RESEARCH ARTICLE

Applied Econometrics and International Development

Volume 26, Issue 1 (2026)

The Role of Exchange Rate Movements In Botswana's Growth Trajectory: 1974-2025

Henry Muleya[1], Sanderson Abel[2,*], Robson Manenge[3] and Pierre Le Roux[4]

[1]Department of Accounting and Finance, Lupane State University, Bulawayo, Zimbabwe; [2]Department of Economics, Nelson Mandela University, Port Elizabeth, South Africa & Botswana University of Agriculture and Natural Resources, Department of Agricultural and Applied Economics; [3]Department of Economics, Midlands State University, Gweru, Zimbabwe; [4]Department of Economics, Nelson Mandela University, Port Elizabeth, South Africa

CORRESPONDING AUTHOR

*Address correspondence to this author at the Nelson Mandela University, Department of Economics, Port Elizabeth, South Africa & Botswana University of Agriculture and Natural Resources, Department of Agricultural and Applied Economics

Received: June 05, 2026 **Accepted: June 08, 2026** **Published: October 29, 2026**

ABSTRACT:

The exchange rate is a critical macroeconomic policy instrument that influences economic growth, trade competitiveness, investment, inflation, and external sector stability. Botswana's transformation from one of the poorest countries in the world at independence to an upper-middle-income economy has largely been supported by prudent macroeconomic management and exchange rate policy. The study examines how exchange rate movements have influenced economic growth in Botswana between 1974 and 2025. Annual time-series data covering the period 1974-2025 are utilised. The study adopts the Non-Linear Autoregressive Distributed Lag (NARDL) modelling framework to analyse both the short-run and long-run relationships between exchange rate dynamics and economic growth. The study controls for trade openness, foreign direct investment, credit growth, and gross fixed capital formation. The study is motivated by the limited empirical literature examining the historical contribution of exchange rate policy to Botswana's economic development despite the country's notable success in macroeconomic management. The findings are expected to provide important policy implications regarding exchange rate competitiveness, economic diversification, and sustainable growth in resource-dependent economies.

Keywords: Exchange rate, economic growth, botswana, nardl, exchange rate policy, economic development.

1. INTRODUCTION

Exchange rate policy remains one of the most important macroeconomic instruments influencing economic performance in both developed and developing economies. The exchange rate affects international competitiveness, trade flows, inflation, capital movements, investment decisions, and overall economic growth. A stable and competitive exchange rate promotes export growth, encourages foreign direct investment, and enhances resource allocation efficiency, thereby contributing to long-term economic development (Habib *et al*., 2017; Couharde *et al.*, 2018).

Botswana presents an important case study in exchange rate management and economic transformation. Since attaining independence in 1966, Botswana has recorded one of the fastest economic growth rates in Africa and the world. The country successfully transformed itself from a low-income economy characterised by weak infrastructure and high poverty levels into an upper-middle-income country. This economic success has largely been attributed to diamond exports, prudent fiscal management, strong institutions, and sound macroeconomic policies (Rodrik, 2018).

Exchange rate policy has played a central role in Botswana's development strategy. Prior to 1976, Botswana relied heavily on the South African Rand under the Rand Monetary Area arrangement. The introduction of the Botswana Pula in 1976 provided the country with monetary independence and

the flexibility to pursue exchange rate policies aligned with domestic economic objectives. Since then, Botswana has adopted various exchange rate management frameworks aimed at maintaining external competitiveness, preserving macroeconomic stability, and promoting economic diversification.

In 2005, Botswana adopted a crawling peg exchange rate framework designed to maintain a stable and competitive real effective exchange rate. The framework allows gradual adjustments of the Pula against a basket of currencies based on inflation differentials and competitiveness considerations. According to the International Monetary Fund (2025), the crawling peg system has contributed significantly to Botswana's macroeconomic stability and export competitiveness.

Exchange rate policy has become increasingly important in Botswana due to the country's heavy dependence on diamond exports. Diamond revenues account for a significant proportion of export earnings, foreign exchange receipts, and government revenues. Consequently, fluctuations in global diamond markets expose Botswana to external shocks and economic vulnerabilities. Exchange rate management has therefore been utilised as a mechanism for cushioning the economy against external disturbances while supporting export competitiveness and economic diversification (Bank of Botswana, 2025).

Despite the acknowledged importance of exchange rate management in Botswana, limited empirical evidence exists regarding its long-term contribution to economic growth. Most existing studies focus on monetary policy, inflation, and financial sector development, with relatively little attention devoted to exchange rate policy as a determinant of growth. Furthermore, recent developments including declining diamond demand, increasing diversification challenges, and adjustments to Botswana's exchange rate framework have renewed interest in understanding the growth implications of exchange rate management.

This study therefore seeks to investigate the role of exchange rate movements in Botswana's growth trajectory from 1974 to 2025. Specifically, the study examines the relationship between exchange rate movements and economic growth while controlling for other macroeconomic factors. The study contributes to the growing literature on exchange rate economics and development by providing country-specific evidence from Botswana.

2. LITERATURE REVIEW

The study is grounded in the Purchasing Power Parity (PPP) Theory, the Mundell-Fleming Model, and the Dutch Disease Theory.

The Purchasing Power Parity Theory developed by Cassel (1918) argues that exchange rates adjust over time to equalise price levels between countries. The theory suggests that exchange rate misalignments influence trade competitiveness and economic performance through changes in relative prices.

The Mundell-Fleming Model developed by Mundell (1963) and Fleming (1962) explains the interaction between exchange rates, monetary policy, and economic output in an open economy. The model suggests that exchange rate depreciation stimulates economic growth through increased export competitiveness and aggregate demand.

The Dutch Disease Theory developed by Corden and Neary (1982) explains how resource booms may lead to exchange rate appreciation, reducing competitiveness in non-resource sectors such as manufacturing and agriculture. This theory is particularly relevant to Botswana due to its dependence on diamond exports.

The relationship between exchange rates and economic growth has attracted considerable attention in recent literature. Empirical studies generally suggest that competitive exchange rates promote economic growth by stimulating exports, investment, and industrial development.

Habib et al. (2017) found that exchange rate competitiveness contributes positively to economic growth, particularly in developing economies. Similarly, Couharde et al. (2018) established that exchange rate undervaluation enhances export performance and economic expansion in emerging markets. Vieira et al. (2020) further argued that competitive exchange rates facilitate structural transformation and industrialisation.

Conversely, exchange rate overvaluation has been associated with slower economic growth. Aguirre and Calderón (2019) reported that exchange rate overvaluation weakens export competitiveness, discourages investment, and reduces growth performance. Similar findings were reported by Kohler (2020), who observed that persistent currency overvaluation negatively affects productivity and economic expansion.

The study is anchored on the Purchasing Power Parity (PPP) Theory, the Mundell-Fleming Model, and the Dutch Disease Theory because they explain how exchange rate movements influence economic growth, trade competitiveness, and macroeconomic stability. PPP Theory highlights the role of exchange rates in determining relative prices and competitiveness, while the Mundell-Fleming Model explains how exchange rate policy affects output, investment, and trade in an open economy. The Dutch Disease Theory is particularly relevant to Botswana due to its dependence on diamond exports, which can lead to currency appreciation and reduced competitiveness of non-mining sectors. Together, these theories provide a suitable framework for examining the role of exchange rate policy in Botswana's growth trajectory and economic diversification.

Recent literature highlights the adverse effects of exchange rate volatility on economic growth. Exchange rate instability increases uncertainty, discourages investment, and raises transaction costs for businesses engaged in international trade. The relationship between exchange rate movements and economic growth has received considerable attention in both developed and developing economies. Empirical studies suggest that exchange rate policy affects growth through trade competitiveness, investment, productivity, and macroeconomic stability channels. However, the direction and magnitude of the relationship remain inconclusive.

Several studies have found a positive relationship between exchange rate competitiveness and economic growth. Habib, Mileva and Stracca (2017) examined a panel of developing

and emerging economies and found that a competitive exchange rate promotes economic growth by enhancing export performance and stimulating industrial development. Similarly, Couharde et al. (2018) reported that exchange rate undervaluation positively contributes to economic growth by improving international competitiveness and encouraging domestic production. Vieira et al. (2020) also established that competitive exchange rates support structural transformation and industrialisation in developing countries.

In contrast, other studies have highlighted the adverse effects of exchange rate misalignment and volatility on economic performance. Aguirre and Calderón (2019) found that exchange rate overvaluation reduces economic growth by weakening export competitiveness and discouraging investment. Likewise, Kohler (2020) reported that persistent exchange rate appreciation negatively affects productivity growth and economic expansion in developing economies. These findings support the view that maintaining a competitive exchange rate is essential for sustaining long-term growth.

A growing body of literature has also examined the effects of exchange rate volatility on economic growth. Aftab, Syed and Katper (2017) found that exchange rate volatility reduces economic growth by increasing uncertainty and discouraging private investment. Bahmani-Oskooee and Gelan (2018) similarly observed that excessive exchange rate fluctuations negatively affect trade performance and economic activity. More recently, Sahoo and Sethi (2022) concluded that exchange rate instability weakens growth prospects in developing economies by raising transaction costs and reducing investor confidence.

Empirical studies further demonstrate that exchange rate movements influence economic growth through trade openness. Le Goff and Singh (2019) found that trade openness positively affects economic growth by facilitating technology transfer, improving efficiency, and expanding market opportunities. Similarly, Zahonogo and Coulibaly (2021) established that increased trade integration contributes significantly to economic growth in African economies. Since exchange rates directly influence export and import competitiveness, trade openness remains an important transmission mechanism through which exchange rate policy affects growth.

The relationship between exchange rates and foreign direct investment has also attracted significant attention. Boateng et al. (2022) found that exchange rate stability encourages foreign direct investment inflows by reducing uncertainty and improving the investment climate. Increased FDI contributes to economic growth through capital accumulation, technology transfer, employment creation, and productivity improvements. However, the growth effects of FDI depend on the absorptive capacity of the host economy and the extent of linkages between foreign firms and domestic industries.

Resource-dependent economies face unique exchange rate challenges due to their exposure to commodity price fluctuations and external shocks. Bleaney and Greenaway (2021) found that effective exchange rate management enhances the ability of resource-rich economies to adjust to external disturbances and maintain macroeconomic stability. Similarly, Sachs and Warner (2020) argued that poor exchange rate management in resource-dependent economies can result in currency overvaluation and Dutch Disease effects, thereby reducing the competitiveness of non-resource sectors.

Although extensive empirical literature exists on exchange rates and economic growth, evidence specific to Botswana remains limited. Most studies have focused on inflation, monetary policy, financial development, and fiscal performance, with relatively little attention devoted to the long-term contribution of exchange rate policy to economic growth. Furthermore, previous studies have largely assumed a symmetric relationship between exchange rates and growth, despite growing evidence that positive and negative exchange rate movements may affect economic performance differently. This study addresses this gap by employing the Nonlinear Autoregressive Distributed Lag (NARDL) model to investigate the asymmetric effects of exchange rate movements on Botswana's growth trajectory from 1974 to 2025.

3. METHODOLOGY

The study investigates the role of exchange rate policy in Botswana's growth trajectory from 1974 to 2025. To achieve this objective, the study adopts a time-series research design. The theoretical foundation of the study is informed by exchange rate theories and economic growth models which suggest that exchange rate dynamics influence economic performance through trade competitiveness, investment, and productivity channels.

Annual time-series data covering the period 1974-2025 will be utilised. The data will be obtained from the World Bank's World Development Indicators, International Monetary Fund databases, Bank of Botswana Annual Reports, and Botswana Statistics Agency publications.

The functional relationship among the variables is expressed as:

$$GDP = f(exr, cred, fdi, trad, gfcf) \qquad (1)$$

The estimable econometric model is specified as:

$$GDP_t = \beta_0 + \beta_1 exr_t + \beta_2 cred_t + \beta_3 fdi_t + \beta_4 trad_t + \beta_5 gfcf_t + \varepsilon_t \qquad (2)$$

Where GDP = Economic Growth; exr = Exchange Rate; cred = Credit; fdi = Foreign Direct Investment; trad = Trade Openness; gfcf = Gross Fixed Capital Formation and ε = Error Term.

The study employs the Non-Linear Autoregressive Distributed Lag (NARDL) model developed by Pesaran et al. (2001). The NARDL approach is appropriate because it accommodates variables integrated at both level I (0) and first difference I (1). Furthermore, the model estimates both long-run and short-run relationships simultaneously and performs efficiently in small samples.

The ARDL model is specified as:

$$\Delta GDP_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \Delta GDP_{t-i} + \sum_{i=0}^{q} \alpha_2 \Delta exr_neg_{t-i} + \sum_{i=0}^{q} \alpha_3 \Delta exr_pos_{t-i} + \sum_{i=0}^{q} \alpha_4 \Delta cred_{t-i} + \sum_{i=0}^{q} \alpha_5 \Delta fdi_{t-i} + \sum_{i=0}^{q} \alpha_6 \Delta trad_{t-i} + \sum_{i=0}^{q} \alpha_7 \Delta gfcf_{t-i} + \lambda ECT_{t-1} + \mu_t \qquad (3)$$

Table 1. Descriptive statistics.

Statistic	GDP	cred	exrate	fdi	gfcf	trad
Mean	5.8156	19.9632	5.1834	2.6119	1.68E+10	101.7299
Median	6.4212	17.4854	4.6591	2.0462	7.09E+09	99.2833
Maximum	19.4500	39.6343	13.5964	15.5941	8.00E+10	125.7830
Minimum	-14.1442	6.6405	0.7395	-10.7748	9.955E+08	68.8572
Std. Dev.	6.1601	9.5116	3.9071	3.8228	2.09E+10	14.8517
Skewness	-0.8597	0.4639	0.6061	-0.1031	1.2569	0.0282
Kurtosis	4.4315	1.8792	2.1593	7.3662	3.5914	1.8714
Jarque-Bera	10.4281	4.4103	4.5337	39.8040	13.8493	2.6604
Probability	0.0054	0.1102	0.1036	0.0000	0.0010	0.2644
Observations	52	52	52	52	52	52

Sources: Author.

Where: Δ denotes first differences, $ECT_{t-1}$is the error correction term, λ represents the speed of adjustment toward long-run equilibrium and $\varepsilon_t$is the white noise error term. The justification of the variables is discussed below:

Economic Growth (GDP) is used as the dependent variable and is measured by annual GDP growth rates. Economic growth reflects the overall performance of the economy.

Exchange Rate (exr) is the principal explanatory variable. Exchange rate competitiveness is expected to positively influence economic growth through improved exports, investment, and production efficiency.

Foreign Direct Investment (fdi) is incorporated to capture the contribution of external capital inflows to economic growth. Increased FDI is expected to positively influence growth through technology transfer and capital accumulation.

Trade Openness (trad) is measured as the ratio of exports and imports to GDP. Greater openness is expected to promote growth through increased market access and international competitiveness.

Gross Fixed Capital Formation (gfcf) is used as a proxy for investment. Increased investment contributes positively to economic growth by expanding productive capacity.

Credit growth (cred) is the increase in the amount of loans and borrowed money that banks, and lenders give to people, businesses, and the government over a period. Credit growth fuels economic growth by providing capital for business investments and consumer spending.

The estimation procedure begins with Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests to determine the order of integration of the variables. Thereafter, the NARDL Bounds Test is employed to establish cointegration among variables. Long-run coefficients and short-run dynamics are then estimated using the Error Correction Model (ECM). To ensure robustness and reliability of the empirical results, diagnostic tests including the Breusch-Godfrey Serial Correlation Test, ARCH Heteroscedasticity Test, Jarque-Bera Normality Test, and CUSUM Stability Tests will be conducted.

4. RESULTS AND ANALYSIS

This section of the study provides the presented and analysis of findings of the study, starting with descriptive statistics, stationarity test, bounds test for cointegration, model estimation and diagnostics tests of the model.

Table **1** shows that GDP growth averaged 5.82% over the study period, while trade openness averaged 101.73%, indicating a highly open economy. Domestic credit, exchange rate, and FDI recorded mean values of 19.96%, 5.18, and 2.61%, respectively. GDP, fdi, and gfcf exhibited relatively high volatility as reflected by their standard deviations. The high degree of trade openness is consistent with Le Goff and Singh (2019) and Zahonogo and Coulibaly (2021), who argue that integration into international markets enhances growth opportunities through increased market access and efficiency gains. The substantial variation observed in exchange rates and fdi may reflect Botswana's exposure to external shocks and fluctuations in international commodity markets, particularly the diamond sector.

The skewness results indicate that GDP and fdi are negatively skewed, whereas cred, exrate, gfcf, and trad are positively skewed. The Jarque-Bera normality test reveals that GDP, fdi, and gfcf are not normally distributed, while cred, exrate, and trad are normally distributed. These findings are common in macroeconomic time-series data and support the use of robust econometric techniques capable of accommodating non-normality and structural changes in economic variables.

The Augmented Dickey-Fuller (ADF) unit root test results indicate that GDP and FDI are stationary at level and are therefore integrated of order zero, I (0). In contrast, CRED, EXRATE, GFCF, and TRAD are non-stationary at level but

Table 2. Unit root test.

Variable	Level ADF Statistic	Level *P*-value	First Difference ADF Statistic	First Difference P-value	Order of Integration
GDP	-4.3635	0.0010			I (0)
fdi	-5.1217	0.0001			I (0)
cred	-0.5521	0.8715	-6.0119	0.0000	I (1)
exrate	1.9836	0.9998	-5.5896	0.0000	I (1)
gfcf	4.4224	1.0000	-5.3997	0.0000	I (1)
trad	-1.1371	0.6938	-5.8612	0.0000	I (1)

Sources: Author.

Table 3. Bounds test for cointegration.

Test Statistic	Value	I (0) Bound (5%)	I (1) Bound (5%)	Decision
F-statistic	7.458	2.950	4.308	Reject H_0
t-statistic	-5.223	-2.892	-4.265	Reject H_0

Sources: Author.

become stationary after first differencing, indicating that they are integrated of order one, I (1). The results reveal a mixed order of integration among the variables, with none being integrated of order two, I (2). Consequently, the NARDL approach is appropriate for analysing the relationship among the variables since it accommodates a combination of I (0) and I (1) variables. This finding supports Pesaran et al. (2001), who argue that the ARDL and NARDL frameworks are particularly suitable when variables are integrated at a combination of I (0) and I (1).

The bounds test results confirm the existence of a long-run equilibrium relationship among economic growth, exchange rate asymmetries, gross fixed capital formation, foreign direct investment, trade openness, and domestic credit. The F-statistic (7.458) is greater than the upper bound critical value (4.308), while the t-statistic (-5.223) exceeds the upper bound critical value in absolute terms, confirming cointegration. The existence of cointegration suggests that these variables move together over time despite short-run fluctuations. This finding is consistent with Pesaran *et al.* (2001), who argue that a significant bounds test confirms the presence of a stable long-run relationship among variables. The result also supports studies such as Habib *et al.* (2017) and Couharde et al. (2018), which found that exchange rate dynamics, trade openness, and investment are important long-run determinants of economic growth in developing economies.

Table **4** results indicate that the NARDL model fits the data reasonably well. The R^2 value of 0.6232 shows that 62.32% of the variation in economic growth is explained by the explanatory variables included in the model. The adjusted R^2 of 0.5519 suggests that 55.19% of the variation in GDP remains explained after adjusting for the number of regressors. Furthermore, the Root MSE of 5.0830 indicates an acceptable level of prediction error. Overall, the results suggest that the model has satisfactory explanatory power and is suitable for analysing the determinants of economic growth in Botswana.

The negative and statistically significant error correction term (ECT = -0.8808, $p < 0.01$) confirms the existence of a stable long-run relationship among the variables. The coefficient implies that approximately 88% of short-run disequilibrium is corrected within one year. This finding is consistent with Pesaran et al. (2001), who argue that a significant and negative error correction term confirms cointegration and the stability of long-run relationships within the ARDL/NARDL framework.

In the long run, positive exchange rate shocks (exrate_pos) exert a negative and statistically significant effect on economic growth, while negative exchange rate shocks (exrate_neg) positively influence growth. These findings provide evidence of asymmetric exchange rate effects and support the studies of Habib et al. (2017), Couharde et al. (2018), and Vieira et al. (2020), who found that competitive exchange rates promote economic growth through enhanced export competitiveness and improved resource allocation. The negative effect of exchange rate appreciations is also consistent with Aguirre and Calderón (2019) and Kohler (2020), who reported that currency overvaluation reduces competitiveness and slows economic growth.

Trade openness has a positive and statistically significant effect on economic growth, suggesting that greater integration into international markets contributes to economic expansion. This finding supports Le Goff and Singh (2019) and Zahonogo and Coulibaly (2021), who found that trade openness promotes growth through technology transfer, market expansion, and efficiency gains.

Foreign direct investment (fdi) exerts a negative and statistically significant effect on economic growth. This result contradicts the findings of Boateng et al. (2022), who reported a positive contribution of FDI to economic growth. The negative coefficient may indicate that fdi inflows into Botswana have been concentrated in sectors with weak linkages to the

Table 4. NARDL short-run and long-run results.

Variable	Coefficient	Std. Error	t-Statistic	P-value
Error Correction Term (ADJ)				
GDP (-1)	-0.8808	0.1687	-5.22	0.000***
Long-Run Coefficients				
exrate_pos	-2.7856	0.8457	-3.29	0.003***
exrate_neg	12.5884	4.7841	2.63	0.014**
gfcf	1.39E-11	4.78E-11	0.29	0.773
fdi	-5.53E-09	1.88E-09	-2.94	0.006***
trad	0.1822	0.0257	7.08	0.000***
cred	-0.1505	0.0980	-1.54	0.136
Short-Run Coefficients				
LD.gdp	1.0670	0.3075	3.47	0.002***
L2D.gdp	0.3597	0.2130	1.69	0.102
L3D.gdp	0.4426	0.1434	3.09	0.005***
D(exrate_neg)	-24.0191	9.7922	-2.45	0.021**
LD(exrate_neg)	-20.7678	7.2670	-2.86	0.008***
L2D(exrate_neg)	-16.4415	5.3360	-3.08	0.005***
L3D(Exrate_neg)	-6.5390	3.7071	-1.76	0.089*
D(gfcf)	5.82E-10	2.81E-10	2.08	0.047**
D(cred)	-0.7285	0.3710	-1.96	0.060*
Constant	-19.6110	6.2227	-3.15	0.004***
Model Statistics				
Statistic	Value			
Log Likelihood	-132.6138			
R^2	0.6232			
Adjusted R^2	0.5519			
Root MSE	5.0830			

Sources: Author Note: *** p < 0.01, ** p < 0.05, * p < 0.10, NS = Not Significant.

domestic economy, thereby limiting their growth-enhancing effects.

Gross fixed capital formation (gfcf) has a positive but statistically insignificant coefficient, implying that investment has not significantly influenced long-run economic growth. Similarly, domestic credit (cred) exhibits a negative but insignificant effect, suggesting that credit expansion has not translated into substantial productive investment within the economy.

In the short run, exchange rate depreciations negatively affect economic growth, with contemporaneous and lagged coefficients remaining statistically significant. This finding is consistent with Aftab et al. (2017), Bahmani-Oskooee and Gelan (2018), and Sahoo and Sethi (2022), who found that exchange rate volatility and depreciation can increase production costs, inflationary pressures, and economic uncertainty. Given Botswana's reliance on imported capital and intermediate goods, exchange rate depreciations may initially constrain economic activity before generating long-run competitiveness gains.

Gross fixed capital formation positively influences economic growth in the short run, indicating that investment expenditure contributes to immediate increases in economic activity. Domestic credit exerts a weak negative effect, suggesting possible inefficiencies in credit allocation. Overall, the

findings indicate that exchange rate policy plays a significant role in Botswana's growth trajectory, with exchange rate depreciations generating short-run adjustment costs but long-run growth benefits, while trade openness remains an important driver of economic performance.

Table 5. Diagnostic Test Results.

Diagnostic Test	Test Statistic	Degrees of Freedom	P-value
Breusch-Pagan/Cook-Weisberg Heteroscedasticity Test	$\chi^2 = 0.04$	χ^2 (1)	0.8345
Breusch-Godfrey LM Autocorrelation Test	$\chi^2 = 0.018$	1	0.8929
Ramsey RESET Test	F = 2.49	F (3,34)	0.0769

Sources: Author.

The diagnostic tests indicate that the estimated NARDL model is statistically reliable. The Breusch-Pagan test shows no evidence of heteroscedasticity (p = 0.8345), the Breusch-Godfrey LM test confirms the absence of serial correlation (p = 0.8929), and the Ramsey RESET test suggests that the model is correctly specified (p = 0.0769). Therefore, the estimated coefficients can be considered robust and suitable for policy analysis and inference.

CONCLUSION AND RECOMMENDATIONS

This study examined the role of exchange rate policy in Botswana's growth trajectory using the NARDL approach. The results confirmed the existence of a long-run relationship among economic growth, exchange rate movements, trade openness, foreign direct investment, gross fixed capital formation, and domestic credit. Exchange rate movements were found to have asymmetric effects on economic growth, with depreciations promoting growth in the long run but constraining growth in the short run. Trade openness positively influenced economic growth, while foreign direct investment exerted a negative effect. Overall, the findings suggest that exchange rate policy remains an important instrument for promoting sustainable economic growth in Botswana.

The study therefore recommends that Botswana should maintain a competitive and stable exchange rate regime to support export competitiveness and long-run economic growth. This means that the real effective exchange rate (REER) should be able to balance a country's internal macroeconomic stability (full employment and stable inflation) with external balance. Policymakers should also minimise excessive exchange rate volatility to reduce short-run economic disruptions. Furthermore, efforts should be directed towards export diversification, strengthening the developmental impact of foreign direct investment, promoting trade integration, and increasing productive investment to enhance economic growth and reduce dependence on the diamond sector.

REFERENCES

Aftab, M., Syed, K. B. S., & Katper, N. A. (2017). Exchange-rate volatility and economic growth in Malaysia: The role of foreign direct investment. *Global Business Review, 18*(3), 626-643. https://doi.org/10.1177/0972150917692183

Aguirre, A., & Calderón, C. (2019). Real exchange rate misalignments and economic performance. *Economic Modelling, 81*, 211-224.

Bahmani-Oskooee, M., & Gelan, A. (2018). Exchange-rate volatility and international trade performance: Evidence from developing countries. *Economic Analysis and Policy, 58*, 52-65. https://doi.org/10.1016/j.eap.2017.12.005

Bank of Botswana. (2025). *Annual report 2024*. Bank of Botswana.

Bank of Botswana. (2025). *Monetary policy report: August 2025*. Bank of Botswana.

Bleaney, M., & Greenaway, D. (2021). Terms of trade, exchange rates and growth in resource-dependent economies. *Journal of Development Studies, 57*(4), 641-658. https://doi.org/10.1080/00220388.2020.1808194

Boateng, A., Hua, X., Nisar, S., & Wu, J. (2022). Exchange rate stability and foreign direct investment inflows in emerging economies. *International Review of Economics & Finance, 79*, 507–521. https://doi.org/10.1016/j.iref.2021.12.019

Cassel, G. (1918). Abnormal deviations in international exchanges. *The Economic Journal, 28*(112), 413-415. https://doi.org/10.2307/2223329

Corden, W. M., & Neary, J. P. (1982). Booming sector and de-industrialisation in a small open economy. *The Economic Journal, 92*(368), 825-848. https://doi.org/10.2307/2232670

Couharde, C., Delatte, A. L., Grekou, C., Mignon, V., & Morvillier, F. (2018). Measuring the effect of exchange rate misalignment on economic growth. *Economic Modelling, 74*, 286-294. https://doi.org/10.1016/j.econmod.2018.05.012

Fleming, J. M. (1962). Domestic financial policies under fixed and floating exchange rates. *IMF Staff Papers, 9*(3), 369-380.

Habib, M. M., Mileva, E., & Stracca, L. (2017). The real exchange rate and economic growth: Revisiting the case using external instruments. *Journal of International Money and Finance, 73*, 386–398. https://doi.org/10.1016/j.jimonfin.2017.02.014

International Monetary Fund. (2025). *Botswana: 2025 Article IV consultation report*. International Monetary Fund.

Kohler, M. (2020). Exchange rates and economic growth in developing economies. *Review of Development Economics, 24*(2), 687-704.

Le Goff, M., & Singh, R. J. (2019). Does trade openness matter for economic growth? Evidence from developing countries. *World Development, 120*, 24-39. https://doi.org/10.1016/j.worlddev.2019.03.003

Mundell, R. A. (1963). Capital mobility and stabilization policy under fixed and flexible exchange rates. *Canadian Journal of Economics and Political Science, 29*(4), 475-485. https://doi.org/10.2307/139336

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics, 16*(3), 289-326. https://doi.org/10.1002/jae.616

Rodrik, D. (2018). An African growth miracle? Revisiting Botswana's economic success. *Development Policy Review, 36*(S1), O3-O22. https://doi.org/10.1111/dpr.12242

Sachs, J. D., & Warner, A. M. (2020). Natural resource abundance and economic growth revisited. *The World Economy, 43*(7), 1732-1756.

Sahoo, M., & Sethi, N. (2022). Exchange rate volatility and economic growth: Evidence from emerging economies. *Journal of Economic Studies, 49*(3), 519-536. https://doi.org/10.1108/JES-08-2020-0408

Vieira, F. V., Holland, M., Da Silva, C. G., & Bottecchia, L. C. (2020). Growth and exchange rate competitiveness: Evidence from developing countries. *Journal of Economic Studies, 47*(2), 367-384. https://doi.org/10.1108/JES-12-2018-0443

Zahonogo, P., & Coulibaly, S. (2021). Trade openness, exchange rates and economic growth in Africa. *African Development Review, 33*(1), 140-155. https://doi.org/10.1111/1467-8268.12508

Copyright © 2026– All Rights Reserved
This is an open-access article.