The effects of government expenditure on economic growth: the case of Malaysia

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ABSTRACT

The relationship between government expenditure and economic growth has been debated for decades and has not clearly stated yet. This paper gives a further evidence on the relationship between government expenditure and economic growth in the case of Malaysia. In this study, the government expenditure has been disaggregated in to the government operating and development expenditure. We also classified the government expenditure based on the sector of which it expensed. We used OLS technique to find the fixed effects of government expenditure on economic growth for the last 45 years. This investigation is made by using the time series data during the period 1970 – 2014. Our result indicates that there is a negative correlation between government expenditure and economic growth in Malaysia for the last 45 years. Moreover, the classification of government expenditure indicates that only housing sector expenditure and development expenditure significantly contribute to a lower economic growth. Education, defense, healthcare, and operating expenditure do not show significant any evidence of its impact on the economic growth. These finding may give some overview of policy implications to the Malaysia policymakers on optimizing the effects of government expenditure in economic growth.

Keywords: Government Expenditure; Economic Growth, OLS

1 INTRODUCTION

An inclusive and long-term economic growth has become a concern for many policymakers for decades and government spending has been debated whether it is able to accelerate economic growth. Government spending has been used extensively as fiscal policy by the government in many countries, but its effect on economic growth is questionable. Two well-examined economic hypotheses have been used by the economic analyst as a base to debate the effect of government spending in economic growth, i.e. Wagner's law and Keynesian hypothesis.

Wagner's law - law of the expanding state role – is a model showing that public expenditures are endogenous to economic growth and that there exist long-run tendencies for public expenditure to grow relatively to some national income aggregates such as the gross domestic product (GDP). This theory suggests the existence of the causality between public expenditure and national income runs from national income to public expenditure. Wagner (1883) suggested that government expenditure is an endogenous factor or an outcome, but not a cause of economic development. Mathematically, his hypothesis can be formulated as, $G_t = f(Y_t)$, where G refers to the size of the public sector which reflect the level of government expenditure and Y stands for the level of economic performance or growth. In modest words, Wagner's law suggested that government expenditure increase because of the economic growth.

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On the other hand, Keynesian hypothesis state that expansion of government expenditure accelerates economic growth. Thus, government expenditure is regarded as an exogenous force that changes aggregate output (Loizides & Vamvoukas, 2005). Keynesian school of thought suggests that a proactive fiscal policy is an important instrument available to governments to stimulate economic activity and economic growth (Shahuda, 2015). By increasing government spending and/or cutting taxes, governments can offset a slower pace of economic activity; hence, fiscal policy is viewed as a counter-cyclical policy tool that mitigates short-run fluctuations in output and employment (Zagler & Durnecker, 2003). In addition, the Keynesian hypothesis, suggests that any kinds of public expenditures, even of a recurrent nature, can contribute positively to economic growth. The effectiveness of fiscal policy in stabilizing aggregate demand also depends on whether or not government spending crowds out private spending. An increase in government spending that is not matched by an increase in revenues leads to a budget deficit that needs to be financed. If the deficit is financed by issuing domestic debt, it can have negative consequences for domestic interest rates, which crowds out private (consumption and investment) spending (Kandil, 2006). If the deficit is financed by an easy monetary policy, it may lead to a build-up in inflationary expectations due to credit and liquidity expansion, which, in turn, results in higher nominal interest rates, thereby hurting private spending (Loizides & Vamvoukas, 2005). Therefore, budget deficits result in crowding out the private sector of resources that would have otherwise been available to fund capital accumulation and consumption spending.

In addition to these two hypotheses, Solow (1956) in his neo-classical growth model viewed that there is no long run impact of government expenditures on the economic growth rate. The neo-classical growth models suggest that fiscal policies cannot bring about changes in long-run growth of output. Neo-classical economists suggest that the long run growth rate is driven by population growth, the rate of labor force growth, and the rate of technological progress which is determined exogenously.

Barro (1989) in his endogenous growth model argues that GDP growth is negatively related to the government consumption expenditure. He further argues that government consumption introduces distortions, but does not provide an offsetting stimulus to investment and growth. Moreover, he stated that there is little relation of growth to the quantity of government investment expenditure. His study on 1990 confirms his findings on previous study. He stated that government expenditure on investment and productive activities should contribute positively to growth, whereas government consumption spending is anticipated to be growth-retarding. However, it is difficult to determine which particular items of expenditure should be categorized as investment and which as consumption in empirical work.
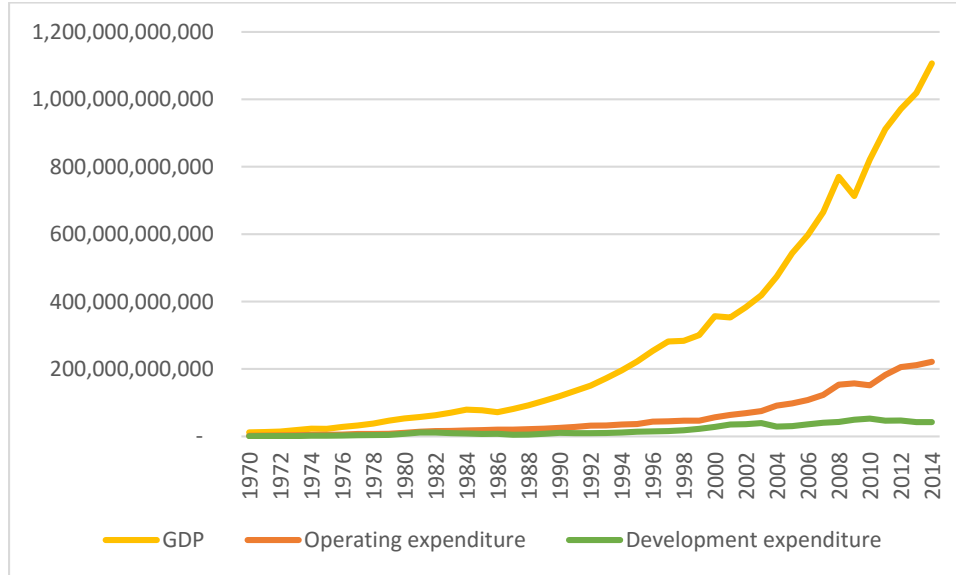
Figure 1. Real GDP and government expenditure in Malaysia 1970 – 2014

Malaysia, historically, has sustained one of the highest rates of growth in the world. Malaysia has a rapidly developing manufacturing sector. Since 1988, real GNP has grown at an annual average rate of growth of 8.5 percent (World Bank, 1996). The Fifth Plan (1986-90) of Malaysia government have made important policy changes. These included the promotion of the private sector as the driving force for economic growth. Figure 1 above showed the increment of GDP and government expenditure for the last 45 years. Development expenditure has not increased much compare to the operating expenditure. During 1970 – 2014, Malaysia has faced economic crisis four times, on 1975, 1985, 1998 and the recent global financial crisis in 2008.

In Malaysia, government expenditure is an important fiscal instrument which divided into two categories, namely operating and development expenditure. Operating expenditure is the expenditure for activities that are recurrent, for example: pension, judges' salary and grants to states, office rental and the purchase of assets and fuel. Whereas, the developmental expenditure is a budget approved to implement development projects under the Five-Year Malaysia Plan. Development budget is a capital and non-recurrent expenditure, and that is more of investment in nature and not consumption expenditure. Thus, it involves a large capital or provision, giving long-term benefits and requires supervision and maintenance. For example: construction of roads, schools, offices, hospitals, clinics and police stations.

Although there are a few studies has been done to see the relationship between government expenditure and economic growth in Malaysia, those studies mainly focus on the effect of aggregate government expenditure. It is found that only one study, which is conducted by Tang (2009), tried to see the effect of disaggregated government expenditure on economic growth. However, Tang (2009) still lack of classification as it did not cover the effect of operating and development expenditure on economic growth. Therefore, the main objective of this paper is to empirically examine the impacts of different components and functions of government expenditure

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on economic growth in Malaysia. This paper also aims to find the long-run relationship between government spending and economic growth in Malaysia. In other words, we would like to find out whether larger government expenditure can result in a faster economic growth for Malaysia.

The importance of this study is that it can give an overview to the policy maker on whether the level of government expenditure currently and historically has been properly managed to accelerate the economic growth, or whether the government expenditure has been used excessively which may hurt the domestic economy because of increased taxes and/or high government borrowing.

The rest of the paper is organized as follows. Section II provide a review of the empirical studies. Section III discusses our empirical model as well as the source of the data set. Section IV presents the empirical results and the discussion, and Section V concludes the paper with some policy implications.

2 LITERATURE REVIEW

There have been numbers of published studies trying to find the relationship between government expenditure and economic growth in developing and developed countries. These studies have used different theories in specifying the model as well as different research methods, and the result showed that the effect of government expenditure on economic growth can run either negative or positive ways, similar to the economic theories which show two different positions of government expenditure on economic development.

Ghura (1995), using pooled time-series and cross-section data for 33 countries in Sub-Saharan Africa for the period 1970-1990 produced evidence that points towards the existence of a negative relationship between government consumption and economic growth.

On the same sample region, Yasin (2000) examined the relationship of government spending and economic growth in 26 sub-Saharan Africa countries. He developed the model on the basis of neoclassical production function. By using panel data from 1987 to 1997 period and employing both the fixed effect and random effect techniques, he found a different result with Ghura (1995) which suggest that the government spending on capital formation has the expected positive and significant effect on economic growth. He concluded the study with suggestion for these countries to increase government spending on capital formation and create favorable economic environment.

By using similar econometric approaches and similar model with Yasin (2000), Alexiou (2009) explored the impact of a string of variables to condition economic growth for seven countries in the South Eastern Europe region spanning from 1995 to 2005. The evidence yielded indicates that out of the five variables used in the estimation, government spending on capital formation, development assistance, private investment and a proxy for trade-openness all have positive and significant effect on economic growth, whereas the remaining one, population growth, is found to be statistically insignificant. To conclude, he suggests that the policy makers can create an appropriate environment conducive to nurturing government spending on capital formation, private investment spending, and trade.

Another study that shows a positive correlation has been done by Alshahrani & Alsadiq (2014). They studied the effect of different types of government expenditure on economic growth in Saudi Arabia. They try to see the long-run and short-run effects of the expenditures on growth using various econometric techniques particularly Vector Error Correction Model (VECM). By employing time-series data over the period 1969 – 2010, they found that private domestic and public investments, as well as healthcare expenditure, stimulate growth in the long-run. The result also showed that openness to trade and spending in the housing sector boost short-run production.

Knoop (1999), which also used time-series data in studying the effects of government spending on economic growth in the US, found that a reduction in the size of the government (reduction in government spending) would have an adverse impact on economic growth and welfare. He conducted his study by using OLS estimation method and based his model on endogenous growth theory.

On contrary, Guseh (1997), which use similar econometric technique with Knoop (1999) and used time-series data over the period 1960 – 1985 for 59 middle-income developing countries, found a contradicting result with Knoop (1999), regarding the effects of government size on the rate of economic growth. His result suggested that growth in government size has negative effects on economic growth.

Talking about developing countries, Attari & Javed (2013) explored the relationship among the rate of inflation, economic growth and government expenditure in one of developing countries in Asia, i.e. Pakistan. In their study, they disaggregated government expenditure in to the government current expenditure and the government development expenditure. The investigation was made by using the time series data during the period 1980-2010 and employing various econometric techniques. The result showed that the coefficient of government current expenditure is statistically insignificant, but the coefficient of government development expenditure is statistically significant. It shows that the government expenditures yield positive externalities and linkages. In the short run, the rate of inflation does not affect the economic growth but government expenditures do so. At the end, they argued that a lot of issues faced by the government of the developing countries, like utilization and the miss-allocation of resources, and if the government expenditures are utilized in the excess amount, the excessive capital expenditures become unproductive at the margin.

Still looking at one of developing countries, Nurudeen & Usman (2010) studied about government expenditure and economic growth in Nigeria. Using the co-integration and error correction methods and employing time-series data for the period 1979 – 2007, they developed their model based on Keynesian and endogenous growth model and they found that total capital expenditure, total recurrent expenditures, and government expenditure on education have negative effect on economic growth. On the contrary, rising government expenditure on transport and communication results to an increase in economic growth.

Building on the same endogenous growth model with Nurudeen & Usman (2010), Hsieh & Lai (1994) attempted to see the nature of the relationship between government expenditure and economic growth in G-7 countries, namely Canada, France, Germany, Italy, Japan, UK, and USA. Their empirical result suggested that the relationship between government spending and growth

can vary significantly across time. They find no robust evidence of positive effect of government spending on growth, neither have they found the robust negative effect. They conclude that public spending is found to be contributed at best a small proportion to the growth of an economy.

By using a worldwide sample, Wahab (2011) studied the effects of aggregate and disaggregate government spending on economic growth. For the aggregate government spending, he used data from 97 developing and developed countries for the period 1960 – 2004, while for the disaggregate government spending, he used data from 1980 to 2000 for 32 countries only. By using symmetric and asymmetric model specifications, they found that aggregate government spending has positive output growth effects particularly in periods of its below-trend growth. Furthermore, he found that government consumption spending has no significant output growth effects, but government investment spending has positive output growth effects particularly when its growth falls below its trend-growth; this favorable effect turns negative when government investment spending growth exceeds its trend-growth.

Using a larger sample, Butkiewicz & Yanikkaya (2011) found a contrast result with what have been reported by Wahab (2011). They studied the impact of government expenditures on economic growth that emphasize on how government effectiveness influences the efficiency of government spending. Over 100 developed and developing nations are included in the data set, and Seemingly-Unrelated Regression (SUR) technique is used to estimate the model. The result showed that total expenditures having negative growth effects, but the result is inconsistent across sample. Consumption expenditures are found to have a detrimental growth effect in developing nations with ineffective governments and these countries benefited from the capital expenditures. They argue that this is due to the ineffective governments in developing nations that discourage private investment, thus public investment become the substitute for private investment. They suggest that developing nations should limit their governments' consumption spending and invest in infrastructure to stimulate growth.

Wu et al. (2010), which is a published study with the largest sample and longest period of time, re-examine the causal relationship between government expenditure and economic growth by conducting the panel Granger causality test and utilizing a panel data set which includes 182 countries that cover the period from 1950 to 2004. They found that the result strongly supported both Wagner's law and the hypothesis that government spending is helpful to the economic growth regardless of how the government size/spending and economic growth is measured.

In the case of Malaysia, Tang (2001) applied Johansen's multivariate co-integration tests and he found no co-integration between national income and government expenditure, while a short-run causality was observed from national income to government expenditure, supporting the Wagner's law over the period 1960- 1998.

Tang (2009) in another study stated that the government spending on education and defense are co-integrated with the national income, respectively, while it is not the case for government spending on health. A uni-directional causality pattern is identified from national income to the three major components of government spending, namely education, defense, and health, which also support the Wagner's law.

Based on these literatures, we conclude that the effect of government spending on economic growth can be positive or negative. The relationship between government spending and economic growth is far from clear. All of the literatures either support the Keynesian hypothesis or the Wagner's law. In the case of Malaysia, the literatures support the Wagner's law in Malaysia, which indicate that there is no effect of government expenditure on economic theory.

3   DATA AND METHODOLOGY

The econometric technique which will be used in this study is the OLS (Ordinary Least Squared) method. This method was also used by Guseh (1997), Knoop (1999), and Alexiou (2007). OLS will enable us to find the independent effects of each explanatory variable on the dependent variable. However, a few assumptions need to be fulfilled in order for the OLS estimations to be BLUE (Best Linear Unbiased Estimations), such as no multicollinearity between the explanatory variables, the value of error term equal to zero, and a few other assumptions.

Furthermore, the neoclassical production theory is used as the platform to specify our empirical model for this study. As what have been done by some literatures such as Ram (1986), Grossman (1988), Yasin (2000) and Alexiou (2009), we ignore the level of technology and include the government expenditure into the model. Moreover, we will distinguish the government expenditure into some categories to see the different impact of various types of government expenditure on economic growth. We also introduce the level of trade openness as the control variable to eliminate the effects of changes in trade policies (Alshahrani & Alsadiq, 2014). All of the variables are transformed into its log-form. Hence, our model will be a log-linear model. Finally, we derive our model as follows.

$$ln\,Y_t = \beta_0 + \beta_1 lnC_t + \beta_2 lnL_t + \beta_3 lnOpen_t + \beta_4 lnEXP_i + \varepsilon_t$$

where Y_t is the growth rate of the real GDP in period t as a measure for economic growth. C_t is the level of physical capital in period t, which represent by gross capital formation as a proxy following the literature (Alexiou, 2009). L_t is the level of labor force available in period t, and represented by the growth population for that period, as used in the literatures (Yasin, 2000). $Open_t$ is a variable to measure the effect of trade policies and will act as control variable. It represented by the sum of export and import in period t. EXP_i represent various types of government expenditure (described in the next section). β_is are the unknown parameters that will be estimated, and ε_t is the error term. The variables of gross capital formation, trade openness and government expenditure is in the form of percentage of GDP.

We expect the Keynesian hypothesis and endogenous growth theory to be held in Malaysian economy, which argue that larger government expenditure can accelerate the economic growth. Therefore, all of the independent variables are expected to be positively correlated with the GDP growth except the error term, which is expected to be zero.

Looking at the model, it will examine the relationship of overall government expenditure and economic growth, which will be shown by β_4. If the parameter is positive, then our expected result is attained, where a larger government expenditure will lead to a faster economic growth. Moreover, as we input various classifications of government expenditure into the model, we will

find out which type of government expenditure contribute more to the economic growth. The main focus of the study is an investigation of the effect of various type of government expenditure on economic growth.

After specifying the models and running all the estimations, diagnostics tests are conducted for all models. Surprisingly, some of the models encountered heteroscedasticity problem, a problem that is uncommon for time-series data but common in cross-sectional data, and it violated the assumption of homoscedasticity. For those model, re-estimation has been done by including remedy step for heteroscedasticity issue, which is the white variance-covariance matrix. Besides that, all the model faced error-term normality issue, which has been expected since the beginning. This issue exists because of the economic crisis during some of the period of Malaysian economy which caused the present of outliers in the model. To solve this issue, dummy variable for the year of economic crisis has been created, namely DCrisis. Its value equals one if there was economic crisis on that year, and equals zero if there is no economic crisis. Economic crisis occurred to Malaysian economic on 1975, 1985, 1998, and 2009. 1975 economic crisis was mainly caused by the oil crisis during 1970s and the fall of the Bretton woods system. The 1985 crisis is a result of the massive collapse of world commodity trade (Athukolara, 2010). The 1998 crisis was the period of Asian financial crisis which hit many countries in Asia, especially in the South-East Asia. The last economic crisis happened in 2009 as a result of subprime crisis in the USA, which spread to all over the world. After created dummy variable for these years and included it in the model, re-tested for normality problem show that the null hypothesis cannot be rejected, which imply that the issue has been resolved.

Other than those two issues, other diagnostic tests show that the null hypothesis of the diagnostic test cannot be rejected which mean that there is no violation of the assumptions tested. Assumptions of no autocorrelation, which is expected to be violated, turn out to be unviolated. Furthermore, the assumption of no mis-specification is fulfilled. Diagnostic test for ARCH and structural break problem indicate that the null hypothesis is failed to be rejected, which imply that there is no ARCH and the parameters is stable.

Due to the additional dummy variable, we modified our model and derived a new model. We re-estimate the model in which the results is represented in the next section. The dummy variable is expected to be negatively correlated with economic growth, as economic crisis will always lead to a lower economic growth. Our new model for the empirical analysis is as follows.

$$Y_t = \beta_0 + \beta_1 C_t + \beta_2 L_t + \beta_3 Open_t + \beta_4 EXP_i + \beta_5 DCrisis + \varepsilon_t$$

This study used time-series data from Malaysian economy spanning from 1970 to 2014, which were obtain from World Bank Development Database and Ministry of Finance Malaysia Database. The data set was in annual form for a total of 45 observations on each variable. Macroeconomic data was taken from the World Bank Database and the data will be in the form of percentage of GDP, except the population growth which is in percentage of annual changes. Whereas, data of government expenditure and its various classification was provided by Ministry of Finance Malaysia and is taken from their website database.

4   EMPIRICAL ANALYSIS AND RESULT DISCUSSION

Table 1.
Dependent Variable: Real GDP Growth

Explanatory Variables	OLS 1	OLS 2	OLS 3	OLS 4	OLS 5	OLS 6	OLS 7	OLS 8	OLS 9	OLS 10
Constant	3.391**	-8.732	2.604	1.690*	2.768*	1.654	1.568	0.905	1.234	1.421
	(2.410)	(-0.251)	(1.578)	(1.897)	(1.729)	(1.469)	(1.440)	(1.400)	(1.474)	(1.127)
Capital	0.298	0.154	0.279	0.294	0.292	0.251	0.254	0.337*	0.269	0.293
	(1.553)	(0.506)	(1.447)	(1.428)	(1.472)	(1.194)	(1.177)	(1.785)	(1.330)	(1.379)
Labor	0.596**	0.792	0.533**	0.630**	0.627**	0.508**	0.394	0.468**	0.529**	0.355
	(2.701)	(0.885)	(2.575)	(2.357)	(2.475)	(2.329)	(1.468)	(2.093)	(2.366)	(0.984)
Trade	-0.231**	-0.460	-0.179	-0.162	-0.214	-0.103	-0.129	-0.104	-0.117	-0.156
	(-1.669)	(-1.595)	(-1.223)	(-1.343)	(-1.451)	(-0.870)	(-1.013)	(-0.919)	(-0.837)	(-0.981)
Crisis Dummy	-2.032***	-2.020***	-2.052***	-2.058***	-2.034***	-2.061***	-2.070***	-2.030***	-2.081***	-2.005***
	(-16.149)	(-18.435)	(-14.789)	(-17.673)	(-15.741)	(-18.048)	(-17.025)	(-14.699)	(-19.223)	(-17.184)
Total Expenditure	-0.526**	-0.590**								
	(-2.354)	(-2.082)								
Inflation		0.054								
		(0.951)								
Fertility Rate		0.138								
		(0.087)								
Life Expectation		3.187								
		(0.390)								
Operating Expenditure			-0.369		-0.285					
			(-1.090)		(-0.823)					
Development Expenditure				-0.196*	-0.178*					
				(-1.908)	(-1.740)					
Education Expenditure						-0.238				0.041
						(-0.809)				(0.103)
Health Expenditure							-0.236			-0.229
							(-0.655)			(-0.413)
Housing Expenditure								-0.076**		-0.076*
								(-2.263)		(-1.917)
Defense Expenditure									0.013	0.027
									(0.182)	(0.381)
Observations:	45	44	45	45	45	45	45	45	45	45
R-squared:	0.936	0.939	0.931	0.934	0.935	0.929	0.928	0.935	0.928	0.936
Adj. R-squared	0.928	0.925	0.922	0.925	0.925	0.920	0.919	0.927	0.919	0.922
F-statistic:	114.599	66.928	104.831	110.049	91.799	102.167	101.279	112.773	100.478	65.598

T-Statistic are reported in parentheses.
* Indicate significance levels at 10%.
** Indicate significance levels at 5%.
*** Indicate significance levels at 1%.

The estimations result is shown in Table 1. Column 1 and 2 represent the estimation model for total government expenditure, while the other columns represent the estimation model for categories of government expenditure. The base model for this study is on column 1, and the result shows that the explanatory variables as a group are significantly able to explain the variability in the dependent variable, which is indicated by the F-statistic. The F-statistic shows that this model is significant and is able to reject the null hypothesis ($H_0: \beta_i = \beta_j = \beta_k \ldots = 0$). Furthermore, the adjusted R-squared suggest that 92.8% of variation in the dependent variable i.e. real GDP growth can be explained by these explanatory variables.

The classical growth theory suggested that capital will positively contribute to the economic development. Our result, however, shows that the effect of capital on economic growth is insignificant, even though it shows positive coefficient. In other words, the impact of capital on economic growth is not different from zero. This finding is inconsistent with result reported by Yasin (2000) and Alexiou (2009).

The second core variable i.e. labor variable which uses population growth as a proxy, shows a positive correlation with economic growth, as suggested by the neoclassical theory. Our base model shows coefficient of 0.596 which indicate that for every one percent increase in population growth, real GDP on average will increase by 0.596 percent, holding everything else constant. This coefficient is significant at 5% level of significance. However, the result is not robust, because in some models the result is not significant.

The effect of level of trade on economic growth turn out to be negative and significant in our base model. But this result is not robust as the other models show that the coefficient of trade is not significant which imply that the effect of trade on economic growth is not different from zero.

Our dummy variable, which conducted due to the presence of outliers and aim to capture the occurrence of economic crisis, is highly significant in explaining the variation of dependent variable at 1% level of significance, and the result is robust since the other models show same result. In our base model, the coefficient is -2.032 which imply that during economic crisis, the rate of GDP growth will be lower by 2.032% compare to non-crisis period, holding everything else constant.

Moving to our focal variables, which is the government spending and its categories. As a whole, government spending turns out to be negatively correlated with the economic growth and it is significant at 5% level of significance. It implies that a larger government spending will result in lower level of economic growth. The coefficient of -0.526 indicate that if government spending increase by one percent, the rate of GDP growth will reduce by 0.526 percent, holding everything else constant. This result is robust, as the second model where we include more control variables show similar result. Our finding is consistent with some studies in literature such as Barro (1997), Ghura (1995), and Nurudeen & Usman (2010).

However, when we split the government expenditure into two categories, namely operating expenditure and development expenditure, it turns out that only the development expenditure affects the economic growth significantly. The coefficient of development expenditure in the fourth model is -0.196, which mean that if government increase development expenditure by one percent, the level of GDP growth will decrease by 0.196%. This result is significant at 10%. On contrary, the operating expenditure is not significant in affecting the economic growth, similar to what have been reported by Attari & Javed (2013).

Moreover, we differentiate the government expenditure into four types of economic sectors, which are education, health, defense, and housing expenditure. The result shows that three of this classification, namely education, health, and defense, are insignificant in affecting economic growth. Only the expenditure on housing sector significantly affect the economic growth and its effect is negative on economic growth. Both model where we include the housing expenditure on

the model shows a negative coefficient of 0.076, which imply that one percent increase in housing expenditure will reduce the economic growth by 0.076%. Both results are significant at 10% level of significance. This finding is inconsistent with Alshahrani & Alsadiq (2014) which argue that spending in the housing sector boost production.

Overall, our findings indicate that government spending has a negative effect on the economic growth of Malaysia. However, we found out that not all of the government spending has led to the negative result. Operating expenditure as well as the education, defense and healthcare expenditure show no significant effect on the economic growth. Only the housing sector and development expenditure contribute negatively to the economic growth. One of possible reason is that Malaysian government has been used these expenditures excessively which lead to increased taxes and/or borrowing to finance the government expenditures, and this may hinder the overall economic performance. Moreover, as reported by Wahab (2011), the effects of government investment spending will turn negative when government investment spending growth exceeds its trend-growth.
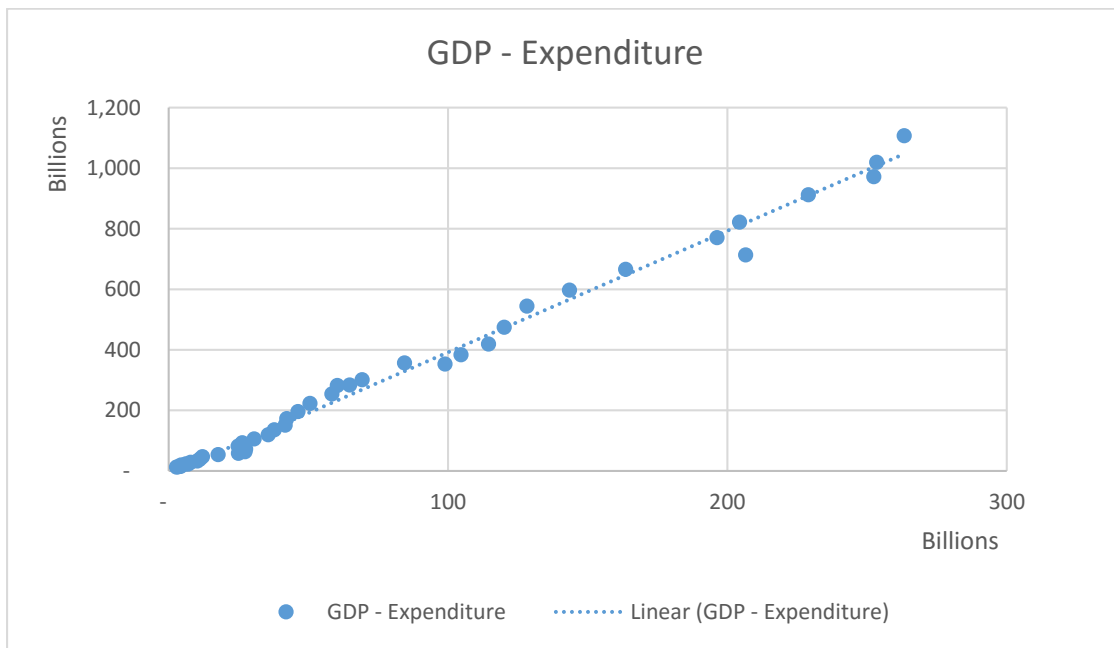

Figure 2. Relationship between Real GDP and Total Government Expenditure

In addition to our econometric analysis, we insert the data for expenditure and economic growth into scatter plot and found out a highly positive correlation between the variables. It indicates that both of these variables are moving in the same direction in the long-run. However, this finding may not be able to suggest any policy implications, as sole scatter plot is unable to explain the causality effect between these two variables. Analysis of causality would be useful as it can show us which variable affect the other, or is there any evidence of bi-directional causality.

5   CONCLUSION

The main objective of this paper has been to explore the relationship between government spending and economic growth in Malaysia, which is measured as the growth rate of real GDP. While, focusing on six government spending categories, namely housing, education, defense, healthcare, operating and development expenditures, we analyze the long-run relationship between economic growth and total expenditures. We employed OLS techniques in order to find the fixed effects of government spending on economic growth. We used time series data for Malaysia over the period of 1970 – 2014. The result shows that a larger government expenditure may lead to a lower economic growth. Moreover, as we classify the government expenditure into some categories, only two categories of government expenditure, namely development expenditure and housing expenditure, significantly lead to a lower economic growth. Moreover, we found that education, defense, healthcare, and development expenditure do not significantly contribute to the economic growth. These findings indicate that the Keynesian hypothesis is not applicable in Malaysia economy. In other words, the evidence indicates that the growth rate of real GDP is enhanced by smaller government expenditure.

Given the negative relationship between the government expenditure and economic growth, it may be a signal of which government expenditure is not a cause of economic growth, as what have been suggested by Wagner's law. Government is suggested to use the government expenditure in a better way and un-excessively. If government expenditure is utilized in the excess amount, the excessive development expenditure become unproductive at the margin (Attari & Javed, 2013). Moreover, fiscal policy can be used as macroeconomic instrument for the economic stability. Intensive government spending should be employed as an investment by allocating the funds in to productive sectors.

In addition, government needs to make sure that increment in government expenditure does not hurt the economy, particularly the economy of people within the country. If increment in government expenditure will lead to a higher taxes costs or higher borrowing which result on higher interest payable, government expenditure might not achieve its purpose of accelerating economic growth.

However, this study has limitation, which it does not include the causality test to find out the direction of causality between these two variables. Future research may look into this area to analyze which variable affect the other variable, or is there any evidence of bi-directional causality between government spending and economic growth. This test may give us a much more proper policy implication in designing the fiscal policy for the future economy.

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