

The Granger Causality on Economic Growth and Government Expenditure in Asean

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ABSTRACT

The expansion of the economy and public expenditure are central issues in a country's macroeconomic analysis, which is generally analyzed through two main approaches, namely the Keynesian and Wagnerian perspectives. The purpose of this study is to explore the cause-and-effect relationship between economic growth and government spending in selected ASEAN countries, namely Indonesia, Malaysia, Singapore, and Thailand, throughout the 1974–2023 timeframe. The Granger causality method was applied to perform the analysis. The results indicate that only in Singapore is there a one-way causal relationship from economic growth to government spending. This means that increased economic growth drives an increase in public spending. This finding supports the applicability of Wagner's law in Singapore, where growing economic activity is followed by increased government fiscal intervention in the form of public service provision. Conversely, in Indonesia, Malaysia, and Thailand, no significant causal relationship was found, either one-way or two-way. This indicates that neither the Keynesian nor Wagnerian views have been empirically proven in these three countries during the observation period. In these countries, economic growth has not directly driven an increase in government spending, and conversely, government spending has not been proven to drive economic growth. Therefore, in terms of policy, Singapore needs to continue to maintain and enhance its economic growth in order to expand the provision of public facilities.

Keywords: Economic Growth, Government Spending, Granger Causality

INTRODUCTION

Southeast Asian countries already come out as a region with rapid economic growth in the global economy and play a significant role in the Asia-Pacific region in recent decades (Global, 2025). The short-term economic outlook for Southeast Asia in 2024 remains optimistic, driven by continued rising domestic demand in several major economies in the region. Several countries have recorded significant economic growth, driven by various factors. One element that plays a crucial role in supporting Southeast Asia's economic growth is government spending.

Government spending is one of main tools in accelerating economic growth, particularly in developing countries. Governments are usually being the primary drivers of development through the budget allocation for various strategic projects to strengthening economic foundations, creating jobs, and improving the quality of life and well-being of all levels of society (Priyono & Chandra, 2016).

Wagner theory states that economic growth stimulates increased government spending along with increasing demand for public services. Meanwhile, Keynesian theory emphasizes that increased government spending can stimulate economic growth, especially in facing global uncertainty (Pasaribu & Septriani, 2021). However, some studies shows varying conditions across countries, which is developed countries exhibit negative effects, while developing

countries tend to experience positive effects on economic growth when allocated to productive sectors such as education and infrastructure (Sanz-Sanz, 2022).

The selection of four ASEAN countries Indonesia, Malaysia, Singapore, and Thailand was based on their significant economic contributions and strategic role in driving growth in the Southeast Asian region. As developing countries, Indonesia and Malaysia have significant potential, boasting vast domestic markets and abundant natural resources. Both countries also demonstrate consistent growth trends and strong economic resilience to various global shocks. On the other hand, Singapore and Thailand, represent more developed and open economies, with highly supportive infrastructure and active involvement in international trade and cross-border investment flows. These four countries form a solid foundation for the region's economy, making them as representative subjects of study in regional economic analysis (World Bank, 2024).

Furthermore, these four countries exhibit active and relatively stable fiscal policies from a macroeconomic perspective, making them relevant for analysis in the context of the long-term relationship between government spending and economic growth. Maintaining fiscal and financial stability, along with adequate institutional capacity, enables these four countries to effectively implement public policy interventions in response to economic dynamics. By considering the variations in each country's economic structure and fiscal approach, this study enriches its comparison of how economic growth influences government spending policy, and vice versa, within the context of ASEAN regional economic integration (Kurniati et al., 2024).

The following graph shows of GDP and government spending growth in 4 ASEAN countries.

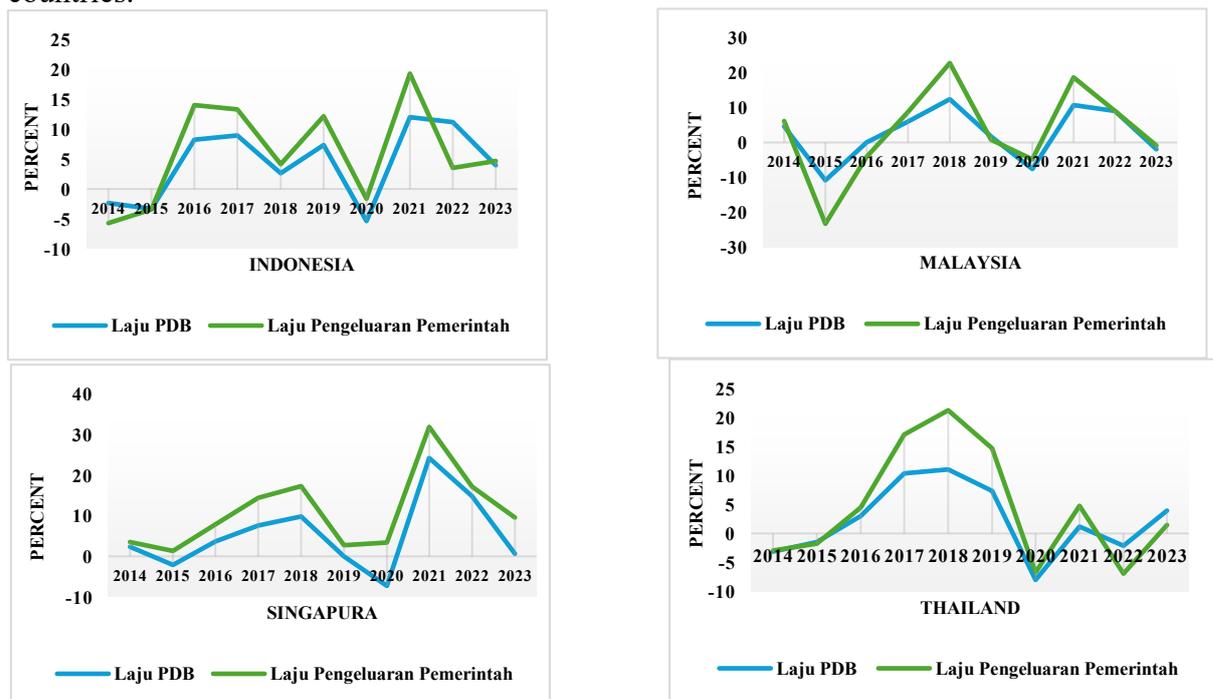


Figure 1. GDP and Government Spending Growth in ASEAN in 2014-2023 (Percent)

Figure 1 shows the fluctuating of economic growth and government spending trends from 2014 to 2023 in Indonesia, Malaysia, Singapore, and Thailand. Indonesia faced a sharp decline in GDP growth in 2015 and 2020, along with a decline in government spending. This indicates a link between government spending and the pace of economic recovery. Malaysia recorded high growth in 2018 and 2021, followed by fluctuating government spending. Singapore demonstrated a very strong economic recovery in 2021 and maintained its high growth in 2022, accompanied by a consistent increase in government spending, reflecting strong fiscal support. However, in 2023, the decline in economic growth was not accompanied by a decline in government spending, indicating efforts to maintain fiscal stability. Thailand demonstrated high growth in 2018 and 2019, accompanied by high government spending. However, in 2022, there was a decline in government spending, indicating fiscal restraint or a change in budget priorities. It can be concluded that the four countries exhibited a pattern of sharp contraction due to the pandemic in 2020, followed by a strong recovery in 2021–2022, and an adjustment or slowdown in 2023, which emphasizes the important role of government spending in supporting economic growth amid global pressures and uncertainty.

Based on this explanation, it can be concluded that GDP growth patterns in the ASEAN region, including countries such as Indonesia, Malaysia, Singapore, and Thailand, are thought to be influenced by fiscal policy, particularly in analyzing how responsive and effective government spending is in responding to economic dynamics. Countries that are able to strategically increase government spending during crises, such as during the COVID-19 pandemic, tend to recover their economies more quickly. This demonstrates that government spending is not only a tool for driving short-term economic growth but also plays a crucial role in creating stability and sustainable development.

The relationship between government spending and economic growth is a major focus in economic literature. Keynesianism emphasizes that government spending plays an active role in stimulating aggregate demand and economic recovery, particularly during recessions or crises. Conversely, Wagner's Law states that as economic growth increases, the need for and demand for public services also increases, which in turn triggers increased government spending. Both perspectives illustrate the dynamic and mutually influencing relationship between government spending and economic growth. Therefore, understanding the direction of this relationship is crucial for formulating effective economic policies in the ASEAN region.

There is debate regarding the direction of the causal relationship between economic growth and government spending. Several studies support the Keynesian view, which emphasizes the role of government spending in driving growth. Moedy & Ling (2024) found that capital spending has a significantly positive impact on growth, in line with the findings of Fatimah et al. (2024) and Hasanah et al. (2022) regarding infrastructure spending. Dewi & Sarfiah (2022) concluded that government spending has a positive effect on GDP over the long term, although it is not significant in the short term. Sinha (2023) and Jama et al. (2024) also show that increased government spending can significantly boost income growth.

Meanwhile, research by Hanifah et al. (2019) supports Wagner's theory that economic growth drives increased public spending through a positive correlation. Novela & Aimon (2019)

and Wahyudi (2020) also found a one-way causal relationship from economic growth to government spending. Ibon & Irfan (2024) corroborate these findings with evidence of a significant effect of economic growth on military spending. This contrasts with the research findings of Karagianni et al. (2024), which support Keynes and Wagner's theory by finding a causal relationship between government spending and economic growth. Similar results were obtained by Lubis et al. (2023) and Ismail et al. (2024), demonstrating a reciprocal relationship between government investment and growth, confirming the interaction between the two in driving economic development.

Based on the above description of the causal relationship between economic growth and government spending, a link is suspected. This is based on the results of previous research, which showed both pros and cons in each country. The next study focused on the causal relationship between government spending and economic growth in four ASEAN countries: Indonesia, Malaysia, Singapore, and Thailand.

METHODS

The main focus of this study is to identify the causal relationship between economic growth and government spending in four ASEAN countries: Indonesia, Malaysia, Singapore, and Thailand. The analysis was conducted using economic growth and government spending data taken from World Bank publications. The data is secondary data in the form of annual time series covering the period 1974 to 2023. Other ASEAN countries such as Brunei Darussalam, the Philippines, Cambodia, Myanmar, Laos, and Vietnam are not included in the scope of this study due to limited availability of the necessary data.

The Granger causality test is an analytical method used to identify causal relationships between variables, where independent variables can influence dependent variables, and vice versa, independent variables can also act as dependent variables (Gujarati & Porter, 2013). This test aims to observe causal relationships between variables in a model by considering the influence of past values on current conditions, making it very suitable for use with time series data. The general form of this test model is as follows:

$$X_t = \sum_{i=1}^n a_i X_{t-i} + \sum_{i=1}^n \beta_i Y_{t-i} + e_{1t} \dots\dots\dots(3.1)$$

$$Y_t = \sum_{i=1}^m \delta_i Y_{t-i} + \sum_{i=1}^m \phi_i X_{t-i} + e_{2t} \dots\dots\dots(3.2)$$

Where:

- X_t : Variable X in period t
- Y_t : Variable Y in period t
- t : Time Series
- n : Number of lag
- e_{1t} : Error term

Based on the previous model specifications, thus, the model in this study can be described as follows:

$$\text{Indonesia_PE}_t = \sum_{i=1}^n a_i \text{PE}_{t-i} + \sum_{i=1}^n \beta_i \text{PP}_{t-i} + e_{1t} \dots\dots\dots(3.3)$$

$$\text{Indonesia_PP}_t = \sum_{i=1}^m \alpha_i \text{PP}_{t-i} + \sum_{i=1}^m \beta_i \text{PE}_{t-i} + e_{2t} \dots\dots\dots(3.4)$$

$$\text{Malaysia_PE}_t = \sum_{i=1}^n a_i \text{PE}_{t-i} + \sum_{i=1}^n \beta_i \text{PP}_{t-i} + e_{1t} \dots \dots \dots (3.5)$$

$$\text{Malaysia_PP}_t = \sum_{i=1}^m a_i \text{PP}_{t-i} + \sum_{i=1}^m \beta_i \text{PE}_{t-i} + e_{2t} \dots \dots \dots (3.6)$$

$$\text{Singapura_PE}_t = \sum_{i=1}^n a_i \text{PE}_{t-i} + \sum_{i=1}^n \beta_i \text{PP}_{t-i} + e_{1t} \dots \dots \dots (3.7)$$

$$\text{Singapura_PP}_t = \sum_{i=1}^m a_i \text{PP}_{t-i} + \sum_{i=1}^m \beta_i \text{PE}_{t-i} + e_{2t} \dots \dots \dots (3.8)$$

$$\text{Thailand_PE}_t = \sum_{i=1}^n a_i \text{PE}_{t-i} + \sum_{i=1}^n \beta_i \text{PP}_{t-i} + e_{1t} \dots \dots \dots (3.9)$$

$$\text{Thailand_PP}_t = \sum_{i=1}^m a_i \text{PP}_{t-i} + \sum_{i=1}^m \beta_i \text{PE}_{t-i} + e_{2t} \dots \dots \dots (3.10)$$

Where:

- PE_t : Economic Growth in period t
- PP_t : Government Expenditure in period t
- t : Time Series Data
- i : Cross section
- n : Number of lag
- e_{1t} : Error term

RESULTS AND DISCUSSION

RESULT

Descriptive Statistics

Descriptive statistical analysis was used to provide an initial illustration of the variables studied, with the aim of presenting information such as the mean, median, highest value, lowest value, and standard deviation of each variable. The results of this analysis, within the context of the research, are presented as follows.

Table 1. Descriptive Statistics

	Indonesia		Malaysia		Singapura		Thailand	
	Economic Growth (percent)	Government Expenditure (percent)						
Mean	10,73	10,51	8,83	8,29	10,81	10,55	8,52	9,64
Median	11,09	9,48	11,05	9,08	11,07	10,11	10,59	10,61
Maximum	58,56	70,15	29,68	36,80	41,27	33,34	26,43	28,54
Minimum	-55,76	-63,19	-27,84	-34,53	-14,38	-8,21	-24,31	-18,16
Std. Dev.	16,74	19,29	11,18	11,49	10,52	9,02	10,02	9,86
Observations	50	50	50	50	50	50	50	50

Source: Processed Data, 2025

The results of the data collected above, Indonesia's economic growth has an average of 10.73 percent with high fluctuations (standard deviation of 16.74 percent), the lowest value is -55.76 percent and the highest is 58.56 percent. Government expenditure also shows an average of 10.52 percent with a standard deviation of 19.29 percent, reflecting large budget volatility. In Malaysia, the average economic growth is 8.84 percent with moderate variations (standard deviation of 11.18 percent), while government expenditure averages 8.29 percent with a standard deviation of 11.49 percent. Singapore recorded an average economic growth of 10.81 percent and government expenditure of 10.55 percent, both with lower variations (standard deviations of 10.52

percent and 9.02 percent, respectively), indicating better fiscal stability. Thailand had an average economic growth of 8.52 percent and government expenditure of 9.65 percent, with standard deviations of 10.03 percent and 9.87 percent, respectively, indicating moderate fluctuations in both variables during the observation period.

Unit Root Test

The stationarity test in this study uses the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) methods as approaches to detect unit roots in time series data. Unit roots indicate non-stationarity, which can lead to bias in estimation, making it crucial to ensure the variables are stationary. Testing is performed at the initial level, before differencing. If the statistical value is below the critical value and the p-value is <0.05, the variable is considered stationary. Otherwise, differencing is performed before further analysis.

Table 2. Unit Root Test with Augmented Dickey Fuller and Philips-Perron

Countries	Methods	Variable	Level	t-statistik	Probability	Decision
Indonesia	<i>ADF Test</i>	PE	Level I(0)	-7.172295	0.0000	Stasioner
		PP	Level I(0)	-6.277823	0.0000	Stasioner
	<i>Philips- Perron test</i>	PE	Level I(0)	-7.182148	0.0000	Stasioner
		PP	Level I(0)	-6.276513	0.0000	Stasioner
Malaysia	<i>ADF Test</i>	PE	Level I(0)	-5.791862	0.0000	Stasioner
		PP	Level I(0)	-5.441533	0.0000	Stasioner
	<i>Philips- Perron test</i>	PE	Level I(0)	-5.791862	0.0000	Stasioner
		PP	Level I(0)	-5.426625	0.0000	Stasioner
Singapura	<i>ADF Test</i>	PE	Level I(0)	-5.296696	0.0001	Stasioner
		PP	Level I(0)	-6.739667	0.0000	Stasioner
	<i>Philips- Perron test</i>	PE	Level I(0)	-5.328184	0.0000	Stasioner
		PP	Level I(0)	-6.740120	0.0000	Stasioner
Thailand	<i>ADF Test</i>	PE	Level I(0)	-4.491448	0.0007	Stasioner
		PP	Level I(0)	-3.591102	0.0095	Stasioner
	<i>Philips- Perron test</i>	PE	Level I(0)	-4.532063	0.0006	Stasioner
		PP	Level I(0)	-3.572230	0.0100	Stasioner

Referring to these results, the stationarity test results using the ADF Test and the PP Test indicate that all variables are stationary at-level.

Optimal Lag Selection

Based on the stationarity test results, which state that once the data variables have been identified as stationary, the next step is to determine the optimal lag length. The purpose of determining this lag is to measure how long a variable responds to changes in other variables. The results of this optimal lag selection will be used in cointegration testing and Granger causality analysis using the Modified Wald Test. This study determines the optimal lag length based on

several information criteria, including the Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn (HQ).

Table 3. Optimal Lag Selection

Negara	Lag	LogL	LR	FPE	AIC	SC	HQ
Indonesia	0	-352.8238	NA	17177.95	15.42712	15.50663	15.45691
	1	-352.2934	0.991541	19982.11	15.57798	15.81649	15.66733
	2	-350.4999	3.197192	22023.81	15.67391	16.07144	15.82283
	3	-347.6558	4.822596	23229.45	15.72417	16.28071	15.93265
	4	-345.9653	2.719552*	25823.62*	15.82458*	16.54013*	16.09263*
Malaysia	0	-334.2354	NA	7655.591	14.61893	14.69844	14.64872
	1	-331.7880	4.575646	8193.130	14.68643	14.92495	14.77579
	2	-328.7746	5.371742	8563.806	14.72933	15.12686	14.87825
	3	-327.1983	2.672824	9544.491	14.83471	15.39125	15.04319
	4	-326.4851	1.147397*	11070.94*	14.97761*	15.69317*	15.24566*
Singapura	0	-326.4334	NA	5453.287	14.27971	14.35922	14.30950
	1	-318.5625	14.71530	4610.205	14.11141	14.34993	14.20076
	2	-315.7221	5.063240	4855.177	14.16183	14.55936	14.31075
	3	-311.1186	7.805955	4743.837	14.13559	14.69213	14.34408
	4	-310.1631	1.537084*	5444.868*	14.26796*	14.98352*	14.53601*
Thailand	0	-309.4734	NA	2608.631	13.54232	13.62183	13.57210
	1	-293.8390	29.22952	1573.558	13.03648	13.27500	13.12583
	2	-291.7218	3.774049	1710.107	13.11834	13.51587	13.26726
	3	-289.5764	3.637868	1859.357	13.19898	13.75552	13.40746
	4	-284.2008	8.647784*	1760.992*	13.13916*	13.85472*	13.40722*

Based on the results of Table 3, the optimal lag length for the equation with the variables economic growth and government spending from the suggested criteria LR, FPE, AIC, SC and HQ is at lag four based on the test results marked with an asterisk (*) on the most dominant criteria. This means that the variables of economic growth and government spending interact with significant effects up to five previous periods.

Co-integration Test

Cointegration testing is carried out to identify the existence of a long-term relationship between the variables being analyzed. If there is cointegration between variables, it indicates a consistent relationship over a long period; conversely, if there is no cointegration, it means there is no relationship over a long period of time between the variables.

Table 4. Cointegration Test

Indonesia	Unrestricted Cointegration Rank Test (Trace)			
	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value
	None *	0.433955	49.66383	15.49471
	At most 1 *	0.372230	22.34794	3.841465
Indonesia	Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
	Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value
	None *	0.433955	27.31589	14.26460
	At most 1 *	0.372230	22.34794	3.841465
Malaysia	Unrestricted Cointegration Rank Test (Trace)			
	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value
	None *	0.489158	45.64222	15.49471
	At most 1 *	0.243600	13.40086	3.841465
Malaysia	Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
	Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value
	No. of CE(s)	Eigenvalue	Statistic	Critical Value
	None *	0.489158	32.24136	14.26460
	At most 1 *	0.243600	13.40086	3.841465
Singapore	Unrestricted Cointegration Rank Test (Trace)			
	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value
	None *	0.466568	43.74815	15.49471
	At most 1 *	0.246477	13.58379	3.841465
Singapore	Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
	Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value
	None *	0.466568	30.16436	14.26460
	At most 1 *	0.246477	13.58379	3.841465
Thailand	Unrestricted Cointegration Rank Test (Trace)			
	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value
	None *	0.342665	30.70869	15.49471
	At most 1 *	0.197644	10.56975	3.841465
Thailand	Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
	Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value
	None *	0.342665	20.13894	14.26460
	At most 1 *	0.197644	10.56975	3.841465

Referring to Table 4, the results of the Johansen cointegration test indicate that Indonesia, Malaysia, Singapore, and Thailand have a long-run relationship between economic growth rates and government spending. This is evidenced by the Trace Statistic and Maximum Eigen-statistic values exceeding the critical value at 5 percent significance. Therefore, the null hypothesis cannot be accepted, while the alternative hypothesis is declared valid. In all four countries, both variables adjust to each other over time, reflecting a stable structural linkage. In Singapore, this reinforces that fiscal policy is aligned with the direction of economic growth, while in Thailand, the long-

run relationship reflects a continuous reciprocal influence. Thus, economic growth and government spending in all four countries exhibit a long-run equilibrium that is interrelated.

Granger Causality Test

The Granger Causality Test is used to identify the causal relationship between each influencing variable and the variable it influences. This test uses a 5 percent (0.05) significance level and a lag length of up to the fifth lag, based on the results of determining the optimum lag. If the probability value exceeds 0.05, there is no causal relationship between the variables. Conversely, when the probability value is below 0.05, it indicates a causal relationship between the variables.

Table 5. Pairwise Granger Causality Test

Countries	Null - Hypothesis	Obs	F-Statistics	Prob
Indonesia	PP No Granger Cause Relationship to PE	46	1.17605	0.3372
	PE No Granger Cause Relationship to PP		1.01039	0.4146
Malaysia	PP No Granger Cause Relationship to PE	46	0.50788	0.7302
	PE No Granger Cause Relationship to PP		0.12609	0.9721
Singapura	PP No Granger Cause Relationship to PE	46	1.29834	0.2885
	PE No Granger Cause Relationship to PP		5.18596	0.0020*
Thailand	PP No Granger Cause Relationship to PE	46	1.66903	0.1779
	PE No Granger Cause Relationship to PP		1.94463	0.1235

Source: Processed Data, 2025

Table 5 shows the results of the causality test that Indonesia No causal relationship was found from government spending affecting economic growth, indicated by a significance level of 0.3372 which exceeds the 5 percent significance limit. This finding indicates that there is no Granger effect of government spending (PP) on economic growth (PE). Likewise, the reverse direction, namely from economic growth to government spending, In addition, the results are also insignificant with a probability of 0.4146. Thus, there is no two-way causal relationship in Indonesia.

For Malaysia, the test results show that neither government expenditure on economic growth rate (probability 0.7302) nor economic growth rate on government expenditure (probability 0.9721) are significant because both significantly exceed the 5 percent limit. Thus, there is no causal relationship between the two variables in Malaysia.

On the other hand, Singapore found different results. Although there was no causal relationship between government spending and economic growth (probability $0.2885 > 0.05$), there was a causal relationship between economic growth and government spending with a significance level of 0.0020, which is below 5 percent. This indicates a Granger effect. Therefore, higher economic growth in Singapore tends to be followed by increased government spending.

In Thailand, the causality test results also indicated no relationship between the two variables. The probability value of government spending on economic growth was recorded at 0.1779, while the probability of economic growth on government spending was 0.1235, both above the 5 percent significance level. Therefore, there is no causal relationship in either direction.

DISCUSSION

Based on the research findings presented above, the Granger causality test found no directional relationship between government spending (PP) and economic growth (PE) in (Keynesian Theory). Various cross-country studies have shown that government spending does not always have a causal relationship with economic growth. Several studies conducted by Molefe & Choga (2017), Ibrahim & Bashir (2019), Hanifah et al. (2019), Moridu et al. (2022), Singh & Panmei (2025), and Okunlola et al. (2024) found that the causal relationship only occurs from economic growth to government spending. This means that government spending does not cause economic growth; rather, growth drives increased government spending. Government spending is driven not only by economic conditions but also by non-economic factors. Therefore, it is sometimes necessary to analyze the effectiveness of public spending in driving economic growth based on a more contextual approach and evidence. The conclusion from this study cannot empirically prove a one-way causal relationship between government spending (PP) and economic growth (PE) in Indonesia, Malaysia, Singapore, and Thailand.

The Granger causality test found a one-way relationship between economic growth and government spending (Wagner's Theory). This finding aligns with several previous studies supporting Wagner's Theory, including those conducted by Novela & Aimon (2019), Hanifah et al. (2019), Wahyudi (2020), Pasaribu & Septriani (2021), Inchauspe et al. (2022), Jama et al. (2024), and Ibon & Irfan (2024). All of these studies confirm the existence of a one-way causal relationship from economic growth to government spending, further strengthening the empirical validity of Wagner's Theory. The results of this study only demonstrate a one-way relationship between economic growth and government spending in Singapore, while data from Indonesia, Malaysia, and Thailand do not empirically demonstrate a causal relationship between economic growth (PE) and Government Spending (PP).

Finally, based on the results of the Granger Causality test for the four countries, it appears that there is no bi-directional relationship between PP and PE in all the countries analyzed. In Indonesia, neither PP nor PE showed a significant relationship, same as Malaysia and Thailand. Only Singapore showed a significant relationship between PE and PP, but not between PP and PE. Therefore, it can be concluded that in these four countries, there is no bi-directional relationship between PP and PE

CONCLUSION

Based on the discussion above, several suggestions are proposed as follows:

1. There is no directional relationship between government spending and economic growth in Indonesia, Malaysia, Singapore, and Thailand. It is recommended that government spending

- should be focused on strategic sectors that have a direct impact on growth, such as, infrastructure, education, and technology, in order to increase the effectiveness of public spending.
2. There is no directional relationship between economic growth and government spending in Indonesia, Malaysia, and Thailand. The directional between economic growth and government spending occurred in Singapore. Therefore, it is recommended that Singapore government constantly continue to encourage sustainable economic growth. Thus, economic growth will expand the government's capacity to provide better public facilities.
 3. Since no bi-directional relationship was found across the countries studied during the 1974–2023 period, it is recommended that each government strengthen the synergy between economic development policies and government expenditure policies, in order to create a reciprocal relationship that supports long-term sustainable growth.

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