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The Impact of Government Development Expenditure on Economic Growth in ASEAN Countries

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Abstract

Purpose: In the Association of Southeast Asian Nations (ASEAN) context, where strategic investments in infrastructure and public services are important for sustainable development, exploring government development expenditures significantly impacts that link to economic growth. The study covers a crucial dimension: the impact of government development spending on economic growth around this vast region. This study investigates the impact of government development expenditures on economic growth in ASEAN countries from 2000 to 2022. It is specifically interested in charting the history of these expenditures together with their economic effects.

Design/ Methodology/ Approach: Based on a quantitative research design, this study applies panel data analysis to an annual secondary data set obtained from ten ASEAN nations. We use the autoregressive distributed lag (ARDL) approach to test long-run cointegration between the identified variables using a panel ARDL model. Government development expenditures are the independent variable, and gross domestic product (GDP) per capita, along with inflation, foreign direct investment (FDI) and gross national expenditure (GNE), are dependent variables.

Findings: The findings indicate that government development expenditures are insignificant in the short term. They have a significant effect on the economic growth of ASEAN countries in the long run. This positive relationship underscores the need for continuous, well-targeted government investment to propel an inclusive economic development trajectory. Strategic government

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investments over the long term, particularly in areas that enhance productivity and competitiveness, yield substantial economic returns over time.

Practical Implication: Governments in ASEAN states must prioritise sustainable development initiatives that will have long-lasting effects in their countries. The findings indicate that investment in infrastructure, human capital, and innovation is crucial to promote sustainable growth. This study may be useful to policymakers by highlighting the necessity of adequately implementing development expenditures to achieve economic progress in ASEAN countries. This will eventually provide insights to enhance society's long-term development and welfare progress.

Originality/ Value: This study has considerable policy implications. It shows the importance of government development expenditures, especially long-term investments in sustainable development projects, in maintaining a growing economic trend.

Keywords: Government development expenditure, economic growth, ASEAN countries, panel ARDL

1.0 Introduction

The emergence of the ASEAN dated back much earlier to the fact that most of its member countries followed different development patterns, which later led to major economic transformations over the last few decades. At a time when investment-led growth is suffering from stagflation, Malaysia stands out among these countries for its clear emphasis on the role of development expenditure as an instrument of economic growth. Government development investment shapes almost every sector of the economy, from health to education, infrastructure to technology. This is an allocation of money that cannot return to our state, and understanding this spending process leads to better economic policies and real sustainable growth. Greater developmental expenditure in ASEAN countries has shown to be consistent with better economic performance indicators, such as GDP growth and poverty reduction (Asian Development Bank, 2021).

The relationship between government development investment and economic growth is a major topic of interest in modern economics, especially in ASEAN countries like Vietnam. Source: ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam. The common goal for these countries is to maintain economic stability, grow the economy and develop the region. After all, this is hardly a profound revelation, considering that effective government spending can be pivotal for a number of shared goals, such as productivity, employment, and general economic prosperity. For policymakers across ASEAN, it has been a struggle for decades to encourage inclusive and sustainable economic expansion. It has given rise to continued discussions over the effectiveness of government expenditure as both a way of promoting economic development and creating long-term change in other areas. At the conceptual level, we shed light on the Wagner law and Keynesian view, two (2) established theoretical views regarding the complexity of government spending's effect on national growth. Wagner's

Law theorises that there is a direct relationship between economic development, income distribution in the public sector, and expansion of government activity. In contrast, the Keynesian theory calls for increased government spending to actively stimulate economic growth, representing fiscal policy as a powerful means of combating economic downturns by adding spending or cutting taxes to reduce them. However, the workings of fiscal policy are intricate. Unbalanced government spending and income supported by debt or finance can result in deficits, which can discourage private investment, making repayment impossible and ultimately leading to economic shrinkage. Empirical research also highlights the difficulty of distinguishing between types of spending and taxpayers. Both the prospective and present links between ASEAN regions are intricate, leading to multiple, often conflicting research inferences (Gallopín, 2002). Government expenditures play a vital role in alleviating the country's economic activities as they influence the rate of growth and development (Amusa & Oyinlola, 2019). They found that government spending in Botswana was effective only in the short run but insignificant for an extended period.

Over the years, governments in the ASEAN region have invested heavily in development projects; however, the economic outcomes have varied significantly across member countries. This disparity raises critical questions about whether the expenditures have been effectively directed toward areas that yield the greatest returns. A primary concern lies in the allocation of public spending across different sectors, with some, such as infrastructure and education, consistently prioritised as ministerial portfolios. In contrast, others, such as health, are deemed essential but often receive less focus. The impact of these expenditures is influenced by factors such as financial growth, the quality of institutions, and the existing levels of human capital. In the absence of appropriate institutional oversight, which is often lacking, there is a risk that actual spending priorities may become misaligned with the economy's needs. Furthermore, bureaucratic inefficiencies and corruption can lead to significant waste, hindering the effectiveness of development spending and stifling desired economic growth.

However, these issues are overshadowed by the underlying economic structure and policy environment. Countries with robust private sectors and sound policy frameworks tend to experience government growth rather than decline. Additionally, in our globalised world, economic growth is influenced by external investment flows and prevailing economic conditions. Long-term sustainability is closely related to these factors; without careful management, increased spending can lead to higher public debt, which subsequently limits future fiscal capacity and stability. Therefore, an evaluation is essential to guide ecosystem-based adaptation (EbA) strategies that can provide immediate benefits while ensuring long-term sustainability.

Previous research on the relationship between government development expenditure and economic growth has yielded inconclusive evidence. While public spending can stimulate the economy by creating jobs, boosting demand, and attracting business investment, critics argue that excessive public expenditure may deter private investment and exacerbate fiscal deficits. This indicates a need for a more nuanced analysis tailored to each ASEAN country. Understanding these macroeconomic influences on government spending in ASEAN is crucial for optimising resource allocation for sustainable and equitable development. This insight is vital for policymakers, as it can highlight best practices from other regions and provide lessons on the challenges and constraints faced during implementation in individual countries.

Therefore, this study aims to examine the effects of government development spending on economic growth in ASEAN countries over 20 years from 2000 to 2022. The study will provide insight into the crucial event of government spending related to economic growth, and development in ASEAN. It is important to recognise the role of government expense in ASEAN and the fact that it is at the heart of economic growth for several reasons. It helps by guiding how to effectively allocate resources when striving for sustainable and equitable growth, which is crucial for policymakers to provide the necessary basis. Second, it can help uncover significant and successful practices that other regions should adopt. Finally, it offers lessons on the obstacles and constraints of the country-level processes of implementing developmental initiatives effectively.

2.0 Literature Review

As it is in line with the literature on government expenditure and economic growth, government development spending shows some evidence of polarised results, especially among the developing countries of ASEAN. Although some studies have recommended a favourable relationship between government spending and economic growth, it is argued that the expansion of public expenditures can be harmful, which hinders productivity itself and produces a falling return to GDP growth (Nguyen, 2022; Febriani, 2023). Moreover, there is empirical support that irresponsible fiscal behaviour can stymie growth and that the effects of government spending on growth tend to be long-term (Jermsittiparser, 2019). As a result, the public spending strategies of ASEAN countries should be taken with care and in accordance with the objectives marked in the Blueprint 2025 of the ASEAN Economic Community (AEC). The area's economic performance can depend on a number of factors, including global market movements, geopolitical events, technological developments and regulatory changes.

This combination enables the Informal ASEAN Ministerial Meeting (IAMM) study to take into consideration several important aspects of how ASEAN countries interact economically, such as macroeconomic stability, trade trends, investment flows and industry diversification—perennially crucial for ASEAN's economic performance. The effects of regionalising and economic policies are also examined in terms of relying on agreements within ASEAN or intra-regional trade flows to drive economic endeavours over the boundaries of avenues such as the China-Australia Free Trade Agreement (CHAFTA). A rapidly expanding body of work has documented the role of government development expenditure in boosting economic growth, especially its beneficial effect on key sectors like education, health and infrastructure. However, the relationship is multifactorial and multiple transmission factors are involved. According to the literature, effective governance, decreased corruption and political stability reinforce the positive contributions of both consumption and development expenditures on economic growth (Sidek & Asutay, 2021).

In Malaysia specifically, it is shown that healthcare expenditure accelerates economic growth first, followed by social service, defence and education investments can be invested next to grow the nation economically by providing an opportunity for sector-specific investment strategies (Kamis et al., 2020). Nepal: In this case, both current and capital expenditures play a progressively positive impact on economic growth in the short term (static), as well as being significantly important in the long run cointegrating relationship, exhibiting a balanced approach to infrastructure and industrial development for sustainable economic progress needs to be adopted (Rana, 2021). Another benchmarking study in Japan reinforced the

relationship between continual economic growth and investment in two (2) key development areas: education and health, emphasising the role of openly prudent spending as a driver to stimulate growth (Tanaka, 2024).

Through the lens of economic theory, a wide array of possible connections between government spending and economic growth is sketched out, including varied positive to negative and even non-linear links. Mixed results in this relationship also suggest that the association may depend on the development context, timeframe and methodology used (Alqadi & Ismail, 2020). In general, development spending contributes to growth, but the level of these spillovers depends upon institutional quality and efficiency of expenditures. This highlights the fact that research on public expenditure and economic growth still needs further improvement and more contextual development using more advanced methodologies in order for us to understand such nexus.

Several studies have demonstrated a strong positive association between public spending on human capital and economic growth. This view is supported by the empirical evidence in emerging markets, characterised by long-run bi-directional causality between growth and government spending covariation (Anoop et al., 2023). Research from India, for instance, has demonstrated that public revenue and development expenditure translate effectively to GDP real growth, clearly evolving the need to invest in development, which may have pronounced spillover impacts on economic progress. The role of agriculture, transportation and health investments in providing both short- and long-term growth has also been well documented in available sources, emphasising their central role in development (Girum & Dagne, 2022). In the long term, however, government expenditure and economic growth are closely linked (Ndam, 2022), reinforcing the need for careful planning when allocating resources to development expenditure to maintain the necessary foundation of economic growth.

Governments commonly deploy expansive budgetary measures aiming for strong and steady growth. Ahuja and Pandit (2020) outline the case for government spending in economic policy, which upholds Keynesian principles and emphasises the role of government consumption as an economic stimulus during an economic slump. Research that investigates Botswana's expenditures from 1985 to 2016 reveals that development expenditure has a significant short-term impact on growth and a minor long-term impact (Amusa & Oyinlola, 2019). Sidek and Asutay's (2020, unpublished data) findings show that both developed and emerging markets have a similar response to government spending, such as in Malaysia, Botswana and Bangladesh. In contrast, Gifari (2016) revealed that the development spending of Malaysia from 1970 to 2014 seemed to affect "long-term negative economic growth", which suggests that extra spending could impede overall progression, whether through taxes or borrowing. Jin (2020) provided some cross-region and within-case disparities in the effectiveness (multiplier effect) of government development expenditure in China and India from 1985 to 2005. Nurudeen and Usman (2010) further note that the association of government size with increased GDP is inconsistent across countries.

Economically, government expenditure is supposedly doomed to increase GDP and give rise to more production than an economy could exhibit through the absence of public intervention (Loizides & Vamvoukas, 2005), namely Wagner's law (Schuler, 1992). The divergent results among countries require rethinking the relationships between government expenditures within South Asian Association for Regional Cooperation (SAARC) states. Past studies in Malaysia have neglected the growth of disaggregated expenditures and instead focused on overall

government spending (Tang, 2009). According to Keynesian theory, public sector expenditure is an important driver of economic activity, particularly in terms of fiscal policy. This theory contends that government spending may boost economic development by affecting aggregate demand, which in turn influences private consumption and investment. The efficiency of public spending, however, varies according to the type of expenditure and the economic circumstances. For example, government investment in infrastructure and human capital has been demonstrated to boost worker productivity and economic growth, particularly in profit-driven demand regimes (Parui, 2022). Investments in education and healthcare are critical to improving human well-being and guaranteeing fair growth (Sharma et al., 2022). Kandil (2001) persuasively advocated that government expenditures fight for purchasing power with those of the private sector, fuelling crowding out or crowding in effects on deficits, interest rates and private investment. This complexity underlines the need for an in-depth scrutiny of government spending and economic growth patterns in ASEAN nations because their economies have specific features.

The literature critique pertains to the spotty findings on the effectiveness of government spending. For example, Sidek and Asutay (2021) and Kamis et al., (2020) find a positive effect of development inputs on growth, while other studies reveal potential downsides, such as the crowding out of private investment and misallocation of resources. Despite the overall positive effect of government spending on human capital for economic growth, previous research suggested that the quality of governance and institutional frameworks partially determine how government spending affects economic development (Anoop et al., 2023; Girum & Dagne, 2022). Furthermore, the research on government spending has primarily concentrated on total government expenditure and paid little attention to disaggregated spending analysis (Tang, 2009). The gap warrants a more granular analysis of individual sectors. Education, health, and infrastructure are critical to economic growth, and at the same time, we need to appreciate the deleterious effects of unproductive expenses.

This article thus addresses these comments by examining the nexus between government development expenditure and economic growth in ten ASEAN countries from 2000 to 2022. This study aims to develop findings from the ASEAN context and a comprehensive methodological framework to understand the patterns of government development expenditure in ASEAN in short-run and long-run effects that can indicate the way for future policy directions. In this way, it offers evidence-informed suggestions for policymakers on the importance of prioritising resources in order to maximise returns from public expenditure support, promoting sustainable economic growth. Therefore, the study contributes to the existing literature by deciphering the complexity behind government expenditure dynamics in the ASEAN region and providing policy actionable recommendations for effective economic development.

3.0 Methodology

This research examines the impact of government development expenditure on economic growth in ASEAN countries through quantitative methods and econometric models. We use the annual secondary data of ten ASEAN countries from 2000 to 2022 for 23 years, including Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand and Vietnam. Data: World Bank Development Indicators; country reports from the departments of statistics of these countries. This paper will examine the cointegrating relationships between government expenditures, including development expenditures, and

economic growth over time for various Asian countries. The study utilised the panel ARDL methodology, introduced by Pesaran et al. (2001), which is adequate to undertake both panel and time series long-run cointegration testing. If there are multiple cross-sectional units (N > 1) over time periods (T > 1), Panel ARDL is more robust than a single time series, traditional ARDL method.

This procedure is particularly valuable to data with low sample sizes for its ability to capture instant and long-run impacts by following Granger's (1983) and Lewbel's (2012) efforts. Criteria like Akaike information criterion (AIC), Bayesian information criterion (BIC) and Schwarz's Bayesian criterion (SBC) are utilised to determine the optimal lag length and get the best-fitting model. We also employ the ARDL and Vector Error Correction Model (VECM) framework to measure this adjustment rate in disequilibrium, which accounts for short-run dynamic relationships apart from long-run ones (Engle & Granger, 1987; Pedroni, 1999, 2004; Apergis & Payne, 2009). These models are integrated to provide a complete examination of cointegration and short-run effects on economic growth.

$$\Delta lnGDPC_{it} = \beta_0 + \sum_{j=1}^{p} \delta_{ij}\, GDPC_{i,t-1} + \sum_{j=0}^{q} \beta_{ij}\, X_{i,t-1} + \mu_i + \varepsilon_{it} \qquad (1)$$

Pesaran et al. (1999) define Xi,t−1 as the vector of explanatory factors for group i, μi as the nation-specific fixed effect, and j as the examined country, with lag lengths p and q. Using annual data, Pesaran et.al (1999) suggest that there are two (2) lags at most. The last stage involves using the long-run estimates to build an Error Correction Model (ECM) to estimate short-run dynamics. Equation (2) Model specifications for unique panel ARDL system used in this study. The reparametrised ARDL (p, q, q,..., q) error-correcting model is shown below:

$$\Delta lnGDPC_{it} = \sum_{j=1}^{p-1} \delta_{ij}\, GDPC_{i,t-j} + \sum_{j=0}^{q-1} \beta_{ij} ln\, X_{i,t-j} + \vartheta ECM_{i,t-1} + \mu_i + \varepsilon_{it} \qquad (2)$$

Whereas, Gross Domestic per Capita (GDPC) is an indicator of economic growth, X combines some extra economic indicators, including gross national expenditure, inflation, foreign direct investment and government development spending. Meanwhile, the short-run coefficients are δ and β, whereas εit represents the error term. ϑ is the adjustment rate to long-run equilibrium, while i and t are the country and period, respectively. The criteria outlined are used to establish the lag order (p, q). ARDL models consist of lagged and differenced variables that may provide long-run relationships between variables, as well as short-run relationships that could be part of these cointegrating interactions.

The ARDL model was introduced by Pesaran et al., (1999) as an econometric tool. This multimarket model provided a framework (Anderson, 2001) to test the dynamic relationship between the variables in both short and long runs. The panel ARDL methodology allows for analysing these relationships in a panel data framework. The first step is to fit the panel ARDL model, for which extensive data collection and pre-processing of large datasets were conducted, encompassing various types of variables across several entities at different periods. The researchers must define their dependent and independent variables carefully, include a balanced data set, and handle missing values. Following this, unit root tests were performed (Levin, Lin & Chu, 2002 and Im, Pesaran & Shin, 2003) to identify the order of integration and to confirm that both series were integrated of degree one. After establishing the stationarity,

the panel ARDL model was fitted to fix the lag lengths required in capturing the short-run relationship between dependent and independent variables.

The criteria were the AIC and Schwarz information criterion (SIC), and the methods were used to determine the optimal lag length. Ordinary least squares (OLS) estimation was then performed on the model and bounds testing was used to examine if any long-run relationships existed between the variables. Followed by unit root testing was followed by order of integration and lag lengths. The residuals were also subjected to primary diagnostic tests, such as serial correlation, heteroscedasticity or normality, to verify the model's performance. We examined the significance and interpretation of the estimated coefficients and identified government development expenditure as an independent variable to capture short-run and long-run relationships between government development expenditure and economic growth. The results were supported by sensitivity analyses and robustness checks, which ended with a comprehensive summary discussion about policy implications and economic development.

4.0 Result and Discussion

Table 1 contains descriptive statistics and the correlation matrix as the preliminary analysis that serves as a foundation to understand the characteristics of the sample and data for this study. The correlation matrix quantifies the relationships that are as strong and to which direction among the variables, with correlation coefficients of -1 to +1. In general, GNE and Final Consumption Expenditure (FCE) at 0.601 at 0.622 have a strong positive correlation with GDP per capita (LGDPC). The results indicate that as national expenditure and consumption grow, GDP per capita tends to rise, implying a possible association between these economic events. This is consistent with the results of Barro (1990), who argued that an increase in government spending, especially on infrastructure and education, had a positive effect on economic growth. On the other side, LGDPC is negatively pocket-padded correlated with inflation (LINF) -0.4904 and the coefficient of FDI is -0.1509, intimating that a greater frequency of inflation and lower levels of lukewarmness to foreign capital investment are causing GDP per capita to decrease. The negative effects of inflation on economic growth have been well documented in the work of economists such as Romer (1986), who postulate that inflation breeds uncertainty, which adversely affects investment and confidence. Moreover, Government Development Expenditure (GDE) has a weak negative relationship with GDP per capita (-0.3775), implying the growth of GDP does not necessarily require increasing government expenditure in this perspective, which somewhat coincides with the arguments of concerns raised by Afonso and Furceri (2008) over efficiency cost being suffered from public spending.

In other relationships, Gross National Expenditure (LGE) shows a strong positive correlation with Final Consumption Expenditure (LC) 0.7785 and LEX (0.3979), indicating that more government expenditure corresponds to high consumption and exports. This confirms Jermsittiparser's (2019) claim that public investment can increase consumption and trade. Another interesting point is the negative correlation between LGE and LINF (-0.6012), implying that when a nation has a larger expenditure, the inflation rate is lower, which brings to attention how an effective fiscal policy can contribute to stabilising an economy. Nevertheless, the relationship between Foreign Direct Investment (LFDI) and LGDPC is low (0.1509), suggesting that it may be hard to attract foreign investment while pursuing economic growth and frowned upon the results obtained from this profound research by Ndam (2022) in his discussion on achieving sustainable economic growth through FDI.

Table 1: Correlation Matrix

	LGDPC	LGE	LINF	LEX	LC	LFDI	LGDE
LGDPC	1.0000						
LGE	-0.6012	1.0000					
LINF	-0.4904	0.1753	1.0000				
LEX	-0.0496	-0.5346	0.2684	1.0000			
LC	-0.6661	0.7785	0.3978	-0.1801	1.0000		
LFDI	0.4228	-0.2727	-0.1509	0.1681	-0.2597	1.0000	
LGDE	0.3775	-0.2310	-0.2598	-0.1138	-0.3619	-0.0578	1.0000

Note: LGDPC is a dependent variable measure based on GDP per capita (constant 2015 US$); LGE= Gross national expenditure (% of GDP); INF= Inflation (annual %); LEX= Exports of goods and services (% of GDP); LC= Final consumption expenditure (% of GDP); LFDI= Foreign direct investment (% of GDP); LDGE= Government development Expenditure (% of GDP).

It also gives a clearer view of these relationships by providing descriptive statistics such as the mean and standard deviation. For that reason, in Table 2 with descriptive statistics, you will find valuable information about the central tendencies of each variable, and their variation. The average economic output of people across the dataset is about 3.990 (LGDPC). By contrast LGE averages 1.964, a much less extreme level of other fiscal spending compared to GDP. In addition, a mean value of 4.645 for LINF (annual inflation rates) can result in stability problems in some countries. The mean of LEX is 4.9135, and it represents a moderate level of exports concerning GDP and has some potential to stimulate economic growth as history (suggests) that increases in the relative amount of trade can enhance total factor productivity and are congruent with many theories posed by Lucas (1988).

The standard deviations in the descriptive statistics speak to how much we vary from data set to data set. The standard deviation of LGE is 0.8551, which indicates that the level of government expenditure observed for the entities has a moderate spread. Adversely, LINF shows a standard deviation of 2.916, indicating larger differences across inflation rates affecting economic conditions and government policies in general. The between-country variation for LGDPC (2.7164–4.8284) is correspondingly large, representing both low- and high-income extremes within the dataset. Likewise, the minimum in EU LINF of -1.2605 and maximum of 5.2046 imply significant divergence in inflation rates, which might influence economic development.

Table 2: Descriptive Statistics

Variable	Mean	Standard deviation	Minimum	Maximum
LGDPC	3.5990	0.5656	2.7164	4.8284
LGE	1.9649	0.0851	1.6840	2.2741
LINF	4.6548	4.9612	-1.2605	5.0246
LEX	1.9135	0.7176	1.0188	4.2833
LC	1.8339	0.1382	1.4983	2.4827
LFDI	5.4714	6.3788	-1.7529	32.6912
LGDE	1.3680	0.4584	0.9941	4.4736

Note: LGDPC is a dependent variable measure based on GDP per capita (constant 2015 US$); LGE= Gross national expenditure (% of GDP); INF= Inflation (annual %); LEX= Exports of goods and services (% of GDP); LC= Final consumption expenditure (% of GDP); LFDI= Foreign direct investment (% of GDP); LDGE= Government development Expenditure (% of GDP).

The analysis of the correlation matrix and descriptive statistics reveals complex relationships among government expenditure, economic growth, inflation, and other economic indicators. The positive correlations between government development expenditure, consumption, and GDP suggest that strategic public spending could support economic growth, as Ahuja and Pandit (2020) argued in their exploration of expansive budgetary measures to foster sustainable development. However, the negative correlation with inflation emphasises the need for careful fiscal management to avoid potential economic instability, a sentiment echoed by Durlauf and Johnson (1995).

This study utilised panel ARDL estimation, followed by a discussion of the findings from the panel ARDL analysis to assess the impact of government development expenditure on economic growth in ASEAN countries. Initially, the models were executed after conducting all relevant pre-test diagnostics in Stata. The results of the Im-Pesaran-Shin (IPS) unit root test are summarised in Table 3. This summary indicates that all variables exhibit first-order integration, suggesting that the variables will achieve stationarity after one differencing. Additionally, this finding implies that the variables are cointegrated, as they are non-stationary in their level form. Large coefficients in the long-run equations further support the evidence of cointegration.

Table 3: Panel Unit Root Tests: Im, Pesaran and Shin (IPS) test

	Level		First Difference		Order of integration
Variable	**Intercept+**	**Intercept+ trend**	**Intercept+**	**Intercept+ trend**	
LGE	0.6739	1.2272	-6.0224***	-4.9617***	I(1)
LINF	-1.8503**	-0.1147	-8.0947***	-6.5225***	I(1)
LEX	-0.6879	1.0998	-4.4191***	-3.7502***	I(1)
LC	2.7355	1.3365	-5.0082***	-4.2563***	I(1)
LFDI	-3.1623***	-3.3092***	-9.7427***	-7.9529***	I(0)
LGDE	1.9569	-0.0021***	-0.0010***	-0.0081***	I(1)

Note: *** indicate significant at 1 percent, ** 5 percent and * 10 percent significance level. LGDPC is a dependent variable measure based on GDP per capita (constant 2015 US$); LGE= Gross national expenditure (% of GDP); INF=Inflation (annual %); LEX= Exports of goods and services (% of GDP); LC= Final consumption expenditure (% of GDP); LFDI= Foreign direct investment (% of GDP); LDGE= Government development Expenditure (% of GDP).

After determining that each variable is integrated into order one (1), the study used Pedroni's (1995, 1999, 2004) cointegration test for panel analysis. Pedroni's technique uses seven (7) cointegration test statistics: four (4) for cointegration within dimensions and three (3) for group mean panel cointegration across dimensions. Table 4 displays the results of Pedroni panel cointegration testing. The test results reveal that panel and group statistics reject the null hypothesis of no cointegration. Pedroni (1999) claims that the panel and group ADF tests have better sample quality and are more reliable. It can be concluded that the variables are cointegrated.

Table 4: Results of Cointegration Test Based on Pedroni (1999, 2004)

Test Statistics	Cointegration value
Z_V (Panel v-statistic)	-2.0690
Z_ρ (Panel ρ-statistic)	3.2040
Z_t (Panel t-statistic)	-0.8555
Z_t^* (Group t-statistics (non-parametric))	7.4890
$\tilde{Z}_\rho$ (Group ρ-statistic)	4.5120
$\tilde{Z}_t$(Group t-statistics (parametric))	-1.5960
$\tilde{Z}_t^*$ (Group t-statistics (non-parametric))	8.0220

Note: Figures in parentheses are p-values.

To design efficient economic policies, it is critical to understand how government and development expenditures affect economic growth. Using panel ARDL analysis, broad trends and linkages across all ASEAN countries, providing a complete knowledge of the region's

economic dynamics can be identified. For optimal lag selection, the study used the Schwarz information criterion (SIC), choosing a model with lag specifications (1, 2, 1, 1, 1, 1) based on its lowest value.

Table 5: Result of panel ARDL

Estimation	Short Run (i)	Long Run (ii)
ECT	-0.1236*** (0.0180)	-
LGE	0.1173 (0.1387)	-2.5332 (0.2822)
LINF	-0.0003 (0.0004)	0.0132*** (0.0048)
LEX	0.0486 (0.0363)	0.3053** (0.1265)
LC	-0.4073*** (0.0941)	-3.1069*** (0.4401)
LFDI	0.0008 (0.1120)	0.0134** (0.0070)
LGDE	-0.1022** (0.0469)	1.8312*** (0.1075)
Cons	-0.0650 (0.1241)	-2.5332 (0.2822)

Note: *** indicate significant at 1%, ** 5% and * 10% significance level, first value indicates the coefficient value and value in parentheses is a standard error. LGDPC is a dependent variable measure based on GDP per capita (constant 2015 US$); LGE= Gross national expenditure (% of GDP); INF= Inflation (annual %); LEX= Exports of goods and services (% of GDP); LC= Final consumption expenditure (% of GDP); LFDI= Foreign direct investment (% of GDP); LDGE= Government development Expenditure (% of GDP).

Table 5 illustrates the panel ARDL estimates, revealing both short- and long-run relationships between government expenditure, government development expenditure, and economic growth across a selection of ASEAN countries, with GDP per capita as the dependent variable. The Error Correction Term (ECT) is calculated at -0.1236 and is significant at the 1% level. This indicates that the model effectively corrects deviations from long-run equilibrium following short-run shocks; specifically, 12.36% of this deviation is rectified in each period.

LGE has a coefficient of 0.1173, but the p-value is higher than 5%, which follows LGE and has a short-term effect on GDP per Capita (Mauro, 1998). Likewise, LINF rejects its effect on economic growth as the LINF coefficient is -0.0003 with a p-value of 4704. This confirms the result drawn by Barro (1996), who found that inflation may still not affect short-run economic growth. On the other hand, the positive sign of exports suggests that increases in export values do not change GDP per capita in the short run (the coefficient of LEX is 0.0486, but it is statistically insignificant). This is in line with the results of Wang and Zhang (2017), who argue that export growth may have a long-run impact rather than immediate GDP contributions.

FCE shows a coefficient of -0.4073, again a significant and coherent sign at 1%, which is significant at the 1% level, implies that an increase in final consumption expenditure results in reduced GDP per capita in the short run (Khan & Senhadji, 2000). The LFDI result was also significant on GDP per capita, but with a coefficient of 0.0008 that it is not statistically distinct from zero, indicates FDI has no effects, over the short term, regarding GDP per capita level which is in an agreement with Aitken and Harrison result (1999) showing little results over the first year of analysis the Influence FDI towards shock performance like GDP Per Capita. However, the coefficient of GDE is -0.1022 and significant at 5%, indicating that there would be an increase in GDPC if the government development expenditure were cut. However, this effect would only show itself over a short duration based on current levels of data. Therefore, the result can be related to the results shown by Aschauer (1989), which state that government expenditures on development could have short-run positive effects when allocated inefficiently. The system has no use for the constant term at -0.0650.

In the long run, the GNE is not significant to the GDP per capita; inflation and export appear to affect growth in the long run by 0.0132 and 0.3053, respectively. This result lines well with the literature since inflation typically leads to erosion of economic growth in the long run (Fischer, 1993), and exports supposedly contribute a big part of long-run growth in light of their influential position for value-added activities, likewise enhancing productivity and competitiveness (Baldwin & Wyplosz, 2015). LC also negatively affects GDP per capita in the short and long run. However, as Barro (2000) argued, it is not significant at 5%, highlighting that domestic government expenditures could help decrease investment recovery. On the other side, LFDI and Government Development Expenditure (LGDE) have a significant positive impact on the 1% level of the income to be maintained in the long run, supporting that investment through infrastructure, such as government development expenditure is vital to keep economic growth sustained. This indicates that strategic development planning will stimulate such ideas (Aschauer, 1989; Zhang & Heshmati, 2009). Because of these reasons, our findings support the idea that spending on infrastructure can be counter-productive from a transitory perspective while promoting sustainable long-term economic growth in ASEAN countries by recognising the need for strategic investment or immobilisation. On the other hand, household consumption spending has a negative impact on economic performance because its accumulation is at the cost of investment. Our finding aligns with recent research that overconsumption can result in resource misallocation and economic growth inefficiency (Easterly, 1993; Chang et al., 2021). As such, exports and FDI remain essential for regional growth sustainability. Research in the recent literature (Zhou et al., 2022; Aschauer, 1989) asserts that government expenditure on infrastructure and development can lay a solid foundation for long-term economic growth. Hence, the findings indicate that strategic long-term investments in development and infrastructure are indispensable for achieving sustainable economic growth in the ASEAN region.

5.0 Conclusion and Recommedation

The results suggest that despite the government development expenditure not always showing its quick effects (in the short run), it is crucial for generating sustainable economic growth in ASEAN in the long run. The future of ASEAN countries would depend on how they secure interests and achieve development to localise their strategy, where policies push for sustainable and flexible growth. Strategies regarding improving infrastructure and human resources (strengthening energy, transport, and communication networks) are of the highest importance.

These investments can greatly reduce the cost and help enhance productivity (Calderón & Servén, 2010). Moreover, these investments should be made considering not only the present generation but also future generations, which emphasises greatly inculcating higher human capital through vast education and healthcare expenditure (Hanushek & Woessmann, 2015).

Policymaking along these lines has to be geared towards enriching the stock of human capital, promoting technological and organisational innovation, and supporting research endeavours that would redound to advancing economic prospects through a prepared workforce (Schultz, 1961). Continuous financial assessment and reviews are essential for good government spending and resource management. National development objectives should also be aligned with the FDI strategy. The early studies examining the determinants of FDI posit that an appropriate economic story is necessary for encouraging FDI inflow, primarily focused on infrastructure development, technology transfer and job creation that can synergistically enhance growth in the host countries to a great extent (Borensztein et al., 1998). Therefore, by following this strategic approach, countries can maximise the advantages of foreign direct investment and set a roadmap to progressive, long-term growth.

Finally, sustainable economic growth in ASEAN countries will require a holistic approach, covering persistent investment in infrastructure and human capital, improvement in the efficiency of public spending, fiscal discipline and establishing a favourable environment for foreign direct investment. This will help drive sustainable development and quality of life and allow economies to properly respond to global challenges. In this study, we used the method of panel ARDL estimation to find the short- and long-run effects of several economic variables on GDP per capita in ASEAN countries. The findings suggest reasonable public expenditure programmes by the government are essential in paving the way for future economic success (Aschauer, 1989; Calderón & Servén, 2010) and assert that targeting versus general expenditures matter-even if it comes at an interim cost to society. Accordingly, ASEAN countries are essential in sustaining and improving infrastructure investments, education programmes, health promotion efforts, and sustainable development policies (World Bank 2018).

Moreover, the positive long-term effects of exports and foreign investment emphasise the importance of good trade policies and an environment conducive to investments (Baldwin & Wyplosz, 2015; Lee et al., 2006). The results indicate that under-consumption depresses per-worker economic growth, and that the long-run effects (for a dynamic quantity like GDP per capita) are substantial as compared to short-run impacts (Barro & Lee, 1994). Resource Misallocation Technological upgrading coupled with savings and investment are important to avoid resource misallocations (Rodrik, 2005). Furthermore, anchoring high-impact inflation and macroeconomic stability directly affects the GDP model (Fischer, 1993; Blanchard, 2017). According to the IMF (2017), fiscal discipline and the curbing of public debt need to be improved so that government finances can be used effectively for development rather than misallocation. In addition, mid- and long-term planning, monitoring and evaluations are essential in the successful implementation of overarching national development plans. A regional economic plan integrates strategic government expenditure programmes from time to time (Asian Development Bank, 2021). Politicians of all stripes can always find something to cut, but we can hope that regular monitoring and evaluation will make it easier to see where spending priorities need readjustment. If adopted, these recommendations can provide ASEAN countries with a

collective guideline on using government expenditure and other critical economic variables to achieve sustainable regional-wide economic growth and development.

Several significant limitations of the present study potentially affect its degree of accuracy and comprehensiveness. One important limitation is the decentralision of data on government development expenditure, particularly in distinguishing basic and non-basic expenditures. Due to this lack of disaggregated data, the authors have limited their power to speculate about different budget categories and their effect on economic growth. Without accounting for their nature, the analysis may have also missed other possible important influences on economic outcomes because of alternative spending behaviours. about the study concluded that the impact of government development expenditure on economic growth would be non-specific and may give us only a global view without providing how much impact is due to variations in expenditure.

Further research should address these limitations to provide a comprehensive understanding of the relationship between government expenditures and economic growth. Subsequent research should disaggregate information on government development expenditures more comprehensively. Aim by type with sub distinction while disaggregating these expenditures into specific categories; 1) basic: expenditure to upgrade the academics infrastructure like organising education, 2) non-basic: investment in empowering education. Such a measure of austerity would help future researchers determine more precisely how different government expenditures affected economic outcomes. This nuanced understanding can lead to better policy recommendations that are more targeted and effective, ensuring (to a small extent) that public funds are spent in a way that benefits economic life.

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