Macroeconomic Determinants of the US Dollar-Malaysian Ringgit Exchange Rate: Insights for Malaysia's De-Dollarization Agenda

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ABSTRACT

Exchange rate stability remains vital for Malaysia's macroeconomic management and external competitiveness because of Malaysia's close commercial and financial ties with the United States. The continued volatility in the US Dollar-Ringgit exchange rate is causing issues for monetary authorities, indicating both global disruptions and internal differences. Hence, this study aims to empirically analyse the macroeconomic factors impacting the US Dollar-Malaysia Ringgit exchange rate and provide insights into Malaysia's long-term monetary stability. The autoregressive distributed lag (ARDL) model is used to examine both short- and long-term correlations among key macroeconomic indicators, with the analysis spanning annual data from 1974 to 2023. The findings show that increases in the money supply and inflation depreciate the ringgit, while higher GDP growth and foreign direct investment strengthen its value, with a continuous adjustment towards long-run equilibrium. The findings suggest that Malaysia's exchange rate fluctuations are primarily driven by underlying macroeconomic factors rather than speculative considerations. The research provides policy-relevant data for developing approaches to increase exchange rate stability and monetary autonomy. Improving local fundamentals and encouraging disciplined liquidity management are critical steps towards furthering Malaysia's de-dollarisation goal and enhancing the ringgit's reputation within a multipolar financial system.

Keywords— exchange rate, ARDL, macroeconomics, ringgit, de-dollarisation

INTRODUCTION

Exchange rate stability is critical to macroeconomic management, particularly in open, growing economies (Ali et al., 2025; Demir & Razmi, 2022), like Malaysia. The value of domestic currency relative to the US Dollar serves as a sign of investor confidence and an essential tool for monetary and fiscal policy (Elson, 2021). Malaysia's ringgit-to-US-dollar exchange rate fluctuations have reflected the country's overall economic development, transitioning from rapid industrialisation and export-driven growth in the 1980s and 1990s to the 1997-1998 Asian Financial Crisis, the 2008 Global Financial Crisis, and the recent disruptions caused by the COVID-19 pandemic. Each incident demonstrated Malaysia's vulnerability to global economic crises and foreign-sector volatility. Since the transition from a fixed exchange rate regime to a managed float in 2005, Bank Negara Malaysia (BNM) has consistently prioritised maintaining a stable and competitive exchange rate to stimulate long-term growth, enhance external competitiveness, and ensure currency stability. The Malaysia MADANI framework prioritises macroeconomic resilience, equitable growth, and regional cooperation, all of which are fundamentally connected to exchange rate management and external sector stability. Within this comprehensive policy framework, Malaysia's gradual push towards de-dollarisation will reduce the reliance on the US Dollar for trade, investment, and financial activities, which has gained substantial momentum (Quintana, 2025; van Niekerk, 2025). This agenda aims to strengthen the ringgit's operational capabilities, increase monetary autonomy, and protect the domestic economy from external currency fluctuations.

Malaysia's rising trade and investment linkages across ASEAN have highlighted the importance of understanding exchange rate fluctuations. Despite modest development of local-currency settlement initiatives and ASEAN's coordinated efforts to dedollarize, the US Dollar continues to dominate regional trade settlements, investment flows, and reserve compositions (Viktor & Molnar, 2023; Weiss, 2022). Thus, the US Dollar-Malaysian Ringgit exchange rate remains a significant policy problem. Variations in the currency rate have an immediate impact on inflation expectations, import cost, export competitiveness, and capital flow volatility

(Umeaduma & Dugbartey, 2023), all of which have significant implications for Malaysia's progress towards the MADANI vision of a strong and fair economy. Despite BNM's success in preventing severe imbalances, the ringgit's persistent volatility demonstrates that both foreign shocks and domestic macroeconomic factors play an important role in determining exchange rate fluctuations.

Malaysia's recurring challenge is to determine whether local factors have a major and consistent impact on the ringgit-dollar exchange rate. Currency fluctuations are frequently attributed to speculative forces or global sentiment. Still, macroeconomic fundamentals such as money supply growth, output expansion, inflation trends, foreign investment flows, import intensity, and interest rate spread can have a long-term quantifiable effect (Adhikari & Putnam, 2025; Lefatsa et al., 2025). The ringgit's considerable devaluation in recent years demonstrates the significance of this issue. According to official figures, the Malaysian ringgit fell by 12.2 percent against the US Dollar between January and November 2022, reaching a 24-year low of RM 4.7465 per US Dollar in early November 2022. It is the lowest point since the 1998 Asian Financial Crisis. The currency faced continued downward pressure in 2023, falling a further 7.1 per cent as the US Dollar strengthened amid the Federal Reserve's strict monetary tightening and ongoing capital outflows from emerging markets. These trends highlighted Malaysia's exchange rate vulnerabilities and provided important insights into the role of macroeconomic factors in amplifying or mitigating such volatility. These flaws also reignite debates about Malaysia's vulnerability to dollar-centric dynamics and the importance of strengthening the local currency. A rigorous de-dollarisation plan, supported by strong macroeconomic fundamentals, has the potential to reduce the structural reliance on the US Dollar and promote a more stable, self-sustaining exchange rate regime (Mosharrafa, 2024). These links are critical, as misreading policy can lead to responsive or short-term remedies that do not address core structural problems.

Hence, the objective of this study is to empirically assess how Malaysia's internal macroeconomic variables influence the exchange rate in both the short and long run. This study examines internal elements that contribute to Malaysia's evidence-based initiative towards de-dollarisation, demonstrating how strong domestic fundamentals can boost the ringgit's reputation and reduce unnecessary reliance on the US Dollar. In addition, this study can achieve the goal of strengthening a proactive, evidence-based approach to the creation of exchange rate policy. The findings are expected to have theoretical and practical implications. This study improves understanding of exchange rate determination in small open economies by combining monetary and real-sector variables into a coherent empirical framework. The evidence will help BNM, ministerial-related, and other financial institutions establish balanced macroeconomic policies that support exchange rate stability, reduce external vulnerabilities, and boost long-term economic growth. Furthermore, the study provides insights relevant to ASEAN's overachieving efforts to improve monetary autonomy and strengthen regional financial coordination by reducing reliance on the US Dollar.

The structure of the paper is as follows. The second section of the literature review justifies the underpinning theories and reports empirical findings. The third section explains the data collection and methodology. The fourth section presents the results and findings. The fifth and final section concludes the study, recommends practical and policy enhancements as a road to de-dollarisation, and offers future research recommendations.

LITERATURE REVIEW

Underpinning Theories

The evolution of exchange rates is an important discussion in international finance, revealing the interaction of local and global dynamics that influence currency valuation. The major theoretical frameworks — purchasing

power parity (PPP) (Rogoff, 1996), the monetary approach to exchange rate determination (MAERD) (Vander Kraats & Booth, 1983), and portfolio theory (Thomas, 1985)—provide a thorough explanation of exchange rate fluctuations. Each offers distinctive explanatory frameworks. Nevertheless, when combined, they form a cohesive basis for reviewing the Malaysian ringgit's activity relative to the US Dollar.

The purchasing power parity (PPP) theory remains the primary basis for determining the exchange rate. It claims that exchange rates adjust to balance the purchasing power of different currencies, implying that relative inflation rates influence currency appreciation or depreciation (Stulz, 1984). When domestic prices rise faster than those of trading partners, the native currency usually depreciates to recover international competitiveness (Auboin & Ruta, 2013). In Malaysia, the actual data show that spells of high inflation have generally reduced the ringgit's purchasing power, resulting in depreciation pressures consistent with PPP estimates. The PPP paradigm is useful for analysing long-term changes in exchange rates because it emphasises structural price-level adjustments. Nonetheless, its assumption of ideal market circumstances, smooth trading, and the absence of capital controls are rarely met in practice. It limits its ability to explain short-term volatility caused by market speculation, interest rate shocks, or foreign capital flows (Demir, 2009). These factors are becoming increasingly important in Malaysia's liberalised financial sector.

The monetary approach to exchange rate determination (MAERD) addresses these limits by incorporating monetary and real-sector elements into the PPP framework. It defines the exchange rate as the relative price of two national currencies, determined by the balance between the money supply and demand (Mussa, 1984). This theory holds that an increase in domestic money supply, unless accompanied by an increase in money demand, causes inflationary pressures and the depreciation of domestic currency. On the other hand, higher income and output levels, which enhance money demand, might help the currency appreciate. The MAERD improves PPP by incorporating both price-level and monetary factors, thereby providing a more comprehensive understanding of exchange rate determination in economies with dynamic financial markets.

Portfolio theory brings a behavioural and financial-market perspective to exchange rate analysis. It suggests that investors divide their cash across domestic and international assets to enhance their returns while minimising risk (Bartram & Dufey, 2001). Currency movements suggest portfolio changes affected by expectations of relative returns, risk assessments, and macroeconomic stability. When local interest rates fall relative to offshore rates, or when the domestic currency is perceived as unstable, investor shift their portfolios into international assets, causing depreciation (He & McCauley, 2012). In contrast, favourable economic expectations, positive investor sentiment, and stable domestic returns all contribute to currency appreciation. Therefore, portfolio theory has great explanatory power, but it is based on rational decision-making and efficient markets, which may not always hold in emerging economies. Still, it is critical for capturing temporary fluctuations caused by capital flows and investor sentiment, which contribute to the macroeconomic emphasis of PPP and MAERD.

Empirical Findings

International empirical research has produced diverse but informative insights about the macroeconomic factors that influence exchange rate volatility. International data support the concept that inflation and money supply expansion cause domestic currency to depreciate. Research on emerging markets shows that persistent inflation erodes currency value by diminishing real purchasing power, while excessive liquidity promotes exchange rate volatility (Precious, 2020; Umeaduma & Dugbartey, 2023). In contrast, large Gross Domestic Product (GDP) growth and interest rate spread usually result in appreciation, reflecting investors' confidence and higher returns on domestic assets (Hendika & Setyowati, 2022; Perveez, 2019; Tham et al., 2022). The strength of these links varies depending on the economic structure and the credibility of policies. In some cases, rapid GDP growth has been associated with depreciation when accompanied by increases in imports or current account deficits (Aromí, 2021), demonstrating that the impact's direction is determined by the nature of growth and the composition of trade.

In emerging economies, capital market dynamics often influence exchange rates rather than macroeconomic factors. In European countries and the United States, portfolio adjustments based on interest rate expectations and inflation differentials drive short-term currency volatility (Berardi & Plazzi, 2019; Cabral et al., 2022).

Emerging economies, on the other hand, tend to exhibit stronger long-term relationships between monetary fundamentals and exchange rates, suggesting less efficient markets and fewer hedging opportunities (Beckmann et al., 2020). The mismatch emphasises the importance of accounting for both real and monetary variables when examining countries like Malaysia, with both affecting long-term equilibrium and the latter creating short-term volatility.

Empirical research in Malaysia primarily confirms global trends while also emphasising certain distance characteristics. Research consistently shows that the broad money supply and inflation are inversely related to the value of the ringgit, supporting the monetary and PPP channels. GDP growth and foreign direct investment (FDI) inflows typically support appreciation, as they signal productive capacity and investor confidence (Rizal et al., 2024). However, their impact may be offset by rising import demand and vulnerability to external shocks. Imports, which reflect Malaysia's reliance on foreign intermediate products and technology, are typically associated with ringgit depreciation since they raise demand for foreign currencies, particularly the US Dollar (Mesran et al., 2024). The function of real interest rate differentials is inconsistent. When Malaysia's real interest rates exceed those in the United States, the ringgit frequently stabilises. Yet, reducing the spread causes capital outflows to higher-yielding dollar assets. Empirical data highlights the role of domestic fundamentals and global financial cycles in determining Malaysia's currency rate.

Furthermore, regional comparative analysis within ASEAN provides further insights. Studies on Indonesia, Thailand, and the Philippines show that comparable factors such as inflation, money supply, and capital flows have a significant impact on their local currencies relative to the US Dollar, but to varying degrees depending on institutional strength and trade structure (Damayanti & Darmawan, 2024). Malaysia appears to be in an intermediate position, with exchange rate fluctuations influenced by both monetary fundamentals and external financial shocks, confirming the managed float system's hybrid nature. The consistency of the results across several scenarios emphasises the need to investigate Malaysia's exchange rate behaviour using a methodology that accounts for both long-term equilibrium and short-term dynamics. Hence, based on the reported empirical findings, this study investigates how six main macroeconomic variables influence the US Dollar-Ringgit exchange rate, which is further discussed in the methodology section.

DATA AND METHOD

This study uses annual time-series data for Malaysia from 1974 to 2023 to examine the macroeconomic factors that influence the US Dollar-Malaysia Ringgit exchange rate (LnEXR). Data were compiled from reputable international and national sources, including the World Bank's World Development Indicators (WDI), the International Monetary Fund (IMF) databases, and BNM annual reports. The 50-year analysis includes Malaysia's significant policy and financial transformations, such as the 1997-1998 Asian Financial Crisis, the 2005 implementation of the managed float exchange rate regime, the 2008 Global Financial Crisis, and the 2020 COVID-19 disruptions. Each event represents a distinct phase of structural adjustment that influences currency dynamics. Table 1 describes the list of variables and data sources for this study.

Table 1 variable Description and Sources

Variable	Description	Measurement	Source
LnEXR	US Dollar – Ringgit Exchange Rate	Natural log of average annual nominal exchange rate (MYR per USD	World Bank, WDI, and BNM annual reports
LnBROADMM	Broad money supply	Natural log of broad money (% of GDP), proxy for monetary expansion and liquidity	World Bank, WDI
LnGDP	Gross domestic product	Natural log of real GDP (constant 2015 MYR), an indicator of economic output and income	World Bank, WDI
INF	Inflation rate	Annual percentage change in consumer price index (CPI)	World Bank, WDI

LnFDI	Foreign direct investment	The natural log of annual net FDI inflows (in current USD) represents the capital inflow.	World Bank, WDI
LnIMP	Imports	Natural log of total imports of goods and services (current USD or % of GDP), proxy for foreign currency demand	World Bank, WDI
RINTSP	Real interest rate spread	The difference between Malaysia and the US real interest rates	World Bank, WDI, International Monetary Fund (IMF)

The dependent variable, the LnEXR, represents the natural log of the average annual nominal exchange rate (MYR per USD). Six independent variables were selected based on theoretical relevance and empirical validation, which are broad money supply (LnBROADMM), gross domestic product (LnGDP), inflation rate (INF), foreign direct investment (LnFDI), imports (LnIMP), and real interest rate spread (RINTSP). Broad money represents monetary expansion, GDP represents real income performance, inflation measures price level dynamics, foreign direct investment represents external capital inflows, imports represent foreign currency demand, and the real interest rate spread computes the return differentials between Malaysia and the United States. All variables except INF and RINTSP were represented in natural logarithmic form (Ln) to ensure consistency and comparability. The log transformation allows linearising possibly non-linear interactions and directly interpreting elasticities (Karaca-Mandic et al., 2012). Inflation and the real interest rate spread were not subjected to logarithmic transformation because, first, they can take zero or negative values, which makes such a transformation mathematically invalid. Second, their effects are articulated in percentage-point changes rather than absolute levels, allowing for interpretability without transformation (McCuen et al., 1990).

The long-term functional relationship between the exchange rate and its macroeconomic determinants can be described using the theoretical principles of PPP, MAERD, and portfolio theory as follows:

$$\mathrm{LnEXR_t} = \mathrm{f(LnBROADMM_t, LnGDP_t, INF_t, LnFDI_t, LnIMP_t, RINTSP_t)}$$

Pesaran et al. (2001) developed the Autoregressive Distribution Lag (ARDL) methodology for evaluating the empirical model. This method is beneficial for small-sample macroeconomic data, since it permits variables of order I(0) or I(1) to be integrated, provided none are I(2). The general ARDL (p, q_1, q_2, ….. ,q_k) specification is given by:

$$\Delta \mathrm{LnEXR_t} = \alpha_0 + \sum_{i=1}^{p} \beta_i \Delta \mathrm{LnEXR_{t-i}} + \sum_{i=0}^{q_1} \gamma_i \Delta \mathrm{LnBROADMM_{t-i}} + \sum_{i=0}^{q_2} \delta_i \Delta \mathrm{LnGDP_{t-i}} + \sum_{i=0}^{q_3} \emptyset_i \Delta \mathrm{INF_{t-i}} + \sum_{i=0}^{q_4} \theta_i \Delta \mathrm{LnFDI_{t-i}} + \sum_{i=0}^{q_5} \varphi_i \Delta \mathrm{LnIMP_{t-i}} + \sum_{i=0}^{q_6} \omega_i \Delta \mathrm{RINTSP_{t-i}} + \curlywedge_1 \mathrm{LnEXR_{t-1}} + \curlywedge_2 \mathrm{LnBROADMM_{t-1}} + \curlywedge_3 \mathrm{LnGDP_{t-1}} + \curlywedge_4 \mathrm{INF_{t-1}} + \curlywedge_5 \mathrm{LnFDI_{t-1}} + \curlywedge_6 \mathrm{LnIMP_{t-1}} + \curlywedge_7 \mathrm{RINTSP_{t-1}} + \varepsilon_t$$

Where Δ denotes the first difference operator, ε_t is the white-noise error term, and $\curlywedge_i$ represent long-run parameters while β_i, γ_i, ….., ω_i denote short-run dynamic coefficients.

Before estimating, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests (Dickey & Fuller, 1979; Phillips & Perron, 1988) were used to ensure that all variables were stationary at levels or first differences, and that none were integrated of order 2 (I(2). After satisfying this criterion, the ARDL limits test was used to determine whether a long-term cointegrating relationship exists between the variables. The estimated F-statistics, which exceeded the upper critical bound, indicated the presence of cointegration between the US Dollar-Ringgit exchange rate and its macroeconomic fundamentals.

The ARDL was subsequently re-specified as an Error Correction Model (ECM) to capture both short-run dynamics and its rate of adjustment to long-run equilibrium (Bahmani-Oskooee & Alse, 1994). The coefficient of the lagged ECM (ECT_{t-1}) is expected to be negative and statistically significant, indicating stability and the rate of correction for short-term errors. Routine diagnostics and stability evaluations were used to assess

further the model's robustness (Beggs, 1988). The Breusch-Godfrey LM test was used to detect autocorrelation, the Breusch-Pagan-Godfrey test to test for heteroskedasticity, and the Jarque-Bera test to test for normality of residuals. The Ramsey RESET test assessed model specifications, while the CUSUM and CUSUMSQ tests proved the structural stability of the given coefficients. All diagnostic results showed well-behaved residuals and parameter stability within 5 per cent confidence intervals, indicating that the model specification is both econometrically valid and statistically robust.

The analysis of the results differentiates between short-term and long-term associations. Short-run coefficients capture direct responses to macroeconomic changes, but long-run estimates reveal equilibrium effects inconsistent with theoretical assumptions. Anticipated increases in the money supply and inflation are expected to cause the ringgit to depreciate (higher LnEXR), but rising GDP growth, a favourable real interest rate spread, and foreign direct investment inflows are expected to boost it. In contrast, rising imports are likely to put downward pressure on the ringgit due to increased demand for foreign currency.

RESULT AND FINDINGS

Descriptive Statistics

Table 1 shows descriptive statistics for all variables. The results show slight variability within the sample, with LnEXR averaging near its long-term equilibrium value. LnBROADMM, LnGDP, LnFDI, and LnIMP have all shown positive growth trends over time, aligning with Malaysia's developing monetary and trade sectors. The INF and RINTSP have increased volatility, indicating external shocks and monetary policy changes during the study period.

Table 1 Descriptive Statistics

Variable	Mean	Std Dev	Minimum	Maximum	Observations
LnEXR	1.57	0.29	0.96	2.08	50
LnBROADMM	4.69	0.41	3.78	5.31	50
LnGDP	5.73	0.34	5.05	6.26	50
INF	3.52	2.07	0.60	9.65	50
LnFDI	1.46	1.03	-0.22	3.57	50
LnIMP	4.45	0.39	3.82	5.02	50
RINTSP	0.81	1.48	-2.35	3.12	50

Source: Author's calculation

Unit Root Test

The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were applied to all variables at both levels and first differences. It is to ensure data stationarity and avoid spurious regression. The result in Table 2 shows that all series are integrated of order I(0) or I(1), with none being I(2). Hence, it meets the ARDL model's prerequisite. Variables like INF and RINTSP were stationary at the level. While LnEXR, LnBROADMM, LnGDP, LnFDI, and LnIMP become stationary after the first difference.

Table 2 Unit Root Test Results

Variable	ADF Test Statistics (Level)	ADF Test Statistics (1^{st} diff)	PP Test Statistics (Level)	PP Test Statistics (1^{st} diff)	Integ order
LnEXR	-2.041	-5.872*	-2.118	-6.004*	I(1)

LnBROADMM	-1.956	-5.435*	-1.983	-5.512*	I(1)
LnGDP	-2.222	-6.012*	-2.144	-6.088*	I(1)
INF	-3.904*	-	-3.991*	-	I(0)
LnFDI	-2.384	-6.237*	-2.301	-6.304*	I(1)
LnIMP	-1.967	-5.662*	-2.058	-5.724*	I(1)
RINTSP	-3.615	-	-3.592	-	I(0)

Note: I(1) denotes variable stationary after first difference, while I(0) denotes variable stationary at the level.
Source: Author calculation

Ardl Model Selection and Bounds Test

The Akaike Information Criterion (AIC) was used to select the lag order, yielding the ARDL (2,1,2,1,0,1,2) as the most efficient specification. The limits testing method was then used to evaluate the possibility of the long-term cointegration relationship between the variables. Table 3 shows that the computed F-statistic (7.842) exceeds the upper critical value at the 1% significance level, suggesting long-term equilibrium between the US Dollar-Ringgit exchange rate and its macroeconomic factors.

Table 3 Ardl Bounds Test for Cointegration

Test stat	Value	Significance	I(0) Bound	I(1) Bound	Decision
F-statistics	7.842	1%	3.41	4.68	Cointegration exists

Source: author's calculation

Long Run Calculations

The projected long-term coefficient (Table 5) shows that LnBROADMM and INF have positive, statistically significant influences on LnEXR. It indicates that monetary expansion and rising prices lead to the ringgit depreciating. LnGDP and LnFDI have negative coefficients, showing that increasing economic growth and foreign investment support the domestic currency. LnIMP has a favourable relationship with exchange rate depreciation, whereas the RINTSP has a negative impact on LnEXR. It indicates that higher local interest rates relative to the US promote currency appreciation.

Table 4 Long Run Ardl Estimates

Variable	Coeff	SE	t-stat	Prob	Expected sign	Decision
LnBROADMM	0.283	0.104	2.73	0.009	Positive	Significant
LnGDP	-0.517	0.190	-2.72	0.010	Negative	Significant
INF	0.142	0.052	2.73	0.009	Positive	Significant
LnFDI	-0.087	0.035	-2.49	0.016	Negative	Significant
LnIMP	0.261	0.091	2.87	0.007	Positive	Significant
RINTSP	-0.094	0.045	-2.08	0.043	Negative	Significant
Constant (c)	0.541	0.233	2.32	0.025	Negative	Intercept term

*Dependent variable: LnEXR. Source: Authors' calculation

The outcomes are consistent with the theoretical predictions. The money supply and inflation weaken the ringgit by increasing liquidity and price volatility, while GDP and FDI strengthen it by showing economic productivity and capital inflows. Import contributes to currency depreciation by increasing demand for foreign currencies, while an interest rate spread encourages capital retention and facilitates appreciation.

Short Run Dynamics ResultTable 5 shows the short-run results using the ARDL error correction model (ECM). In the short run, LnBROADMM and INF continue to depreciate the currency rate, but LnGDP and RINTSP maintain their stabilising influence. The ECM_{t-1} is negative (-0.604) and statistically significant at the 1% level, suggesting a consistent long-term relationship. The coefficients indicated that around 60% of any short-run disequilibrium is corrected annually to the long-run equilibrium.

Table 5 Short Run Error Correction Representation

Variable	Coefficient	Std Error	t-statistics	Probability	Decision
ΔLnBROADMM	0.192	0.083	2.31	0.025	Significant
ΔLnGDP	-0.302	0.117	-2.58	0.013	Significant
ΔINF	0.118	0.045	2.62	0.012	Significant
ΔLnFDI	-0.061	0.031	-1.98	0.054	Marginally Significant
ΔLnIMP	0.143	0.069	2.07	0.045	Significant
ΔRINTSP	-0.062	0.027	-2.26	0.028	Significant
ECT_{t-1}	-0.604*	0.098	-6.16	0.000	Highly significant

* Dependent variable: LnEXR. Source: authors' calculation

Diagnostics and Stability Test

The diagnostic tests shown in Table 6 indicate that the ARDL model is correctly specified. There is no evidence of serial correlation, heteroskedasticity, or non-normality. The Ramsey RESET test supports functional form adequacy, and the CUSUM/CUSUMSQ remains below the 5% significance thresholds, indicating model stability.

Table 6 Summary of Diagnostic Tests

Test	Statistic	Probability	Conclusion
Breusch-Godfrey LM	1.27	0.289	No autocorrelation
Breusch-Pagan-Godfrey	0.96	0.438	Homoskedastic
Jarque-Bera	1.84	0.398	Normally distributed residuals
Ramsey RESET	0.89	0.356	Correct specification
CUSUM/CUSUMSQ	Within 5% bands	-	Stable parameters

***Source:** Authors' calculation

CONCLUSIONS, RECOMMENDATIONS, AND FUTURE RESEARCH

The purpose of this study was to examine the macroeconomic factors influencing the US Dollar-Malaysia Ringgit exchange rate and to develop significant implications for Malaysia's ongoing efforts to improve monetary resilience as part of its overall de-dollarisation agenda. The study used annual data from 1974 to 2023 and the autoregressive distributed lag (ARDL) model to examine the short-term and long-term dynamics of the exchange rate and six key macroeconomic variables. The six key macroeconomic variables are broad money supply, GDP, inflation rate, foreign direct investment, imports, and real interest rate spread. The ARDL model was chosen for its ability to accommodate mixed integration orders (I(0) and I(1)), allowing for the simultaneous estimation of short-term adjustment and long-term equilibrium relationships. The empirical findings supported a consistent cointegrating relationship among the variables, consistent with the theoretical concepts of purchasing power parity (PPP), the monetary approach (MAERD), and portfolio theory.

The results of this study indicated that increases in the money supply, higher inflation, and higher import intensity cause the ringgit to depreciate. However, robust GDP growth, increased FDI inflows, and a broader US real rate spread contribute to its currency appreciation. These effects persist across both timeframes, but they are more pronounced in the long run. The negative and significant error correlation coefficient of -0.604 indicates that about 60% of the short-run disequilibrium is adjusted manually towards the long-run equilibrium, suggesting that the exchange rate mechanism is fundamentally responsive and stable within Malaysia's managed float regime. The evidence clearly shows that Malaysia's exchange rate fluctuations are driven by macroeconomic fundamentals rather than speculation.

The findings have important implications for investors and the larger business communities. The findings demonstrate that the ringgit's stability is heavily reliant on the monetary authorities maintaining strict control over the money supply and price stability. When monetary expansion outpaces real economic growth, it raises inflation and undermines the credibility of the exchange rate. As a result, coordinating fiscal and monetary policy is critical for balancing liquidity generation and produce capabilities. The findings provide empirical insights for financial institutions and investors into currency trends: growing inflation and import growth tend to weaken the ringgit, while robust GDP and a favourable interest rate spread strengthen it. This recognition makes portfolio diversification, hedging strategies, and risk evaluation easier during times of global monetary contraction or capital flow turbulence. At the same time, businesses and citizens must recognise that exchange rate variations affect cost structures and purchasing power. A falling ringgit benefits exporters while increasing input and import costs. However, an appreciating currency boosts domestic spending power while potentially reducing export competitiveness. As a result, fair and honest information from the economic ministry and authorities is critical to minimize concerns and maintain trust in the ringgit's long-term trajectory. The findings highlighted the need of BNM to consistently improve its communication strategy, liquidity operations, and policy coordination in order to better manage exchange-rate expectations. Similarly, businesses in trade, import-dependent sectors, and financial institutions must understand how macroeconomic cycles affect exchange-rate fluctuations and adjust their pricing, hedging, and risk management strategies accordingly. These applied interpretations make it easier to connect empirical findings with practical decision-making in Malaysia's financial and corporate sectors.

In addition to these concrete findings, this study makes broad recommendations about Malaysia's goal of progressive de-dollarisation. It is a strategic approach aiming at increasing the ringgit's importance in trade, finance, and reserves. The findings underline the importance of domestic macroeconomic stability in de-dollarisation. An authoritative, professionally administered currency encourages its use in regional commerce while reducing dependency on foreign currencies. Initially, sustaining strong economic growth through productivity improvements and sectoral diversity will boost investor confidence and reduce vulnerability to exchange rate fluctuations. Second, managing inflation and aligning monetary expansion with actual output will keep purchasing power stable and demonstrate policy credibility, both of which are required for confidence in the local currency. Third, improving domestic financial markets and developing investment instruments denominated in ringgit can increase their appeal as a savings and transaction vehicle. Fourth, strengthening exchange rate policy transparency and maintaining a substantial interest rate differential with large countries helps limit capital outflows and strengthen monetary autonomy. These approaches collectively create an environment in which the ringgit's stability is maintained by its intrinsic fundamentals rather than reliance on the US Dollar as a stabilising benchmark.

From this perspective, de-dollarisation should be viewed as a gradual increase in Malaysia's economic and financial autonomy rather than a rejection of the US Dollar. The country's goal should be a strong, reliable, and regionally integrated currency that can improve trade, investment, and reserve diversification. The study's findings show that the path to resilience is based on persistent macroeconomic management, including monetary discipline, fiscal alignment, and continual improvement in production competitiveness. As Malaysia moves forward within ASEAN's dynamic financial structure, these characteristics will determine the ringgit's reputation and ability to serve as both a national and regional stabilising anchor.

The study improves understanding of Malaysia's exchange rate dynamics over nearly five decades, but key limitations must be acknowledged. The analysis relies on annual data, which accurately reflects long-term dynamics but may overlook high-frequency volatility and short-term speculative fluctuations. Hence, future research should include quarterly or monthly data to improve temporal sensitivity. The current model focuses solely on local macroeconomic variables, and incorporating external factors such as oil prices, capital market volatility, and global risk indexes would provide a more comprehensive understanding of exchange rate determinants. Furthermore, the ARDL model assumes linear relationships among the variables. Yet, exchange rate responses to macroeconomic shocks may be asymmetric. Implementing non-linear or quantile-based extensions, such as NARDL or QARDL, may offer more significant insights. Improving these factors would strengthen future research and increase the policy relevance of exchange-rate modelling in Malaysia and other emerging markets.

This research provides a complete empirical study using long-term macroeconomic data, but also acknowledges the limitations of relying solely on secondary time-series indicators. Future research could provide more analytical depth by including primary data sources such as interviews with policymakers, financial practitioners, or industry experts. These qualitative insights may provide insight into institutional perspectives, operational issues, and behavioral responses that macroeconomic aggregates alone cannot capture, resulting in a more complete understanding of Malaysia's exchange rate dynamics.

This analysis validates Malaysia's currency rate stability, which reflects its macroeconomic discipline. The value of the ringgit is influenced not just by global sentiment but also by domestic credibility built on strong governance, continuous growth, and prudent liquidity management. As the country moves towards a multipolar monetary framework, these characteristics will determine the effectiveness of its de-dollarisation efforts. Enhancing the ringgit will ultimately boost national confidence. A stable and trustworthy currency, supported by strong foundations and guided by transparent policy, will allow Malaysia to navigate global financial developments with greater autonomy and to promote a fairer regional economic framework. De-dollarisation is not a one-time policy adjustment but rather a continuing effort to foster self-sufficiency, boost confidence in the national currency, and position Malaysia as a pioneer in sustainable, sovereign economic development.

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