Information Management and Business Review (ISSN 2220-3796)
Vol. 16, No. 3S(a), pp. 240-249, Oct 2024

The Impact of Government Expenditure on Economic Growth in Malaysia

Siti Nur Ayunie Binti Zawawi[1], *Chong Siew Huay[2], Tun Yin Li[3]
[1,]DISTED College, Pula Pinang, Malaysia
[2]Faculty of Business Management, Universiti Teknologi MARA, Malaysia
[3]Tunku Abdul Rahaman University of Management and Technology, Malaysia
yuniezawawi@gmail.com, *siewhuaychong@uitm.edu.my, tunyl@tarc.edu.my
Corresponding Author: Chong Siew Huay

Abstract: This study experimentally investigates the relationship between economic growth and government spending in Malaysia from 1990 to 2022 using time series data. The study analyzes the impact of total government spending on economic growth, covering housing, healthcare, social services, military, and education while identifying which sector has the most effect on economic growth. The Autoregressive Distributed Lag (ARDL) method is employed to evaluate the effects of these expenditures. The findings demonstrate that, in the short run, all variables significantly affect economic growth, hence refuting the null hypothesis. However, only trade openness and labor spending positively impact long-term economic growth. Research indicates that housing and education expenditures are the primary long-term drivers of economic growth in Malaysia. The data suggest that the Malaysian economy contradicts the Keynesian theory, as less government spending appears to improve the real GDP growth rate. The inverse relationship between government spending and economic growth indicates that government expenditure may not be the primary catalyst for economic growth, hence supporting Wagner's law. These findings provide policymakers with essential insights for optimizing government spending to improve economic development results.
.
Keywords: *Economic growth, ARDL, government expenditures, Keynesian, total expenditure*

1. Introduction and Background

Economic growth is fundamental to the prosperity of nations, characterized by an increase in the productive capacity of the economy, which in turn raises national output and income over time. Smith (2003) defines economic growth as the venture where the increasing level of production of the economy is realized over time to produce higher national income and output. This definition underscores the importance of GDP growth rates as key indicators of economic health.

Government expenditures are often considered an important indication for promoting and maintaining expansion in the economy. In recent decades, a growing number of economists and policymakers have expressed interest in the correlation between government expenditure and economic growth. Odo et al. (2016) highlighted the importance of government expenditure as an essential instrument for maintaining substantial economic growth rates. Government expenditure is an essential factor in facilitating economic recovery. Hasnul (2015) emphasizes that government expenditure significantly influences economic activity and the achievement of policy objectives. Among the others, Abdullah et al. (2016) further examine the positive correlation between government expenditure and economic growth, positing that government expenditure serves as an essential variable in promoting economic progress.

In Malaysia, government expenditure is a crucial factor that affects economic activity and policy objectives. Kannan et al. (2014) assert that government expenditure is essential for economic recovery, especially during periods of economic hardship. This is also supported by Ahuja & Pandit (2020) where increasing government expenditure is important for maintaining and achieving high levels of economic growth, as it can help stabilize the economy and foster development. Figure 1 illustrates the changes in Malaysia's gross domestic product growth from 1990 to 2022. Between 1990 and 2022, Malaysia's gross domestic product (GDP) exhibited substantial fluctuations, notably observing a significant decline from 7.3 in 1997 to -7.4 in 1998. The Gross Domestic Product (GDP) exhibits a significant fall from 2019 to 2020, shifting from an upward trend of 4.4 to a decline of -5.5, followed by another climb until 2022. This demonstrates that Malaysia persists in addressing external developmental challenges and risks associated with a more liberal economic framework, despite the substantial efforts conducted in macroeconomic governance. (Kamis et al., 2020). As we can see in Figure 1, Malaysia has been experiencing a fluctuating trend of economic growth despite the substantial government

efforts in macroeconomic management over the past 5 years, however, the economic growth is inconsistent. The study focuses on the significance of government expenditure on economic growth in Malaysia. The main objective of this article is to assess the impact of government expenditure on economic growth in Malaysia, employing data from 1990 to 2023. This research seeks to explain the impact of various government expenditures on GDP in promoting economic stability and development. Various categories of government spending—such as housing, healthcare, social services, defense, and education are employed to reaffirm the effectiveness of each government effectiveness on economic growth. This analysis is particularly important given the mixed results found in existing literature, where some studies indicate positive correlations between government spending and economic growth, while others suggest negative or insignificant effects.

Figure 1: Malaysia's GDP growth (annual %)

Source: World Bank Data

This study employed various indices of government spending on economic development. Uwatt's (2019) study highlights the important role of the housing sector in economic growth and development. The industry significantly impacts a nation's social and economic advancement. The research emphasized the crucial role of both government and private sectors in promoting sustainable growth and improving economic output through the development of high-quality housing. Moreover, IMF, (2023) stated that with the help of numerous initiatives, the housing sector's recovery can boost the economy and lead to general growth. In the context of government spending, "housing expenditure" usually refers to the money allotted or spent by the government on housing-related projects, programs, or subsidies. The purpose of government housing spending is to meet the population's housing needs, promote affordable housing, and address several housing sector issues.

In terms of healthcare, the study by Bloom et al., (2004) states that health is important to promote economic growth. Employees in better physical and mental health are more energetic and persistent. They produce more and make more money. According to the Ministry of Health, in 2019, Malaysia's GDP was 4.3% of its total health expenditure (TEH). A healthier workforce, higher productivity, and better health outcomes are frequently linked to higher healthcare spending, all of which can support economic growth. Spending more on healthcare is frequently linked to better health outcomes, higher productivity, and a healthier workforce which may contribute to economic expansion. (Bloom and Canning, 2003) For social expenditure, the study from (Alper & Demiral, 2016) concludes that social expenditures in all three dimensions can contribute substantially to economic expansion. The overall findings highlight the fact that, in the case of certain OECD countries, public spending can be profitable as an investment. The term "healthcare expenditure" refers to the money that the government sets aside or spends on infrastructure, services, and programs related to healthcare. The goal of this spending is to keep and enhance the population's health and well-being. The amount of money allocated by the government to healthcare varies depending on the priorities, policies, and healthcare system of the nation.

This study by Aziz & Asadullah(2017), found that the effect of military spending on growth in case of internal conflicts is positive and significant but, it is not confirmed when external conflicts exist. Farther than that, however, even though the studies directly targeting defense spending and national security in Malaysia are lacking, the government usually finances the national defense expenditure which is important for the growth

of the economy because of its impact on national security, stability and critical infrastructure protection. (Kamis et al., 2020)

For education expenditure, the study from Abdul Latif et al., (2007) suggests that there is a co-integrating relationship between GDP per capita and education as measured by primary, secondary, and higher education enrolment rates. Next, a study from Hussin et al., (2012) demonstrates the significance of human capital, such as education, in influencing Malaysia's economic growth. Based on the above existing literature, this study examines the impact of government expenditure by focusing on the above-mentioned five sectors including housing, healthcare, social, defense security, education expenditure, capital expenditure, trade openness and labor expenditure.

Next, in terms of capital expenditure, according to reports, one of the most important components of public spending for a nation's comprehensive and long-term economic growth is capital spending. Nevertheless, it is a difficult undertaking to manage capital expenditures, expenses, and distribution in an equitable way to achieve economic growth in each fiscal year. (Al-Sharif, 2019). Based on the above-mentioned studies, the paper will further investigate the role of government expenditure on economic growth by focusing on how various categories of government spending—such as housing, healthcare, social services, defense, and education-impact economic growth. Hence, the second objective of the paper.

The remaining of the study is organized into five sections. In section two, the paper addresses the existing theoretical and empirical literature on various government expenditures on economic growth; section three introduces estimation technique and methodology, section four shows the empirical research analysis and section five concludes the study and recommendations.

2. Literature Review

The relationship between government spending and economic growth has been a commonly examined subject in economic studies. Wagner's Law and Keynesian Theory influence the relationship by providing various perspectives on the function of government expenditure. Wagner’s Theory posits that as an economy grows, government expenditure increases, whereas economic growth leads to higher public spending due to increased demand for public services and infrastructure. According to this theory, as the economy evolves, the government's activities and functions tend to expand. Consequently, the proportion of public spending relative to national income typically rises during economic development (Magazzino et al. 2015). Economic growth, or GDP, refers to the increases in an economy's productive capacity, leading to the creation of a significantly greater quantity of goods and services. Several studies support Wagner’s hypothesis, showing a positive correlation between economic growth and government spending. For instance, Wu et al. (2010) found a bidirectional causal relationship between government expenditure and economic growth regardless of the perspective on the size of the government using data from 182 countries. In a similar study by Uzuner et al. (2017), the long-term correlation between public spending and economic growth is found in Turkey, supporting Wagner’s law with Johansen's cointegration test and Granger's causality test for the period from 1975 to 2014.

Keynes (1936) argued in his book "General Theory of Employment, Interest, and Money" that governments must step in during economic downturns to boost aggregate demand as a short-term remedy. As Government spending is one of the determinants of aggregate demand, any upward movement of it leads to the multiplier that increases output and employment. Keynes argued that government spending is fiscal policy and is a mechanism for affecting the economy. As a result, he asserted that public spending was exogenous. This is consistent with an Italian study by Magazzino et al., (2015), who supports the Keynesian theory of government expenditure. Additionally, the research conducted in Nigeria by Ayo et al. (2011) demonstrates a two-way causal relationship between government expenditures and economic growth that operates in both the short- and long-term. Among the others, Jiranyakul (2020) and Babatunde (2011) for Nigeria. By using Granger's causality test and conducting a cross-country investigation in five Asian nations, Wu et al., (2010) discovered a Keynesian connection only in the Philippines case.

The empirical findings on the correlation between government spending and economic growth cover various sectors including housing, healthcare, social services, defense, education, capital, trade openness, and labor. In the early stages of development, governments in countries like China and South Korea often discouraged housing investments, believing that they yielded lower returns compared to manufacturing and infrastructure sectors. However, more recent studies highlight the significant role of housing in economic growth. Housing investments contribute to job creation, income generation, and overall economic development. For example, Uwatt (2019) noted that improved housing can enhance productivity in other economic areas. Andrews et al. (2011) further emphasized the need for better housing policies to promote economic growth, advocating for targeted social housing systems and flexible housing allowances.

The World Health Organization (WHO) asserts that healthcare spending is a significant component of national budgets, offering substantial opportunities to impact national economies. Health is both a desirable outcome and a key determinant of economic productivity. Grossman (2004) described health as a commodity that individuals both produce and consume. Healthier populations are more productive, which boosts economic growth. Studies in East Africa (Gisore, 2020) and Malaysia (Kamis et al., 2020) have found positive correlations between healthcare expenditure and economic growth. However, some studies, like those by Hasnul (2015) and Velenyi (2016), suggest a complex relationship between health spending on economic growth, indicating the health channel is country-specific, and the effects on economic growth may vary by context.

Among the others, Alam et al. (2010) examined the long-term effects of social sector spending on economic growth in developing Asian nations, finding positive impacts. Social sector spending, including on health, nutrition, housing, education, and social security, is generally seen as beneficial for the economy. Social expenditures also improve employment opportunities, income levels, and productivity, which in turn foster economic growth. The positive and long-run relationship between social expenditures and economic growth is also supported by Ayuba & Ayuba (2014). Ayuba & Ayuba (2014) used Vector Error Correction (VEC) model-based causality to examine the impact of social expenditures and economic growth in Nigeria between 1990 to 2009.

The relationship between defense spending and economic growth is complex and contentious. Benoit (1978) found that defense expenditures had a positive impact on economic growth in less developed countries, a finding known as the "Benoit Hypothesis." However, more recent studies present mixed results. Yildirim & Ocal (2016) observed a positive effect of military spending on economic growth in Middle Eastern countries, while Braşoveanu (2010) found that defense spending negatively affected economic growth in Romania.

Investment in education is crucial for developing human capital, which is a key driver of economic growth. Studies in developing countries (Idrees & Siddiqi, 2013) and Malaysia (Hussin et al, 2012) found that education spending positively correlates with GDP growth. The quality of education is capable of increasing a country's economic growth. However, some existing studies (Suwandaru et al, 2021) argue that the relationship between education and economic growth is not always straightforward, suggesting that other factors may influence this relationship in Indonesia.

Government capital expenditure on infrastructure and other investment goods is essential for economic growth. Empirical research by Waweru (2021) confirmed the positive relationship between government capital expenditure and economic growth in East Africa by using the panel least square (OLS) method. Nonetheless, some studies, like those by Paudel (2023), question the assumption that all capital expenditures equally contribute to growth, indicating that the effectiveness of such investments can vary.

Overall, the theoretical examination emphasizes Wagner and Keynes's views as the most significant theories for comprehending the relationship between government expenditure and economic growth. Keynesian theory emphasizes the use of fiscal policies, including increased government expenditure, to stimulate economic activity during recessions. In summary, the existing theoretical and empirical literature provides a comprehensive foundation for examining the impact of different types of government expenditures on economic growth across different countries. While some studies support a positive relationship between government expenditure and economic growth, others indicate insignificant effects.

3. Research Methodology

This study focuses on the impact of government expenditure on economic growth in Malaysia from 1990-2022. The data are sourced from the World Bank and include GDP per capita, and expenditures on housing, healthcare, social services, defense, education, capital, trade openness, and labor participation. The measurements for each variable are summarized in Table 1.

Table 1: Variable's definition and proxies' measurement

Variables	Proxies	Explanation
GDP	Gross domestic product used to measure economic growth in Malaysia	GDP per capita at local currency unit (LCU)
EXP	The total government expenditure in different sectors includes housing expenditure, healthcare expenditure, social expenditure, defense expenditure, and education expenditure.	All the government expenditure is in Ringgit Malaysia (RM)
C	Gross capital fixed as a proxy to measure capital in Malaysia	Constant local currency unit (LCU)
OPEN	Trade Openness	Constant local currency unit (LCU)
LB	Labor	Labor force, total

We employed a time series analysis to examine data made up of evaluations of the values of variables at various points in time. The model is employed to comprehend the basic components and strengths of the observed data.

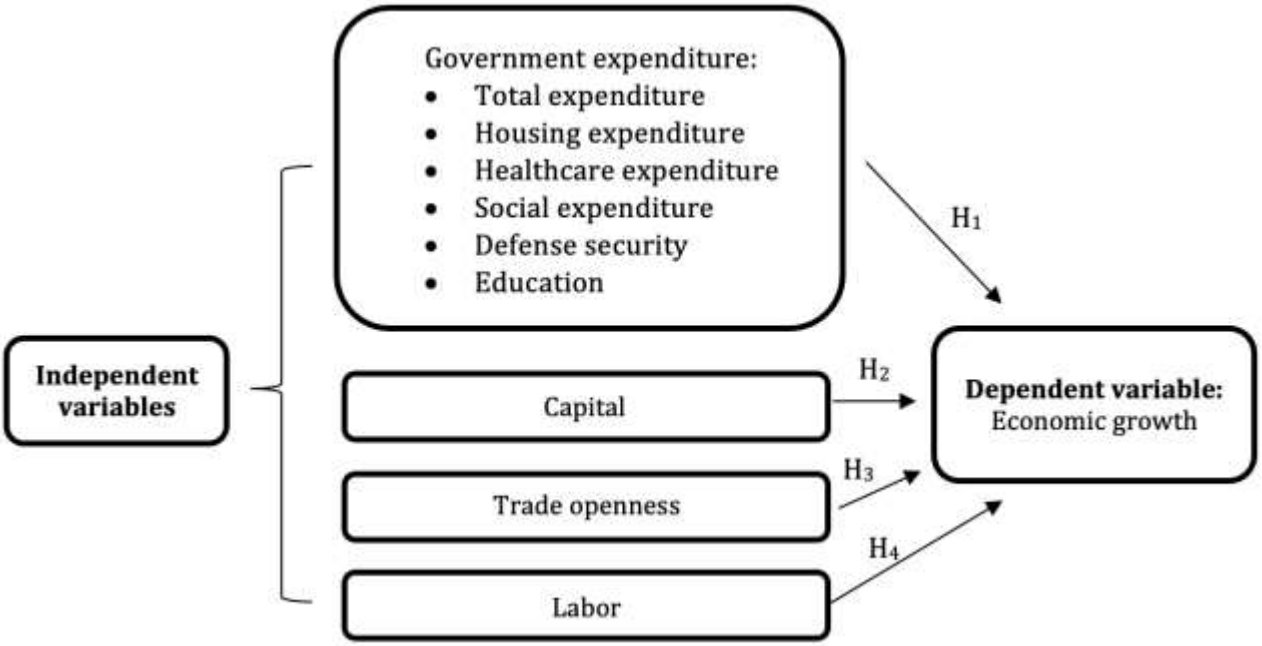
EQ(1) below is the model specification:

$$GDP_t = \beta_0 + \beta_1 EXP_t + \beta_2 C_t + \beta_3 OPEN_t + \beta_4 LB_t + \varepsilon_t$$

Where
GDP = economic growth
EXP = government expenditure
C = capital
OPEN = trade openness
LB = labor
ε = error term

Trade openness and labor force participation are added into the model specification as a vital catalyst for economic growth, enhancing market access and resource allocation. Studies by Huang and Chang (2014) and Tahir and Azid (2015) found positive correlations between trade openness and economic growth. Wong (2005) also highlighted the significant impact of trade openness on Malaysia's economic growth. Studies in Indonesia by Nadilla and Ichsan (2023) show that higher labor force participation rates positively impact GDP. The quality and availability of labor are crucial for sustaining economic development, as highlighted by Jajri and Ismail (2010).

Figure 2: Theoretical Framework



From the theoretical framework in Figure 2, we expect that the Malaysian economy will adhere to the endogenous growth theory and the Keynesian hypothesis, which contend that increased government spending may accelerate economic growth. As a result, all the independent variables are expected to be positively correlated with the GDP aside from the error term, which will likely be zero.

4. Results and discussion

The analysis starts with descriptive statistics testing, followed by unit root testing using the Augmented Dickey-Fuller test. The autoregressive distributed lag (ARDL) short-run estimation approach was also implemented to measure the short-run impact as well as the ARDL Bound test to measure long-run impact. All variables are estimated in logarithm form. According to the ADF test results, all the variables were stationary at the first difference, and none were stationary at a level as shown in Table 2.

Table 2: Unit root test

	Augmented Dickey-Fuller (ADF)	
Variables	**Level**	**First Difference**
GDP	0.4889	0.0000
EXP	0.5143	0.0008
C	0.4555	0.0000
OPEN	0.0656	0.0089
LB	0.9493	0.0019

There were 162 models assessed, and the best-fitting ARDL model selected through the regression method for this dataset was ARDL (2,0,2,0,0). The Schwarz criteria (SIC) was chosen as the model selection approach since it produces a lower value for the model, which is preferable.

The ARDL short-run estimation mainly determines the short-run relationship between the dependent variable, GDP, and the independent and control variables in this study, EXP, C, OPEN, and LB. The results in Table 3 show that all of the factors have a short-run association with GDP. Two of the variables, EXP and C, indicate a negative short-run association, but OPEN and LB show a positive relationship with GDP.

For the bound test and long-run estimation, the findings in Table 4 reveal that the value of the F-statistic is 15.48471, indicating that it is greater than the upper bound values at a 5% significance level. The results show that there is cointegration in the dataset, demonstrating the presence of a long-run link in this model.

The result for the long-run estimation is shown in Table 5. Based on the result, two of the variables shown to have a positive long-run relationship with the GDP are OPEN and LB meanwhile another variable EXP and C show a negative long-run relationship with GDP. This can conclude that in the long run, some of the variables are significant namely EXP, OPEN and LB which indicates the null hypothesis. Is rejected. It means that there is a significant relationship between total government expenditure, trade openness and labor expenditure with economic growth. Meanwhile, for LB, this study accepts the null hypothesis which states that there is no significant relationship between capital expenditure and economic growth.

Table 3: ARDL short-run estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP (-1)	0.278003	0.152140	1.827287	0.0813
GDP (-2)	0.188542	0.152340	1.237641	0.2289
EXP	-0.069851	0.022929	-3.046378	0.0059
C	0.090716	0.034138	2.657365	0.0144
C (-1)	-0.026957	0.039093	-0.689557	0.4977
C (-2)	-0.097771	0.034356	-2.845828	0.0094
OPEN	0.343705	0.055771	6.162779	0.0000
LB	0.667848	0.222388	3.003079	0.0065
Constant	-13.45450	3.076787	-4.372907	0.0002

Table 4: Bound test

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	15.48471	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Table 5: ARDL long-run estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXP	-0.130940	0.055125	-2.375350	0.0267
C	-0.063758	0.084252	-0.756751	0.4572
OPEN	0.644301	0.142980	4.506226	0.0002
LB	1.251931	0.177751	7.043156	0.0000

Next, the estimation divides government spending into five economic sectors: housing, healthcare, social, defense security, and education expenditure. Based on the results of the long-run ARDL test reported in Table 6, this study concludes that two categories of expenditures provide considerable value: housing and education expenditures. This conclusion contradicts Alshahrani and Alsadiq's (2014) claim that expenditure in the housing sector boosts output. Meanwhile, findings confirming Kamis et al.'s (2020) analysis indicate a negative relationship between education expenditure and Malaysian economic growth.

Table 6: ARDL long-run estimation with disaggregate government expenditure

Explanatory Variables	ARDL 1	ARDL 2	ARDL 3	ARDL 4	ARDL 5
Capital	0.048478	-0.014593	0.021376	0.011505	-0.025488
	(0.1402)	(0.7606)	(0.6050)	(0.7939)	(0.5299)
Trade Openness	0.467564	0.173930	0.169165	0.190329	0.329883
	(0.0000)	(0.0205)	(0.0409)	(0.0151)	(0.0000)
Labor	0.569335	0.020244	0.255214	0.334477	0.555127
	(0.0119)	(0.9572)	(0.4764)	(0.3326)	(0.0276)
Housing Expenditure	-0.047527	-	-	-	-

	(0.0021) ***				
Healthcare Expenditure	-	-0.015847 (0.3773)	-	-	-
Social Expenditure	-	-	0.001244 (0.9545)	-	-
Defense Security	-	-	-	-0.016558 (0.5678)	-
Education Expenditure	-	-	-	-	-0.046214 (0.0031) ***

5. Conclusion

According to the results and discussion, this study found that the changes in independent variables, total expenditure which sum of housing, healthcare, social, defense security and education expenditure meanwhile control variables are capital, trade openness and labor had an impact on economic growth in the short run and long run. The result obtained by the ARDL test and Bound Test indicates that there is a long-run relationship between variables.

These findings show that the Malaysian economy does not fit the Keynesian hypothesis. In other words, the evidence suggests that lower government expenditure improves the real GDP growth rate. The fact that government spending and economic growth have a negative relationship suggests that it may be a signal that government expenditure is not a cause of economic growth, as has been suggested by Wagner's law.

Based on the estimated result, the total expenditure has been found to have a significant impact on economic growth in Malaysia. The total expenditure is the sum of housing, healthcare, social, defense security and education expenditures. In detail, for housing, this outcome is consistent with the findings by past researcher Uwatt, (2019) states that there is an excellent possibility that the housing industry and the services it provides will spur economic expansion and development. The housing industry has been used as a growth engine in many of the world's economies.

Subsequently, in the context of healthcare, this finding aligns with Kamis et al. (2020), which asserts that healthcare represents the most significant component of government expenditure impacting economic growth in Malaysia. Additionally, the study by Alam et al. (2010) concludes that social sector expenditures can influence economic growth. Social expenditures enhance productivity through the provision of infrastructure, healthcare, and education, while also resolving the interests of public and private sectors. This outcome aligns with findings from prior research regarding defense security. Yildirim and Ocal (2016) demonstrate that military spending and GDP exhibit a close geographical variation. Exploratory spatial analysis indicates a statistically significant positive spatial association between real income and military spending. In the meantime, with respect to education expenditure, analysis within 14 Asian countries (Bangladesh, China, Hong Kong, India, Japan, Nepal, Pakistan, Malaysia, The Philippines, Saudi Arabia, Singapore, Sri Lanka, Thailand, and Turkey) indicate a positive and statistically significant effect of education expenditures on economic development (Mallick et al, 2016). in summary, this study concludes that total expenditures, covering housing, healthcare, social services, defense security, and education, can enhance economic growth in Malaysia.

Other than that, capital which uses gross capital fixed as a proxy, the result indicates that the impact on economic growth is insignificant. According to the classical growth theory, capital will advance economic development. This result is inconsistent with the results reported by Alexiou (2009). Meanwhile, for trade openness which uses the total of imports and exports as a proxy, the results show a significant impact on economic growth. This supports the previous study by Hasnul (2015) states that the effect of the level of trade on economic growth turns out to be negative and significant in the base model. Lastly for labor, this study indicates that labor also has a significant impact on fostering economic growth in Malaysia. A past study from Hasnul(2015), shows a positive correlation with economic growth.

This research has several limitations. The study only examines a small number of distinct economic sectors. This may have an impact on the variables' ability to depend on one another. It also takes time to look at every facet of the economy. Every variable takes time to produce, and in Malaysia, there aren't as many variables available to measure the government's expenditures as there are in the World Bank's data. The policy implications of a study on government expenditure and economic growth are crucial for guiding policymakers in formulating effective strategies to foster sustainable development. In this study, some variables show a positive significant impact on economic growth which are trade openness and labor expenditure. Hence, policymakers may consider maintaining or increasing fiscal stimulus during economic downturns to boost aggregate demand. Meanwhile, for the insignificant which indicates that the expenditure does not influence the economic growth, a more cautious approach to budgeting may be necessary.

Recommendations

As for the recommendation for better future research in government expenditure, the researcher can expand the empirical study with cross-country comparison as the effects may vary from different country settings. By comparing the role of government expenditure on economic growth with different country settings, it can identify best practices and possible areas for improvement. Apart from that, the econometric analysis will also assist in giving Malaysian policymakers direction on how to comprehend and investigate the key elements influencing economic growth. They could find new measurements that were possibly overlooked because the country's trends are always shifting.

References

Abdul Latif, N. W., & Mohamed Yusof, N. Y. (2007). The impact of education on economic growth: The case of Malaysia.

Abdullah, H., Azam, M., & Zakariya, S. K. (2016). The impact of environmental quality on public health expenditure in Malaysia. *Asia Pacific Journal of Advanced Business and Social Studies (APJABSS)*, *2*(2), 365-379.

Ahuja, D., & Pandit, D. (2020). Public expenditure and economic growth: Evidence from developing countries. *FIIB Business Review*, *9*(3), 228-236.

Alam, S., Sultana, A., & Butt, M. S. (2010). Does social expenditures promote economic growth? A multivariate panel cointegration analysis for Asian countries. *European Journal of Social Sciences, 14*(1), 44-54.

Alexiou, C. (2009). Government spending and economic growth: Econometric evidence from the South Eastern Europe. *Journal of Economic and Social Research, 11*(1), 1-16.

Alper, F. O., & Demiral, M. (2016). Public social expenditures and economic growth: Evidence from selected OECD countries. *Research in World Economy*, *7*(2), 44-51.

Alshahrani, S., & Alsadiq, A. (2014). Economic growth and government spending in Saudi Arabia: An empirical investigation. *International Monetary Fund Working Papers*.

Andrews, D., Sánchez, A. C., & Johansson, Å. (2011). Housing markets and structural policies in OECD countries. *OECD Economics Department Working Papers, 836*.

Ayo, J. O., Obidi, J. A., & Rekwot, P. I. (2011). Effects of heat stress on the well-being, fertility, and hatchability of chickens in the Northern Guinea Savannah Zone of Nigeria: A review. *International Scholarly Research Notices*, 1, 838606.

Ayuba, A., & Ayuba, A. (2014). The impact of social expenditures on economic growth in Nigeria: 1990-2009. *Journal of Economics and Sustainable Development, 5*(17), 60-73.

Aziz, N., & Asadullah, M. N. (2017). Military spending, armed conflict and economic growth in developing countries in the post-Cold War era. *Journal of Economic Studies*, *44*(1), 47-68.

Babatunde, A. (2011). Trade openness, infrastructure, FDI and growth in sub-Saharan African countries. *Journal of management policy and practice*, *12*(7), 27.

Benoit, E. (1978). Growth and defense in developing countries. *Economic Development and Cultural Change, 26*(2), 271-280.

Bloom, D. E., Canning, D., & Jamison, D. T. (2004). Health, wealth, and welfare. *Finance and development*, *41*, 10-15.

Bloom, D., & Canning, D. (2003). Health as human capital and its impact on economic performance. *The Geneva Papers on Risk and Insurance. Issues and Practice*, *28*(2), 304-315.

Braşoveanu, L. O. (2010). The impact of defense expenditure on economic growth: A Romanian case study. *Romanian Journal of Economic Forecasting, 13*(1), 148-165.

Gisore, M. (2020). Analysis of county government expenditure and county economic growth in Kenya. Doctoral dissertation, Egerton University.

Grossman, M. (2004). The demand for health, 30 years later: A very personal retrospective and prospective reflection. *Journal of Health Economics, 23*(4), 629-636.

Hasnul, A. G. (2015). The effects of government expenditure on economic growth: The case of Malaysia. *International Journal of Social Science and Humanity, 5*(5), 38-45.

Huang, L. C., & Chang, F. H. (2014). Revisit the nexus of trade openness and GDP growth: Does the financial system matter? *The Journal of International Trade and Economic Development, 23*(7), 1038-1058.

Hussin, M. Y. M., Muhammad, F., Hussin, M. F. A., & Razak, A. A. (2012). Education expenditure and economic growth: A causal analysis for Malaysia. *Journal of Economics and Sustainable Development, 3*(7), 71-81.

Idrees, A. S., & Siddiqi, M. W. (2013). Does public education expenditure cause economic growth? Comparison of developed and developing countries. *Pakistan Journal of Commerce and Social Sciences, 7*(1), 174-183.

Jajri, I., & Ismail, R. (2010). Impact of labor quality on labor productivity and economic growth. *African Journal of Business Management, 4*(4), 486.

Jiranyakul, K. (2020). Government expenditures and economic growth: A cointegration analysis for Thailand under the floating exchange rate regime. Available at SSRN: https://ssrn.com/abstract=3597334

Kamis, R., Abd Majid, H. N., & Ramlee, N. I. (2020). Government expenditures and economic growth. *Social and Management Research Journal, 17*(2), 241-262. https://doi.org/10.24191/smrj.v17i2.10533

Kannan, P., Scott, A., & Terrones, M. E. (2014). From recession to recovery: How soon and how strong. *Financial Crises: Causes, Consequences, and Policy Responses*, 239-276.

Magazzino, C., Giolli, L., & Mele, M. (2015). Wagner's Law and Peacock and Wiseman's displacement effect in European Union countries: A panel data study. *International journal of economics and financial issues*, *5*(3), 812-819.

Mallick, J., Varghese, P., & Viswanathan, M. (2016). The impact of education expenditures on economic development: Evidence from 14 Asian countries. *Journal of Economics and Development Studies, 4*(2), 14-28.

Nadilla, R., & Ichsan, I. (2023). The effect of inflation, labor force participation rate and exports on economic growth in Indonesia, *Journal of Malikussaleh Public Economics,6*(2), 20-32.

Odo, S. I., Nwachukwu, J. O., E Agbi, P., & Okoro, T. O. (2016). Analysis of government expenditure and economic growth in Nigeria: Application of Co integration Methodology. *Asian Research Journal of Arts & Social Sciences*, *1*(4), 1-17.

Paudel, R. C. (2023). Capital expenditure and economic growth: A disaggregated analysis for Nepal. *Cogent Economics & Finance, 11*(1), 2191449.

Smith, A. (2003). *An inquiry into the nature and causes of the wealth of nations* (E. Canaan, Ed). Modern Library.

Suwandaru, A., Alghamdi, T., & Nurwanto, N. (2021). Empirical analysis on public expenditure for education and economic growth: Evidence from Indonesia. *Economies, 9*(4), 146.

Tahir, M., & Azid, T. (2015). The relationship between international trade openness and economic growth in the developing economies: Some new dimensions. *Journal of Chinese Economic and Foreign Trade Studies, 8*(2), 123-139.

Uwatt, U. B. (2019). The housing sector, economic growth and development: conceptual issues and theoretical underpinnings. *Economic and Financial Review, 57*(4), 4.

Uzuner, G., Bekun, F. V., & Saint Akadiri, S. (2017). Public expenditures and economic growth: Was Wagner right? Evidence from Turkey. *Academic Journal of Economic Studies, 3*(2), 36-40.

Velenyi, E. V. (2016). Health care spending and economic growth. In *World Scientific Handbook of Global Health Economics and Public Policy: Volume 1: The Economics of Health and Health Systems* (pp.1-154).

Waweru, D. (2021). Government capital expenditure and economic growth: An empirical investigation. *Asian Journal of Economics, Business and Accounting, 21*(8), 29-36.

Wong, H. T. (2005). Openness, financial development and economic growth in Malaysia. *International Journal of Business and Society, 6*(1), 93.

Wu, S. Y., Tang, J. H., & Lin, E. S. (2010). The impact of government expenditure on economic growth: How sensitive to the level of development? *Journal of Policy Modeling, 32*(6), 804-817.

Yildirim, J, & Ocal, N. (2016). Military expenditures, economic growth and spatial spillover. *Defence and Peace Economics, 27*(1), 87-104.