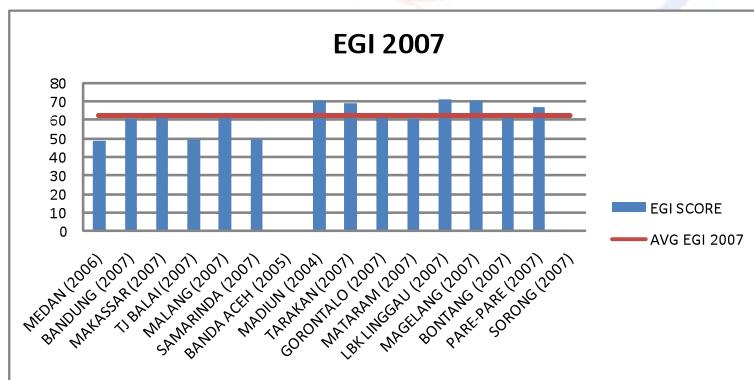
Note:

(P/S/T) = (Primary/Secondary/Tertier)

(i) = 2008, (ii) = 2006, (iii) = 2004

How investment sector is attracted in a certain region can be demonstrated through local government performance in regional economic governance. Regional Autonomy Implementation Monitoring Committee (KPOD, 2007) creates an index on the performance of a region called the Economic Governance (Economic Governance Index / EGI). Better governance tends to be shown in medium and small cities. Some medium and small cities had EGI scores which are greater than the average score of EGI which was 61 (Figure3). It is then safe to presume that a not too high population allows city government officials to manage the city better. Another possible explanation for this is the ratio of civil servants with a population which is large enough and sufficing.

Figure3. Economic Governance Index



Note:

Metropolitan City

: Medan (Sumatera), Bandung (Java-Bali)

Big City

: Tanjung Balai (Sumatera), Malang (Java-Bali)

Medium City

: Banda Aceh (Sumatera), Madiun (Java-Bali)

Small City

: Lubuk Linggau (Sumatera), Magelang (Java-Bali)

World Development Report (2009) indicates that one of the geography of economic indicators is calculated on the density. The indicator is the economic output per unit area or can also be interpreted as production per unit area.

Using the indicator, urban situation in Indonesia can be said to have a certain pattern, which follows their typologies. High density to large cities (metropolitan), while low density appears in small towns. (Table2).

Input for Regional

Furthermore, those contributions must be looked from the flow of goods between regionals' point of view. The following is data based on flow of production input goods (national IRIO data), with 30 provinces, especially on the linkages between Sumatra and Java-Bali islands. The first and second suppliers to Sumatera come from Java. First suppliers to Sumatera come mainly from JABAR and DKI. The second suppliers are also from Java, they come from DKI, JABAR, JATENG, and JATIM. (Figure4 and Appendix)

Figure4. Inter-Regional Flow of Production Input



Source: Inter Regional Input Output Tables 2005 (processed)

Table3. The Highest Flows Input Production

To	From	Sector (Industry)
SUMATERA		
NAD	JABAR	Electrical Machine and Equipment
SUMUT	JABAR	Goods of Metal
SUMBAR	JABAR	Petrochemical
RIAU	JABAR	Electrical Machine and Equipment

JAMBI	JABAR	Electrical Machine and Equipment
SUMSEL	JABAR	Electrical Machine and Equipment
KEP. BABEL	JABAR	Electrical Machine and Equipment
BENGKULU	DKI JAKARTA	Transport Equipment and Repairs
LAMPUNG	JABAR	Electrical Machine and Equipment
JAVA-BALI		
DKI JAKARTA	JABAR	Textile and Textile Product
JABAR	BANTEN	Petrochemical
BANTEN	DKI JAKARTA	Transport Equipment and Repairs
JATENG	JABAR	Electrical Machine and Equipment
DIY	JABAR	Goods of Metal
JATIM	JABAR	Electrical Machine and Equipment
BALI	DKI JAKARTA	Transport Equipment and Repairs

Source: Inter Regional Input Output Tables 2005 (processed)

Furthermore, first suppliers from JABAR to SUMATERA are mainly dominated by electrical machines and equipments industries. The sectors dominate supplies to RIAU, JAMBI, SUMSEL, BABEL islands, and LAMPUNG, other than supplying for 2 provinces in Java-Bali, those are JABAR and JATIM. JABAR, as a major supplier for Sumatera and Java-Bali, is not only producing electrical machines and equipments. It also produces textiles and textile products, metal goods, and petrochemical products. However, the latest not only produced in JABAR but also in BANTEN. DKI JAKARTA, on the other hand, is the main supplier of transport equipments and repairs. Those flows for value of goods show that it is impossible to split the regions into regionalization policies.

Discussion

Some facts indicate that urban areas have a significant contribution. Furthermore, the fact that the separation of development based on the island for the near term, allegedly will not be the answer for an optimal solution. Despite the facts that these two islands have a high contribution in the national economy, in reality the input dependence of the island of Sumatra from Java and Bali cannot be denied.

There are three alternative policies. They are: maintaining the existing pattern of intra-island policies (within the island), developing the policy of inter-islands (between islands), and establishing a combination of both.

Intra-island policy includes strengthening the distribution channels of goods by land, such as developing policies for improving roads, including highways. The policy of developing highways, however, will create an economic opportunity loss, which led to higher cost. Demand for inputs to certain areas that could be catered by developing a port (harbor), is an example of a more cost effective policy than building road or highways.

Policy inter-island is one which utilizes both sea and air transportation. This is especially suitable for perishable goods which could not utilize sea transportation. This policy is based on the fact that many of the islands are in great needs of more efficient distribution

channels. This policy does require a lot of investment, however, the benefits are reckoned to be worthy. Implementation of this policy could be in the form of repairing or improving incoming routes in ports/harbors so that vessels coming from outside the regions would relatively be obstructed by no barriers.

Lastly, combined policy, which is that join the policies of intra-island and inter island. This policy requires a much larger amount of investment as it involves providing better infrastructures for the three modes of transportations: land, sea or air. However, there are also larger possibilities for acquiring better result, despite its inefficiency. The possibilities to achieve goals and to save time. The goals of delivering goods more quickly and efficiently would be then accomplished. As soon as they have arrived at the nearest port, a new short route to the location is then can be optimized.

It is then suggested that policies are focused on the inter-island linkage pattern. The policy is expected to be more efficient in the investment point of view and is believed to be able to increase the benefits obtained. It is, moreover, supported by the recommendation for spatial management from the Directorate General of Spatial Planning (2009). Development of Trans Asia & ASEAN Highways is established as the dominant factor in developing the western regions of Indonesia.

In line with current government policy, there would be another policy applied in the special economic zone (KEK). KEK aims to accelerate economic development in certain areas that are strategic for the development of national economy and to maintain the balance of the progress of a region in the unity of the national economy (Law 39/2009). Currently, the government will build 6 corridors of KEK, including in North Sumatra, Riau, Greater Jakarta, East Kalimantan, and Merauke. At first, KEK in Greater Jakarta will be developed as a pilot project for similar developments of KEK in other regions. It is expected that this policy would be able to accommodate inter-island activities.

In the future, the case of Sumatra and Java-Bali are expected to expand their networks outside the two islands. Because as the flow pattern of input production has shown (Figure4.), supply for the island of Sumatra is very dependent on the Java-Bali's, yet the Java-Bali has to fulfill their own supply of input. In addition to that, determining the policy of distribution channels, associated with the development of urban economy, is believed to be the engine of growth. The policy can be formulated based on discussions using Meta-plan technique and Analytic Hierarchy Process (AHP) with officials, academics and practitioners in the two islands (2009) as the guest speakers.

There are yet some problems faced by the urban economy on the island of Sumatra and on Java-Bali, including those on the limited infrastructure, underdeveloped processing industries, trades, services and not to exploit the potential of local economies. Limited supplies of electrical energy in Sumatra are one of them. On average, at least there are 3 interference power failures occur in a normal day. This impacts on the machines used in production: inefficiency, prone engine destruction, and extra cost for obtaining fuels to turn generator on.

Problems related to demand on provision of infrastructure, which requires large investment, would no longer persist if there are private sectors willing to intervene. Nonetheless, private parties would not be interested in stepping in if they have to bear a long grass period. The ideal condition is when the government willing to provide the provision of infrastructure. The policy is a necessity then, for spurring the economic development from the supply side.

Closing Remarks

To sum up, of the three alternative policies discussed: maintain the existing pattern of intra-island policies (within the island), developing policy of inter-islands (between islands), and establishing a combination of both, the second one becomes the most viable alternative policy for utilizing both sea and air modes of transportation. This policy underlines the fact that islands are in a great need of more efficient distribution channels. It requires relatively low investment compared to other two alternatives, yet the future benefits are likely.

This policy requires absolute government's participation in financing or investment. This is a supply side approach to encourage more rapid economic improvement. With this, it expected that the policy would, at the end, promote the society's welfare.

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Appendix

Proportion of Input Production

PROVINCE	NAD	SUMUT	SUMBAR	RIAU	JAMBI	SUMSEL	KEP.BABEL	BENGKULU	LAMPUNG	DKI	JABAR	BANTEN	JATENG	DIY	JATIM	BALI	
1. NAD	0.0042	0.0031	0.0150	0.0063	0.0028	0.0006	0.0013	0.0011	0.0049	0.0007	0.0064	0.0011	0.0003	0.0003	0.0000	0.0000	
2. SUMUT	0.0053		0.0095	0.0221	0.0104	0.0070	0.0146	0.0060	0.0268	0.0260	0.0061	0.0127	0.0164	0.0116	0.0120	0.0201	
3. SUMBAR	0.0024	0.0038		0.0073	0.0030	0.0028	0.0047		0.0008	0.0058	0.0093	0.0021	0.0036	0.0035	0.0049	0.0013	0.0023
4. RIAU	0.0168	0.0177	0.0184		0.0060	0.0067	0.0026	0.0038	0.0168	0.0174	0.0080	0.0235		0.0125	0.0099	0.0026	0.0057
5. JAMBI	0.0000	0.0012		0.0026	0.0024	0.0005	0.0013	0.0017	0.0263	0.0027	0.0004	0.0029	0.0018	0.0005	0.0008	0.0012	0.0000
6. SUMSEL	0.0007	0.0165	0.0045	0.0151	0.0064		0.0096	0.0048	0.0159	0.0150	0.0056	0.0207		0.0145	0.0239	0.0057	0.0237
7. KEP. BABEL	0.0000	0.0006	0.0012	0.0006	0.0002	0.0002		0.0003	0.0011	0.0011	0.0005	0.0010		0.0003	0.0000	0.0004	0.0007
8. BENGKULU	0.0002	0.0026	0.0004	0.0009	0.0007	0.0004	0.0002		0.0007	0.0007	0.0005	0.0006	0.0002	0.0001	0.0002	0.0001	0.0000
9. LAMPUNG	0.0029	0.0040	0.0010	0.0089	0.0035	0.0015	0.0039	0.0005		0.0078	0.0020	0.0067	0.0064	0.0003	0.0019	0.0003	0.0000
10. DKI JAKARTA	0.0316	0.0445	0.0309	0.0260	0.0418	0.0205	0.0293	0.0454	0.0379		0.0087	0.0615	0.0275	0.0676	0.0267	0.0689	0.0000
11. JABAR	0.0334	0.0892	0.0386	0.0694	0.1609	0.0650	0.1001	0.0393	0.0946	0.0560		0.0267	0.0501	0.1083	0.0356	0.0688	0.0000
12. BANTEN	0.0143	0.0109	0.0269	0.0160	0.0180	0.0143	0.0263		0.0108	0.0403	0.0151	0.0222		0.0115	0.0388	0.0057	0.0173
13. JATENG	0.0037	0.0411	0.0057	0.0446	0.0178	0.0064	0.0075	0.0090	0.0263	0.0284	0.0148	0.0119		0.0408	0.0044	0.0562	0.0000
14. DIY	0.0003	0.0002	0.0000	0.0013	0.0008	0.0000	0.0000	0.0001	0.0039	0.0032	0.0008	0.0043	0.0025		0.0023	0.0029	0.0000
15. JATIM	0.0296	0.0219	0.0270	0.0152	0.0173	0.0200	0.0312	0.0063	0.0673	0.0440	0.0206	0.0222	0.0303	0.0648	0.0121	0.0000	
16. KALBAR	0.0001	0.0024	0.0006	0.0013	0.0010	0.0004	0.0014		0.0004	0.0002	0.0016	0.0012	0.0025	0.0032	0.0023	0.0039	0.0026
17. KALTENG	0.0007	0.0002	0.0006	0.0017	0.0009	0.0004	0.0002	0.0005	0.0001	0.0039	0.0041	0.0017	0.0023	0.0042	0.0019	0.0009	0.0000
18. KALSEL	0.0001	0.0011	0.0004	0.0004	0.0007	0.0003	0.0000	0.0001	0.0033	0.0092	0.0021	0.0039	0.0020	0.0059	0.0018	0.0002	0.0000
19. KALTIM	0.0061	0.0114	0.0085	0.0143	0.0086	0.0051	0.0054	0.0050	0.0053	0.0146	0.0063	0.0026	0.0074	0.0169	0.0019	0.0167	0.0000
20. SULUT	0.0000	0.0000	0.0001	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0016	0.0002	0.0002	0.0001	0.0007	0.0004	0.0000	0.0000
21. GORONTALO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22. SULTENG	0.0000	0.0000	0.0000	0.0002	0.0001	0.0001	0.0000		0.0001	0.0034	0.0000	0.0002	0.0000	0.0005	0.0003	0.0003	0.0003
23. SULSEL	0.0003	0.0006	0.0002	0.0040	0.0012	0.0004	0.0003		0.0004	0.0001	0.0205	0.0001	0.0022	0.0084	0.0055	0.0023	0.0045
24. SULTRA	0.0000	0.0000	0.0000	0.0004	0.0002	0.0001	0.0000	0.0001		0.0004	0.0004	0.0001	0.0003	0.0002	0.0007	0.0010	0.0002
25. BALI	0.0003	0.0012	0.0004	0.0012	0.0003	0.0004	0.0000	0.0002	0.0001	0.0078	0.0003	0.0000	0.0008	0.0019	0.0016	0.0000	0.0000
26. NTB	0.0000	0.0003	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0082	0.0043	0.0036	0.0014	0.0061	0.0007	0.0001	0.0000
27. NTT	0.0000	0.0000	0.0001	0.0012	0.0007	0.0003	0.0002	0.0003	0.0000	0.0006	0.0003	0.0013	0.0009	0.0031	0.0018	0.0008	0.0000
28. MALUKU	0.0000	0.0000	0.0001	0.0002	0.0001	0.0001	0.0000	0.0001	0.0000	0.0014	0.0000	0.0003	0.0001	0.0013	0.0001	0.0014	0.0000
29. MALUT	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000	0.0000	0.0001	0.0000	0.0014	0.0000	0.0002	0.0000	0.0005	0.0001	0.0001	0.0000
30. PAPUA	0.0000	0.0003	0.0000	0.0008	0.0004	0.0001	0.0001	0.0002	0.0000	0.0225	0.0127	0.0127	0.0042	0.0176	0.0010	0.0005	0.0000

Source: Inter Regional Input Output Tables 2005 (processed)

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The Role of Interim Housing Community Organizations in Reconstruction of the Community —A Case Study of Jongchan Base in Pingtung, Taiwan

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ABSTRACT

Interim housing, delivered by government or private sectors, mean to meet the need for temporary housing after major disasters. Because of uncertainty, temporality and lack of newsworthiness, interim housing usually gets less public attentions in comparison with sheltering and permanent housing.

Interim housing, however, is only a step away from reconstruction of original communities or relocation. For both victimized communities and local government, there are many decisions to make during this intermediate period.

This paper looks into the following questions: What is the relationship between decision-making process of residents in interim housing and power structure of the original community? Is there formation of new power structure in between residents in the interim period? Does the new power structure, if established, have impact on choice over reconstruction or relocation? How do public and private sectors' decision making wheel the formation and decision making of the organization among residents of the interim housing?

Through a literature review, interviews with representatives of residents in interim housing and public/private sectors, authors analyze factors that affect organization formation and decision making process during the stage of interim housing.

The authors expect that this research could be an experience-based and valuable piece of information that help public and private sectors make decisions on disaster management.

Key words: social work on disaster relief and reconstruction, interim housing, community work, decision making

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I. Introduction

In August 2009, Typhoon Morakot hit Taiwan with severe precipitation. Because of the fragility of geological features in mountain area and deposit in the riverbed, the huge amount of water caused catastrophic mudslides, which damaged south and southeast part of Taiwan the worst. This disaster, often referred as the 88 Flood, destroyed at least 1,700 homes and brought damage to another 160 thousand. It is estimated at least 600 people killed or missing (Ministry of Interior, Taiwan, 2009).

Many indigenous villages were crippled after Morakot landed. In fact, this disaster hurt Taiwanese indigenous communities the most because the later populated in mountain area with a high concentration. To deal with the aftermath, public and private sectors enacted rescue and reconstruction plans almost simultaneously. Extensive amount of resources were allocated to post-disaster reconstruction. Intensive discussions among different sectors in Taiwanese society were, however, also triggered by the complexity of reconstruction and relocation decisions involving indigenous culture and social issues.

In general, providing appropriate housing to disaster victims is a primary problem to solve after serious disaster. This problem involves complicated issues such as victimized households' adaption to their altered life. Based on the experience of reconstruction after Hurricane Katrina, The US Federal Emergency Management Agency, FEMA, published a new guideline for delivering housing to disaster victims. The guideline- The National Disaster Housing Strategy or NDHS - categorizes housing into three types according to periodic evolution of disasters: sheltering, interim housing and permanent housing. For most disasters, residents are able to return their homes in a short time and need only shelters. For more serious disasters, homes or communities are generally damaged or destroyed; victims therefore have longer housing needs. This is when interim housing and permanent housing come into play. According to NDHS, interim housing is designed for up to 18-month stay, but may be used for longer when the communities are seriously damaged or supply for rental housing is limited.

In Taiwan, on the contrary, interim housing has an appearance of a temporary solution in the intermediate phase of the whole reconstruction process, so its design and operation attract less attention in comparison with newsworthy sheltering and local-politics-involved permanent housing. As a consequence, Taiwanese government official announced that the primary goal of post-Morakot reconstruction is providing permanent housing for victimized communities. But still, three communities- Choujou

and Moudang in Pindong county and Dawu in Taidong county- had only interim housing option in February 2011, 18 months after Typhoon Morakot.

In fact, interim housing functions more than a temporary solution. Nonetheless, it is also a starting point where victims rebuild their home, communities and future. NDHS defines delivery of disaster housing, no matter what stage it belongs, as a process that should be community-oriented, supportive to victimized individuals, households and communities for going back to normal. Delivery of interim housing should come with systems that help residents rebuild their society network. Based on participation and coordination of both public and private sectors, providing interim housing is an opportunity encouraging residents to gather and deal with common issues that affect each individuals and households.

In this article, we discuss our observations of interim housing operations at experiences in Jongchan military base, a designated interim housing site where disaster victims of Choujou, Pingdong were located. The multicultural feature of Choujou community and its cross sector operations in interim housing provide valuable in-depth for this research.

The research materials collected for this article include related journal articles, government reports, interviews and observation made by authors as well as assistances from service teams in Jongchan base. This research is not completed yet, however, comments and suggestion are welcomed.

II. Literature review

1. Reconstruction under Political Pressure? – Reconstruction with Crisis of Losing Roots of Culture and Livelihood.

Taiwanese indigenous communities were the major victimized communities caused by Typhoon Morakot. One third of the damaged communities, according to MOI's report, were indigenous communities. Among them, 30 communities were located in mountain area and the other 25 communities were in plain area. There were additional 80 indigenous communities that need safety evaluation (Chuan, 2008). According to evaluation results, 28 indigenous communities were categorized as special area (uninhabitable), 32 indigenous communities were categorized as watch area (inhabitable but requires safety watch).

The legislation of “Special Statute for Reconstruction for Post-Typhoon Morakot, SSRPTM” was made at August 28, 2008. SSRPTM article 2 shapes the reconstruction as “...based on humanity, life-oriented, and respectful to multicultural features, guaranteed to community involvement, and also involved with territory security and environment protection...” Article 20 mentions “...reconstruction plans should show respect to local residents, communities, tribes, their culture and ways of life...” SSRPTM really points out the principle of respect. There were, however, limited involvements of indigenous communities- who are the major victims- during the process of legislation. Also, because of the hasty of the legislation and lack of discussion, the statute was a major target of protests and fierce objections.

a、Relocation – Disappearance of Tribal Tradition that Connects Land and Culture

As the World Council of Indigenous Peoples noted in 1985, "Next to shooting indigenous peoples, the surest way to kill us is to separate us from our part of the earth." Forcing indigenous people to leave their land, breaking the connection between members in a tribe, and tearing apart the consolidation of a cultural population, all these bring an endless sorrow to Taiwanese indigenous people (Taiwan Indigenous Tribes Action League, 2009). Both the international human right standard and the domestic regulation emphasize that the relationship between indigenous people and their land is vital to their culture and existence (Tsai, 2009).

In SSRPTM, the part that human right groups and residents in disaster area concern the most is the requirement of mandatory relocation. In three months after the disaster, tribes in disaster area gathered to protest several times, and demanded “stop labeling special area; start initiating interim housing; and release of information, involvement of residents, as well as respect for residents’ choice.”

Taiwan Indigenous Tribes Action League considers the lack of interim housing option represents the government’s neglect of indigenous people’s need for their home land. Chia-Ming Hong, Village chief of Laiyi, Pindong also points out “The relocation is only a solution for safety issues, there is no solution for residents’ property and livelihood

comes with it" (Lee, 2010). People in tribes thought they just need interim housing to stay, and would go back to their land, now they worry about the relocation means that they will never go back their home. Moreover, the agreement of receiving free permanent housing comes with a price, the restriction of the agreement makes it impossible for tribes to go back home.

b、Tourism-ized Permanent Housing – Reconstruction According to Stereotype of Indigenous People

SSRPTM guides the reconstruction work to take community culture and ways of live into consideration. And because victimized communities were mostly indigenous tribes, the NGOs that conducted reconstruction almost incorporated indigenous symbols everywhere in the design of permanent housing. This reflected, however, no more than the common stereotype of indigenous people shared by the majority of Taiwanese. Building stages in public area of permanent housing campus, for example, was considered a way for indigenous people to perform traditional dancing to attract tourist.

Permanent housing site in Shanling, Kaohsiung is where this kind of dispute began, and similar dispute also happened in Wutai, Pindong. Lukai clan concerned a lot about the plan of their permanent housing, freedom of religion and pacts for stay in the permanent housing. Lukais wanted to communicate with NGOs to make the plan work for Lukai. But the NGO in charge responded that the option for changing that plan is limited. Moreover, the planner claimed "I watched their documentary. I know their life in tribes." Based on the knowledge from a documentary, Tzuchi—a Buddhism NGO—provided a space where "your people can dance every Saturday night." Lukai considered this as an extreme misunderstanding of their culture (Kou, 2010).

Chou clan in Ali Mountain faced the same situation. Chuan-May Chan, commissioner of Louye 88 New Home denounced a similar plan for her community and said "my people worry that they are moving to a zoo for display." The plan, initiated by Chiayi County government and Bureau of Tourism, would build a permanent housing at Luzai, Chiayi into the International Chou Tourism Tribe, which comprising performance stages and traditional man-gathering places. You-Fu Chen,

vice president of Laiji Self-help Group, believed that Chiayi County government wanted to transform Luzai permanent housing into a display tribe, to cage Chou clans for tourism (Chong, 2010).

c` Religious Conflicts—Permanent Housing that Deprives Freedom of Religion

After Tzuchi completed constructions of permanent housing one after another, the religious tension between Christian tribes and this Buddhism NGO was more real to tribe members.

Wang (2010) posted in his blog that “Daai Villages, refer to permanent housing build by Tzuchi, are a display of Tzuchi’s culture.” When the permanent housing and streets around the site are all named according to icons in Buddhism world, residents will never feel this is their home. They are reminded this is a different world day to day. They will always feel being the receivers, not able to help themselves.

Residents in the Daai Villages worry that “though smoking and drinking are not prohibited, there is always ‘advice for your good’ from Tzuchi members.” And “In the future, when establishment of self-govern committee is possible, all the members are going to be those who have good relationship with Tzuchi. I don’t think we have the chance to be less Tzuchi-like.” Residents moved in at February 10 were called to gather in the on-site Christian Church for a live broadcasting of a Buddhism preach (Chong, 2010).

Uei-Hwa Fang (2010), a resident of a Daai Village expressed her worry on the internet:“ If I’ll have to follow a Tzuchi model in so many ways, and to share my feeling of my sculpture every day...well, I’d rather not talk about that...there is always advice of no smoking, no drinking, no BBQ. This is not how an indigenous people live. We lost so much because of 88 flood and relocation, now we need to obey the Tzuchi’s way of life, meditation and cleaning of soul. I feel the pain of being colonized, again! ” “In the past, when we indigenous friends met each other, we would say ‘MI hu mi sang?’ meaning ‘Still breathing?’ After we turned to the Lord, we said ‘Bless you!’ when we met each other. After 88 flood, now we say ‘I’m graceful!’ in a Buddhist way. I

know I'm going to lose our culture and language. Is this the price of accepting Tzuchi's fraternity?"

2. **Habitat post Disaster** and Community Involvement

There is a history of individuals or group of people, being forced or voluntary, migrating from places to places in Taiwan. Reasons for individual migration include needs for study or better life, or even change of value. Migration of groups can, on the other hand, contribute to political, economical or safety reasons. Among the migration with purposes binding to politics, one important example is "10-Year Kaoshal Clan Migration Plan" during Japanese colonization of Taiwan history; there are also examples for migration for economic purposes, such as Balang tribe's relocation for construction of Wanda Dam, and community relocation plans related to expansion of Kaohsiung harbor (Shieh, 2008). Today, however, relocation or migration is only seen for safety reasons because of change of Taiwanese society and maturity of democracy. And for the cases of relocation for safety, there are more and more studies in relation to community involvement and communication between resident organizations and governments.

Because the number of studies regarding interim housing and community involvement are relatively small in comparison with sheltering and permanent housing on the same subject, here we review some of the studies focusing on community involvement during sheltering and permanent housing stages first.

a、**Habitat post Disaster**—from Placement to Reconstruction

"Provisional Statute for September 21 Earthquakes Disasters Reconstruction (PSS21EDR)," "Decree for Disasters Victims Placement and Houses Reconstruction (DDVPHR)," and SSRPTM are the very regulations regarding post-disaster reconstruction in Taiwan. Among them, the DDVPHR, issued in May 2005, is the one that Taiwanese government agencies in most disaster situations will refer to. DDVPHR, a decree without legislature, contains the basic principles and procedures for governmental operations in all post-disaster reconstructions.

DDVPHR regulates the placement of disaster victims during short, intermediate and long term; evaluation of safety of buildings and communities affected by disasters; and aid of reconstruction for disaster victims in inhabitable area and aid of relocation for disaster victims in uninhabitable area (Kuo, 2009).

NDHS, the US counterpart of DDVPHR, also defines three different stages of housing needs of disaster victims: sheltering, interim housing and permanent housing.

There is a fair number of researches focusing on sheltering. Omar El-Anwar et al. (2008) presents a multi-objective optimization model for temporary housing arrangements after earthquake or tsunami, forms including: (1) manufactured housing, such as travel trailers and mobile homes; (2) leased hotels and motels; (3) cash grants for temporary housing rental assistance; (4) public housing units; (5) and use of military facilities.

The model (Omar El-Anwar et al., 2008) is developed using weighted linear programming and is capable of optimizing four possibly conflicting objectives, namely: (1) minimizing negative socioeconomic impacts on displaced families; (2) maximizing safety of displaced families; (3) minimizing adverse environmental impacts; and (4) minimizing total public expenditures.

The model was used to analyze and optimize a case study of temporary housing arrangements after the 1994 Northridge Earthquake. The analysis of this case study illustrates the potential use of the model by emergency management agencies and demonstrates its capabilities in optimizing temporary housing arrangements after earthquakes and other natural disasters (Omar El-Anwar et al., 2008).

By comparing the NDHS and DDVPHR, it appears that the main discussion and focus of disaster housing at national level is sheltering and permanent housing rather than interim housing. The conclusion is drawn from that the rental properties are the only options of interim housing in Taiwan according to DDVPHR, and also from the similar fact that rental properties are the solutions with the highest priority,

unless there are other limitations, for interim housing in the US (See table1).

Table 1.

	Decree for Disaster Victim Placement and House Reconstruction	National Disaster Housing Strategy
Short term / Sheltering	<ol style="list-style-type: none"> 1. Local governments should use public buildings, such as schools, temples, community centers that meet safety standard as shelters to accommodate disaster victims, and provide them with necessary supplies. 2. When it is necessary local governments should request NGOs to send social workers to assist disaster victims. 3. Time duration of short term is defined as two weeks up to a month^② 	<ol style="list-style-type: none"> 1. In most cases, shelter residents are able to return home within few hours to several days. 2. The plans should include accommodations for the general population and those with special needs, including persons who are elderly or have disabilities. 3. Shelters serve multiple purposes. Not only do they provide temporary refuge, but they also offer a place for families and households to regroup, register for disaster assistance, and obtain updates regarding damages, casualties, and response and recovery efforts.
Medium term / Interim Housing	<ol style="list-style-type: none"> 1. Financial assistance, funded by donation from private sectors, for interim housing rental will be managed by local governments. 2. Financial assistance for interim housing rental can last for at least six month, but no more than 24 months. 3. Definition of beneficiary: home owner(s) who live in 	<ol style="list-style-type: none"> 1. Generally, this period may span from the day after the disaster to approximately 18 months.^② In major disasters where the damage to housing infrastructure is substantial or in rural areas where rental housing is limited, this period may be longer. 2. Interim housing extends well beyond simply providing a structure.

	<p>the home when disasters happen. Confirmation of village chief is required.</p> <p>4. Amount of financial assistance: \$NT6,000 for home with three persons, \$NT8,000 for home with four persons, \$NT10,000 for home with five persons.</p> <p>5. Local governments should provide one-stop-shopping service for victims to apply for social benefits, covering housing, education and healthcare.</p>	<p>3. Interim housing must be safe, secure, and accessible.</p> <p>4. Providing the actual structures to disaster victims during this interim period is challenging. Use of rental properties is the simplest and, in many ways, the best option for interim housing. However, if the damage to the community's infrastructure is more significant or the venue is rural and rental property is unavailable, other options must be considered.</p>
Long term / Permanent housing	<p>1. Indigenous tribes in remote area</p> <p>(1) Reconstruction (2) Relocation</p> <p>2. General area</p> <p>(1) Reconstruction (2) Rental or procurement</p>	<p>1. Many factors affect the process of attaining permanent housing. Current practices in permanent housing focus on three distinct groups: renters, homeowners, and landlords.</p> <p>2. The most difficult decision individuals and local governments must make is whether or not to rebuilt. Some decisions may have national impacts on economic sectors at national level. The local government's decision not to rebuild an area must be made rapidly, as individuals often begin rebuilding quickly.</p> <p>3. There is no "one size fits all" strategy for permanent housing, some principles</p>

		<p>include:</p> <ul style="list-style-type: none">(1) Rebuilding usually takes more time than people would like.(2) Individual and community preparedness before a disaster strikes is essential to post-disaster housing recovery.(3) Repaired or replacement housing should be better than the housing it replaces and be adequately insured.(4) Some interim housing solutions can become permanent housing.(5) Catastrophic incidents require extra coordination and resources to achieve permanent housing.(6) Identifying clusters of permanent housing opportunities can speed and enhance recovery.
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b 、 An Ideal Case of Rebuild of destroyed houses— Nias Experience

In addition to the Northridge case in the previous section, the experience at Nias Island in Indonesia is also a case of post-disaster reconstruction. After tsunami in 2004 and a major earthquake in 2005, many homes and communities at Nias were destroyed. A community-oriented reconstruction plan was conducted as an experiment. To meet the needs of housing, this plan embedded a community-involved process, providing them with on hands

knowledge of construction management and safe construction methods, and furthermore self esteem. Heracles (2008) found that in Nias case the demand for emergency help varied from time to time and after the emergency period, which lasts about 6 months, the need for housing reconstruction begins.

Globally, as well as in Indonesia, experiences have shown that community-based recovery strategies under most circumstances involve more affected people in their own recovery, and are more likely to lead to sustainable solutions than top-down strategies can achieve. These are because the increase of the communities' ownership to the project and as argued by John Turner in his work on housing the poor in Peru in the 1960s and 1970s that when homeowners are allowed to control the design, construction and management of their own houses, flexibility, self-sufficiency and community initiative make deficiencies and imperfections more tolerable to the dwellers. Waites (2000) added other important reasons for community involvement i.e. willingness for providing additional resources, increased communities' capacity in decision making, sense of togetherness, confidence, capability, and skill ability to cooperate. Furthermore design solutions more likely to be in tune with what is needed and what is wanted. With community involvement people gain a better understanding of the options realistically available and are likely to start thinking positively rather than negatively. Time wasting conflict can be avoided and speedier development can be achieved.

Although culture is not as highly sensitive as ritual matters as in India, local custom and tradition in home building play a major role in life on Nias islands (Barenstein and Pittet, 2007, Silas 2008). This mode of housing production i.e. involvement of community in housing provision has increased levels of satisfaction amongst beneficiaries.

Heracles (2008) found, in addition to the plan's core intention, some extra lessons learned in Nias case. Determination of the required assistance by the communities has not been exercised in the projects, and it could affect reconstruction in many ways. This has always been the case when donors go out to the community with a ready-made program, based on their own analysis. The form of technical assistance

often was determined by the government. All these have affected the flow of project implementation.

c 、 Community Organization and Post-Disaster Reconstruction

In discussions of resilience of communities against disaster, most people would refer to the concept that “ whole is more than the sum of its parts,” meaning that individuals would benefit from community’s recovery. Ability of an individual to adapt builds up this individual’s resilience, and ability of a community’s social network to adapt builds up the community’s resilience, including better group activities, decision making, efficacy and ability (Fran et al., 2008).

The implementation of reconstruction policy, especially those parts about community reconstruction, is heavily affected by the community organizations. In the research “Understanding Local Policy Making: Policy Elites’ Perceptions of Local Agenda Setting and Alternative Policy Selection,” Liu et al. (2010) suggested that consensus- and coalition-building is perceived as the most important political factor in local policy processes.

Perry et al. (1997) analyzed the experience of Allenville, Arizona, in which the relocation was decided by the Board of Allenville Citizens for Progress (ACP), the most powerful organization in the community. The authors considered that the decision is the main reason for the relocation’s success.

In that research, some principles of a successful relocation were noted: (1) an organization that is accepted by residents and also government authority; (2) all residents who will move must attend the decision making process; (3) residents must understand there will be more than one community organization, each serves different purposes; (4) understanding of residents’ personal and social needs, including structure of interim housing, economic status; (5) maintaining of social network; and (6) consideration for ethnic, cultural or economic minority (Perry et al., 1997).

Shieh (2008) examined the issues related to disaster relocation and suggested that (1) learning to respect for residents’ willing to relocate,

(2) enhancing internal organizational abilities, (3) making clear distinctions between rights and obligations, (4) establishing mechanisms for coordination, (5) resolving issues about emergency financial aids, (6) building funding sources other than donation, (7) resolving problems regarding land acquisition, (8) activating multi-purpose fund. Among the suggestions, six out of eight are related to organization competence.

III. Background of Jongchan Base

1. Establishment of Intermediate Placement Center

On the first meeting of Morakot Post-Disaster Reconstruction Council (MPDRC) at August 16, 2009, Ching-Te Oh, CEO of THSR and a member of MPDRC suggested that disaster victims who needed placement service was relatively small in terms of number and the government should assist them to return normal life quickly. Chau-Shuan Liu, the president of MPDRC decided that “for placement of disaster victims, an investigation regarding victims’ needs should be conducted, and multiple methods of delivery of housing should be designed for future reference during implementation.”

According to this decision, Pindong County government led the Red Cross Society of the Republic of China, Armaments Bureau of Department of National Defense, and residents of Laiyi village to Jongchan military base. This visit was arranged for residents of Laiyi to have knowledge of the environment of the base. Agreement of using Jongchan as an intermediate placement center (or the interim housing campus) was made on August 19, the same day of the visit. The necessary information regarding to Jongchan base was also provided to Pondong County government by the military on the same day.

On August 21, volunteer workers from Red Cross stated to organize the environment of the base. Because the capacity of original buildings in the base was not enough, THSR provided construction assistance for building temporary housing. The capacity was increased to accommodate 111 households. Most of the living spaces are 3-bed rooms and eleven of them are studios for singles. The residents started to move in on December 30, and the ritual of moving in was made in January 2010. According to the

stats in 2010, these 111 household comprised 45 households from Taiwu and 67 households from Laiyi.

2. Service Providers in Jongchan Base

After the establishment of placement center, Pindong County government and Red Cross signed a memorandum, in which Red Cross was responsible for providing fulltime on-site employees to manage general affairs of operation of the center. And later Red Cross also brought in another NGO, Jieh-Huey Social Welfare and Charity Foundation, to provide mental health services.

In December 2010, MOI finalized the selection of operators of centers for reconstructions. Two NGOs, Jieh-Huey Social Welfare and Charity Foundation and Taiwan Transactional Analysis Association were awarded the contracts serving Laiyi and Taiwu.

Table 2■Service Providers in Jongchan Base in 2010

	Red Cross Society of the Republic of China	Jieh-Huey Social Welfare and Charity Foundation	Laiyi Centers for Reconstruction (Taiwan Transactional Analysis Association)	Taiwu Centers for Reconstruction (Jieh-Huey Social Welfare and Charity Foundation)
Authority	Pindong County Government	Red Cross Society of the Republic of China	MOI	MOI
Service content	Management of general affairs	Social welfare related work	Mental health, education referral, employment referral, welfare referral and others.	

VI. The Power Structure in Jongchan Base

1. Pre-Disaster Power Structure

Jongchan base consist residents from five tribes, including Taiwu from

Taiwu village, and Laiyi, Danling, Yiling as well as Dahou from Laiyi village.

These two villages, Laiyi and Wutai, consist residents belong to Paiwan clan, in which members obey a strict rank system. A chief of a tribe is not only a spiritual leader, but also a political leader with the highest rank. Tribal commission is an important decision making process.

In addition to traditional tribal organization in each village jurisdiction, there are also elected village chiefs and associations such as Laiyi community development association, Wutai community development association. In Laiyi, the village chief is also an important member in both Laiyi community development association and Laiyi tribe development association. This echoes Perry et al. (1997) that there are multiple organizations in a community.

Intermediate placement center's management commission and organizations in the original village don't have intensive connection; it is estimated that traditional power of chief of tribe and village chief will have impact on the power structure after moving in.

Our list of commission member doesn't have many tribal leaders... Laiyi has, one of their members is tribe chief. Unless the tribe is going to open a tribal meeting, chiefs have their power...moving in a new place, it's major and permanent, so power of tradition ,power of religion and power of politics come in...the power, village chief comes for it, presidents of associations come for it, then the story will be fierce(S).

Among these figures, village chief has the most awkward position.

There is a communication meeting held in the county government every month; village chiefs need to attend.

Though management committee thinks it had the right, it doesn't. Village chiefs need to do their part in the procedure, attending and bring their stamps... Mine is written and done... Once in a meeting we said something offending a political leader in Red Cross, he stood up and replied "if you guys don't need us, we can leave from that area!" Oh...that's serious! We thought it was bad...(M)

In the original jurisdiction, a village chief works for every member in the village. The intermediate placement center is not in the physical range of the village, and this made it hard for a village chief to do his/her work.

There is a connection between community development association and centers for reconstruction because the association is a window that the centers for reconstruction could apply for equipments.

2. The Composition of Management Commission—Proportional And Balance

The residents' management commission is also a organization involving power structure. The proportion and balance between different villages is a hard thing to decide. There is no census in how to decide the proportion. The process for generation of commission members was different in 2009 than in 2010.

In the beginning, Taiwu and Laiyi each had nine member in the committee(M)

Laiyi village had Laiyi Danling, Yiling and Dahou tribes moving in, so one tribe one representative. Taiwu village doesn't have tribes other than Taiwu tribe. So maybe, the proportion will be different form this year. Laiyi will have higher proportion.

In 2010, Laiyi and Taiwu both has nine members in the commission. It was

planned to give more seats to Laiyi in 2011, but under the consideration of effects on Taiwu village, the proportion maintained the same. However, a senior officer in Taiwu village office decided that Taiwu needs only four seats, so the result is 10 to 4.

The interaction among the commission and other organizations-issues related to subjectivity.

Many organizations, such as County government, Township Offices, and the Red Cross Society of the Republic of China etc, play different roles in the formation of the commission. Generally, commission is the most important role of decision-making in the resettlement center.

Commission is a major decision maker; however, I feel that it consulted representatives and village chiefs before making decisions. Besides, decisions it made only apply to the Joingchan base... (E)

More people from Laiyi are more active since three to four tribes from Laiyi. They concern their benefits by verbally demanding their commissioners getting involved to a certain degree, so that information related to their benefits could be passed out and in. (E)

Both officers and employees allocated by county government and the Red Cross Society of the Republic of China put inhabitants' opinion at the first priority and respected inhabitants' decisions.

We've advised the Red Cross Society of the Republic of China to be flexible when things were tolerable. We tried our best to communicate with the commissioners, or convinced them if needed. We made crystal clarification on the instant; therefore, we always have the space for negotiations and time for convincement. Basically, county

government respected the Red Cross Society of the Republic of China since the authorization was made and officers of county government worked in Joingchan base only twice or thrice per week. (S)

On the premise of respect to commission, the Red Cross Society of the Republic of China was authorized by county government to manage Joingchan base at the first moment of post-disaster rehabilitation. The Red Cross Society of the Republic of China played an important role in the Joingchan base. These researchers joined the inhabitants meeting, commission, and observed that the agenda of meetings were arranged by the Red Cross Society of the Republic of China. Non-governmental organizations or academic institutions planning to serve or research in the Joingchan base needed to contact the Red Cross Society of the Republic of China before being discussed in the commission, which made decisions of approval or disapproval.

In the commission of Joingchan base, most of commissioners were at middle-age and owned the educational background of senior high or above. They performed good comprehensibility and understanding in the process of communication and proposals reading. Affairs could be done quickly and agreements could be made efficiently. So far, non rupture within the commission had happened. (s)

- The appropriateness of rehabilitation plan made by Public sector affects the operation of commissions and resettlement centers.

Resettlement centers are designated to deal with reconstruction of post-disaster. Managerially, the appropriateness of the operational design of resettlement centers affects inhabitants and commissions. For example, registration and then draw lots were used in deciding who were eligible to move-in from Laiyi in 2010. Next year, examination was adopted due to the

increase of applications. People were more aware of the need of shelters during the flood period. This change caused great discussions and controversies, even the formation of commissions were reconsidered in the second year.

In the first year, the tribe of Laiyi was cautious about resettlement centers. A question mark existed in people's mind. I didn't come at that moment. I heard that people who were few people move here. People who wanted to move here were chosen by draw lots. Those who were drawn could move in the resettlement center. After strike of typhoon Fanapi, people felt that they need a shelter during the rainy season. The increasing need of shelters caused the problem of move-in.

二、The tension between the commission and the original community needs to be watched in the future

The issue of resettlement caused by typhoon Morakot divided the tribe into two parts, the native land and resettlement centers, and formed a new interpersonal and organizational relationship.

In the beginning, people who decided to move, I meant Namasia, came back to native land. People who stayed in native land threatened to release biting dogs. The rupture definitely existed between people of staying at hometown and leaving to permanent houses. (E)

Seemingly, people were easy going. Some people were sneering at whoever mentioned about resettlement center. Some people said, "I am not in the mood of talking about tha," "That is the decision of community," or "I've moved out." (M)

Only half people of Laiyi and Taiwu moved in Joingchan

base. None of decisions related to Laiyi tribe was made in Joingchan base but in the native land. Even the public sector followed this rule. The half people of Laiyi who moved in Joingchan base couldn't decide for the whole tribe. (E)

The re-organization is happening to the original community associations, administrative units, tradition power structure, resettlement centers, and commission. What could be decide in the resettlement centers and what could not has been always considering in every inhabitants' mind. In the July of 2011, a new organizational relationship will definitely emerge after the completion of permanent houses.

Conclusion

This article took the example of Jongchan base to study the formation and operation of autonomy organization in the interim housing community. This preliminary study revealed the importance of subsistence and cultural preservation when culturally distinct areas were struck. In addition, the community participation and the autonomy were emphasized in many occasions and dialogues. Both public sectors and non-governmental organizations employed indigenous people or people with similar working experience.

Non-governmental organizations not only honored the autonomy of inhabitants but also provided administrative resources and informative support in terms of decision-making. The awareness of serving without reducing the autonomy of inhabitants is perceivable in the work of non-governmental organizations.

This example of Jongchan base presented the formation of a new autonomic organization due to new living space. Although the tension among this autonomic organization, traditional power and bureaucracy existed, it didn't cause any beneficial conflicts. However, some interviewees asserted that the struggle between traditional and modern power might emerge after moving in permanent houses.

Due to its nature of temporality, the resettlement of interim housing lacked of standardized and definite norms. This absence made the conditions of move-in unclear, caused the fluctuant decision of moving-in and-out, and led to an unstable commission. All these resulted in the instability of community.



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**Beliefs in spiritual causation of infant mortality and the rejection of
traditional birth attendants: a case study of Tafeni location of Nyandeni
Local Municipality in the Eastern Cape of South Africa.**

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Abstract

The paper has explored reasons for the people of the remote rural area of Tafeni to reject assistance from traditional birth attendants based on their beliefs in spiritual causation of infant mortality. They only consider them as their last resort when there is a fatal problem like extreme delay in delivery.

Qualitative research method has been utilized for data collection with more focus on interview schedule for in-depth interviewing of key informants and focus groups, case studies, participant observation and existing literature. It became a necessity to identify target group of mothers who still had the ability to give birth to babies.

Data analysis was done manually using data coding which provided necessary categories of information for clear presentation and discussion of the results.

Indications were that Tafeni mothers are suspicious of any other female person in their vicinity. But should an attendant be needed, the pregnant mothers would insist on calling somebody they trust.

Beliefs in spiritual causation of infant mortality and the rejection of traditional birth attendants: a case study of Tafeni location of Nyandeni Local Municipality in the Eastern Cape of South Africa.

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Introduction

High infant mortality rate has been observed to be a common occurrence in all remote rural areas world-wide. According to Jokhio, Winter and Cheng (2005), there is an estimation of four (4) million neonatal deaths and half a million maternal deaths worldwide every year. This has been noted by World Health Organisation (WHO), United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), the World Bank and other organisations (United Nations Population Fund, 1996 and Jokhio, Winter and Cheng, 2005). These organisations responded by supporting traditional birth attendants (TBAs) programmes so as to improve maternal and child health (United Nations Populations Fund, 1996). Reality dawned to these organisations that it has been a struggle for governments to bring modern health services closer to remote rural areas as an effort to reduce infant mortality, resulting in continued use of unmonitored TBAs without the involvement of any nearby modern health centre. When governments are talking about nearby modern health centres, in most cases, they would be referring to health centres which are about 10-15 kilometres or even two (2) hours walk away from these rural areas (Orubuloye and Caldwell, S.a. and Ngqila, 2001).

Facing the reality, these organisations jointly took a decision to inject modern medical practices into the traditional practices of the existing TBAs. According to United Nations Population Funds (1996), their intention was to enhance the links between modern health care services and the remote rural communities; introduce modern training of TBAs so as to improve their skills and understanding of modern medical practices. This implies that these organisations have either introduced their own TBAs or have given modern training to the local TBAs. They would always differentiate between the local TBAs as untrained in modern methods although trained traditionally by the elderly people, through observation or experience as a mother and what they refer to as trained TBAs in modern methods (Goodburn, S.a.).

The idea of trained TBAs in the modern approach is also supported by Jokhio, Winter and Cheng (2005), MacArthur (S.a.), Maternal and Neonatal Health (S.a.), Traditional Birth Attendant (2010). One of the reasons which have caused organisations and other researchers to advocate for trained traditional birth attendants in modern methods, is their intention for improved standard of practice for them to be able recognise the early symptoms of complications (Nolte, 1998 and Ray and Salihu, 2004). In addition to this, United Nations Population Fund (1996:6) has mentioned a very crucial fact that “TBA

training programmes should always include arrangements for post training supervision with adequate logistical support". Another important issue has been highlighted by United Nations Population Fund (1996) that the key to successful training of the TBAs is to assess the communities' health beliefs, concerns and practices before embarking on the training so that it would be easy to recognise tasks to be added on top or cut out of what they have been practising before.

On the other hand, the Ugandan government was planning to abolish traditional birth attendants based on few reports of horrible incidents connected to traditionally trained TBAs whilst the people on the ground continue to support the use of TBAs especially those trained following the modern approach (Should Uganda ban traditional birth attendants?, 2010). Their argument was that it is a reality that desperately poor people in the remote rural areas are often several miles from the so called nearest health facilities which would be able to deal with deliveries, especially obstetric emergencies.

The common and prevailing response of most governments and Non-governmental Organisations (NGOs) has been to train TBAs with more focus on HIV/AIDS mothers and mothers-to-be, though still without adequate logistical support (Henda and Peltzer, 2005, Henda and Peltzer, 2006 and Bultery et. al, 2002).

Based on the background, the paper has explored reasons why the Tafeni people have continued to reject their own community TBAs. Mothers of this community do not find anything abnormal with delivering their babies without any form of assistance; instead they recommend it as the safest route to take based on their beliefs in spiritual causation of infant mortality. They believe that all the complications around the birth process are spiritually caused and could be prevented by practising the prescribed precautions for safe delivery and health of both the mother and the newly-born baby.

Objectives

Objective of the paper is to reveal all the possible reasons for Tafeni people to reject their own community TBAs. Another objective of this paper is to reveal strategies employed by Tafeni mothers during the delivery process which assist in preventing complications. The last objective is to highlight recommendations on what the government or NGOs should consider in their plans to introduce their TBAs trained on modern methods of delivering babies.

Methodology

Description of the research area

The research was conducted at an area commonly known as Tafeni location occupied by the Mpondo ethnic group. The area is composed of Nduli, Tekwini and Nkantini with 268 households below Nomadolo Junior Secondary School under Nyandeni Local Municipality of the Eastern Cape in South Africa. This is a remote rural area which makes things very difficult for the local people to be able to follow any changes and

developments in other communities. This raises a number of socio-economic factors including lack of formal education amongst the local elderly people with climatic conditions contributing a great deal to the delay in progress in the area. Remoteness of the area, belief in spiritual causation of infant illnesses and their mortality, the two hours' walk from the research area to the hospital which is the only nearby modern health center, lack of infrastructure and transport, as well as lack of modern economic exchange could be considered as possible causes for mothers to think of using traditional medicines as first aid for both adults and infants.

Research design

Data was collected using qualitative research method following what has been suggested by Mitchell (1967), Pelto and Pelto (1970) and Van Warmelo (1974). Their suggestion was that anthropologists should not only rely on quantitative data derived from sample surveys collected for official use, but instead they should also rely upon knowledge arising out of acquaintance with the world-view of the informants during ethnographic study of a particular area. Pennington and Harpending (1993) also had the same view when they were working among the Herero of Botswana on infants and childhood mortality using qualitative method. For a successful qualitative research, as recommended by Pelto and Pelto (1970), it became necessary to identify target group so as to collect relevant information for the research, use of research instruments such as interview schedule for in-depth interviewing of key informants and focus groups, case studies, and participant observation.

Targeted Group

The research targeted women of ages between 15 and 39 who have already given birth to children. The intention is to establish if there is any variation in the perspectives of these women and their way of doing things according to age or that the process of acculturation has been so powerful such that there is no identifiable variation in their perspective. This is also the age group which still has the ability to give more births which became an advantage to the researcher in terms of doing follow-ups especially for those who were already pregnant.

Research instruments

Interview schedule was used to conduct interviews for women of ages between 15 and 39 who have already given birth to children and those who were still pregnant. This came to a total of 32 mothers and four (4) mothers (teenager, young woman, and 2 middle-aged women) were interviewed as key informants using in-depth form of interview. The intention was to collect data from a wider scope of women with the inclusion of almost all the categories of women who still had the ability to give birth. It was believed that they would have in-depth knowledge on the subject which they would have acquired from their elderly people as well as their own experience.

Focus group discussion was also used whereby all age categories of mother starting from 15 to 39 were included with the intention of testing the strength of enculturation and acculturation among the mothers especially those of the younger ages.

It also became necessary to use case studies whereby in-depth knowledge was acquired on specific cases especially the one of an infant who was found dead in his sleep without the knowledge of the mother who was a teenager.

Participant observation has also been used whereby the researcher participated whilst observing in the activities of women especially during the hoeing season which made the researcher to experience the difficulties involved in their agricultural practices. Although the researcher could not have good timing for participating during childbirth, she managed to witness the death of one infant who was prematurely born as a breech birth.

Literature review

Existing literature was also consulted for reference purposes and comparison between what is happening in South Africa, the wider African continent and internationally. This helped in measuring the differences and similarities in the management and control of infant mortality considering the perspectives of the people in these parts of the world.

Linguistic conceptual issue

In terms of the linguistic conceptual issues, double checking had to be done with the local people, existing literature and the local university herbarium for proper use of certain local terms and traditional medicinal plant names.

Ethical considerations

Permission had to be first granted by the chief of the area of research, and the local hospital superintendent for research to be conducted successfully. Reassurance had to be given to the informants in terms of confidentiality and authenticity when writing a report. Giving false hopes to the informants in exchange of the information was avoided as they would always want to know whether the researcher would be bringing any development projects or creating jobs for the community.

Data analysis

Data analysis was done manually using data coding which provided necessary categories of information for clear presentation and discussion of the findings. Data coding assisted in the compilation of tables giving a presentable summary for the findings. Data coding also helped in terms of categorizing data so as to provide the necessary sub-headings for simplicity and clear presentation of the findings for logical discussion and conclusion.

Findings and discussion

Rejection of TBAs by Tafeni mothers and the danger of tieing knots

The institution of traditional birth attendants (TBAs) (*abazalisikazi*) is well rooted in Tafeni. Even so, the mothers of Tafeni would prefer to give birth on their own without help from anyone unless there is a fatal problem like extreme delay in delivery. This is because they are suspicious of any other female person in their vicinity, basing their suspicions on their beliefs in spiritual causation of infant illnesses and their mortality. But should an attendant be needed, the pregnant mothers would insist on calling somebody they trust. Out of 139 births by the 32 mothers, 116 were home births and 99 were home births without TBAs. This is also a clear indication that hospital birth has not been a popular practice in Tafeni. Many birth attendants are believed to be thick-headed (*ukuqinelwa yintloko*). The birth process, with their presence at the birth-place, might be difficult to a point that could cause a delay in the delivery of the new-born baby. Such a delay in delivery could be dangerous, as it normally leads to the exhaustion of the baby while still inside the mother. The mother then starts to panic, which might lead to the baby's death.

The Tafeni pregnant women are always cautioned to guard against tieing of knots (*amaghina*), any form of knot, during their period of pregnancy. Thus, they would even be encouraged to wear loose clothes without any form of knots. It is believed that they can cause delay of the delivery process up to a level of even killing the baby. The death of the baby might be as a result of the exhaustion experienced by the baby caused by the delay of the delivery process. There is an ever nagging possibility that the TBAs could make grass knots while on the way to the home of the expectant mother with the intentions of killing the baby. This simply means that even the TBAs are viewed as potential witches who might have hard feeling against the expectant mother or her family. No one nearer to the expectant mother, before or during delivery, is allowed to have any form of knot – hence loosening of knots has always been advised.

Another thing which the Tafeni new mothers would never allow is for the TBAs to touch their blood after the delivery of the baby. Only the mother of the new-born baby should touch or clean any stain of her blood. The area which she occupies in the hut during delivery should be cleaned by herself without the help of anyone else. The fear is that should a bad person come into contact with the blood, the strong effects of that kind of pollution could cause the new mother never to be able to have children again. She would continue to experience miscarriages and still-births in future. It is because of the same reason that the placenta or afterbirth is kept away from people other than the new mother. She has to keep good care of the placenta in order to keep a witch or any bad person from using it to stop the fertility of the new mother or at least cause her to have miscarriages or still-births. The same belief is also found amongst the Bhaca people, another ethnic group in South Africa, who would always be cautious not to wear anything tight around their arms, legs or waist (Hammond-Took, 1962). Whether the knot is tied intentionally or unintentionally, the results would be the same according to the conceptualization of Tafeni people – harm to the pregnant mother and the unborn baby.

The Tafeni people would accuse ‘witches’ (*amagqwirha*) for any infant’s death – they suspiciously look for the witch (Ngqila, 2001). The belief is that, the ancestors only want adherence to the traditions and the maintenance of constant communication between them and their living relatives. Thus, the ancestors may only harm the baby when the parents have neglected them and no longer perform the necessary rituals (Ngqila, 2001). This brings in the importance of burning *impepho* (*Helichrysum odoratissimum*), a plant which is traditionally used by the people of Tafeni either to chase away the evil spirit and the familiars or to appease the ancestors.

Prenatal preparations for birth

Only the pregnant woman has to do the preparations without any form of assistance, the reason being that they do not trust any woman including their mothers-in-law. The first preparation would be collection of firewood. Only the pregnant mother has to collect or even touch the firewood before the birth of the baby. This is done to avoid the witch and sorcerer’s contact with the firewood as it is believed that their contact would be associated with danger and could lead to the delay of the birth of the baby. Generally, among the Tafeni people, fire becomes a symbol of comfort and safety only if the firewood has been touched by the expectant mother for the whole period before the birth of the baby. The firewood may be touched by any other people only after the birth of the baby. In the event that the pregnant mother could not make the fire by herself, before giving birth, then the fire should not be made at all until the baby has been born. Then, another person, other than the new mother, can make the fire. The fire has to be made so that ashes (*uthuthu*) and soot (*umle*) would be produced which are believed to have ‘cooling’ (*ukupholisa*) effect on the baby whenever there seems to be a problem. When the baby has been affected by illness as a result of affliction, it would be said that the baby is ‘hot’ (*uyatshisa*) – hence there would be a need to use the ash and soot with ‘cooling’ effect, whether as a drink or for a bath. They are believed to have ‘cooling’ effect since they are both products of the fire made on the fire-place which is known to be where the ancestors of the homestead are resting (Kuckertz, 1990).

Preparing the place for the event of birth has to be done by the pregnant woman. This is supposed to be behind the door of the kitchen hut as prescribed by the elderly women whereby the new mother would not be required to move until the umbilical cord has dropped off, that is usually eight (8) days after the birth. She has to sweep the floor of the hut with a broom made from a grass called *umqungu* (*Cymbopogon validus*). The same species of grass is used for cutting the umbilical cord after the birth of the baby (Hunter, 1961). According to the Tafeni people, the *umqungu* grass is recommended for cutting the umbilical cord because it is believed that if a sharp metallic implement is used, then the person, when grown up, would easily use a sharp metallic weapon to kill people. After that, the same woman has to smear the floor of the hut with cattle dung (*ubulongwe*). This is a costly work for a heavily pregnant woman as this has to be done at a time very close to the delivery of the baby. After cleaning, no one would be allowed to enter the hut until the baby has been delivered. The *umqungu* grass and the cattle dung are believed to have an effect of inviting the ancestors to welcome the new born baby.

Child delivery

This is the most crucial and delicate moment, not only in the sense that a new person is to be born, but also because it is the determinant of the survival or the death of the baby and of the mother-in-labor too. The mother has to kneel on the floor with the knees apart, balancing her body with her hands flat on the floor and facing the fire-place which is always found at the centre of the kitchen hut. They believe that the position of kneeling and balancing gives her the strength to push the baby out during delivery. One informant explained the position of the mother-to-be in the following manner:

Xa ulungiselela ukubeleka, kufuneka uguqe ngamadolo ubambelele ngezandle phantsi (when preparing for child-birth, you need to kneel down on your knees and hold the hands down).

Amathanga kufuneka ungawavali (the gap between the thighs should not be closed).

Isinqa esi kufuneka siyekelele singaqini (the body's waist should be loosened and not tightened).

Ngalo lonke elo xesha ujonge ngaseziko (all that time you must face the fire-place)

The fact that the Tafeni mothers kneel down when giving birth gives them hope that if the birth canal is facing downwards, then it would be easy for them to push down the baby.

The prenatal precautions prescribed by elderly experienced women of Tafeni, including avoiding tieing of knots, would be so much emphasized and religiously adhered to by the mothers-to-be. This would be because it is regarded as their only way of preventing and coping with the complications of child-birth as far as the spiritual pattern of thought leads them.

In case the situation demands the presence of the TBA, that one of extreme delay of the delivery of the baby, it is known and believed that the TBA should insert only the right hand into the pregnant mother's womb and gently tries to pull the baby to the outside. Specifically the right hand has to be used, because the people of Tafeni claim that the left hand is a baboon's active hand and the animal is a well known familiar employed by men for witchcraft. Thus, it is not by chance that the Xhosa people refer to the left hand as the one of the 'misfortune' (*isandla samashwa*). It should be noted that the mother-to-be is the one who has to select the TBA based on complete trust she has on that person she would choose, for the birth process is a matter of life and death.

It is a normal necessity for the placenta to come out after the birth of the baby. The mother would die, as an immediate consequence, should the placenta not be delivered. In case of the delay of the placenta, then the TBA would step in again. The TBA would tightly bind the stomach of the new mother with a cloth, while she continues to push the after-birth or placenta. If the method employed by the TBA remains ineffective, then the new mother will be asked to blow air with her mouth using great force so that the tightened lungs help to push out the placenta. Under normal conditions, it is unusual for

the placenta not to come out. But should it happen then the people of Tafeni associate the development with the intervention of witches.

Postnatal period

The new mother would do the ritual cleaning of the birth-place as a way of avoiding an opportunity for the evil traditional birth attendant (TBA) to manipulate the blood and the placenta, something which would result into affliction of both the new mother and the new-born baby. It is believed that the witches can use the blood stains or the placenta to cause the new mother to be infertile for ever. Alternatively, the new mother could find herself only producing still-born babies or having miscarriages. This work – which is regarded as an essential act of ritual cleanliness, comprises two phases, that is, the disposal of the after-birth or the placenta and the cleaning of the birth-place. It is believed that the new mother should bury the placenta herself and without hesitation.

Regarding the disposal of the placenta which is the first phase of the ritual cleaning, the new mother is expected to first find a portable stone which she can handle with one hand (*imbokodo ephathekayo*) together with the clod of earth (*igade lomhlaba*). The clod of earth should be put on top of the placenta and crushed together using the stone. The crushing and mixing of the two should continue up to the point that the placenta cannot be identified from the soil any longer. After that, the new mother has to take the mixture and bury it in a hole which she dug herself, in the corner of the garden, without being noticed by anyone. It is recommended that the mixture be thrown into the hole at night so that no one would notice.

The second phase of ritual cleaning begins with the preparation of the mud needed to smear the place of birth so as to obliterate the remaining blood stains. Immediately after the place has dried, the new mother will smear the whole hut with cattle dung (*ubulongwe*). This sequence would help to totally disguise the birth-place such that the witch would not be able to recognize the area in the hut where the birth took place.

One young married mother, who was always at logger heads with her mother-in-law, related her story whereby her mother-in-law decided to crush her placenta together with the clod of earth after which she threw the mixture in the mealie-fields. According to the young married mother, the act was unthoughtful, particularly when the relationship between them was not good at all. After that incident, the young mother lost two babies, one as a still-born and the other when four months old. Tafenians' minds are struck with fear at the thought of letting someone else clean the birth-place and bury the after-birth. No one could even tell whether it was the act of the mother-in-law or natural death. But the Tafeni people would never associate natural death and the baby. Subsequent to the act of the mother-in-law, the young mother buried the placenta of all her other children by herself behind the door of her hut. Her belief was that the witches or sorcerers would not easily access the placenta when it is buried in the hole inside the kitchen hut unlike when it is buried in the hole outside. The common practice in Tafeni was the burial of the placenta in the corner of the homestead's garden when it is dark so as to make sure that

the activity is not seen by any outsider. In the case of Tafeni, the emphasis is that the new mother herself should bury the placenta.

Tafeni people do not regard a pregnant woman and a new mother as being sick - hence they do not pity her when it comes to the cleaning of the birth-place before and after birth. The hardship is taken for granted because it is for the protection of the baby as well as of the new mother. It is also understood by the people of Tafeni that disregarding the tradition would be a sign of underestimating the ancestral powers. According to the people of Tafeni, it is the authority of the tradition that guides the people's practices as they believe that the health (*impilo*) is automatically given if only the practices of the elders are followed.

The details in the practices identified are not exceptional to Tafeni. Schott and Henley (1996) recorded that the Akan of Ghana pay special attention to the burial of the placenta. The same authors mention the practice for certain traditional South Asians although they do not specify who has to bury the placenta. But the practice is different with the amaXhosa, another ethnic group in South Africa, whereby the placenta is buried by the midwife (TBA) (Soga, 1979). It has also been noted even by the Traditional Birth Attendant (2010) that some families regard birth as an intimate and private process such that they feel humiliated and hurt by the intrusion of midwives or TBAs – hence the growing movement of unassisted childbirth.

Conclusion and recommendations

The fact is that a baby born at home is treated differently from the one born using the modern method. Differences surface in terms of position of the mother when giving birth, in tieing and cutting the umbilical cord, in washing the baby, in cleaning the place of birth, and in the disposal of the whole placenta after the birth of the baby. Those who accept their local TBAs, as against those introduced by the NGOs or governments, specifically highlighted that it is because they give them more human treatment, respect them and are easily accessible (United Nations Population Fund, 1996).

Tafeni people would never accept the fact that a child could die a natural death. They associate the death of a child with witchcraft and sorcery in most cases – hence they have a bad attitude towards TBAs as they do not trust any woman in their vicinity. This has resulted in unassisted childbirths, something regarded as dangerous by those who subscribe to the modern pattern of thought. These are the things the governments and NGOs have to know and consider when they are planning to introduce training of TBAs in remote rural areas – acquiring better understanding of the communities' beliefs and concerns (United Nations Population Fund, 1996).

What should be understood is that people feel safe in whichever environment they believe in (Ngqila, 2001). Although no one has any idea of how the Tafeni people would behave in the case where the health centre would be inside the area, even if it would be mobile clinic visiting them on scheduled intervals, including their attitude towards TBAs – be it local or those which would be sent by the NGOs or the government.

In the case of the government or NGOs planning to train and introduce modern form of TBAs for Tafeni, it would be advised that they take the suggestion of the United Nations Population Fund (1996) - acquiring better understanding of the communities' beliefs and concerns. This would assist the organizations to be sensitive and conduct training from a holistic approach. In the case of Tafeni, the organizations and the government should consider reasons for Tafenians to reject TBAs, the precautions they take during prenatal preparation for birth, delivery of the child and during the postnatal period. This would assist these groups of people to reach some form of compromise on what should be retained and what should be cut out during the training process of the TBAs in order for them to be accepted by the Tafeni community without any suspicions. Another crucial fact which has been raised by the United Nations Population Fund (1996) is that of adequate supervision, transport and provision of supplies for those TBAs trained on modern methods of delivery of the baby so that their existence would be more effective. Specific reference and attention should be paid more to those remote rural areas 10-15km or two (2) hours, in the case of Tafeni, from the health centers.

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Political Economy of Inflation in Global and National Economies:
With Special Reference to India

by

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Soaring inflation is a hindrance in allowing poor to live with dignity. Inflation hurts harder the workers in informal or unorganized sectors whose wages are not indexed to rising prices. The peace and security, regional, national and global, hinges on whether the basic needs of the poor are met. The recent episode of food inflation ought to be a matter of concern for policy makers especially in developing countries, such as, India. This paper investigates inflationary episodes in the developed, developing economies and India, since the fifties. It attempts to highlight whether the causes, channels of transmission and the impacts of inflation have been national or global in nature.

The paper deals with inflationary episodes in the global economy and national economies (including India), during the seventies, highlighting the role played by the international monetary system, expansionary monetary and fiscal policies, supply side factors culminating in rising food and oil prices, etc. The transition to flexible exchange rate regime in the late seventies was expected to restore balances in balance of payments (BOPs) of the countries and liberate them from importing inflation from abroad. Free capital mobility in the eighties enabled East-Asian countries to use capital to promote growth. However, the imbalances in BOPs continue to haunt the countries even now and the recent financial crisis has impacted the growth of countries far beyond the countries of its origin. Capital mobility from the developed to developing countries has posed challenges for the management of inflation, exchange rate, fiscal policy, financial stability and the governance of financial flows.

The paper uses the data from the International Monetary Fund, Reserve Bank of India and other official data sources of Government of India. It uses analytical techniques and multiple regression analysis for conducting the empirical investigation for the period 1950 to 2009.

Political Economy of Inflation in Global and National Economies: With Special Reference to India

1. Introduction

Inflation is said to rob the poor to enrich the rich and thereby aggravate the problem of income and asset distribution. As expenditure on food constitutes a major proportion of consumer expenditure in poorer countries, rising prices of food contribute to inflationary spiral. In the recent years, inflation in general and rising food prices in particular have been the causes for concern, as these affect the poorest of poor the most. Food prices have been soaring in the recent years and the problem has reached the crisis proportion. According to Ivanic et al (2011) about 44 million more people have fallen below the \$1.25 poverty line as a result of higher food prices, since June 2010. There is a risk of pushing additional 10 (34) million people into poverty trap, if food prices increase by 10% (30%). In view of this, this paper looks at problem of inflation in global and regional perspective and investigates India's inflation process as well.

2. Inflation Rates

The Bretton Woods System (BWS, henceforth) was designed in a center-periphery framework. With quasi-fixed exchange rate system and the asymmetric role designated to the US \$, lead to transmission and some sort of convergence of inflation rates in the late sixties. This led to dissatisfaction with the BWS, signaling the collapse of the channels of transmission of inflation rates from the United States to other countries, in the form of adjustable peg exchange rate system in the early seventies. Private capital flows were minimal and hence, the monetary flows across the regions were supposed to be restricted. Commodity prices (including food prices) in the early seventies soared due to supply shortfalls. In order to cope up with soaring food prices, the oil exporting countries almost quadrupled oil prices in 1973-74. More or less a similar situation occurred in the late seventies. In order to cope up with this situation and to contain the recessionary pressures, the non-oil developing countries started pursuing passive/expansionary monetary policies. Thus, it was the food and oil price hikes which triggered the generalized inflation process in the earlier half of the seventies. As can be seen from Table 1, the advanced economies (ADV) witnessed highest inflation rates during the seventies. There was a major imbalance in balance of payments of oil-exporting and non-oil exporting countries, the former having a surplus and the latter struggling with deficits.

Table 1: Regional Inflation Rates¹(Annual Average, pcpa)

Period	WORLD	ADV	EDE	Dev Asia	Europe	CEE	ME & NAF	SUB AF	WH
1970-1979	10.4	8.9	14.8	9.9	12.3	12.3	9.1	13.6	26.7

¹ Abbreviations used in the paper are as follows:

WORLD: World, ADV: Advanced Economies, EM&DEV: Emerging & Developing Economies, DEV ASIA: Developing Asia, INDIA: India, EUROPE: Europe (barring those classified under the Advanced Economies), CEE: Central & East Europe, ME&NAFR: Middle East & North Africa, SUB AFR: Sub-Saharan Africa, and, WH: Western Hemisphere

1980-1989	15.4	6.6	41.2	9.3	36.7	36.7	10.7	17.0	93.9
1990-1999	15.4	3.0	47.1	8.6	91.8	71.8	12.5	26.8	140.2
2000-2010	3.9	2.0	6.9	4.0	12.8	12.1	6.9	10.7	7.2
1970-2010	11.1	5.0	27.0	7.9	38.4	33.2	9.7	16.9	65.5

Source: Author's calculation using the International Financial Statistics, IMF.

Table 2 presents the average inflation rates in select developed countries since the fifties. The convergence of inflation rates during the sixties and higher inflation rates during the seventies are evident from Table 2. The decade of the eighties saw lowering of inflation rates for almost all the developed countries. Thereafter, inflation rates in the developed countries have been rather low. In brief, the decades seventies and the eighties (barring for Germany and Japan for the eighties) can be said to be periods of relatively high inflation rates.

Table 2. Average Inflation Rates in Select Developed Countries
 (Annual Average, pcpa)

Period	Australia	Canada	France	Germany*	Japan	UK	USA
1950-59	6.5	2.4	6.2	1.1	3.1	3.5	1.8
1960-69	2.5	2.5	3.9	2.4	5.4	3.5	2.3
1970-79	9.8	7.4	8.9	4.9	9.1	12.6	7.1
1980-89	8.4	6.5	7.4	2.9	2.5	7.4	5.6
1990-1999	2.5	2.2	1.9	2.5	1.2	3.7	3.0
2000-2010	3.1	2.1	1.7	1.6	-0.3	2.8	2.5

Note: * indicates West Germany until the unification and unified Germany thereafter.

Source: Author's calculation using the International Financial Statistics, IMF.

In Table 3, we present the inflation rates in select Asian and Latin American Countries. It can be seen from this Table that the rates of inflation for the Latin American Countries have been much higher than those for Asian countries. Obviously, the domestic monetary policy in these countries has had a major role to play in such high inflationary episodes. These countries also seem to have been impacted by the oil price hikes during the seventies. Though Korea and Thailand were able to contain inflationary pressures during the eighties, the other developing countries were still reeling under the inflationary pressures. The post eighties, indicates the diverse inflation rates across these developing countries

Table 3: Average Inflation Rates in Select Asian and Latin American Countries
 (Annual Average, pcpa)

Period	Argentina	Brazil	Mexico	Thailand	Korea	India
1950-59	30.4	n.a.	7.7	3.0	n.a.	2.1
1960-69	22.9	n.a.	2.7	2.2	11.3	6.0
1970-79	132.9	n.a.	14.7	8.0	15.2	7.5
1980-89	565.7	354.5	69.0	5.8	8.4	9.2
1990-1999	252.9	843.3	20.4	5.0	5.7	9.6
2000-2010	8.8	6.7	5.1	2.5	3.1	6.1

Source: Author's calculation using the International Financial Statistics, IMF.

3. Variations in Money Stock

During the decade of sixties, we observe increase in growth rates of broad money stock in Australia, Canada Japan and the UK (see Table 4). Germany has been conservative as regards increase in money supply due to its strong anti-inflationary stance. Except for Germany, we observe increase in rates of growth in stock of money in all other countries. The decade of the eighties witnessed fall in rates of growth in stock of money stock all countries except the UK. It may not be out of the place to mention that especially during the sixties and seventies, the Keynesian paradigm flourished and countries did use the Phillips curve as the menu for policy making. Germany pursued its anti-inflationary bias and the UK pursued its anti-unemployment bias in their policy making. Thus, the political choices dominated the economic scene. During the eighties, most of the countries had recovered the oil-shock and contained their rates of monetary expansion, except the UK. During the nineties, all the developed countries, except Germany reigned in their growth rates of money supply. The East and West Germany were reunited in the 1990 and hence, the unified Germany had the initial hiccups in the conduct of monetary policy. The post-nineties period shows disparate movements in the rates of growth of money supply across the developed countries. In brief, apart from the seventies, when supply side factors caused soaring agricultural and food prices followed by oil price hike forcing the countries to follow accommodative monetary policies so as to contain the recessionary pressures, the developed countries have had the choice of controlling money supply or interest rates during the post-seventies. Of course, it is not possible to control both in an era of capital mobility. The short-run political compulsions can be attributed as the determinants of growth rates of money supply in the selected developed countries.

Table 4: Average Annual Growth Rates of Money Supply in Select Developed Countries
 (Annual Average, pcpa)

Period	Australia	Canada	Germany	Japan	UK	USA
1950-59	6.3	6.2	17.1	16.7	2.7	8.7
1960-69	7.7	11.1	12.1	17.3	5.0	7.5
1970-79	12.5	15.8	9.9	22.1	14.6	11.0
1980-89	9.5	11.1	6.5	9.5	17.4	8.7
1990-1999	8.4	4.6	7.2	4.4	11.7	4.7
2000-2009	11.5	3.8	n.a.	0.8	10.6	7.2

Source: Author's calculation using the International Financial Statistics, IMF.

As regards the growth in money stock in Latin American countries (see Table 5), one can clearly see influence of political choices determining the rates of expansion of money stock. There is no systematic pattern in growth rate of money supply in these countries (except a sharp deceleration in the to post-nineties) and a common global factor does not seem explain these disparate growth rates of money stock in these countries. In the case of Korea, we can see a strong growth-bias in the conduct of monetary policy until the end of seventies which was somehow moderated during the eighties and the nineties. Thailand maintained its rate of monetary expansion somewhere between 13 to 20 percent during the fifties to eighties. India on the other hand, had lowest rates of monetary expansion in the fifties and the sixties, accelerated it during the seventies and thereafter, it has maintained stable rates of growth of monetary expansion. This is not to say that these countries did not fine tune their monetary policies on an year to year basis. All the selected

Latin American countries and Asian countries, except India, witnessed substantial reduction in growth rates of money stock, except India.

Table 5: Average Annual Growth Rates of Money Stock in Select Latin American Latin American and Asian Countries (Annual Average, pcpa)

Period	Argentina	Brazil	Mexico	Korea	Thailand	India
1950-59	n.a.	21.8	16.2	42.2	13.5	6.2
1960-69	27.3	51.0	14.0	40.8	13.3	9.3
1970-79	136.2	41.7	28.4	30.4	18.4	22.3
1980-89	477.0	415.3	62.7	19.6	19.3	17.1
1990-1999	142.3	739.8	32.2	18.9	15.2	17.0
2000-2009	14.4	17.1	8.3	9.2	6.1	17.4

Source: Author's calculation using the International Financial Statistics, IMF.

4. Growth Rates

We present the growth performance of regions² (Table 6), select developed countries (Table 7) and Latin American and Asian Economies (Table 8). We observe from Table 6 that for advanced counties, growth rates have gradually declined and this could be the base effect, i.e., it is easier to grow from a lower base than from a higher base. Developing Asia comes across as the best performer. Similar is the case with emerging and developing economies (EDE). We can also see that despite phenomenal growth rates of money supply in countries from the Western Hemisphere, the growth rates have been modest, especially during the post-seventies period. As against it, the developing Asia had much lower rates of monetary expansion, but has been able to perform much better in terms of growth rates. Thus, promotion of growth through excessive monetary expansion does not seem to have worked and which is why the economies in the recent years have resorted to stabilization of growth rates of monetary expansion, as can be seen from Table 5. The decades of fifties and sixties were referred to as the golden period from the point of view of the growth of developed countries. Except for Japan, the remaining developed countries witnessed deceleration in growth rates, whereas, the performance of developing countries has been much better than those of developed countries.

Table 6: Regional Growth Rates (Annual Average, pcpa)

	WORLD	ADV	EDE	Dev Asia	Europe	CEE	ME & NAF	SUB AF	WH
1970-1979	4.2	3.6	5.6	4.7	n.a.	n.a.	7.4	6.3	5.9
1980-1989	3.1	3.0	3.4	6.5	n.a.	2.5	0.5	2.5	2.5
1990-1999	3.4	2.8	4.8	7.1	1.4	3.7	4.0	7.6	3.0
2000-2010	3.4	1.7	6.0	8.2	5.9	3.8	5.4	4.4	3.1
1970-2009	3.5	2.8	5.0	6.6	4.5	3.3	4.3	5.2	3.6

Source: Author's calculation using the International Financial Statistics, IMF.

² The data for growth rates is available for regions only since the seventies.

Table 7. Average Growth Rates in Select Developed Countries (Annual Average, pcpa)

Period	France	Germany	Australia	Canada	Japan	United Kingdom	United States
1950-59	4.9	n.a.	n.a.	5.1	7.7	2.4	4.2
1960-69	5.7	4.4	8.3	5.1	9.4	3.1	4.4
1970-79	3.8	3.1	3.3	4.1	5.2	2.4	3.3
1980-89	2.5	1.8	3.4	3.0	4.5	2.4	3.1
1990-1999	1.9	3.2	3.3	2.4	1.5	2.2	3.2
2000-2009	1.4	0.9	3.6	2.1	0.6	1.7	1.8

Source: Author's calculation using the International Financial Statistics, IMF.

Table 8: Average Annual Growth Rates in Select Latin American and Asian Countries

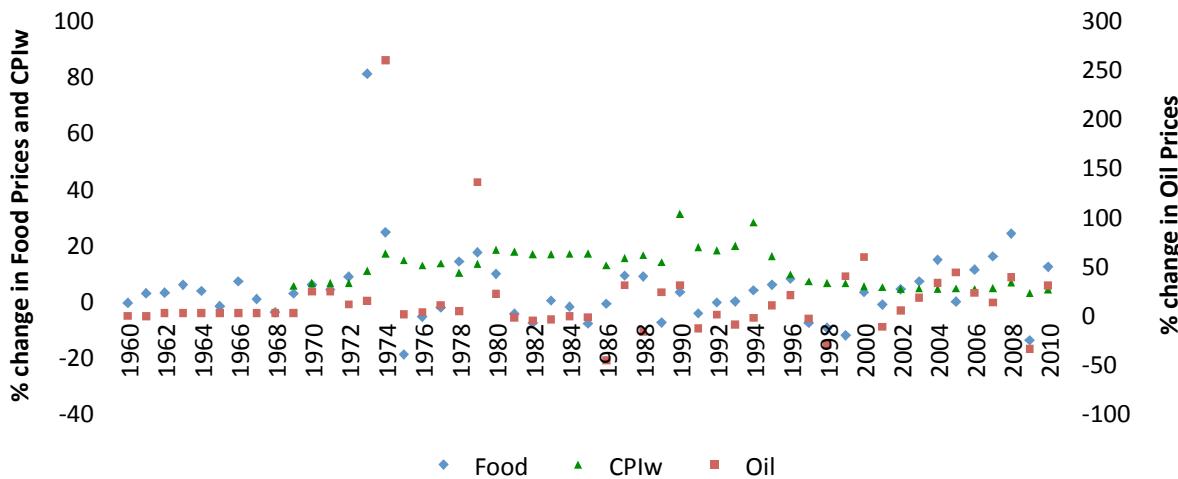
Period	Argentina	Brazil	Mexico	Korea	Thailand	India
1950-59	2.5	n.a.	6.3	4.3	4.8	4.0
1960-69	4.7	9.2	7.2	7.7	8.3	4.1
1970-79	3.0	7.9	6.5	8.3	7.4	2.9
1980-89	-0.7	3.1	2.3	7.7	7.3	4.8
1990-1999	4.1	2.2	3.4	6.4	5.3	5.8
2000-2009	3.6	3.3	2.0	4.4	4.1	7.3

Source: Author's calculation using the International Financial Statistics, IMF.

5. Food Prices, Oil Prices and Inflation Rates

As we have stated earlier, it was spike in food prices that led to spike in oil prices in the early seventies and this in turn led to increase in global inflation rates. However, inflation in the eighties and the early nineties does not seem to be related to the food and oil price changes and it is more due to the national policies rather than global shocks emanating from commodity price shocks. A more worrisome phenomenon in the recent years unlike that in the earlier periods is that even though inflation rates are not very high, the food prices have been soaring in the recent years.

**Figure 1: Relationship between Consumer Prices,
 Food and Oil Price Changes**



In this section we examine address two research questions.

- i) Does the inflation rate inflation in the global economy depend on the food and oil price changes?
- ii) Do the changes in oil prices depend on changes in food prices?

The period of investigation is 1970 to 2010 and we have used the annual data drawn from the IMF. The regression results have been reported below in Box 1.

Box 1: Global Inflation Rate (cpiw) as dependent on Food (food) and Oil (oil) Inflation

regress cpiw food oil						
cpiw	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
food	-.0441318	.0738825	-0.60	0.554	-.1936991	.1054356
oil	.0072235	.0239202	0.30	0.764	-.0412005	.0556475
_cons	11.16582	1.145224	9.75	0.000	8.847432	13.4842

Source	SS	df	MS	Number of obs	=	41
Model	17.4594975	2	8.72974873	F(2, 38)	=	0.18
Residual	1803.43258	38	47.4587522	Prob > F	=	0.8327
				R-squared	=	0.0096
				Adj R-squared	=	-0.0425
				F stat	=	6.220

Box 2: Oil Inflation (oil) as dependent on Food Inflation (food)

regress oil food						
oil	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
food	1.049329	.4651713	2.26	0.030	.1084316	1.990227
_cons	11.90105	7.425786	1.60	0.117	-3.119024	26.92112

Source	ss	df	MS	Number of obs =	41

We see from Box 1 that the global inflation rate is neither explained by food inflation nor by oil inflation. Thus, we conclude that it is the national policies and the international monetary factors that have been responsible for global inflation.

As regards the second question, oil inflation seems to be explained by the food inflation. The recent episodes of food inflation have adverse implications for oil inflation as well. However, the bi-directional causality remains to be examined.

6. Inflation in India: 1971-72 to 2009-10

In this section, we test the hypothesis as to whether inflation in India can be explained in a monetarist framework, i.e., whether money supply per unit of output can be used to explain the price level in India. We would like to mention here that we have used the data from the RBI Handbook of Statistics on the Indian Economy (Reserve Bank of India) and the data is for the financial years. In India, the official indicator for measurement of inflation has been the Wholesale Price Index (WPI) and not the CPI. In view of this, we have tested whether inflation rate in India (wpi) depends on the rate of growth of broad money stock minus the rate of growth of real GDP (m3yr). The empirical results are presented in Box 3. About 11 percent of variation in inflation rate in India is explained by production and monetary expansion.

Box 3: Determinant (m3yr) of Inflation in India (wpi)

wpi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
m3yr	.4522835	.2120939	2.13	0.040	.0225404 .8820266
_cons	2.254995	2.654922	0.85	0.401	-3.124387 7.634377

Source	SS	df	MS	Number of obs =	39
Model	117.399381	1	117.399381	F(1, 37) =	4.55
Residual	055 218020	37	25 8167035	Prob > F =	0.0397

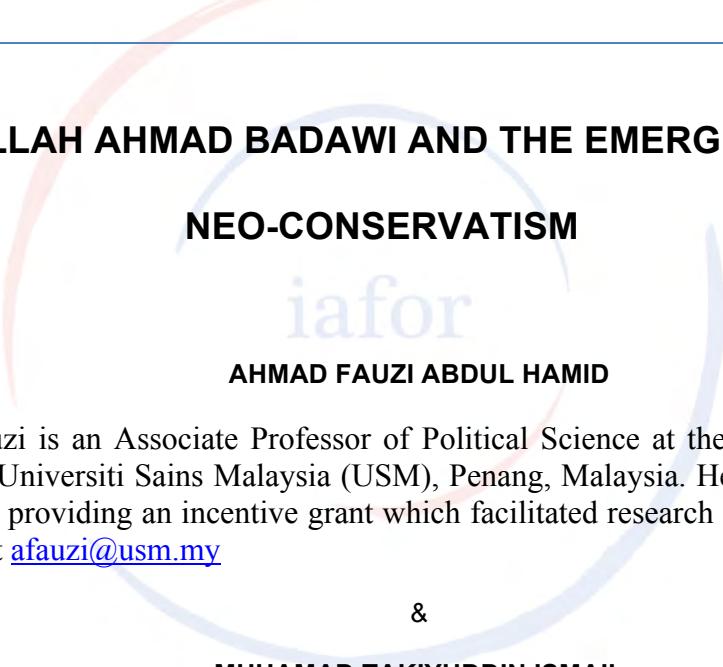
selected developed and developing countries in a historical perspective. We have seen that there have been disparate rates of growth of monetary expansion across developing and developed countries. The developing countries, especially the Latin American countries have pursued astronomical rates of monetary expansion, which did not bring them any better production performance as compared with those with moderate rates of monetary expansion. Developed countries, did follow accommodative monetary policies during the seventies, in the wake of food and oil inflation. In the recent years, even though inflation rate across the countries have stabilized, the problem of food inflation has afflicted the global economy and it has hurt the poorest of the poor the most. There is also danger of a vicious circle of food and oil inflation feeding each other. As regards India, we do see that inflation rate is to some extent determined by monetary expansion and real output. However, there are other factors as well at work and a more disaggregated study for the same is warranted.

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ABDULLAH AHMAD BADAWI AND THE EMERGENCE OF NEO-CONSERVATISM

The logo for iafor (International Academic Forum) features a stylized circular design with red and blue arcs. The word "iafor" is written in a lowercase, sans-serif font, partially obscured by the arcs.

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ABDULLAH AHMAD BADAWI AND THE EMERGENCE OF NEO-CONSERVATISM

Ahmad Fauzi Abdul Hamid and Muhamad Takiyuddin Ismail

Abstract

This article proposes an analysis of changes implemented during Malaysia's Prime Minister Abdullah Ahmad Badawi's administration (2003-2009), using the theoretical framework commonplace in studies on conservatism. As we apply the main criteria defining conservatism to regime behaviour in Malaysia, it becomes clear that such criteria are stoutly held by the regime's elites in their quest for social harmony and political stability. Regime maintenance then finds justifications in such seemingly sublime ends, thereby self-perpetuating Malaysian conservatism. Such despondency prevailed during Mahathir Mohamad's administration (1981-2003), which displayed bias against changes and introduced schemes to justify the systems it upheld. Transmutations wrought during Abdullah's tenure may neither have been substantial nor totalising, but within the conservative paradigm which had long gripped national politics, Abdullah's deviations were significant nevertheless. An operational framework beckons us to compare the Malaysian experience with those of past dominant conservative regimes focusing on the emergence of a neo-conservative discourse in the case of Japan, China and Taiwan. In the context of political change which transpired at the behest of Abdullah Ahmad Badawi, three themes could be applied in our conceptualisation: an era which portray individually or collectively the occurrence of a sharp departure from the traditions and practices of past conservative regimes, albeit still adhering to the conservative paradigm, at least in fundamental terms; the sharp departure can take the form of policy rejuvenation, adaptation and most importantly, political reform and lastly, the sharp departure can potentially trigger conflict within and impact detrimentally on the conservative regime. Considering that conservatism involves theories of change, and that such changes may potentially cause conflict, the present article adopts the hypothesis that the dynamism of reforms which transpired during Abdullah's administration were manifestations of a clash between conservative and neo-conservative in UMNO.

INTRODUCTION

Conservatives had been among the most powerful political actors in many societies during the 20th century and there seems no reason for a substantial change in the coming years. But the scholar interest to Conservatism still remains weak and Conservatism is mostly neglected as an ideology or a theoretical tool to interpret socio-political phenomena.¹

Scholars of Malaysian politics are generally pessimistic about the capacity of of change in maintaining long term momentum, as witnessed from their variegated characterisations of Malaysia as an adulterated form of democracy resistant to pressures to transform into more developed polities.² With what had transpired in the twelfth general elections in 2008,³ prospects of significant change were strongly felt, re-enacting the political climate after the tenth general elections of 1999 but which encountered a hiatus following BN's overwhelming triumph in 2004.⁴ However, this article is not limited in scope to developments related directly to the 2008 elections. This study adopts the longer range view that the catalyst for change can be situated in Abdullah Ahmad Badawi's very own leadership style and policies which marked a sharp departure from the political order of Mahathir Mohamad, Prime Minister of Malaysia from 1981 to 2003. This sharp departure were manifestations of a larger degree of change which can be encapsulated under the rubric of 'neo-conservatism'.

¹ Tagline for the Conference of Conservatism Studies, 'New Conservatisms and New Approaches', hosted by the Anglo-American University, Prague, 14-15 May 2010; see its call for papers at <http://www.conservatismconference.org/call.html> (accessed 29 October 2010).

² Among the labels that have been used to describe the Malaysian state are 'quasi-democracy', in Zakaria Ahmad, 'Malaysia: Quasi-Democracy in a Divided Society', in Larry Diamond, Juan J. Linz and Seymour Martin Lipset (eds.), *Democracy in Developing Countries: Volume Three, Asia* (Boulder: Lynne Rienner Publishers, 1989), pp. 347-381; 'semi-democracy', in William Case, 'Semi-Democracy in Malaysia: Withstanding the Pressures for Regime Change', *Pacific Affairs*, 66, no. 2 (1993), pp. 183-205; 'statist-democracy', in James J. Jesudason, 'Statist Democracy and the Limits to Civil Society in Malaysia', *Journal of Commonwealth and Comparative Politics*, 33, no. 3 (1995), pp. 335-356; 'neither democratic nor authoritarian', in Harold Crouch, *Government and Society in Malaysia* (St. Leonards, NSW: Allen and Unwin, 1996), pp. 12, 240; 'soft authoritarianism', in Gordon P. Means, 'Soft Authoritarianism in Malaysia and Singapore', *Journal of Democracy*, 7, no. 4 (1996), pp. 103-117.

³ Not only did National Front (BN: Barisan Nasional) lose its two-thirds majority in the federal Parliament, but it also lost the state governments of Penang, Selangor, Perak, Kedah and Kelantan to an opposition electoral pact later formalised as the People's Alliance (PR: *Pakatan Rakyat*).³ At the national level, BN's popular votes barely edged PR's by a two percent majority. Astoundingly, if one had excluded the East Malaysian states of Sabah and Sarawak from the figures, votes for PR would have tipped BN's by a similar margin.

⁴ In the tenth general elections of 1999, the BN government, while maintaining its two-thirds parliamentary majority, experienced a widespread erosion of support as a result of the *Reformasi* (reformation) movement led by the sacked Deputy Prime Minister-cum-UMNO Deputy President Anwar Ibrahim. So wholesale were post-election developments wrought by the entrée of the Anwar-led Alternative Front (BA: *Barisan Alternatif*) into Malaysia's political arena that scholars have termed them as heralding an era of 'new politics'. See for example Francis Loh Kok Wah and Johan Saravanamuttu (eds.), *New Politics in Malaysia* (Singapore: Institute of Southeast Asian Studies, 2003).

CONSERVATISM AS AN IDEOLOGY

Conservatism involves theories of change.⁵ However, the present authors are well aware that any discussion of ‘conservatism’ has to be observant of the term’s immense pliability. Firstly, one which perceives conservatism as “a state of mind, a type of character, a way of looking at the civil social order,” as outlined by Russell Kirk, the putative father of modern conservatism in the USA.⁶ In his famous work, *Rationalism in Politics*, first published in 1962, leading British political theorist Michael Oakeshott espouses a similar approach. He sees conservatism as a form of thought and behaviour – the inclination to choose what has become familiar and proven in contrast with unfamiliar and unproven items.⁷ In other words, these scholars reject the notion of conservatism as an ideology or object of abstract theory, as had also been propounded by the acknowledged founder of conservatism, Edmund Burke (1729-1797).⁸ In the general context, this first interpretation treats conservatism as part of human nature which is inevitable.⁹ The second interpretation dissects conservatism in a more systematic manner, as a philosophy, ideology, theory and system of beliefs.¹⁰ Such divergent designations, although etymologically different, have been used interchangeably in studies on conservatism, especially in the context of Asian countries.¹¹ Precedents from these studies suggest that conservatism may be conceptualised as a foundational ideology of Malaysian politics. Moreover, societies can adopt an ideology even unconsciously, without necessarily resorting to formal institutionalisation. In his study of the political ideologies of UMNO and PAS, John Funston admits the lack of a clear ideology on the part of Malaysia’s ruling regime. Nonetheless, strongly defined views and implicit ideological underpinnings on some issues may well be taken to constitute a proper ideology.¹² For Huntington, conservatism as a system of ideas is used to justify the persistence of any contemporary order in the face of challenges which threaten its shape and form. Conservatives resent any action which seeks to unwind the established institutional order.¹³ It “is often little more than the sum total of inertia, habit and vested interest. But it can also be a cogent philosophical justification of the status quo as

⁵ Francis G. Wilson, ‘A Theory of Conservatism’, *The American Political Science Review*, 35, no.1 (1941), p. 30.

⁶ Russell Kirk, ‘Ten Conservative Principles’, <http://www.kirkcenter.org/kirk/ten-principles.html> (accessed 26 October 2010).

⁷ Michael Oakeshott, *Rationalism in Politics and Other Essays* (London: Methuen and Co. Ltd, 1967), pp. 168-169.

⁸ Iain Hampsher-Monk, *The Political Philosophy of Edmund Burke* (London: Longman, 1987), p. 32.

⁹ Cf. Hans-Jurgen Puhle, ‘Conservatism in Modern German History’, *Journal of Contemporary History*, 13, no. 4 (1978), p. 692.

¹⁰ See the variants of this interpretation in the collection of essays in Matthew Festenstein and Michael Kenny (eds.), *Political Ideologies* (Oxford: Oxford University Press, 2005), pp. 119-174.

¹¹ See for example two important works which establish a relationship between conservatism and Asian Values, viz. Garry Rodan, ‘The Internationalization of Ideological Conflict: Asia’s New Significance’, *The Pacific Review*, 9, no. 3 (1996), pp. 328-351; Richard Robison, ‘The politics of ‘Asian Values’’, *The Pacific Review*, 9, no. 3 (1996), pp. 309-327.

¹² John Funston, *Malay Politics in Malaysia: A Study of the United Malays National Organisation and Party Islam* (Kuala Lumpur: Heinemann, 1980), p. 134.

¹³ Samuel Huntington, ‘Conservatism as an Ideology’, *American Political Science Review*, 51, no. 2 (1957), p. 455.

culmination of everything good in the past and thus the only sturdy bridge to the future".¹⁴

ON NEO-CONSERVATISM IN MALAYSIA

As a generic concept, 'neo-conservatism' connotes the re-emergence of conservatism, after having undergone adjustment, in new form and within a new environment, whilst retaining its fundamental constitution.¹⁵ But like conservatism, 'neo-conservatism' too has various dimensions and thus needs to be applied contextually. Firstly, in the USA and United Kingdom, 'neo-conservatism' denotes a re-assertion of past values, as championed by President Ronald Reagan (1981-1988) and Prime Minister Margaret Thatcher (1979-1990) respectively. Part of the neo-conservative package here includes the neo-liberal economics dramatically introduced by both of them. In the early to mid-1980s, countries adopting neo-liberalism in their economic policies were often categorised as neo-conservative.¹⁶ The second application of 'neo-conservatism', which has been in vogue for the past decade or so, refers to it as a stream in American foreign policy which supports the USA's capitalising on its economic and military prowess to export the ideals of democracy, liberalism and human rights to foreign countries. It reached unprecedented heights under the presidency of George W. Bush (2001-2008), when the protruding influence of neo-conservatives brought it into conflict with traditional conservatives.¹⁷ Thirdly, 'neo-conservatism' has been analysed as a restructuring of the political spectrum in Germany.¹⁸ Fourthly, 'neo-conservatism' has also been employed to refer to right-wing intellectuals in Germany's Weimar Republic (1919-1933) who were not affiliated to any political party, as was the case with American neo-conservatives during their early phases.¹⁹ Finally, within the context of Islamic legal and democratic theory, 'neo-conservatism' has been referred to as one of the three main contemporary schools of thought.²⁰ Clearly, whenever and wherever the term 'neo-conservatism' is applied in academic discourse, one needs to be cognisant of its differential meanings and implications, without necessarily conflating it with heinous doctrines. For instance, if 'neo-conservatism' is to be comprehended as an economic doctrine more than anything else, Mahathir would probably qualify to be called a neo-

¹⁴ Stephen F. Cohen, 'The Friends and Foes of Change: Reformism and Conservatism in the Soviet Union', *Slavic Review* 38, no. 2 (1979), p. 190.

¹⁵ David Robertson, *The Penguin Dictionary of Politics* (London: Penguin Books, 1993), p. 339.

¹⁶ Cf. Neil Nevitte and Roger Gibbins, 'Neoconservatism: Canadian Variations On An Ideological Theme?', *Canadian Public Policy*, 10, no. 4 (1984), pp. 384-394; Hector E. Schamis, 'Reconceptualizing Latin American Authoritarianism in the 1970s: From Bureaucratic-Authoritarianism to Neoconservatism', *Comparative Politics*, 23, no. 2 (1991), pp. 201-220.

¹⁷ Francis Fukuyama, *America at the Crossroads: Democracy, Power and the Neoconservative Legacy* (New Haven: Yale University Press, 2006).

¹⁸ Michael Minkenberg, 'The New Right in Germany: The transformation of conservatism and the extreme right', *European Journal of Political Research*, 22, no. 1 (1992), pp. 55-81.

¹⁹ Walter Struve, 'Hans Zehrer as a Neoconservative Elite Theorist', *The American Historical Review*, 70, no. 4 (1965), pp. 1035-1057; Werner E. Braatz, 'Two Neo-Conservative Myths in Germany 1919-1932: The "Third Reich" and the "New State"', *Journal of the History of Ideas*, 32, no. 4 (1971), pp. 569-584.

²⁰ Muhammad Khalid Masud, 'Muslim Perspectives on Global Ethics', in William M. Sullivan and Will Kymlicka (eds.), *The Globalization of Ethics: Religious and Secular Perspectives* (New York: Cambridge University Press, 2007), pp. 104-108.

conservative if only because he had comprehensively implemented neo-liberalism in his national economic policies, as showcased in his deregulation, privatisation and liberalisation endeavours. An operational framework beckons us to compare the Malaysian experience with those of past dominant conservative regimes, focusing on the emergence of a neo-conservative discourse in each of the cases. For this purpose, we have chosen the cases of the Soviet Union, China, Japan and Taiwan. As will be seen, just as the scenario in Malaysia, discourses on ‘neo-conservatism’ in these countries are intimately related with the conservative ideology, on which their political order and dominant political actors’ thinking had been based for an extensive period.

With respect to the former Soviet Union, conservatism has been employed as a tool to analyse conflicts that arose following the demise of Joseph Stalin, ending his protracted dictatorial regime (1922-1953). Stalin’s longevity had rendered all aspects of Soviet life to be heavily influenced by his policies and preferred values. His successor, Nikita Khrushchev (1953-1964), tried to embark on changes ranging from administrative reforms and downsizing of the security apparatus to a host of welfare reforms. Despite scoring some early successes at *de-Stalinisation*, opposition from traditional conservatives eventually stalled the reforms, which were deemed to have destabilised the Soviet state system. Khrushchev’s incapacity was dictated by the engulfing presence of conservative forces which has been referred to as ‘inertia’, ‘vested interests’ and ‘the legacy problem’. Khrushchev was eventually ousted and replaced by Leonid Brezhnev (1964-1982). Brezhnev has been called a ‘neo-conservative’ for having reconfigured Stalinist elements previously thought of as embedded. It was only during the era of Mikhail Gorbachev (1985-1991) that all-encompassing reformation came about through *Glasnost* and *Perestroika*, both of which derived inspiration from the early reforms that had been abortively attempted at by Khrushchev.²¹

In China, an era of neo-conservatism was said to have been unleashed by the passing of Deng Xiaoping’s era (1980-1989), manifested by the coming out in the open of acrimonious conflict between neo-conservative reformers and conservatives. Following the 1989 Tiananmen Square crackdown on student uprising, the so-called neo-conservatives, as represented mostly by the upcoming intelligentsia, demanded serious attention be paid to democratisation, restoration of political stability, devolution of centralised power and the inauguration of populist measures. The neo-conservatives were convinced that survival of the People’s Republic was conditional upon its readiness to adjust and modify its practice of communism by incorporating elements of the free market economy, accepting structural change and absorbing democratic values, albeit still within paradigm of the East Asian authoritarian model. Neo-conservatives also stressed a rejuvenation of nationalist and patriotic values in the face of new global

²¹ For the case of Soviet Union in this section, see Cohen, ‘The Friends and Foes of Change: Reformism and Conservatism in the Soviet Union’; David Nordlander, ‘Khrushchev’s Image in the Light of Glasnost and Perestroika’, *Russian Review*, 52, no. 2 (1993), pp. 248-264; W.J. Tompson, ‘Khrushchev and Gorbachev as Reformers: A Comparison’, *British Journal of Political Science*, 23, no. 1 (1993), pp. 77-105.

challenges such as American criticism of China's human rights record. Neo-conservative ideas found a platform during the era of Jiang Zemin (1993-2003), a third generation leader. He managed to strike a balance between the reformers' demands and the conservatives' concerns, so as not to be misconstrued as trying to undo past legacies of communist rule.²²

In Japan, neo-conservatism has been experimented by more than one leader. Scholars have referred to Yasuhiro Nakasone's administration (1982-1987) as implementing the first phase of neo-conservatism. Apart from emulating the economic initiatives of Reagan and Thatcher, Nakasone proposed administrative reforms which would loosen government's rigid control over political structures. However, reformation was a long drawn-out process, having to face the 'party-bureaucracy-interest group' complex, whose convoluted internal negotiations complicated matters and slowed down the pace of reforms. Neo-conservatives also passionately called for a resuscitation of the sublime values and practices of Japanese society, and for an end to dependency on the USA for foreign policy directions. The era of maverick LDP Prime Minister, Junichiro Koizumi (2001-2006), witnessed the emergence of the second-generation neo-conservatives. Mostly young and enjoying the advantage of overseas education and professional qualifications, they clamoured for institutional reforms such as the privatisation of Japan Post, democratisation in the selection of party presidential candidates, and abandonment of isolationism in military and foreign policy.²³

As regards Taiwan, the lengthy era of Kuomintang (KMT) party leadership (1949-2000) has been commonly identified as one helmed by a conservative regime. In 1986, KMT leader Chiang Ching Kuo (1978-1988) introduced democratisation in Taiwan, as embodied in decisions to abandon martial law and allow the formation of the opposition Democratic Progressive Party (DPP). After Chiang's death, his successor Lee Teng Hui (1988-2000) continued his reforms by returning to the people hitherto non-existent freedoms, such as that of speech, media and peaceful assembly. In contrast with other Asian leaders whose advocacy of democracy was conditional on its moulding with a distinctively Asian paradigm, Lee firmly believed that democracy had universal values which could thrive in Asian societies. Hence the designation of Lee as a neo-conservative by Ping-hui Liao among others. From 1988 to 1993, post-Chiang KMT was

²² For the case of China in this section, see Joseph Fewsmith, 'Neoconservatism and the End of the Dengist Era', *Asian Survey*, 35, no. 7 (1995), pp. 635-651; Feng Chan, 'Order and Stability in Social Transition: Neoconservative Political Thought in Post-1989 China', *The China Quarterly*, 151 (1997), pp. 593-613; David Rolls, 'The Emergence of The "Jiang Zemin Era": Legitimacy and the Development of the Political Theory of "Neo-Conservatism" - 1989-1995', Ph.D. dissertation (University Of Southern Queensland, Australia, 2004).

²³ For the case of Japan in this section, see Kenneth B. Pyle, *The Japanese Question: Power and Purpose in a New Era*, second edition (Washington: American Enterprise Institute Press, 1996), pp. 71-74; Eisuke Sakakibara, *Structural Reform in Japan: Breaking The Iron Triangle* (Washington: The Brookings Institution, 2003), pp. xi-xiii; Jim Frederick, 'Standing Their Ground, TIME 25 April 2005 ; T.J. Pempel, 'Japanese Strategy Under Koizumi', in Gilbert Rozman, Kazuhiko Togo and Joseph P. Ferguson (eds.), *Japanese Strategic Thought toward Asia* (New York: Palgrave Macmillan, 2007), pp. 109-133; LI Xiushi, 'Japanese Neo-conservative Foreign Strategy', *Global Review*, Winter (2007), pp. 166-182.

embroiled in factional conflict, with the main faction backing Lee being the pro-reform neo-conservatives rather than the mainstream conservatives, who went on to establish the New Party (NP). In a matter of a decade from the political re-alignments and democratic developments, KMT lost the leadership of Taiwan to DPP in 2000, before regaining it in 2008 via landslide wins in its presidential and legislative elections.²⁴

From the preceding discussion, it is clear that an understanding of ‘neo-conservatism’ need not be restricted to categories found in Western neo-liberal states. Nevertheless, in spite of some general criteria holding together cross-country definitions of ‘neo-conservatism’, local factors weigh significantly in ultimately determining whether a certain political leader or group can be appropriately labeled as ‘neo-conservative’. In the context of political change which transpired at the behest of Abdullah Ahmad Badawi (2003-2009), three themes are found to be definitive in our conceptualisation of ‘neo-conservatism’ in Malaysia, viz.:

- i. The existence of a stream, tendency, thought, figure or era which portray individually or collectively the occurrence of a sharp departure from the traditions and practices of past conservative regimes, albeit still adhering to the conservative paradigm, at least in fundamental terms.
- ii. The sharp departure can take the form of policy rejuvenation, adaptation and most importantly, political reform. Hence, past categories, approaches and values which have been utilised to legitimise a particular political order, have no longer a binding effect which guarantees loyalty of or consensus among members of the polity.
- iii. The sharp departure can potentially trigger conflict within and impact detrimentally on the dominant conservative regime. Success of the proponents of the sharp departure is uncertain, as it may invite resentment and opposition from the traditional conservatives.

MALAYSIAN POLITICS AND CHANGE

Prior to the Mahathir – Abdullah Ahmad Badawi leadership transition, most scholars broadly agreed that whoever replaced Mahathir would have to somehow distance himself from his predecessor’s policies in order to gain fresh legitimacy.²⁵ The collateral

²⁴ For the case of Taiwan in this section, see Ping-hui Liao, ‘Rewriting Taiwanese National History: The February 28 Incident as Spectacle’, *Public Culture*, 5, no. 2 (1993), pp. 281-296; Michael Ying-mao Kau, ‘The Power Structure in Taiwan’s Political Economy’, *Asian Survey*, 36, no. 3 (1996), pp. 287-305; Anthony Milner, ‘What Happened to ‘Asian Values’?’, in Gerald Segal and David S.G. Goodman (eds.), *Towards Recovery in Pacific Asia* (London: Routledge, 2000), pp. 56-68; Ching-fen Hu, ‘Taiwan’s Geopolitics and Chiang Ching-Kuo’s Decision to Democratize Taiwan’, *Stanford Journal of East Asian Affairs*, 5, no. 1 (2005), pp. 26-44.

²⁵ Cf. Hari Singh, ‘Democratization or Oligarchic Restructuring? The Politics of Reform in Malaysia’, *Government and Opposition*, 35, no. 4 (2000), pp. 545-546; N. Ganesan, ‘Malaysia in 2003: Leadership Transition with a Tall Shadow’, *Asian Survey*, 44, no. 1 (2004), p. 70.

damage incurred from unpopular legacies of Mahathir's rule such as corruption and authoritarianism had to be stamped out.²⁶ Such arguments can be detected to the fact that Abdullah shouldered the burden as inheritor of a strong state-based leadership which emphasised the retention of the status quo. With help from the state's coercive apparatus and regime control of state institutions and the mass media, probability of change stagnated at the minimal level throughout Mahathir's years in power.²⁷ In spite of the recurrent crises affecting Mahathir's administration,²⁸ his party stewardship proved tenacious enough to withstand both domestic and foreign pressures and orchestrate BN to a more than two-thirds majority in all five elections during his tenure. The term 'Mahathirism' has been utilised by some observers to encapsulate precepts of his 22-year long strongman rule.²⁹ Dovetailing such a theme with concerns of this study, Mahathir may be said to have entrenched a form of political conservatism in virtually all state and party institutions as the bedrock of his regime perseverance strategy. Among the dominant values cherished by Mahathir was the Asian Values doctrine which was brought forth to justify a distinctively Malaysian way of democratising its polity and developing its economy. Ideas propagating the unsuitability of democracy in the Western mould, the relative importance of communitarian as opposed to individual values, fidelity to order and authority, resurrection of traditional values and the assumption that change was highly likely to interrupt the process of continuous development powerfully underpinned Malaysia's march towards a Newly Industrialising Country (NIC) status. The Mahathir era was thus identified as one in which a "high degree of control, almost of domination" of political institutions was exercised.³⁰ Khoo Boo Teik regards Mahathir as a "conservative politician" who steadfastly held to such principles as 'order', 'rule of law' and 'stability' – antitheses of 'anarchy' which would see development recede.³¹ To Mahathir, challenging his regime was tantamount to obstructing progress. As far as Mahathir was concerned, change was good only if implemented gradually, even though with positive ramifications.³²

Before assuming the reins of government, Abdullah Ahmad Badawi insisted that he was not keen to carry out "radical changes." To him, he was presiding over an individual

²⁶ Ooi Kee Beng, *Era of Transition: Malaysia after Mahathir* (Singapore: Institute of Southeast Asian Studies, 2006), pp. xxii, 7-10, 17-20, 33-40; Ahmad Fauzi Abdul Hamid, 'The UMNO-PAS Struggle: Analysis of PAS's Defeat in 2004', in Saw Swee-Hock and K. Kesavapany (eds.), *Malaysia: Recent Trends and Challenges* (Singapore: Institute of Southeast Asian Studies, 2006), p. 113.

²⁷ Cf. Simon Barraclough, 'The Dynamics of Coercion in the Malaysian Political Process', *Modern Asian Studies*, 19, no. 4 (1985), pp. 797-822; Crouch, *Government and Society in Malaysia*, chapters 3-8; Munro-Kuo, *Authoritarian-Populism in Malaysia*, chapters 4, 6-7.

²⁸ The most severe crises were the constitutional conflict between UMNO and Malay rulers in 1983 and 1992, the UMNO leadership tussle in 1987, the regional currency crisis of 1987 and the saga arising from the unceremonious dismissal of Anwar Ibrahim as Mahathir's deputy in 1998.

²⁹ Khoo Boo Teik, *Paradoxes of Mahathirism: An Intellectual Biography of Mahathir Mohamad* (Kuala Lumpur: Oxford University Press, 1995); John Hilley, *Malaysia: Mahathirism, Hegemony and The New Opposition* (London: Zed Books, 2001).

³⁰ R.S. Milne and Diane K. Mauzy, *Malaysian Politics under Mahathir* (London: Routledge, 1999), p. 1.

³¹ Khoo Boo Teik, *Beyond Mahathir: Malaysian Politics and its Discontents* (London: Zed Books, 2003), p. 188.

³² 'Wawancara: Dr M menilai kepimpinan', *Mingguan Malaysia*, 31 October 2004.

change of the nation's driver rather than a regime change. But he did not rule out implementing "improvement" and "adaptation" in line with contemporary demands. Like Mahathir, Abdullah also believed in the centrality of "continuity" in the national development agenda.³³ Practically, however, barely a month from the power transition, Abdullah had showcased a surprising determination not to become a carbon copy of Mahathir.³⁴ Not having as aggressive a personality as Mahathir had, Abdullah showed an early willingness to listen and work as a team. He brought into his fold young advisors, attempted economic liberalisation, declared war on corruption, improved governance and opened up democratic space. Within the context of rejuvenating old policies, he re-attached importance to agriculture, re-emphasised poverty eradication, highlighted human capital development and shifted focus to regional development – four elements which had formed important planks of the second Prime Minister Abdul Razak Hussein's overall development strategy.³⁵ In the realm of ethnic and religious identification, he attempted to apply an inclusive approach as had been practised by first Prime Minister Tunku Abdul Rahman.³⁶ Islam Hadhari or 'civilisational Islam', a progressive approach towards understanding and practising Islam as a modern rather than conservative religion, served as a mantra of his administration. Within a year of assuming power, many of these policies proved to be more than just declaratory hype.³⁷

Interestingly, reforms initiated by Abdullah hardly met with reservations, let alone protests. On the contrary, Malaysians warmly responded to Abdullah by giving his government, in the 2004 general elections, an overwhelming 63.8 percent of popular votes which translated into an astonishingly high 90.9% of parliamentary seats.³⁸ But such a departure, notwithstanding its popular legitimacy as witnessed from the electoral results, was a harbinger of future conflict. This is in tandem with premises that "changing established priorities, structures, functions and procedures can create serious political threats either to the reformer's own power or to the regime as a whole".³⁹ In the economic sphere, Abdullah's resolve not to further increase the number of mega projects incurred the displeasure of financially powerful UMNO elites. The *Little Napolean* malaise became a serious obstacle against Abdullah's efficiency drive in the public sector.⁴⁰ Conservative Islamists censured Abdullah in reaction to his calls for more

³³ 'Pak Lah: No radical changes when I become PM', *Star*, 8 July 2003.

³⁴ Khoo Boo Teik, 'De-Mahathirising Malaysia', *Aliran Monthly*, 23, no.8 (2003), pp. 2, 4-6.

³⁵ 'Pengaruh Tun Razak masih ada pada saya – PM', *Utusan Malaysia*, 6 June 2007.

³⁶ Zainal Kling, 'UMNO and the BN in the 2004 Election: The Political Culture of Complex Identities' in Saw Swee-Hock and K. Kesavapany (eds.), *Malaysia: Recent Trends and Challenges* (Singapore: Institute of Southeast Asian Studies, 2006), p. 191.

³⁷ Bridget Welsh, 'Malaysia in 2004: Out of Mahathir's Shadow', *Asian Survey*, 45 (1) (2005): 153-154; Mely Caballero-Anthony, 'Political Transitions in Southeast Asia', *Southeast Asian Affairs* (2005), pp. 27-30.

³⁸ For critical analyses of the eleventh general elections of 2004, see the collection of articles in Saw and Kesavapany (eds.), *Malaysia: Recent Trends and Challenges*.

³⁹ Tompson, 'Khrushchev and Gorbachev as Reformers: A Comparison', 79.

⁴⁰ Lim Kit Siang, 'Abdullah cannot rid the government of "Little Napoleons" when "full-blown Napoleons" like IGP Bakri is allowed scot-free to set the bad example of open insubordination subverting the civilian authority of the Prime Minister, Cabinet and Parliament by publicly opposing the IPCMC',

dialogue to resolve multi-faith issues, aggravating already tense ethnic relations. What would have been his hallmark reform, an independent Police Complaints and Misconduct Commission (IPCMC), had to be watered down following resistance from within UMNO and the police force, giving credence to the emergence of a powerful ‘bureaucratic conservatism’. Two other bodies whose founding was significant for Abdullah’s transparency agenda, the Malaysian Anti-Corruption Commission (MACC) and the Judicial Appointments Commission (JAC), were also approved only in their watered down versions, unable to stay clear from UMNO-emanated criticisms. At times, Abdullah seemed to be all alone in his battle against corruption and money politics. UMNO delegates, popularly dubbed *warlords*, did not conceal their uneasiness of and sometimes outright opposition against Abdullah’s crusade. Similar doubts were expressed by UMNO economic nationalists against Abdullah’s plans to transform government-linked companies and liberalise the economy. Abdullah’s own cabinet members forced him to stall the idea of disclosing their wealth to the public by threatening to resign. In short, Abdullah’s moderate path raised the ire of UMNO ultra-conservatives, who staged aggressive protests during the controversial UMNO General Assembly of 2006.⁴¹

Further inflaming the prevailing tension was the provocative displays of racial prejudice by the pro-UMNO *Utusan Malaysia* and Malay non-governmental organisations (NGOs), another source of grassroots support for UMNO. In a situation where these entities sought to swerve Malay public opinion to the right following the spectre of a non-Malay takeover of the country following the 2008 elections, Abdullah’s moderate prescriptions and openness were negatively viewed as unbalancing the accepted equilibrium in Malaysia’s power-sharing formula, which guaranteed the hegemony of Malay-Muslims via a blurring of boundaries between UMNO and the state. Predictability, a cherished feature of Malaysia’s consociational arrangement, became anachronistic. Blame was heaped on Abdullah for charting the trajectory of possible loss of Malay-Muslims’ hegemonic role in politics. His penchant for a conciliatory approach in negotiations with opposition and reformist forces was observed by UMNO conservatives with trepidation. Included in this series of Abdullah’s ‘faults’ was the overturning of the conviction and subsequent release of Anwar Ibrahim, well-known for his pluralist ethno-religious views, from jail in 2004. The disastrous results of the 2008 elections gave the cue for UMNO conservatives to act.

The most important factor in legitimising opposition against Abdullah, however, was its endorsement by none other than his predecessor, Mahathir. Reacting to the cancellation

media statement, 16 April 2006, <http://www.dapmalaysia.org/english/2006/april06/lks/lks3871.htm> (accessed 20 March 2011).

⁴¹ During proceedings of the Assembly, UMNO Youth Information Chief, Azimi Daim, stressed that in tense situations, the blood of Malay warriors risked being spilled. A delegate from Malacca, Hasnoor Sidang Hussein, warned the audience that UMNO members were prepared to be soaked with blood in defending their nation and religion. Hashim Suboh, representing Perlis, rhetorically asked the Youth Chief, Hishamuddin Hussein, when would he resort to use the *keris* (Malay dagger), having waved it twice during successive UMNO Assemblies.

of some of his favoured projects and an alleged rise of authoritarianism thought to be uncharacteristic of Abdullah, Mahathir rallied opposition and civil society forces against him. The ‘Abdullah Badawi versus Mahathir’ conflict revealed Mahathir’s true colours as a conservative who would rile against any attempt to unwind his legacy. Mahathir’s offensive strategy, previously alien to UMNO, eventually convinced voices within Abdullah’s cabinet, including present Deputy Prime Minister Muhyiddin Yassin, to demand that Abdullah’s original leadership transition plan be fast-tracked.⁴²

Nonetheless, we cannot under-estimate two other factors which carry respective weightage in eroding Abdullah’s public legitimacy. Firstly, the effectiveness of the Anwar Ibrahim-led opposition and civil society forces. Ironically, these two movements had to a certain extent backed Abdullah’s reform efforts, which however did not go enough towards appeasing them. After a relatively good start, Abdullah’s failure to maintain his reform momentum cost him the support of young and non-Malay voters, who in 2004 had backed him on condition that he would deliver on his promises for change. A week before Abdullah’s resignation, veteran DAP maestro Lim Kit Siang reflected:

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The fault cannot be borne by Abdullah alone, but must be on the shoulders of the rest of UMNO and Barisan Nasional leaderships, for failing to give Abdullah the necessary support, and in many cases, for actively sabotaging him in the past five years to frustrate Abdullah from walking the talk of long overdue national reforms.⁴³

Secondly, what we may call the ‘paradox of reformists’. Abdullah was trapped by his ‘nice guy’ image throughout his Premiership, shackling his capacity to cultivate even semblances of aggressiveness, decisiveness and ruthlessness which might have injected effectiveness into his leadership from different angles.⁴⁴ Available evidence suggests that Abdullah was neither a political strategist nor tactician. Pundits are known to have criticised his choice of March 2008 as the moment to call for elections.⁴⁵ Dilatory in implementing his reform programmes, he failed to fill his cabinet with credible figures identified with reform.⁴⁶ By showering enviable trust to Khairy Jamaluddin and his team of young advisors, Abdullah drove a wedge with traditional UMNO patronage

⁴² Ahmad Fauzi Abdul Hamid, ‘Mahathir Mohamad and the Premiership of Abdullah Ahmad Badawi in Malaysia (2003-09)’, *New Zealand Journal of Asian Studies*, forthcoming.

⁴³ Lim Kit Siang, ‘Abdullah’s warning against return of Mahathirism – Will Najib scotch talk of imminent ISA arrest of Anwar?’, 26 March 2009, <http://blog.limkitsiang.com/2009/03/26/abdullah%E2%80%99s-warning-against-return-of-mahathirism-%E2%80%93-will-najib-scotch-talk-of-imminent-isa-arrest-of-anwar> (accessed 13 January 2010).

⁴⁴ Joseph Nye, ‘Soft Power, Hard Power and Leadership’, 27 October 2006, www.hks.harvard.edu/.../11_06_06_seminar_Nye_HP_SP_Leadership.pdf (accessed 17 November 2009).

⁴⁵ Shamsul Amri Baharuddin (Professor of Social Anthropology, Universiti Kebangsaan Malaysia), interview, Bangi, 12 March 2010.

⁴⁶ Abdullah Ahmad Badawi, interview, Kuala Lumpur, 18 March 2010.

networks.⁴⁷ While probably giving Abdullah sound theoretical advice,⁴⁸ their portentousness eventually overshadowed Abdullah and counterpoised his good intentions.⁴⁹ With additional problems such as his family's business dealings, Abdullah never came close to surmounting the perception deficit surrounding his image.⁵⁰

Conclusion

This article has put forward a theoretical analysis which views Abdullah Ahmad Badawi's sharp departure from Mahathir Mohamad's regime as properly constituting neo-conservatism. Based on the premise that a break from conservatism may cause conflict, a partial explanation for the recurring conflict during Abdullah's era may be found by looking at the dynamics dynamics of intra-elite politics involving the different conservative factions within UMNO in its position as a dominant party. By applying these three elements to Abdullah's case as explained previously, we try to propose that his leadership may fulfill the term 'neo-conservative' as been used in other dominant conservative regimes. Herein lies the contribution of Abdullah Ahmad Badawi, who had to suffer the ignominy of having the shortest tenure among Malaysian Prime Ministers. His weaknesses aside, Abdullah's sharp departure from Mahathirist conservatism was extremely significant in the Malaysian context. This essay merely offers an alternative way of looking at the dynamics of change in contemporary Malaysian politics, by employing the paradigm of conservatism and the accompanying framework of neo-conservatism, which we believe have eluded observers and researchers of Malaysian politics.

⁴⁷ Shahrir Samad (former minister in Abdullah's cabinet, 2004-08), interview, Kuala Lumpur, 15 December 2009; Nazri Aziz (minister in both Abdullah's and Najib Razak's cabinet), interview, Kuala Lumpur, 15 April 2010.

⁴⁸ Edmund Terence Gomez (Professor of Political Economy, University Malaya), interview, Kuala Lumpur, 26 Mac 2010; Saifuddin Abdullah (deputy minister in Najib Razak's cabinet), interview, Kuala Lumpur, 29 November 2010.

⁴⁹ Edmund Terence Gomez, interview; Shahrir Samad, interview.

⁵⁰ Ooi Kee Beng (Fellow, Institute of Southeast Asian Studies), interview, Singapore, 30 March 2010.

Cross-Country Influence of the Expected/Unexpected Market Volatility to the Equity Risk-Return Relation

Ming-Jang Weng¹, Su-Hsing Hung², Ben-Chien Hu³

Abstract

Although the intertemporal CAPM (ICAPM) of Merton (1973, 1980) implies that the expected excess market return should be positively proportional to its volatility, there are conflicting results in the existing literatures. One of the arguments is the misspecification in the variance equation which encourages many empirical literatures to develop different ways estimating the conditional volatility. Nam and Krausz (2008), however, argues that ignoring the unexpected volatility shock in the mean equation will suffer the omitting variable problem which accounts for the inconsistent findings.

This study mainly follows the idea of Nam (2008) and employs the smooth transition autoregression model (STAR model) proposed by Granger and Teräsvirta (1993) to examine the impact of unexpected volatility shock to the intertemporal relation between the expected excess return and the risk based on new information. On the other hand, in order to capture the asymmetric behavior of volatility this study uses the asymmetric nonlinear smooth transition GARCH-in-Mean model (ANST-GARCH-M) to estimate the conditional variance.

Here are some notable findings. First, the effect of unexpected volatility is statistically significant. Second, both expected and unexpected volatilities react to the new information asymmetrically. Third, empirical evidence from Japan's stock market excess return shows that there is a smooth transition of regime switching over time.

JEL classification: C53, G10, G14

Keywords: Stock returns, Risk-return relation, GARCH, Smooth transition function, Expected risk premium, Unanticipated volatility shock

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1. Introduction

1.1 Preliminary

As the world economics has become more integrated since the past two decades, the complexity of cross-country financial markets risk-return relation has also caught for increasing attention to both the academic researchers and practical investors. The intertemporal risk-return tradeoff explored by Merton (1973) usually serves as a preliminary reference in which the expected equity risk premium is positively influenced by the market volatility, so as to justify reasonable equity returns associated with various levels of market risk or volatility.

There exist several reasons for the importance of investigating the cross-country equity market risk-return relationship. Firstly, for investors and fund managers, a precise understanding and quick reaction to the fluctuation of international financial markets are called for needs in the design of a well-diversified portfolio. Therefore, investors and fund managers can profit from the accurate and immediate action to the change in the world financial markets by adjusting their portfolios. Secondly, firms see the equity market as one of the most important sources of credits in fund raising. Firms assess the cost of borrowing from various possibilities, the domestic stock market usually is the primary consideration. For multinational firms, however, listing in the world named stock markets, e.g. NYSE, NASDAQ, ..., may be a better alternative in financing and advertising. Thus firms have to be quite aware of and sensitive on the global interaction of equity markets. Finally, monetary authorities are concerned with the causalities among world equity markets due to the implication for the stability of the global financial system. Usually, the inflow of foreign funds is welcome by most of emerging countries because of the shortage of domestic savings to capitalize domestic long term investments. The flow of funds from one country to another then will produce international propagation of shocks via one market to another. Therefore, the preparation of monetary and financial policies is also affected by the transmission of world financial markets.

1.2 Motivation and purposes

Due to the closer interaction among international financial markets, consequently, it is believed that individual country's financial markets will be affected not only by her own economic perspectives but also the innovation due to the major world economical and political events. For example, the Thai exchange rate depreciated sharply in early July 1997, and her stock market fell dramatically, this collapse affected immediately the financial markets in major east Asian countries, like Indonesia, Japan, Malaysia, Philippine, Singapore, South Korea, and Taiwan. Moreover, even earlier in October 1987, the Black Monday stock crash in the US transmitted its effects to financial markets across the whole world. More recently, the proceeding sub-prime mortgage crisis of the US since mid 2007 has brought out enormous chain reaction and immeasurable damages from her financial markets to the world economy. Therefore, the aforementioned equity market risk-return relation may not be correctly specified and estimated without considering the cross-country influence of the expected/unexpected market shocks.

This study, accordingly, extends Nam and Krausz' (2008) single-country asymmetric nonlinear smooth transition (ANST) GARCH-in-Mean model, i.e., ANST-GARCH-M to investigate the influence of expected/unanticipated volatility shocks on the expected equity risk premium in the UK, Japan and the US. The data being investigated span the periods starting January, 1989 for the UK, January, 1998 for Japan, and January, 2001 for the US, respectively, to April, 2009 using daily-based information to form the weekly data from the Global Financial Database and Aremon due to the fact of more liberalization and more availability on the financial markets data of these three countries in recent years.

1.3 Structure

This project is organized as follows: section one is the introduction, briefly describing the preliminary, motivation, purposes and structure of this study. Section two reviews literatures regarding risk-return relations of world equity markets. The third section precisely summarizes the econometric models and empirical estimation procedures being used in this study. Section four

gives empirical evidences and findings. Concluding remarks are then provided to end the discussion of this study.



2. Literature Review

2.1 Risk-return relation of equity markets

General attention concerning the expected risk premium usually focuses on the effect of expected market volatility or risk. Studies that support the view of existing a positive equity risk-return relation can be largely found in French, Schwert and Stambaugh (1987), Fama and French (1988), Ball and Kothari (1989), Tuner, Startz and Nelson (1989), Harvey (1989), Cecchetti, Lam and Mark (1990), Haugen, Talmor and Torous (1991), Campbell and Hentschel (1992), Scruggs (1998), Kim, Morley and Nelson (2001), Ghysel, Santa-Clara and Valkanov (2005), and Ludvigson and Ng (2007).

Nevertheless, more and more empirical findings, e.g., Campbell (1987), Pagan and Hong (1989), Breen, Glosten and Jagannathan (1989), Nelson (1991), Backus and Gregory (1993), Glosten, Jagannathan and Runkle (1993, GJR hereafter), Gennotte and Marsh (1993), Harvey (2001), and Brandt and Kang (2004), showed a reverse intertemporal risk-return relation that contradicts to the conventional wisdom of financial portfolios. Among these opposite findings, GJR also added that both positive and negative intertemporal relations are consistent with the equilibrium asset pricing theory. They argue that investors may not require a large premium for bearing risk, but rather may reduce the risk premium when they perceive exceptionally optimistic expectations on the future performance of stock markets.

Nam and Krausz (2008) criticized the negative equity risk-return nexus found in most literatures is mainly introduced by the model misspecification problem, in that only predictable variation in the financial markets was considered as the primary source in the formation of expected stock returns. However, there should exist more or less the prior unexpected market volatility that will be realized later and carefully taken into the up-to-date information set in order to make as accurate the expectation of future market returns as possible one can. The omitted variable, i.e., the prior unexpected market variation, thus generated serious modeling defect and resulted in undoubtedly the opposite risk-return conclusion. This implicitly inferred that those

positive risk-return findings may carry the same omitting variable problem but only with fortune the effects of negative volatility shocks are too small to reverse the positive risk-return relation, where a positive (negative) volatility shock is defined as the case where a conditional volatility is higher (lower) than expected. Specifically, Nam and Krausz found the asymmetric magnifying effects of prior unexpected positive and negative volatility shocks, respectively, on the current predicted market volatility decisively determine the procyclical/countercyclical equity risk-return direction.

2.2 Comovement of cross-country equity markets

A number of existing literature documented that there has been a decline in the potential profitability which arise from international diversification of portfolio due to the increasing degree of comovement among world equity markets, see for example Taylor and Tonks (1989), Campbell and Hamao (1992), and Eun and Shim (1989). However, Roll (1989) surveyed numerous papers published in the 80s, and concluded that the change in international stock return correlations in the 80s compared to the 70s is only of a small increment. Nevertheless, Longin and Solnik (1995) showed that correlation between markets are unstable over time and can be interpreted by changes in the conditional covariance, i.e., the degree of integration depends on whether world equity markets are rising or falling. Bekaret and Harrey (1995) also addressed that the correlation between world stock markets can vary over short periods. They also showed a feature of emerging markets that they appear to exhibit relative low correlations with developed equity markets and can therefore provide diversification opportunities which may be vanished in developed equity markets. Nonetheless, Forbes and Rigobon (2002) found there exists no “contagion” that is carefully defined as a significant increase in market comovement after a shock to one country, during the recent crises in last two decades, the 1997 Asian crisis, 1994 Mexican devaluation, and 1987 US equity market crash. They found that the market correlation coefficients measured in previous studies are biased to and conditional on individual market volatility. After removing the bias, they concluded no contagion there exists for these crises,

however, there is a high level of market comovement, i.e., interdependence, in all cases above. More recently, Berben and Jansen (2005) found that correlations among the German, UK and US stock markets have doubled, whereas Japanese correlations have remained the same. However, their findings mainly resulted from the assumption of monotonic changes (either increases or decreases) between developed stock markets. There still exist voluminous academic works on the comovement among world equity markets. Even there seems to be the general agreement that correlation between any other two equity markets are time variant, it is ambiguous of how the correlation are changing over time.



3. Modeling MSTC-MGARCH-M for Cross-Country Risk-Return Relation

3.1 Econometric modeling and estimation

In this section we extend Nam and Krausz' (2008) single-country GARCH-in-mean (GARCH-M hereafter) model and Berben and Jansen's (2005) monotonic smooth transition correlation-multivariate- GARCH (STC-MGARCH) model, with two major modifications in which a multi-threshold smooth transition cross-market correlation (MSTC) with two-country GARCH-M (i.e., multivariate GARCH-M, or simply MGARCH-M) model setting are outlined as follows.

Consider now an observed bivariate time series of monthly excess market returns $y_t = [y_{1t} \quad y_{2t}]^T$, $t=1,2,\dots,T$, so that the stochastic properties of which are assumed to obey the following MSTC- MGARCH-M setup

$$\begin{array}{c} \text{for } \sqrt{} \\ \text{for } \sqrt{} \end{array} \quad \begin{array}{c} 00 \\ 00 \end{array} \quad \begin{array}{c} \sqrt{} \\ \sqrt{} \end{array} \quad \begin{array}{c} \sqrt{} \\ \sqrt{} \end{array} \quad (1)$$

$$d_{\hat{h}} = \begin{cases} 1, & \text{if } J_{i\hat{h},-}^2 > \hat{h} \\ 0, & \text{otherwise} \end{cases}, \quad 1, 2, \quad , \quad (2)$$

$$\epsilon_t |(\theta_{n2}) \sim NH \quad , \quad (3)$$

where $y_{1,t}$ and $y_{2,t}$ are the monthly excess market returns, defined as the market return subtracting off one-month T-bill return, for one of the four east Asian countries and the US, respectively. p lags of autoregressive terms are included in mean equations, (1), to capture the serial dependence in excess return dynamics, and for simplicity, we will assume $p = 1$ as those

in many studies. $\sqrt{h_{it}}$, $i=1,2$, the conditional standard deviation of market portfolio returns,⁴ appeared in the mean equations mainly follow from Engle, Lilien and Robins (1987), and are considered not only bearing the influences on the domestic market premium but also on the cross-country equity excess returns.

Furthermore, d_{it} , $i=1,2$, are the dummy variables representing the effects of a volatility shock, taking the value 1 with a positive prior unexpected volatility shock, i.e., $J_{it,t-1}^2 \hat{\theta}_t > 0$, and 0 otherwise. The domestic risk-return relation is thus measured by $(\bar{Y}_t^H + \beta_1^H d_{it})$ under a positive home prior unexpected volatility shock (with $d_{it} = 1$) or by β^H otherwise (with $d_{it} = 0$). Analogously, the cross-country risk-return effects can be easily estimated by $(\bar{Y}_t^H + \beta_{j,t}^H d_{jt})$, $j=1,2$, under a foreign prior positive unexpected volatility shock (with $d_{jt} = 1$) or by β^H otherwise (with $d_{jt} = 0$). The conditions $\bar{Y}_t^H \neq 0$, $i=1,2$, will confirm the existence of an asymmetrical effect of a home prior positive and negative volatility shock on the risk-return relation, while $\bar{Y}_t^H \neq 0$, $j=1,2$, in the same way would verify the importance of an asymmetrical influence of a foreign prior positive and negative volatility shock. In particular, $\bar{Y}_t^H > 0$, $i=1,2$, indicate that rational risk-averse investors increase risk premium in responding to a past positive volatility shock, and vice versa. Finally, $-_{t+1}$ is the information set consisting of all relevant market information up to and including time $t-1$, and N denotes the bivariate normal distribution.

Besides, there's one point worth of special noting, i.e., the error term $\varepsilon_t = Y_t - E(Y_t)$. French, Schwert and Stambaugh (1987) stated that due to the non-synchronous trading of securities, the daily portfolio returns usually exhibit serial correlation,

⁴ We use $\sqrt{h_{it}}$ instead of h_{it} to represent the conditional forecasts of stock market volatility. The use of $\sqrt{h_{it}}$ is suggested as the slope of the capital market line in Merton (1980), and is expected to yield an improvement in the statistical efficiency of the estimates than those for h_{it} , due to a reduction in the mean square error of the regression.

particularly of AR(1) process. Moreover, the non-synchronous trading across markets may also cause serious international dependence in the equity markets performance. Because of this autocorrelation French et al. suggested to replace the variance of the monthly return as the sum of squared daily returns plus twice the sum of the products of adjacent returns as following to be immune from the autoregressive problem,

$$O_{it}^{22} = \sum_{j=1}^{n_{it}} y_{it+j} y_{it+j-1}^2 + 2 \sum_{j=1}^{n_{it}-1} y_{it+j} y_{it+j-1}, \quad (1)$$

where there are n_{it} daily returns, y_{it+j} , $j=1, \dots, n_{it}$, in month t for market i . We therefore substitute J_{it-1}^2 in equation (2) with O_{it}^2 in determining the dummies, d_{it} .

The conditional covariance of ε_t , H_t , is assumed to follow a time-varying structure given by

$$H_t = E[\varepsilon_t \varepsilon_t^T] \subset \begin{pmatrix} \psi_{1,12,1} & \psi_{1,12,2} \\ \psi_{2,12,1} & \psi_{2,12,2} \end{pmatrix}, \quad (4)$$

$$\begin{pmatrix} h_{11,11,11,11,11,11,11,11} & J & 0, 1 & | & | & | \\ h_{22,22,22,22,22,22,22,22} & J & 0, 1 & | & | & | \end{pmatrix}, \quad (5)$$

$$h_{12,12,12,12,12,12} = \begin{pmatrix} 0 & 1/2 \end{pmatrix}, \quad (6)$$

$$\begin{aligned} & \text{BERBEN \& JANSEN} & G_s & \text{cc1} & | & | & | \\ & = \text{BERBEN \& JANSEN} & G_s & \text{cc1} & | & | & | \end{aligned} \quad (7)$$

Here we have followed Berben and Jansen's setting by simply assuming that the conditional variance h_{it} , $i = 1, 2$, follow a univariate GARCH(1,1) specification,⁵ but referring to Teräsvirta (2004), we allow for smooth transitions among $K+1$ correlation regimes represented by G_s with logistic function as

⁵ Our purpose here is to focus on the discussion of time-varying market correlation, therefore, we still assume standard GARCH process rather than smooth transition GARCH for individual market heteroskedasticity.

$$G(s_{ik}) \stackrel{B}{\rightarrow} p(\cdot) + \sum_{k=1}^K \frac{\varphi}{\psi \varepsilon} \int_{k=1}^{21}, B > \underline{C}_1 c_{\beta_2} c \dots c_K, \quad (8)$$

where s_t is the transition variable, the possible candidates for s_t are $t^*T = /$, or $(Q_{iit,-1}^2 \hat{h})$, $i = 1, 2$, and can be identified by Tse's (2000) Lagrange Multiplier test that will be fully discussed in next section. Parameter B determines the smoothness of the transition function between regimes at all thresholds, $\mathbf{c} = [c_1, \dots, c_K]$. Especially, our setting of \mathbf{c} is different from that in Berben and Jansen by relaxing the correlation across markets may switch between ups and downs over time rather than monotonically changes only. Our multiple-threshold smooth-transition correlation of bivariate GARCH- M (MSTC-MGARCH-M) model, thus, can be applied to capture a wide variety of patterns of variation between two financial markets either domestically or internationally, or both. To illustrate the wide variety of feasible adjustment patterns, Figure 1 shows several shapes of logistic transition function G_{LK} for $K = 1, 2, 3, 4$ thresholds under different values of smoothness B . For example, LST1 denotes the logistic smooth-transition (LST) with one threshold, analogously LST2, 3, and 4 indicate the LST for $K = 2, 3$, and 4, respectively.

As we can see from these four panels, the larger of the adjustment speed is, the steeper of the transition function at the thresholds will be, in other worlds with more economic meanings, the more rapidly of the correlation between financial markets changes, the less smoothly of the switch between regimes at c_k takes place. Berben and Jansen restricted their analysis of comovement in international equity markets for the case of $K = 1$ threshold as presented in the up-left panel of Figure 1, it directly implies the correlation across markets can only vary monotonically, no chance of the reverse in correlation is allowed. This assumption is inconvincible and needs more cautious examination. Therefore, we take a more general setting of logistic transition function as in equation (8). A more rigorous specification of K will be characterized later. The other three panels in Figure 1 show, for example, $K = 2, 3, 4$ thresholds where there exist more than one inflection of the market correlation through time. One can simply think of what the loci for other values of K inflection points will look like.

Assuming normality, the log-likelihood function for the whole sample of T observations is given by

$$L(N) \underset{t=1}{\overset{T}{\prod}} \frac{\psi_{\gamma}^{\oplus 1}}{\psi_{\gamma}^{\otimes 2}} \left(\dots | \dots | \varepsilon_t^{21} \right), \quad (9)$$

where N denotes all the unknown parameters in H_t and ε_t . Under standard regularity conditions the maximum likelihood estimate (MLE) for N is asymptotically normal and traditional inference procedures proposed by Bollerslev and Wooldridge (1992) are immediately available.

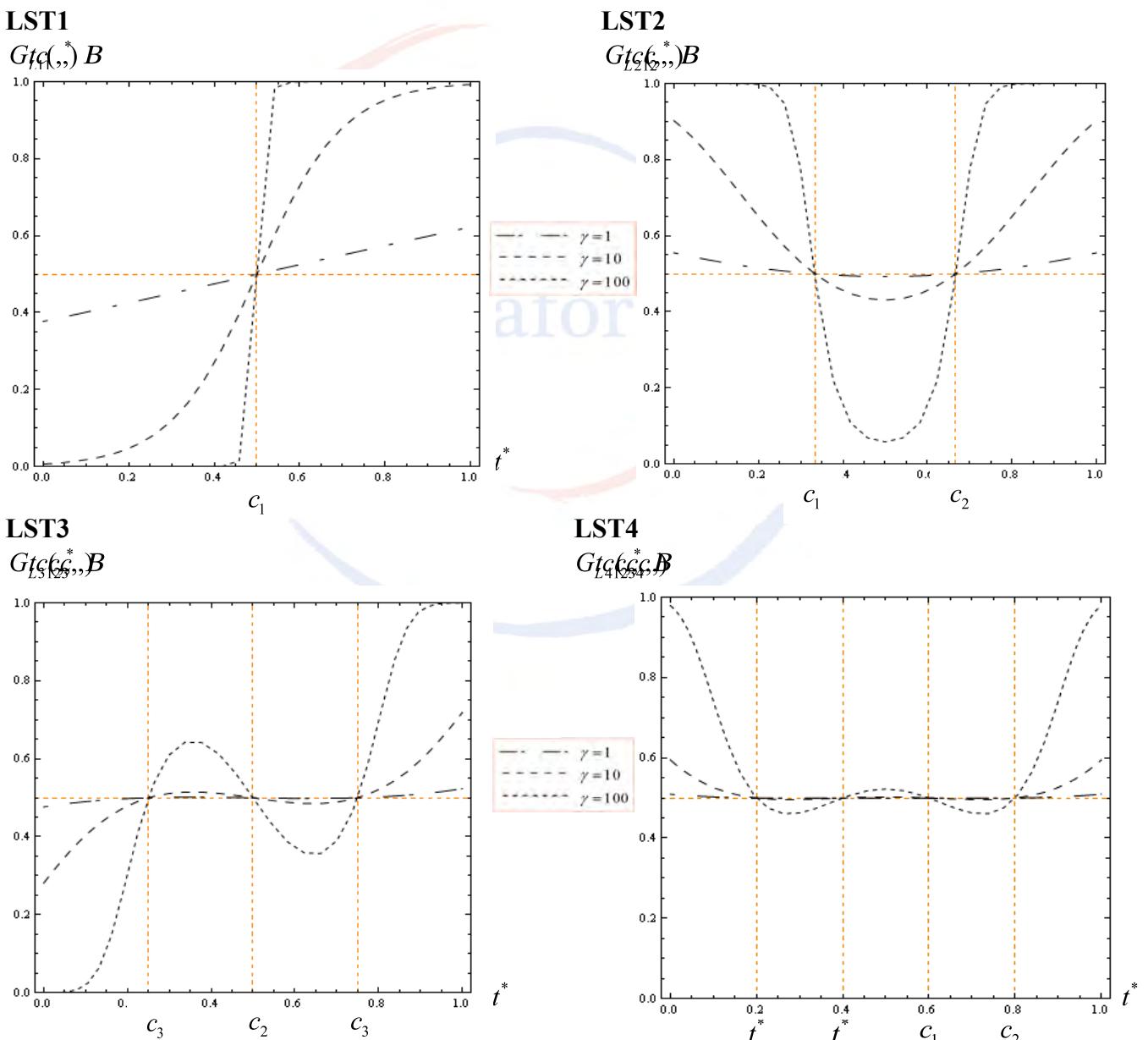


Figure 1. Transition function with various smoothness for different number of thresholds

3.2 CC- vs. STC-MGARCH-M and the determination of K

First, we apply Tse's (2000) Lagrange Multiplier (LM) test of discriminating time-varying correlation (TVC-) MGARCH model against constant correlation (CC-) MGARCH model to determine if our MSTC-MGARCH-M model is suitable for characterizing the dynamics of market correlations over time.⁶ If the null of CC-MGARCH-M can't be rejected, the usual methodology of CC-MGARCH-M (Bollerslev, 1990, Engle, Lilien and Robins, 1987) estimation can be easily processed, otherwise the likelihood ratio (LR) test will then serve as the criterion in the second stage in identifying what the appropriate number of thresholds, i.e., value of K , there should be for the correlation transition across financial markets in our MSTC-MGARCH-M model.

However, in doing the test of H_0 : CC-MGARCH-M vs. H_1 : MSTC-MARCH-M, it is necessary to specify the value of K in the alternative hypothesis in advance, here we suggest to choose the value of K as large as possible in accordance with the frequency and time span of the data being investigated. Usually, the higher frequency and/or longer time length of the data is modeling, the larger number of possible value of K should be considered. Then following the literature, the CC- vs. MSTC-MGARCH- M test can be expressed alternatively as $H_0: B = 0$ vs. $H_1: B > 0$. To avoid the nuisance parameter problem Luukkonen et al. (1988) addressed, we replace the multiple-threshold logistic transition function in equation (8) with its first-order Taylor approximation around $B = 0$, it follows

$$G_S G_S R(B^2) \Big|_{B=0} = +2 + \frac{\left. \frac{d}{dB} G_S G_S (B) \right|_{B=0}}{B^2} \frac{1}{2} - \frac{B}{4} \sum_{k=1}^K \quad (10)$$

where $R(B^2)$ denotes the Taylor remainder, which is of order B^2 , that equals zero under the null hypothesis, and hence does not affect the distribution theory for the LM test. With simple manipulations by substituting the above Taylor approximation of transition function, equation

⁶ It can be shown that TVC-MGARCH model is a special example of our MSTC-MGARCH-M model with $K = 1$ and $B \in [0, 1]$.

(10), into the MSTC-MGARCH-M model, equations (4) to (8), an auxiliary time-varying correlation between markets at time t of the MSTC-MGARCH-M model bears the form

$$\left. \begin{array}{cccccc} \text{---} & \text{---} & +2 & 0(,) & Gs & \mathfrak{c} \\ \text{---} & \text{---} & & & & \\ \} & \text{---} & s_{nKt} & 2 & \dots & K \end{array} \right\} \quad (11)$$

where \in_k , $k \in \{1, 2, \dots\}$, are functions of B , \mathbf{c} , $\boldsymbol{\Xi}_a$, and $\boldsymbol{\Xi}_b$. Therefore, the original null hypothesis of $H_0: B = 0$ in the MSTC-MGARCH-M model is now identical to the null hypothesis of $H_0^T: \mathbf{C} = \mathbf{0}$ in the auxiliary MSTC-MGARCH-M model. Tse's LM test statistic can then be formulated as

$$LMS\overline{SS}\overline{TC}^{\wedge\wedge\wedge} \quad ^{21}, \quad (12)$$

where $\mathbf{1}$ is a $T \times 1$ vector of ones and \hat{S} is the score function of the auxiliary MSTC-MGARCH-M model evaluated at the parameter estimates under the null hypothesis H_0 , which is asymptotically distributed as \mathcal{U}_k^2 . The unknown parameters of the auxiliary MSTC-MGARCH-M model contained in N are now $\text{NEED}_{\text{MAG}}^{1111122222} \dots \zeta$.

forming a (7×7) matrix. \hat{S} is thus a 7×7 score matrix in which the rows are the partial derivatives $\frac{\partial \ln L}{\partial \theta_i}$ for $i = 1, 2, \dots, 7$, under H_0 , and are given by

$$\frac{\frac{a_i}{\alpha_i}}{\frac{a_j}{\alpha_j}} = \frac{(y_{i_{\text{last}}} - 2) - b}{2 - b}, \quad b_{i_{\text{last}}} = \frac{\frac{a_i}{\alpha_i} - \frac{a_j}{\alpha_j}}{\frac{a_j}{\alpha_j}}, \quad 1 \leq i < j$$

$$\frac{\frac{dy}{dt}}{\frac{dy}{dt}} = \frac{(y)_{\text{init}} - e}{2}, \quad e^{y_{\text{init}}} = \frac{y_{\text{init}}}{e^{\frac{y}{2}}}, \quad J^2 = 2$$

$$\frac{\frac{f_{it}}{f_{it}}}{\frac{f_{it}}{f_{it}}} = \frac{(y_{it} - 2) f_{it}}{2 f_{it}}, \quad f_{it} \neq 0, \quad i=1,2,$$

$$\frac{\left\langle \frac{J}{L} \right\rangle_t}{\left\langle \frac{J}{L} \right\rangle_s} = 2 \mathcal{O}_t^{\text{high}}(\mathbb{E} 1, 2, \dots, skK)$$

$$\varepsilon \xi^* = \pm \frac{1}{\ell} \ell_* \quad \subset \quad 1$$

$$\Xi_i^{21} = \frac{v \oplus u \oplus \Xi_{12,t}^{-1}}{\chi \otimes \psi} = \frac{1}{1 - \Xi_{12,t}^2}$$

where $\Xi_{12,t}$ is defined as in equation (7). The starting values for $b_{i,1}$, $e_{i,1}$, and $f_{i,1}$ for $i = 1, 2$, suggested by Tse are $b_{i,1} = 1$, $e_{i,1,0} = f^2$ and $f_{i,1,0} = \dots$.

Once the above test confirms the validity of MSTC-MGARCH-M model, we next turn to the determination of K . It is straight forward to think of using LR test iteratively to select the most appropriate number of correlation thresholds, K' .

Suppose we have chosen as larger as possible the value K for the LM test described, we then test the null hypothesis, H_0^K : there exist at most $K-1$ thresholds, against the alternative, H_1^K : there are K thresholds. The LR test statistic is simple distributed as a χ^2 with degree of freedom 1, i.e.,

$$LR = 2\ln \left[\frac{L(\hat{N}^K)}{L(\hat{N}^N)} \right] \sim \chi^2_1, \quad (13)$$

where $L(\hat{N}^K)$ and $L(\hat{N}^N)$ are the log likelihood under the null and alternative hypotheses, respectively. If LR rejects the null hypothesis under some certain level of significance, we conclude the correlation movement across markets can be specified the most reliably by a K -threshold smooth transition function, otherwise if the null hypothesis can not be discarded, we next test iteratively the null H_0^{K+1} against the alternative H_1^{K+1} until the null $H_0^{K'}$ is rejected, and thus the determination of the most appropriate value of K , K^* , is accomplished. The estimate of N associated with K^* -threshold MSTC-MGARCH-M model can then be easily retrieved from the estimation and calculation of likelihood function in the LR tests just performed.

4. Empirical Evidences and Findings

Table 4-1. Summary statistics for stock returns, risk-free asset returns, and excess returns

Statistics	US	Japan	UK
Stock returns			
Mean (%)	3.756261	-4.804009	4.256716
Maximum (%)	104.220	595.3818	626.8535
Minimum (%)	-592.1291	-1449.989	-1172.541
Standard deviation	142.9008	168.1104	116.7128
Skewness	1.100609	-1.259958	-0.998795
Kurtosis	12.10930	12.31516	14.84050
Risk-free asset returns			
Mean (%)	2.296732	0.190083	6.484081
Maximum (%)	5.160000	0.730000	14.84380
minimum (%)	0.010000	0.001000	0.500000
Standard deviation	1.522649	0.227667	3.041657
Skewness	0.488146	0.849298	1.335161
Kurtosis	1.974853	2.168457	4.182712
Excess returns			
Mean (%)	1.459530	-4.994092	-2.227364
Maximum (%)	1047.070	594.9318	628.2135
minimum (%)	-592.1591	-1450.379	-1176.761
Standard deviation	142.9636	168.1295	116.7112
Skewness	1.119958	-1.260301	-0.978526
Kurtosis	12.13603	12.31590	14.75401

Table 4-2. ADF unit root tests on stock market excess returns for the US, Japan and UK

	lag ¹	ADF statistics	Critical values ²	
US: stock excess returns				
Intercept with trend	2	$\Pi_{\bar{t}} - 12.70108^{***}$	1% = -3.980880	5% = -3.420958
Intercept without trend	2	$\Pi_{\bar{t}} - 12.66088^{***}$	1% = -3.446281	5% = -2.868457
no Intercept, no trend	2	$\Pi_{\bar{t}} - 12.63633^{***}$	1% = -2.570684	5% = -1.941680
Japan: stock excess returns				
Intercept with trend	0	$\Pi_{\bar{t}} - 25.46483^{***}$	1% = -3.973820	5% = -3.417519
Intercept without trend	0	$\Pi_{\bar{t}} - 25.48183^{***}$	1% = -3.441299	5% = -2.866262
no Intercept, no trend	0	$\Pi_{\bar{t}} - 25.46250^{***}$	1% = -2.568921	5% = -1.941365
UK: stock excess returns				
Intercept with trend	2	$\Pi_{\bar{t}} - 19.41368^{***}$	1% = -3.966696	5% = -3.414042
Intercept without trend	2	$\Pi_{\bar{t}} - 19.39904^{***}$	1% = -3.436278	5% = -2.864046
no Intercept, no trend	2	$\Pi_{\bar{t}} - 19.37900^{***}$	1% = -2.567137	5% = -1.941121

Note: 1. lag: The optimal lag length in the unit root test regression with intercept and trend is chosen on the basis of the Schwartz Bayesian information criterion (SBC).

2. Critical values are from Davidson and MacKinnon (1993).

3. “*”, “**”, and “***” represent rejection of the null of nonstationarity, I(1), at the 10%, 5%, and 1% of significance levels, respectively.

Table 4-3. PP unit root tests on stock market excess returns for the US, Japan and UK

	lag ¹	PP statistics	Critical values ²	
US: stock excess returns				
Intercept with trend	4	$\bar{I}_H -20.58849^{***}$	1% = -3.980880	5% = -3.420958
Intercept without trend	5	$\bar{I}_I -20.55643^{***}$	1% = -3.446281	5% = -2.868457
no Intercept, no trend	4	$\bar{I}_{II} -20.54878^{***}$	1% = -2.570684	5% = -1.941680
Japan: stock excess returns				
Intercept with trend	5	$\bar{I}_H -25.43042^{***}$	1% = -3.973820	5% = -3.417519
Intercept without trend	5	$\bar{I}_I -25.44655^{***}$	1% = -3.441299	5% = -2.866262
no Intercept, no trend	5	$\bar{I}_{II} -25.42834^{***}$	1% = -2.568921	5% = -1.941365
UK: stock excess returns				
Intercept with trend	10	$\bar{I}_H -32.40578^{***}$	1% = -3.966696	5% = -3.414042
Intercept without trend	10	$\bar{I}_I -32.39596^{***}$	1% = -3.436278	5% = -2.864046
no Intercept, no trend	10	$\bar{I}_{II} -32.39003^{***}$	1% = -2.567137	5% = -1.941121

Note: 1. lag: The optimal lag length in the unit root test regression with intercept and trend is chosen on the basis of the Schwartz Bayesian information criterion (SBC).
 2. Critical values are from Davidson and MacKinnon (1993).
 3. “*”, “**”, and “***” represent rejection of the null of nonstationarity, I(1), at the 10%, 5%, and 1% of significance levels, respectively.

Table 4-4. US: Estimation for linear and various nonlinear models

Coefficients	Linear	Model 1	Model 2	Model 3
A_1	-0.06984 [-1.151049]	0.219230*** [5.04e+8]	0.390647*** [2.96e+8]	0.438013*** [2.67e+8]
$f_{1,t}$	0.00041 [1.119998]	0.000873*** [3059835]	0.001062*** [780954.9]	0.000928*** [705099.1]
$v_{1,t2}$	②	②	0.000216*** [313.4921]	0.000338*** [25750.00]
A_2	②	-0.160314*** [-2569926]	-0.712929*** [-3705.018]	-1.397966*** [-141966.5]
$f_{2,t}$	②	-0.002596*** [-1291.756]	0.001291*** [6.680091]	0.003254*** [336.5905]
$v_{2,t2}$	②	②	0.000859*** [4.493004]	0.000316*** [4.350892]
B_g	②	5.277442*** [498.1620]	2.029646*** [72.81601]	0.524656*** [116.6433]
c_g	②	②	②	202.5956*** [35.60764]
T_1	999.0939** [2.812908]	902.4133*** [81.01956]	739.9352*** [10.10739]	1971.547*** [20.49317]
ϵ_1	0.718129*** [16.93500]	0.840566*** [18.39532]	0.911514*** [19.80910]	1.106867*** [63.60015]
\cap	0.245467*** [7.456335]	0.384810*** [21.82136]	0.390072*** [18.69041]	0.368432*** [17.61494]
T_2	②	1.982676*** [3.194200]	2.122594 [1.1491552]	0.263676*** [5.205763]
ϵ_2	②	0.683229*** [4.580582]	0.496921*** [4.371886]	0.475545*** [7.967642]
\cap_2	②	-0.222059*** [-5.418391]	-0.014665 [-0.657038]	-0.108624*** [-3.293675]
B_f	②	9.853514* [1.817005]	1.366007* [1.694095]	0.974938*** [3.546894]
AIC	12.37008	2.698134	1.846545	1.601178
SBC	12.41924	2.816768	1.984951	1.749470
LLV		-534.3721	-359.9254	-309.2385

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

2. Numbers in brackets, [], represent t statistics.

3. AIC: Akaike Information Criterion; SBC: Schwarz's Bayesian Criterion; LLV: the Log Likelihood.

Table 4-5. Japan: Estimation for linear and various nonlinear models

Coefficients	Linear	Model 1	Model 2	Model 3
A_1	-0.06381 [-0.112794]	0.189741*** [2.81e+8]	0.241833*** [1.03e+8]	0.032474*** [6.26e+8]
$f_{1,t}$	-7.54e-5 [-0.06397]	0.004967*** [967091.2]	0.006985*** [14111093]	0.001102*** [5040638]
$v_{1,t2}$?	?	-0.000428*** [-519657.1]	0.000474*** [3.80e+8]
A_2	?	0.263165*** [37206.68]	0.401732*** [2232.570]	0.378712*** [10087677]
$f_{2,t}$?	-0.018776*** [-160.0013]	-0.022305*** [-139.4082]	-0.023858*** [-7926568]
$v_{2,t2}$?	?	0.000565** [2.510842]	-0.007175*** [-12.76031]
B_g	?	11.18762*** [58.55619]	8.692201*** [105.3642]	1.618100*** [74.89934]
c_g	?	?	?	60.25020*** [40.09150]
T_1	607.5786*** [3.496019]	752.4241*** [36.69561]	712.2507*** [51.53135]	704.5996*** [29.27325]
ϵ_1	0.424664*** [3.418063]	0.453977*** [87.55669]	0.0415703*** [41.11535]	0.584323*** [24.27325]
γ	0.221146*** [9.509625]	0.361523** [24.00715]	0.283898*** [63.58850]	0.345379*** [23.92724]
T_2	?	0.126384*** [10.12644]	0.185950*** [22.08362]	2.823516*** [15.43899]
ϵ_2	?	0.060830*** [7.360772]	-0.064366*** [-5.752139]	0.360544*** [9.803819]
γ_2	?	-0.194464*** [-17.84194]	0.022895 [1.627540]	-0.069614*** [-4.097279]
B_f	?	23.32809*** [4.999167]	0.338112** [2.212003]	34.59757** [2.260304]
AIC	10.21555	1.651510	1.694367	1.329770
SBC	10.25277	1.741284	1.798986	1.373455
LLV	-2998.372	-471.0958	-481.6023	-373.9578

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

2. Numbers in brackets, [], represent t statistics.

3. AIC: Akaike Information Criterion; SBC: Schwarz's Bayesian Criterion; LLV: the Log Likelihood.

Table 4-6. UK: Estimation for linear and various nonlinear models

Coeffieients	Linear	Model 1	Model 2	Model 3
A_1	-0.004299 [-0.127026]	0.100818*** [3.55e+8]	0.044409*** [3.13e+8]	0.108223*** [3.34e+8]
$f_{1,t}$	0.000370 [1.430410]	0.001087*** [39500305]	0.000490*** [593586.3]	0.000703*** [234344.7]
$v_{1,t2}$	②	②	0.000383*** [12395.53]	0.000282*** [6877.997]
A_2	②	-0.124795*** [-954108.4]	0.068454*** [347.4334]	-0.409487*** [-48238.54]
$f_{2,t}$	②	-0.001839*** [-110.5889]	-0.002127*** [-18.08586]	0.003763*** [16.85013]
$v_{2,t2}$	②	②	-0.001419*** [-18.04824]	0.000161 [0.263670]
B_g	②	2.034798*** [1270.083]	1.653680*** [132.4246]	6.714703*** [15.94942]
c_g	②	②	②	41.17492*** [5.458789]
T_1	444.2040*** [3.132308]	159.6409*** [201.3764]	468.0797*** [22.92738]	73.24567 [0.827526]
ϵ_1	0.149243*** [8.432232]	1.605813*** [12.92955]	1.482312*** [15.62792]	2.418316*** [8.170814]
η	0.827281*** [31.21157]	0.169574*** [15.37962]	0.030603*** [3.796925]	0.112316*** [9.864696]
T_2	②	748.3725*** [4.267081]	31.75093 [1.035626]	10004.549*** [4.940211]
ϵ_2	②	3.06303*** [11.60986]	0.428952*** [2.970780]	0.222978 [0.814926]
ζ	②	-0.066452*** [-17.26776]	0.145947*** [5.577367]	0.023814 [0.550664]
B_f	②	1.966142*** [4.172452]	80.01949*** [2.767443]	19.26280* [1.751484]
AIC	12.11405	1.433929	2.830620	1.545548
SBC	12.13737	1.489980	2.896012	1.615664
LLV	-6451.790	-750.8504	-1491.890	-806.4590

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

2. Numbers in brackets, [], represent t statistics.

3. AIC: Akaike Information Criterion; SBC: Schwarz's Bayesian Criterion; LLV: the Log Likelihood.

Table 4-7. The log likelihood and LR test statistics for the US, Japan and UK

Country		Model 1	Model 2	Model 3
US	Log likelihood	-534.3721	-309.2385	-359.9254
	LR test statistics	450.2671 [0.000]	101.3738 [0.000]	—
JAPAN	Log likelihood	-471.0958	-481.6023	-373.9578
	LR test statistics	194.2761 [0.000]	215.2889 [0.000]	—
UK	Log likelihood	-750.8504	-1491.8896	-806.4590
	LR test statistics	—	1370.861 [0.000]	—

Note: 1. LR test takes model 1, and model 2 as restricted model, respectively, and model 3 as the unrestricted model.

The critical values are $\chi^2(8)=15.51$, and $\chi^2(4)=9.49$ under 5% significance level. “***” represents rejection of the null of favoring unrestricted model at 5% significance level. Numbers in [] denote p -values.

2. LR test statistics are $LR_{RU} = \chi^2_{mk2_{RU}}$, where $mk2_{RU}$ denotes the difference of numbers of model coefficients estimated between restricted and unrestricted models.



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Table 4-8. No-remaining nonlinearity tests for the US, Japan and UK

Country	Transition variable	Model 1	Model 2	Model 3
US	Residual ($t-1$)	0.986963 (0.4144)	0.397519 (0.8806)	0.506818 (0.8032)
	Time trend, t^*	0.372743 (0.8281)	0.477937 (0.8248)	0.497583 (0.8102)
JAPAN	Residual ($t-1$)	0.127400 (0.9725)	0.196935 (0.9776)	0.192863 (0.9788)
	Time trend, t^*	0.982374 (0.4156)	1.124496 (0.3464)	1.232917 (0.2875)
UK	Residual ($t-1$)	0.449833 (0.7726)	0.951014 (0.4574)	0.712095 (0.6399)
	Time trend, t^*	1.279012 (0.2770)	1.798828* (0.0971)	0.917311 (0.4819)

Note: “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

Table 4-9. Parameter constancy tests for the US, Japan and UK

Country	Null hypothesis	Model 1	Model 2	Model 3
US	H1	1.287256 (0.2744)	2.024206* (0.0615)	1.295435 (0.2582)
	H2	0.511183 (0.7276)	2.225473** (0.0401)	1.404088 (0.2118)
	H3	0.250336 (0.9094)	2.382909** (0.0284)	1.683395 (0.1237)
JAPAN	H1	5.398408 (0.0003)	7.193122 (0.0000)	556.3414 (0.0000)
	H2	4.17681 (0.0024)	5.748183 (0.0000)	14.34575 (0.0000)
	H3	3.686441 (0.0056)	5.229514 (0.0000)	122.7564 (0.0000)
UK	H1	1.066740 (0.3721)	0.742409 (0.6157)	0.493353 (0.8135)
	H2	1.238202 (0.2935)	0.980962 (0.4372)	0.673339 (0.6713)
	H3	1.174856 (0.3208)	0.928786 (0.4736)	0.655500 (0.6857)

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

2. The null of H1, H2 and H3 are zero coefficients for time trend, squared time trend and cubic of time trend, respectively.

Table 4-10. Diagnostics for various models

Country	Linear	Model 1	Model 2	Model 3	
US	Q(6) on ν	4.3511 [0.629]	0.0799 [1.000]	0.0320 [1.000]	4.0918 [0.664]
	Q(12) on ν	11.793 [0.462]	0.0970 [1.000]	0.0584 [1.000]	4.1138 [0.981]
	Q(6) on ν^2	8.7122 [0.190]	13.600 [0.034]	0.0156 [1.000]	0.1601 [1.000]
	Q(12) on ν^2	10.617 [0.562]	14.409 [0.227]	0.0327 [1.000]	0.1783 [1.000]
	ARCH-LM(2)	6.022297 [0.002648]	0.004836 [1.000]	0.004908 [0.997549]	3.929349 [0.984678]
	ARCH-LM(6)	2.058866* [0.057127]	10.25270 [0.114406]	0.015561 [1.000]	3.975170 [0.983880]
	ARCH-LM(10)	1.904276 [0.043148]	11.32465 [0.332790]	0.026465 [1.000]	3.92429 [0.984764]
	ARCH-LM(12)	1.589138 [0.092179]	13.14035 [0.358923]	0.031986 [1.000]	3.924777 [0.984756]
	Q(6) on ν	3.1359 [0.792]	8.9245 [0.178]	0.0440 [1.000]	0.4889 [0.998]
	Q(12) on ν	4.4911 [0.973]	8.9775 [0.705]	0.0512 [1.000]	0.5002 [1.000]
JAPAN	Q(6) on ν^2	5.2723 [0.509]	0.2893 [1.000]	0.0094 [1.000]	0.0076 [1.000]
	Q(12) on ν^2	7.0134 [0.857]	0.2995 [1.000]	0.0150 [1.000]	0.0175 [1.000]
	ARCH-LM(2)	1.417394 [0.243179]	0.281589 [0.868668]	0.002332 [0.998835]	0.003504 [0.998250]
	ARCH-LM(6)	0.971008 [0.444016]	0.284289 [0.999570]	0.009264 [1.000]	0.010440 [1.000]
	ARCH-LM(10)	0.766157 [0.661638]	0.288650 [1.000]	0.016675 [1.000]	0.017280 [1.000]
	ARCH-LM(12)	0.694863 [0.757177]	0.291477 [1.000]	0.020055 [1.000]	0.021238 [1.000]
	Q(6) on ν	7.2324 [0.300]	4.4577 [0.615]	0.0044 [1.000]	1.4351 [0.931]
	Q(12) on ν	12.002 [0.445]	4.4831 [0.973]	0.0103 [1.000]	1.4490 [1.000]
	Q(6) on ν^2	7.0910 [0.313]	0.0275 [1.000]	0.0058 [1.000]	0.0177 [1.000]
	Q(12) on ν^2	11.880 [0.455]	0.0529 [1.000]	0.0117 [1.000]	0.0268 [1.000]
UK	ARCH-LM(2)	0.162386 [0.850134]	0.010620 [0.994704]	0.002124 [0.998939]	0.011671 [0.994181]
	ARCH-LM(6)	1.175560 [0.316872]	0.027508 [1.000]	0.005290 [1.000]	0.017969 [1.000]
	ARCH-LM(10)	1.169061 [0.307740]	0.043214 [1.000]	0.009486 [1.000]	0.023166 [1.000]
	ARCH-LM(12)	1.025142 [0.42820]	0.051548 [1.000]	0.011572 [1.000]	0.026275 [1.000]

Note: 1. ***, **, and **** represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

Numbers in [] denote p -values.

2. LM: LM-test for serial correlation; Q: Ljung-Box Q statistics for serial correlation; ARCH-LM: residuals ARCH test. Numbers in () are lags for tests.

Table 4-11. Bias tests of Engle and Ng (1993) for linear and various nonlinear models

Country		Linear	Model 1	Model 2	Model 3
US	SBT	8.2469 [0.000]	-4.14e-6 [1.000]	6.34e-9 [1.000]	-2.2e-07 [1.000]
	NSBT	-20.2584 [0.000]	4.0047 [0.000]	0.0960 [0.924]	-1.7789 [0.076]
	PSBT	-1.3789 [0.000]	-0.7710 [0.441]	0.6505 [0.517]	0.6436 [0.520]
	Wald	170.5094 [0.000]	5.6648 [0.001]	0.1584 [0.924]	1.2409 [0.295]
JAPAN	SBT	-0.2820 [0.778]	0.7045 [0.481]	-0.5010 [0.617]	0.0024 [0.998]
	NSBT	-2.7136 [0.007]	3.7986 [0.000]	0.0030 [0.998]	0.3367 [0.737]
	PSBT	3.0085 [0.003]	1.4033 [0.161]	-0.9233 [0.356]	1.1078 [0.268]
	Wald	5.5996 [0.001]	5.4311 [0.001]	0.3570 [0.784]	0.4376 [0.726]
UK	SBT	-0.2820 [0.778]	0.7045 [0.481]	-0.5010 [0.617]	0.0024 [0.998]
	NSBT	-2.7136 [0.007]	3.7986 [0.000]	0.0030 [0.998]	0.3367 [0.737]
	PSBT	3.0085 [0.003]	1.4033 [0.161]	-0.9233 [0.356]	1.1078 [0.268]
	Wald	5.5996 [0.001]	5.4311 [0.001]	0.3570 [0.784]	0.4376 [0.726]

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

Numbers in [] denote p -values.

2. SBT: Sign bias test; NSBT: Negative size bias test; PSBT: Positive size bias test; Wald: Join test of SBT, NSBT, and PSBT.

Table 4-12. Japan: TV-STAR estimation

Coefficient	Coefficient	Coefficient	
A_1 0.410370*** [1.55e+8]	A_3 0.112570** [1.279945]	T_1 720.5121*** [32.83553]	
$f_{1,t}$ 0.010578*** [28071319]	$f_{3,t}$ 0.002716** [2.135020]	Ξ_1 0.402422*** [49.17704]	
$v_{1,t}$ 0.001991*** [17839.13]	$v_{3,t}$ -0.004037*** [-6.800082]	\cap 0.301541*** [18.14513]	
A_2 0.436827*** [6596.566]	A_4 -0.284260*** [-38.29237]	T_2 0.080579*** [4.166625]	
$f_{2,t}$ -0.032882*** [-153.4334]	$f_{4,t}$ 0.007612*** [3.248948]	Ξ_2 -0.026747** [-2.208503]	
$v_{2,t}$ -0.005217*** [-9.103346]	$v_{4,t}$ 0.007819*** [6.497572]	\cap_2 -0.038145** [-2.446222]	
B_g 8.258126*** [18.63718]	B_h 5.474815*** [9.071343]	B_f 15.14472 [0.712920]	
c_g 0.123729 [0.1109]	c_h 0.795626*** [29.94374]	—	—
LLV -536.5630	AIC 1.909771	SBC 2.081420	

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

Numbers in [] denote t -statistics. LLV: the Log Likelihood.

2. Regression models: $r_{it}^{GROWTH}(t)(x)(x)$

$$h_{it}^{HTEPESO} / 22 \quad 00$$

Table 4-13. Japan: No-remaining nonlinearity and parameter constancy tests for TV-STAR model

No-remaining nonlinearity	Parameter Constancy		
Residual ($t-1$) 0.333176 (0.9195)	H1 2.003816** (0.0261)		
Time trend, t^* 1.739215 (0.1096)	H2 1.551181 (0.1021)		
	H3 1.322230 (0.2014)		

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

2. The null of H1, H2 and H3 are zero coefficients for time trend, squared time trend and cubic of time trend, respectively.

Table 4-14. Japan: Diagnostics for TV-STAR model

Serial correlation test	LM test	Bias test	
Q(6) on ν	0.0740 [1.000]	LM(2) [0.998250]	SBT [0.997]
Q(12) on ν	0.0840 [1.000]	LM(6) [1.000000]	NSBT [0.646]
Q(6) on ν^2	0.0172 [1.000]	LM(10) [1.000000]	PSBT [0.258]
Q(12) on ν^2	0.0208 [1.000]	LM(12) [1.000000]	Wald [0.693]

Note: 1. “*”, “**”, and “***” represent rejection of the null at 10%, 5%, and 1% of significance levels, respectively.

Numbers in [] denote p -values.

2. SBT: Sign bias test; NSBT: Negative size bias test; PSBT: Positive size bias test; Wald: Join test of SBT, NSBT, and PSBT.
3. LM: LM-test for serial correlation; Q: Ljung-Box Q statistics for serial correlation; ARCH-LM: residuals ARCH test. Numbers in () are lags for tests.



5. Conclusions

Most of the studies regarding the trade-off relationships of risk and excess returns focused on the influences of “expected” risk on returns. Nevertheless, past studies conclude this trade-off either being positive, or negative or even insignificant. The negative relationship which contradicts to the ICAPM (intertemporal Capital Asset Pricing Model) of Merton (1973, 1980) indicates investors will ask higher risk premiums for assets with lower risk, and vice versa. Nam and Krausz (2008) propose the reason why some existing studies reached the negative trade-off puzzle is because they ran into the problem of omitting important variables, i.e., they ignore the influence of “unanticipated” risk.

This project extends the idea of Nam and Krausz (2008) to investigate not only the effect of expected risk on excess returns, but also the influence of previously unanticipated risk on excess returns. The STAR model (smooth transition autoregression model) and ANST-GARCH-M (asymmetric nonlinear smooth transition GARCH-in-Mean model) are applied to estimate simultaneously the asymmetric influences of new information on expected volatility and expected returns in both the mean and variance equations with lag 1 residual, i.e., the new information, being the transition variable. The main difference from the past literatures is the inclusion of “unanticipated” risk , and from Nam and Krausz’s (2008) dummy variable setup is the direct modeling of unanticipated risk in the mean equation. The advantage of our modeling is to directly examine investors’ modification effect of lag 1 unanticipated risk on excess returns. Moreover, there might exist thresholds for new information when considering the asymmetric relationships of risk on expected excess returns, therefore, we didn’t rely on the stock price fluctuation to determine if there was a good or a bad news.

Whether the ignorance of the unanticipated risk wi8ll cause the correctness of estimation is still ambiguous from our nonlinear regression, however, the positive and negative trade-off relationships of risk and excess returns will shift accordingly to the new information unveiled in

last period. On the other hand, the trade-off relationship of risk and excess returns is insignificant from the linear estimation, which means the model specification somewhat play a key factor in empirical estimation. Meanwhile, the unanticipated risk does positively and significantly affect the expected excess returns in the stock markets for the US, Japan, and UK. In other words, the higher is the lag 1 expectation error (i.e., unanticipated risk), the larger will be the excess returns requested by the investors. The nonlinearity regression also gives significant and positive estimation of thresholds representing smaller extents of the good news, i.e., the unexpected price change must be greater than a certain level for being as “good news.”

Besides the findings discussed above, the empirical results also show that there exists asymmetric influence of new information on the trade-off relationship between risk and excess returns, as well as the existence of time-varying effects of expected/unanticipated risk. The empirical evidence from Japan’s stock market excess returns indicates there is a significant smooth transition of regime switching over time under the TV-STAR estimation. Moreover, in Japan, investors will ask for more risk-premiums facing bad news and the leverage effect is significant, i.e., bad news will increase investors’ expectation of price fluctuation.

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Cybernomad Behavior in a Virtual Social Space

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ABSTRACT

The growth of YouTube.com, MySpace.com and SecondLife, are part of a trend where consumers seek to partake in communities with increasingly real virtual simulations of actual social environments. Within this context, consumption takes on social meaning while being wrapped in the excuse of self-expression. This is where consumers will increasingly act out their lives, yet little is understood of the behaviors in virtual space. Based on cultural composition of virtual communities, ethnographic-based approaches are needed to better understand the behaviors and meanings that are common to such virtual communities. This research focuses on the creation of a live video virtual social space where users freely entered and utilized the space over a number of years. Grounded theory is applied to uncover common and related behaviors. Thirty-four types of behavior are described and grouped into four categories: egocasting, non-verbal behavior, relational pattern, and participation behavior. Results can feed into quantitative studies of consumer behavior and theory development within the context of the emerging online virtual environment.

Keywords: virtual space, consumer behavior, grounded theory, online, tribe, NVIVO

INTRODUCTION

In 2002, Adobe released FlashCom Server (later renamed Flash Media Server). The program is hosted on a server (Windows or Linux) and was early in introducing synchronous and asynchronous streaming video and audio with a programming framework (Flash Action Script). The authors immediately saw the benefit multiple and simultaneous video streams would have in student interaction. We set Adobe's new product to work and began doing some programming to fit it into our classes.

Jump forward two years. The offer of online synchronous video interaction did not go over well with our students. We left the software running, but gave up on it as a tool for any of our classes. One night, about two in the morning, one of the researchers checked into the video sharing space, not expecting much, but what instead receiving a shock straight out of a Stephen King novel.

Rather than facing a blank screen, the video space was full of faces. After getting up from the floor, the researcher double checked to make sure the Website was correct. Not only was the site correct, the participants, who quickly realized the site owner was online. Over the next few weeks, we discovered that the users were mainly French speakers who had found the site through word of mouth and online postings by their friends. A small community had grown around the space, where friends met, and where new people came to make friends. Because members of the

community were mostly from Western Europe, their time online was normally the very early hours past midnight in Taiwan. Thus, we had not noticed the community's growth.

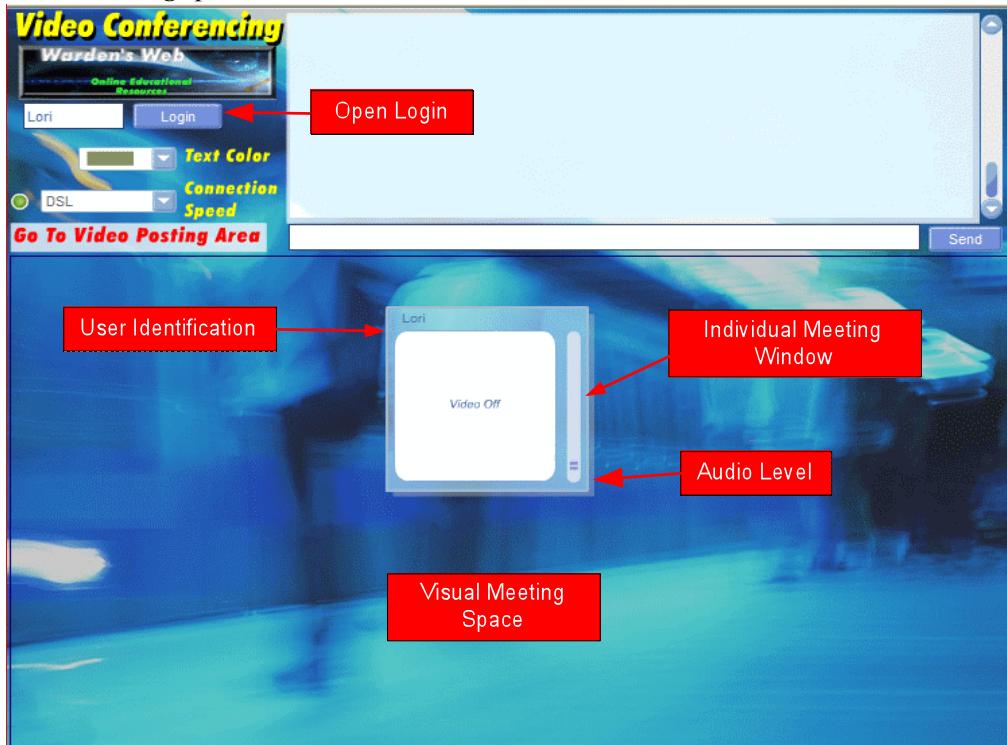
The most interesting aspect of the community's behavior we noticed, over the next few months, was the ability for any member to move the video feed of any other member in real time. Members who were heavy users of the system, had cohorts who they would pull into virtual groups on the screen, while other users would form their own areas, surrounded by their friends, or even push others away, or in off the screen. This capability allowed a form of group membership expression that could be measured in a way other online communities could not. By studying the emergent phenomenon, an understanding of important behaviors within a virtual space could be generated, and we hoped, links made to consumer behavior.

YouTube.com, MySpace.com, and Second Life, give people places to partake in communities. These virtual social spaces are often heavily immersed in consumption (Flanagin & Metzger, 2001; Kozinets, 1999). While the space is new, consumption taking on social meaning is not (Solomon, 1983). Consumers in online spaces often express anti-commercial values but then wrap consumption in the excuse of self-expression (Kozinets, 2002; Kozinets & Hableman, 2004). This can range from simply following or posting about products, to demonstrating products, such as unboxing videos. Development of social online media, a vital part of the Web 2.0 concept, emphasizes communities or tribes. Traditionally, the word community is likened to a geographic area, such as a neighborhood (Wellman & Guila, 1999). Obviously, this is not the case online, where community is much more focused on similarities in interest and taste, and that is often expressed through consumption patterns. Thus, the opportunity to study a virtual space, populated by people who had found my server on their own, and gathered there daily, seemed too good an opportunity to pass up. This is a description of the behaviors found from that observation of what we call Cybernomads—Internet users looking for a place to imitate physical presence, but not be charged for it or controlled by it.

METHODOLOGY

The virtual social space is very similar to a video conferencing space and includes five main elements: open login (only used to place an identifying name over a video stream), a texting box for group discussion, individual video boxes (which can be moved by any of the participants), audio levels for the streaming audio, and the common virtual meeting space in which all the action takes place Figure 1. Any user was allowed to enter and login using any name, i.e., there was no database of users. Upon login, a video window opens that contains a live video stream along with audio from the user (assuming he/she has a webcam and microphone). The space surrounding the video stream is open for the user to move his/her video box about to any location. Any user can move any other user's video box and the movement will be updated on all users' screens. Thus, all activities are socially shared synchronously.

Figure 1. Virtual meeting space



GROUNDED THEORY

Grounded theory, developed by (Glaser & Strauss, 1967), is an inductive research approach, utilized to identify categories and concepts that emerge from subjects under study (Strauss & Corbin, 1998). It is derived from everyday experience and embedded in people's communications and actions which express meanings (Bruner, 1990), and is suitable for developing theory for little studied phenomena (Goulding, 1999). Such an ethnographic-based approach is suggested to better yield understanding of the meanings that are common to a particular community, such as participant observation within a predominantly inductivist framework (Gill & Johnson, 1997; Kozinets, 1999). Applying this approach to the virtual space, a set of core behaviors could be found, and their relationship to each other defined through categories. The software package NVIVO was used to this end.

SAMPLE

During the open coding stage of observation, participants' behaviors were observed and noted. An exhaustive list of possible behaviors was generated. Next, the axial coding stage, behaviors were grouped together and meaning attached to them. The constant comparative method (Strauss & Corbin, 1998) was used to check emergent categories by grouping observed behaviors then observing more behavior and confirming or changing categories. Over a period of three months, direct observation of the virtual space lead to a group of well-defined behaviors and conceptualizations of main categories of those behaviors. These ideas were also checked for alignment with existing theory in a qualitative validity check. After these two stages, we undertook a more formal sampling. The virtual meeting space was digitally recorded and later analyzed through multiple viewings to generate specific categories of behaviors. Thirty-nine days of activity were recorded, with recordings only starting if two or more users were present, resulting in 79 hours of data. This data was thus set and could be revisited for continued analysis and refinement.

The unit of analysis was set as the sequence of behaviors observable between any participant entering or exiting the meeting area. The early stages showed that framing observations in this way matched large changes in behaviors among members. The entry or exit of a participant

commonly led to reorganization of video boxes, for example, and cascades of behaviors. This approach resulted in a total of 587 sequences for analysis. No restrictions were placed on any of the participants entering or exiting the meeting space and no commitment was made to retain users. A core of regular users evolved naturally and they tended to return reusing the same user name—the interface supplied users with their previous user name (locally stored in a cookie), encouraging consistent name use. A total of 90 users were observed during this period (spring 2007), with 24 males, 19 females, and 47 unknown genders. Participants did not all show themselves clearly, and some did not open their video feed, passively participating in the space.

RESULTS

During the three month data collection period, international users regularly used the site, often showing commercial products in their video streams (see Figure 2). The use of commercial products to represent or supplement the self has been noted in mainstream marketing and was quite a common behavior in this space. Objects shown on screen included toys, books, beverages, monitors, and even interaction with products, such as musical instruments, drinking, and smoking.

No effort was made to solicit users. All participation was organic. A time identifier was added to the text box so that local time zones were included with any texted message. This information acted as a location identifier. Visitors were mostly from France, Belgium, and other East European locations, with occasional users from French speaking Canada. Users typically did not use the live audio stream for communication. They often used the live video feed, but then chatted through IRC (Internet Chat Relay) or MSN employing their existing text-based communication channels. Microsoft's IM client alert sounds could often be heard over the audio feeds. This created a virtual space that had an ambiance not dissimilar to a café, with all visitors visible, but person to person communications private. Users typically left their audio channel open, and it was not unusual that someone's music was playing in the background and would be carried over to all participants. It was also common for one of the members to actually play a musical instrument and even sing. Room sounds, computer warnings, and even conversations away from the computer were often heard through this channel.

Figure 2. Unsolicited Visitors to Virtual Social Space & display of commercial products



CATEGORIES OF CONSUMER BEHAVIOR

Employing the software package NVIVO, each unit of analysis was broken down to its constituent parts, i.e., behaviors, and labeled. These behaviors were then grouped to establish larger categories of common behaviors and meaning. Four main categories emerged from the data: egocasting, nonverbal behavior, relational patterns, and participation behavior. Each category is described next.

EGOCASTING

The personalization of communication channels through virtual social space supplies participants the capability to create a personal bubble, inside which they are the sole masters of what they see, hear, and project. Within such a personal space, consuming products, describing surroundings, and even showing body parts becomes a representation of the self. Egocasting is about broadcasting the self out to a larger public, but only allowing a narrow range of inputs from others—usually, those in the same tribe (Rosen, 2005).

In the current research, egocasting involves the consumption of music, computer monitors, beverages, food, and other products that represent individual tastes, and ultimately the real self (see Table 1). Participants consciously or unconsciously control images sent out to the conferencing room while staying online for hours at a time, often performing other duties. Sometimes, egocasting happens naturally, while at other times participants become performers on the platform, seeking attention for their self expression. Examples of behaviors underlying the egocasting category can be seen in Figure 3.

Table 1. Representative behaviors from the egocasting category

Observed behavior	Classification
Nix showed a night view outside the door and talked with Chestouille.	Face Outside
After Chestouille joined in the space, Mercredi actively talked to her while smoking and drinking. He turned the web cam to specific stuff (a logo) while he was away, taking a break.	Face Cigarette Beverage Logo
Moogle was eating and sharing the food, though he didn't join others' conversations.	Food
Nerak was alone for almost 10 minutes. During this time, she was showing her face, a poster attached the wall, a paper with some red words.	Face Poster Paper
Upon leaving the seat, Ang showed her room.	Inside
Aelita, Elnaie, and Nice had a discussion. Elnaie and Chest were hidden. Aelita and Nice showed their faces, while Iso avoided revealing her face, only showing part of her arm.	Face Partial body
All members revealed themselves. Elnaie was drinking, showing a Coca-Cola (occasionally offering to share it), and answering her phone. Nora seemed unwilling to show his full face. He tried to show a few parts of his face several times. Video boxes were kept in a line. Iso was smoking and listening to music.	Face Beverage Show Cell-phone Cigarette Music
Shmolt, rubio, and LoiC turned off their video feeds but stayed in the room. Embry looked like a performer with headphones and was talking to others off camera, sharing music, as well as smoking. After a period, Tit began typing, and showing his hands and keyboard, but still concealing his face.	Face Music Cigarette typewriting Keyboard

Figure 3. Examples of egocasting





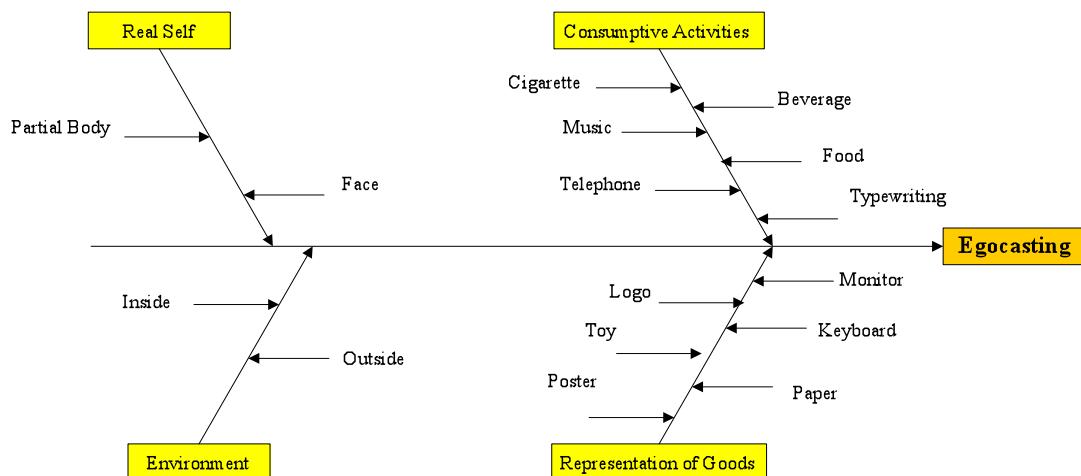
The egocasting category was made up of four main behaviors: real self, environment, representation of goods, and consumptive activities (see Figure 4). Participants are inclined to reveal their real selves (254 observations) through showing a face or body parts. A face is a way to increase credibility and personal identity. Those who revealed a face were more apt to actively greet others and get responses from others than people who concealed themselves, such as only showing a body part, or even turning off the live video stream, but still retaining a presence in the conference space (video feeds could be turned off by any user at any time while still participating in the virtual space, causing the video box to turn white or show a freeze frame).

Environmental surroundings (56 observations) included the inside and outside of living spaces. In disclosing the environment, participants were showing their private areas—rooms, walls, and views out their windows. These spaces represent the day to day living of the individual, and thus act as a short cut to bring a viewer into that space and understand the broadcaster.

Various goods were used to by participants (47 observations), including keyboards, monitors, logos, papers, posters, and toys. Among them, the former two are computer-related and easily available for a Webcam to capture. The others, logos, posters, and toys seem to be more symbolic of the self, and some participants exhibited a high frequency of presenting these items. Some members would use paper with written words, like signs, to send messages to viewers. These behaviors were treated as a supplement to verbal communication. One example of this is when a participant would leave the screen for an extended period of time, but place a handwritten sign telling that he/she is away.

Consumptive activities (171 observations) involve eating, drinking, smoking, typing, answering the telephone, as well as playing music. These activities, parts of one's daily life and including a high level of personal involvement and effort, are carried out online as a natural extension of the real environment, often coinciding with simultaneous real-world behaviors.

Figure 4. Subcategories of egocasting



RELATIONAL PATTERNS

As relationships progress, patterns of interactions take shape, such as rigid role relations, disconfirmations, spirals, as well as dependencies and counter dependencies. Among these patterns, spiral were especially conspicuous in the current research. In a spiral, one participant's behavior intensifies that of the others (Trenholm, 1995). Spirals can be progressive or regressive. In a progressive spiral, one partner's behavior leads to increasing levels of satisfaction for the other partner. In the current data, participants often exhibited progressive spirals reflected in video box movements, grouping of video boxes, and carrying on conversations through other channels, such as phone calls or other Web portals. A progressive spiral adds to the experience of a cordial atmosphere, increasing overall interaction, including increasing imitation behavior among participants.

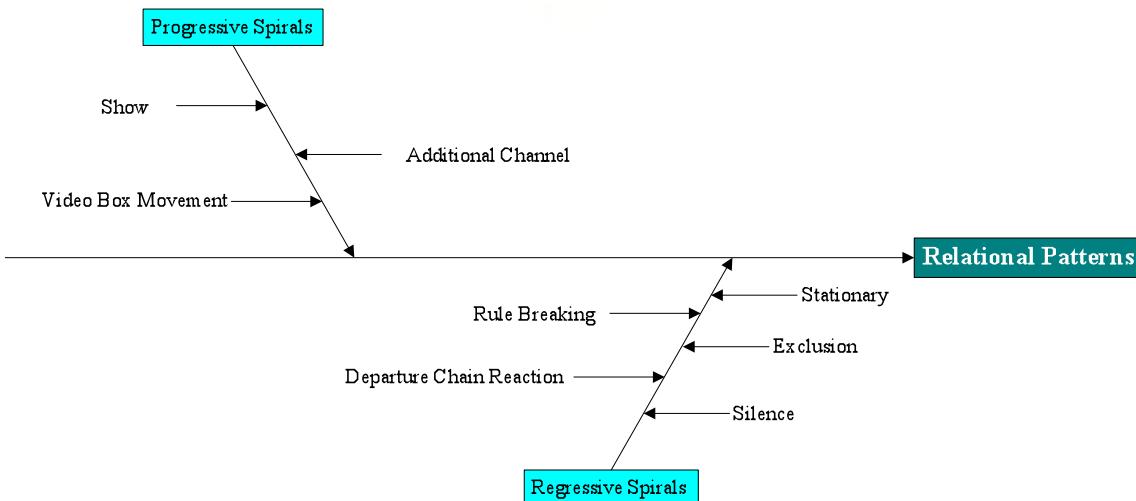
Spirals can also be regressive, where one partner's communication leads to increasing dissatisfaction, which is exhibited in behaviors such as lack of interaction, exclusion, silence, rule breaking, and departure chain reaction. Compared with progressive spirals, a regressive spiral lacks a community feeling, with little participant interaction. Table 2 shows selective observations of relational patterns in the data.

Table 2. Representative behaviors from the relational patterns category

Observed behavior	Classification
A long conversation occurred among the three participants. After, NicePowa exited, no conversation occurred. Soon after, the other two participants exited.	Departure chain reaction
The both didn't open the video, and kept silent and stationary. No more conversation occurred.	Silence Stationary
After finishing private contact by phone, Nerak and Melilou continued talking within this space and had further interaction. Nerak shared Melilou some pix of her idol, friends. They seemed having a cheerful conversation from their facial expression and lasted for a long time.	Show
When Bugmaster was playing a porn movie, others kept silent, stationary, scattering, and concealed themselves. After four minutes, McClaggan left quickly and didn't leave any messages.	Rule Breaking Stationary Silence
Alex greeted Maelys with a symbol :-) but Maelys didn't respond. Alex left soon after.	Exclusion
When mumi moved his/ her window, others followed. Everyone was moving their video boxes for a period. It seemed like a game where everyone tried to cover the video boxes of others or conceal themselves. During this time, they kept talking to each other.	Video box movement
After the prior interaction of moving, they started to get personal info about others in the space. It seemed that they want to continue off-line connection afterwards.	Additional channel

Relational patterns are based on progressive and regressive spirals, which contain numerous related behaviors (see Figure 5). In progressive spirals (69 observations), the common behavior is imitation, with increasing participation. Window movement is a common way for participants to get closer or play games and have fun. When one person starts to move a video box, the others soon follow. Another spiral occurs when one person shows something, like a hat, and others then show their own hat or a similar object (see Figure 6). Additional channels of contact are sometimes sought among participants, as they seek to take their relationship beyond the virtual space. Users can ask for contact numbers, other Webpages, such as Facebook, and even actual physical locations to meet.

Figure 5. Subcategories of relational patterns



Regressive spirals (282 observations) are some of the most common behaviors observed. These are actions that lead to increasing dissatisfaction among participants. These behaviors are often targeted at new people joining the space, or members of a different tribe. For example, a common behavior was for one person to enter the space and wait for a friend. During this time, another person enters the space, but not the person expected. These two participants will often show a cold behavior toward each other through staying stationary or freezing the video frame (turning off the video stream or transmitting just a still photo) and silence.

When groups are present, one group may exclude members of another group by moving video boxes into groups or overlapping windows to hide people or drag them off the main screen. In the most extreme case, a participant may text message offensive questions in the common text area. Such questions are normally addressed to a specific participant. The audio stream can also be used in this way. New female participants were often challenged with this behavior, which included explicit sexual content. At times, the negative spirals were not directed at any single individual, but simply broke unwritten rules shared by all participants. For example, one participant broke the rules by turning his Webcam toward his computer screen which was playing a pornographic video. This triggered a regressive spiral that lead to a decline in interaction and everyone leaving the space.

Regressive spirals are the normal conclusion to intense social interactions since all sessions eventually wind down. Once a key player exits or some rule is broken, it is normal that participants quickly drop out leaving just one person or an empty space.

Figure 6. Examples of progressive spirals of behavior imitation



NON-VERBAL BEHAVIOR

Numerous types of non-verbal communications are included in social interaction—messages and meanings are exchanged by facial expression, posture, or physical movement (Giddens, 1997). These types of nonverbal behaviors were also found in our virtual space (see Table 3).

Table 3. Representative behaviors from the nonverbal behavior category

Observed behavior	Classification
They had a long chat, and kept a distance from each other. Welhemina kept smoking. Only Wel showed her face.	Keeping a distance
Aelita and Nerix had a long conversation, and both of them showed their faces. Aelita looked happy (smiling) chatting with Nerix.	Facial expressions
After Meily altered his/ her position, others followed. They gathered their windows together and formed a neat row two times. During this period of moving windows, they had no discussion.	Lining up
They had no discussion. Nevertheless, when Maellys showed her stuff (cranberry) put on a hat and then Nerak followed. Maelly showed the hand gesture of V and smiled.	Gesture Facial expression
When Bugmaster was playing a porn movie, others kept silent, stationary, scattering, and concealed themselves. Such status lasted for a period.	Keeping a distance

Video streaming allowed participants to reveal their facial expression and gestures and to communicate with each other through body language (see Figure 7). Additionally, participants grouped or lined up their video boxes to get closer or keep a distance from each other. Such behavior is analogous to what Giddens (1997) terms physical movement. Hall (1959) suggests that there are four proximity zones in real social interaction, ranging from 50 centimeters for family members to a number of meters for strangers. Within the virtual space, the ability for any participant to move any other participant's video window allowed a simulated personal space.

Figure 7. Examples of gestures and facial expression

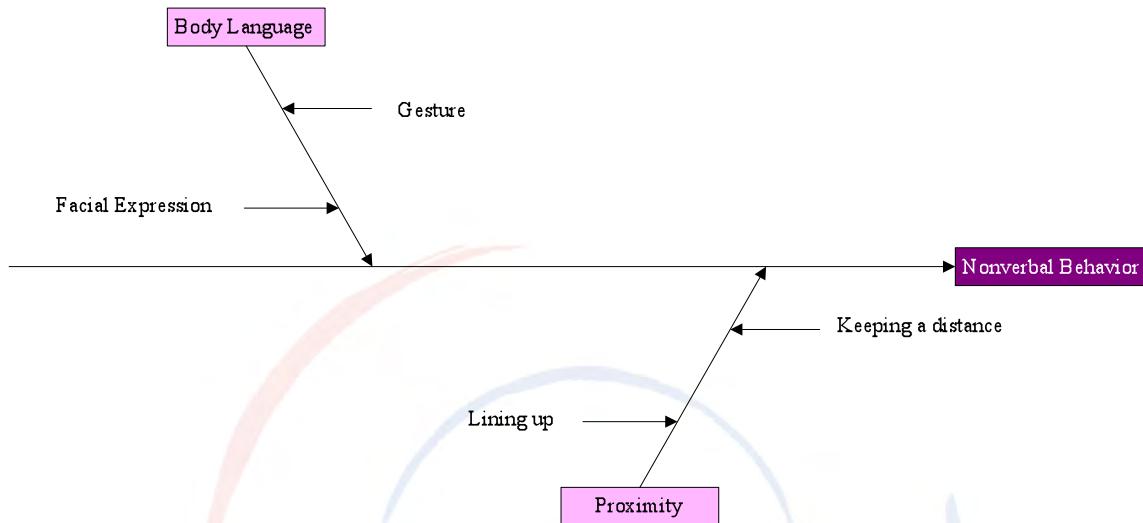


The nonverbal behaviors category is built from the two subcategories (see Figure 9) of body language (26 observations) and proximity (162 observations). The body language of gestures and facial expressions were often involved with high levels of interaction among participants. Proximity, in this virtual space, normally took the form of lining up or moving video boxes apart or into separate groups (see Figure 8). Participants imitated personal space with video box distance, scattering or altering their own positions and the positions of others. Participants often formed regular tribes over numerous visits while pushing members of other tribes away (see Figure 8).

Figure 8. Examples of Keeping a distance and lining up behaviors



Figure 9. Subcategories of nonverbal behavior



PARTICIPATION BEHAVIOR

Participation behavior reflects how participants joined into social activities with others or stayed independent. Individual expression signifies the behavior that mainly centers on self-reliance, liberty, and privacy. Participants sometimes are shy, cool, and reluctant to reveal themselves. In contrast, group unity is the behavior that tends to affiliate a participant with others. Numerous participation behaviors were observed in the data (see Table 4).

Table 4. Representative behaviors from the participation behavior category

Observed behavior	Classification
Allam, Elaine, Zaza, as well as Eusebus, had a long discussion. Except Allam, others opened their video streams and showed their faces.	Persistent Visible
Everyone kept a distance from each other, and concealed themselves. No one was active or sent any messages, and no conversation occurred.	Hidden Non-sociable
Nerak and Melilou were active in greeting Trillium. Afterwards, everyone began talking to each other.	Sociable
Moogle, Melilou, Zaza, and Nerak had conversation (only Moogle was hidden). Pb stayed hidden, silent, on left away from others, without participating in the discussion.	Impatient
McClaggan, Ahmet showed black on the video. Luna didn't open the Video stream. Both stayed inactive.	Hidden Non-sociable

Occasionally, participants enjoy involving in social interaction, increasing duration of stay, and were willing to disclose themselves more. The main subcategories (see Figure 10) included

individual expression (357 observations) and group unity (482 observations). Being hidden, non-sociable, and impatient are the main features of the individual expression behavior. Participants exhibiting this behavior preferred to conceal their real selves (hidden). Even if they were willing to activate the video stream, only some ambiguous activity was shown. Privacy is important but dependent on what other members were present in the virtual space. Some participants seldom engaged in social activities (non-sociable), staying silent and are often impatient when approached by others (impatient).

In contrast to the individualists, being visible, sociable, and persistent were behaviors of the group unity category. Participants who liked to show themselves exhibited this behavior. These users kept their video streams on (visible), and remained in the space over long periods of time, which often involved encouraging others to stay (persistent). When newcomers joined the space, these participants were enthusiastic in greeting the new members, even if they were strangers.

Figure 10. Subcategories of participation Behavior

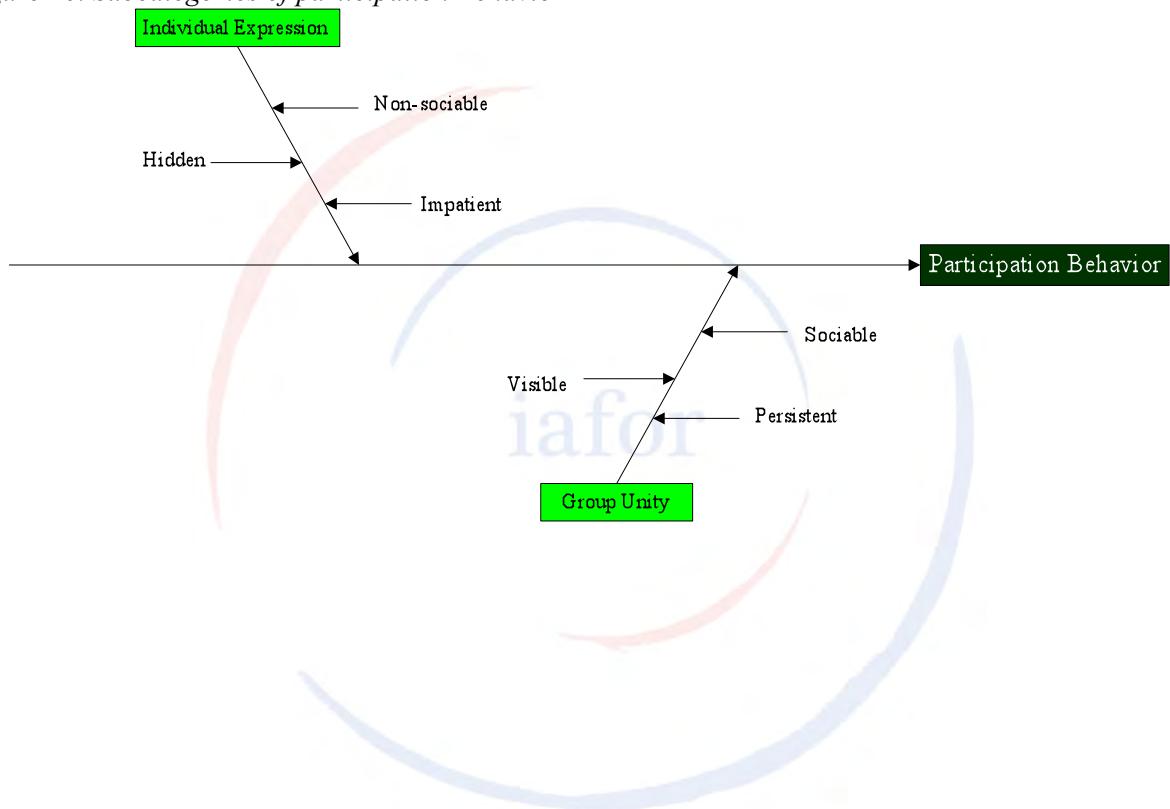
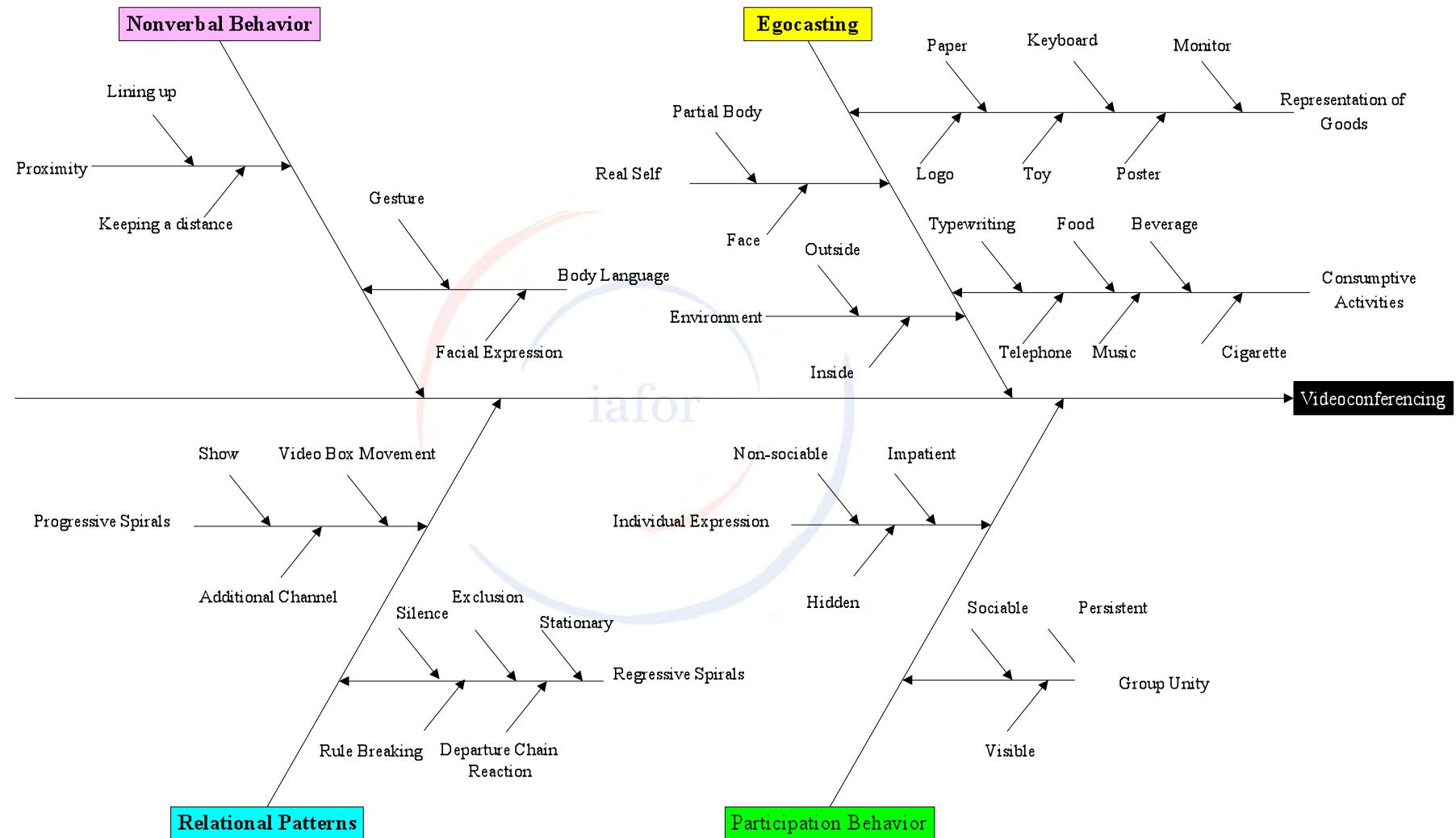


Figure 11. Categories of videoconferencing behaviors



CONCLUSIONS

Through the application of grounded theory, the current research describes four categories of behavior in a virtual meeting space including: egocasting, non-verbal behavior, relational pattern, and participation behavior. None of the participants were invited, nor was the meeting area advertised in any way. The fact that people found the space and built a community around it is telling. These users reproduce many real world behaviors in this virtual space. They represent a group of people actively searching for more than IM or VOIP. They are searching for a place to reproduce the real world, but across geographic distances.

Egocasting clearly plays an important role in social media, but specific behaviors have not been well researched to date. Current results show how progressive spirals can quickly increase interpersonal relationship in a virtual space, with participants eager to reveal their real selves. How such a space can function commercially, however, is questionable. In the current example, the hidden nature, and totally non-commercial environment may be part of the allure of the Website. Its IP address is passed around in chat rooms, among friends and acquaintances. The speed with which regressive spirals appear point to the sensitivity these users exhibit when the virtual space dynamic shifts even slightly. When strangers enter or when different tribes are present the level of self expression and activity drastically drops off.

Regressive spirals are also induced when someone's behavior violates established trust, which is much the case in the physical world (Peterson & Behfar, 2003). Social groups are particularly sensitive to negative rather than positive feedback (Guzzo, Wagner, MacGuire, Herr, & Hawley, 1986). Therefore, regressive spiral behavior is a crucial issue for marketers when they attempt to promote the activity level of consumers online in such a virtual space.

One key to improving overall social behavior is the presence of individuals who promote group unity. When even just one participant was present showing this behavior, other users became more active and stayed in the space longer. More individualist oriented users acted as trolls, slowing social activity, and even encouraging newcomers to exit quickly. When a newcomer entered the meeting space, he/she would often look in to see who was present. If one other person was in the room, but not broadcasting a video stream, then the newcomer would tend to exit. Thus a buildup of participation is based on the presence of at least one individual who is active. If a highly active individual is present, with video streaming, newcomers would tend to hang about, waiting to see if their friends came in. This encourages other visitors to stay longer, and thus the social number of participants quickly grows.

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**Sustainable Immigrant Integration Unmarred:
Focusing on the Occupational Assimilation of Immigrant Wives
in the Korean Labour Market**



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Topic: Immigration, Refugees, Race, Nation

Sustainable Immigrant Integration Unmarred: Focusing on the Occupational Assimilation of Immigrant Wives in the Korean Labour Market

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1. General overview

Immigrant wives represent the most significant flow of immigrants coming to South Korea in the twenty-first century. Although these immigrants have moved to Korea to join their husbands, in recent times more and more immigrant wives are starting to participate in the Korean labour market. Behind the reason for the increasing trend in international marriage, marriage squeeze functions as a central explanation. As in the case of Korea, many rural men who belong to low socio-economic strata are squeezed out of the marriage market, and find their spouses from the third world countries. Such expanding presence of immigrant women has implications for facilitating the long-term economic settlement of this population, as empirical researches concede that the extent to which immigrants assimilate to labour market is important from a policy perspective. A worsening of the immigrant population's socioeconomic position may create an additional burden on the welfare system as well as exacerbate problems associated with inequality (Lalonde and Topel, 1991; Toussaint-Comeau, 2006).

Unfortunately, contemporary research in Korea has focused, by and large, on cultural assimilation of immigrants, and as a result, the determinant of the marginalization and exclusion experienced by immigrant wives in the labor market is the issue that has been neglected. This is a glaring omission in light of ongoing debates concerning costs and benefits associated with immigration, and their integration. In such environment, immigrant wives should represent a significant concern for policymakers as recent census indicates that the size of immigrant wives will account for more than 5 percent of the total population by year 2050 (Lee, Choi, and Park, 2009), and the size of workable population aged 15~64 will approach to 6 percent of that of the total population. Immigrant wives, especially those entering South Korea most recently, possess attributes which place them in economically vulnerable positions. For instance,

these women have considerably low level of human capital resources compared to native Koreans (Yang, 2011). The prospect of immigrant wives are gloomy, indeed, as the majority are engaged in part time jobs or temporary works that require little language ability and education (Chun et al., 2007). Most of them are placed in secondary labor market where negative persisting effects associated with employment tend to cement the lack of mobility between the primary and secondary sectors. In such case, there is a high chance that these foreign wives may form the backbone of what remains of labor intensive 3D jobs (the Korean acronym for dirty, dangerous, and difficult).

The purpose of this study is to provide useful evidence from an economic policy standpoint on factors that may influence the persistent ethnic stratification of immigrant wives in the secondary labour market, thereby accommodating their economic integration. The study specifically focused on the occupational component within the labour market and incorporated (1) micro level (demographic factors and human capital stock), (2) mezzo level (household resources) and (3) macro level (structural factors of the labour market). The sub-purposes are fourfold.

1. Examine whether/how demographic factors have an effect on the occupational trajectories of immigrant wives.
2. Investigate whether/how human capital variables have an effect on occupational trajectories of immigrant wives.
3. Explore whether/how household resource factors have an effect on occupational trajectories of immigrant wives.
4. Explore whether/how structural factors of the labour market have an effect on occupational trajectories of immigrant wives.

2. Literature Review

2.1.Theoretical Concerns

2.1.1. Demographic factors

Demographic factors affecting labour market participation of immigrants include age and duration of residence. Numerous studies suggest that length of residence is an important determinant of female migrants' success in the labour market (Chiswick, 1978; Borjas, 1995; Friedberg, 2000). The studies suggest that as the time spent in the

host country increase, immigrants are more likely to increase their human capital stock in language fluency, and develop networks necessary for employment (Stier and Tienda, 1992; Bean and Tienda, 1987). In fact, following Chiswick (1978) and Borjas (1985), numerous studies have shown that immigrants have an earnings disadvantage upon arrival in the destination country, which is explained by the immigrant's lack of human capital that is not suited specifically to the labor market of the receiving country. With time of residence in the host country increases, however, they accumulate country-specific human capitals, thereby narrowing the initial earning gap. This suggests that the longer the female migrants lived, the more likely they will be employed.

Age is also considered as an important demographic factor. Greenless and Saenz (1999) analyzed three different Mexican groups in the U.S. and compared their occupational level. The authors assumed women in their prime-age years will be more likely to be employed, and considered age as a determinant factor. The study revealed that older people have higher chance of being out of the labour market. Such result is also consistent with study conducted by Lewin-Epstein et al (2003). Therefore, it can be inferred that age will have a negative influence on the occupational trajectories of immigrant wives.

Hypothesis 1:

Demographic factors will have an effect on the occupational trajectories of immigrant wives.

2.1. 2. Human Capital Factors (Micro level)

Most commonly used model of labor market incorporation among immigrants analyzes earnings largely as a function of human capital variables which include education, language competence, and employment experience obtained from home country (Cornelius, Tsuda and Valdex, 2003). In fact, human capital theorists (Becker, 1993; Mincer, 1994) stress individual human capital characteristics as the most important predictors of socioeconomic success. They believe that the primary determinants of a person's earnings are his or her investments in schooling, on-the-job training, and work experience (Kposowa, 1998). Evidence which draws immigrants' labor force participation indicates that the gap of wage between immigrant workers and native-born workers refers to the human capital resources as well. One problem, however, is that for immigrants, work experiences and education are not necessarily transferable from

country to country (Chiswick, 1982). Due to national differences in the rate of educational expansion, immigrants have lower level of educational qualifications (on average) than the native-born population; the act of migration leads to a devaluation in immigrants' human capital (Chiswick, 1978, 1991; Friedberg, 2000).

With a passage of time, however, human capital differences between the natives and immigrants narrow as immigrants make investments to complement their pre-migration skills (Toussaint-Comeau, 2006). Such investments include the acquisition of labor market information, language, and other task specific skills. Therefore, it can be inferred that immigrants initially experience a decline in their occupational status with a subsequent increase as the duration in the destination country increases. In fact, immigrants tend to experience an occupational trajectory that follows a U-shape pattern. Such U-shaped pattern of occupational change will arise in models of immigrant occupational attainment as well (e.g. Chiswick, 1977, 1978).

However, in the Korean labor market, the influence of human capital variables on immigrants' employment prospects poses conflicting results. Two studies conducted by Yang (2010) and Yang (2011) suggest contradicting points. By utilizing data from Gyeongi area, Yang (2010) found that none of the human capital variables (perceived Korean language proficiency and education length) had significant impact on immigrant wives' labor market participation. However, with a national data set collected in year 2006, Yang (2011) found that human capital factors did have influence on their employment status. To be more specific, among the human capital variables, length of education and language proficiency had positive impact on their labor force participation. In order to test such contradicting results, this study will utilize the most recent data based on nationwide sample survey which was conducted in year 2009. Korean language proficiency, educational level, previous work experience in home country, and training experience in Korea will be included as human capital variables.

Hypothesis 2:

Human capital factors will have positive effect on the occupational trajectories of immigrant wives.

2.1.3. Household Resource factors (Mezzo level)

Recognizing that women's decision making process of labor market participation may be influenced also by the environment in which she inhabits, we now look at household resources factors. Prior researches reveal a strong influence of family composition, and husband's income on the labor market participation of women (Foroutan, 2008). Often individual decisions are made within the context of family household and family economics, with financial sufficiency playing a central role in the decisions involving employment and the collective well-being of the family (Glass, 1988; Cotton et al., 1989; Paukert, 1982; Godron and Kammeyer, 1980; Greenless & Saenz, 1999). The influence has been observed to be particularly substantial through the presence of young children. In Australia, Evans (1984, 1996) showed a fall in immigrant women's labor force participation by 25-30 percentage points based on having a child under three years old amongst all ethnic origins combined (Foroutan, 2008). This is also the case in Korea. Yang (2010) found that children under 6-year-old had a negative influence on the labor market activity of immigrant wives.

However, children over 6-year-old tend to increase the economic needs of a family. As more expense are needed for their education and schooling cost, women are inclined to participate in the labor market (Min, 2002). In Korea, though, children over 6-year-old did not play a significant role. In explaining the reasoning behind such inconsistency, Yang (2010) noted that the average residence year of immigrant wives were 4 years, and as a result, the cases where their first born child's age exceed 6-year-old were rare.

Household budget constraints decrease employment costs when the husband's budgetary contributions are low (either they are unemployment or employed in low income level occupations) and can influence the wife's decision to seek employment outside the home (Glass, 1998; Long and Jones, 1981; Stier and Tienda, 1992). Long (1980) found that recent immigrant wives, in general, were more often employed if the husband's prospects for employment were dim. However, once the husband's income contribution proved adequate to meet home budgetary requirements, the wife would choose to return to home production.

Hypothesis 3:

While the number of children below 6-year-old and husband's employment status will have negative effect, the number of children over 6 will have positive effect on the occupational trajectories of immigrant wives.

2.1.4. Structural Factors related to Labour Market (Macro level)

Much of the work regarding the employment of ethnic groups in metropolitan labor market neglects the influence of structural factors (Greenless & Saenz, 1999). However, when dealing with immigrant population, considering structural factors are important since immigrants frequently experience disadvantages compared to native population. In fact, labor market segmentation theory assumes that there are inherent dualisms between labor and capital. The theory suggests that there are two distinct labor market segments: capital intensive or primary sector, and labor intensive or secondary sector. Workers in the capital intensive primary sector are provided highly qualified, stable jobs with the best equipment and tools and are often provided with special trainings. In the labor intensive secondary sector however, workers hold relatively unstable and unskilled jobs, and they may be laid off at any time at little or no cost to the employer.

Rational workers would try to move out of the secondary sector and enter the primary sector, but there are barriers that prevent workers from moving; once placed in the secondary labor market, it is difficult to escape. For disadvantaged group of workers, such as immigrants and women, it is more unlikely that they break the cycle. Therefore, the predictions of the labor market segmentation theory are that immigrants earn lower wages than natives, their wages increase slowly over time, and wages are rigid upwards but flexible downwards and can fall if supply increases (Piore, 1970). In such case, additional years of residence in the host country do not affect the economic assimilation process of immigrants and the wage gap between the two groups is expected to widen over time.

Empirical studies suggest the presence of segmented labor market in Korea. Song (2002) and Hwang (2003) suggested that two distinctive market systems co-exist in the Korean labor market: The primary sector occupations which operate under a stable employment system with safe job protection, enterprise-based unionism, and intensive on-the-job training, and the secondary sector, also known as external labor market. In response to IMF crisis (economic crisis from year 1999 to 2000), most companies in the primary sector went through labor market flexibilization process. The main strategy used was ¹external numerical flexibility. The biggest disadvantage of adopting external numerical

¹External numerical flexibility refers to the adjustment of the labor intake, or the number of workers from

flexibility strategy is that it tends to keep the cleavage of dual labor market intact. In fact, the primary and secondary sector seemed to stabilize its rigidness after the IMF crisis. The nation-wide statistics on the total wage earners reported that the proportion of non-regular workers increased from 16% in December 1997 to 41.2% in year 2002. At the mean time, empirical observations suggest that the jobs of immigrant wives are mostly distributed within the secondary market. In such case, it is not surprising that occupational distribution of immigrant wives will initially be characterized by a high degree of ethnic stratification as most immigrants in western countries originally migrate to occupy low status jobs that natives avoid (Marsden, 1990; Constant and Massey, 2005). However unlike foreign immigrant workers, immigrant wives do not enter Korea with economic motivations, and therefore, their occupational sorting needs special attention.

To sum up, as Korean labor market has the characteristics of segmented labor markets, when considering the explanatory power of independent variables from three levels (micro, mezzo and macro levels), macro factors will have more influence on immigrant wives' occupational trajectories than others. The possible factors included in the macro level are as follows.

First, whether or not an immigrant acquired citizenship needs to be considered as an important determinant factor. Kogan (2004) noted that employers tend to discriminate immigrants based on their immigrant status. Similarly, Yang (2011) found that immigrant wives who acquired Korean citizenship were more likely to participate in the labor market. Currently, immigrant wives are granted citizenships after three years of marriage with Korean men. And before the three years, their statuses are limited to visitors. Korean citizenship plays a significant role to immigrants as those who don't have citizenship are ruled out from employment opportunities. Such strict legal permission is prone to affect immigrant wives' employment negatively (Lee, Choi, and Park, 2009).

Also, dummy variables for primary and secondary sector labor market need to be considered. In Korea, primary and secondary sectors are commonly divided according to either the household income or median wage level of workers. Similarly, the OECD

the external market. This can be achieved by employing workers on temporary work or fixed term contracts or through relaxed hiring and firing regulations where employers can hire and fire permanent employees according to the firms' needs.

defined a low-wage, degrading job as those that only pay less than two-thirds of the median wage (Boushey, Fremstad, Gragg, and Waller, 2007). In this study, following the OECD's criteria, immigrant wives whose median wage is lower than the two-thirds of the medium wage will be classified as secondary sector participants whereas those who earn higher will be classified as primary sector participants.

Hypothesis 4:

Years since acquirement of Korean citizenship and employment in primary sector will have positive effect on the occupational trajectories of immigrant wives.

2.2. Occupational trajectories of immigrant wives (Dependent variable)

Recent studies on immigrant wives conducted by Yang (2010) and Yang (2011) used employment status as a dependent variable. In both studies, employment was regarded as a distinguishing factor that guarantees their economic integration. However, this assumption is flawed, considering that most employed immigrants are in fact engaged in secondary labour market with low job qualities. In such situation, employment itself cannot guarantee that they will be economically well-off, as even if they are employed, they could easily end up as working-poor population.

In order to address such limitation, the paper utilized occupational trajectory as a dependent variable. Using occupational trajectory has several advantages. First, occupation is an important determinant of earnings and employment prospects (Toussaint-Comeau, 2006). Secondly, occupational trajectory conveys a status upon workers that is based not only on compensation, but also on the skill and education requirements associated with the occupation.

Following the approach of Toussaint-Comeau (2006), this study facilitated a measure of socioeconomic status which assigns scores for each occupation based on income, required experiences, and education requirements. The occupations were categorized into 10 types based on the Korean Standard Classification of Occupation (KSCO). This corresponds to the categorization of International Standard Classification of Occupations (ISCO) which was designed in 1988 by the International Labour Organization (ILO) (Korean Standard Statistical Classification). Individuals were categorized according to their income and educational level based on the KSCO criteria and were then scored based on the

International Socio-Economic Index (ISEI) (Ganzeboom et al., 1992; Ganzeboom & Treiman, 1996). The ISEI subdivided a variety of jobs based upon ISCO criterion and assigned standardized scale ranging from 0 to 100. High score indicates high occupational position in the index. (See Table 1.)

Table 1. Definition of the Variables in the Multivariate Analysis

Variables		Description and Values
Dependent Variables: Occupational trajectories		Farm labourer=16 / Labourers except farm=21 / Private household workers=30 / Craftsman=31 / Equipment operatives=38 / Service workers=40 / Sales workers=43 / Clerical workers=45 / Managers & Administrative=55 / Professional & Technical workers=70
Independent variables		① Demographic Factors ② Human Capital Resources ③ Family Household Resources ④ Structural Factors
① Demographic Factors	Duration of residence	Total residence months in Korea
	Age of immigrant wives	The age of immigrant bride
② Human Capital Resources	Perceived Korean Language Proficiency	Perceived Korean proficiency (1 = ‘being the score for those who barely understands’~ 15 = ‘able to speak without difficulties in almost every situation’).
	Latest completion of Schooling	1=no education, 2=elementary school graduation, 3=middle school graduation, 4=high school graduation, 5=college graduation, 6=graduate school graduation
	Previous work experience before entering Korea	Experienced=1, Not experience=0
	Training experience offered by the Korean Government	Experienced=1, Not experience=0
	Husband employment status	Employed=1, Not employed=0
	Number of children below 6 yr	The number of children below 6 yr of immigrant bride
③ Family Household Resources	Number of children over 6 yr	The number of children over 6 yr of immigrant bride
	Employment in primary sector	Entered primary labour market = 1, Entered secondary labour market = 0
④ Structural Factors	Korean citizenship acquirement in years	Years since acquirement of Korean citizenship

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3. Method strategy (data collection and methodology)

3.1. Data (case selection)

This paper utilized a data set from the nationwide sample survey conducted in year 2009. The sample frame was derived from the list of Ministry of Public Administration and Security and collected data of 73,000 households among 131,000 multicultural residences. In this study, immigrant wives who are currently participating in the labour work were included and the case includes 24,697 immigrant women. As the survey was a nationwide investigation, the data covered a broad range of issues including socio-demographic and economic characteristics of immigrant wives in Korea.

3.2. Methodology

In order to identify significant and possible factors on the occupational trajectory, the paper employed multiple regression analysis and estimated the differential effect of each explanatory variable. The estimation model (multiple regression function) has the following equation:

$$Y_i = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + \varepsilon_i^2$$

4. Empirical Results

4.1. Descriptive Statistics

Table 2 shows a basic feature of the data. The average score of occupational category was 38.8, indicating that most immigrant wives were engaged in low-skilled and

² Y is the outcome variable (occupational trajectory), X₁ is demographic characteristics (age and years since migration), X₂ is human capital factors (language proficiency, educational level, job experience and job training), and X₃ is household resource factors (the number of children below/over 6 and husband employment), and X₄ is structural factors (years since acquirement of Korean citizenship and employment in primary sector) as predictors on occupational trajectory.

medium skilled occupations. Amongst the occupational position, farm labourers scored the lowest rank with 16 points, and professional and technical workers scored the highest rank. Service workers took the highest percentage of 35.3% followed by labourers 18.2%, professional and technical workers 14% and sales workers 7% consecutively.

The average year of residence in Korea was 6 years (80 months) and the average age of immigrant wives was 37. As for human capital factors, the latest completion of schooling turned out to be high school graduation. Immigrant wives' Korean proficiency level was 10 among the scales of 1 to 15. Nearly 80% of the immigrant wives had previous work experience before entering Korea, and 11% of the population received training services offered by the Korean government.

As for household resource factors, most immigrant wives reported that they have one or two children. The average number of children below 6 years old turned out to be only 0.5. The overall average number of children over 6 years old was even lower 0.2, indicating that nearly all immigrant women have no children over 6 years old. As for husband's employment status, 87% of their husbands were currently engaged in the labour market.

Lastly, the average year of Korean citizenship acquirement was 6 years. This corresponds to the average year of residence which was also 6 years. Therefore, it can be inferred that immigrant wives acquire their citizenships shortly after arriving Korea. As for the dichotomous variables for primary and secondary labour market, only 1% of the immigrant wives were engaged in primary sector labour market, indicating that the majority of 99% immigrant wives were channeled to secondary labour market.

Table 2. Descriptive Statistics

Variables	Immigrant Bride (N=24,697)
Occupational status scores (SD)	38.82 (15.22)
Demographic factors	Age (SD) (years)
	Total residence period (SD) (month)
Human capital factors	Korean Language Proficiency (SD)
	Latest completion of schooling (SD)
	Previous work experience before entering Korea (%)
	Training experience offered by the Korean Government (%)
Household resource factors	Husband employment status (%)
	Children younger than 6 yr (SD)

	Children older than 6 yr (SD)	.29 (.68)
Structural Factors	Employment in primary sector (%)	304 (1.2)
	Korean citizenship acquirement years (SD)	5.96 (5.04)

4.2. Predictors of Occupational trajectories

The results of multiple regression analyses of the model including the demographic characteristics, micro level, mezzo level, and macro level factors are provided in Table 3.

Among the demographic characteristics (Hypothesis 1) age had negative effect on the occupational trajectory of immigrant wives in Korea ($p < .05$) which corresponds with previous studies. Residence period, however, turned out to not to have significant impact on the dependent variable.

As for the three sets of independent factors, only micro (Hypothesis 2) and macro level variables (Hypothesis 4) were significantly related to occupational assimilation: As for micro factors, Korean language proficiency, schooling time, previous work experience, and training experience in Korea were all positively related to occupational assimilation ($p < .001$). This confirms the initial hypothesis that human capital resources will have positive effect on the occupational trajectories of immigrant wives. Also, as national data are more reliable pool to represent the total population of immigrant wives and as the current study also verified the influence of human capital, the result of Yang's earlier study which showed no significant impact of human capital resources need to be understood within the limited region of Gyeonggi area.

As for macro level variables, only employment in primary sector turned out to be positively related to the dependent variable ($p < .001$), substantiating the hypothesis that working in primary occupation will significantly enhance the opportunity of immigrant wives moving up the occupational ladder. On the other hand, the reason why acquirement of Korean citizenship did not have significant impact on the dependent variable may be understood in the context of quality of labor in which immigrant wives are engaged in. The descriptive statistics showed that immigrant wives are mostly engaged in low-skilled and medium skilled occupations. Here, it is important to note that most 3D jobs do not require national citizenship as the majorities of the employees

are consisted of illegal immigrant workers. Therefore, it can be inferred that most immigrant wives are engaged in manual labor work where the job doesn't necessarily require acquirement of Korean citizenship.

The rationale for why none of the mezzo level factors (Hypothesis 3) had effect on the dependent variable casts doubts. As in Yang (2010)'s earlier study, such result may be understood in the context of length of residence. As the average residence year of these immigrant wives were 6, the cases where the first born child's age is below or over 6-year-old would be rare, thus showing no significant results (Yang, 2010). Husband's employment status may not have affected the dependent variable as most immigrant families are readily financially unstable. According to the household resource theory, women participate in the labour work in order to meet the total expenditure required. However, as the economic situations are dim for most multicultural residents, immigrant wives are engaged in labour work even when their husbands are working.

Table 3. Results of Multiple Regression Analysis

Variable		Demographic characteristics B(S.E)	Human capital factors B(S.E)	Household Production Factors B(S.E)	Structural Factors B(S.E)
Demographic factors	Residence period	.002(.007)			
	Age	-.063(.028) ^b			
Micro level factors	Korean Language proficiency		.352(.076) ^a		
	Latest completion of schooling		7.086(.255) ^a		
	Previous work experience		1.274(.554) ^b		
	Training experience		6.965(.634) ^a		
Mezzo level factors	Husband employment			-.373(.639)	
	Children younger than 6 yr			.050(.322)	
	Children older than 6 yr			.070(.312)	
Macro level factors	Employed in Primary sector				10.461(1.676) ^a
	Year since				.014(.067)

	acquirement of Korean citizenship				
Intercept		8.769 (1.828) ^a			
F value		116.321			
R square		.236			
Number of cases		24,697			

Note: ^a = p <.001 and ^b = p <.05

5. Limitations

The shortcomings of the study are as follows. First, it is important to classify occupations as accurately as possible so that each occupation represents the socioeconomic standing of immigrant wives closely. However, the study utilized a measure from ISEI which ranked occupations into 10 different ranks. The study rearranged each immigrant wife's occupation according to its standard. In such case, there is a chance that some of the occupations are not clearly representative, for there are more than 10 occupations in the reality.

Secondly, it is important to note that the occupational trajectory of each country may differ. For example, in Korea mechanics hold lower rankings in the occupational ladder compared to mechanics in other countries. Although the Korean Statistic Department suggested that it is possible to compare occupational characteristics using ISEI (International Socio-Economic Index) by the ILO, there is a chance that the actual occupations immigrant wives hold are not 100% explicable when using a western model.

6. Conclusion and Discussion

Efforts to combine both structural level and micro level approach are necessary

Considering the importance of one's economic position, this study focuses on understanding immigrant wives in relation to their occupational trajectories. Over time, occupational sorting was mainly discussed based on individual factors. However, the study reversed the orthodox emphasis on worker's individual characteristics and incorporated mezzo and macro level side; the study proposed a theoretical model suggesting that women's occupational trajectories are influenced by human capital factors, household resource factors and macro level factors. The paper offered the first

systematic test of whether the lower wages of immigrant wives stem from the selective allocation of workers to occupational positions (i.e. labour market segmentation) or differential returns to human capital.

Findings of the study suggest that the neoclassical idea of one single labour market is wrong and the model of a segmented labour market needs to be considered as well. The regression analysis suggests that working in primary sector enhances the chances of upward mobility. However, most immigrant wives were found to be engaged in low paid jobs. In such case, although individual attributes such as human capital factors affect immigrant wives' occupations, the effects are minimized as they are mostly channeled into the secondary sector with few opportunities for career advancement.

Although the mobility of immigrant wives may continue to be limited, the forecast for the future need not be pessimistic. Statistical result revealed that the training experience accelerated immigrant wives' occupational assimilation process to a certain level. The initiatives of training education were intended to connect those vulnerable to poverty with labour force activity that will, ideally, provide long-term economic security through sustained employment and wage growth. To some extent, this is a good sign – it reaffirms the commonsense notion that increasing human capital should lead to improvements in the labour force outcomes of immigrant wives. The training provided by the Korean government may open up a venue for immigrant wives who recently arrived to Korea.

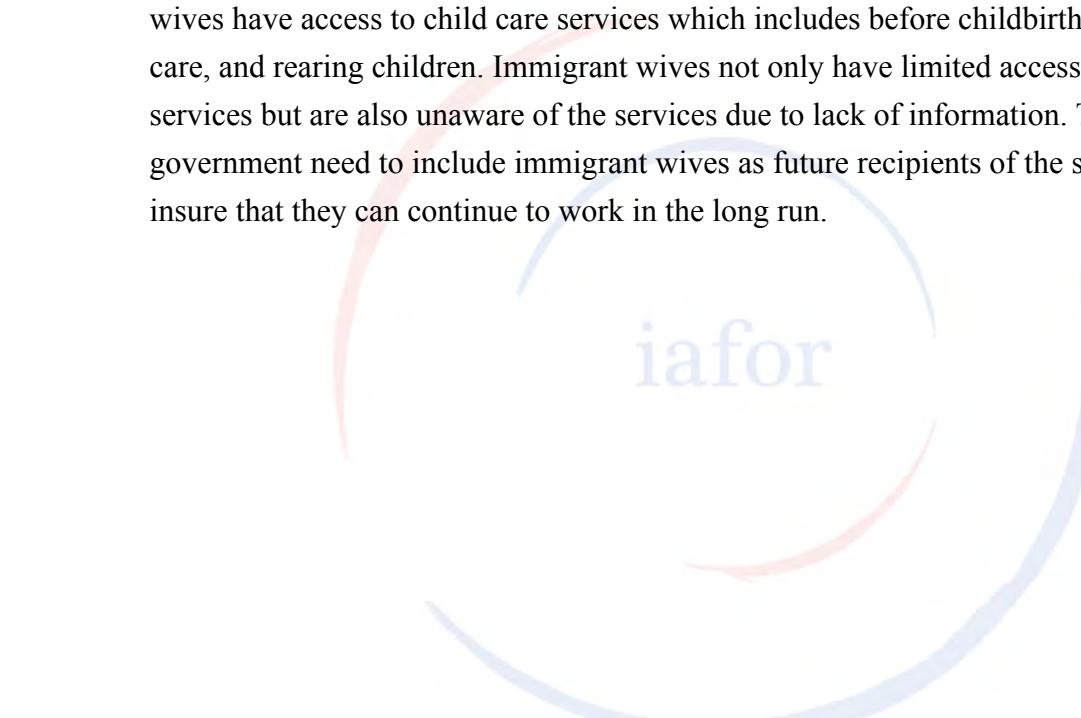
However, alternative solutions should be taken for immigrant wives whose length of stay is longer than 6 years. Although training experiences may function as an initiative for the majorities of immigrant wives to join in the labour market, for longer residents, more active approaches needs to be provided which could actually accelerate their occupational ladder into the primary sector. Possible options includes creating a new labor pool specifically dedicated to immigrant population as well as creating more advanced version of training education classes to these population.

Measures to insure immigrant wives' labour market activities are necessary

The scholarly consensus has been that women's employment is deterred by children in the context of division of labor that features husbands' specializing in market work and

providing income and wives' being responsible for child rearing and household work (England et al, 2004). Mothers, whether single or married, are generally more responsible for child care, and thus must replace their own services with paid help to be employed when their child is young (England et al, 2004). Although, none of the mezzo level variables turned out to be significant to the dependent variable due to short length of residence in Korea, more and more immigrant wives will engage in childbirth labor in the near future as their residence years will exceed 6 years.

In such case, active measures to insure these immigrant wives to continue their career need to be taken. In order to do so, the government needs to ensure that immigrant wives have access to child care services which includes before childbirth care, postnatal care, and rearing children. Immigrant wives not only have limited access to these services but are also unaware of the services due to lack of information. Therefore, the government need to include immigrant wives as future recipients of the service and insure that they can continue to work in the long run.



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The Impact of Foreign Direct Investment in China on Employment Adjustments in Taiwan: Evidence from Matched Employer-Employee Data

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Abstract

Using two unique matched employer-employee datasets on Taiwanese manufacturing, we examine the impact of foreign direct investment in China on domestic employment adjustments controlling for firm and worker heterogeneity as well as for potential endogeneity of firms' expansion in China. Our empirical findings suggest that workers employed at firms with higher levels of investment in China or at firms targeting China as their major FDI destination are more likely to leave the firm or move to another employer, compared with those at firms with zero or lower levels of investment in China or with firms targeting investment in developed countries. We provide evidence that foreign expansion in China decreases worker employment security at parent companies, particularly for low-skilled workers. Employment adjustments through employer-to-employer transitions are found to be highly associated with wage losses, with the strongest wage effects for low-skilled workers who shift employment across industry. Further, we find no evidence that FDI in China contributes to skill upgrading at parent companies.

Keywords: Foreign direct investment; Employment adjustment; Worker mobility;
Employer-to-employer transition; Matched employer-employee data

JEL Classification: F21, F23, J63

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1. Introduction

Economists have long discussed the impacts of outward foreign direct investment (FDI) on the home labor market. As multinational enterprises (MNEs) play an important role in the international division of labor, a number of studies have investigated whether employment at a parent firm and its foreign affiliates are complementary or substitutes. Since the relationship is determined primarily by how multinationals reallocate the operations between parent and affiliates in response to wage differences across countries, this subject is an empirical issue and the evidence is far from conclusive. Studies have generally documented that jobs in high-income affiliates are complementary with parent jobs, while jobs in low-income affiliates are substitutes for parent jobs. However, contradictory results have been reported across different contexts and time periods.

More recently, the availability of employer-employee matched data has created a new wave of research investigating the role of globalization on domestic labor market dynamics. Yet the evidence is relatively scant. Menezes-Filho and Muendler (2007) use linked employer-employee data from Brazil to examine how workers' labor market transitions are affected by trade liberalization. They find that trade openness is associated with more displacements and fewer accessions at employers in comparative-advantage industries and at exporters. Utilizing a matched worker-firm dataset, Hummels et al. (2010) find that workers displaced from outsourcing firms experience greater wage declines, and that workers with little education suffer larger and more consistent losses than highly-educated workers. In contrast, based on a German linked employer-employee dataset, Becker and Muendler (2008) report that foreign expansion significantly reduces the probability of domestic worker separation and conclude that hindering MNEs from engaging in FDI may lead to greater job destruction at home.

Following this research trend, we utilize unique employer-employee matched data from Taiwan to investigate how foreign expansion in China affects the employment adjustment at parent companies. Over the past decade China has emerged as a magnet for foreign direct investment, becoming the largest recipient of FDI among developing nations. Taiwan is a substantial contributor to this investment: total approved outward investment from Taiwan into China has risen exponentially, from US\$1.1 billion in 1995 to US\$6 billion in 2005.¹ Over the fifteen-year period from 1991 to 2005, the island's total FDI into China amounted to US\$47.2 billion, making Taiwan the fourth largest source of China's inward FDI. According to the *Survey on Overseas Investment by Manufacturing Firms*, approximately 80 percent of Taiwanese multinationals targeted China as their major FDI destination in 2005.² The large relocation of production from Taiwan to China has raised growing concerns over issues such as industrial hollowing-out and the substitution for

¹ Data from the Investment Commission of the Ministry of Economics Affairs in Taiwan.

² Data from the Bureau of Statistics at the Ministry of Economics Affairs in Taiwan.

domestic employment.

In this paper, we address the questions of how foreign expansion in China affects workforce adjustment at home and how the impact may vary across skill levels. Taiwan presents an interesting case for at least two reasons. First, compared with other developed economies, a large proportion of Taiwan's outward direct investment goes to China, concentrated mainly in the manufacturing sector.³ This trend is even more significant after the government replaced its policy of 'patience over haste' with that of 'active opening and effective management' in 2001. The share of total outward investment that is directed toward China increased from 17 percent in 1995 to a record 63 percent in 2005.⁴ Second, there is evidence that the Taiwanese labor market is more dynamic than in Western economies as Taiwan is a small, open economy with weak unions and limited employment protection.⁵ Therefore, it is our interest to examine the adjustment costs in the labor market associated with the foreign expansion by multinational enterprises.

This paper contributes to the existing literature by using two unique employer-employee matched datasets to explore the effects of foreign expansion in China on individual labor-market transitions. In addition to worker separations, one striking feature of our data is that we are able to identify the employer-to-employer (EE) flows and to distinguish between within-industry and between-industry EE transitions, which allows us to generate a more complete picture of labor-market adjustments.⁶ Information on wages before and after the job change is also available. As compelling evidence supports the claim that it is more costly for workers to shift employment between as opposed to job within industry⁷, by distinguishing within- and between-industry EE transitions we can better understand the costs of labor adjustment in response to exposure to foreign expansion in China. To the best of our knowledge, this study uses the most comprehensive measures of worker flows employed to date to investigate the effects of outward FDI on short-run labor-market dynamics.

Controlling for the possible endogeneity of foreign expansion in China, our empirical findings on listed companies in Taiwan suggest that FDI in China is significantly negatively associated with parent employment growth and significantly positively correlated with worker separation. A similar picture is also found using a supplementary dataset on Taiwanese multinationals. Firms targeting China as their major FDI destination are shown to have substantially lower employment growth and higher worker separation and

³ The electronics, basic metals and chemical industries accounted for the largest shares of FDI outflows toward China.

⁴ Data from the Bureau of Statistics at the Ministry of Economics Affairs.

⁵ Tsou et al. (2001, 2002) suggest that the manufacturing sector is the most important sector in contributing to both job and worker flows in Taiwan.

⁶ A growing number of recent studies have highlighted the importance of EE flows on labor-market dynamics (Fallick and Fleischman, 2004; Nagypál, 2005; Shimer, 2005; Golan et al., 2007; Bjelland et al., 2008; Tsou and Liu, 2008).

⁷ See, for example, Fallick (1993), Neal (1995), Greenaway et al. (2002) and Haynes et al. (2002).

employer-to-employer transition rates. Even accounting for observable and unobservable characteristics of firms and workers, our results on worker-level analysis reaffirm the prominent view in the public debate that foreign expansion in China threatens domestic employment stability in Taiwan, particularly for low-skilled workers. With regard to adjustment costs, employment movements in response to the shift of labor demand through employer-to-employer transitions are found to be strongly associated with wage losses. The adverse wage effect of expansion in China appears to be the strongest for low-skilled workers who engage in between-industry reallocation.

The remainder of the paper is organized as follows. In Section 2, we provide the background on outward FDI policy toward China in Taiwan. Section 3 summarizes a brief literature. In Section 4, we describe the data and measures. Section 5 describes the empirical strategy and empirical specification. In Section 6, we analyze the empirical results. Conclusions follow in Section 7.

2. Background

Due to persistent conflict between Taiwan and China, FDI in China was for many years prohibited by the Taiwanese government. After investment in mainland China was legalized in 1992, many Taiwanese manufacturers established factories in China to profit from cheaper labor. Coincident with the Chinese government's adoption of an export-promotion strategy, many of these manufacturers also treat China as an exporting platform, receiving orders in Taiwan, producing goods in China, and shipping the goods directly to overseas buyers. In response to growing debate, the Taiwanese government adopted a 'patience over haste' policy in 1996 to regulate the economic relationship between Taiwan and China. Under this policy, investment in China by the high-tech and infrastructure sectors was restricted; investment by listed companies was limited to certain percentages of company capital, and a US\$50 million ceiling was imposed on all investment projects. This policy lasted about five years and was replaced in August 2001 by an 'active opening and effective management' policy. The new policy follows recommendations of the Economic Development Advisory Conference (EDAC) and relaxed restrictions on investment in China in November 2001. The US\$50 million maximum on cross-strait investment was abolished, though investments larger than US\$20 million are reviewed by the Investment Commission. In addition, a listing of investment items for which restrictions should be relaxed is regularly identified by a panel of representatives from industry, government, and academia.

According to statistics compiled by the Investment Commission of the Ministry of Economic Affairs in Taiwan, the approved investment by Taiwanese enterprises in China from 1991 through 2005 amounts to 34,452 cases with a value of US\$47.2 billion. The share of total outward investment directed toward China increased from 17.3 percent in

1995 to 32.2 percent in 2001, jumped to 61 percent in 2002 (the year following adoption of the ‘active opening and effective management’ policy), and reached 63 percent in 2005.

Most of the outward investment in China is concentrated in the manufacturing sector, with the top five industries including electronic machinery and electronics, basic metal, chemicals, machinery and equipment, and precision instruments.

3. Related Literature

The impact of outward FDI on a parent company’s employment and skill composition is closely related to the motivations behind FDI. Theories of multinational enterprises traditionally highlight two major reasons for FDI, market-seeking (horizontal FDI, formulated by Markusen, 1984) and comparative advantage (vertical FDI, formulated by Helpman, 1984). Multinationals that undertake horizontal FDI are mainly motivated by potential savings of transport and trade costs. They produce the same products or services abroad and duplicate most or all of their production activities in multiple countries. As foreign investment substitutes for parent exports, affiliate employment is predicted to substitute for parent employment (Markusen and Maskus, 2001). On the other hand, vertical FDI is primarily motivated by factor endowment differences. Multinationals that undertake this kind of FDI fragment their production stages across countries to exploit differences in factor costs. The vertical decomposition of production leads to a complementarity in labor demands between a parent and its foreign affiliates (Rikers and Brainard, 1997).

Recent literature on this subject has advanced beyond the distinction between horizontal FDI and vertical FDI. Markusen (2002) incorporates these two motives in the knowledge-capital model and predicts how affiliate activity is affected by the market size and relative factor endowment in the host country. Ekholm et al. (2007) extend prior work to model the “export-platform” FDI, with the affiliate activity possessing both horizontal and vertical features.⁸ Hanson et al. (2001), Yeaple (2003), and Grossman et al. (2006) have also documented that multinationals use more complex integration strategies and perform a diverse set of activities at foreign affiliates, which cannot be captured by a simple distinction between horizontal and vertical FDI.

In practice, the coexistence of market-seeking and cost-reducing forces makes theoretical predication about the effect of outward FDI on parent-firm employment ambiguous. Even when considering only one type of FDI, the labor market effects of outward FDI are not clear and depend crucially on the nature of the activities moved offshore and the relative factor abundance of both home and host countries. For example, in the case of horizontal multinationals, a complementary relationship between the labor

⁸ Export-platform FDI refers to affiliate production is primarily for exports to third countries.

demand of parents and affiliates may exist if foreign operations stimulate some of the activities or functions centralized within the headquarters. Similarly, when vertically-integrated multinationals relocate their operations from the parent company to the affiliates, strong substitution between parent and affiliate employment can be expected. Cases where labor-intensive activities are transferred to low-income countries while the skill- or capital-intensive activities remain within the home country may result in a shift in relative demand favoring skilled labor in the home country. Conversely, FDI in countries with sufficiently high-skill workers may be associated with a downgrading of skills in the home country.

A considerable empirical literature has analyzed how FDI affects labor demand in the MNEs' home operations. The evidence is mixed. Initially, Brainard and Riker (1997) found that foreign affiliates substitute modestly for US parent employment. However, a more recent study by Desai et al. (2008) reported the opposite association, with expansion abroad stimulating domestic employment. A number of studies have documented that the destination of FDI is important for the relationship between foreign activity and home labor market outcomes. For example, Blomstrom et al. (1997) found that a negative effect on US parent employment was mainly attributable to the allocation of labor-intensive activities to affiliates in developing countries, while a positive effect on employment in Swedish parent companies was discernible for affiliates located in both developed and developing countries.⁹ Similar findings for the US were reported by Hanson et al. (2003), Harrison et al. (2007) and Ebenstein et al. (2009), and for Sweden by Braconier and Ekholm (2000). By distinguishing the nature of multinational operations, Harrison and McMillan (2008) further concluded that employment at low-income affiliates substitutes for employment at horizontal US parents, but complements employment at vertical US parents.

For other European nations, Mariotte et al. (2003) reported that the impact of foreign expansion on Italian domestic employment was negative for vertical FDI in less developed countries and positive for horizontal FDI in more advanced countries. However, utilizing a firm-level panel dataset on European multinationals, Konings and Murphy (2006) suggested that employment substitution took place mainly between parents and their Northern EU-based affiliates rather than with their affiliates located in low-wage regions in the Southern EU and in Central and Eastern Europe. On the other hand, Becker et al. (2005) used data on German and Swedish MNEs to find that affiliate employment substitutes for employment at home, particularly for affiliate employment in Western Europe.

Other literature has used the matching technique and difference-in-difference analysis to evaluate the causal effect of establishing a foreign affiliate on domestic employment.

⁹ One possible reconciliation of these results is that US and Swedish MNEs adopt different investment strategies: US MNEs tend to allocate their labor-intensive stages of production to low-wage countries while Swedish MNEs tend to relocate their more skilled operations abroad and retain less-skilled operations in the home country.

Based on a sample of Italian firms, Barba Navaretti and Castellani (2004) found that investing abroad significantly increases employment at home. Similarly, Barba Navaretti et al. (2006) and Castellani et al. (2008) reported that foreign investment does not induce a significant employment reduction at parent companies in Italy. The same approach has also been applied to France (Barba Navaretti et al., 2006), Japan (Hijzen et al., 2007) and Korea (Debaere et al., 2010). While a positive employment effect has been reported for France and Japan, the result is less clear for Korea, for which Debaere et al. (2010) suggested that relocation to less advanced countries (usually China) reduces domestic employment while relocation to advanced countries has no significant effect on employment growth.

In the case of Taiwan, Chen and Ku (2000) studied a sample of Taiwan's largest private manufacturing firms and reported that neither expansionary FDI (investment in high-wage countries) nor defensive FDI (investment in low-wage countries) was associated with domestic employment growth. However, a subsequent study by the same authors concluded that FDI had a net positive effect on domestic employment, with technical workers benefiting most and blue-collar workers least (Chen and Ku, 2003).

4. Data and Measurement

In this study, we use two unique matched employer-employee datasets for the manufacturing sector in Taiwan. The primary data are constructed by combining the *Taiwan Economic Journal* (TEJ) database and the *Labor Insurance* (LI) wage records. The TEJ data are collected by Taiwan Economic Journal Corporation, which contains comprehensive information on corporate financial statements for firms listed on the Taiwan Stock Exchange. These firms represent diverse industries and account for a large share of the Taiwanese economy. Since all the firms are listed on the Taiwan Stock Exchange, they are larger and better-performing enterprises than their smaller counterparts.¹⁰

Data on FDI in China are compiled from the Investment Commission of the Ministry of Economic Affairs. All companies listed on the Taiwan Stock Exchange are required to publicly release both the amounts invested in individual projects and the project locations. Overseas investment in China must also be approved by the Investment Commission. Since the companies might not undertake investment projects every year, we use the cumulative amount of investment approved in China relative to the parent company's capital stock (book value) as a proxy for the degree of expansion in China.

The LI wage record data are drawn from the Council of Labor Affairs in Taiwan and include individual monthly wages and demographic information including age, gender, and education. The main advantages of using the LI wage record data are twofold: first, it is a

¹⁰ One possible concern with the TEJ dataset is that the sample may not be representative of the population of Taiwanese manufacturing firms. However, since they represent the most successful enterprises in Taiwan, the matched employer-employee data are valuable in terms of facilitating the analysis of a variety of labor market issues.

national population database covering 470,000 employers and more than eight million private-sector employees; second, it contains observable identifiers for both employers and employees that enable us to accurately track the movements of workers among employers over consecutive years. However, due to lack of information on the various separation routes, such as lay-offs, resignations, and normal or early retirements, we are unable to distinguish between workers who become unemployed and those who leave the labor force.

Our construction of the first matched employer-employee dataset was based on common recording of the employer identification code from the two datasets. Over the period 1998-2004, the dataset includes between 381 and 388 firms with between 320,000 and 400,000 employees per year.

To check the robustness of our findings, we use supplementary data on Taiwanese multinationals. A second matched employer-employee dataset was created by linking the LI wage records with the *Survey on Overseas Investment by Manufacturing Firms* (SOI). The SOI survey was conducted by the Bureau of Statistics at the Ministry of Economic Affairs and comprises Taiwanese multinationals that had engaged in outward FDI. The sample was drawn from a list of firms satisfying at least one of the following criteria: (i) firms that had been interviewed in a previous SOI; (ii) firms reporting that they were engaged in outward FDI in 2000 in the *Report on Enterprises Survey* carried out by the Bureau of Statistics at the Ministry of Economics Affairs; and (iii) firms newly approved for investing abroad by the Investment Commission of the Ministry of Economic Affairs.

This second dataset permits us to identify the major FDI destination of Taiwanese parents, but the amount of investment is not available and the information on operations of foreign affiliates is limited.¹¹ Moreover, due to the absence of employer identifiers before 2000 in the SOI data, we are only able to create the linked dataset for a shorter time span, from 2000 to 2004. For this period, the linked data include between 1,300 and 1,700 firms and between 300,000 and 410,000 employees each year.

Our definitions of job and worker flows are similar to those originally proposed by Davis and Haltiwanger (1992). All the measures calculated in this paper are based on comparing workers and firm matches in consecutive Decembers. The rate of net employment growth (LG) is measured as the change in employment between two consecutive years divided by the average employment of the firm. In addition to the conventional measures of hirings (H) and separations (S), we define ‘workers changing employers between two consecutive years’ as employer-to-employer (EE) flows, which are divided between turnover within an industry (EE -within) and turnover across industries (EE -across), with industry defined at the two-digit SIC level. All of these measures are

¹¹ As described above, only listed companies are required to publicly release details of their investment in China and to seek permission from government. Hence we could not collect information on the cumulative value of investment in China for the whole SOI sample.

converted to rates by dividing by the size of the firm, defined as the average employment in the two consecutive years. We measure the rate of skill intensity growth (*SKG*) as the change in the share of workers educated at the junior college level or above between the two consecutive years.

We construct two alternative indicators of FDI in China: the ratio of the accumulated approved outward investment in China to the parent company's capital stock (book value) for the TEJ data and a dummy variable indicating whether a firm's major FDI destination was China for the SOI data. Due to lack of detailed information on the operations of foreign affiliates, such as intra-firm trade between foreign affiliate and parent, we are not able to distinguish between horizontal and vertical investment in China.¹²

5. Empirical Strategies and Model Specifications

To better understand the employment adjustment effects of outward FDI, we employ linked employer-employee data to assess the labor market transitions and wage effects associated with expansion in China. We conduct the analysis at both firm and worker levels.

5.1 Firm-level analysis

Utilizing the linked employer-employee data on Taiwanese listed companies, we begin our analysis by examining the impact of FDI in China on employment dynamics at the parent level. The basic empirical model can be written as

$$Y_{ijt,t+1} = \alpha_0 + \alpha_1 CHINA_FDI_{ijt} + \alpha_3 X_{1ijt} + \alpha_i + \theta_j + \lambda_t + \varepsilon_{ijt} \quad (1)$$

where Y represents alternatively each of several dependent variables: LG is the parent company's net employment growth rate; H is the hiring rate; S is the separation rate; and EE is the employer-to-employer transition rate, with *EE-within* referring to employer-to-employer transition rate within an industry and *EE-across* indicating employer-to-employer transition rate across industries. All of the domestic workforce adjustments are measured by tracing the individual working at firm i between time t and $t+1$.

To investigate how the effect of foreign expansion in China may vary between different skill levels, we further disaggregate employment into high-skilled and low-skilled labor based on workers' educational attainment. Following common practice within the literature, workers educated to junior college or above are defined as high-skilled labor, and workers educated to senior high school or below are defined as low-skilled labor. The analysis of workforce adjustment is conducted separately for the two skill groups. Moreover, to evaluate whether there is a 'skill upgrading' or 'skill downgrading' effect resulting from FDI in China, we use the change in the share of high-skilled labor between

¹² Harrison and McMillan (2008) use the share of intra-firm trade to distinguish vertical from horizontal FDI.

consecutive years as a proxy for the rate of skill intensity growth, SKG .

Among the explanatory variables, $CHINA_FDI$ is defined as the ratio of the cumulative amount of outward investment approved in China to the parent company's capital stock at time t ; X_1 is a vector of firm characteristics including the logarithm of sales, the logarithm of the capital-labor ratio and the profit to sales ratio; and α , θ and λ represent fixed effects of firm, industry, and year, respectively.

A major concern with regard to Equation (1) is that the decision to invest in China may be endogenous, as a firm's unobserved characteristics are likely to be associated with both its relocation to China and a reduction in employment in Taiwan. To address this problem, we use the lifting of restrictions on investment in China as an instrumental variable. The lifting of restrictions was an exogenous shock that induced some listed firms to move more of their production activities to China but should not have affected employment directly.

As described in the previous section, the 2001 change in Taiwan's outward investment policy played an important role in firms' decisions to invest in China. Our sample period allows us to employ a difference-in-difference approach to assess the effect of the change in policy. We compare the expansion in China for two treatment groups before and after the easing of the restrictions on investment items on 7 November 2001 with the corresponding expansion for a control group. We define the control group as those firms whose investment items were not restricted throughout the period, while the two treatment groups include those firms whose investment items were previously prohibited but were subsequently permitted (treatment group 1) and those firms whose investment items remained on the restriction list after the relaxation (treatment group 2). Treatment group 2 is a 'null treatment group', because the response of firms in this group to the policy change should be similar to that of the control group. We anticipate that the policy change would have significantly affected expansion into China by the treatment group 1, but not by the control group or treatment group 2. The difference-in-difference estimator can be expressed within the following regression framework:

$$CHINA_FDI \equiv TIME_{dijit} TREAT1_{dijit} TREAT2_{dijit} TREAT_{dijit} X_{2it} + \varepsilon_{562} \quad (2)$$

where $TIME$ is an indicator variable for the period after 7 November 2001; $TREAT1$ is an indicator variable for treatment group 1; $TREAT2$ is an indicator variable for treatment group 2; and other control variables, represented by the vector X_2 , include the logarithm of sales, the logarithm of the capital-labor ratio, the logarithm of monthly average worker wage, and the industry dummies at the two-digit level. The coefficient of the interaction of $TIME$ and $TREAT1$ captures the effects of the policy change.

For a preliminary check, we graph the cumulative amount of outward investment in China and its ratio to the parent company's capital stock for the control and treatment groups in Figure 1. As displayed in the figure, compared with the control group (whose investment items were not restricted throughout the period) and the null treatment group (whose investment items remained on the restricted list after the relaxation, treatment group 2), both the cumulative amount of outward investment in China and its ratio to the parent company's capital stock take a dramatic jump after 2001, the year of the policy change. For the firms in treatment group 1, the average ratio of the cumulative amount of outward investment in China to the parent company's capital stock increased sharply from 3 percent in 1998 to 17 percent in 2004. The corresponding figures for firms whose investment items were not restricted throughout the period (control group) and for firms whose investment items remained on the restricted list after the relaxation (treatment group 2) were from 2-4 percent in 1998 and increased slightly to 7-11 percent in 2004.

We use a two-stage procedure to estimate the workforce-adjustment equations when treating expansion into China as endogenous. The first stage is to estimate (2) by adopting a difference-in-difference method, and the second is to use the predicted value of *CHINA_FDI* in the estimation of equation (1). Variable definitions and summary statistics are provided in Table 1.

5.2 Worker-level analysis

Firm-level estimates may suffer from aggregation bias since we cannot control for worker heterogeneity that may influence worker mobility. Therefore, when studying the effects of FDI in China on employment dynamics, analysis at the worker level is preferred. Furthermore, since the firm's FDI activities can be considered largely exogenous to the individual worker, the potential endogeneity bias of firm-level analysis may be reduced considerably.

We estimate the worker mobility equations at the worker level, controlling for heterogeneity both within firms and among workers. The empirical specification is:

$$M_{ijkt,t+1} = \gamma_0 + \gamma_1 CHINA_FDI_{ijt} + \gamma_2 X_{1ijt} + \gamma_3 I_{ijt} + \alpha_i + \theta_j + \lambda_t + \varepsilon_{ijt} \quad (3)$$

where M represents four alternative dependent variables: worker separation (*SEP*), employer-to-employer transition (*EE_ind*), employer-to-employer transition within industry (*EE-within_ind*) and employer-to-employer transition across industries (*EE-across_ind*).

Worker separation is defined as occurring when an individual who was employed at time t no longer appears with the same employer at time $t+1$. A worker who has changed employers between two consecutive years is defined as an employer-to-employer transition, which is further classified as a transition within the same industry or a transition across industries at the two-digit SIC level.

Worker demographic characteristics, I , include gender ($MALE$), two age dummies ($30 \leq \text{age} < 50$ ($AGE30$) and $\text{age} \geq 50$ ($AGE50$)), and a high-skilled dummy ($HIGH$) indicating an individual with junior college or higher education. The firm characteristics X_1 are the same as in Equation (1). To control for unobserved firm characteristics, industry-specific shocks, and aggregate economic conditions, we include firm fixed effects (α), industry effects (θ), and year effects (λ). We estimate the fixed effect linear model with ordinary least squares (OLS).

6. Empirical Results

6.1. Firm-level analysis

We begin our analysis by utilizing the TEJ data to explore the impact of FDI in China on employment adjustments at the parent companies. Our approach is first to estimate a set of job- and worker-flow regressions by using a fixed effects model and next to control for the potential endogeneity of foreign expansion in China by using a two-stage procedure. The results are presented in Table 2, with Panel A reporting the OLS estimates of our base model and Panel B reporting the instrumental-variable (IV) estimates after treating FDI in China as endogenous.

As shown in Panel A, we find that foreign expansion in China is negatively associated with the hiring rate and positively associated with the separation rate, although the estimated coefficient of CHINA_FDI is only marginally significant in the hiring-rate regression. The effect on parent's net employment-growth rate is negative but statistically insignificant. With regard to employer-to-employer flows, the coefficient of CHINA_FDI is insignificant. We find no evidence that foreign expansion in China raises skill intensity at parent companies, which differs from Head's and Ries's (2002) result for Japanese firms. Taken together, our basic fixed effect results do not suggest that expansion in China is strongly associated with the employment dynamics and skill composition of Taiwanese listed companies.

A different picture emerges when treating the CHINA_FDI variable as endogenous. To save space, we do not report the first stage estimation in the table. After controlling for a number of firm-specific characteristics, we find that the coefficients of both TIME (the policy change year dummy) and the interaction term of TIME and TREAT1 (the dummy for treatment group 1), which represents the policy change effect, are positive and statistically significant. In contrast, the coefficient of the interaction of TIME and TREAT2 (the dummy for treatment group 2) is positive but not statistically significant. These findings are consistent with our prior expectation that the easing of restrictions on investment in China encouraged more capital outflow to China. Among other determinants, older and larger firms, firms with lower capital intensity, and firms paying lower wages tend to have higher levels of investment in China.

Panel B of Table 2 reports the results accounting for the endogeneity of foreign expansion in China. We find that employment growth at the parent is significantly lower and the

separation rate is significantly higher among firms that have more investment in China. The hiring rate is only weakly associated with expansion in China, however. With regard to the EE regressions, the coefficients of CHINA_FDI remain statistically insignificant. Again, there is no evidence that foreign expansion in China is significantly correlated with skill upgrading at parent companies.

Comparing these results with those treating CHINA_FDI as exogenous suggests that the OLS results underestimate the adverse effects on employment. The Hausman tests show that the differences between the two specifications are statistically significant. Thus, we reject the hypothesis that FDI in China is exogenous.

Considering the remaining variables, larger firms tend to have lower net employment growth and lower hiring rates, and firms with higher profit rates appear to have higher employment growth and hiring rates and lower separation rates.

To investigate whether the effects of expansion in China differ across skill levels, the empirical models are estimated separately by skill group. The results are presented in Table 3. Focusing on results of the two-stage approach (Panel B in Table 3), we find that the rate of net employment growth is significantly lower and the separation rate is significantly higher for low-skilled labor in firms with more investment in China. By contrast, there is no association between FDI in China and employment adjustments of high-skilled labor. These results indicate that adjustments of the workforce in response to FDI in China are mainly driven by displacement of low-skilled labor.

When the EE regressions are estimated separately by skill levels, the weak correlation of FDI in China and employer-to-employer transition rates holds for both skill groups. Since separations can be broken down into three components: employer-to-employer flows, employment-to-unemployment flows, and employment-to-out of labor force flows, our findings imply that a large proportion of workers from the listed firms with more investment in China may transit to unemployment or out of the labor force. This pattern of adjustments may entail more search friction in the labor market than with the employer-to-employer flows.

6.2 Worker-level analysis

In this section, we present results of a set of individual-worker-mobility regressions (separation, employer-to-employer transition, employer-to-employer transition within the same industry, and employer-to-employer transition across different industries) in Table 4. For each set of regressions, the first column reports the results of our base specification and the second column reports the results including interactions between the indicator for foreign expansion in China and two skill-level dummies. All regressions include firm-, industry-, and year-fixed effects to control for aggregate economic variation and unobservable industry and firm characteristics.

Examining the worker-separation regression first, after controlling for demographic

characteristics as well as observed and unobserved firm heterogeneity, we find that foreign expansion in China significantly increases the likelihood of individual job separation, which is consistent with the findings of our firm-level analysis. In addition, workers at smaller, more capital-intensive, and more profitable firms experience fewer separations. Among the demographic characteristics, while male workers are more likely than female workers to exit from firms, prime-age, older-age, and high-skilled workers tend to have lower likelihoods of separation than younger and low-skilled workers.

To assess the extent to which foreign expansion in China affects individual employment transition for different skill groups, we add interactions of CHINA_FDI and two skill-level dummies (*HIGH* and *LOW* are dummy variables for high-skilled and low-skilled workers, respectively) as an alternative specification. We find a positive and statistically significant effect of FDI in China on job separation for low-skilled workers while the effect for high-skilled workers is positive but only marginally significant. The F test indicates that the effect of FDI in China differs significantly between skill groups, with low-skilled workers facing greater risk of job displacement than high-skilled workers.

Turning to the regressions for employer-to-employer transition (*EE_ind*), we find a significant and positive effect of FDI in China on low-skilled workers and a significant and negative effect for high-skilled workers. Distinguishing between intra- and inter-industry reallocation and estimating separate regressions for the two types of EE flows shows that the overall pattern is driven mainly by job transitions across industries (*EE-across_ind*) rather than those taking place within the same industry (*EE-within_ind*). By further interacting FDI in China with two skill-level dummies, we find that the low-skilled workers experience higher probabilities of across-industry employer-to-employer transitions than do higher-skilled workers. Together, these results imply that domestic-employment adjustment is inter-industry in nature and concentrated among low-skilled workers. This pattern is expected to be associated with higher adjustment costs than intra-industry job movements or job movements undertaken by high-skilled workers.¹³

Considering the other firm-level controls, for job transitions across industries we find similar effects as in the worker-separation regressions. The pattern is somewhat different for job transitions within industry, however. Workers employed at larger firms are less likely to move to another employer in the same industry while those at more profitable firms are more likely to change employers within industry.

Prime-age and older-age workers are less likely to engage in employer-to-employer transitions than younger workers. In contrast, male and high-skilled workers tend to change employers more frequently than female and low-skilled workers.¹⁴

¹³ See Fallick (1993), Greenaway et al. (2002), Haynes et al. (2002), and Fitzenberger and Garloff (2007).

¹⁴ Since the employer-to-employer transitions may be more voluntary than other transitions, it is not surprising to find that high-skilled workers are more likely to change jobs than low-skilled workers, which is consistent with the

The employer-to-employer flows are not without frictions in the labor market. When workers are involuntarily discharged they may experience substantial losses in earnings.¹⁵ Therefore, it is also of interest to examine wage changes following EE transitions associated with expansion in China. We estimate individual-wage-decline regressions where the dependent variable is a binary variable with a value of 1 if a worker experiences a wage decrease between consecutive years. The results are presented in Table 5.¹⁶

As the first column shows, the effect of foreign expansion in China on the probability of individual wage decline is positive but insignificant. When interacting the indicator of FDI in China with the dummy variables for across-industry and within-industry EE transition (*EE_within_ind* and *EE-across_ind*), we find that the coefficients of both interactions are positive and statistically significant (column 2), indicating that workers who leave firms with greater investment in China are more likely to experience a wage decrease in the subsequent job. The F test shows that the likelihood of wage decrease is significantly higher for across-industry EE changers than for within-industry EE changers, which is consistent with the view that adjustment costs are greater for inter-industry than intra-industry job movement (Neal, 1995; Haynes et al., 2002). As workers may search for a better-paying job while employed, our finding also suggests that inter-industry adjustments may be less voluntary than intra-industry adjustments.

In the last column, we include interactions of foreign expansion in China, two types of EE transitions, and two skill-level dummies in the regression. All the interaction terms are significantly positive and the F test shows that the estimates differ significantly across the combinations of the skill groups and EE transitions. It is apparent that low-skilled workers suffer more than high-skilled workers from employer-to-employer transitions. The adverse wage effect is strongest for low-skilled workers who engage in across-industry EE transitions.

6.3. Robustness Checks – SOI data

In this section, we utilize a linked employer-employee dataset on Taiwanese multinationals for robustness checks. We use a similar specification for the firm-level analysis as equation (1), which can be written as:

$$Y_{ijt,t+1} = \alpha_0 + \alpha_1 CHINA_{ijt} + \alpha_2 ASEAN_{ijt} + \alpha_3 F_{ijt} + \alpha_i + \theta_j + \lambda_t + \varepsilon_{ijt} \quad (4)$$

where the dependent variable, Y , represents alternative domestic-workforce adjustments, *LG*, *SKG*, *H*, *S*, *EE*, *EE-within* or *EE-across*, for firm i between time t and $t+1$. Among the

evidence for Germany by Fitzenberger and Garloff (2007).

¹⁵ Jacobson et al. (1993) and Polksy (1999) find lower wages in the new job subsequent to an involuntary job loss.

¹⁶ Because the LI wage data do not include exact wages, we use a binary variable indicating whether an individual experienced a wage decline rather than a continuous variable of wage growth. On the other hand, since the post-separation wages are not observed for the unemployed, we include only job stayers and job movers in our estimates.

explanatory variables, *CHINA* is a dummy variable indicating that a firm targets China (including Hong-Kong) as its prime FDI destination and *ASEAN* is a dummy variable indicating that the firm's primary target destination is another Southeast Asian country. The reference group is firms that focused their investment on developed countries of North America, Western Europe, and Japan.¹⁷ *F* is a vector of firm characteristics, including prior experience of FDI (number of years, *FDTIME*), the logarithm of parent sales (*LNSALED*), and the logarithm of affiliate sales (*LNSALEF*). To control for unobserved characteristics of firm-specific and industry-specific shocks as well as aggregate economic conditions, α , θ , and λ represent firm, industry, and year fixed effects, respectively. Due to a lack of good instruments, we do not attempt to control for the endogeneity of foreign investment decisions. Variable definitions and summary statistics are reported in Table A1 of the Appendix.

For the worker-level analysis, we use the following model:

$$M_{ijkt,t+1} = \gamma_0 + \gamma_1 CHINA_{ijt} + \gamma_2 ASEAN_{ijt} + \gamma_3 F_{ijt} + \gamma_4 I_{ijt} + \alpha_i + \theta_j + \lambda_t + \varepsilon_{ijt} \quad (5)$$

Again, the specification is similar to that of Equation (3), except that firm-level controls (*CHINA_FDI* and the vector *X*) are replaced by those in Equation (4) (*CHINA*, *ASEAN* and the vector *F*).

Tables 6-8 report the estimation results for the SOI data. To save space, we report only the estimates of particular interest, i.e., *CHINA* and its interactions. As shown in Panel A of Table 6, compared with firms that focus their foreign investment in developed countries (the reference group), we find that firms targeting China as their major FDI destination have significantly lower employment growth and significantly higher separation and across-industry EE rates. Unsurprisingly, a similar pattern of employment adjustments prevails at firms targeting other Southeast Asian countries as their major destination, since this region is a well-known alternative FDI destination for Taiwanese multinationals seeking low-cost labor.

Consistent with our previous evidence, EE transitions among firms targeting their investment in China take place mainly between different industries, rather than within the same industry, implying that greater search frictions are involved in the adjustment process. The influence of firm-level controls is relatively small, except that firms with higher domestic sales appear to have lower across-industry EE rates. With regard to skill composition, we find no evidence of a significant association between FDI in China and skill upgrading at home, consistent with our earlier findings using TEJ data.

A similar analysis estimated separately by skill group is reported in panel B of Table 6. We find that employment growth of low-skilled labor is significantly slower at firms that treat

¹⁷ Since a vast majority of Taiwanese multinationals target their prime FDI destination in China or Southeast Asian countries (over 88 percent), we exclude a negligible number of firms targeting FDI in other developing countries, which only account for 4-5 percent in our sample.

China as their major FDI destination, compared with those focusing their investment in developed countries. Moreover, the separation and across-industry EE rates for both high- and low-skilled groups are significantly higher at firms targeting their investment in China.

Lastly, we perform the analysis at the worker level in Table 7. After controlling for observable and unobservable firm heterogeneity as well as demographic characteristics, we find that FDI targeted in China is significantly and positively associated with the probability of worker separation and employer-to-employer transitions, both within and across industries. This suggests that workers at firms targeting China as their major FDI destination are more likely to exit their firms and find reemployment either within or across industries than are workers at firms which focus their FDI in developed countries. By interacting the indicator of CHINA with two skill-level dummies, we find additional support for our earlier result that low-skilled workers face higher risk of employment instability than high-skilled workers in response to reallocation pressures.

The influence of firm-level variables is much stronger in the worker-level analysis than in the preceding firm-level analysis. Workers employed at firms with a lower level of parent sales or a higher level of affiliate sales are more likely to exit from the firm or change employers (either within or across industries). In addition, the firms' FDI experience is strongly positively associated with worker separation and across-industry EE transitions, indicating that workers at firms with longer experience in FDI may face higher job-displacement risk.¹⁸

An additional test of the impact of FDI in China on the probability of individual wage decline is presented in Table 8. As shown in the first column, workers employed at firms targeting FDI in China are more likely to experience a wage cut than those employed at firms targeting FDI in developed countries. By including interactions of CHINA with two types of EE transitions, we find that the effect of FDI in China on wage decline is significantly stronger for across-industry EE transitions than for within-industry EE transitions. When further allowing the effect to differ by worker skills, we confirm that the adverse wage effect is more severe for low-skilled workers. Overall, these results support our previous results for listed companies.

To summarize, using alternative measures of FDI in China and two employer-employee matched datasets, we find support for the predominant view in the public debate that FDI in China threatens job security of workers in parent firms, particularly for low-skilled workers. The substitution relationship between affiliate employment in China and parent employment can be mainly attributed to the allocation of labor-intensive activities to affiliates in China. These findings are generally consistent with evidence for the US reported by Harrison et al. (2007) and Ebenstein et al. (2009), and for Korea by Debaere et al. (2010), but contrast with evidence found for Taiwan by Chen and Ku (2000, 2003), and for Germany by Becker and

¹⁸ To save space, we do not report the estimates of other firm- and worker-level controls in the table. The results are available upon request.

Muendler (2008). While Head and Ries (2002) suggest that investment in low-income countries raises the domestic skill intensity of Japanese MNEs, we do not find evidence that FDI in China contributes to skill upgrading in Taiwan.

7. Conclusions

This paper examines the effects of FDI in China on employment adjustments at parent companies in Taiwan. In contrast to the previous literature that focused on employment levels at the parent and foreign affiliates, we investigate short-run labor-market dynamics of the parent firm, including employment growth, hires, separations, and employer-to-employer transitions. We find fairly consistent evidence using two large matched employer-employee datasets for the Taiwanese manufacturing sector. Controlling for the potential endogeneity of FDI in China, our empirical findings for Taiwanese listed companies suggest that foreign expansion in China is significantly negatively correlated with parent companies' employment growth and significantly positively correlated with worker-separation rates. Consistent with this evidence, our results for Taiwanese multinationals show that firms targeting China as their major FDI destination have significantly slower employment growth and higher separation and employer-to-employer transition rates than firms that mainly invest in developed countries. We find no evidence that FDI in China has any significant association with skill upgrading at parent companies.

The results of worker-level analyses confirm our main findings from the firm level. After controlling for heterogeneity among workers and firms, we find that individuals employed at firms with higher levels of investment in China or at firms targeting China as the major FDI destination are more likely to leave the firm or move to another employer, compared with those at firms with zero or lower levels of investment in China or at firms targeting FDI in developed countries. These results strongly suggest that FDI in China threatens the employment security of parent-firm workers in Taiwan, particularly low-skilled workers. Employment adjustments in response to the shift of labor demand through employer-to-employer transitions are also found to be associated with wage losses, with the strongest adverse wage effect for low-skilled workers who shift employment across industries.

Our results provide strong support for the notion that affiliate activity in low-income country substitutes for domestic employment, which are consistent with the evidence found from a number of countries. Our empirical evidence also provides important insights into the employment adjustments associated with firms' FDI decision. From a policy perspective, our results imply that governments should be more cautious about the cost of labor adjustments attributable to relocation of production to low-cost countries. Short-run labor-market adjustment costs may offset part of the gains from exposure to globalization. Programs to mitigate these adjustment costs by subsidizing temporary unemployment or improving reemployment chances may be worthwhile.

To conclude, we acknowledge some limitations of our analysis. First, due to a lack of information on the reasons for job moves, we are unable to distinguish between voluntary and involuntary labor adjustments. Nor can we distinguish between moves into unemployment and out of the labor market. Second, our results pertain to short-run employment adjustments; identification of appropriate data and investigation of long-run effects would be valuable. Finally, as the impact of outward FDI may extend to other non-multinational companies, the coverage of our sample can be enlarged. Another potentially interesting avenue for future work is to examine the impact of other aspects of globalization, for example, trade and technological change, on labor-market dynamics.



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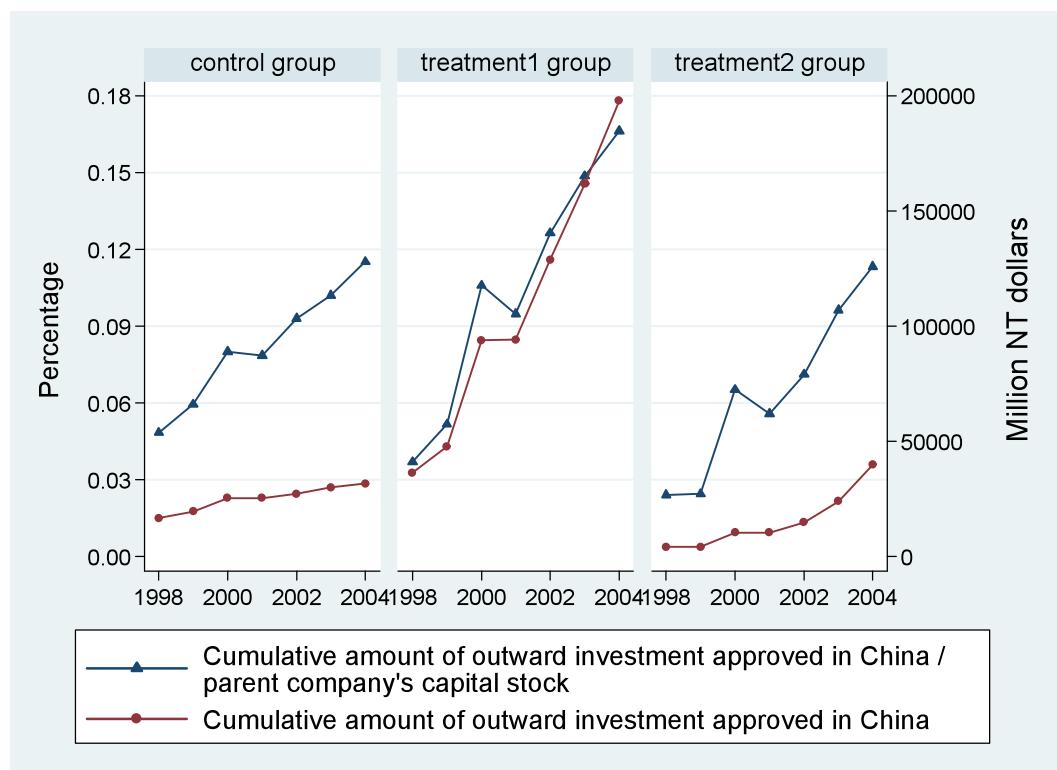
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Note: Control group includes firms whose investment items were not restricted throughout the period, while the two treatment groups include those firms whose investment items were previously prohibited but were subsequently permitted (treatment group 1) and those firms whose investment items remained on the restriction list after the relaxation (treatment group 2).

Figure 1 Cumulative amount of outward investment approved China and its ratio to the parent company's capital stock

Table 1 Variable Definitions and Summary Statistics – TEJ Data

Variable	Definition	Mean (Standard deviation)
LG	Net employment growth rate	0.032 (0.30)
H	Hiring rate	0.227 (0.17)
S	Separation rate	0.225 (0.17)
EE	Employer-to-employer transition rate	0.123 (0.13)
EE-within	Employer-to-employer transition rate within industry	0.023 (0.05)
EE-across	Employer-to-employer transition rate across industry	0.100 (0.12)
SKG	The change of the share of high-skilled labor	0.022 (0.19)
CHINA_FDI	Cumulative amount of outward investment approved in China/parent company's capital stock	0.094 (0.13)
LNKL	Log (fixed capital stock/total number of employer) (NT\$'000/person)	7.824 (0.95)
LNSALES	Log (sales) (NT\$'000)	15.092 (1.32)
PS	Profit/sales	0.181 (0.14)

Note: 2,648 observations. The wholesale price index is used to convert all current dollars into 2001 values.

Table 2 The Impact of FDI in China on Domestic Employment Adjustments – TEJ Data

Panel A Fixed Effects	LG	H	S	EE	EE-within	EE-across	SKG
CHINA_FDI	-0.1127 (-1.27)	-0.0668 (-1.66)*	0.0679 (1.47)	0.0241 (0.75)	-0.0087 (-0.62)	0.0329 (1.09)	-0.0867 (-1.51)
LNKL	-0.0063 (-0.35)	0.0090 (1.11)	-0.0258 (-2.78)***	-0.0148 (-2.29)**	-0.0075 (-2.66)***	-0.0073 (-1.20)	-0.0062 (-0.55)
LNSALES	-0.1140 (-7.47)***	-0.0836 (-12.41)***	0.0131 (1.70)*	-0.0057 (-1.06)	-0.0034 (-1.43)	-0.0024 (-0.47)	-0.0822 (-8.36)***
PS	0.2193 (2.98)***	0.1024 (3.07)***	-0.0655 (-1.71)*	0.0276 (1.04)	-0.0019 (-0.16)	0.0295 (1.18)	0.1870 (3.94)***
R ²	0.28	0.53	0.40	0.51	0.33	0.47	0.25
N	2648	2648	2648	2638	2638	2638	2641
Panel B Fixed Effects with IV	LG	H	S	EE	EE-within	EE-across	SKG
CHINA_FDI	-1.1371 (-1.96)**	-0.2384 (-0.91)	0.7606 (2.53)***	0.0320 (0.16)	0.0326 (0.36)	-0.0006 (-0.00)	0.1327 (0.36)
LNKL	-0.0301 (-1.41)	0.0036 (0.38)	-0.0100 (-0.90)	-0.0147 (-1.99)**	-0.0069 (-2.04)**	-0.0078 (-1.14)	-0.0043 (-0.31)
LNSALES	-0.1071 (-6.81)***	-0.0823 (-11.80)***	0.0082 (1.03)	-0.0064 (-1.19)	-0.0036 (-1.49)	-0.0028 (-0.55)	-0.0836 (-8.24)***
PS	0.2162 (2.93)***	0.1026 (3.07)***	-0.0633 (-1.65)*	0.0188 (0.74)	-0.0012 (-0.11)	0.0201 (0.84)	0.1876 (3.94)***
R ²	0.28	0.53	0.40	0.52	0.33	0.49	0.25
N	2648	2648	2648	2638	2638	2638	2641

Note: N is the number of observations. All regressions include firm, industry and year fixed effects. In Panel B, CHINA_FDI was instrumented by policy change factors. Figures in parentheses are t values. ***, **, and * represent statistical significance at 1%, 5%, and 10% level, respectively.

Table 3 The Impact of FDI in China on Domestic Employment Adjustments by Skill Level – TEJ Data

Panel A Fixed Effects													
	LG		H		S		EE		EE-within		EE-across		
	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	
CHINA_FDI	-0.0755 (-0.83)	-0.0663 (-0.75)	-0.0504 (-1.06)	-0.0735 (-1.89)*	0.1107 (2.01)***	0.0171 (0.45)	-0.0063 (-0.19)	-0.0091 (-0.31)	-0.0056 (-0.33)	-0.0158 (-1.18)	-0.0008 (-0.03)	0.00	
LNKL	0.0386 (2.12)**	-0.0447 (-2.52)	0.0255 (2.69)***	-0.0022 (-0.28)	-0.0411 (-3.73)***	0.0042 (0.56)	-0.0059 (-0.87)	-0.0032 (-0.54)	-0.0085 (-2.47)**	-0.0057 (-2.09)**	0.0026 (0.43)	0.00	
LNSALES	-0.1367 (-8.78)***	-0.1054 (-6.94)***	-0.0978 (-12.34)***	-0.0759 (-11.65)***	0.0117 (1.27)	0.0120 (1.90)*	-0.0092 (-1.68)*	0.0100 (2.04)**	-0.0074 (-2.63)***	-0.0014 (-0.60)*	-0.0018 (-0.37)	0.01 (2.46)	
PS	0.1993 (2.65)***	0.2415 (3.29)***	0.1022 (2.61)***	0.1100 (3.41)***	-0.0865 (-1.90)*	-0.0713 (-2.29)**	0.0110 (0.41)	-0.0286 (-1.17)	0.0105 (0.76)	-0.0090 (-0.82)**	0.0005 (0.02)	-0.0005 (-0.01)	
R ²	0.32	0.27	0.46	0.54	0.34	0.48	0.49	0.55	0.28	0.40	0.46	0.5	
N	2648	2641	2648	2641	2648	2641	2625	2617	2625	2617	2625	261	
Panel B Fixed Effects with IV													
	LG		H		S		EE		EE-within		EE-across		
	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	
CHINA_FDI	-1.3540 (-2.30)**	0.0561 (0.10)	-0.4382 (-1.43)	0.1081 (0.43)	0.6866 (1.92)**	0.0612 (0.25)	0.1100 (0.53)	0.1387 (0.73)	-0.0035 (-0.03)	-0.0508 (-1.72)*	0.1135 (0.61)	0.06 (0.3)	
LNKL	0.0110 (0.51)	-0.0440 (-2.09) **	0.0164 (1.45)	-0.0006 (-0.06)	-0.0266 (-2.03)**	0.0056 (0.62)	-0.0031 (-0.41)	-0.0005 (-0.08)	-0.0085 (-2.10)*	-0.0529 (-4.08)***	0.0054 (0.78)	0.00	
LNSALES	-0.1279 (-7.97)***	-0.1061 (-6.77)***	-0.0949 (-11.56)***	-0.0771 (-11.40)***	0.0075 (0.78)	0.0116 (1.78)*	-0.0091 (-1.63)*	0.0090 (1.76)*	-0.0074 (-2.54)***	-0.0110 (-4.07)***	-0.0017 (-0.34)	0.01 (2.29)	
PS	0.2091 (2.78)***	0.2423 (3.30)***	0.1060 (2.70)***	0.1106 (3.42)***	-0.0931 (-2.04)**	-0.0720 (-2.31)**	-0.0007 (-0.03)	-0.0293 (-1.20)	0.0110 (0.80)	-0.0059 (-2.60)***	-0.0117 (-0.50)	-0.0005 (-0.01)	
R ²	0.32	0.27	0.46	0.54	0.34	0.48	0.50	0.55	0.28	0.37	0.47	0.5	
N	2648	2641	2648	2641	2648	2641	2625	2617	2625	2617	2625	261	

Note: See Table 2.

Table 4 The Impact of FDI in China on Worker Mobility—TEJ Data

	SEP		EE_ind		EE-within_ind		EE-across_ind	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
AGE30	-0.1291 (-236.28)***	-0.1291 (-236.24)***	-0.0749 (-161.17)***	-0.0749 (-161.10)***	-0.0003 (-4.95)***	-0.0003 (-4.94)***	-0.0746 (-161.35)***	-0.0746 (-161.27)***
AGE50	-0.0806 (-78.11)***	-0.0806 (-78.09)***	-0.0996 (-113.29)***	-0.0996 (-113.27)***	-0.0004 (-3.94)***	-0.0004 (-3.94)***	-0.0992 (-113.35)***	-0.0992 (-113.34)***
MALE	0.0229 (42.16)***	0.0229 (42.06)***	0.0192 (41.40)***	0.0191 (41.18)***	0.0003 (6.33)***	0.0003 (6.29)***	0.0188 (40.85)***	0.0187 (40.63)***
HIGH	-0.0361 (-66.22)***	-0.0342 (-50.83)***	0.0109 (23.66)***	0.0145 (25.38)***	0.0001 (0.68)	0.0001 (1.66)*	0.0109 (23.69)***	0.0144 (25.31)***
CHINA_FDI	0.0241 (5.03)***		-0.0008 (-0.19)		-0.0014 (-2.88)***		0.0006 (0.15)	
CHINA_FDI × LOW		0.0302 (6.09)***		0.0108 (2.50)***		-0.0012 (-2.31)**		0.0120 (2.78)***
CHINA_FDI × HIGH		0.0094 (1.66)*		-0.0283 (-5.75)***		-0.0020 (-3.45)***		-0.0263 (-5.37)***
LNKL	-0.0219 (-21.74)***	-0.0218 (17.54)***	-0.0120 (-13.39)***	-0.0119 (-13.33)***	-0.0005 (-4.38)***	-0.0005 (-4.37)***	-0.0115 (-12.94)***	-0.0115 (-12.87)***
LNSALES	0.0141 (17.49)***	0.0142 (17.54)***	0.0072 (10.05)***	0.0073 (10.17)***	-0.0012 (-14.17)***	-0.0012 (-14.15)***	0.0084 (11.76)***	0.0085 (11.89)***
PS	-0.0778 (-23.07)***	-0.0779 (-23.09)***	-0.0677 (-22.80)***	-0.0678 (-22.86)***	0.0011 (3.10)***	0.0011 (3.09)***	-0.0688 (-23.27)***	-0.0689 (23.33)***
R ²	0.08	0.08	0.05	0.05	0.01	0.01	0.05	0.05
N	2271755	2271755	2307607	2307607	2307607	2307607	2307607	2307607

Note: N is the number of observations. All regressions include firm, industry and year fixed effects. Figures in parentheses are t values. ***, **, and * represent statistical significance at 1%, 5%, and 10% level, respectively.

Table 5 The Impact of FDI in China on Individual Wage Decline—TEJ Data

	(1)	(2)	(3)
AGE30	-0.0584 (-124.34)***	-0.0452 (-98.48)***	-0.0447 (-97.43)***
AGE50	-0.0702 (-77.85)***	-0.0537 (-61.11)***	-0.0531 (-60.49)***
MALE	-0.0420 (-89.86)***	-0.0452 (-99.41)***	-0.0453 (-99.74)***
HIGH	-0.0481 (-104.25)***	-0.0475 (-105.88)***	-0.0425 (-92.59)***
CHINA_FDI	0.0055 (1.31)	-0.2329 (-55.76)***	-0.2336 (-55.96)***
CHINA_FDI × EE-within_ind		1.1367 (29.47)***	
CHINA_FDI × EE-across_ind		1.3869 (349.87)***	
CHINA_FDI × EE-within_ind × LOW			1.3446 (28.83)***
CHINA_FDI × EE-within_ind × HIGH			0.6857 (10.04)***
CHINA_FDI × EE-across_ind × LOW			1.5183 (324.21)***
CHINA_FDI × EE-across_ind × HIGH			1.0983 (162.29)***
LNLK	-0.0075 (-8.27)***	-0.0032 (-3.64)***	-0.0028 (-3.17)***
LNSALES	0.0320 (43.57)***	0.0284 (39.80)***	0.0283 (39.63)***
PS	0.0648 (21.62)***	0.0754 (25.85)***	0.0759 (26.05)***
R ²	0.09	0.14	0.14
N	2151906	2151906	2151906

Note: See Table 4.

Table 6 The Impact of FDI in China on Domestic Employment Adjustments – SOI Data

Panel A		LG	H	S	EE	EE-within	EE-across	SKG
CHINA		-0.0586 (-2.16)**	-0.0152 (-1.32)	0.0277 (2.02)**	0.0210 (2.78)***	0.0037 (1.18)	0.0173 (2.60)***	-0.0012 (-0.06)
<i>R</i> ²		0.48	0.68	0.65	0.69	0.61	0.68	0.25
N		6863	6863	6863	6848	6848	6848	2641

Panel B		LG		H		S		EE		EE-within		EE-across	
		low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled	low-skilled	high-skilled
CHINA		-0.5628 (-2.07)**	-0.0262 (-0.98)	-0.0116 (-0.98)	-0.0042 (-0.31)	0.0284 (1.67)*	0.0328 (2.14)**	0.0192 (2.10)**	0.0245 (2.09)**	0.0044 (1.16)	0.0028 (0.56)	0.0149 (1.81)*	0.0217 (2.03)**
<i>R</i> ²		0.45	0.44	0.63	0.64	0.60	0.64	0.64	0.65	0.58	0.54	0.63	0.64
N		6863	6733	6863	6729	6863	6729	6846	6738	6846	6738	6846	6738

Note: N is the number of observations. All regressions include the prior experience of FDI, the logarithm of parent sales, the logarithm of affiliate sales, and firm, industry and year fixed effects. Figures in parentheses are t values. ***, **, and * represent statistical significance at 1%, 5%, and 10% level, respectively.

Table 7 The Impact of FDI in China on Worker Mobility—SOI Data

	SEP		EE_ind		EE-within_ind		EE-across_ind	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
CHINA	0.0248 (12.69)***		0.0214 (14.91)***		0.0056 (9.13)***		0.0158 (11.81)***	
CHINA × LOW		0.0287 (14.18)***		0.0241 (16.16)***		0.0062 (9.77)***		0.0179 (12.87)***
CHINA × HIGH		0.0177 (8.12)***		0.0166 (10.32)***		0.0045 (6.55)***		0.0121 (8.07)***
R ²	0.10	0.10	0.07	0.07	0.04	0.04	0.06	0.06
N	1410492	1410492	1782934	1782934	1782934	1782934	1782934	1782934

Note: N is the number of observations. All regressions include gender, two age dummies, a high-skilled dummy, the prior experience of FDI (number of years), the logarithm of parent sales, the logarithm of affiliate sales, and firm, industry and year fixed effects. Figures in parentheses are t values.

***, **, and * represent statistical significance at 1%, 5%, and 10% level, respectively.

Table 8 The Impact of FDI in China on Individual Wage Decline—SOI Data

	(1)	(2)	(3)
CHINA	0.0323 (22.75)***	-0.0251 (-18.78)***	-0.0239 (-17.89)***
CHINA × EE-within_ind		0.2881 (150.21)***	
CHINA × EE-across_ind		0.3969 (461.91)***	
CHINA × EE-within_ind × LOW			0.3318 (141.24)***
CHINA × EE-within_ind × HIGH			0.2045 (63.61)***
CHINA × EE-across_ind × LOW			0.4275 (423.61)***
CHINA × EE-across_ind × HIGH			0.3248 (213.49)***
R ²	0.11	0.22	0.22
N	1654705	1654705	1654705

Note: See Table 7.

Appendix

Table A1 Variable Definitions and Summary Statistics – SOI Data

Variable	Definition	Mean (Standard deviation)
LG	Net employment growth rate	-0.001 (0.29)
H	Hiring rate	0.204 (0.16)
S	Separation rate	0.231 (0.18)
EE	Employer-to-employer transition rate	0.119 (0.11)
EE-within	Employer-to-employer transition rate within industry	0.018 (0.04)
EE-across	Employer-to-employer transition rate across industry	0.101 (0.09)
SKG	The change of the share of high-skilled labor	0.040 (0.26)
CHINA	Dummy variable for targeting China as the prime FDI destination	0.772 (0.42)
ASEAN	Dummy variable for targeting Southeast Asia countries as the prime FDI destination	0.123 (0.33)
FDITIME	Experience of FDI (years)	7.614 (4.19)
LNSALED	Log of parent sales (NT\$'000)	12.812 (2.20)
LNSALEF	Log of affiliate sales (NT\$'000)	11.911 (2.09)

Note: 6,863 observations. The wholesale price index is used to convert all current dollars into 2001 values.

Rethinking Immigrant Wives' Integration in South Korea

The logo consists of a large, light blue circle containing the lowercase letters "iafor". A smaller, red curved line starts from the top left, goes down the left side, and then curves back up towards the top right, partially overlapping the blue circle.

iafor

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Rethinking Immigrant Wives' Integration in South Korea

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1. Introduction

The Korean society confronts a tremendous challenge from the inflow of immigrant wives. Out of the total marriage cases, female brides (25,142, 75.5 %) hold the majority of international marriages (The Statistics Korea) and the numbers are estimated to gradually increase in the foreseeable future (Kim, 2009). However, foreign brides via international marriage are being magnified as a significant issue in Korea. This is because they meet numerous difficulties, which are related to family relation (family conflict and domestic violence), cultural adaptation (psychological distress and communication problem), and economic integration (financial problem and passing down poverty to their descendants) (Kim, 2007), in the process of integration to the Korean society.

Despite numerous studies were conducted on the difficulties from adaptation, less effort has been devoted to study from varied perspectives and with multiplicity factors which affect process of immigrant wives' integration. These studies on immigrant wives are limited to areas including family stability and cultural integration. In contrast, western studies on immigrant integration elaborates that the concept of immigrant integration embraces multi-dimensional fields such as economic, social, cultural, political, religious, linguistic, and other diverse dimensions (Penninx, 2009; Entzinger and Biezeveld, 2003).

In addition, these studies show that the process of immigrant integration expands from immigrants' characteristics at micro level to attitudes of the receiving country toward immigrants at macro level, with considering relationship between migrants and systems of the receiving country (Heckmann et al., 2010).

It is, hence, reasonable to consider immigrant wives' integration based on varied perspectives and consider multiplicity factors which influence process of integration of immigrant wives in Korea. In fact, the aims of this study are (1) to examine multi-dimensional integration for immigrant wives in Korea and (2) to analyze possible

factors at micro, mezzo, and macro level, as predictors for immigrant wives' integration in Korea.

2. Theoretical Backgrounds

2.1. The Dimensions of Immigrant Integration

Terminology of integration is divergent. As a result, different terms are used to convey the meaning. Some of the terms include absorption, adaptation, assimilation, acculturation, inclusion, cohesion (Hamberger, 2009). Moreover, the fields of integration cover wide "dimensions" including age, gender, generation, economic, social, cultural, political, and other fields (Penninx et al., 2008, p. 7). Notwithstanding such ambiguity of integration, it generally refers to the relation between immigrants and the receiving country.

In general, the studies suggested that the dimensions of immigrant integration are decomposed into "structural", "cultural", "interactive", and "identificative" integration (Heckmann et al., 2010, pp. 14-17).

First, the concept of structural integration refers to migrants' participation in systems of receiving country. In other words, structural integration is the extent to which immigrants participate in labor market or acquire the right of citizenship and health system. Second, the concept of cultural integration is relevant to competence of immigrants to deal with different culture in the host society. This is the extent to which immigrants learn or permit new ways such as language in the host society. Third, the concept of interactive integration is related to social network of immigrants in the host country. The concept is the extent to which immigrants access resources of groups or make relationships with a group, including family, friends, ethnic affiliations, and other groups. Finally, integration is related to the sense of belonging in a new society as subjective integration. The concept is the extent to which immigrants perceive feeling, inclusion in the host society. The integration, however, is achieved at the last stage after attaining structural, cultural, and interactive integration (Heckmann et al., 2010).

2.2. Determinants of immigrant integration

Studies based on sociological and economic perspectives show that the process of immigrant integration is commonly linked to immigrants' characteristics at micro level,

household characteristics at mezzo level, and attitudes of the receiving country at macro level (Brettell and Hollifield, 2000).

Individual characteristics at micro level

The process of immigrant integration is known to be associated with a range of individual background characteristics including (1) age, (2) length of residence, (3) education, and (4) type of settlement places.

The effect of age on immigrant integration is not clear. On the economics perspective, there is an appropriate age for economic activity. Immigrants between 20 and 50 years-old are more likely to participate in labor market than those who are below 20 and over 50 (Greenlees and Saenz, 1999). Also, immigrants tend to gradually increase their occupational status until they are 40 in the receiving country (Maude, 2006). However, on the sociology perspective, immigrants who are younger are more capable of accepting new culture than those who are old (Berry, 1997; Tsai, Ying & Lee, 2000). This is because immigrants with younger age tend to contact more with native-born people in the host society and satisfy with the new host culture compared to old-age immigrants. This infers that age will be negatively related to integration for immigrants.

Length of residence is positively relevant to immigrant integration. Usually, immigrants who arrived earlier in the destination country are able to achieve economic success more compared to immigrants who arrived recently (Chiswick, 1978; Kossoudji, 1989; Borjas, 1995; Friedberg, 2000). As immigrants stay longer in the destination country, they increase human capital abilities (such as language and job training experiences) (Chiswick, 1979; Borjas, 1982) and social capital resources (such as becoming a member or creating networks in the receiving country) (Portes, 1998; Aguilera and Massey, 2003; Amuedo-Dorantes and Mundra, 2007) which are likely to improve economic conditions in the receiving country, including income and occupational status. Furthermore, immigrants are likely to find stable life condition in the host society, as years since immigration increase (Koser, 1997; Shen et al., 2001). Whereas immigrants experienced behavioral changes and psychological distress from different cultures in their early years, after long years since immigration, they find psychological stability and become accustomed to the host culture.

Education attainment is an important predictor on immigrant integration. According to Becker (1965; 1993) and Mincer (1962; 1994), being one of the major human capital abilities, education level is possible to lower the barrier to entry of labor market due to

the fact it enables immigrants to transfer their skills from the leaving country to the receiving country (Chiswick, 1978). Especially, education level of immigrants has positive correlation with income level and employment (Kossoudji, 1984; Chiswick and DebBurman, 2003; England et al., 2004). Moreover, educational level is positively linked to acculturation. In other words, immigrants with high educational attainment can deal with more bi-cultures, the host and the home cultures, than immigrants with low educational attainment. This is because immigrants with high educational level have high self-respect and sense of mastery (Werkuyten and Nekuee, 1999). Such high self-respect and sense of mastery enables immigrants to experience few cultural conflicts (LaFromboise et al., 1993). Hence, it can be inferred that education level positively influences immigrant integration.

In general, type of settlement places of immigrants is decomposed of urban area and rural area to estimate correlation between integration and the residence type. Previous studies did not show clear the correlation. Seol, Lee, and Cho (2006) and Kim (2009) display that immigrant wives who settled in an agricultural area have close relationship with neighbors; moreover, they frequently receive helps from neighbors. Thereby, networks of immigrants staying in a farming area are larger than those who stay in urban area. However, Kim, (2009), Jun (2005), and Kim (2006) shows that the immigrant wives often experiences financial problems in a rural area. This is because economic situation at agricultural area is worse compared to urban area as there are only few jobs. Moreover, there are few institutes in rural areas where immigrant wives can receive services such as reducing family conflicts and improving cultural adaptation. It may, hence, imply that settlement at urban areas has positive effect on immigrant integration.

Household characteristics at mezzo level

Important parameters relating to immigrant integration process are founded to be linked to household characteristics including (1) the number of children, (2) family income, and (3) the satisfaction level of the partners.

According to migration economists, immigrants expect to be economically integrated in the destination country (Borjas, 1990; Chiswick, 1979). Thus, one of the major preconditions for such economic integration is related to their economic activity, employment. Especially, married women's economic activity refers to the presence of children and family income (Greenlees and Saenz, 1999; Cohen and Bianchi, 1999; England, Garcia-Beaulieu, & Ross, 2004; Foroutan, 2008). The presence of children

discourages immigrant wives to participate into labor market because immigrant wives have responsibility for rearing their children. With the responsibility of child caring, multi-cultural family has met social problems relating to their children in Korea (Seol, Lee, and Cho, 2006; Mon, Choi, and Seo, 2009). The main serious problem is that children in multi-cultural family are treated as outcasts in schools as their skin color is different (Cha and Cho, 2006) and their Korean language is not fluent (Pae and Kim, 2010). This triggers the immigrants to have negative feeling that they are not accepted in the Korean society. It, hence, may be hypothesized that the presence of children hinders immigrant wives from integrating in the host society.

Family income is a positive predictor on immigrant integration. If immigrant family has no enough financial ability, immigrant wives are likely to participate in the labor market to add to financial need of the family (Greenlees and Saenz, 1999; Cohen and Bianchi, 1999; England, Garcia-Beaulieu, & Ross, 2004; Foroutan, 2008). Despite the fact that employment is a crucial factor for economic integration process, some studies show that female immigrants undergo discrimination and unfair treatment from employers and native-born workers at working places (Seol, Lee, and Cho, 2006). Such discrimination and unfairness prevent immigrant wives from interacting with native Koreans and feeling a sense of belonging in Korea. These findings imply that the higher the immigrant wives' financial level the more immigrant wives integrate in the receiving society.

Another significant predictor on household determinants is the satisfaction level of the partner. Previous studies found that the role of partner of immigrant wives is closely relevant to integration of immigrant wives. According to the Korea's nationality act (The Korean Immigration Service), in order to acquire citizenship, immigrant wives should live together with her husband for a year at the least and keep marital status for three years in Korea. Under the act, only their husbands are capable of offering such proofs relating to both cohabitation and marital status. It is via the help of the husbands that immigrant wives easily obtain citizenship. Thus, such help is correlated with the satisfaction of international couple (Shin, 2004). If the satisfaction of international couple is high, immigrant wives are able to easily receive help from Korean husbands. Hence, it can be hypothesized that the higher the satisfaction of international couple the more immigrant wives will be able to integrate into the Korean society.

With the role of husbands, studies dealing with adaptation of immigrant wives in Korea cite that the use of social services and the size of social network are different from

attitudes of husbands (Chun et al., 2007). These studies show that high utilization of institutes and large social network is connected with high satisfaction of couples. Thus, if Korean husband and foreign wife are satisfied with their relationship, the attitude of the husband is likely to be opened. Hence, this infers that high level of satisfaction between Korean male and foreign wife will have positive impact on the integration of immigrant wives.

The attitudes of the receiving society at macro level

The attitudes of the receiving society play a vital role in immigrant integration process. Such attitudes are evaluated by (1) perceived discrimination from indigenous people and (2) the experience of utilization of social service.

The process of immigrant integration may be reflected in the level of discrimination in the receiving society. According to system theory, immigrants are in systems of the receiving country including community, workplace, school, housing, citizenship, and welfare system (Miley, O'Melia, & DuBois, 1995). When immigrants access or participate in the systems, they may confront barriers including prohibition, negative attitudes or prejudice of native-born people, and experience insufficient support from the receiving society (Heckmann et al., 2010). Such barriers make immigrants perceive discrimination and hinder immigrants from integrating into the host society. It, hence, can be hypothesized that perceived discrimination has negative effect on the process of immigrant integration.

A number of studies identify that one of the barriers on the process of immigrant integration relate to difficulty of accessibility of social service in the receiving country (Reitz, 1995; Iglehart, 1997; Iglehart and Becerra, 1996; Weinfeld, 2000; Guo, 2006). These studies show that social services foster the integration process of immigrants. However, immigrants are frequently limited to use social services because of language difference, shortages of information about social service, and a lack of cultural sensitiveness of service providers (Reitz, 1995; Guo, 2006). Thereby, immigrant integration may not be facilitated if the limitation in social services exists in the receiving society. Hence, it can be considered that the experience of utilization of social services is positive effect on immigrant integration process.

3. Research questions and hypotheses

Many studies in different research fields try to predict immigrant integration process via

a variety of independent variables (Brettell and Hollifield, 2000; Bojars, 1985; Chiswick, 1978, 1979; Berry, 2003; 2006). Following the prediction of previous studies, the research questions and hypotheses are as follows.

Research questions: Which factors at micro, mezzo, and macro level do immigrant wives' integration influence in Korea as the process of integration? In order to evaluate the research questions, the present study explores the following hypotheses:

Hypothesis 1: While age of immigrant wives will have negative effect, length of residence, educational attainment, and living in urban area will have positive effect on the integration in Korea.

Hypothesis 2: Their number of children will have negative effect, but family income and the satisfaction level of the partners will have positive effect on the integration into the Korean society.

Hypothesis 3: Perceived discrimination from indigenous people will have negative effect; however, the experience of utilization of social service will have positive effect on immigrant wives' integration in Korea.

4. Methodology

4.1. The Data

The sample of this study was derived from the Marriage-Based Immigrants and Their Families in Korea: Current Status and Policy Measures. The survey was carried out by the Ministry of Gender & Equality with systematic sampling. The unit of sampling was family and was collected countrywide of 1,177 families from October to November 2006. The sample included 1,063 immigrant wives and 114 immigrant husbands. This study employed 1,063 families including immigrant wives to analyze their integration process in Korea.

4.2. Variables and Measures

The survey investigated a broad range of issues with closed questions including demographic characteristics, household characteristics, economic activity, need of social service, and social attitudes to Korea. The investigated issues were re-categorized into dependent variables and independent variables in the present study.

The dependent variable in this study was immigrant wives' integration index categorized in structural, cultural, interactive, and identificative fields. In order to measure each filed, various indicators were employed; (1) structural field includes citizenship and labor market participation, (2) cultural field investigates Korean language skill, (3) interactive field measures the number of best friends in Korea and the total number of attending meetings, and (4) identificative field includes the sense of belonging to Korea. Such measured values from the indicators on each filed were averaged as a single index¹. The single index on each filed was re-averaged to compute at single index on immigrant wives' integration, ranging from 0 to 100. The higher scores of the index imply that immigrant wives are more likely to integrate into the Korean society (Niessen, Huddleston, & Citron, 2007) (See Table 1).

Table 1. The Scales of Immigrant Wives' Integration

Scores	The Extent of Integration
0	Critically not integrated
1-20	Fairly not integrated
21-40	Slightly not integrated
41-59	Halfway to be integrated
60-79	Slightly integrated
80-99	Fairly Integrated
100	Totally integrated

The independent variables as determinants on integration of immigrant wives were divided into three levels: (1) individual determinants, (2) household determinants, and (3) majority society attitude toward immigrant wives.

In order to analyze the process on immigrant wives integration in Korea, the present study used hierarchical multiple regression. The estimation model on the process of immigrant wives' integration has the following equation:

$$Y_i = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \varepsilon_i^2$$

¹ The values on dichotomous scales were revised two scores in 0 and 100; moreover, the values on Likert scales were converted into a percentage. For instance, if an indicator was measured by five-score scale, the value of indicator was calculated with following equation: (observed value - 1) / 5 * 100.

² Y_i is the index of immigrant wives' integration, X_1 is individual determinants (age, length of residence, education, the type of settlement place), X_2 is household determinants (the number of children, family income, and the satisfaction level of partner), and X_3 is attitudes of the Korean society toward immigrant wives (perceived discrimination and the experience of utilization of social service).

5. Results

5.1. Descriptive results on immigrant wives' integration and characteristics

The finding showed that the extent of immigrant wives' integration categorized in structural, cultural, interactive, and identificative fields was halfway level, as marked 41.80. In comparison with each integration field, immigrant wives became slightly integrated in cultural integration including Korean language competence as marked in 62.84. However, as the scores of structural (37.06), interactive (32.47), and identificative integration (32.61) were below 40 points, they met a myriad of difficulties related to structural, interactive, and identificative integration including unemployment, acquiring citizenship, social networks, and feelings of belonging in Korea (See Table 2).

Table 2. The Immigrant Wives' Integration in Korea

Integration	Values (N= 1,063)
Structural Integration (SD)	37.06 (34.90)
Cultural Integration (SD)	62.84 (27.48)
Interactive Integration (SD)	32.47 (18.80)
Identificative Integration (SD)	32.61 (46.90)
Index of Immigrant Wives' Integration (SD)	41.80 (18.34)

On the process of immigrant wives integration in Korea, the characteristics of immigrant wives were categorized in individual characteristics, household characteristics, and the attitudes of the Korean society toward immigrant wives (See Table 3).

In individual characteristics, their average age was 33.43. Years since migration of immigrant wives were mostly not over 6 years. A number of immigrant wives stayed between 2 and 4 years (21.2%), followed between 1 and 2 years (18.7%) and between 4 and 6 years (18%). On the education level, most immigrant wives graduate high school (39.7%), followed by middle school (29.1%). Only approximately 25% of immigrant wives studied in college or university. When their residence was divided into urban area and rural area, 77.3% of immigrant wives dwelled in urban areas and 22.7% dwelled in rural areas.

Table 3. Characteristics of Immigrant Wives in Korea

Variables		Immigrant wives (N=1,063)	
Individual Characteristics	Average age of immigrant wives (SD)	33.43 (8.57)	
	Length of residence	below 1 yr	90 (8.8%)
		1 to 2 yrs	192 (18.7%)
		2 to 4 yrs	218 (21.2%)
		4 to 6 yrs	185 (18%)
		6 to 8 yrs	107 (10.4%)
		8 to 10 yrs	100 (9.7%)
		over 10 yrs	134 (13.1%)
	Education	have not study at a school	9 (0.9%)
		elementary school	55 (5.3%)
		middle school	303 (29.1%)
		high school	414 (39.7%)
		College	142 (13.6%)
		Undergraduate	109 (10.5%)
		Master	10 (1%)
	The type of Residence	urban area	822 (77.3%)
		countryside area	241 (22.7%)
Household Characteristics	The average number of children	no children	555 (52.2%)
		one children	266 (25%)
		two children	126 (11.9%)
		three children	92 (8.7%)
		four children	20 (1.9%)
		Five children	4 (0.4%)
	Monthly family income (10,000 won on Korean Currency)	below 50	39 (3.9%)
		50 to 100	118 (11.8%)
		100 to 150	255 (25.5%)
		150 to 200	244 (24.4%)
		200 to 250	164 (16.4%)
		250 to 300	81 (8.1%)
		300 to 350	48 (4.8%)
		350 to 400	20 (2%)
		400 to 450	7 (0.7%)
		450 to 500	14 (1.4%)
		over 500	10 (1%)
	The average satisfaction level of partner (SD)	4.1 (0.86)	
Attitudes of the Korean society toward immigrant wives	Average perceived discrimination (SD)	2.01 (0.84)	
	The experience of utilization of social service (%)	356 (33.5%)	

In household characteristics, many immigrant wives had no children or one child; half of immigrant wives had no children (52.2%) and a fourth had one child (25%). Multi-cultural family including immigrant wives earned money fewer than 2,000,000 won a month on Korean currency; 25.5% earned between 1,000,000 and 1,500,000 and 24.4% earned between 1,500,000 and 2,000,000. As the average level of satisfaction toward their partners was about 4 points ranging from 1 to 5, most immigrant wives were satisfied with their partners.

In attitudes of the Korean society toward immigrant wives, immigrant wives perceived not much discrimination from Koreans; the average level of perceived discrimination was 2.1 ranged from 1 to 4. On the utilization of social service in Korea, about a third of immigrant wives used social service between 1,063 immigrant wives (33.5%).

4.2. Hierarchical Multiple regression results

Model 1: Individual determinants

Model 1 explained about 7% of the variance of the integration, dependent variable ($R^2 = .069$); in addition, individual determinants have effect on integration for immigrant wives in Korea ($p < .001$). These results coincided with Hypothesis 1. More specifically, years since migration positively affected ($t = 8.104, p < .001$), which means the longer immigrant wives are, the more they become integrated into the Korean society. This is because immigrant wives would increase not only human capital resources which are likely to improve economic conditions (Chiswick, 1979; Borjas, 1982) but also social capital resources which are likely to expand social networks in receiving country (Portes, 1988). However, age, education, and urban area were not significant.

Model 2: Household determinants

Model 2 explained 3% of the variance of the dependent variable ($R^2 = .102$). Household determinants were significant predictors on immigrant wives integration in Korea ($p < .001$). This is accordance to Hypothesis 2; however, explanation of household determinants was incomplete compared to individual determinants. Between household determinants, the satisfaction level of partner ($t = 5.325, p < .001$) emerged as a significant predictor of immigrant wives integration in Korea, but the number of children and monthly family income did not emerge as a significant predictor. The reason why the number of children has no impact on integration is linked to their length of residence. Because years since migration are somewhat short in Korea, most

immigrant wives have no children or one child. In fact, it would be premature to discuss the number of children on integration. Hence, in model 2, it is inferred that immigrant wives who perceived satisfactions with their husbands are more integrated into the Korean society than those who perceived dissatisfactions with their husband.

Model 3: The attitudes of the Korean society toward immigrant wives

Model 3 explained 0.2% of the variance of the dependent variable ($R^2 = .104$) and the model was significant ($p < .001$). Despite the fact that the attitudes of the Korean society toward immigrant wives hardly explained the variance of the dependent variable, Hypothesis 3 dealing with the attitudes of the Korean society toward immigrant wives was supported in the model. Specifically, the negative and significant coefficient obtained from the interaction between the perceived discrimination from Koreans and integration ($t = -1.828, p < .1$). However, the utilization of social service did not emerge as a significant predictor on immigrant wives integration. The reason for the insignificance is linked to the fact that few immigrant wives experienced perceived amicable manner from Koreans and used social service. In the model 3, it is obvious that the lesser immigrant wives perceive discrimination from Koreans, the more integrated they are in Korea.

In conclusion, three groups of variables at micro, mezzo, and macro level appear to play a significant role in predicting immigrant wives integration in Korea, but as anticipated, it is more salient for individual determinants.

6. Discussion

The Results of Immigrant wives Integration in Korea

The findings from descriptive analysis revealed that immigrant wives are difficult to be integrated in the Korean society for the following reasons. First, the outcomes of structural integration in Korea via measuring economic activity and citizenship are not particularly good. According to the findings, 39% immigrant wives participated in the Korean job market. The number is lower than employment rate of Korean married women, marked 53% in 2006 (The Minister of Health & Welfare). Their relatively low number is due to the fact that married immigrant wives are likely to experience more serious career discontinuation than Korean married women, such as having a pregnancy, giving a birth, and rearing children (Seol, Lee, and Cho, 2006).

**Table 4. Findings of the hierarchy multiple regression analysis
 for predicting immigrant wives integration in Korea**

Variables	Model 1 - Individual Determinants		Model 2 - Household Determinants		Model 3 - The attitudes of the Korean society	
	b (SEB)	Beta	b (SEB)	Beta	b (SEB)	Beta
Age	-.014 (.070)	-.007				
Length of residence	2.631 (.325)***		.276			
Education	-.520 (.555)	-.032				
The type of settlement place (reference = rural area)	.990 (1.391)	.024				
The number of children			-.355 (.536)	-.022		
The satisfaction level of partner			3.654 (.686)***	.179		
Monthly family income			.353 (.328)	.036		
The perceived discrimination					-1.304 (.713)*	-.062
The utilization of social service					-.630 (1.217)	-.017
Constant	34.341 (3.444)***		18.359 (4.458)***		22.673 (5.002)***	
F value	16.499***		14.493***		11.697***	
R ²	.069		.102		.104	
Number of cases	1,063		1,063		1,063	

* P < .1, *** p < .001

It is inferred that the poor conditions relating to career discontinuation disables them to be integrated into the Korean society. Hence, the government should enlarge caring service and include before childbirth care, postnatal care, and rearing children to immigrant wives, thereby, enabling them to participate in labor market via the caring service without financial problems. Moreover, 356 (35.4%) out of this sample acquired Korean citizenship, which means a few immigrant wives have legal rights to be equally

treated compared with Koreans. Thus, many immigrant wives are excluded in the welfare system and health program in Korea without citizenship (Chun et al., 2007). Currently immigrant wives are restricted to obtain Korean citizenship, which means they should stay in Korea for more than three years and verify cohabitation with their husbands in Korea. It, hence, seems that the Act needs to be amended to relax the restrictions. Thus, this may encourage immigrant wives to participate or access to the systems in the Korean society.

Second, although immigrant wives seem to be culturally integrated in Korea according to the findings on cultural integration, the findings have limitations on cultural integration. Although immigrant wives marked 62.84 between 0 and 100 on a scale as cultural integration, they mainly learned Korean language in the home country or from their family members in Korea (Chun et al., 2007). Also, not many immigrant wives were satisfied with Korean language service in Korea (Chun et al., 2007). This shows that there is absence of integrative learning Korean language service led by the Korean government; for example, most Korean language teachers did not have certificate and used inadequate Korean language textbooks. It is essential that the government should establish more integrative learning Korean language service for immigrant wives integration in Korea.

Third, the Korean government lacks efforts on interactive integration. Their social networks relating to interactive integration have formed at micro-level and cross same ethnic boundary (Seol, Lee, and Cho, 2006). Despite the fact that immigrant wives are likely to obtain resources and supports from community and same ethnic friends, such social networks may reach limits. If neighbors have an antagonistic feeling toward immigrant wives or a few ethnic friends lived in neighborhood, they are likely to be cut off from Korea. Hence, the government should consider policy approach for interactive integration that enables immigrant wives to form not only macro-level networks including institutes and social services but also micro-level networks.

The process of immigrant wives integration

A series of predictive variables was examined via the hierarchy multiple regression analysis. The findings on the analysis shows that the greatest integration of immigrant wives in Korea are predicted by individual fields (staying longer in Korea), followed by household (satisfying husband) and majority society attitudes (hardly perceived discrimination from Koreans). The findings are discussed as follows.

First, the government should consider reforming service delivery system on immigrant

wives integration. The findings revealed that the effect of individual characteristics is relatively much greater than household characteristics and the attitudes of the Korean society toward immigrant wives. Especially, the effect of utilization of social service in the attitude of the Korean society was not significant. This displays that immigrant wives have not received advantages even though they have used social service.

According to previous studies (Jenkins, 1988; Guo, 2006), hiring same ethnic workers, educating cultural sensitiveness to providers, and enhancing public relations about service contents are efficient ways. In other words, the delivery system should be improved focusing only on not service providers but also service customers, immigrant wives.

Second, the government should consider economic integration policy. The findings indicated that family income is one of the predictors on the process of immigrant wives integration in Korea. Many female immigrants married Korean males whose income level is low. Thereby, marriage-based immigrant families have financial problems. However, the integration policy toward the families are focused on cultural adaptation such as Korean language program (The Ministry of Justice, Republic of Korea) and educating Korean culture (Seol, Lee, and Cho, 2006). Such policy does not immediately improve their economic difficulties although the family develops cultural integration. The government, hence, needs to enact economic integration policy which enables the family's members to earn money as they participate in labor market in Korea.

Third, the government needs to support immigrant wives to lead successful marital life in Korea. As appeared in the findings, highly satisfying their husband is a significant predictor on immigrant wives integration in Korea. However, the number of divorce between Korean husbands and foreign wives has steadily increased. The number in 2009 (8,300) inclined eight times higher than the number in 2004 (1,567) (The Statistics Korea). The reasons why immigrant wives divorce are linked to cultural difference, problem communicating in Korean, and domestic violence (Kim, 2009). In general, such divorce incurs their unstable legal status and financial problems which prevent immigrant wives from integrating in Korea.

As they divorce, their visa position changes from permanent residency status to visiting status. Under the visiting status, they are not able to get a job (Lee et al., 2009) and they are excluded in a long-term welfare system except for emergency and short-term supports by the government (The Ministry of Health & Welfare). Moreover, they may

be separated from their children because mainly Korean husbands have custody for their children after divorce (Joo, 2010). Also even when immigrant wives have custody, they may pass down financial problems on their children (Joo, 2010). It is clear, therefore, that the government should deal with the divorce issue between immigrant wives and Korean husband. Thereby, the government should relieve the weaknesses these immigrant wives experience after divorce by the following ways: assuring legal status after divorce via amending the Korean Nationality Act and enforcing long-term social services as well as expanding family services including family counseling.

Finally, multidirectional efforts including policies paralleled with civil social movements need to eradicate discrimination against immigrant wives and their children. Koreans believe that the Korean society is a homogenous society. Such belief aggravates an exclusive social atmosphere toward immigrant wives and their children. This corresponds with the findings that a third of immigrant wives were discriminated by Koreans; moreover, their perceived discrimination has negative and significant impact on integration. Once Koreans have negative attitudes toward immigrant wives, immigrant wives are likely to receive lasting discriminations under the exclusive and negative attitudes. For this reason, it is reasonable that the government establishes anti-discrimination act and add compulsory curriculum teaching antidiscrimination at schools. Additionally, the mass media needs to broadcast the fact that immigrant wives and their children are critical members in the Korean society.

7. Conclusion

To sum up, the outcomes on immigrant wives integration in Korea is that immigrant wives are excluded in Korea; in addition, on the process of integration in Korea integration is more linked to individual ability rather than the openness of the Korean society. Despite these findings, there remain limitations in this study. First, immigrants cannot immediately obtain the emotional identification in the new society. In addition, the identificative integration is achieved in the final stage after going through structural, cultural, interactive integration (Heckmann et al., 2010). In fact, because most immigrant wives stayed in Korea less than 6 years, it would be premature to discuss identificative integration in Korea. Moreover, in order to approach multi-dimensional integration, diversified indicators must be measured, in the data only small numbers of indicators are dealt within the integration. Lastly, with the limitations of multi-dimensional approach, this study overlooks one important fact, considering ethnic or origin background of the immigrant wives although the background is one of the

predictors on process of immigrant integration (Heckmann et al., 2010). It is, hence, reasonable that more research should be conducted considering the limitations. Hopefully, the results of the present study will contribute to understand immigrant wives integration in Korea.



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CONSTRUCTING MALAYSIAN IDENTITY: Petronas festival advertisements



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CONSTRUCTING MALAYSIAN IDENTITY: Petronas festival advertisements

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Abstract

Most research on advertising has been extensively conducted and presented from the lens of business perspective. Yet, the interpretive aspect of advertising research also equally offers interesting findings. This paper analyses 22 of Petronas' festival advertisements between the year of 1996 and 2000. These festival advertisements appears on Malaysian TV- an annual campaign that commemorates a specific national event and a series of religious/cultural period observed by the three main ethnic groups (i.e. Malay, Chinese, and Indian) in Malaysia. Using interpretive content analysis, the practices and characteristics of such advertisements are assessed within the Malaysian context. This study also addresses how Petronas, a national oil and gas company, uses the Malaysian identity in converging its capital accumulation and nation building strategies; a necessary step in understanding how the company balances its role as a Government Linked Company (GLC) and a multinational corporation (MNC) simultaneously. As the festival advertisements are reliant on the symbolic and material representation of the three main ethnic groups, this research seek to find out how such strategies mediates the creation of Petronas' corporate brand in Malaysia. In doing so, I observed that the festival advertisements were constructed in a way that integrates Petronas with the national identity within the context of contemporary Malaysia.

Keywords: festival advertisements, ethnic groups, Petronas, Malaysia

Background and Significant of Study

Petronas

Petroliam Nasional Berhad, otherwise known as Petronas, is a national oil (petroleum) and gas company in Malaysia. Petronas has ultimate rights on oil exploration and control of petroleum resources throughout Malaysia following the legislation of *Petroleum Development Act* in 1974 (Petronas, 2005a). Since its incorporation, the company has expanded its oil activities into upstream activities, downstream activities and international operations. Upstream oil activities involve oil exploration, development and production of crude oil and natural gas (Petronas, 2005a) while downstream operation involves oil refinery activities, gas business, petrochemical business, logistics and maritime business and marketing of petroleum refined products such as diesel, liquefied petroleum gas (LPG), kerosene, motor gasoline, lubricants and bunker fuels (Petronas, 2005a). International operations, on the other hand, involve both upstream and downstream activities abroad.

As a result, Petronas has become a successful organization in Malaysia, particularly for its investments and businesses in the international arena, and was ranked at number 13 among the most profitable top companies around the world and positioned at 80 in the '*Fortune Global 500's largest corporations*' in the same year (Fortune, 2009a; 2009b). In addition, it has four subsidiaries listed on the Kuala Lumpur Stock Exchange (KLSE) and has investments in more than 32 countries around the world, where it aspires to be the multinational oil and gas company of choice (Petronas, 2005a).

Petronas involvement in both international and domestic markets has made corporate social responsibility (CSR) practices and initiatives, a ubiquitous concern for the company. This is due to the fact that companies around the world are constantly under pressure in their business activities and wider communities. In this case, Petronas has been involved in various CSR practice since its establishment in 1974 (Lu & Castka, 2009). This includes various community initiatives at both national and international level such as education, culture and arts, sports, biodiversity, health programs (e.g. drug abuse prevention program), literacy programs and public messages (i.e. festival advertising campaign) (Petronas, 2005b).

Of all the initiatives undertaken by Petronas, this paper will exclusively read the festival advertisements. Below I detail the Petronas festival advertisements. Following this, the data collection and analysis of this study are provided.

Festival Advertisements

Petronas festival advertisement was first initiated in the mid 1990s. The campaign is designed in a way to foster racial harmony by incorporating the diverse cultural and religious values in advertisements that coincides with the major festival celebration in Malaysia, namely *Chinese New Year*, *Hari Raya Aidilfitri*, *Deepavali* and Independence Day. *Chinese New Year* in Malaysia is celebrated mostly by the Chinese to mark the new moon (year) according to the Chinese lunar calendar while *Hari Raya Aidilfitri* is observed by Muslims to culminate the end of the month of Ramadan (fasting) (Festival & Celebration, 2010a, 2010c). *Deepavali* is mainly celebrated by Indian Hindus where this celebration originates in Hindu religious scriptures (Festival & Celebration, 2010b) and Independence Day is celebrated to mark the anniversary of the nation's independence from the British. All four celebrations are gazetted public holidays in Malaysia.

The festival advertisements are usually broadcasted at least three to four times in a year (in keeping with the festival celebration) in the form of a short story. When two festive celebrations are observed simultaneously, the ads are incorporated into one advertisement. For example, *Hari Raya Aidilfitri* is celebrated according to the lunar calendar, and therefore, the celebration is not fixed and may coincide with other

festival celebration. This is evident in their advertisements such as: Petronas Kongsi Raya: Friends again and Petronas Kongsi Raya: Lee Yen's best friend where the two festival celebrations were depicted in one advertisement.

I intent to research this campaign because it features emotional visuals and messages that reflect and contemplate upon the contemporary Malaysian social landscape. Beginning with messages like '*this year more than ever, two worlds come even closer*' in a two-in-one Hari Raya Aidilfitri and Chinese New Year advertisement that depicts the friendship of two friends of different cultural backgrounds [e.g. Petronas Kongsi Raya: Friends again], the campaign has invariably moved to thought provoking messages such as: '*forty one years of independence...it is time to believe in ourselves*' (e.g. Petronas Merdeka: Shoes from Gombak) or '*this story is not about winning or losing...it is about the importance of staying united*' (e.g. Petronas Merdeka: boat race).

Although the festival advertisements were initially intended to improve the company's corporate image, the fact that the campaign appears to be akin to a CSR initiative- as it aims to promote racial harmony and unity among Malaysians raises interesting questions and is worthy of exploration. Despite most empirical research indicating that reactions towards CSR initiative are interpreted positively, with little confusion as to their intended message, I contend to offer the Petronas campaign from a new breadth of perspective. To do this, I have further elaborated the technique used to interpret the festival advertisements in the following sections.

I also consciously place this research within an interpretive framework with the intention to explore and address the texts, i.e. Petronas festival advertisements within the Malaysian context and society. This setup allows for understanding of meanings that autonomously constructed according to context (Wodak et al, 2009, p. 4) rather than on a set of protocols.

Research Objective

To understand the practice and characteristics of Petronas festival advertisements in the context of Malaysian society

Data collection

Compilation of festival advertisement

Twenty-two of Petronas' festival advertisements were finalized for the purpose of this study. The festival advertisements were exclusively selected based on a five-year period, i.e. between 1996 and 2000.

I accessed multiple sources to obtain the festival advertisements. The multiple sources are from online sites, i.e. Petronas' previous and current corporate websites, YouTube and physical sources where DVDs containing a compilation of the late Yasmin Ahmad¹'s written and/or directed commercials were obtained. During the compilation period, some of the festival advertisements also appeared in online news portal, political and individual blogs, which help in confirming the intended time and festival. Through the multiple online sites, the samples were cross-checked and matched systematically between the festival and the year it was aired.

Method

I used interpretive content analysis is used to analyse the festival advertisements and generate data inductively. The aim is to analyse the texts in a more holistic approach (i.e. taking into account of the overall contexts of the text or words presented) (Ahuvia, 2001) rather than exclusively selecting and analysing repeating words. I contend to use this method because it is a suitable research method, particularly when dealing with large amount of data particularly unstructured data that has multiple meanings and the context of data influences the interpretation of meaning (Krippendorff, 2004). I also take in cultural nuance and practices into consideration during coding and analysis.

The use interpretive content analysis in this study involves systematic organization and coding of the festival advertisements that is (1) I gathered, organized, and coded the festival advertisements using Microsoft Excel and a coding tool. (2) I identified the themes, patterns and disparity in the festival advertisements; (3) these themes, patterns and disparity are integrated across the year and the socio-political context; (4) I also integrate the themes and patterns in the festival advertisements with the Petronas and its corporate activities to analyse the condition surrounding the construction of the festival advertisements².

This particular technique, as opposed to statistical analysis, orients the researcher to intently interpret issues that are contained in the advertisements and subsequently facilitates in generating and understanding how the advertisements are constructed and presented.

¹ Yasmin Ahmad is the pioneer and creative director who initiated the Petronas festival advertisements through Leo Burnett (Malaysia).

² Repeated festival advertisements were coded according to the social political context and the corporate activities only, as the themes and appeals of the advertisement remained the same.

Data Analysis

This interpretive research begins with extensive exploration the Petronas festival advertisements, which engage the Malaysian context and the diverse society. The analysis provides in-depth empirical descriptions, which are recorded with reference to corporate communication practices and issues from a critical perspective; a position stressed by O' Barr (1994) who posits that advertisements disclose shared assumptions about the culture through a combination of primary and secondary discourse. In this study, the discourse is based on the sign and signifiers presented in the ads are.

To do this, I closely read the signs and symbols used in the advertisements. These signs and symbols include rhetorical strategies such as use of images, themes and appeals, structure, diction with other symbolic content that has been used for specific meaning. Other strategies such as the arrangements, executions, presentation and the order of the signs and symbols are also taken into consideration. In doing so, the festival advertisements are inductively interpreted. The analysis presents the empirical material, which identified over 22 festival advertisements (see Table 1: Petronas Festival Advertisements by the Year).

The table below indicates the festival advertisements presented by Petronas between 1996 and 2000. Each ad is indicated with specific names that also relatively denote the themes and appeals.

Table 1: Petronas Festival Advertisements by the Year

Festival Advertisements	1996	1997	1998	1999	2000
	- Kongsi Raya: Friends Again - Merdeka: One Little Indian Boy	-Kongsi Raya: Lee Yen's Best Friend -Kongsi Raya: Different Worlds	-Hari Raya: Forgiving -Kongsi Raya: Different Worlds	-Hari Raya: No charge -Chinese New Year: Reunion	- Millennium -Chinese New Year: Reunion

	-Deepavali: Duelling Masseurs	-Merdeka: One Little Indian Boy -Deepavali: Duelling Masseurs	-Merdeka: Shoes From Gombak -Deepavali: You Are My Universe	-Merdeka: Boat Race - Deepavali: Duelling Masseurs	-Merdeka: Bush -Merdeka: Gossips -Merdeka: Jokes -Deepavali: I see -Hari Raya: Umbrella -Hari Raya: Umbrella
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Source: Developed for this research.

Findings

Five practices are denoted using the interpretive content analysis. Each of the practices and its implication are described as follows:

Practice 1: Advertising as Cultural Space

The use of rhetoric cultural representations in the Petronas festival advertisements are significant, particular when making claim or referring to specific ethnic group. For instance, the use of a specific images: traditional house, ornaments: bamboo oil torch (Malay), oil lamp (Indian), red banners/couplets (Chinese) are rhetoric strategy that is intensely featured in the festival advertisements, (e.g. Petronas Kongsi Raya: Friends Again, Petronas Deepavali: Duelling Masseurs) with the aim to make claim or referring to certain ethnic group. Other symbolic strategies are: rituals (e.g. *angpau*, oil baths, fasting during *Ramadan*) or music or jingles (e.g. Indian (classical) *carnatic* music, Chinese Opera, traditional Malay poetry [including oral rendition]: *puisi*, *sajak*) (e.g. Petronas Chinese New Year: Reunion, Petronas Hari Raya: No charge, Petronas Kongsi Raya: Different Worlds) or vernacular or dialect phrases are also prevalent in the ads (Petronas Merdeka: Bush, Petronas Merdeka: Gossips, Petronas Merdeka: Jokes).

The positioning of Petronas in delivering authentic cultural resource relies on the cultural representations as to not only make the claims believable rather as strategic communication to the diverse ethnic groups in Malaysia; thus creating a cultural space between Petronas and the Malaysian society. The cultural space is strategically

interlinked with festive period in Malaysia and provides venue and invites the audience to connect to meanings presented in the advertisements.

Practice 2: Strategic Use of Themes and Appeals

The preceding analysis described the strategic use of themes and appeals in the Petronas festival advertisements. The cultural representation in the festival advertisements is further supplemented with strategic use of themes and appeals. Within this context, family values and upholding traditions and heritage (e.g. Petronas Deepavali: Duelling Masseurs; Petronas Hari Raya: Forgiving, Petronas Hari Raya: No Charge) are themes appear to be a dominant in the festival advertisements. Unity and diversity (e.g. Petronas Kongsi Raya: Lee Yen's Best Friend, Petronas Chinese New Year: Reunion) is another prevalence themes in the festival advertisements.

Petronas stance in using strategic themes and appeals, in addition to symbolic and material representation of the diverse ethnic groups, ascertain to evoke emotional feelings among the diverse ethnic audience. Nostalgia, a feeling for longing of the past, has two inflections on the Petronas festival advertisement: (1) that refers to childhood period and the surrounding context and (2) which evokes notion of bittersweet feelings on past relationships with close individuals (often-close family members). The use of nostalgia with strategic themes particularly family values empowers validates the authenticity presented in the festival advertisements.

Practice 3: Capital Accumulation

By employing strategic practices, the festival advertisements facilitate Petronas to increase its capital accumulation over the past years. As mentioned earlier, the festival advertisements were intended to improve Petronas corporate image among the Malaysian society. The diverse ethnic groups view Petronas as cold and aloof for it's exclusively focus on international business activities. This led to believe that the company is less receptive when it comes to local market.

The festival advertisements campaign was recognized and gained popularity in Malaysia. In recent years, Petronas has successfully made name and became one of the Top 30 Most Valuable Brands in Malaysia. The impact of the festival advertisements has led the company to continue advertising on every festive occasion.

Practice 4: Crisis Communication

The festival advertisements are used strategically as an implicit form of crisis communication rather than as explicit form of crisis communication. The implicit form of crisis communication was indicated mostly through the rising social issues in the Malaysian society (e.g. Petronas Merdeka: One Little Indian Boy, Petronas

Merdeka: Shoes From Gombak, Petronas Deepavali: Boys In the Hood, Petronas Hari Raya: Forgiving, Petronas Chinese New Year: Reunion). Despite being a gas and oil company, Petronas' effort through its festival advertisements has led for the campaign to relatively meet the CSR initiative criteria, that is to serve the various communities in Malaysia. This campaign also subsequently changed the trend of advertising in Malaysia.

Practice 5: Nation Building

The concept of nation building is predominant in the form of visuals and voiceovers in the festival advertisements. It is t is conveyed in a story telling narration to the audience. This then allows the audience to understand the advertisements holistically, rather than in the usual directive, mundane tone (e.g. Petronas Kongsi Raya: Friends Again, Petronas Merdeka: Shoes From Gombak, Petronas Merdeka: One Little Indian Boy, Petronas Merdeka: Boat Race and Petronas: Millennium).

The storytelling concept also helps Petronas festival advertisements to stand out by breaking the cluster of the advertisements advertised in television. The strategic use of taglines, in addition to visuals and voiceovers, towards the end of the festival advertisements has been used strategically to leave an impact to the viewers. For example: "*Forty years of Independence. It is time to believe in ourselves*" or "*This year two worlds come together. But for some, the two world were never apart*" are some examples of taglines used in the festival advertisement. These taglines also tend to have various inflections, that is: to influence, to inspire, to stimulate, the viewers thinking.

Discussion

This research proceeds from a fresh breadth of an area of festival advertisements, which is needed to understand the practice and characteristics comprehensively. The analysis reveals that festival advertisements are organized along multi-dimensions of meanings. Petronas use festival advertisements not only to help them make claims about their company, rather in also communicating issues that are important in the Malaysian context. As the purpose of this research is to document the dimensions of meanings presented in the festival advertisements, analysing both the primary and secondary discourse in these advertisements reveals both explicit and implicit reasons of why the Petronas undertake such initiative. The interpretive aspect of festival advertisements offers interesting findings particularly in understanding the practices and characteristics of such advertisements are assessed within the Malaysian context. Petronas' position as a national oil and gas company establishes its effort in converging its capital accumulation and community initiative as part of its role as a Government Linked Company (GLC) and a multinational corporation (MNC).

However this data does not permit the historical context of each of the festival advertisements, which otherwise may provide a detailed construction of the advertisements. Nonetheless, this limitation suggests direction for future research, whereby research on Petronas entire advertising campaign across multiple mediums should be undertaken. Study on how Petronas engage with communities, particularly, communities of different spaces (e.g. real community and virtual communities: bloggers, YouTube audience) with the festival advertisements should be considered as well. This would offer such study to extensive cultural discourse that will lead to understanding the impact of Petronas' effort comprehensively and holistically.

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Responding to political change: The media paradox in the democratic process in Indonesia



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**Responding to political change:
The media paradox in the democratic process in Indonesia**

by Syamsuddin Aziz

Abstract

There has been tremendous change in Indonesia regarding the political atmosphere following the downfall of Suharto in 1998. The media as part of the political system have also found their new-found freedom after experiencing the restrictive media policies during the New Order of Suharto. I will discuss this change, focusing on the contribution of the media to the functioning of healthy democracy in Indonesia at the end of and after the Suharto era.

Introduction

In July 2009, Indonesia successfully conducted its third full and free general election and its second direct presidential election without riots or violent protests from supporters of the candidates from three groups of coalition parties, a coalition that first comprised 24 parties supporting Susilo Bambang Yudoyono; second, five parties including GOLKAR supporting Jusuf Kalla, and third, nine parties including PDIP supporting Megawati. This multi-party practice signifies that freedom of expression and freedom of choosing political parties have been finally manifested in a democratic ballot after thirty two years of pseudo-elections under Suharto. Although the general election is not the only measure of democratic life in a country, the event has proved that there has been enormous change in terms of the political atmosphere in Indonesia after Suharto.

In Suharto's era (1967-1998), there were only three composite political parties allowed to contest the general elections: PPP (United Development Party), PDI (Indonesian Democratic Party) and GOLKAR (the composite of 'functional groups'). This political decision to group the many parties was Suharto's policy in merging ten independent political parties into three composite parties which aimed at easily controlling those parties and diminishing their political power (Suryadarma, 2002). The first political group was PPP which comprised four parties with the same Islamic orientation: *NU*, *Parmusi*, *PSSI*, and *Perti*. The second group was PDI which comprised five parties, with Christian and nationalist orientations, agreeing to the same platform of nationalism ideology: *PNI*, *Murba*, *Partai Katolik*, *IPKI* and *Parkindo*. The last group was GOLKAR which had been categorised by the New Order government as a 'functional group,' to avoid the term 'party' (see Boileau, 1983; Haris, 2004).

As the official political party (or 'group') of Suharto's government, GOLKAR had been strategically constructed by Suharto as the most favourable political party to win every election, which it always did (Voionmaa, 2004, Suryadinata, 2007). One of the strategies to achieve this was to continue labelling GOLKAR as a non-party organisation instead of an ordinary political party. The strategy was to contrast with the two other political parties in order to give an

impression that GOLKAR was the best form of political institution for Indonesians since it comprised various elements of functional groups in society such as the Indonesian Entrepreneur Workers Organisation Centre (SOKSI) and the Mutual Assistance Families Society (MKGR). In addition, GOLKAR benefitted from the 1975 Political Parties Law that restricted political parties from having branches at village level. This law did not affect GOLKAR since it was not defined as a political party (Fatah, 2000).

The naming of GOLKAR as a ‘functional group’ can be traced back to the forming of GOLKAR in 1964 by the Military for the purpose of countering the intensifying influence of the Indonesian Communist Party (PKI) and proposing an alternative form for a political party in Indonesia (Boileau, 1983). Although during the New Order era, political scholars had disapproved of the idea and criticised GOLKAR, saying it had to be classified as an ordinary political party, GOLKAR’s leaders and the New Order government still insisted that GOLKAR was not a party and continued to not add the word party after the acronym of GOLKAR (Boileau, 1983). This incorrect political nomenclature, during the New Order, had also constantly influenced the media in ignoring in their reports the fact that GOLKAR was a political party, and therefore also ignoring that it ought to have the same political constrain as the other two political parties.

In any case, many observers were under the opinion that, on the surface, the winning by GOLKAR in every election was relatively objective and only considered to be slightly unfair. It was hard to prove, especially from the coverage of the Indonesian mainstream media, that Suharto had used his power to force the voters to choose GOLKAR and to manipulate the result of the elections. In reality, the voters had been intimidated by local governments and the military and had been forced to choose GOLKAR to become the single majority party (Haris, 2004; Fatah, 2000). This fact was not uncovered by the media because they had to obey Suharto’s media policies which restricted the media in covering political issues (Aziz, 2010).

After the fall of Suharto, the euphoria of political freedom has been revealed by the overwhelming and fluctuating number of parties competing in every election. There were forty-eight parties which contested the 1999 general election, twenty-four participated in the 2004 and thirty four parties competed in the 2009. As predicted by many political observers, the results of these three post-Suharto elections have placed the five leading political parties in similar positions to that of GOLKAR in terms of popularity. In the 2009 legislative election, for example, *Partai Demokrat* (Democratic Party) of the president elect in 2009, Susilo Bambang Yudoyono, won the largest share of the vote (20.9% votes), followed by GOLKAR (14.5% votes) and *Partai Demokrasi Indonesia-Perjuangan*¹ (the Indonesian Democratic Party of Struggle) (14% votes)². Nevertheless these results show that, after Suharto, the Indonesian voters distributed their votes across many parties.

¹ After the downfall of Suharto in 1998, Megawati declared the formation of *Partai Demokrasi Indonesia-Perjuangan*. The suffix *perjuangan* (struggle) after the abbreviation of PDI was to distinguish between PDI supported by the New Order, and PDI under her leadership.

² The order in which the five leading political parties came in this election was: Democratic Party, GOLKAR Party, PDIP, PKS (Prosperous Justice Party), and PAN (the National Mandate Party).

As well as the changing of the popular vote and the increasing number of parties participating in general elections, the media have also obtained their new-found freedom as a consequence of the elimination of all government regulations which had previously restricted media practices for thirty two years. Without restrictions, in principle, the media can freely contribute to the process of democratisation. Examples of this were the substantial contributions of the media in the 2009 election, which included: providing public commentaries on the election, special reports on the election, political advertising, debates among presidential candidates, and an alternative ‘quick count’ in predicting the result of the general election. The ‘quick count’ is a method carried out by independent research institutions collaborating with certain television stations in Indonesia. The trained observers of the institutions watched the counting process at selected polling stations, sending the result to central data in Jakarta, reporting the voting result to the television stations to be broadcasted. These innovative media programmes would have been impossible to be broadcasted by TV stations and reported by newspapers in Suharto’s era, since political debates and alternative political thoughts were considered to be a threat to political order and social harmony in society.

When looking at the political programmes and reports created by the media after Suharto, it would seem that there has been tremendous change in the media practices in terms of responding to the political issues. As mentioned above, in Suharto’s era, the media were afraid of publishing any sensitive issues because of the repressive media regulations. After Suharto, the media’s responses to the range of issues have been gradually developed by the increasing number of political news and political broadcasting programmes such as the debate among presidential candidates and the ‘quick count’. In addition, the media have also finally labelled GOLKAR as an ordinary political party, which they were never able to do in Suharto’s era. This fundamental change has been characterised by Indonesian journalists as part of the process of political change in Indonesia after the downfall of Suharto in 1998 (Seinor, 2005).

The Phases of Change and the Media

Many scholars believe that the transition process from a dictatorship to a democratic government should take place in phases over a long period. Klinken (1999) and Bhakti (2002), for example, divide the process of change in Indonesia into four stages in which all the changes aim for real democracy. Based on the main argument of this study, I argue that, if we look specifically to the process of change from the media’s perspective, the phases of change could possibly be different from the phases of change in the media practices. In order to understand how the process of change has taken place in the media practices and how it could be out of step with the political practises, I will review the phases of change of the political practices since this review will facilitate a background of the phases of change of the media practices.

1. Pre-transition

The first phase of change in the political practices is the pre-transition period. This period began when the economic crisis hit Indonesia in July 1997 through May 1998 when Suharto announced his resignation. During this period, the mass media played an important role in disseminating opposition opinions to push Suharto to step down. The most noticeable opposition voice was initially promoted by the People’s Democratic Party (PRD), one of the hard-line student organisations in Indonesia. The PRD’s agenda focused primarily on the need for ending

the government's political hegemony on law enforcement, as well as the military's role in security and public affairs (Lane. 2008; also see Rinakit, 2005).

In the first phase, the media was very active in providing space for political debates. Many Indonesian scholars, who had never before criticised Suharto, bravely expressed their opposition to the government. Sumitro Djoyokusumo, one of the prominent economic designers in the Suharto era, for example, criticised and called Suharto and his family 'crony capitalists', and pushed an agenda to reshuffle Suharto's cabinet. The same evaluation was also expressed by another economist, Mohammad Sadly, who further questioned and criticised Suharto (Van Dijk, 2001: 19). These demonstrations of resentment were a reflection of the urgent demands of the people for *reformasi*, an agenda for changing economic and political orders. The *reformasi*, in fact, was an accumulation of the lack of faith in the New Order of Suharto and a demand for eradicating collusion, corruption and nepotism. In this phase, the people's political anger was centred around the economic crisis which for the last ten years had spread the idea of reform across other arenas and could not be handled by Suharto's government (Lane, 2008: 168).

2. Transition

The second phase is the transition period which began when Habibie as the vice president of Suharto took over the presidency in May 1998, a phase that ended when Habibie retired as president in June 1999. If we view it from the media's perspective, this period is marked by a fundamental change in the media system by its adoption of international conventions in order to indicate its commitment to reform and the protection of human rights (Romano, 2003). This change resulted from the critical demand by all journalists, at the beginning of the reform era, that all government control of the media be lifted (*independen., A.J.*, 1998).

Although Habibie was successful in implementing the fundamental changes to the media, in the middle of Habibie's term, students and all elements of society forced him to carry out the first and full democratic election. This general election, after Suharto resigned, became the main agenda for political activists and students, since the process of handing over the presidency from Suharto to Habibie was controversial and unacceptable³. Another reason Habibie could not maintain his presidency was that, according to political activists, he was so close to Suharto that he was regarded as having been part of Suharto's New Order regime (Ikrar, 2004; Rinakit, 2005). Following the people's demand, in 1999, Habibie's government finally conducted the first free general election that elected 462 members of parliament and 38 members were chosen from the armed forces with a total of 500 members. These 38 unelected members⁴ (8.23%) were in fact a reduction of the armed forces' seats in the parliament, which in the Suharto era had had 100 seats of 460 seats (21.74%) (see section 4.1). The reduction was a compromise with the

³ Habibie was not elected as president through a general election, but was only handed the presidency from Suharto through the transferring of authority. In fact, Habibie was not in his office for the rest of Suharto's term as the article 8 of the 1945 Indonesian constitution but rather he only ran Indonesia for one year

⁴ The idea of unelected military in the parliament was originated by Sukarno, when he refused the elected parliament members and appointed politicians to represent various groups in *Dewan Perwakilan Rakyat* (Indonesian parliament) in which he included military as a group (see Said, 2001, 2006).

armed forces' political privilege that had been gaining public criticism since the end of the Suharto era.

In the 1999 general election, Habibie did not run for election since the People's Consultative Assembly (MPR) did not achieve a consensus to endorse him, following his accountability speech at the end of his presidency. Members of the assembly had different opinions in responding to his speech resulting from two unpopular policies of his which had affected his reputation to be re-elected as president for the next term. The two unpopular policies were the scandal of the Bali Bank and the self-determination of East Timor to be independent from Indonesia (Suryadinata, 2002). In this 1999 election, Abdurrahman Wahid was later voted in as president by 374 members of the People's Consultative Assembly becoming the fourth president of Indonesia (1999-2001).

3. The Consolidation

The third phase of change is the consolidation period, which started in October 1999 and ended in October 2004. There were two presidents in this period who were very different from each other in terms of style of leaderships and policies, Abdurrahman Wahid and Megawati Sukarnoputri. In the Wahid period (1999-2001), there were two important policies regarding the democratic process; first, the appointment of the first civilian ministers of defence in 1999 and, second, the establishment of the human rights tribunal for an investigation into the involvement of the Indonesian military in East Timor (Chandra, 2002).

Although Wahid had been successful in contributing the two important policies in relation to the military, these political solutions of the appointment of the first civilian minister (see section 4.1) and the establishment of the human rights tribunal were still discussed in society. In many regions particularly in Ambon, Maluku and Poso, communal conflicts and violence could not be handled by the government. In the cabinet, as the result of a political crisis at the end of Wahid's term, there were also conflicts between parties resulting in the impeachment of Wahid and the appointment of Megawati as a new president to continue the rest of the Wahid term (Bhakti, 2002). The impeachment of Wahid was a result of the failure of economic affairs during his presidency and a lack of support from the majority of the parliament members (Ziegenhain, 2008).

During Megawati's term, the democratic process had not been running well, instead it was rather retrograde. Besides difficulties in handling conflicts between parties in the parliament, the 2002 Bali bombing had also affected the credibility of Megawati's government on managing security affairs. The national and international media for months covered the event, which badly impacted on the image of her government. In this situation, the military was again showing its domination by pushing an agenda to implement a new law against terrorism. From the point of view of the Islamic activists, the implementation of the new law was, in effect, only following the USA's agenda on the War on Terror which was really a declaration of war on the activists' ideology (better word?) (Azra, 2003; Bhakti, 2002).

4. Real Democracy

The fourth phase is real democracy, October 2004 up to the present. This stage was marked by the first direct presidential election in 2004 resulting in the appointment of Susilo Bambang

Yudoyono (SBY) and Muhammad Yukuf Kalla (JK) as president and vice president respectively. Following the first presidential election, in June 2005, direct regional and district elections were also held in provinces, cities and municipalities in order to vote for governors, mayors and *bupatis* (head of municipality). These local elections were a consequence of a substantial decentralisation agenda formulated in 2001 (Tan, 2006). In this stage, as a result of the decentralisation project, massive local political advertising was published and broadcasted by the mass media. In this fourth phase, the media has facilitated space for public debates and political information and at the same time benefitted from the competing ideas among parties through political advertising promoted by the parties and by various companies which sponsored the public debates and the political information programmes.

In the last general election (July 2009), the media continued to facilitate public debates and political information with new-format political programmes and reports as mentioned in the introduction section. In this regard, I argue that with their new-found freedom of expression, the media could be possibly in a paradoxical situation: to be active in contributing to the functioning of the healthy democracy or to be part of conflicting ideas, which in some cases involves favouring one of the parties over others. This, in turn, could possibly bring their audiences to potential conflicts within society. An example of this is that the media frame certain presidential candidates or certain political parties based on the need of sponsors who supported their programmes.

The Media's Contribution

In general, there are four major foci of study on Indonesian media about Suharto's era that dominate media and democratisation literature: the news-organisational studies, the struggle of journalists in obtaining press freedom, Suharto's policies on media and the press, and the impact of the policies to Indonesian journalists' routines. For the purpose of this study, I will examine three of the four major foci, namely the study of press freedom during the era; this focus is primarily on how the press as a news organisation dealt with the state in implementing its freedom of expression and how the press attempted to inference the government without losing their Press Licence, and the impact of the policies on news routines and content. These three foci of study will allow a comprehensive understanding of the media changes and their contribution to healthy democracy in Indonesia.

1. Suharto's policy on the media: free but responsible

In 1967, after Suharto transferred all political authority from Sukarno to himself, he then used *Supersemar* (the 11 March 1966 Letter of Command) as his legal authority to control a chaotic situation during 1965-1966. With the authority, Suharto made a very crucial political decision to eliminate the Indonesian Communist Party (PKI) which had been believed to be the source of the chaotic situation (Kakialatu, 2007). The purpose of this first political strategy of Suharto's was to ensure eradications of all elements of Sukarno-ism from his government. Following this political manoeuvre, Suharto secured his immunity from public criticisms by consistently controlling popular media such as magazines, radios and television (Hill, 1994). In addition to the state owed Radio of the Republic of Indonesia (RRI) and Television of the Republic of Indonesia (TVRI), Suharto's government implemented direct control of all programmes made by both broadcasting channels. For decades, the TVRI and RRI were the only broadcasting channels that could produce news-stories and monopolised tv programming until the first

commercial channel RCTI (*Rajawali Citra Televisi Indonesia*) was launched in 1989 (Hill, 1994, see Sen 2000).

As a state owned television station, the TVRI had been designed by Suharto as “a part of Indonesia’s cultural project” which promoted consistently the integrity and security of Indonesia as a nation (Kitley, 2000). The slogan of integrity and security for Suharto was meant to safeguard his power from any political manoeuvring against him. Suharto realised that the media was powerful enough to ruin his reputation. He also believed that, in order to ensure that no criticism and protest against his government appeared on the programmes, the media had to be handled and monitored regularly in order to follow his policy. The social harmony of society had to become the main theme of cultural production of the media. In order to obtain this, all media productions had to pass the government’s regulations and the censorship rules (Sen and Hill, 2000).

In the press practices, Suharto’s government used the 1966 Press Law as his tool in controlling the press. The Law actually was introduced in the end of Sukarno’s era and had also been used by Sukarno to eliminate any publications that were against his regime. After Suharto was successful in controlling the chaotic situation during 1965-1966, he reinforced the 1966 Press Law as a formal guidance for the press in running their organisations and producing news stories. Although the Law clearly states the fundamental element of press practices as ‘no censorship or bridling shall be applied to the National Press’, in the additional chapter of the Law (Chapter 9, article 20.1.a), in fact, all news publishers require two compulsory permits: the Permit to Publish and the Permit to Print (Hill, 1994).

During the New Order (1966-1998), more than 25 publishing permits (SIT) had been withdrawn without any legal process. These included the cancellation of seven publications because of reporting on students’ movement in the 1978 riots, and the ban of *Tempo* magazine in 1983 for five weeks because of reporting riots during the election campaign. There was one newspaper and three other magazines which were also stopped from operating, banned for various reasons. Those were an afternoon newspaper of *Sinar Harapan* which was banned in 1986 and two magazines of *Prioritas* and *Monitor* which were banned in 1987 and 1990 respectively. (Kakailatu, 2007).

The New Order control of the press reached its climax on June 21st, 1994 when Suharto, incensed by the political nature of some stories, withdrew the licences of three news organisations, ‘TEMPO’, ‘Editor’ and ‘DeTIK’ (Kakailatu, 2007). The reasons for these withdrawals differed in that ‘TEMPO’ published a story commenting on the purchase of ex-German warships, whereas ‘Editor’ and ‘DeTIK’ used a controversial approach when reporting political news. This *bréidel* (closing down) of the organisations was specifically to warn the entire Indonesian press, as well as the public in general, that comments on political affairs would not be tolerated (Hanazaki, 1998; Hill, 1994). During the New Order, the restriction had been applied to any criticism of either Suharto or his family, the armed forces (*ABRI*) or

Pancasila (the five pillars of the official philosophical foundation of the Indonesian state philosophy).⁵

The main policy of Suharto in controlling the media during his era had been focused on ideas of social harmony and political stability (see Hill, 1994). In order to continue in operation, the media had to maintain these two social conditions. This policy, according to Hanazaki (1998), was an attempt by the Suharto government to interpret a concept of freedom of responsibility of the press. This concept was introduced in the United States of America in the 1940s by the Hutchins Commission and suggested that the American press should assume more responsibility towards the public. The concept also suggested that the government should have the power to force the press to be responsible. This right of the government to participate indirectly in press activities became the basic philosophy behind the Indonesian government's formulation of the concept of "positive interaction" between the government, the press and the people (Hanazaki, 1998).

The concept of positive interaction was introduced by the Suharto regime to enable it to gain control of the press, a control that would ultimately be accepted by news organizations (Hanazaki, 1998). Participation indirectly in the press by the Indonesian government during the New Order was an interpretation of the "positive interaction" which manifested itself in the so called "control mechanisms." The four most important control mechanisms affecting the news coverage were control of the journalists and their professional organisation, the control of news content, the control of resources and the control of access to the press (Hidayat, 2000; Gazaly, 2002).

Apart from these control mechanisms, *KOPKAMTIB*⁶ security organisation developed a well-known acronym, *MISS SARA* (encouraging sedition, insinuation, sensation which might ignite ethnic, religious, racial and tribal issues), to itemise topics to be avoided by news organisations (Hill, 1994; Romano, 2003). To comply with this requirement, news organisations conducted their own censorship of news stories so as to avoid publishing stories which could conflict with government policy. Any conflict could result in the withdrawal of their Press Publication Business Licence (*SIUPP*). This custom of self censorship was part of the daily routine within news organisations. In addition to formal guidance from the government, "advice" was sometimes received informally by telephone from the Ministry of Information or from the military on how a news story should be presented (International Centre Against Censorship, 1994). In addition, it was compulsory for all journalists to be members of the sole journalist's association in Indonesia (PWI), which was designed by Suharto's government to control journalists' activities by choosing the board members who were loyal to him (Kakialatu, 2007).

As it can be seen from the foregoing, the idea of 'free but responsible' as a basic principle of the media in Suharto's era was, in fact, a rhetorical strategy of Suharto's to convince the media that

⁵ The five principles which had been formulated by Sukarno in 1945 were: Belief in the one and only God; Justice and civilized humanity; the unity of Indonesia; democracy guided by the inner wisdom in the unanimity arising out of deliberations amongst representatives; and social justice for all Indonesians.

⁶ *KOPKAMTIB* is an acronym of *Komando Pemulihan Keamanan dan Ketertiban*, Operational Command for the Restoration of Security and Order, formed by Suharto in October 1965.

his government guaranteed the press freedom, but that the media also had to be responsible by obeying his policy concerning how to report news stories as mentioned above. To be responsible in their reports, the media should not criticise Suharto's policy, or report on any mismanagement, scandal or government corruption (Kakialatu (2007). 'Playing on words' during the Suharto regime had become daily political jargon for the media, which affected not only the government regulations but also the chosen words by journalists when writing their reports. In the media regulation for example, the New Order altered the phrases 'an activator of the masses' to be 'national development' and a 'guardian of the revolution' to become a 'guardian of the *Pancasila* ideology, or '*Pancasila* Socialists Press' simply become 'Press *Pancasila*' (Hill, 1994). These alterations of phrases had been amended by Suharto's regime through People's Representative Council (DPR) for the benefit of his regime.

2. Demand to Reform Media regulations

Immediately after the fall of Suharto in 1998, Indonesian journalists requested that all restrictive regulations which had been used by the New Order Regime to control the press be lifted and that the 1982 Press Law be revised in accordance with the reform agenda of giving press freedom to the media. The journalists urged a revision of the Press Law especially on the article mentioning the obligation for the press to hold a Press Publication Business License (*SIUPP*) (See *Aliansi Jurnalis Independen*, 1998). In the Habibie term, the revision of the 1982 Press Law was carried out by the People's Consultative Assembly (MPR) which, prior to this revision, had ratified the Universal Declaration of Human Rights (1998) for the purpose of endorsing the article of freedom of expression (Romano, 2003).

The impact of this decision of press freedom by the People's Consultative Assembly (MPR) was to give more freedom to the media, as for example the removal of the requirement for all news organisations to hold the Press Publication Business Licence (*SIUPP*). The second effect of this decision was the introduction of the 1999 Press Law by the Indonesian government. This law radically changed the terms and conditions previously specified in the 1982 Press Law under which the media were required to operate. Whereas the 1982 Press Law referred to the press as an instrument in the promotion of Indonesian nationalism based on *Pancasila* Press, the 1999 Press Law refers to them as a social and economic institution based on the ideology of the freedom of the media (Romano, 2003). In addition to the fundamental change in the media regulations, the period was also marked by the increasing number of publications: the number of newspapers grew from nearly 300 to 700, radio stations from 800 to more than 1,200, during which the Jakarta private radio started to produce their own news stories; as well there was a growing number of national and local television stations (Atmokusumah Astraatmadja, Asia-Pacific Regional Press Freedom Seminar).

Conclusion

As the conclusion, I have two questions for further study: Does this enormous growth in media outlet automatically mean that the routine in the process of reporting has changed? Has it changed universally across all media?

For the general election in Indonesia, has it become increasingly democratic/free with each election?

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Gender Disparity in Sindh: A Sociological Analysis

By

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Abstract

The province of Sindh is one of the four provinces of Pakistan. The culture and values of Sindh Province are traditionally the outcome of mystic education, where one can find equality, tolerance and importance for all human beings. Unfortunately incidents of cultural exploitation, especially of gender disparity, are on the rise in some parts of Sindh, without considering that man and woman are treated equals both in local culture and religion.

Women are considered less important than man in rural and under developed parts of the country and Sindh is no exception. Patriarchy of male is prevailing in every status of society, being a husband, father, son or brother. As respect for women is strictly emphasized in all religions and societies of the world, Islam also lays great importance on the rights of women. It is well-known saying in Muslims that if one finds Paradise one can find it under the feet of mother. Unfortunately the static societies of the world give less importance to woman than the man. There is contrast in two parts of Sindh, on one side woman is symbol of honour and on the other side woman is considered as commodity. So, there is clear discrimination in both. Where society is under tribal influence disparity is more rampant than the areas free from tribal influence.

The paper aims at drawing the attention towards the issue of gender disparities in terms of reducing the inequalities and to enhance the social and economic status of the women to make them empowered section of the society.

Key words: Gender, Civilized, Disparity, Poverty, Culture, Male dominance, Empowerment, Honour, Patriarchy.

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Introduction

Sociologically gender is learned behavior and humans learn to become masculine or feminine; the difference between sex and gender is like the difference between culture and biology. It is a historical fact that woman remains vulnerable since time immemorial. Sometimes she has been buried alive, not because of her fault but only because of her gender. In some societies she has to be ‘satti’ because of her husband’s death. The history of Sindh gives lesson of mystic education and poetry. Where respect for woman is always linked with the respect and honour of family. Unfortunately feudal mind set in some parts of Sindh is showing grim picture. Women in Sindhi culture have been mistreated owing to a host of complex social and cultural factors which have unfavorably affected their social status. The pointers of women’s status have shown very dwindling progress. Women have low entrance to health, education and employment opportunities. There should be a systematic crusade against these atrocities on women and that can be done by telecasting meaningful and effective television programs. Special programs for women, for example programs against dowry, early marriages, selection of mismatched partners should be telecasted. In rural areas of Sindh women don’t have access to proper rearing of children. Demand of male child is mostly raised either by husband or his parents, which is mental tourcher and hanging sword for women and her parents. Women always remain under this fear, that if she will not be able to give birth to male child, she may be divorced or segregated by her in laws or husband. Dowry is another socio-economic and socio-cultural problem, which prevails in the society. It’s rampant in minorities but no exception in majority of societies even in urban societies as well. Woman has to face difficult situation, if she doesn’t bring demanded dowry.

Inferior caste and low socio-economic status is another serious problem for women. She has to face many abuses, due to her caste and low socio-economic status, the practice is more widespread rural areas rather than in urban. Opportunities of women empowerment are negligible in rural part of the Sindh. They don’t have access to liberty, freedom of expression, freedom of decision making and even about her child. Women cannot make decision of education, health, pregnancy etc. Forced marriages are one of the causes of discrimination against women in Sindh. Even if a female is forced to marry she would be treated as a burden on husband or on her in laws. The history of discrimination against women is very old, but deplorable situation is that, today we proclaim of modern world, modern societies, and vibrant media and despite that fifty percent of our population is still the victim of discrimination only because of her gender. This situation is not only particular to Sindh but this is prevailing in many south Asian countries in general. It is also fact that women have got thirty three percent reserved seats (quota) in national, provisional and district assemblies; however there is need of more progress to empower women. Islam emphasizes respect for women in the status of mother, wife, or sister and our culture preaches the same exalted status for women. However, in the wake of growing intolerance and violence against women, there is need to change this mind-set in society.

Objectives

- To understand the gender disparity in Sindh.
- To study the freedom of expression of women.
- To expose the problems women facing in Sindh.
- To note the women’s participation in family decisions.
- To expose forced marriages cause of discrimination against women.
- To highlight forms of family and marriage system this shows patriarchy.
- To focus the role of employment in the empowerment of women.

Theoretical Frame Work

On the basis of different bitter experiences of gender inequality, the concept of feminism was emerged in societies of United States in 19th century. Though the feminist theories and struggle remained successful in developed societies, but somehow their effects progressed in the third world's societies and there is no exception in Sindh. Sociologically one doesn't find single perspective in feminism. The concept consist of liberal feminism it is for women rights, socialist feminism for women's capital rights on work places, and radical feminism male's will on sexuality of female. Functionalist, conflict and inter actionist, all theorists' condemned the unequal distribution on gender bases.

Amartya Sen writes in Frontline that household inequalities are the basic inequalities in terms of workload sharing and child and elderly care. Women and girls are last to get everything, as a result they suffer from high drop-out and malnutrition. Malnutrition in women is further increased by heavy workload, poverty, childcare and frequent pregnancies.

According to **Hina Nazli** in the Book Rural Women in South Asia(2007) according to her point of view, women of Pakistan are unaware of her socio,economic and cultutral rights. Right of health, right of education and right of decision making.They suffer from many biological diseases due to the lack of power and awareness.

According to **Muhammad Ali** in the editorial published in Daily dawn Karachi Sunday, February 6, 2011. The author has described the lack of opportunities for female teachers. It was advised to Primary and secondary educational institutions to take two most essential measures like transformation of their learning conditions in conducive environment and develop firm learning environment for women so that they can face the challenges on their work places.

Research Methodology

Gender disparity is ingrained in feudal and patriarchal mind set of society. Therefore, it cannot be bound by sampling through few questionnaires and focus group discussions. Thus this article has been made on secondary based and qualitative analysis. The applied related sources have been utilized through secondary sources of information like Books, articles, Newspapers, Electronic media, Published and unpublished dissertations. Keeping in view of all related publications, electronic media and other understanding this study is concluded.

Forms of family in Sindh

Patriarchal

In this type of family male is considered the head of family and there is domination of male on family members.

Patrilineal

In this family system the identification of family is by name of male family member.

Patrilocal

In this system of family wife goes and resides in husband's home.

Nuclear

In this pattern of family husband, wife and dependent children live to gather.

Joint family

Father mother, uncles, aunts their dependent and independent children live to gather.

Extended family

In this family pattern two or more generations of one family live to gather.

Forms of marriages in Sindh

Mostly there are four forms of marriage prevailing in Sindh

Polygyny

In this marriage system a man can have more than one wife at one time, and it is acceptable in Muslim communities as well.

Monogamy

In this marriage system man can have one wife at one time. Keeping in view of above family and marriage system you find patriarchy of male therefore, women is dispirited and she needs empowerment.

Endogamy

Marriage in same family and caste.

Exogamy

Marriage outside the caste and family.

Need of women empowerment

The concept of women empowerment is to strengthen and support the women in different spheres of life. It is not only for women, but it needs for every marginal community who is marginalized because of his or her caste, race, religion and language.

In past this situation also prevailed in developed countries like blacks in United States. This situation still exists in many countries. There are different types of empowerment social, psychological, economic and political, but to understand simply, woman needs empowerment in family decision making, education, health, workplaces etc. In above cases, empowerment should be provided in helath,education proper food supplement and awareness regarding their social and legal rights.it also builds up confidence to face different difficult situations in home or work places, mostly it is observed that, women are compelled to surrender her rights on her parents property, when she gets married her brother even father himself does not give her due share from his property and he keeps all for son, because he thinks that, she is no longer member of our family, therefore , she will not claim share. This problem is more

rampant in rural areas and feudal communities even girl is not asked about her marriage. Most of the women remain unmarried in feudal system because of the ego of their family.

Family decision making and women empowerment

Right of decision is essential for every human but if there is no liberty of the same, it is violation of every moral rule set by society and religion. These violations are widespread in rural areas of the province. Women have no power to make decision in most of family problems. She has no permission to decide about her future and the future of her children. Even no body from family seeks their consent regarding marriage.

Need of women empowerment for education

Education is one of the basic rights, every human being has right to seek knowledge through formal and informal education. Unfortunately this right is not practicable for most of the women in Sindh. Sometimes it is intervened by father, brother and husband. Therefore, there is need of empowerment of women to make decision of their own.

Need of empowerment for health

Health is precious for everyone one. Educated and healthy women can make better generation. Unfortunately in our society most women have not been provided better health care. Even she is unaware of pre-cautionary measures to save herself from epidemic diseases. Therefore, there is need to empower women in this area as well.

Need of empowerment for property rights

Son and daughter both are shareholders in father's property in religion and according to the law of state. But in most of societies girls are not supposed to ask about her legal share and disparity starts from her parent's home and after that, she is not supposed to ask about her share in her in-laws or husband's home. So there is need of empowerment to get her property right.

Need of empowerment for legal rights

Women of rural areas are uneducated and women of urban areas are not aware about their legal rights that is why they suffer lot. There is need of empowerment to get their legal rights.

Need of empowerment for decision of employment

Most of the wives, sisters and daughters aspire for employment opportunities and want to be self-dependent but due to restrictions from family and society they cannot make their decision regarding the same, therefore, there is need of empowerment.

Conclusion

No doubt women remained vulnerable because of gender and sex differences. But, the intensity of that seems more rampant in the under developed and developing countries. We find same situation in Sindh province. Having five thousand years old civilization, and culture which is full of love, equality and tolerance for all. The study shows deplorable status of women in rural and tribal influenced belt. There is need of empowerment and awareness through education not only for girls alone but for complete society. There is need of change in mind set and in psychology of males towards female as mother, sister or wife. The women in rural society rarely get monthly expenses to run the home. This

responsibility is fulfilled by male members as women are considered unfit for this job. While a paltry amount is given as pocket money. Very high percentage of women in rural society rarely participate in major decisions taking place at home, Major decisions at home are taken by males. They are excluded from decision making process by the ignorance of their husbands and head of the family. Women do not even have very strong control over their fertility and sexuality. Though they decide about having number of children with their husbands but mostly their decisions are influenced by the wish of the husband. Decisions regarding children's education and marriage are taken with the consent of both husband and wife. It was found that women do not enjoy freedom of mobility. Mostly they have very little freedom to go outside home; else they can go with some elderly person at home. Gender discrimination prevails both inside and outside homes. A reasonable number of women suffer from discrimination in food and resources distribution. This discrimination leads women to feel degraded, disempowered, helpless and powerless.

Recommendations and Suggestions

1. Provision of equality for women in all fields of life.
2. More demands on the spread of education among the girls of the area.
3. Special education movement for imparting knowledge among the housewives under the patronage of the government.
4. Vocational training institutions for women with collaboration of the government and NGOs.
5. Effective enforcement of the constitutional prohibition of discrimination against women in all fields of life particularly education and employment.
6. Age for marriage of girls should be raised to 18 years and any violations of this legal provision should be made cognizable offense.
7. Promotion of the handicrafts by the women of the locality, thereby contributing towards their economic betterment.
8. Special health facilities to be provided by the govt. to make them a real asset for the society.
9. As there is feudal culture, so before the marriage women should be given due property share before marriage.

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Barriers to Health Care System among Older New Americans in the U.S.:

A Descriptive Pilot Study

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Introduction

The U.S. Census Bureau estimated that the number of older immigrants (age 65 years or older) reached an unprecedented high of 3.1 million in 2000, representing approximately 11% of the total foreign-born population (He, 2002; Parikh et al., 2009). Since then, the number of older immigrants is expected to have undergone a steady increase. Despite the growing numbers of older immigrants, the inclusion of this population has been a major missing component in clinical and community-based research. The lack of research with older immigrants poses serious challenges to improving health care delivery and understanding the impact of recent legislative decisions, such as healthcare reform, for these individuals. Moreover, older immigrants are generally in poorer health (Gorospe, 2006) and have lower levels of health service utilization than their native-born counterparts (Derose et al., 2007; Xu & Borders, 2008).

While challenges and disparities in health and health service utilization have been noted, the barriers experienced by immigrant populations are not well-understood, as the relevant empirical research is sparse. In a study of barriers faced by newly-arrived older immigrants who participated in the National Health Interview Survey (NHIS), Choi (2006) found that insurance status was an important predictor for health service utilization among older immigrants, but not U.S.-born older adults. Disparities in the use of preventive health care services have also been identified. For instance, in another study using the NHIS, unadjusted analyses indicated that older immigrants were less likely to receive pneumococcal vaccines than their native-born counterparts (Rangel et al., 2005). These observed health disparities may be explained by differences in access to government-sponsored health insurance plans, such as Medicare. Other important cultural and social factors not captured in these studies, however, are also likely to have an effect. Although national-level data has been useful developing prominent models of health care service use, such as the Andersen Health Care Utilization Behavior model (Andersen, 2008), factors that are important to specific immigrant groups may be unmeasured or “wiped out” with aggregate data, where a wide range of national origins are represented in a single immigrant sample. Considerable heterogeneity exists with respect to the circumstances under which immigration had occurred (e.g., voluntary immigration vs. refugees), cultural practices, and other situational variables that may impact health services utilization (Scheppers et al., 2006). Furthermore, studies that do not rely on national-level data often utilize a single-sample design that does not allow for the distinction between barriers that are common across all older adults and those that are specific to immigrant populations (e.g., Kuo & Torres-Gil, 2001; Parikh et al., 2009).

The Purpose of the Present Study

The health of older adults is a key area of study in clinical and community-based research, yet the health needs of older immigrants are not well-understood. Therefore, the purpose of this exploratory, qualitative, cross-cultural study was to identify common and unique health concerns and barriers to health services utilization experienced by older immigrants using a community-based research approach. The participants were older adults from the Bosnian, Chinese, and U.S.-born communities in St. Louis, Missouri, the United State of America. The inclusion of the older adults from Bosnian and Chinese immigrant populations, in addition to those who are U.S.-born, enabled our research team to identify factors that are uniquely important to immigrants and those that are common across different older adult populations. To our knowledge, this will be

the first study to compare the health concerns and barriers to health services utilization experienced by older adults who are voluntary immigrants, refugees, or native-born citizens.

Older adults from the St. Louis Bosnian and Chinese communities were targeted because they represent large immigrant communities in St. Louis. Consistent with Census estimates (He, 2002), an estimated 10% of the 40,000 Bosnian and 30,000 Chinese immigrants in the St. Louis area are 65 years of age or older (personal communication with community leaders, April 2010). Older adults from these two communities were also selected because these groups represent vastly different populations. Most Bosnian older adults in St. Louis are refugees who were forced to leave their countries during the Bosnian War (1993-1997), whereas most Chinese older adults in St. Louis are voluntary immigrants. Bosnians are considered Caucasian and are more likely to have experienced acceptance into the mainstream society than immigrants of Asian descent (Matsuo, 2004, 2005). Both groups also have different cultural practices and health beliefs that may uniquely impact health service utilization. There are also differences with respect to the local histories, as the Chinese community is regarded as being much older than the Bosnian community. Despite these differences, many similarities exist between these communities, including high levels of limited English proficiency, lack of experience with the U.S. health care system, and the lack of access to culturally-competent health care providers.

Method

Participants

With the help of community leaders, the Bosnian and Chinese participants were recruited from local organizations that serve older adults in these communities. Snowball sampling was also utilized, as this is one of the most effective methods of recruiting from ethnic communities (Matsuo et al., 2009). The U.S.-born participants were recruited three ways: (1) from a research volunteer database consisting of community-dwelling older adults, (2) advertising at establishments frequented by older adults, and (3) snowball sampling. This interim analysis includes 16 Bosnian (nine males, seven females), 14 Chinese (seven males, seven females), and 17 U.S.-born (eight males, nine females) older adults.

Procedures

The focus groups were separated by gender and the results reflect samples of men and women for the Bosnian and Chinese groups and a sample of women for the U.S. born group. Each focus group was moderated by a fluent speaker of the group's primary language. At the beginning of the focus group session, the participants completed a paper-and-pencil survey in their primary language, which asked demographic questions and also questions regarding the participants' health status and health-related behaviors. The focus group included questions about the participants' primary physical and mental health concerns, negative health care experiences, and suggestions to improve the U.S. health care system. At the beginning of the focus group, participants completed the paper-and-pencil survey. Following the completion of the survey, the focus group began. Each focus group lasted approximately one hour and the information was recorded on an audio recorder. Upon conclusion of each focus group, every participant received a \$20 grocery store gift card. The focus group recordings were transcribed by a moderator. For the Bosnian and Chinese focus groups, the audio recordings were simultaneously transcribed and

translated into English, which is the most common method of focus group data collection with immigrant populations (Matsuo, 2005).

Analyses

Due to the small sample sizes, group comparisons were made using nonparametric tests (e.g., Kruskal-Wallis, Mann-Whitney U, chi-square tests, or Fisher's exact tests). Statistical significance was determined at the .05 level.

Results

Survey Data

Participant Characteristics: The three groups were comparable in age with the average age of the Bosnian participants to be 74.1 years ($SD = 3.5$), the Chinese participants to be 74.0 years ($SD = 6.1$), and the U.S.-born participants to be 71.9 years ($SD = 5.4$). The Bosnian participants arrived to the U.S. at an older age than the Chinese participants (Bosnian: $M=59.7$ years, $SD = 4.3$ and Chinese: $M=45.1$ years, $SD = 18.7$). Fifteen of the 16 Bosnian participants were U.S. citizens, and 10 of the 14 Chinese participants were U.S. citizens. Majority of the participants had health insurance and were not actively employed. Bosnian participants reported poorer comprehension of spoken English than their Chinese counterparts on a 5-point scale (higher = poorer comprehension; Bosnian: $M=4.4$, $SD=0.6$ and Chinese $M=3.8$, $SD=1.6$).

Self-reported health and activities of daily living (ADL). Kruskal-Wallis tests revealed group differences on all measures of self-rated health and activities of daily living (ADLs: shopping, light housework, bathing, managing finances, and getting in and out of bed and chairs, *except walking*), thus pair-wise comparisons were conducted to elucidate specific group differences. For self-ratings of health on a 5 point scale (higher = worse), the Bosnian participants reported poorer health ($M = 4.3$, $SD=0.7$) than the Chinese participants ($M = 3.4$, $SD=1.0$), who in turn reported poorer health than the U.S.-born ($M = 2.4$, $SD=1.0$) participants. Regarding ADLs, which were rated on a 3-point scale with higher scores indicating greater difficulty, the Bosnian participants reported more difficulty with shopping, light housework, bathing, managing finances, and getting in and out of bed and chairs compared with the Chinese and U.S. born participants. No significant differences were detected between the Chinese and U.S. born participants.

Health care utilization. Two (13%) of the Bosnian participants, one (7%) of the Chinese participants, and none of the U.S.-born participants reported having had problems accessing transportation in the past 12 months. One (6%) of the Bosnian participants and one (7%) of the Chinese participants reported having problems with accessing a translator in the past 12 months. None of the Bosnian participants and none of the U.S.-born participants reported having problems accessing medical care, due to the cost, in the past 12 months, while one (7%) of the Chinese participants reported having this problem.

Fourteen (88%) of the Bosnian participants, 12 (86%) of the Chinese participants, and all (100%) of the U.S. participants reported having a cholesterol screening in the last five years.

Nine (56%) of the Bosnian participants, 11 (79%) of the Chinese participants, and 14 (82%) of the U.S.-born participants reported having had a flu shot in the past year. Three (42%) of the Bosnian women, five (71%) of the Chinese women, and eight (89%) of the U.S.-born women reported having had a mammogram in the past two years.

Focus Group Data

Primary physical and mental health concerns. Based on an initial content analysis of the focus groups' responses regarding their primary physical and health concerns, it was evident that the Bosnian, Chinese, and U.S.-born groups held different concerns regarding their physical and mental health. For example, while the Bosnian participants shared concerns of post-traumatic stress disorder (PTSD), the Chinese and U.S.-born participants did not, and while the Chinese participants shared concerns of heart disease, the Bosnian and U.S.-born participants did not. Although the three groups shared different concerns, they also shared some of the same concerns. For example, both the Bosnian and Chinese participants shared concerns of loneliness, and both the Chinese and U.S.-born participants shared concerns of Alzheimer's Disease.

Negative health care experiences. Based on an initial content analysis of the focus groups' responses regarding their negative health care experiences, it was evident that the Bosnian, Chinese, and U.S.-born groups had, overall, different negative health care experiences. For example, the Bosnians expressed concerns with dental plans, the Chinese participants expressed difficulties in understanding billing procedures, and the U.S.-born participants expressed confusion about medical-related research and recommendations. There were only two similarities in expressed negative health care experiences, and these were between the Chinese and U.S.-born participants. Both groups expressed frustration with high costs and dissatisfaction with the lack of time spent with physicians during medical appointments.

Suggestions to improve the U.S. health care system. Based on an initial content analysis of the focus groups' responses regarding their suggestions to improve the U.S. health care system, it was evident that the Bosnian, Chinese, and U.S.-born groups had, overall, different suggestions. For example, the Bosnians suggested that medications be changed to a higher quality, the Chinese participants suggested that mistakes on medical records be avoided, and the U.S.-born participants suggested establishing a centralized computer system that all doctors can access. There was only one similarity in suggestions to improve the U.S. health care system, and it was between the Chinese and U.S.-born participants. Both groups suggested that there be greater support for traditional and alternative medical treatments, such as acupuncture and the use of supplements.

Discussion

Despite the growing numbers of older immigrants in the U.S., the inclusion of this population has been a major missing component in clinical and community-based research. The lack of research with older immigrants poses serious challenges to improving health care delivery and understanding the impact of recent legislative decisions, such as healthcare reform, for these

individuals. Therefore, the purpose of this exploratory, qualitative, cross-cultural study was to identify common and unique health concerns and barriers to health services utilization experienced by older immigrants using a community-based research approach. The participants were older adults from the Bosnian, Chinese, and U.S.-born communities in St. Louis, Missouri.

The results of the surveys and focus groups reveal that there were some similarities among the three groups with respect to self-reported health, health care utilization, health concerns, negative health care experiences, and suggestions to improve the U.S. health care system. However, there were also distinctions. This suggests that a one-size-fits-all approach to addressing health care needs is not the most effective way at addressing the needs within distinct communities. The unique factors that are important to specific immigrant groups, such as immigration circumstances, cultural practices and beliefs, and community resources, must be taken into account when considering health care delivery, and we intend to consider such factors in future research.

The limitations of this pilot study include the small sample sizes of the three groups and the group cohesion that may exist due to snowball sampling. Despite these limitations, this pilot study provides valuable information that can be used to identify dominant trends in the needs of older immigrants within specific communities and can help shape plans to implement intervention or demonstration projects to help better serve older immigrants.

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Self-Reliance Process on Sustainable Health Care Using Philosophy

of the Sufficiency Economy

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Topic of submission

Sustainability

Self-Reliance Process on Sustainable Health Care Using Philosophy
of the Sufficiency Economy

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Abstract

The objective of this research was to study self-reliance process on sustainable health care using the Philosophy of the Sufficiency Economy that is the speech of His Majesty King Bhumibol Adulyadej. The Philosophy of the Sufficiency Economy consists of moderation, reasonableness and self-immunity system under knowledge and morality. The research was participatory action research emphasize the people's participation procedures. The research applied searching procedures for value system from local wisdom to integrate and transfer, which based united on the people's learning, planning and proceeding. A social power was used in the development procedures and applied resulted into a new base.

The result showed that the model of self-reliance process on sustainable health care through different strategies under production system and community self-reliant lifestyle such as establishment of understanding and consciousness in health care by using traditional communication, health care management by using kinship relations, promotion of working cooperatively among all organizations in learning community health care management as network association, and health care activities on good relationship and participation of people in community. All of these strategies were mechanism of sustainable health care process using community relation system. Moreover, the community employed knowledge from health care management process to develop the community in other domains in order to survive rapid changes of the outside world.

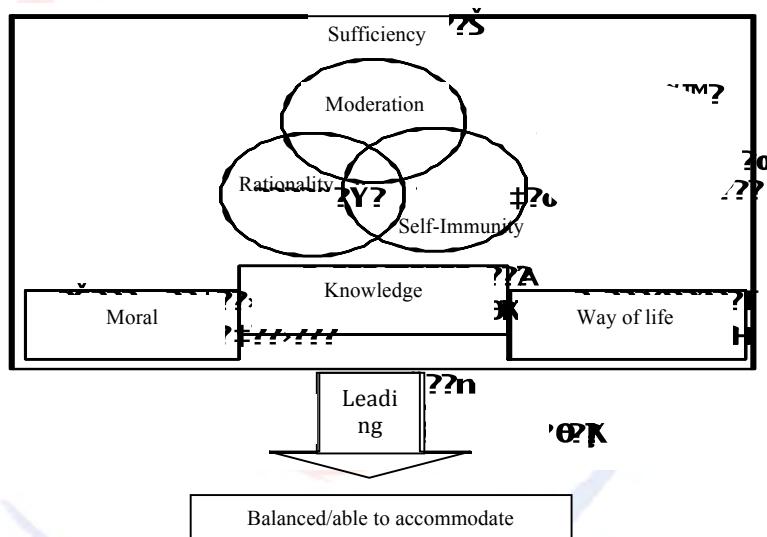
Learning process caused confession, self-esteem, health of spirit mind and humanized health care. Besides, the process caused moderation, reasonableness, self-immunity system, knowledge, moral and community could self-reliance on sustainable health care.

Introduction

From the main paradigm of development to modernization which leads all societies to compete for seeking on maximize profit and interests (and this is the main goal of capitalist society), surely it yields so many main deteriorate effects to the way of people life and happiness. As the special one who see the inappropriate effects from

its results, King Bhumipol, the king of Thailand, has developed the one great solution so called Sufficiency Economic Philosophy to tackle on the mentioned effects and give it for his citizen.

His Majesty the King Bhumipol Adulyadej's Sustainable Development theory-The philosophy of "Sufficiency Economy"....The development of the country must be fostered in stages. It must start with the construction of infrastructure, that is, the provision of food and basic necessities for the people by methods which are economic, cautious and conforming with principles. Once the foundation is firmly established, progress can be continually, carefully and economically promoted. This approach will prevent incurring mistakes and failures, and lead to the certain and complete achievement of the objectives. In summary, the conceptual framework of His Majesty's "sufficiency economy" shows in the diagram.



Within the last 10 years, the phenomenon of many problems was affected from public health process and economic system. These problems will change the process of self-reliance on health of individual, family and Thai community to go with the world economic condition. This crisis not only calling for understanding to know the trick of the world system and globalization but also to stress the importance of development "Self Reliance System" in all direction including self-reliance on health. Therefore, the conduction Sufficiency Economy Philosophy as the way in development of self-reliance on health to bring about good immunity of all Thai health system in individual level, family level and society level for strong Thai social which is foundation of sustainable development. The purpose of this research was to study self-reliance on health and develop the pattern of self-reliance to follow Sufficiency Economy Philosophy.

Methodology

This research was survey research with participatory action research emphasize the people's participation procedures. A theory of social power which consist of encouragement, offering information, carrying messages from one place to another, organ management in community, power producing and allies network construction was used in the development procedures. In addition, FSC and mind map were applied. The research operation was divided to 2 periods:

The 1st period to study self-reliance process on holistic health of community and factors which relation to self-reliance behavior on health of Laplae District, Uttaradit Province. Survey data was obtained from interview using structured interview that own creation under philosophy of Sufficiency Economy. Sampling groups were 450 people which were calculated by Taro Yamane using the multi-stage sampling. Qualitative data was obtained from focus group discussion and in-depth interview. Qualitative sampling groups were gained from purposive sampling of 20 good health elder person and 20 folk wisdom owner on health in communities.

The 2nd period to develop self-reliance format on health follow the philosophy of Sufficiency Economy. This process was carried out using people's participation in study of problem conditions, problem analysis, action plan and evaluation. The process of network development was powered by social forces theory. The philosophy of Sufficiency Economy was used as a guideline for overall process.

Qualitative data was analyzed by content analysis. Quantitative data used descriptive statistic and test the relation by Pearson product moment correlation coefficient.

Results and Discussion

The results revealed that community context based on social issue, both semi-urban, semi-rural communities and relative networks have support and encourage each other. Community activities covered multi-functional agricultural occupations, such as famers and animal supplies. Socio-economic status covered mostly the middle class level.

The result showed that the understanding level about Sufficiency Economy philosophy of people is good especially the concept of sufficient and medium path. The life styles of people follow philosophy of Sufficiency Economy were agricultural areas management, planting and animal husbandry for consume in their family before selling, lending a hand in communities and decreasing their expense and increasing their income. They also cling to the concept of saving and stop spending around.

The level of self-reliance on health in communities is high (61.78%). The self-reliance behavior on health follow philosophy of Sufficiency Economy in the concept of moderation is medium (48.44%). For reasonableness and self-immunity concept, the level of their behavior is also medium (61.11%). The behavior of self-reliance on health follow the philosophy of Sufficiency Economy under the knowledge condition and ethics conditions were high (59.56%). Most of self-reliance knowledge on health was high level (61.78%) while most of perception and belief on self-reliance on health were medium level (50.22%). The knowledge of self-reliance on health and the perception and belief about self-reliance on health have relationships with the behavior of sustainable self-reliance on health follow the philosophy of Sufficiency Economy which had a statistical significance at 0.05 levels.

In development of self-reliance format on health follow the philosophy of Sufficiency Economy, the concept of community about self-reliance on health was influenced by religion doctrine, which was a value system of the community emphasizing on the balance of human, nature, and God. This was a mixture of religion concepts and local knowledge of health, which was the traditional belief of the community. Also, it was the culture of taking care happiness within the body, mind, society and spirit connected with economy, society, culture, environments, and community lifestyle. The procedure of self-reliance on health in community used community resources as base to drive the self-reliance on health. In addition, government sector and local administration organization were also needed to be encouraged to take part in self-reliance on health. Management on knowledge from factors and health care system condition under the community social relation was used to develop the self-reliance format on health followed the philosophy of Sufficiency Economy. The content of knowledge management consist of searching for holistic health problem covering food, exercise, emotions, environmental health, don't get sick and all vices using rearrangement of problem, specification of target group, operation and evaluation.

The self-reliance activities on health used different strategies that help life style and plan to develop of community under the philosophy of Sufficiency Economy condition and community self-reliant lifestyle such as (1) establishment of understanding and consciousness in self-reliance on health by using traditional communication (2) health care management by using kinship relations in community (3) promotion of working cooperatively among all organizations in learning community health care management as network associate and (4) health care activities on good relationship and participation of people in community.

In problem analysis and community's demand by using FSC and mind map, the criterions such as requirement problem, violence, awareness of community, possibility in project management were applied. After that, the project community was thinking, written, managed and evaluated by community. The patterns of self-

reliance promotion on health which obtained from problem analysis of community were:

The pattern of Tumbol Thungyung was the development of community empowerment in elderly health care by creating the leader who performs single-stick fencing. Moreover, volunteer of public health pay a visit and train the elder who can't come to appointment place. For disabled elders, volunteer of community pay a visit and conditioning them.

The pattern of Tumbol Maepool was the pattern of chronic patient health care using local wisdom and management of garbage by participation of school and community via (1) volunteer of community pay a visit, give recommendation for self-care and yoga demonstration (2) school demonstrate the screening of garbage, the processing of garbage to be fertilizer, the bring up of pig, hen and frog (3) school plant for consumer in their school before selling and (4) contest the excellent sanitation house.

The pattern of Tumbol Chaijumpol was the pattern of behavior changing in agriculture chemical using by replacing the agriculture chemical in demonstrate plot with biological substance and demonstration the method of vegetable and fruits washing before cooking.

Conclusion

Using of community activities as the tool of learning and management, promoting of collective action, net working among community organization and environments carefulness cause more dependence in community. Beside, people in community will be happiness on share their make a living.

From the study's results, it is recommended that self-reliance on health process should help the life style and culture of community by persistence of the community needs centered by holding the philosophy of Sufficiency Economy to be the operation way, supporting of leader community, the understanding of the role and duty of public health officials, the forward way of work depending on community participation and to take the information technology.

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Breastfeeding (*Rada'ah*) Under Islamic law and it's Promotion towards Sustaining Mother's and Children's Health

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Abstract:

In general, breastfeeding refers to a process of milk feeding of babies from the breast of a woman. In Islam, breastfeeding is highly recommended where the duty lies with both parents. The father is duty bound to provide milk feeding as part of the duty to maintain his child while the mother is naturally and customarily duty bound to breastfeed her baby in the case where she encounters no problem. Parents are given the option to send their babies to a wet nurse (foster mother) for suckling purposes, if the mother encounters problems or is reluctant to breastfeed her baby herself. This paper seeks to examine the position and rules relating to breastfeeding under Islamic law and its promotion towards it in order to sustain the health of both mother and child. For that purpose, emphasis will be given on proofs and arguments on the importance and benefits of breastfeeding (*rada'ah*). Examination will also involve breastfeeding as one of the parental duties as well as the children's rights. It is highly believed that the research will benefit all academicians, legal practitioners, students, those who seek knowledge and the public at large.

1.0. Introduction

1.1. Concept of Breastfeeding (*Rada'ah*) Under Islamic law

Rada'ah is an Arabic word rooted from *rada'a*, which literally means ‘sucking the breast and drinking its milk’.¹ Generally, it is an act of sucking milk from the breast.² According to Ibn Abidin, it is an act of drinking milk from the udder or (human) breast.³

Legally, breastfeeding is generally affected when woman's milk or anything that is originated from human milk reached the baby's stomach or his brain by means of mouth or nose after fulfillment of certain conditions.⁴

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¹ Ibn Manzur, *Lisan al-Arab*, (Cairo: Dar al-Maarif, n.d.), 1660-1.

² Kamal-ad-Din, Muhammad ibn Abdul-Wahid as-Siwas, Ibn al-Hamam al-Hanafi, *Sharh Fath al-Qadir ala al-Hidayah li al-Kamal*, (Beirut: Dar al-Kutub al-Ilmiyyah, 1995), vol. 13, at 418.

³ Ibn Abidin, Muhammad Amin ibn Umar, *Rad al-Muhtar ala ad-Dur al-Mukhtar*, (Beirut: Dar al-Fikr, edn. 1992), vol. 3, 209. See also al-Razi, Muhammad ibn Abu Bakar ibn Abdul Qadir, *Mukhtar as-Sohhah*, (Beirut: Maktabah Lubnan, 1995), vol1, pg 90.

⁴ Ibn al-Hamam, Kamal-ad-din Muhammad ibn Abd-al-Wahid as-Siwas, Ibn al-Hanafi, *Sharh Fath-al-Qadir ala al-Hidayah li al-Kamal*, (Beirut: Dar-al-Kutub al-Ilmiyyah, 1995), vol. 3, at 418; Muhammad ibn Ahmad ibn Arfah ad-

1.1.1. Legal Basis of Breastfeeding

The legality of breastfeeding has been established by the *Qur'an*,⁵ consensus of Juristic opinion (*ijma'*) and rational (*ma'qul*).

Referring to the *Qur'an*, it provides among others three rulings on breastfeeding to the effect;

"The mothers shall give suck to their offspring for two whole years, if the father desires to complete the term...."⁶

The above verse enjoins the mothers to breastfeed their babies. Even though it might either indicate breastfeeding as compulsory, recommended or a mere advice,⁷ it highlights the importance of suckling.⁸

The *Qur'an* further rules on the permissibility of asking for payment for breastfeeding, if the task is entrusted to a foster mother (wet nurse),⁹ to the effect;

".... if ye decide on a foster mother for your offspring, there is no blame on you provided ye pay (the foster mother) what ye offered, on equitable terms."¹⁰

Finally, the *Qur'an* rules on the father's duty in relation to breastfeeding of his baby in the event of divorce. In such circumstances, if the divorced mother breastfeeds their baby, the father has to pay the mother for her service. The *Qur'an* states to the effect:

"..... And if they carry (life in their wombs), then spend (your substance) on them until they deliver their burden: and if they suckle your (offspring), give them their recompense: and take mutual counsel together, according to what is just and reasonable. And if ye find yourselves in difficulties, let another woman suckle (the child) on the (father's) behalf."¹¹

The above verse also emphasizes that if the mother is unable to breastfeed the baby for certain reasons or refused to do so, the father may hire a wet nurse to breastfeed him.¹²

1.1.2. Breastfeeding as One of the Parental Duties

1.1.2.1. Duty of a Mother to Breastfeed her Baby

Dusuqi al-Maliki, *Hashiyah ad-Dusuqi ala al-Sharh al-Kabir*, (Beirut: Dar-al-Kutub al-Ilmiyyah, 2003), vol. 3, 467-8; Shams-ad-Din, Muhammad ibn al-Khatib ash-Sharbini, *Mughni al-Muhtaj ila Marifah Maani Alfaz al-Minhaj*, (Beirut: Dar-al-Marifah, 1997), vol. 3, 534; Mansur ibn Yunus ibn Idris al-Bahuti, *Kashshaf al-Qana' an Matni al-Iqna'*, (Beirut: Alam al-Kutub, 1997), vol. 4, 385.

⁵ The book of God (Allah the Almighty) revealed to Prophet Muhammad (pbuh) in Arabic language.

⁶ Al-Baqarah: 233

⁷ At-Tabari, *Jami' al-Bayan*, vol. 2, 490; Rida, *Tafsir al-Manar*, vol. 2, 409; al-Qurtubi, vol. 4, 107.

⁸ Al-Asili, Abdullah Abdul-Mun'im Abdul-Latif. (2005). *Ar-Rada' al-Muharrim fi al-Fiqh al-Islamiy*. Cairo: Dar Ibn Jawzy. 52.

⁹ At-Tabari, *Jami' al-Bayan*, vol. 2, 508.

¹⁰ Al-Baqarah: 233

¹¹ At-Talaq: 4

¹² Al-Asili, 52-3.

A mother is the closest person to her baby, from whom they can acquire milk, love and affection. It is obviously due to the very nature of the baby who is weak and cannot easily digest food he is highly in need of breastfeeding during the first stage of his life. Muslim jurists have discussed the mothers' responsibility to breastfeed their babies from two angles i.e in fulfilling of their religious duty (*diyanatan*) and as a legal duty (*qada'an*) based on the Quranic ruling in al-Baqarah:233 as stated earlier. All Muslim jurists as well as the Quranic commentators, agree that this verse is imperative in nature, imposing a religious duty (*diyanatan*) on the mother to feed her baby, whether she is married to his father or divorced or has completed her waiting period after the divorce ('iddah).¹³ The Hanafis and some of the Quranic commentators are of the view that if the mother refuses to perform this religious duty, she will be questioned by God (Allah The Almighty).¹⁴ This is due to the fact that a religious duty refers to the relationship between the worshiper and God which has to be performed without choice. Therefore, in Islam, the mother is obliged to breastfeed the baby, especially in the case where the baby cannot live without breastfeeding. This is particularly so because the baby benefits from the colostrum¹⁵ in the mother's milk that plays a vital role for the baby's health. This is the wisdom when God (Allah the Almighty) placed the milk in the mother's breast since it is the most appropriate and suitable food for the baby. Together with her love and compassion, she can deliver her baby's food easily as it is already equipped within her body.¹⁶ This also reflects God's (Allah the Almighty) love and mercy towards children. From the very beginning, babies have been protected by entrusting them with their mother, who is obliged to breastfeed them despite any marital difficulties.¹⁷

1.1.2.2. Legal duty (*qada'an*) of the Mother to Breastfeed: General Rule on the Extent of the Mother's duty

Opinions among Muslim jurists differ as to whether the mother owes a legal duty to breastfeed her baby or not. Majority of Muslim jurists including the Hanafis,¹⁸ the Shafi'is¹⁹ and the Hanbalis,²⁰ as well as Quranic commentators such as al-Tabari,²¹ Fakhr al-Razi²² and Abu Hayyan al-Andalusi²³ are of the view that the mother, whether she is a woman of noble birth or

¹³ At-Tabari, *Jami' al-Bayan*, vol. 2, 499; Ibn Abidin, *Rad al-Mukhtar*, vol. 5, 347; ad-Dardir, Abu al-Barakat Ahmad ibn Muhammad ibn Ahmad, *Ash-Sharh as-Saghir ila Aqrab al-Masalik Ila Mazhab al-Imam Malik*, (Egypt: Dar al-Maarif, n.d.), vol. 2, 754-5; Mustafa al-Khin, et. al, *al-Fiqh al-Manhaji ila Mazhab al-Imam ash-Shafie*, (Dimasyq: Dar al-Qalam, 1996), vol. 2, 192; Ahmad Ibn Taymiyyah, *Fatawa an-Nisa'*, (Cairo: Dar al-Bayan at-Turath, 1987), 496; Ibn Hazm, *Al-Muhalla*, vol. 10, 335. See also Jamal J. Nasir, *The Islamic Law of Personal Status*, (Netherlands: Kluwer Law International, 2001), 156.

¹⁴ Ibn Kathir, *Tafsir al-Quran al-Azim*, vol. 1, 284; Ibn Abidin, *Rad al-Muhttar ila ad-Dur al-Mukhtar*, vol. 5, 347; Husayn, *Ahkam al-Usrah fil Islam*, vol. 2, 219; Muhammad Samarah, *Ahkam wa Athar az-Zawjiyyah*, vol. 1, 364.

¹⁵ The substance produced in the breast of a new mother, which has a lot of antibodies which help her baby to resist disease. *Oxford Advanced Learner's Dictionary*, 8th Ed., 2010, 280.

¹⁶ Ibn Kathir, *Tafsir al-Quran al-Azim*, vol. 1, 248; Ibrahim, Muhammad Aqlah, et al, *Dirasat fi Nizam al-Usrah fi al-Islam*, (Amman: Maktabah ar-Risalah al-Hadithah, 1990), 169.

¹⁷ Sayyid Qutb, *Tafsir fi Zilal al-Quran*, (Beirut: Dar ash-Shuruq, 1979), vol. 2, 254.

¹⁸ Al-Haskafi, *ad-Dur al-Mukhtar*, vol. 5, 347.

¹⁹ An-Nawawi, Mahyuddin Yahya ibn Sharaf, Abu Zakariya, *Rawdah at- Talibin wa Umdah al-Muttaqin*, (Beirut: Dar al-Fikr, ed. 1995), vol. 8, 52.

²⁰ Al-Bahuti, *Ar-Rawd al-Murbi'*, 533.

²¹ At-Tabari, *Jami' al-Bayan*, vol. 2, 493.

²² Ar-Razi, *Tafsir al-Kabir*, vol. 5, 117.

²³ Athir-ad-Din, Abu Hayyan Muhammad ibn Yousuf ibn Ali Ibn Yousuf ibn Hayyan al-Andalusi, *an-Nahr al-Mad min al-Bahr al-Muhit*, (Beirut: Dar al-Jil, ed. 1995) vol. 1, 337.

otherwise, is not obliged to breastfeed her baby either during the subsistence of her marital relationship or during the period of waiting ('iddah) after divorce. They argue, among others that the Quranic verse al-Baqarah 233 indicates breastfeeding by the mother is recommended. Therefore, the mother cannot be forced to breastfeed as this will cause harm to her as she will have to perform a task that is beyond her ability. Since one of the purpose of Islamic law is to eliminate harm from human being, the mother is not obliged to breastfeed her baby.²⁴

Meanwhile, Abu Thawr, Ibn Abi Layla and the Zahiris²⁵ are of the opinion that it is obligatory on the mother to breastfeed her baby regardless of whether she is a woman of noble birth or not, or whether during marriage or period of 'iddah. They argue that Quranic verse 2: 233 is indicative in nature and not a notification. This also implies that the mother is obliged to breastfeed her baby.²⁶

On the other hand, the Malikis and Ibn Atiyah al-Andalusi²⁷ are of view that the mother is obliged to breastfeed her baby if it is the custom of her class. If breastfeeding is not the custom of her class, she is not obliged except during necessity.²⁸ According to them, verse 2:233 signifies the obligation upon the mother if breastfeeding is the custom of her class. Under this situation, the mother is not entitled to any payment other than maintenance (*nafaqah*) from the father of her baby. As maintenance is obligatory upon the father, breastfeeding is obligatory upon the mother during the subsistence of their marital relationship. Those who held this view made reference to what have been practiced by the Companions when they sent their babies to wet nurses to be suckled.²⁹

In situations where divorce or separation had taken place between the father and the mother, basically breastfeeding is optional and not compulsory. The mother will be entitled to payment if she is willing to breastfeed. If she refuses, the father may hire a wet nurse.³⁰

Muslim jurists also discuss about the mother's duty to breastfeed in the event of death of the father. They unanimously agreed that breastfeeding is not obligatory upon the mother after her husband's death. In the event of his death, expenses for breastfeeding will be upon the father's estate. Therefore, if the mother breastfeeds the baby, she is entitled to payment from her late husband's estate since the responsibility to make payment is not distinguished by death. The payment is not considered as maintenance (*nafaqah*) as maintenance ceased with the death of the husband.³¹

²⁴ As-Asili, 79-80.

²⁵ Ibn Hazm, *al-Muhalla*, vol. 10, 337; al-Maqdisi, *Sharh al-Kabir*, vol. 9, 297; az-Za'balawi, Muhammad as-Sayyid Muhammad, *al-Ummah fi al-Quran al-Karim wa as-Sunnah an-Nabawiyyah*, (Beirut: Dar Ibn Hazm, 1998), 146.

²⁶ Ibn Hazm, *al-Muhalla*, vol. 10, 337.

²⁷ Ibn Atiyah, Abu Muhammad Abd-ul-Haq ibn Atiyah al-Andalusi, *al-Muharrar al-Wajiz fi Tafsir al-Kitab al-Aziz*, (Doha: n.p., ed. 1981), vol. 2, 291; ad-Dardir, *Ash-Sharh al-Kabir*, vol. 2, 754.

²⁸ An example of necessity is when the baby refuses any milk other than that of the mothers.

²⁹ Al-Asili, 81-83.

³⁰ Al-Haskafi, *ad-Dur al-Mukhtar*, vol. 5, 347; ad-Dardir, *ash-Sharh al-Saghir*, vol. 2, 754; an-Nawawi, *Rawdah at-Talibin*, vol. 8, 52; al-Maqdisi, *ash-Sharh al-Kabir*, vol. 9, 297; Ibn Hazm, *al-Muhalla*, vol. 10, 335. See details of proof for each opinion in al-Asili, 89-90.

³¹ Ibn Abidin, *Rad al-Mukhtar*, vol. 5, 350; al-Jassas, Abu Bakr Ahmad Ibn Ali ar-Razi al-Hanafi, *Ahkam al-Quran*, (Beirut: Dar al-Kitab al-Arabi, n.d.), vol. 1, 407; ad-Dardir, *ash-Sharh as-Saghir*, vol. 2, 755; al-Qurtubi, *al-Jami' li Ahkam al-Quran*, vol. 3, 161; Samarah, *Ahkam wa Athar az-Zawjiyyah*, vol. 1, 367.

1.1.2.3. Necessity that determine the Mother's sole responsibility to Breastfeed

Based on the general rule as discussed above, legally, the mother is not obliged to breastfeed her baby. Nevertheless, during times of necessity, the duty will change from recommendation to obligation. Under these circumstances, the mother will be solely responsible to breastfeed her baby. Muslim jurists have identified at least three circumstances where the mother is solely responsible to breastfeed her baby. First, when the father is executed with death punishment and the baby was left with no property to enable a wet nurse to be hired and there is no volunteer to breastfeed. Second, where the father cannot find anyone to breastfeed the baby, even though, he is capable to hire a wet nurse and pay for the said service. Lastly, when the baby refuses other's breast milk except that of the mother's. In this situation, the mother is obliged to breastfeed her baby in order to prevent any harm that may befall on the baby due to the failure to breastfeed.

In the above circumstances, regardless of whether the mother is in a marital relationship, or has been divorced or the baby's father has died; if she refuses to breastfeed her baby, Muslim jurists are of the view that the judge (*qadi*) may force her to perform her duty to breastfeed in order to protect the baby from any harm.³²

However, if the father has been executed or if the mother fears that the baby will be exposed to any harm and it is highly imperative that she breastfeeds her baby, then the mother is obliged to breastfeed her baby.³³ Some of the Hanafis argue that the mother may not be forced to breastfeed the baby if there is an alternative to breastfeeding such as artificial breastfeeding, or the father is able to hire a wet nurse. Nevertheless, the most acceptable view amongst them is that the mother be made to breastfeed the baby herself, as feeding him with artificial suckling may contribute harm and illness towards the baby.³⁴

1.1.2.4. Father's Duty in Breastfeeding

Basically, a father owes a duty to provide maintenance (*nafaqah*) to his wife (or wives) and children. With regard to his duty to maintain his baby, he must provide all expenses involved in breastfeeding subject to his capability.³⁵ A father is allowed to use his children's property in order to finance their maintenance, if he is incapable and the children have properties.³⁶

The duty of the father to provide maintenance is relative to the father's duty to provide milk suckling to his children. If the mother breastfeeds their baby, the maintenance due from the father shall include that which is due to the mother too. The same rule applied for a divorcee during the '*iddah* period.³⁷

³² Ibn Abidin, *Rad al-Mukhtar*, vol. 5, 347; ad-Dardir, *Ash-Sharh as-Saghir*, vol. 2, 754-5; an-Nawawi, *Rawdah at-Talibin*, vol. 8, 52; al-Maqdisi, *ash-Sharh al-Kabir*, vol. 9, 298.

³³ Ibn Abidin, *Rad al-Mukhtar*, vol. 5, 350; al-Jassas, Abu Bakr Ahmad Ibn Ali ar-Razi al-Hanafi, *Ahkam al-Quran*, (Beirut: Dar al-Kitab al-Arabi, n.d.), vol. 1, 407; ad-Dardir, *ash-Sharh as-Saghir*, vol. 2, 755; al-Qurtubi, *al-Jami' li Ahkam al-Quran*, vol. 3, 161; Samarah, *Ahkam wa Athar az-Zawjiyyah*, vol. 1, 367.

³⁴ Ibn Abidin, *Rad al-Mukhtar*, vol. 5, 347; Husayn, *Ahkam al-Usrah fil Islam*, vol. 2, 220.

³⁵ Muhammad Abu Zahrah, *al-Ahwal ash-Shakhsiyah*, (al-Qaherah: Dar al-Fikr al-Arabi, 1957), 415. See also: Avner Giladi, *Infants, Parents and Wet Nurse*, (Leiden: Brill, 1999), 96.

³⁶ Al-Asrushani, *Jami' ahkam as-sighar*, vol. 1, 125.

³⁷ Ibid., 97.

However, if the mother does not breastfeed the baby due to certain reasons, the father must hire a wet nurse to ensure his life and interest are protected.³⁸ Unless stipulated in wet-nursing contract, the nurse will not have to stay at the home of custodian (*hadinah*) in order to suckle the baby.³⁹

In all circumstances, it is the father who shall be liable for wages for the breastfeeding, whether it is payable to the mother or to the wet nurse, unless the baby has his own property. If no wet nurse is available, the baby may be fed by artificial breastfeeding.⁴⁰

1.2. The Importance and Significant of Breastfeeding in Islam

Everything that is regulated in Islam is usually based on wisdom. Similar principle is applicable to breastfeeding. It was deliberated by Muslim jurists long before it is proved by modern medical and science. Every benefits discovered by the modern science is none other than revealing the truths and facts that has been pointed out by the *Qur'an* more than 1400 years ago.⁴¹

In Islam, the *Qur'an* clearly mentioned the necessity of natural breastfeeding upon the infant as stated in al-Baqarah 233 above. In Islamic history, the Prophet Musa's mother had breastfed her son, similarly Prophet Isa's mother, Maryam and Prophet's Muhammad's (pbuh) mother Aminah before he was handed over to Haleema to be suckled.⁴²

The importance of natural breastfeeding is also mentioned in the *hadith*⁴³ of the Prophet (pbuh). It is reported by Sulaiman ibn Burayda that a woman came to the Prophet and ask from the Prophet to purify her from adultery. However the Prophet did not punish her until she delivered her baby and until the infant weans.⁴⁴ This *hadith* evidently reflects the importance of breastfeeding when the Prophet postponed the punishment upon the woman until she has performed her duty in breastfeeding of her baby.⁴⁵

In highlighting the significant of breastfeeding, al-Mawardi (d. 450 H.), emphasized that a pregnant woman's punishment will be postponed until after she gave birth, to enable her to breastfeed her baby, especially in giving her baby the colostrums substance as there is a probability that the baby cannot survive without taking it.⁴⁶ Meanwhile Imam Muhammad Abu Zahrah expressed that a mother's breast milk is the most appropriate nutrient within certain period of a child's life.⁴⁷ In addition, Wahbah al-Zuhayli, a contemporary Muslim scholar, emphasized that breastfeeding was made obligatory in order to save the baby from any damage and harm. It is also to protect the baby's life by providing him with the mother's milk, especially colostrums substance.⁴⁸

³⁸ Walid Khalid ar-Rabi', *al-Ilzam fi Masail al-Ahwal ash-Shakhsiyah*, (Amman: Dar An-Nafais, 2007), 285.

³⁹ Abdullah, *Shariah Personal Status Provision*, 595.

⁴⁰ Ibid., 158.

⁴¹ Abd-al-Hakim al-Sayyid Abdullah, *Ahammiyyah al-Rada 'ah at-Tabi'iyyah: Diniyyah wa Sihhiyyan*, translated from Arabic by Mardiyah Syamsuddin (Kuala Lumpur: Jasmin Enterprise, 1998), 59.

⁴² Al-Asili, 59.

⁴³ Narration from the Prophet Muhammad (pbuh).

⁴⁴ Muslim, *Sohih al-Muslim*, vol. 5, ed. 1929.

⁴⁵ Al-Asili, 60.

⁴⁶ Al-Mawardi, *al-Hawi al-Kabir*, vol. 12, 115. See also: Imam al-Haramayn, *Nihayah al-Matlab wa Dirayah al-Mazhab*, vol. 16, 153; Ibn Qudamah, *al-Mughni*, vol. 8, 343; Al-Bahuti, *Kashshaf al-Qana'*, vol. 5, 535.

⁴⁷ Muhammad Abu Zahrah, *al-Ahwal ash-Shakhsiyah*, 402.

⁴⁸ Az-Zuhayli, *al-Fiqh al-Islami wa Adillatuh*, vol 7, 700.

Al-Sabuni, when discussing the significance of breastfeeding towards the baby expresses that a mother, who breastfeeds her baby does not only provide him with milk, but also her love, tenderness and compassion that results in having a natural propensity for goodness and righteous deed upon the baby. This is in contrast with someone who had been deprived from such feeling from their mother which creates the feeling of revenge, vicious, and cruelty in the baby's mind.⁴⁹

1.3. Benefits of Breastfeeding and its Promotion towards Sustaining the Mother's and the Children's Health

1.3.1. Breastfeeding Benefits for Mothers

In addition to emotional satisfaction, breastfeeding provides health benefits for the mother.⁵⁰ Basically, a mother who breastfeeds her baby will experience a deep feeling of pleasure and enjoyment that stimulates a closeness with the baby. Her satisfaction and happiness in performing her duty, as well as her sense of contentment in the breastfeeding is necessary in activating the milk's flow from the breast. Breastfeeding also plays a role in preventing the breast from being congested or swollen with milk, as well as shielding it from various types of infection.⁵¹

Breastfeeding will activate the mother's digestive system by requesting more food substance and liquid to overcome the symptoms that she gets from hunger, thirst, etc. At the same time, breastfeeding will give the chance for the mother to use up the stored energy and fat that has been accumulated during her pregnancy period.⁵²

Breastfeeding (by the newborn) induces uterine contraction within the mother's body, which might help in reducing postpartum bleeding, and return the uterus to its original shape. It also contributes in delaying the return to fertility by suppressing ovulation by delaying the egg from reaching the fallopian tube. As a result, it stops the mother's monthly period.⁵³

During breastfeeding, the hormone oxytocin from the posterior pituitary gland is released, thus stimulating milk flow and enhance the involution of uterus.⁵⁴ The same hormone may also reduce postpartum bleeding⁵⁵ which helps in controlling blood loss, besides helping body to regain its shapes and return to its normal figure⁵⁶ by losing weight, particularly in the thigh area.⁵⁷

⁴⁹ As-Sabuni, *Rawaie' al-Bayan Tafsir Ayat al-Ahkam min al-Quran*, vol. 1, 357.

⁵⁰ Al-Asili, 61.

⁵¹ Salim, *al-Ibda'at at-Tibbiyyah li Rasul al-Insaniyyah*, 171; al-Habbaj, Muhammad Jamil & al-Umari, Wamid Romzi, *at-Tibb fi al-Quran*, (Beirut: Dar an-Nafais, 1997), 90; Younus, Ahmad al-Sa'eed, *Taghdiyyah ar-Radi'*, (Egypt: Dar an-Nahdah, n.d.), 5.

⁵² Wasfi, Muhammad, *ar-Rajul wa al-Mar'ah fi al-Islam*, 265; Salim, *al-Ibda'at at-Tibbiyyah li Rasul al-Insaniyyah*, 170.

⁵³ Salim, *al-Ibda'at at-Tibbiyyah li Rasul al-Insaniyyah*, 170.

⁵⁴ Miriam Stoppard, *Your New Baby*, (London: Dorling Kindersley, 2001), 37; Emily Slone McKinney, *Maternal-Child Nursing*, (Philadelphia: W.B. Saunders Company, 2000), 591. See also: al-Akshah, 43.

⁵⁵ Joan Younger Meek, 10.

⁵⁶ Marvin S. Eiger, 29.

⁵⁷ M. Sara Rosenthal, 24.

Studies suggest that breastfeeding may lead to an increase in bone mineral density after weaning. This can protect mothers against osteoporosis and bone fracture in older age; and delays the return of menstrual period, which can help extend the time between pregnancies.⁵⁸ In addition, breastfeeding offers protection against breast and ovarian cancer since it delays the recurrence of menstrual cycle.⁵⁹

Breastfeeding also allows the mother to rest as every new mother needs adequate rest.⁶⁰ This is important since the many psychological changes of pregnancy, the hard work of labor and delivery, and the demanding care of the new baby all deplete the new mother's energy.⁶¹ During feeding time, the mother can relax, since she doesn't have to prepare a bottle or turn a baby over to someone else in order to run around the house doing other chores.⁶²

The mother is also likely to eat a more balanced diet that will improve healing after giving birth.⁶³ They just need to eat a small amount of extra food to make up the calories expended in producing milk.⁶⁴ By continuing to eat nutrient-dense foods, not restricting gain unduly, and enjoying ample food and fluid at frequent intervals throughout lactation, the nursing mother will be nutritionally prepared to do so.⁶⁵

1.3.2. Benefits Towards the Babies

Scientific research also proves that breastfeeding is highly recommended for all babies, with very few exceptions.⁶⁶ It has been classified as the unique, species-specific and complex biological nature of breast milk, which cannot be mimicked by formula manufacture.⁶⁷ This uniqueness came together with a lot of aspect that makes it as special as a basic food for babies. As regards health benefits breast milk provide benefits in several aspects.

Nutritional aspects

Human breast milk is the most ideal food for baby as it is the only food any baby needs for the first two to four months of his life. Even after they are supplied with solid food, the continuance of breastfeeding ensures that the important nutrition is constantly supplied.⁶⁸ Breast milk contains a lot of nutrition, such as essential fatty acids for proper digestion, lactose for the proper growth of brain cells and the correct balance of amino acids.⁶⁹ Companies involved in the making of milk formula often used human milk as the standard in nutrient;⁷⁰ although the attempts are prevented by the breast milk biological complexity itself.⁷¹

⁵⁸ Joan Younger Meek, 10. See also: al-Asili, 61.

⁵⁹ M. Sara Rosenthal, 24-25. See also: al-Akshah, 43.

⁶⁰ Ibid. See also: Al-Asili, 61.

⁶¹ Ibid.

⁶² Ibid.

⁶³ Emily Slone McKinney, 591.

⁶⁴ Marvin S. Eiger, 30.

⁶⁵ Linda K. DeBruyne, Kathryn Pinna, Eleanor Noss Whitney, *Nutrition and Diet Therapy*, (Belmont, CA: Wadsworth/Thomson Learning, 2008), 325.

⁶⁶ Alan Lucas, Stanley Zlotkin, *Fast Facts – Infant Nutrition*, (Oxford: Health Press, 2003), 40.

⁶⁷ Ibid.

⁶⁸ Al-Asili, 62.

⁶⁹ Marvin S. Eiger, Sally Wendkos Olds, *The Complete Book of Breastfeeding*, (New York: Workman Publishing, 1987), 20.

⁷⁰ Judith E. Brown, *Nutrition through the Life Cycle*, (Belmont, CA: Thomson Wadsworth, 2008), 164.

⁷¹ Alan Lucas, 35.

Human breast milk also contains a balance of nutrient that matches closely to a human infant child's requirement for growth and development.⁷² For instance, the milk of a woman who delivered prematurely is higher in fat than that produced by the mother of a full-term baby and is, therefore, better suited to the needs of her preterm baby.⁷³

The composition of nutrient in human breast milk meets the baby needs of nutrition, as it is easily digestible, and provides every nutrient needed by the baby.⁷⁴ The milk, in a way, is clean in nature for the digestive system to process and act as a general tonic. It protects the digestive system from cardiac lesion and intestinal infections. The body will gain immunity from various types of diseases, as well as maintains the natural body temperature of the baby.⁷⁵ As a result, the baby is not in need of additional food in the first six months of his life.⁷⁶

Immunological benefits

A Baby's body condition is as fragile as their immature organs that still incompetent to process everything on their own. Therefore, the creation of human breast milk is to provide solution and for their advantages, and one of the most highly regarded aspects of human milk is its ineffective properties,⁷⁷ which contain many substances that benefits the baby's immune system, including antibodies, immune factors, enzymes and white blood cells.⁷⁸ These substances will protect the baby against many diseases and infections during breastfeeding, and in some cases long after the baby has been weaned.⁷⁹

Breastfeeding may also play a role in reducing incident of sudden baby death syndrome (SIDS)⁸⁰, and gastrointestinal infection was found to be lower among babies exclusively breastfed for six months, when compared to those exclusively breastfed for only three months.⁸¹ In addition to that, breastfeeding also seems to protect the babies against chronic child diseases. It appears that breastfeeding reduces the risk of celiac disease, inflammatory bowel disease and neuroblastoma⁸² as well as childhood cancer and Chron disease.⁸³

Breastfeeding and Childhood Obesity

Breastfeeding is also believed to play a role in preventing obesity in the babies, although according to some books, the relationship between breastfeeding and obesity is still a topic of controversy.⁸⁴ According to M. Sara Rosenthal, an estimation made based on certain studies

⁷² Judith E. Brown, 165.

⁷³ Marvin S. Eiger, 22.

⁷⁴ Jamal Mahdi Mahmud al-Akshah, *Bunuk Laban ar-Rada'*, (al-Azaritah: Dar al-Jami'ah al-Jadidah, 2008), 42.

⁷⁵ Husayn, *Ahkam al-Usrāh fī al-Islām*, vol. 2, 219; Ismail, Muhammad Bakr, *Ma'a al- Mar'ah am-Muslimah*, 268; Wasfi, *ar-Rajul wa al-Mar'ah fī al-Islām*, 263; al-Baar, *Khalaq al-Insan bayna at-Tibb wa al-Qurān*, vol. 1, 471. See: al-Asili, 62.

⁷⁶ Al-Asili, 62.

⁷⁷ Ibid., 41-42.

⁷⁸ Joan Younger Meek, *American Academy of Pediatrics New Mother's Guide to Breastfeeding* (USA: Bantam Books, 2002), 7.

⁷⁹ Ibid.

⁸⁰ Ibid., Alan Lucas, 38.

⁸¹ Ibid.

⁸² Ibid.

⁸³ M. Sara Rosenthal, *The Breastfeeding Sourcebook – Everything You Need to Know*, (Los Angeles: Lowell House, 2000), 20.

⁸⁴ Judith E. Brown, 166.

indicates that bottle-fed babies are four times more likely to become obese. This could be due to the fact that breastfed babies stop feeding when they are full, while bottle-fed babies are encouraged to overstuff themselves.⁸⁵ Interestingly, breastfed babies smell sweeter than bottle-fed babies.⁸⁶

Psychological Benefits

Breastfeeding also promotes a close bond between the mother and her baby that may be important to normal psychological development.⁸⁷ By holding the baby closer in her arms, the baby gains a sense of continuity from pre- to post-birth life.⁸⁸ The more intimate interaction between the mother and the baby, the warm skin-to-skin contact, and the more immediate satisfaction of the nursing baby's hunger would auger healthier psychological development.⁸⁹ Therefore, this emotional bond is as vital to the baby as the nutritional benefits gained from the milk. This growing attachment will continue to play an important role in the baby's development in the years to come.⁹⁰

1.4. Conclusion

One of the purpose of Islamic law is to protect life (*nafs*). Breastfeeding is one of the means to protect the child's life, as by nature, almost all the babies acquire their first food by means of breastfeeding. Because of the specialty of the breast milk as compared to formulated milk powder, Islam, in protecting the baby, allows wet nurse to breastfeed the baby in the place of the mother in the event of the mother's death, or if she suffers a disease that prevents her from breastfeeding, or where the baby refuses her breast milk. The discussion proves that natural breastfeeding is not only an instrument to deepen the emotional and spiritual bond, but it also provides many health benefits to both the mothers and the child. Thus, it seems that, apart from imposing a religious duty to breastfeed on the mother, Islamic law also promotes breastfeeding so as to sustain the health of both the mother and the child.

⁸⁵ Ibid, 21.

⁸⁶ M. Sara Rosenthal, 20.

⁸⁷ Paul Insel, *et al*, 537.

⁸⁸ Joan Younger Meek, 9.

⁸⁹ Marvin S. Eiger, 27.

⁹⁰ Joan Younger Meek, 9. See also: al-Asili, 62.