



## PUBLIC DEBT AND ECONOMIC GROWTH IN MALAYSIA

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### ABSTRACT

*Public debt in the Malaysia increased because of fiscal expansions. This study examines whether public debt contributed to the economic growth in Malaysia over the period 1991 to 2013. It also examines whether other indicators of debt burden, such as budget deficit, budget expenditure, and external debt service and government consumption, have an impact on economic growth. The results of this study are consistent with the existing literature that found a negative association between debt and growth. The results indicate that public debt over time has a negative impact on GDP. In addition, it is found that the budget deficit, government consumption and external debt service are a decreasing function of GDP.*

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**JEL Classification:** F33, F34.

### Contribution/ Originality

Our paper aims at contributing to the debate on the relationship between public debt and economic growth. To the best of our knowledge, only a few and inconclusive studies focus on external debt for Malaysia's economic growth. It may be worthwhile to examine the impact of public debt on the economic in Malaysia to provide out-of-sample evidence in related works. The results of this study would be an important input to local policy makers concerning the role in monitoring public debt position.

## 1. INTRODUCTION

A country's economy requires an amount of capital to generate production and to sustain economic development. In a situation when government spending exceeds its tax collections, it has

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a budget deficit, which it finances by borrowing from the private sector or from foreign governments (Mankiw, 2013). Economic theory suggests that reasonable levels of borrowing for developing country are likely to enhance economic growth as it accelerates the pace of development infrastructure. Malaysia is one of the developing countries and having budget deficit in the past decades. When Malaysia has a budget deficit, the government may borrow in the domestic and international markets to finance government expenditure and domestic investment, and, hence enhance economic growth. However, when additional debt impacts negatively on economic growth, it will make Malaysia worse off. The accumulation of past borrowing becomes the government debt burden. The debt is a public debt, which consists of both external and domestic debts. Abd-Rahman (2012a) defines public debt as when government holding securities are inadequate to finance previous budget deficits.

The dramatic increase of public debt in developing countries has raised concerns as to whether the borrowings could help to improve economic growth or whether it could become a burden of responsibility that future generations would have to pay. Reinhart and Rogoff (2010) state that the existence of high debt can have negative impact on economic development. Malaysia had fiscal deficits financed by increasing debts during the past decades, which was because of the expansionary fiscal policy to stimulate economic growth through an increase in consumption. In the recent years, the large increase in public debt was also due to the priority of the current government to make Malaysia a developed and high-income country by the year 2020, in line with the vision 2020 objective. Although Malaysia's public debt is considered moderate, it may limit the development and objective of Malaysia's economic transformation. Clements *et al.* (2003) contend that the uncertainties of national debt service payment create discouragement and difficulty in pursuing economic reform. In Malaysia, the national debts have continued to grow over time. To our best knowledge, there are only few academic researches on debt and economic growth in Malaysia (Abu Bakar and Hassan, 2008); (Choong *et al.*, 2010); and Mohd Daud *et al.* (2013). However, they finding is inconsistent. It is worth to mention that these studies examine external debt and growth. For example, Choong *et al.* (2010) and Mohd Daud *et al.* (2013) find that external debt has a negative impact on Malaysia's long-run economic growth. They also find the existence of short run causality linkages between external debt and economic growth. In contrast, Abu Bakar and Hassan (2008) find that external debt has a positive effect on Malaysian economic growth at the aggregate level. New evidence needs to be brought forward to assist in providing a better understanding of the issue. This study attempts to fill the research gap in the literature, to examine the impact of public debt on economic growth in Malaysia. Hence, this study is carried out to analyze the impact of public debt on the economic growth of Malaysia.

## 2. LITERATURE REVIEW

### 2.1. The Relationship between Public Sector Expenditure and Economic Growth

The macroeconomic theory suggests that public sector expenditure should have a positive impact on economic growth. Supporting this theory, Freeman and Webber (2009) find that the

productive type of public service expenditure in education and health can lead to long-term economic returns. For instance, educational expenditure would have a direct impact on the improvement of social welfare. When society benefits from the educational programs it would contribute significantly to increased labor productivity; as a result, high economic growth is achieved. On the other hand, if the majority of government expenditure is channeled to unproductive types of expenditure, it may cause a decline in economic growth (Abd-Rahman, 2012b); and Teles and Cesar Mussolini (2014). The unproductive types of public expenditure are subsidies, and pensions, etc.

## 2.2. The Relationship between Budget Deficit and Economic Growth

Persistent budget deficits have increased the interest of economists in theories and evidence about fiscal policy. The explanations of the impact of budget deficits on the economy vary across different schools of thought. The neoclassical theory illustrates an inverse relationship between economic growth and budget deficit, because persistent deficits crowd out private investment. Siddiqui and Malik (2001) state that the impact of budget deficit on GDP ratio is expected to negatively crowd out public saving. However, the Keynesian school views that a budget deficit will achieve a national income improvement and need not crowd out private investment, if the resources in the economy are initially under-employed. In contrast, the Ricardian school views a budget deficit as merely postponing tax, and having no real effect. The Ricardian argument is built on the understanding that a lower tax rate and a budget deficit require higher taxes in future. Cebula (1995) investigates the impact of U.S. budget deficits on real GDP growth over the period 1955-1992. The study of Cebula indicates that federal budget deficits reduce the rate of economic growth.

## 2.3. The Relationship between Debt and Economic Growth

Most of the previous studies focused on the debt overhang theories. The debt overhang hypothesis argues that if a country has high levels of debt, the government has no incentive to introduce macroeconomic reforms or policies because the returns of these macroeconomic policies will only be used to repay outstanding debt (Clements *et al.*, 2003). On the other hand, the incentive for the private sector to invest may also be reduced, which leads to negative economic growth. Krguman (1988) defines the debt overhang as when a nation's expected repayment on debt falls short of the contractual value of debt.

This would cause difficulty for the debtor country to secure new borrowings to service the existing debt and fund new investments. However, previous evidence on debt overhang is far from conclusive. Sen *et al.* (2007) and Atique and Malik (2012) find that debt has a negative impact on economic growth. However, the study by Tasos (2014) shows that no causality between debt and growth in Greece.

### 3. DATA AND MODEL

The dataset in this study is time series with observations covering the period from 1991 to 2013. Data were collected from the DataStream database. The debt-growth model is estimated using the quarterly data, the basic model is:

$$\text{LnGDP}_t = \alpha_0 + \alpha_1 \text{PD}_t + \alpha_2 \text{BD}_t + \alpha_3 \text{BE}_t + \alpha_4 \text{GC}_t + \alpha_5 \text{LnEDS}_t + \varepsilon_t$$

In the debt-growth model, the logarithm of Gross Domestic Product ( $\text{LnGDP}_t$ ) per capita is the dependent variable and is a proxy for economic growth. Whereas, the public debt ( $\text{PD}_t$ ) is a measure expressed as the public debt to GDP, which attempts to capture the direct effect of public debt on the economic growth. The model consists of a set of other indicators of debt burden with a proven impact on economic growth. The impact of debt burden is captured by including various variables, such as budget deficit to GDP ( $\text{BD}_t$ ), budget expenditure to GDP ( $\text{BE}_t$ ), government consumption to GDP ( $\text{GC}_t$ ) and logarithm of external debt service ( $\text{EDS}_t$ ).

Before turning to the correlation and regression analysis, descriptive statistics regarding the public debt and other variables for period 1991 to 2013 are presented in Table 1. The last column of Table 1 shows that the time-series standard deviation of GDP per capita and the external debt service is substantial. This may indicate that the average growth of GDP per capita is substantial, and also highlights the issue concerning the usability of debt to boost the domestic economy. On average, the GDP per capita is RM118 million, and the minimum GDP per capita is RM32 million per quarter. This shows that Malaysia enjoyed a rapid growth during the period between 1993 and 2013. In terms of other debt indicators, Table 1 shows that, on average, the mean of public debt to GDP is 0.959, and the budget deficit to GDP is -0.027. Our data also show about 19% of budget expenditure to GDP, and 12% of government consumption to GDP. The indicators of creditworthiness and external debt service display a considerable fluctuation in variability. The range of external debt service in the sample is rather large, going from 4% a quarter to over 370%. Table 1 suggests that Malaysia might have too much public debt and less public savings. This is because government income is necessary for external debt service.

**Table-1.** Descriptive statistics of dependent and independent variables (1991-2013)

	Mean	Maximum	Minimum	Std. Dev.
Logarithm of GDP per capita	11.511	12.485	10.359	0.604
GDP per capita (RM million)	118,223	264,247	31,549	66,532
Public debt to GDP	0.959	1.030	0.922	0.024
Budget deficit to GDP	-0.027	0.026	-0.110	0.030
Budget expenditure to GDP	0.185	0.286	0.094	0.041
Government consumption to GDP	0.120	0.177	0.071	0.025
Logarithm of external debt service	0.805	3.700	0.040	0.714

**Note:** The number of observations is 92. Std. Dev. denotes standard deviation, and GDP refers to gross domestic product.

## 4. FINDINGS AND DISCUSSION

### 4.1. Correlation Analysis

The correlation matrix is presented in Table 2. Generally, there is a relatively low correlation between the independent variables, as shown in the table. The results of Table 2 also show that

there are not any issues of multicollinearity between predictor variables in the model. The GDP per capita appears to be negatively correlated with the public debt to GDP. Thus, it suggests that public debt impedes growth. While a negative correlation between debt and growth is consistent with Panizza and Presbitero (2014). The correlation matrix also suggests that the GDP per capita is negatively correlated with all the debt burden indicators. High correlations are found between GDP per capita and budget deficit with the correlation coefficient of -0.661 indicating a strong relationship between the two variables. The lowest correlation is between GDP per capita and government consumption. The correlation between the GDP per capita and budget expenditure is positive.

**Table-2.**Correlation coefficient among dependent and independent variables

	1	2	3	4	5	6
1. GDP per capita	1					
2. Public debt to GDP	-0.489	1				
3. Budget deficit to GDP	-0.661	0.249	1			
4. Budget expenditure to GDP	0.217	-0.147	-0.166	1		
5. Government consumption to GDP	-0.110	-0.151	-0.149	0.695	1	
6. External debt service	-0.307	-0.218	-0.110	-0.234	-0.129	1

#### 4.2. Regression Analysis

Part of the above noted correlation between debt and economic growth may be spurious, reflecting the effects of external factors. The correlation does not imply causation. The link between public debt and economic growth could be driven by other factors. Therefore, it is necessary to analyze the debts and growth relationship through a multivariate regression analysis. The regression analysis checks whether the debt-growth correlation is robust to include a set of debt indicator variables, such as public debt, budget deficit, budget expenditure, government consumption, and external debt service. The regression results are reported in Table 3. The model shows an adjusted R-squared of 0.655, which means that the explanatory variables collectively explain 65.5% of the variability in economic growth. The F-statistic of 35.610 shows that the regression is significant at the 1% level. The coefficients of all the variables have the expected signs. Of the five independent variables in the model, only budget expenditure is positively significant, suggesting that public spending on public goods and services could have a positive impact on investment and economic growth. This result supports the finding of Freeman and Webber (2009) that government expenditure on public goods would improve social welfare and have a positive impact on economic growth. Our results show that the impact of the public debt on GDP is negative and significant. This means that a rise in public debt is associated with a drop in GDP. This result supports the findings of the earlier studies that public debt affects the economics of growth negatively. When a country has a heavy public debt burden, the investors would worry about the ability of that country to pay the debts of the creditors. This would cause crowding out of investments. In addition, the creditors may also demand higher interest rates, as a safety measure due to increased risk, for them to keep financing the deficits (Cerra *et al.*, 2008). This is not a good situation because a sharp increase in interest rate can harm the economic growth and would create a financial crisis. Further, a country with a high level of debt would have a high probability of

experiencing the debt overhang problem. Table 3 also shows that the budget deficit has a negative and significant relationship with economic growth. This finding is consistent with [Choong \*et al.\* \(2010\)](#). The budget deficit refers to the gap between the flows of government revenue and expenditure in a given year. The impact of budget deficit to GDP is predicted to be negative if the deficit crowds out public savings and encourages resource outflow, while an increase in the budget deficit implies that the government increases its borrowing from the private sector, and that the government is borrowing money from its own citizens as well as from international investors through the financial markets. This suggests that Malaysia would need a continuous improvement in its budget balance in order to stabilize the public debt. Unless immediate action is taken, there is little hope that the budget deficit will decline significantly in 2014. For example, expenditure is made in proportion to the revenue accruing to the public treasury, and a balance is always preserved. To improve the budget deficit, the Malaysian government needs to monitor each type of expenditure, such as the expansion of the production and trade facilities, to increase production and lead to an increase in employment, land and capital resources. The introduction of goods and services tax (GST) in April 2015 is also meant to increase tax revenue in order to soften the budget deficits.

**Table-3.** Regression results

Variable	Coefficient	P-value
C	11.658***	0.000
Public debt to GDP	-1.169***	0.000
Budget deficit to GDP	-9.170***	0.000
Budget expenditure to GDP	5.769***	0.000
Government consumption to GDP	-4.619*	0.062
External debt service	-0.182***	0.002
Observation	92	
Adjusted R-squared	0.655	
F-statistic	35.610	
P-value	0.000	

Notes: \*, \*\* and \*\*\* denote significance at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ .

Turning to the coefficient between the government consumption and GDP, Table 3 also shows that the government consumption has an adverse impact on economic growth and that it is statistically significant at the 10% significance level. This suggests that if the government consumes more of the public goods and services it would not increase economic growth. In other words, this suggests that good performance of the Malaysian economy in terms of GDP growth may be attributed to the private consumption. Hence, the government might need to be disciplined in terms of no wastage and no extravagance to increase efficiency in the public sector. As expected, the external debt service has a negative and statistically significant impact on economic growth. The results show that the increase in external debt service affects economic growth adversely. Our evidence is consistent with [Choong \*et al.\* \(2010\)](#), and [Mohd Daud \*et al.\* \(2013\)](#), who find that external debts have a negative impact on the Malaysian economy. They also find that Malaysia's growth in the accumulation of external debts is more than the country's economic growth. [Pattillo](#)

*et al.* (2002) state that a high external debt service will discourage domestic and foreign investments. This is because, in order to pay the principal amount and interest payment, future tax revenue needs to rise or the given tax revenue must be diverted from other productive uses, which may hurt economic growth (Lin and Sosin, 2001). This means high that levels of debt burden squeeze investments because the returns are discounted through the debt service payment by creditors. Further, high external debt service can raise the government budget deficit, thus reducing the public savings.

## 5. CONCLUSION

This study examines whether public debt contributed to Malaysia's economic growth for the period 1991 to 2013. The economic growth, as measured by GDP per capita, shows a negative association with the public debt. The other indicators of debt burden included in this study highlight the importance of improving the economic management. This could be in the form of improving the efficiency of the use of resources so that the debt burden can be effectively reduced. Malaysian policymakers should play an effective role in monitoring Malaysia's public debt position, and close attention should be given to avoid the risk of being trapped in the debt overhang situation. Furthermore, there is a need to improve and effectively manage government consumption, as this would lead to improve of public debt. The regression results reveal that government consumption has a negative effect on economic growth, which means that government consumption does not stimulate economic growth; instead, over consumption by the government would be a burden to economic growth. Malaysia might need to try and follow some of the basic principles of economic practices, such as always spending within means. As a developing country, Malaysia has an average of high public debts, hence policymakers need to develop a sound financial plan to ensure that the public debt accumulated does not overweight future generations. The Malaysian government might need to improve the use of fiscal and monetary policy in an efficient way to reduce the dependence on public debt in order to achieve the vision 2020 objective of a high income and a developed country. Lastly, the Malaysian government might also need to place more emphasis on borrowing via Islamic bonds, which is borrowing from the public by allowing all participants to share in the real profits.

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