Financial Sustainability Mechanism for Malaysia with the Keynesian Macroeconomic Framework

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ABSTRACT

This study examined the relationship between fiscal policy, foreign direct investment (FDI), exchange rate, public debt and economic growth in Malaysia using Autoregressive Distributed Lag (ARDL) approach under the framework of Keynesian economics. The time series annual data were collected from 1970 to 2022 from the World Bank and the Department of Statistics Malaysia (DOSM). The results indicate that there was a long run cointegration between variables. Foreign direct investment was positively and significantly related with economic growth. Meanwhile government expenditure was positively related with economic growth but with delayed effect. The results showed that exchange rate had weak positive long run effects, while public debt did not have a significant effect on economic growth. The results of Error Correction Model (ECM) and diagnostic tests also supported the stability and reliability of the selected ARDL model. In general, the results were of empirical value for policy makers in focusing in the right macroeconomic variables that encourage sustainable economic growth in Malaysia.

Keywords: Economic Growth, Fiscal Policy, Foreign Direct Investment, Public Debt, Exchange rate, ARDL

INTRODUCTION

Fiscal policy, external capital flows, and public debt have become central issues in Malaysia's macroeconomic management following the revision of the national budget to RM421 billion in 2025. (*Kementerian Kewangan Malaysia*, 2025). Expansionary fiscal policy, reflected by an increased government expenditure, aimed to stimulate economic activity through the Keynesian multiplier effect, which supports aggregate demand and eventually economic growth (Snowdon & Vane, 2005). Malaysia had experienced a significant rise in foreign direct investment (FDI) inflows, increasing from RM8.2 billion (2025) to RM27.8 billion in 2026 indicating stronger external capital participation in domestic economic development. (Husna, 2026). However, when government expenditure exceeds fiscal revenue, budget deficits arise, necessitating government borrowing and contributing to the accumulation of public debt. The interaction between fiscal expansion, capital inflows, and public debt dynamics is crucial for assessing Malaysia's fiscal sustainability and long-term economic stability. (Holtfrerich et al., 2016). The relationship between fiscal policy, external capital flows, and public debt can be initially understood through the Keynesian macroeconomic framework, which emphasises the role of government intervention in stabilising aggregate demand and promoting economic growth. Debt sustainability depends not solely on the size of debt but on the growth effects generated by fiscal expansion. In line with Dunning's Eclectic Paradigm Theory, Foreign direct investment (FDI) plays an important role in supporting developing countries by providing capital, technology know how and management know how that can help to improve infrastructure and productivity. (Krugman, Obstfeld, & Melitz, 2011). External capital inflows can reinforce the fiscal multiplier by supplementing domestic savings constraints in emerging and developing countries in order to expand productive investment without immediately increasing sovereign borrowing. The concurrent rise in public debt, fluctuation in domestic investment, and unstable flow of external capital raise significant concerns about the effectiveness of fiscal stimulus and capital inflows to facilitate a stable economic growth since Malaysia experience highly volatile economic growth between 2018 and 2024 (World Bank, 2025).

Problem Statement

Malaysian government spending increased from RM 224.6 billion in 2019 to RM 321.51 billion in 2024 (Ministry of Economy, 2025). Malaysia's fiscal position exhibited significant expansionary trends accompanied by rising indebtedness. However, despite improved revenue collection, indebtedness continued to rise steadily from RM 741 billion in 2018 to RM 1247.61 billion in 2024. (Ministry of Finance Malaysia, 2020, 2025). Domestic investment experienced fluctuations. According to World Bank (2024), foreign direct investment (FDI) inflows fluctuated significantly between 2018 to 2024. The concurrent rise in the public debt, fluctuation in domestic investment, and unstable flow of external capital raise significant concerns about the effectiveness of fiscal stimulus and capital inflows to support sustainable economic growth. As such, the study aimed to analyse the effect of public debt, domestic investment and foreign direct investment on economic growth of Malaysia between 2018 and 2024.

According to World Bank (2025), Malaysia's economic growth was highly volatile where the sharp swings in growth performance raise concerns regarding the long term sustainability of Malaysian economic growth and fiscal balance amidst the persistence increase in public debt, volatile FDI inflows, and declining domestic investment. The findings from this study can acts as a guide in fiscal management, debt sustainability, and investment promotion with the post-pandemic Malaysian economic environment by presenting empirical evidence in the association between the public debt and domestic investment, FDI, and economic growth.

Research Objectives

The research objectives of this research were as follows:

1. To examine the influence of exchange rate on Malaysia's economic growth in the short run and long run.

2. To analyse the influence of public debt on Malaysia's economic growth in the short run and long run.

3. To examine the influence of government expenditure on Malaysia's economic growth in the short run and long run.

4. To investigate the influence of foreign direct investment (FDI) on Malaysia's economic growth in the short run and long run.

LITERATURE REVIEW

This literature review examined how fiscal policy, external capital inflow, public debt and exchange rate influence economic growth. Economic growth has become the main objective of macroeconomic policy, particularly for developing and emerging economics like Malaysia. There were several underlying theories that can create the theoretical as well as conceptual framework for this study.

Initially the classical view claims that markets automatically achieve full employment and stresses that output and employment were determined by effective demand. When the Great Depression took place, economist that supported the classical view found that market cannot automatically achieve equilibrium both in the goods market as well as the factor market. The influence of fiscal policy to enhance this stability or equilibrium cannot be denied. This was supported by the Keynesian Fiscal Policy Theory. According to Barro (1980), a productive public spending such as infrastructure and public services can increase the private sector's productivity which eventually promotes economic growth. Saidi (2025) examined the impact of government spending shocks on economic growth, using a GMM panel VAR model, and established that these internal shocks were used to smoothen external shocks have positive effect on economic growth.

Since fiscal policy was considered an automatic stabilizer, overdependence on fiscal policy especially government expenditure to stimulate the economy can result in debt. Debt Overhang Theory proposed by Krugman in 1988, suggested a situation where high level of existing debt discourages new investment, even if

those investments were profitable. Therefore, a high debt level may act as a drag on economic growth by dampening the zeal of investment and inducing macroeconomic inefficiency (Krugman, 1988). In contrast, a study in Ghana claimed otherwise. Long-run relationship between public debt and economic growth was significant which points to the fact that debt may help in development if well-managed (Owusu-Nantwi and Erickson, 2016). It was established that there was positive relationship between public debt and economic growth when the borrowed funds were channelled into productive activities. (Egbetunde, 2012).

In the Malaysian context, government debt affects sustainable economic growth, both in the long-run and the short-run in a positive manner (Burhanudin et al., 2017; Dauda et al., 2013; Alwi et al., 2020). There were researchers who claimed the type of debt was essential in its effect on economic growth. Some studies claimed that external debt was known to have a serious negative effect on the long-run economic growth (Choong et al., 2010). Some researchers claimed that reduction in GDP or economic performance has been linked to private debt, and this was due to excessive borrowing (Lee and Ng, 2015).

Other than fiscal components like government expenditure and debt which were used to finance economic growth, Endogenous Growth Theory proposed by Paul Romer in 1990 explains foreign direct investment can ensure long run economic growth by enhancing internal capacity such as knowledge, innovation and human capital (Schilirò, 2020). FDI contributes to capital accumulation by introducing new inputs and foreign technologies into the host economy, thereby enhancing production capacity. There were a large amount of empirical literature that focused on the association between foreign direct investment (FDI) and economic growth in various countries and most of the literature revealed a positive association between the two. Gudaro et al. (2012) concluded that FDI positively and significantly influenced the GDP growth in Pakistan. This was supported by the study of Azizov et al. (2023) who documented a strong positive association between FDI and GDP in Turkey.

The inflow of foreign direct investment was closely related to exchange rate. A stable or less volatile exchange rate strengthens investors' confidence. Investors would find location advantage because off less uncertainty in revenue, cost and profit. The assets in nations with less volatile exchange rate are cheaper and attracts the interest of investors. Thus it cannot be denied that exchange rate is one of the essential monetary factor that attracts foreign direct investment that enables economic growth.

The relationship between exchange rate and economic growth can be explained by Mundell-Fleming model. As evidenced by Fleming (1962) and Mundell (1963) , exchange rate was a critical factor in determining the effectiveness of the macroeconomic policy. The interdependence between the exchange rate and economic growth has been extensively studied on the empirical literature, but the results were inconclusive based on countries and techniques. A competitive or undervalued real exchange rate has been observed to help in economic growth through the promotion of exports, industrialization, and technological spillovers (Rapetti et al., 2011; Rodrik and Harvard University, n.d.; Missio et al., 2015). Other researchers observed that even though there is a positive relationship between exchange rate and economic growth but it was statistically insignificant (Javed et al., 2009; Abdinur and Elmas, 2022).

Empirical Findings in Malaysia

Many research were carried out in Malaysia on the determinants of economic growth. Rambeli et al. (n.d.) observed that government spending on education has a long-run equilibrium with economic growth, and the causality was directed by fiscal variables to economic growth. Moreover, Zulkifli et al. (2022) demonstrated that development expenditure positively and significantly impacts economic growth, which means that the productive public investment may stimulate economic activity. According to Hasnul (2016), the overall impact of government spending on the economic growth of Malaysia is negative, especially in cases where the expenditure is not used efficiently. Wong et al. (n.d.) also revealed that development expenditure can have insignificant impact on economic growth, which means that the allocation of public expenditure was inefficient.

Raja Aziz and Azmi (2017) found that in Malaysia, FDI was the only variable that impacts GDP growth significantly, suggesting that it was a dominant variable among other variables. Mustafa et al. (2021) and

Shaari et al. (2012) discovered that FDI has a direct and significant positive effect on GDP, both in the short-run and long-run. Pourshahabi et al. (2009) documented a negative correlation between FDI and economic growth in Malaysia whereas Baharom et al. (2008) claimed that FDI affects economic growth in the short run positively and long run negatively. Fadhil and Almsafir (2015) pointed out that FDI cannot spur sustainable growth in the economy unless there is human capital development.

In addition, the co-existence of long-run cointegration between the exchange rate and economic growth has been established, with both the nominal and real exchange rate showing substantial positive effects especially with real exchange rate (Kogid et al., 2012). It has been demonstrated using empirical data that the impact of exchange rate can be considerable in the short-term, but in the long-term the impact was statistically insignificant (Asid et al., 2014).

Regardless of these developments, a critical analysis on the literature shows that there was a gap in terms of the concomitant analysis of these four determinants in a single analytical paradigm, especially in the case of Malaysia. While existing studies have extensively explored the individual effects of fiscal policy (Rambeli et al., n.d.; Hasnul, 2016; Kamis et al., 2020), public debt (Burhanudin et al., 2017; Yoong et al., 2020; Choong et al., 2010), foreign direct investment (Raja Aziz & Azmi, 2017; Mustafa et al., 2021; Shaari et al., 2012), and exchange rates (Kogid et al., 2012; Low & Chan, 2017; Mohamed et al., 2021) on Malaysia's economic growth, there remains a paucity of empirical evidence concerning the interactive and simultaneous effects of these variables. This study attempted to fill this gap by looking at the joint and interactive impacts of these four macroeconomic determinants on the growth of the Malaysian economy.

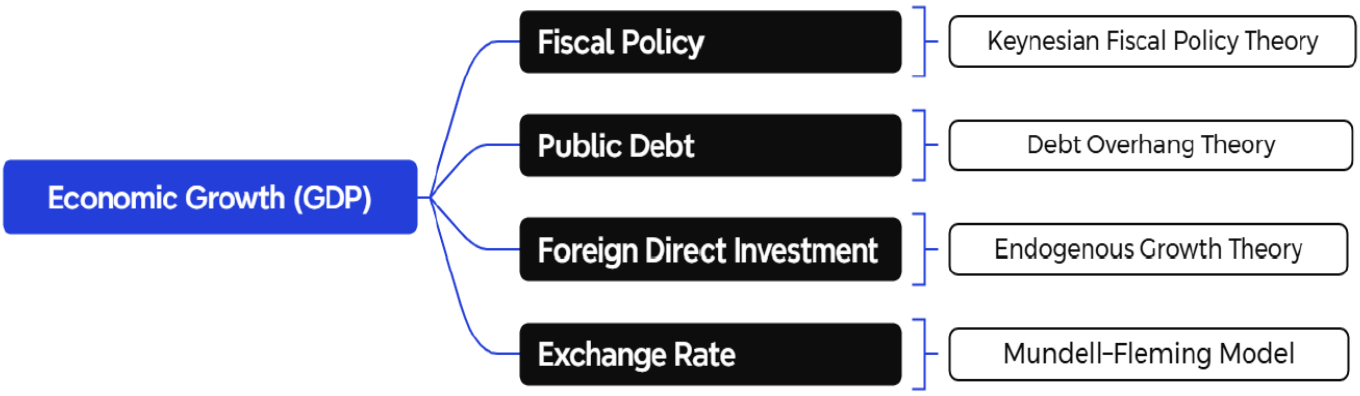

Figure 1: Conceptual Framework of the Study

METHODOLOGY

This study adopted a quantitative research design based on annual time-series data from 1970 until 2022. All data used in these analyses were from the World Bank's Development Indicators and Department of Statistics Malaysia, which ensure reliability and consistency of the data. In this study, the dependent variable was Economic Growth, proxied by Malaysia's annual GDP growth. The independent variables were Fiscal Policy, proxied by the Government Expenditure, External Capital Inflows proxied by the Foreign Direct Investment (FDI), Public debt and Exchange rate as control variables.

Model Specification

$$lnGDP_t = \beta_0 + \beta_1 lnGovEXP_t + \beta_2 lnFDI_t + \beta_3 lnPD_t + \beta_4 lnER_t + \varepsilon_t$$

$lnGDP_t = Economic\ Growth$

$lnGovEXP_t = Fiscal\ Policy$

$lnFDI_t = External\ Capital\ Inflows$

$lnPD_t = Public\ Debt$

$lnER_t = Exchange\ Rate$

$\varepsilon_t = Error\ term$

A log-linear model was developed to examine the effect of Fiscal policy, External Capital Inflows, Public debt and Exchange rate on Economic Growth. This study used a log-linear specification because it allowed the coefficients to be interpreted as elasticities.

A quantitative time-series approach was relevant, since it allowed the measurement of statistical relationships, with both short-run adjustment and long-run equilibrium behaviour captured. The econometric methods include an ADF unit root test, PP, ARDL, Bounds test and ECM.

This study used secondary data derived from World Bank's World Development Indicators (WDI) data and Department of Statistics Malaysia (DOSM). The data set brought together annual series from 1970 to 2022. The transformed variables were then checked for stationarity by the Augmented Dickey–Fuller test to establish their order of integration.

The Augmented Dickey-Fuller (ADF) unit root test was used in this study to test the stationarity of each variable meanwhile the Phillips-Perron (PP) test was used to examine the presence of unit root in the time series. The Ordinary Least Squares (OLS) approach was used as a reference model to investigate the relationship between the dependent variable and the independent variables. The model used to analyze the short-run and long-run relationships between the variables was the Autoregressive Distributed Lag (ARDL) model. The ARDL model has the benefit of estimating both short-run dynamics and long-run equilibrium relationships in a single framework (Hill et al., 2011).

The ARDL bounds testing model that was developed by Pesaran et al. (2001) was used to test whether a long-run relationship exists between the variables. The Error Correction Model (ECM) was used when variables were cointegrated to enable the model to include both short-run and long-run equilibrium relationships (Hill, Griffiths and Lim, 2011).

The CUSUM and CUSUMSQ tests developed by Brown, Durbin and Evans (1975) were used to examine the stability of the estimated model. The model was considered stable when the plotted statistics remain within the 5 percent critical bounds. In addition, the Variance Inflation Factor (VIF) was used in this paper to detect multi-collinearity.

To test the existence of heteroskedasticity in the regression model, the Breusch-Pagan-Godfrey (BPG) test and Breusch-Godfrey Lagrange Multiplier test were used to check serial correlation. Finally, the Ramsey Regression Equation Specification Error Test (RESET) was used to test the hypothesis of whether the regression model was specified in its functional form.

EMPIRICAL FINDINGS AND DISCUSSION

Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
LNER	1.110	0.217	0.778	1.482
LNFDI	21.476	1.489	18.359	23.729
LNGDP	12.228	1.480	9.378	14.400
LNGOVEXP	10.892	1.367	7.968	12.806
LNPD	11.596	1.504	8.521	14.527

Table 1: Descriptive Statistics

LNFDI had the highest mean value of 21.476, followed by LNGDP (12.228), LNPD (11.596), and LNGOVEXP (10.892), with LNER having the lowest mean value of (1.110). Concerning dispersion, LNPD (1.504), LNFDI (1.489) and LNGDP (1.480) had a relatively high dispersion compared to LNGOVEXP (1.367) and LNER (0.217). This implied that LNER was the least changeable variable whereas LNPD and LNFDI changed more with time. Most variables were slightly skewed, while LNER was slightly positively skewed. (Refer to Table 1).

Correlation Matrix

Variable	LNER	LNFDI	LNGDP	LNGOVEXP	LNPD
LNER	1.000	0.525	0.772	0.738	0.733
LNFDI	0.525	1.000	0.851	0.843	0.828
LNGDP	0.772	0.851	1.000	0.994	0.978
LNGOVEXP	0.738	0.843	0.994	1.000	0.980
LNPD	0.733	0.828	0.978	0.980	1.000

Table 2: Correlation Matrix

The results in Table 2 indicated there was a positive association between all variables. LNGDP was mostly highly correlated with other variables. LNGDP was strongly correlated with LNFDI (0.851) and LNER (0.772). LNGOVEXP and LNPD were highly correlated with each other (0.980. The high correlations among variables indicated the presence of multicollinearity, particularly in macroeconomic time-series data.

Unit Root Tests

Variable	ADF Level	ADF 1st Diff	PP Level	PP 1st Diff	Order of Integration
LNER	Non-stationary	Stationary***	Non-stationary	Stationary***	I(1)
LNFDI	Stationary**	Stationary***	Stationary**	Stationary***	I(0)/I(1)
LNGDP	Non-stationary	Stationary***	Stationary**	Stationary***	I(1)
LNGOVEXP	Non-stationary	Stationary***	Stationary**	Stationary***	I(1)
LNPD	Non-stationary	Stationary***	Non-stationary		I(1)

Table 3: ADF and PP Unit Root Test Results

The results in Table 3 revealed that most of the variables were non-stationary at level form. All variables showed no evidence of being stationary at level but become stationary after first differencing in the ADF test. So, all the variables were integrated of order one, I (1). The results of the Phillips Perron (PP) unit root test with the intercept, intercept with a trend specification at level revealed that majority of the variables were non-stationary. Similarly, LNER was not stationary at level under both specifications, (-0.502959) and (-2.905533) because thhey were insignificant. First-differencing led to all variables to be highly significant at 1% significance level under both specifications. The overall result of the PP test was consistent with the results of the ADF test, which means that all variables were non-stationary at level but become stationary after taking the first difference. Thus, all variables were integrated of order one, I(1).

OLS Estimation

Variable	Coefficient	T-statistic	Significance
C	-0.2801	-0.972	
LNGOVEXP	0.8361	12.325	***
LNFDI	0.00793	3.542	***
LNPD	0.0802	1.386	
LNER	0.6911	5.619	***

Model Statistics	
Statistic	**Value**
R^2	0.993
Adj R^2	0.993
F-stat	1822.81***
Dw	0.884

Table 4: OLS Estimation Results

The results in Table 4 showed that LNGOVEXP was positively significant at 1% significance level with economic growth. The estimated coefficient of 0.8361 implied that 1% increase in government spending would be associated with an increase in economic growth by 0.8361% while other factors remain constant. Similarly, the relation between LNFDI and economic growth was positive and significant with coefficient value of 0.00793 and t-statistic of 3.542. LNPD was insignificant at 1% significance level (t-statistic = 1.386). Overall, the Adjusted R-squared for the model was 0.993. Moreover, the F-Statistic was found to be significant at 1% significance level (1822.81) indicating all the explanatory variables were significant in explaining the economic growth. The Durbin–Watson statistic was 0.884, which revealed that there were serial correlation in the residuals.

Diagnostic Tests for OLS

Test	Statistic	p-value	Conclusion
Serial Correlation (LM)	12.371	0.0001	Presence of serial correlation
White test (Heteroskedasticity)	2.454	0.0142	Presence of heteroskedasticity
Ramsey (RESET)	5.164	0.0277	Model misspecification detected

Table 5: Diagnostic Test for OLS Model

The test statistic of the Breusch–Godfrey LM test was 12.371 and the p-value is 0.0001, which was significant at 1% significance level. Therefore, the null hypothesis that there was no serial correlation was rejected. The result suggested that there was serial correlation in the residuals. This was also in line with the relatively small Durbin-Watson statistic from the OLS estimation results reported. The test statistic for the White heteroskedasticity test was 2.454 with a p- value of 0.0142, which was less than the 5% significance level. So, the null hypothesis of homoskedasticity was rejected and it was concluded that the model was heteroskedastic. The test statistic and p-value from a Ramsey RESET test were 5.164 and 0.0277, respectively, which were both significant at 5% significance level. The overall view of the diagnostic test results showed that there were several econometric problems that exist in the OLS model, namely the problems of serial correlation, heteroskedasticity and misspecification of the model. Therefore, this study took the ARDL model which was more appropriate for analysing time series data and can be used to overcome the problem of dynamic relationships, serial correlation and long-term equilibrium analysis. Hence, the more appropriate method used was the Autoregressive Distributed Lag (ARDL) model, which provided more reliable and robust estimates. (Refer to Table 5).

ARDL

Variable	Coefficient	Prob.	Significance
LNGDP(-1)	0.895577	0.0000	***
LNGOVEXP	0.024958	0.8013	Insignificant
LNGOVEXP(-1)	-0.148167	0.2566	Insignificant
LNGOVEXP(-2)	0.183770	0.0394	**
LNFDI	0.037750	0.0000	***
LNER	-0.093533	0.4928	Insignificant

LNER(-1)	-0.043889	0.8085	Insignificant
LNER(-2)	0.293860	0.0203	**
LNPD	-0.021902	0.4584	Insignificant
Model Statistics			
Statistic	**Value**		
R^2	0.998825		
Adjusted R^2	0.998601		
AIC	-2.907065		
Durbin–Watson	1.817488		

Table 6: Selected ARDL Model Estimation Results

The lagged dependent variable, LNGDP(-1), was positive and significant at 1% significance level. LNFDI had a positive and significant relationship with economic growth at the 1% level. The variable LNGOVEXP in the current period was statistically insignificant. The second lag of government spending (LNGOVEXP(-2)) was however positive and significant at 5% significance level. The exchange rate variable (LNER) did not show significantly immediate effects on economic growth. However, the second lagged exchange rate variable, LNER(-2), was positive and significant at 5% significance level. In contrast, public debt (LNPD) was statistically insignificant, indicating no significant short-run effect on economic growth. The Adjusted R-squared value for this model was 0.998601. Further, a Durbin–Watson statistic of 1.817488 signified that there were no serious problems of autocorrelation, and an Akaike Information Criterion (AIC) of -2.907065 which supported the selection of the ARDL(1,2,0,2,0) model. (Refer to Table 6).

ARDL Bound test

Model	F-statistic	10% I(1)	5% I(1)	1% I(1)	Conclusion
ARDL(1,2,0,2,0)	19.11279	3.01	3.48	4.44	Cointegration Exists

Table 7: ARDL Bound Test

The calculated F-statistic value of 19.11279 was higher than the upper bound critical values at 10%, 5% and 1% significance levels. Therefore, the null hypothesis of no long-run relationship was rejected. The findings indicated that there was a long run cointegration relationship among economic growth, government expenditure, foreign direct investment, exchange rate and public debt. Hence, the ARDL model was appropriate for long-run estimation and Error Correction Model (ECM) analysis.(Refer to Table 7).

Long-Run Estimates

Variable	**Long-run Effect**	**Coefficient**	**Prob.**
LNGOVEXP	Insignificant	0.579959	0.1474
LNFDI	Weak Positive	0.361512	0.1014
LNER	Weak Positive	1.498131	0.0700
LNPD	Insignificant	-0.209744	0.5094

Table 8: Long-run estimate results

Government expenditure (LNGOVEXP) showed a positive but insignificant long-run relationship with economic growth under the selected ARDL model. Foreign direct investment (LNFDI) on the other hand did not exhibit a significant long-run relationship with economic growth in any of the estimated lag structures. In the case of exchange rate variable (LNER), the results showed that in the long-run it was insignificant at 10% significance level for Lag 2. The positive coefficient of 1.4981 indicated that exchange rate changes can have

long-run positive effects, but these effects seem to be delayed. The long-term models did not show a significant relationship between public debt (LNPD) and economic growth. This implied that public debt did not always affect the long-run performance of the economy during the period studied. It can be concluded that the ARDL long-run estimation suggested that exchange rate demonstrated weak positive long-run effects, while the other variables remain insignificant at 5% significance level in the selected model.(Refer to Table 8).

Error Correction Model (ECM)

ARDL Model	Error Correction Term, CointEq(-1)	t-Statistic	Prob.	Adjustment Speed (%)	Stability Condition
ARDL(1,2,0,2,0)	-0.104423	-10.23060	0.0000	10.44	Stable

Table 9: Error Correction Model (ECM) results

The findings revealed that the ECM coefficients for ARDL(1,2,0,2,0), was negative and significant at 1% significance level. This indicated that approximately 10.44% of the short-run disequilibrium was corrected in each period. Overall, the ECM results confirmed the existence of a stable long-run equilibrium relationship under the selected ARDL specification. (Refer to Table 9).

Diagnostic Tests

ARDL Model	F-statistic	Prob. F-statistic	Obs*R^2 Prob.	Conclusion
ARDL(1,2,0,2,0)	1.2943	0.2695	0.2568	No heteroskedasticity

Table 10: Diagnostic Tests results

The findings showed the diagnostic test for heteroskedastic results for the selected ARDL (1,2,0,2,0) model using the Breusch-Pagan-Godfrey (BPG) test. The F-statistic value of 1.2943 and Obs R^2 probability value of 0.2568 were both above the 5% significance level. Therefore, the null hypothesis of homoskedasticity was not rejected. This indicated that the variance of the residuals was constant and there was no evidence of heteroskedasticity in the selected ARDL model. Hence, the ARDL(1,2,0,2,0) model was considered econometrically stable and reliable for further analysis and interpretation. (Refer to Table 10).

Stability Test

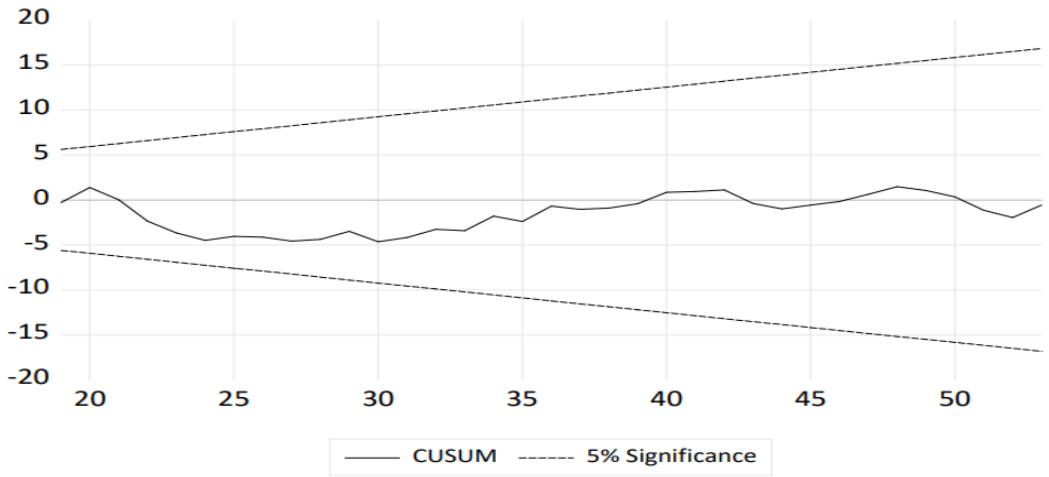

Figure 1: CUSUM Stability Test for the ARDL Model

The plotted CUSUM statistic was not outside of the 5% boundaries for the entire sample period. The CUSUM line did not cross or go past the upper and lower critical lines, so the null hypothesis of parameter stability was not rejected. This indicated that the coefficients in the model have been stable over time and there was no evidence of significant structural changes to the model. Hence, the estimated ARDL model was stable for the following short-term and long-term analysis. (Refer to Figure 1).

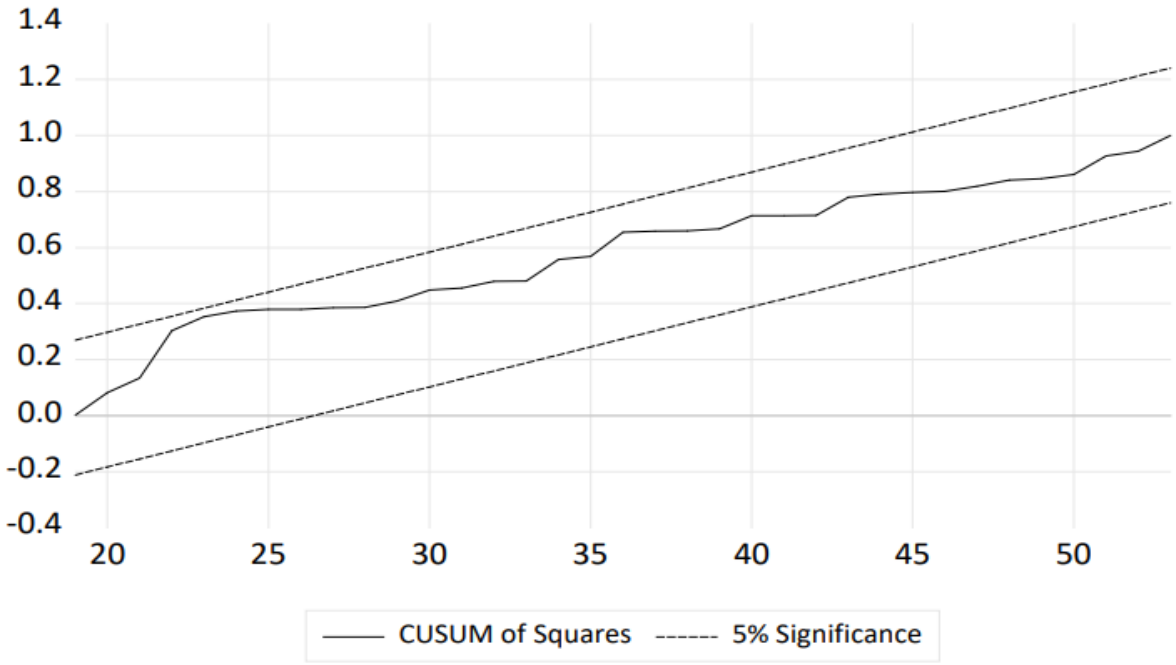

Figure 2: CUSUM of Squares Stability Test for the ARDL Model

The outcome of the stability test of the estimated ARDL model using the CUSUM of Squares (CUSUMSQ) was shown in Figure 2. The plotted value of CUSUMSQ stayed within the 5% critical values. Given that the CUSUMSQ line did not cross or go beyond critical bounds, the null hypothesis of parameter stability was not rejected. This indicated that the estimated ARDL model was structurally stable in the period of study. Overall, the results of both CUSUM and CUSUMSQ test confirmed that the estimated ARDL model was stable and can be used for further econometric interpretation and for policy analysis.

CONCLUSIONS

The study analysed the relationship between government expenditure, foreign direct investment, exchange rate, public debt and economic growth in Malaysia by adopting the ARDL model. The empirical results showed that there was a long run cointegration relationship between the variables. The findings also showed that foreign direct investment demonstrated positive effects on economic growth of the country whereas government expenditure had mainly delayed positive impacts in the long run. The relationship between economic growth and exchange rate changes had mixed results, whereas public debt showed an insignificant long-run relationship with economic growth. The study's results have significant implications for policymakers for promoting sustainable economic growth in Malaysia. The study proposes that the continuous foreign direct investment inflows and stable macroeconomic policies were key factors in sustaining long term economic development.

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