Public Debt and Economic Growth: Case of South-American Nations

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Abstract
The objective of this study is to give an overview of public debt in South-American nations from 2000 through 2019. In addition, this research seeks to find out the relationship between public debt and economic growth in these nations. To achieve the objectives, the descriptive statistics is provided and followed by the regression analysis. The results drawn from this study suggest that public debt of most countries have generally been increasing over the past decade, whereas that of Bolivia, Peru, Paraguay, and Uruguay shows the decreasing trend. Regarding the Regression analysis, mean year of schooling as well as trade openness and investment are shown to have a positive impact on the growth rates whereas public debt is negatively related with economic growth. Not surprisingly, the corruption perception index has a positive relationship with the growth. In other words, when a nation has low corruption prevalence, the economic growth gets higher.

Keywords: Public Debt, Economic Growth, Schooling

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1. Introduction

Richard A. Musgrave regarded as the father of the field of public finance defined the role of government into three types; allocation, redistribution, and stabilization of the economy. Public debt is financial obligation of government arising from borrowings as a result of budget deficit or guarantee of debt. In other words, a budget deficit leads to increase in public debt which, in turns, means a rise in government expenditure of the following years due to the interest costs. In the future, therefore, government must collect higher taxes in order to cope with the expected high payment. However, it is believed that many taxes produce distortion i.e. people would be discouraged to work and/or invest if the government impose too high of a tax. Thus, tax collection would lead to inefficiency and therefore hinder economic growth of a nation. A huge number of empirical studies have been done in order to test the impact of public debt on economic growth. Although many study using data of developed nation indicate that the public debt obstruct the bright prospect of growth for nations (Balassone et al., 2011). However, the research on this topic adopting the data of developing countries is still inconclusive.

Fig. I: Public Debt as percentage of Gross Domestic Product between 2000-2018
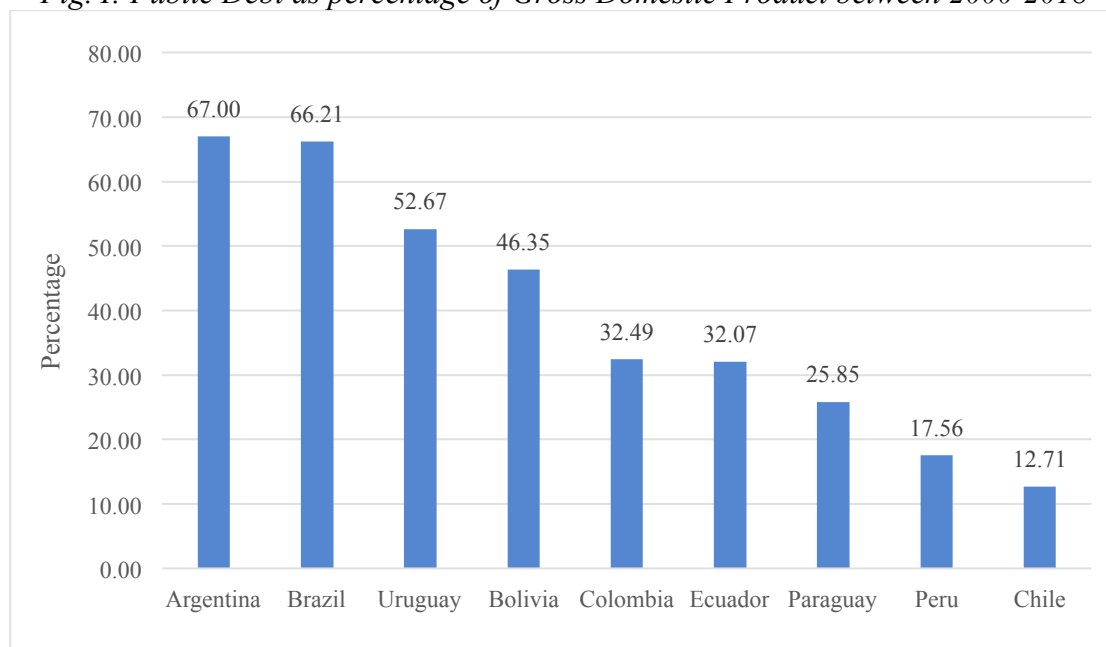
When examined the average data across South American nations, Figure 1 shows that Argentina has the highest public debt as percentage of Gross Domestic Product (GDP), and followed by Brazil and Uruguay, respectively. Similarly, the average economic growth of these countries in such specific period, particularly, Argentina and Uruguay, were comparatively the highest in this region as shown in Figure 2. This research aiming at examining the relationship between public and economic growth, therefore, can give a discrete explanation for South America nations, developing countries differing in background and socioeconomic context from their industrialized cohorts.

Fig. II: Economic Growth of South American nations between 2000-2018
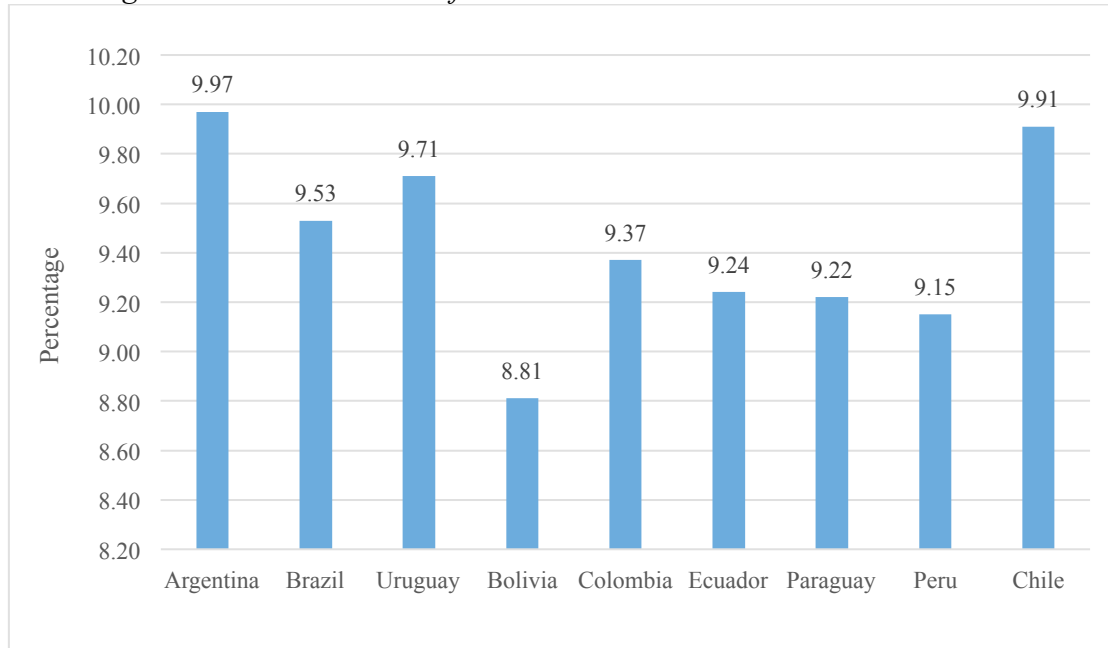
2. Model and Data

From the previous section, public debt which may have relationship with economic growth can be found using panel data analysis. The models can be presented as follows.

$$GDP_{it} = \beta_0 + \beta_1 EXP_{it} + \beta_2 DEBT_{it} + \beta_3 INVEST_{it} + \beta_4 SAVING_{it} + \beta_5 SCHOOL_{it} + \beta_6 TRADE_{it} + \varepsilon$$

Where GROWTH is GDP growth.

DEBT is public debt.

INVEST is the percentage of investment in country in relation to Gross Domestic Product (GDP).

SAVING is the percentage of saving in country in relation to Gross Domestic Product (GDP). TRADE is trade openness.

SCHOOL is mean year of schooling.

The data used in the analysis is a yearly data of Argentina, Brazil, Uruguay, Bolivia, Columbia, Ecuador, Paraguay, Peru, and Chile from 2000-2018. The variables were mainly collected from the World Bank and the International Monetary Fund (IMF).

3. Results and Conclusion

Table I: Panel data analysis using Pooled OLS, Fixed Effect and Random Effect Model

	Pooled OLS	Fixed	Random
INVEST	0.978***	0.383***	0.498***
	(5.83)	(3.43)	(4.16)
DEBT	-0.261***	-0.183**	-0.184**
	(-5.76)	(-2.19)	(-2.34)
SCHOOL	0.269***	0.240***	0.231***
	(11.32)	(6.55)	(8.63)
TRADE	-0.219***	0.199	0.077
	(-3.29)	(1.16)	(0.53)
COR	0.001	0.014***	0.008**
	(-0.69)	(3.34)	(2.25)
Constant	4.348***	4.077***	4.568***
	(5.09)	(4.08)	(4.95)
Obs.	87	87	87
R^2	0.81	0.57	0.67
Hausman Test	Chi-square = Prob. = 0.00	Chi-square = Prob. = 0.00	Chi-square = Prob. = 0.00

Note: The value in parentheses is t-statistics.

To begin with, the Hausman test was adopted and it is shown that random effects are appropriate. The results derived from models in Table 1 show that economic growth is negatively and significantly driven by public debt. Next, the findings show that means year of schooling as well as investment spending have a positive impact on the growth rates as expected. In addition, the Corruption Perception Index (COR) leads to higher economic growth. In other words, when corruption in a country decreases, the economic growth rises.

The results suggest that public debt does undermine growth rates in South American nations. The findings are in accordance with the various researches (DiPeitro & Anoruo, 2012; Gómez-Puig & Sosvilla-Rivero, 2017; Sosvilla-Rivero, 2018; Presbitero, 2012). This implies that, the government should consider this negative impact altogether with the positive effect of it on other aspects, for example, the redistribution function of government. The role of government is to balance these two objectives; allocation function and redistribution function, to the best interest of the society.

4. References

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