

Reducing the budget deficit sustainably in Vietnam: Pathway to 2020

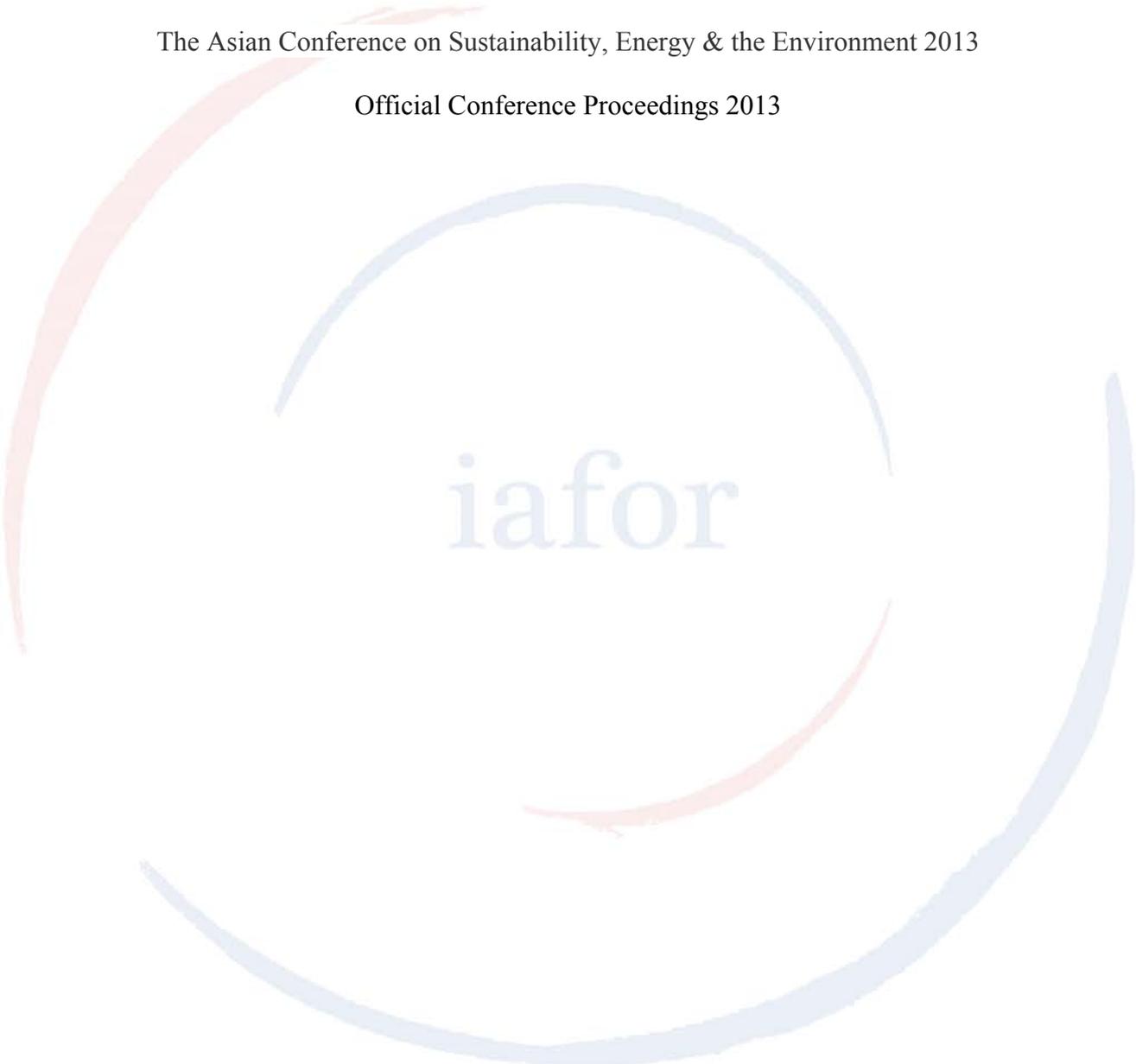
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Budget deficit is one of the biggest concerns in economic world nowadays. Due to the fact that the government has to participate and implement its governmental functions in many aspects of socio-economy, expenses of the whole system is a huge amount that the government incomes cannot fully cover. Therefore, budget deficit appears as a consequence. In general, it is recognized as the phenomenon when the government spending exceed its incomes in a certain period of time. Budget deficit exists in most countries, but it is not always a bad thing. It will be good for the country when the government incomes are raised from stable channels, and the level of government spending, is expected to be covered in the near future. In contrast, when the incomes are from unstable funds or its spending is more than potential incomes, which the government plans to get in the near future, its budget deficit will influence negatively the country's socio-economy.

1. Budget deficit: definitions and classifications

There are various definitions of budget deficit, depending on the viewpoint and classification of budget management. Based on the classification of government expenses and incomes, international standard indicates that the government incomes include all revenues, which are not raised with any direct repayment responsibility. However, it is the fact that each country has different approach in recording government incomes, depending on political purpose and the objectives of financial policy, and it leads to various results of budget deficit. The loan via treasury bills and available aids is an illustration of this. In Japan, it is recorded as the annual government incomes, whereas in the US it is only used as a solution of budget deficit.

IMF (2009, 2010, 2012) recommends that when analyzing the budget, it is better to consider aids including grants as the recovery for the budget deficit, since the grants is not the frequent resource which is subject to the partner countries. Therefore, if the aids including grants are recorded in budget balance, the government would have to adjust the budget during the time, causing negative impacts on budget activities.

For these reasons, from international standard viewpoint, government incomes consist of taxes, fee collected by the government, and other incomes, excluding non-refundable aids, domestic and foreign loans (IMF, 2009, 2010, 2012). On the other hand, the government spending consist of expenses for development and investment, normal expenditures, interest expenses excluding principal payment, and the others. It is necessary to record interest expenses as the government spending because it is the results of budget management and from the borrowings, which is the component to balance the budget.

Various definitions of budget deficit's component affect on the classification of the spending and incomes. In general, budget deficit can be classified as follows:

Figure 1. Budget deficit content

Government Incomes	Government Expenditures
A. Regular incomes (taxes, fees)	D. Regular expenditures
B. Incomes from capital investment (selling government properties)	E. Expenditures for investment
C. Deficit Covering	F. Net lendings
- Grants	(= New lendings – Principal collected)
- Reserves	
- Borrowings (= New borrowings – Principal repayment)	

So, *Budget deficit = Total Government Expenditures – Government Incomes*

However, from different viewpoint, these components of budget deficit can be defined in either governmental level or local level. According to World Bank, public area consists of governmental area, local government, Central Bank, and other state owned institutions which more than 50% capital is invested by the government. Thereby, when public institutions have low level of liquidity or they need a high level of liquidity for restructuring, the government has to take responsibility of all payments. If all these payments are in the fiscal year, they will be recorded as government expenditure of the year. That means budget deficit cover entirely public area. This is the largest measurement of budget deficit.

On the other hand, IMF indicates that in order to distinguish the government’s fiscal policy from its monetary policy, budget deficit should include only governmental area. According to Government Financial Statistics (GFS) by IMF (2009), the term *government* consists of all public authorities and their agencies which are established through political processes, however, it do not include activities of central bank regardless it belongs to the government or not.

Although can be defined in different ways, from the viewpoint of modern public finance, budget deficit, by nature, can be divided into two types including structural deficit and cyclically deficit. In specific, structural budget deficit is the deficit controlled by the government’s policies such as tax regulations, social insurance, expenditures for education and national defense, etc... Cyclically budget deficit is the one caused by the economic cycle, e.g. it depends on the level of production output and national income, for example, in economic recession, the increasing unemployment rate leads to the reduction of tax payment and consequently results in the decrease in government income, meanwhile the government expenditure for unemployment compensation may rise.

2. Impacts of budget deficit

In despite of the approaches and classifications of budget deficit mentioned above, the deficit has a comprehensive influence on every sectors and socio-economic activities, such as GDP, inflation, trade balance, interest rate, economic structure, living standards, and so on. Derived from researches of Boariu A. & I. Bilan (2007), Government Financial Statistics (IMF, 2001), William G. & R. Orszag (2003), Doménech R *et al* (1997), budget deficit can affect in number ways:

Budget deficit affect society and standards of living. High level of deficit pushes the government to earn more incomes by setting higher taxes, fees. It directly influence on the life of citizens. Meanwhile, it leads to the shortage of the banks' financial resources; the interest rate will rise, reducing the opportunities of investors to access capital. In a long term, the investment will decrease seriously; number of bankrupted enterprises will increase because they are not able to get relevant source of capital; manufacturing will decline; as a consequence, trade deficit raises, real incomes of citizens decrease and so on.

Budget deficit can influence on inflation. Once the budget deficit is high, one of the most powerful solutions that the government can use is printing cash. This respond can immediately increase the amount of cash in circulation. In economic recession, the increase in money supply can stimulate the whole economy, promote the investments and boost the production output to the potential. In this case, the negative impact of inflation is at minimum. However, issuing cash is dangerous to the growth economy in the long run because it may increase inflation.

Budget deficit can also affect the future of whole economy. If the deficit is allowed to finance profitable projects in long term, the profits from these projects will contribute to the government incomes and cover the borrowings for the past deficit. When the government expenditures are used for instant demand, it influences total demand in short term. However, it will not create any potential income in long term but cause worse public debt in the future.

Finally, budget deficit may control foreign direct investments of the country. The more serious deficit indicates the poor budget management, losing the faith of domestic and foreign investors. Therefore, less capital will be invested into the country. As a consequence, the objectives of the country cannot be achieved.

3. Approaches to evaluate the level of budget deficit sustainability

a. Budget constraint approach

Most researches on budget deficit sustainability came up with a general model, in which the government has to set up a budget constraint. In each period, the budget constraint is static. With the assumption of a close and simple economy and there is no foreign loan, static budget constraint is determined by the following formula:

$$B_{t+1} = R_t B_t + D_t \quad (1)$$

In which:

B_t , is the original value of government debt

$R_t = 1 + r$, is the discounted rate between period t and $t + 1$

D_t , is the original deficit (excluding interest).

The fluctuating budget constraint can be derived from formula (1):

$$B_t = - \sum R(t,t+1)^{-1} D_{t+j} + \lim R(t, t+T)^{-1} B_{t+T+1}$$

(2)

In which

$R(t, t+j)$, is the discounted rate between period t and $t + j$

Formula (2) shows that the sustainability of government requires the present value of future budget excess to exceed the future budget deficit in order to cover the difference between the original government debt and the present value of

debts at the end of the period.

If the present value of the debts at the end of period is positive, formula (2) is satisfied even when the government refunds by borrowing more money to pay principals and interest. However, O'Connell và Zeldes (1988) proved that this is impossible. For instance, if the government only allows citizens to hold government bonds at some certain periods, the demand of holding bonds will raise due to the fear of losing the right to buy bonds in the future. Conversely, the demand will reduce at least once if people can buy the bonds at any time. Therefore, that means there is not every time the government can borrow money to refinance.

This idea implies that the budget is stable when $\lim R(t, t+T)^{-1} B_{t+T+1} \leq 0$. In fact, $\lim R(t, t+T)^{-1} B_{t+T+1} = 0$, because there is always government debt in the private sector. Thereby, a relevant policy for sustainable budget deficit needs to meet the requirement of present value budget constraint (PVBC) as follows:

$$B_t = - \sum R(t, t+1)^{-1} D_{t+j}$$

So, reducing budget deficit sustainably is to keep the present government debt at relevant level, which is equal to the difference between the present value of the future budget excess and deficit.

The biggest advantages of this approach are simple and no assumption of stable economy. Also, it does not require growth rate, interest rate and income to be stable at any certain level. However, its disadvantage is that it is based on historical data and only examines the past.

b. VaR Approach

Barnhill and Kopits (B & K, 2003), considers the government as a corporation, so their objective is to estimate the net value of the government's assets and assess the possibility of a negative value. Therefore, the approach expands the analysis with the assumption that the government always satisfies the constraint of budget.

VaR is applied to assess the government debt compared to net cash flow of borrowings using present value. Thereby, the net value of government's assets is always zero.

According to B&K (2003), expenditures, tax of printing money, other taxes and incomes, which do not happen infrequently are not accounted into net cash flow in order to eliminate the stability of government budget. For this reason, the net value of government's assets cannot be 0. Assume that the net budget X_t consists of planning budget X_t^p and the rest X_t^r , the net value of government's asset is calculated on the difference between the present value of planning budget and the original government debt.

Assume W_t is the net value of government's assets at the end of year t , so:

$$W_t = E_t (\sum_{i=1}^{\infty} X_{t+1}^p / N_t^{t+1}) - B_t$$

In which: B_t is the market value of government debt at the end of year t .

Based on all available historical data until time t , W_t is unique. On the other hand, W_{t+1} is the variable and estimated based on the similar set of information. If W^* stands for 5% probabilities of W_{t+1} , it is considered as net value of government's asset with the risk affect. Then, VaR is $W_t - W^*$.

This is a modern approach; however, it has not shown the relation between budget deficit reduction and expenditures, GDP, interest, etc... in different periods of time.

c. Evaluate budget deficit reduction with assumption of long-term stable economy

According to IMF (2002, 2003), Chalk N. & R. Hemming (2000), in order to assess the sustainability level of budget deficit reduction, firstly the latest information about macro economy needs to be collected (normally within 5 years). The assumption is the policies are unchanged during the time. A set of core variables should be created, including production growth, investment, inflation, imports, exports, savings, interest, etc... Based on the above data, stability on public debt reduction shows that the government reduces budget deficit sustainability.

With the main assumption of stable economic policies in long-term, budget deficit can be determined as follows:

$$B_{t+1} - B_t = I_{t+1} - X_{t+1}$$

In which: B_{t+1} , is the value of public debt until the end of year $t+1$

I_{t+1} , is the interest of loans

X_t , is the original public debt

Other assumptions are: loan maturity is at the end of each period, debt is fixed on the nominal, nominal interest of the debt is n_{t+k} . Then, the value of public debt until the end of year $t+i+1$ is:

$$B_{t+i+1} = \sum_{k=1}^{i+1} p(t+k, t+i) d_{t+k-i} + p(t, t+i) b_t$$

In which:

$p(t+i, t+j) = \prod_{k=i}^j \frac{R_{t+k}}{1+n_{t+k}}$, is the discounted rate adjusted on the growth rate of the economy between year $t+k$ and $t+i$

$(d_{t+j})_{j=0}^i$, stands for the debt coefficient at the original balance

So: $\Delta \overline{d}_{t+j} = \theta_{t+j} \Delta \overline{d}_{t+j-1}$

In which:

$$\overline{\Delta d}_{t+j} = \overline{d}_{t+j} - \overline{d}_{t+j-1}$$

$$\theta_{t+j} < \theta_{t+j-1} < 1$$

$$j = 1 \dots i$$

θ_{t+j} is the political parameter showing the influence of financial policies in previous years. The smaller and decreasing θ_{t+j} over years presents positive adjustment of the policy. This also implies strong financial policies that can effectively reduce budget deficit sustainably. This approach allows evaluating budget reduction in both long-term and short-term.

4. Reducing budget deficit sustainably

Most economic theories indicated that reducing budget deficit creates negative effects to the economy in the short term; even the government increases the incomes via taxes or decreases the expenditures. When the economy is strong, this effect can be

accepted and the government can keep a stable level of deficit reduction. In contrast, if the unemployment rate of the economy is high, reducing budget deficit may boost the rate higher or slow down the speed of unemployment declining rate. According to the Congressional Research Service – US (2012), in order to reduce the budget deficit sustainably, it is important to determine a relevant declining rate of budget deficit. In particular, the health of the economy is the most important determinant. Also, the government needs to decide the relevant time to implement methods to reduce deficit. In another word, the approaches of reducing budget deficit should be postponed until the economy improved. This concept is also mentioned in many researches of the Romanian Center for Economic Policies (RCEP), Public Governance and Territorial Development Public Management Committee for OECD countries, Institution for Spanish Economic Research, etc...

What is the relevant level of a sustainable budget deficit?

When the deficit is too large due to the demand of economy growth, the government often borrows money to cover the spending for infrastructure and core projects which benefit the whole economy. Public debt is normally the most important channel of raising funds. For this reason, it is very necessary to set up an optimal proportion of public debt in order to have a relevant level of budget deficit. Deficit is not really a bad thing to a country. However, the more important thing is whether the deficit level is relevant to the capacity of the economy, and creates an overloaded public debt.

Based on the research of Buiter (1993), the public debt to GDP ratio is determined by the following formula:

$$d_t - d_{t-1} = - \left[\frac{\psi_t}{1 + \psi_t} \right] d_t + def_t$$

Where: d_t , the public debt to GDP ratio at the end of period t
 ψ_t , the growth rate of nominal GDP in period t
 def_t , is deficit to GDP ratio in period t

The formula shows that on one hand the growth rate of nominal GDP can reduce the debt to GDP ratio; on the other hand, the deficit to GDP may raise the debt to GDP ratio up. Assume that the debt to GDP ratio is constant, so:

$$d_t = \left[\frac{1 + \psi_t}{\psi_t} \right] def_t$$

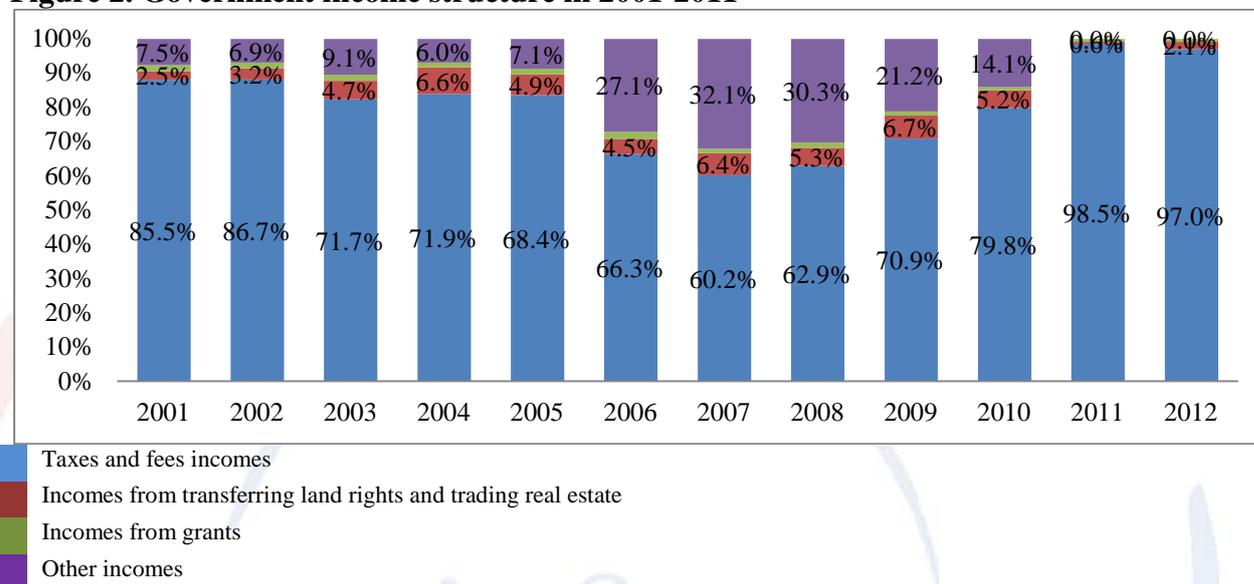
The above formula implies that the deficit guideline def^* and debt guideline d^* , in the long term, can be consistent only when the growth rate of nominal GDP is constant. In the case of European Commission, Buiter (1993) indicated that the real GDP of 3% and inflation of approximate 2% state an annual growth of nominal GDP of 5%. Also, it will be a sustainable budget deficit when the deficit to GDP ratio is 3% and debt – GDP ratio is 60%.

5. The actual performance of budget deficit in Vietnam

Regarding the government income during the 10 years, the main incomes of the government are from taxes and fees, incomes from transferring land rights and trading houses, grants, and other incomes. In particular, from 2001 – 2005, tax policy was usually reduced for manufacturing and commercial sectors, while income from land rights and selling raw mineral oil increased. In overall period from 2001 – 2005, government incomes in Vietnam account for approximate 23,9% GDP. Domestic incomes had grown and been the main income of the budget. The growth rate of

domestic incomes was averagely 18% per year in 5 years. The biggest contribution was from raw mineral oil, increasing 20% per year in average.

Figure 2. Government income structure in 2001-2011



Source: Finance Ministry of Vietnam (2001-2012)

From 2006 – 2010, total government incomes had increased dramatically, 2,5 times larger than those of period 2001-2005. It was equal to 24,5% GDP, including approximately 22,5% GDP from taxes and fees). The percentage of domestic incomes to the total government incomes increased from around 52% in 2005 to about 63% in 2010. Incomes from several core and stable taxes such as corporate tax, value-added tax, personal tax rapidly increased and played more and more important role. The percentage of these 3 main taxes to the total incomes increased from 55% in 2005 to 60% in 2010. Although income from raw mineral oil was still very important but reduced. This period was influenced by the global economic crisis. It resulted in the reduction in government incomes. However, the total incomes is basically likely to increase and sustainable.

In the whole period 2001-2012, it can be seen that most government incomes were from the increase in taxes and fees; foreign grants. Incomes from transferring land rights were quite small; however, it is likely to increase over the time.

Regarding the government spending, from 2001-2005, several new policies relating to state budget activities were changed and improved. Edited Budget Law 2002 valid from 1/1/2004 was one of them. Growth rate of government spending and the ratio of spending to GDP had been changed a lot. In particular, the growth rate of government spending used to be more than 100% during the period; however the spending to GDP ratio increased only from 17% in 2001 to 28,2% in 2005. Government spending were mostly based on regular spending and tend to reduce.

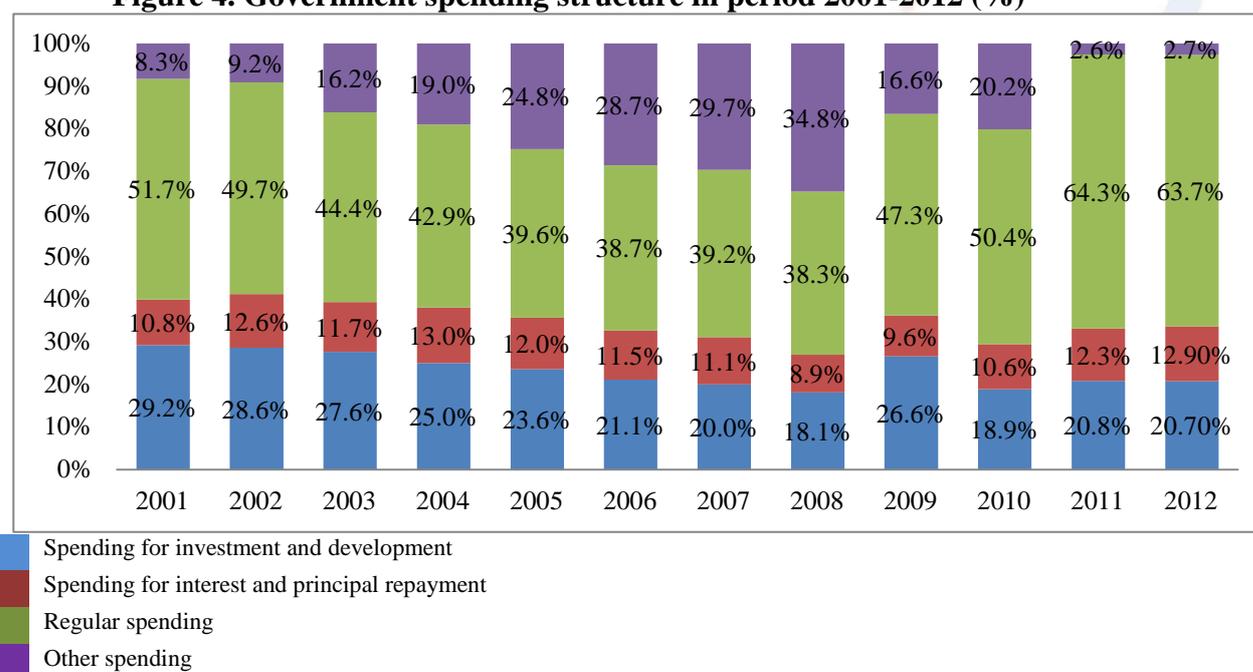
Figure 3. Growth rate of government spending and the government spending – GDP ratio in 2001-2005

	2001	2002	2003	2004	2005
1. Growth rate of government spending (%)	119,1	112,4	119,2	116,7	111,5
Include: - Investment and Development	135,8	114,2	112,8	115,7	111,8
- Repayment	112,6	132,7	124,9	118,7	118,3
- Regular spending	115,8	109,0	122,4	103,1	102,9
2. The government spending to GDP ratio (%)	17,0	27,7	28,8	28,9	28,2
Include: - Investment and Development	8,4	8,4	8,3	8,3	8,1
- Repayment	3,1	3,7	4,0	4,1	4,3
- Regular spending	14,9	14,6	15,6	13,8	12,4

Source: Restructuring budget for poverty reduction

Nevertheless, government spending in the next period from 2006 to 2012 dramatically increased. The figure in 2010 was 2.6 times more than this of 2005. Especially in 2011, in the rough economy condition, the total income was 25%-26% GDP, but the spending was bigger at approximately 30% GDP. Spending for investment accounted for a large proportion – 21%, although it decreased by 1.8% compared to period 2001-2005 (Finance Ministry of Vietnam, 2001-2012). This implied that the role of the government in investment was still very big. Therefore, it is necessary to restructure government spending. During 2001-2012, it was mostly subject to regular spending. In 2001, regular spending accounted for 50% of total spending. The figure was about 38% in 2008 and around 64% in 2012. This implied that in any economic condition, regular spending was required. On the other hand, spending for development and investment was stable at around 20%-30%. In 2008, it was special low (referred to Figure 4)

Figure 4. Government spending structure in period 2001-2012 (%)

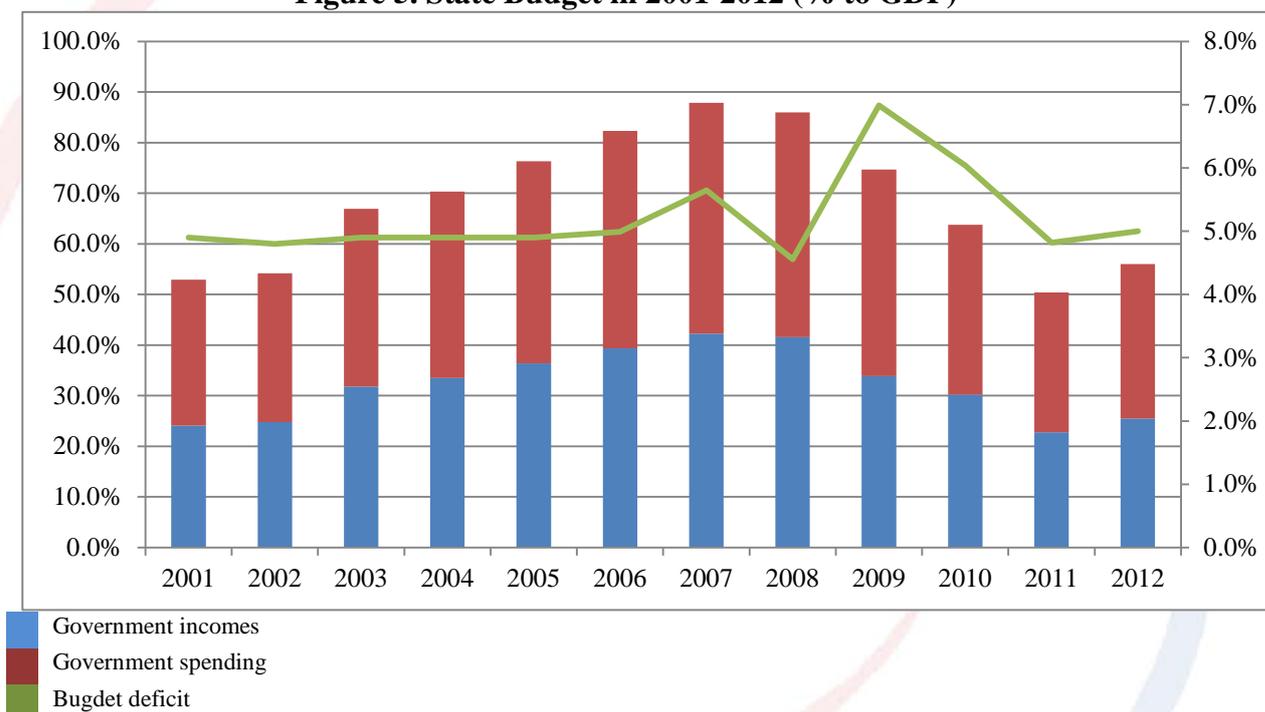


Source: Finance Ministry of Vietnam (2001-2012)

Regarding the budget deficit in Vietnam, there is a difference in determining budget deficit in Vietnam compared with the others. Vietnam accounts all spending for loan principals and interests into government spending. This approach results in the bigger number of budget deficit, however, it can easily show that the budget deficit is equal to the borrowings used to cover the deficit in a certain year.

Most years in period from 2001 to 2012, budget deficit was always under the edge of 5% GDP. Only in 2009, this number was high at 6.9% (referred to Figure 5). The main reason was the global economic crisis, which requires a lot of aids from the government to stimulate investment. The high level of government spending during the past 10 years is the main reason pushing public debt up rapidly.

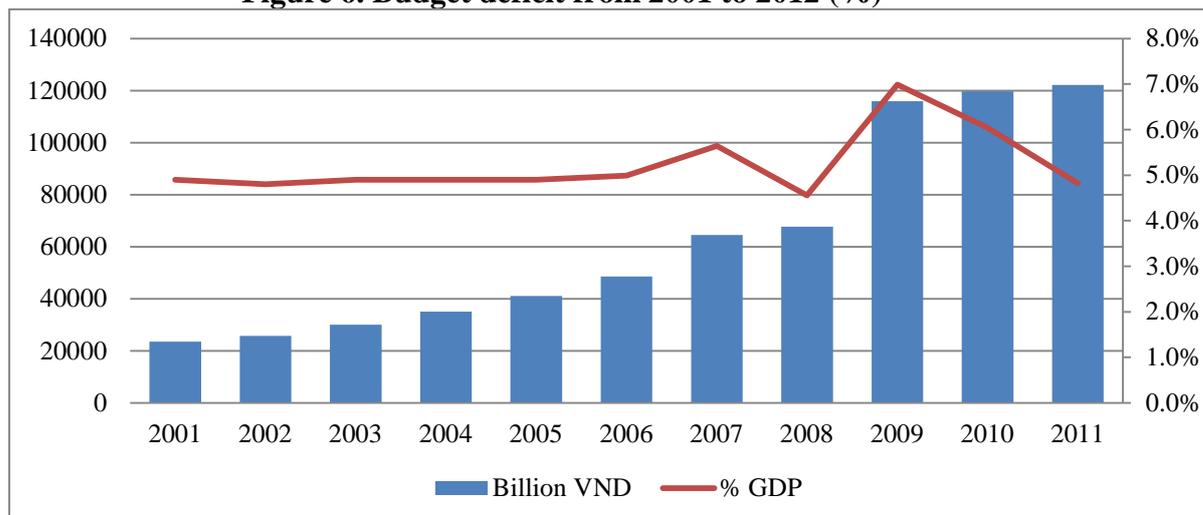
Figure 5. State Budget in 2001-2012 (% to GDP)



Source: Finance Ministry of Vietnam (2001-2012)

Although deficit – GDP ratio was still at the safe level of around 5% GDP, the number of deficit tended to sharply increase. In 2001, it was only about 20,000 billion VND, the figure became double within 5 years. In 2010, it was 6 times more than the number in 2001. The deficit of consequent year is always more than the previous one.

Figure 6. Budget deficit from 2001 to 2012 (%)



Source: Vietnam Ministry of Finance (2001-2011)

The approach in which the level of budget deficit reduction is examined by only the deficit/GDP ratio does not mention the sustainability of budget deficit and budget deficit reduction. Therefore, even the deficit was reported at allowable level but still had had big influence on the economy. For these reason, it is necessary to examine the real number of deficit and deficit/GDP ratio when evaluating the level of budget deficit reduction.

6. Relevant level of budget deficit for Vietnam and pathway to 2020

The relevant level of budget deficit needs to be compatible to the economy capacity. According to the public debt and foreign debt strategy from 2011-2020 (2012), the Prime Minister of Vietnam suggested that the public debt to GDP ratio in the period should not more than 65%. In order to keep the public debt at 65% and to avoid the risk when using debts, it is very important to figure out the relevant level of budget deficit which is compatible with the public debt.

If b is the public debt to GDP in year t ; d is the budget deficit to GDP in year t ; g_y is the growth rate of GDP; and i is the average interest rate, we get:

$$b = \frac{d}{g_y - i}$$

Assume that the public debt to GDP (b) is constant over the years at 65%; the growth rate of GDP in Vietnam (g_y) is 8%; and average interest rate in Vietnam (i) is 2.1% annually. So, the maximum level of budget deficit is:

$$d = b * (g_y - i) = 65\% * (8\% - 2.1\%) = 3.84\% \text{ GDP.}$$

This result implies that the optimal budget deficit level is 3.84%. However, it is based on the assumptions of 8% growth rate of GDP and average interest rate is 2.1%. These factors are flexible and unpredictable. Therefore, it is necessary to evaluate the macro economy at first.

In 1991, the governments from EC agreed at Maastricht to join into the full monetary union by 1999. One of the most important term in the Treaty of Maastricht is financial term in which EC government had to promise to keep the budget deficit under 3% GDP and public debt under 60% GDP. Based on Buiters's research (1993) on the relation between real growth rate and inflation to determine the relevant level of

budget deficit and public debt, we run a model with variables including economic growth rate (GDP), public debt to GDP ratio (DEBT), inflation rate (CPI), budget deficit to GDP ratio (DEFICIT). Applying the above formula, the historical data from 2005 to 2012 and IMF prediction for 2013-2020 period, a level of budget deficit in Vietnam is predicted. It can be concluded that the level of public debt to GDP and budget deficit to GDP in Vietnam had been quite compatible from 2005 – 2012. Therefore, we used the IMF prediction to estimate the relevant level of budget deficit in Vietnam until 2021. The prediction is shown in the following figure:



Figure 7. Public debt to GDP ratio and prediction until 2021 (%)

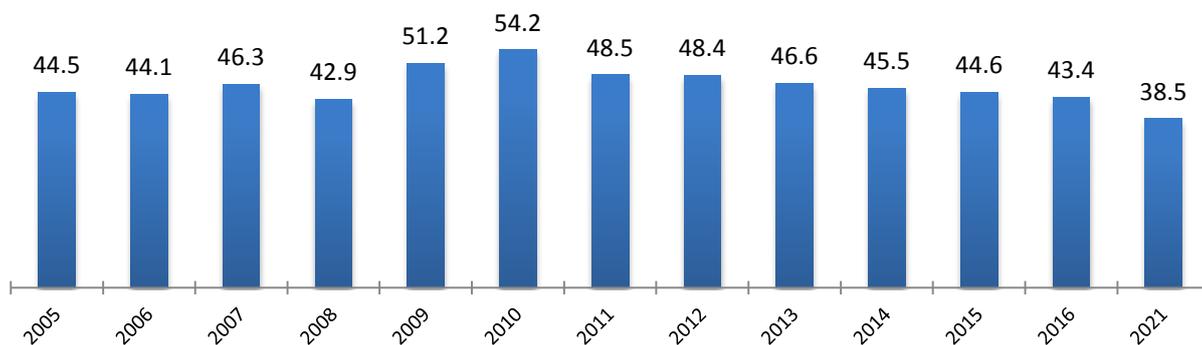


Figure 8. Growth rate of GDP in Vietnam and prediction until 2021 (%)

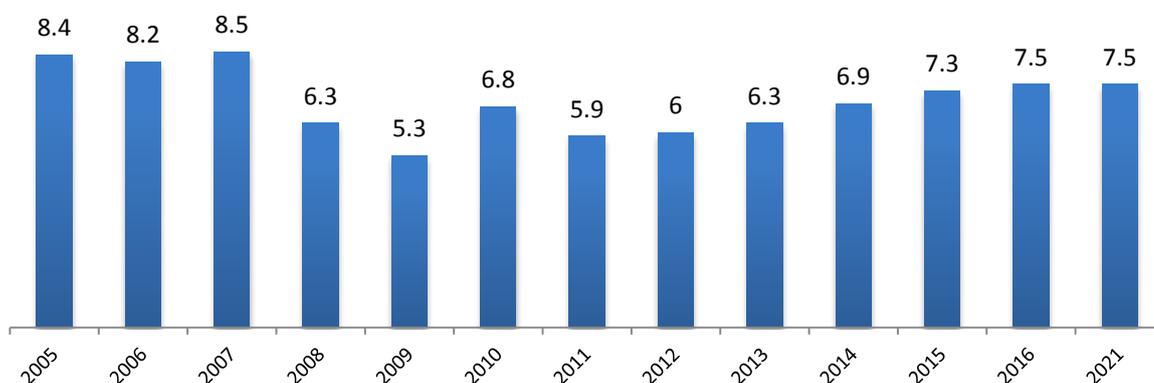
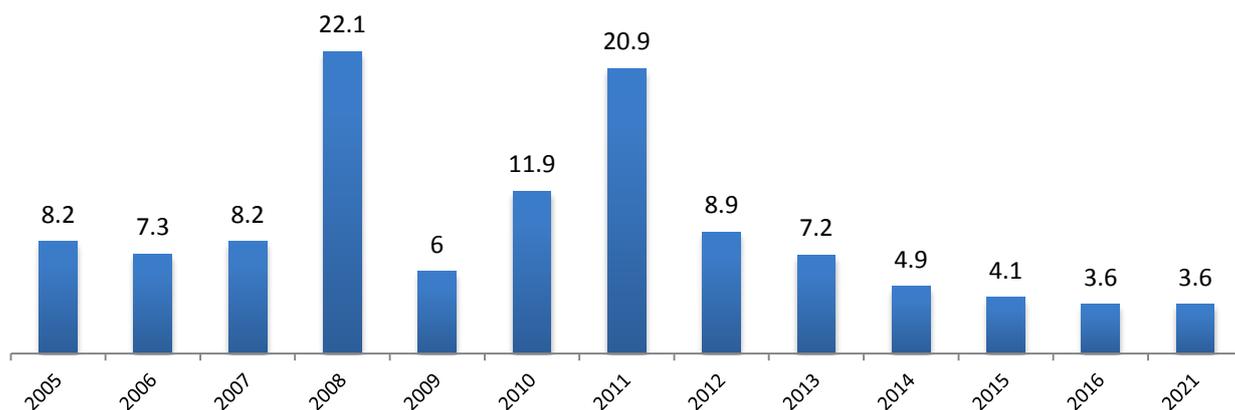
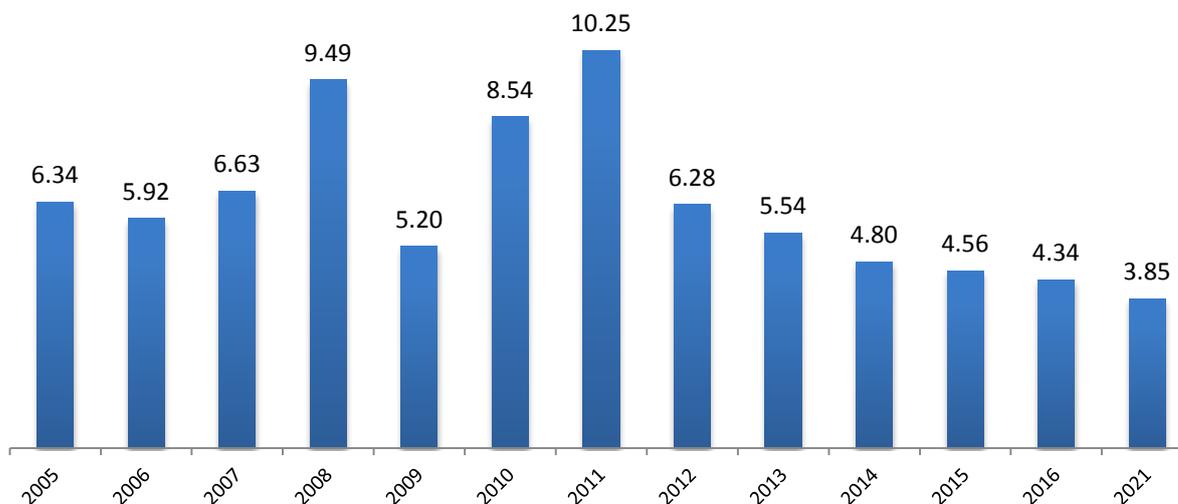


Figure 9. Inflation in Vietnam and prediction until 2021 (%)



Based on the predictions, in order to keep the balance between budget deficit and public debt, we followed the research of Buiter (1993) to forecast the level of budget deficit from 2013 to 2021 as the below:

Figure 10. Prediction of budget deficit from 2013 to 2021 (%)



It can be seen that with prediction of stable public debt ratio, inflation, growth rate; the level of budget deficit tends to reduce. Budget deficit is considered at sustainable level of 4.56% in 2015 and around 3.85% in 2021. Moreover, the level of budget deficit has been is compatible with the growth rate of public debt. That also means using loans to cover the deficit can create a balance in the state budget.

Procedure for reducing budget deficit in long term in Vietnam

There have been many solutions to reduce budget deficit. However, the most important thing is to reduce budget deficit sustainable. For that reason, reducing budget deficit is the long term process:

Firstly, it is necessary to improve and diversify the government incomes as to avoid the dependence on unsustainable incomes such as incomes from raw mineral oil, import tax, etc... which are currently accounting for more than 40%. Restructuring government incomes also refers to consider the taxes structure. Sustainable taxes such as income tax, especially individual income tax, should be more focused. However, it is not easy for the government to increase the tax rate due to its negative effects on the economy, income per capita, and then investments. It needs a long-run for the government to increase the income via taxes gradually and slowly.

In addition, government spending should be controlled more effectively. It is necessary to control regular spending effectively and focus more on investment and development. To do so, the salary system for the management ought to consider. In fact, there are more and more official staff in the office and it raises the salary spending higher and higher.

Moverover, the government should also well-allocate the funds to different sectors in the economy. The main sectors of Vietnam such as energy, agriculture, mining, education and national defense should be preferred. Also some ineffective sectors should be eliminated.

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