Jurnal Ekonomi Malaysia 60(2) 2026
http://dx.doi.org/10.17576/JEM-2026-6002-1

Asymmetric Foreign Financial Inflows and Economic Growth: The Moderating Role of Government Effectiveness

(Aliran Masuk Kewangan Asing yang Tidak Simetri dan Pertumbuhan Ekonomi: Peranan Memoderasi Kecekapan Kerajaan)

Richard B. Laswai
Universiti Tunku Abdul Rahman

Abdelhak Senadjki
Universiti Tunku Abdul Rahman

William Choo Keng Soon
Universiti Tunku Abdul Rahman

ABSTRACT

The evolving global dynamics underscore the importance of the East African Community partner states restructuring governance frameworks to restrain escalating external debt, attract quality FDI, and ensure the productive use of ODA to stabilise exchange pressures. This study aims to evaluate the asymmetric impacts of external debt, FDI, ODA, and exchange rate shocks on growth in the East African Community bloc and to examine the moderating effects of government effectiveness. Panel NARDL results from 1996 to 2023, validated by the Dynamic Common Correlated Effects and structural breaks, reveal significant long-run asymmetries. The findings, in the absence of government effectiveness, show that positive shocks from external debt are deleterious to growth as debt-overhang effects crowd out FDI and increase ODA fungibility while exacerbating depreciation and appreciation shocks. Government effectiveness mitigates these distortions by substantially reducing debt overhang effects while stabilising exchange rate volatility and improving both FDI and ODA inflows. Based on these findings, a bundle of policy prescriptions addressed towards improving foreign financial inflows' productivity, governance and institutional reforms should remain a necessity.

Keywords: External debt; FDI; exchange rate; economic growth; government effectiveness.

ABSTRAK

Dinamik global yang semakin berkembang menekankan betapa pentingnya blok tersebut untuk menyusun semula rangka kerja tadbir urus bagi membendung kenaikan hutang luar yang semakin meningkat, menarik pelaburan langsung asing (FDI) berkualiti, serta memastikan penggunaan bantuan pembangunan rasmi (ODA) yang produktif bagi menstabilkan tekanan ke atas kadar pertukaran mata wang. Kajian ini bertujuan untuk menilai kesan hutang luar, Pelaburan Langsung Asing (FDI), Bantuan Rasmi Pembangunan (ODA), dan kejutan kadar pertukaran mata wang terhadap pertumbuhan ekonomi dalam kalangan Komuniti Afrika Timur, serta mengkaji kesan moderasi daripada keberkesanan kerajaan. Keputusan panel NARDL dari tahun 1996 hingga 2023, yang disahkan melalui Kesan Berkorelasi Umum Dinamik (Dynamic Common Correlated Effects) dan ujian pemecahan struktur (structural breaks), menunjukkan wujudnya ketidaksimetrian jangka panjang yang signifikan. Dapatan kajian menunjukkan bahawa, dengan ketiadaan kejutan positif daripada keberkesanan kerajaan, hutang luar memberi kesan buruk terhadap pertumbuhan kerana fenomena kesan beban hutang (debt-overhang) melampau telah menyekat pelaburan langsung asing (FDI) dan meningkatkan kebolehlunasan bantuan pembangunan asing (ODA), di samping memburukkan lagi kejutan susut nilai dan kenaikan nilai mata wang. Keberkesanan kerajaan dapat mengurangkan penyelewengan ini dengan pengurangan ketara kesan beban hutang (debt-overhang), di samping menstabilkan turun naik mata wang, dan seterusnya meningkatkan aliran masuk Pelaburan Langsung Asing (FDI) dan Bantuan Rasmi Pembangunan (ODA). Berdasarkan dapatan ini, sekumpulan preskripsi cadangan dasar yang menekankan peningkatan produktiviti aliran kewangan asing, serta reformasi tadbir urus institusi harus terus menjadi keperluan

Kata kunci: *Hutang luar; pelaburan langsung asing; kadar pertukaran; pertumbuhan ekonomi; keberkesanan kerajaan*

JEL: F21; F31; F34; F35; O40; O43
Received 23 November 2025; Revised 27 March 2026; Accepted 12 July 2026; Available online 30 July 2026

INTRODUCTION

The global financial crisis of 2008-09, the COVID-19 pandemic, persistent geopolitical tensions in the Middle East, the 2022 Russian invasion of Ukraine, and the ongoing deglobalisation of trade through tariff escalations and US-China technology disputes have collectively disrupted global financial flows (Alessandria et al. 2025; Ftiti et al. 2024; Wang et al. 2024). These episodes, driven by volatile foreign financial flows, have significantly reshaped global economic dynamics, influencing debt accumulation, liquidate foreign direct investment (FDI), elude official development assistance (ODA), and worsened exchange rates (Ftiti et al. 2024). The aggravated series of cascading shocks has also intensified global public debt. Global debt has reached $324 trillion-its highest level in history-equivalent to 235% of world GDP (IMF 2025; Reuters 2025). Rising from $251 trillion in 2024 to $324 trillion in May 2025, it could rise to over $360 trillion by 2030 (Szepanski 2024). This poses a dilemma to attain Sustainable Development Goals (SDGs) agendas in the East African Community (EAC) bloc due to severe debt-servicing challenges, as interest payments are rising faster than expenditures on health, food, and education (Mejia 2024). Tightening global financing conditions amid heightened uncertainty have amplified exchange rate shocks (Glebocki & Saha 2024). These headwinds resulted in a steep drop in global FDI in 2020 and rebounded in 2021 before falling by 12% in 2022 to $1.3 trillion (UNCTAD 2023). Concomitantly, tightening financing conditions in donor countries tumbled ODA inflows, dropping from $175 billion in 2020 to $160 billion in 2023, substantially below the SDGs target of 0.7% of GNI (UNCTAD 2025b).

The EAC bloc has accumulated substantial external debt, similar to developing economies, which face a development financing gap of $4.3 trillion (Elkhalfi et al. 2024; UNCTAD 2025a). In efforts to address investment challenges in the EAC, partner states have increasingly resorted to debt accumulation, which has expanded and dampened growth, signalling debt overhang (Mwakalila & Muba 2025). Public debt levels have intensified remarkably-Tanzania at TZS 125.7 trillion, Kenya at Ksh11.97 trillion, and Uganda at UGX116.2 trillion as of August 2025-diverting public resources towards debt servicing that crowd out FDI while thwarting ODA effectiveness (BOT 2025; CBK 2025; Mejia 2024). Despite mounting debt burdens, GDP growth has remained largely stagnant, sparking debate over debt sustainability and financing vulnerabilities (Mwakalila & Muba 2025). These dynamics have elevated interest payments on commercial borrowings to reach 500%, constrained credit availability, and discouraged FDI inflows, while simultaneously exacerbating exchange rate volatility (ADB 2025; Ojeka et al. 2024). EAC economies, balancing the benefits of borrowing with the need to attract quality FDI and ODA amid the perils of debt overhang, remain a critical policy dilemma (Dawood et al. 2024).

Studies on the asymmetric interplays from external debt, FDI, ODA, and exchange rate have generated inconclusive results, with findings reporting positive (Asaleye et al. 2023; Musse et al. 2024; Sokhanvar 2025), negative (Ojeka et al. 2024; Seraj et al. 2023; Thaker et al. 2024), or neutral (Akalpler 2023; Kolawole & Seyingbo 2025; Zardoub & Sboui 2023). Inconsistencies arise from methodological variations, endogeneity challenges, institutional quality disparities, differences in external debt structures and utilisation, and diverse macroeconomic and policy settings (Dawood et al. 2026; Sadiq et al. 2024). These multifaceted results underscore the need for a comprehensive and holistic empirical inquiry (Ftiti et al. 2024).

The existing body of literature demonstrates that robust institutions can substantially minimise external debt vulnerabilities by moderating the negative influences associated with it from FDI, ODA, and exchange rate fluctuations (Hilger et al. 2023; Ojeka et al. 2024). Government effectiveness (GE), evolving as a country's created assets, has emerged as an outstanding influencer of national development agendas, whose importance rivals that of physical infrastructure, natural resources, and cheap human capital (Patel et al. 2024). Effective governance mitigates the adverse consequences of debt overhang (Ojeka et al. 2024), moderates the successful FDI-growth relationship (Mapendo et al. 2025), and boosts the productive use of ODA (Kitole 2025). Exchange rates that are not influenced by political pressures and are underpinned by strong GE lead to sustainable economic growth (Jara & Piña 2023). Embedding GE in tandem with strong anti-corruption measures and political stability enhances disciplined management of foreign financial inflows (Atakpa et al. 2024). FDI and ODA nurtured with GE can influence the EAC bloc's debt dynamics by positively facilitating the efficient allocation of resources to productive sectors, sealing all illegal tunnels that divert public resources, thereby limiting excessive borrowing (Nutassey et al. 2023).

Plethora of development literatures have long examined the impact of foreign financial inflows on growth, but these authors have ignored the institutional channels (Atakpa et al. 2024; Rao et al. 2023; Zardoub 2023). The role of GE in moderating foreign financial inflows is fundamental but remains largely underexplored, particularly in the context of the EAC bloc. On the empirical front, (Aloulou et al. 2023; Asaleye et al. 2023) note a paucity of empirical literature examining the asymmetric intricacies of external debt, FDI, ODA, and the exchange rate, moderated by GE in a panel dataset for the EAC bloc. This is largely due to recent studies that are restricted to individual country-specific time-series frameworks and omit institutional governance (Mwakalila & Muba 2025; Ndou et al. 2024). Studies that exclusively incorporate GE to moderate the asymmetric effects of external debt, FDI, ODA, and the exchange rate on growth are scarce in the EAC bloc (Lv et al. 2023; Ramesh & Vinayagathasan 2023).

To fill the identified gaps, this study integrates, through the lens of debt overhang and institutional growth theories, to conceptualise how asymmetric foreign financial inflows and exchange-rate interplays shape EAC growth. The novelty of this research lies in its methodological approach, with the NARDL as the baseline model and DCCEs as the robustness checks. These models advance the existing body of literature by offering new pragmatic analytical insights in several key dimensions: First, this study delves into the asymmetric and nonlinear impacts of foreign financial inflows, moderated by GE, owing to the scarcity of asymmetric studies in the context of the EAC bloc (Alam et al. 2024; Nazamuddin et al. 2024). The majority of prior studies have assumed a symmetric and monotonic relationship by employing traditional linear specifications that overlook potential nonlinear effects, whose impacts may be beneficial at low levels but detrimental at excessive levels (Oyadeyi et al. 2024; Seraj et al. 2023).

Second, the study moderates first regressor variables with GE before partial sum decompositions, emphasising that governance improves the marginal productivity of external financial inflows to growth, rather than exclusively the size of variable shocks alone (Ojeka et al. 2024; Patel et al. 2024). This practice captures the joint governance-synchronised synergies rather than the mechanical decomposition of shocks from external debt, FDI, ODA, and the exchange rate in the real world (Beyene 2024). This aligns with the institutional growth theory, whereby political institutions nurture the shaping of economic institutions (IQs) that transmit growth within the bloc (Nutassey et al. 2023). Studies that have first moderated asymmetric foreign financial inflows with GE and then performed partial sum decompositions are scant (Khanday et al. 2024; Patel et al. 2024).

Third, this study employs second-generation panel econometric tests to address inherent challenges posed by heterogeneity, cross-sectional dependence (CSD), endogeneity, and structural breaks in its panel data (Chaudhry et al. 2024; Ditzen et al. 2025b).

This study sheds light on institutional deficiencies, capacity constraints, and fiscal and monetary policy reforms to ensure the EAC bloc maximises foreign financial inflows while minimising risks (Onatunji 2025). Foreign financial inflows, when effectively managed, can serve as a catalyst for growth, whereas mismanagement poses risks of financial instability, economic crisis, and liquidating FDI (Abdelgany & Al-deen 2023).

Empirically, this study endeavours to scrutinise the intricate domains with the objective of examining the asymmetric interplays from foreign financial inflows, moderated by government effectiveness in the EAC bloc, by complementing extant literature with new insights.

LITERATURE REVIEW

THEORETICAL UNDERPINNINGS

The theory of institutions posits that disparities in economic growth among nations with comparable resource endowments largely stem from differences in the institutional landscape (Beyene 2024). Patel et al (2024) explicate institutions and the governance architecture as conversion factors that enhance the productivity of traditional physical assets, while Beyene (2024) argues that robust institutions are necessary to convert traditional assets into sustainable economic growth. Although the classical growth frameworks of Solow (1956), Krugman (1988), and Romer (1990) emphasise capital and technological transformation, they fail to explain persistent cross-country growth disparity (Acemoglu et al. 2005; Bhasin & Garg 2020). Subsequently, the Institutional Growth Theory has emerged as the fundamental determinant of efficient resource allocation to bolster GDP growth (Dawood et al. 2026).

Krugman (1988) developed the Debt Overhang Theory, positing that when a nation's debt becomes too high, lenders don't expect to be repaid in full, thereby discouraging FDI investments and constraining economic growth. The theory asserts that excessive borrowing, i.e. positive shocks, diverts resources from productive sectors towards debt servicing, ultimately obstructing growth. Prudent and efficient use of borrowing, i.e., the slow accumulation of external debt in response to negative shocks, can stimulate productivity in infrastructure, healthcare, and education (Mwakalila & Muba 2025). Excessive debt accumulation shifts resources toward debt repayments and servicing, worsening FDI and depreciation pressures (Glebocki & Saha 2024). This frustrates the increase in inflows, i.e., positive shocks from quality FDI, and worsens exchange shocks, compelling the bloc to rely on ODA inflows to bridge these gaps (Waldron & Coyne 2024). The Debt Overhang Theory is relevant in the context of the EAC bloc, examining how the bloc evolves from a growth path with moderate shocks to a source of instability induced by accumulated debt. This theory supports the partial-sum decomposition of external debt by arguing that the impact of external debt on growth is not monotonic; it hinges on whether the bloc is in a low-debt (negative shocks) or high-debt (positive shock) regime (Mwakalila & Muba 2025). Krugman (1988) argues that the debt overhang occurs when the expected future repayments $E[R]$ are less than the accumulated debt D, i.e. $E[R] < D$. If the debt is huge [$D > Y$], any increase in output [Y] is quickly absorbed by creditors.

EMPIRICAL REVIEW

Empirical analyses examining the asymmetric nexus between foreign financial inflows and exchange rate shocks have produced conflicting results, indicating that the impact on growth can be positive, adverse, or statistically insignificant (Akalpler 2023; Asaleye et al. 2023; Dash 2023; Fisera 2024; Thaker et al. 2024).

Studies by Dinga et al (2024) and Ramzan et al (2023) examine the effect of external debt on growth and find that it has a detrimental impact on domestic investment and growth. They recommend policies to reduce bureaucracy and corruption and to channel external debt into road construction and electricity. Likewise, Dawood et al (2024) showed that excessive borrowing worsens growth and suggested strategic measures for the productive use of accumulated debt, with enhanced debt management, to avoid the overhang effect. However, Amoh et al (2024) examined the asymmetric impact of external debt in SSA and found that positive shocks promoted growth, while negative shocks were deleterious. The authors recommended that SSA economies strengthen domestic revenue mobilisation. Moreover, Sokhanvar (2025) and Mapendo et al. (2025) found that GE enriches FDI productivity through knowledge spillovers, whereas Thaker et al. (2024) and Zardoub (2023) report a negative relationship between FDI and ODA on growth. Similarly, Rao et al (2023) reveal that foreign aid, when accompanied by FDI inflows, negates growth, while Asaleye et al. (2023) find that positive ODA shocks promote growth, but negative shocks are inimical. Recommended to channel resources to the private sector to boost domestic investment, exchange rate, and efficient utilisation of ODA inflows in attracting FDI. Furthermore, Asaleye et al. (2023) reveal that both positive and negative exchange rate shocks promote growth, whereas Hordofa (2023) reports that exchange rate fluctuations exert a statistically significant negative impact on growth.

Shammre and Alshahrani (2024) examine the relationship between FDI propelled by GE using ARDL and find that improvements in GE foster growth, reduce borrowing costs, and encourage quality FDI to sustain favourable exchange rates. They offer policy recommendations to reform strategy for comprehensive FDI and infrastructure. Again, Ramzan et al. (2023) found that effective GE in Pakistan significantly shifted negative external debt toward positive growth, indicating that better institutions contribute to growth. Mongi and Saidi (2024) also examined the effects of GE in fostering FDI in middle-income countries and found that GE is significant in transmitting FDI to growth. Likewise, Abille and Mumuni (2023) and Patel et al (2024) found positive shocks from GE significantly endorse FDI to growth, advocating that governance policies are essential in attracting foreign investors in India. Again, the positive effects of GE on ODA were analysed by Wen et al. (2023), who found GE turned ODA and foreign aid from negative in the baseline results by injecting technical ODA into productive investments. On top of that, Baxa and Paulus (2024) analysed the impact of exchange rates in lower-middle-income (LMIC) and high-income countries and found that depreciation shocks promote growth in both groups, while moderation with GE promotes growth only in LMICs due to frail governance. Moreover, Lemurt et al. (2024) examine the role of GE in moderating exchange rates in Kenya and find that GE significantly influences exchange rates, highlighting the crucial roles of governance in shaping exchange rates for growth.

The appraisal of the literature highlights an incomplete recognition of the nuanced and asymmetric interplays among external debt, FDI, ODA, and exchange rates in shaping economic growth. Though some studies focus solely on external debt alone (Dawood et al. 2024; Dinga et al. 2024; Elkhalfi et al. 2024), few examine the effects of external debt, FDI, and ODA on growth (Atakpa et al. 2024; Rao et al. 2023; Zardoub 2023). Moreover, studies administered in panel data settings that examine the expansive asymmetric effects of external debt, FDI, ODA, and exchange rates moderated concurrently with GE in the EAC bloc are scant (Ndou et al. 2024; Oyadeyi et al. 2024; Thaker et al. 2024). Accordingly, this study aims to scrutinise the roles of GE in augmenting external debt, FDI, ODA, and exchange rates in explaining the economic growth of EAC partner states. It dwells on the NARDL of Shin et al (2014) and DCCEs proposed by Chudik and Pesaran (2015) in panel data models.

CONCEPTUAL FRAMEWORK

This paper aims to develop a succinct conceptual model that addresses asymmetric foreign financial inflows, drawing on theories, institutional quality, and growth-related hypotheses (Alabi 2026). Control variables include gross fixed capital formation (GFCF), human development index (HDI), and exports (EXP).

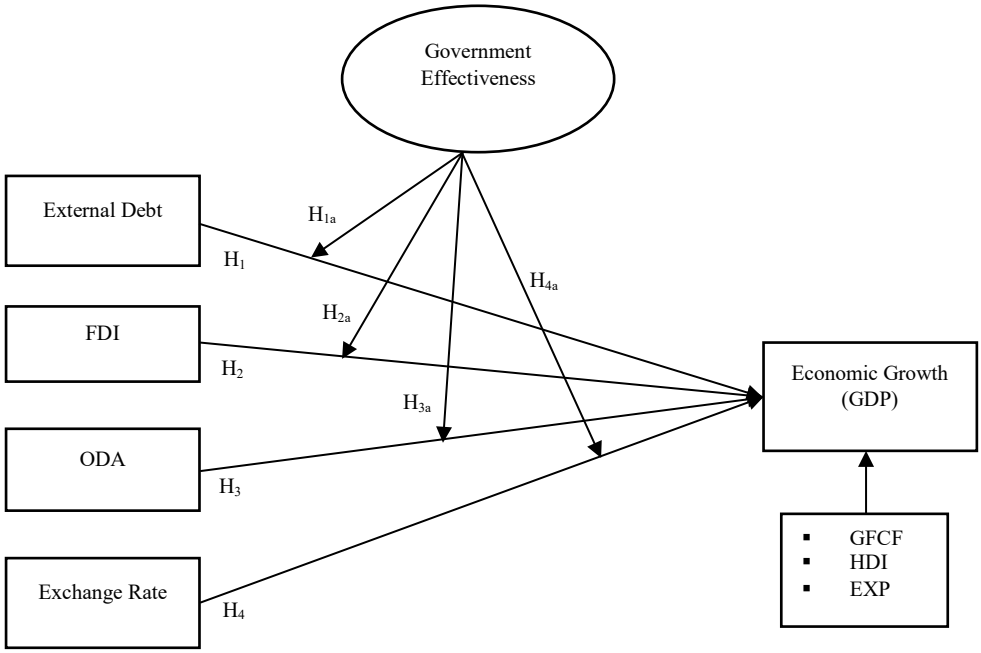


FIGURE 1. Asymmetric transmission channels to growth

HYPOTHESES DEVELOPMENT

The above literature review, together with the conceptual model, allowed the researchers to develop the following hypotheses, examining how asymmetric foreign financial inflows, moderated by GE, affect growth in the context of the EAC bloc.

H_{1a} The impact of external debt accumulation on growth is negative and significantly moderated by GE in the EAC bloc.
H_{2a} The impact induced by increasing FDI shocks on growth is positive and significantly moderated by GE in the EAC bloc.
H_{3a} The impact of increasing ODA shocks on growth is positive and significantly moderated by GE in the EAC bloc.
H_{4a} The impact of exchange appreciation shocks on growth is negative and significantly moderated by GE in the EAC bloc.

METHODOLOGY

VARIABLES AND DATA SOURCES

The study employed secondary panel data from 1996 to 2023 for external debt, FDI, ODA, exchange rate, GDP per capita, gross fixed capital formation as a proxy for infrastructural development, export of goods and services (% of GDP) and the human development index as a proxy for human capital growth from the database of the World Bank (2023a), FDI was taken from the United Nations Conference on Trade and Development-UNCTAD (2023), and data for GE were sourced from the World Bank (2023b). Data analysis spanned 28 years, from 1996 to 2023, across six EAC partner states, yielding 168 balanced observations.

THE PANEL NARDL MODEL

Traditional methodologies such as fixed effects (FE), random effects (RE), and pooled ordinary least squares (OLS) presume the existence of homogeneity, cross-sectional independence, normality, homoscedasticity, and no serial correlation. They overlook econometric complexities stemming from heterogeneity, cross-sectional dependence (CSD), endogeneity, and structural breaks (Wang et al. 2025). There is a greater need now than ever before to focus on these challenges in the current study, using advanced econometric techniques to handle the intricacies arising from the real world (Chaudhry et al. 2024). Dynamic panel models, such as the system generalised method of moments (GMM) proposed by Arellano and Bover (1995), overcome some of the challenges above, but their estimators can yield spurious results when the number of cross-sections (N) is small, and T is large (Mashoene et al. 2025). To overcome these shortcomings, with data array from the EAC bloc with small N and moderate T, this study used the panel NARDL model extended by Shin et al (2014) from the traditional ARDL. According to Pesaran et al. (1999), the estimators of PMG and MG are consistent in the presence of endogeneity, as the error

correction term (ECT) is uncorrelated with the regressors and is normally distributed, treating the regressors as exogeneous variables (Ramos-Herrera, 2025). NARDL can handle structural breaks stemming from economic and financial shocks and works very well with cross-sectional dependence (CSD) in the bloc (Patel et al. 2024).

ECONOMETRIC MODEL SPECIFICATIONS

The fundamental objective of this study was to scrutinise whether GE moderates the asymmetric interplays among external debt, FDI, ODA, and the exchange rate in endorsing economic growth in EAC partner states. To achieve this, the study analyses the moderation effects by comparing with the baseline model results without GE. The growth transmission function is given as:

$$GDP_{it} = f(ED_{it}, FDI_{it}, ODA_{it}, ER_{it}, GE_{it}, X_{it}) \quad (1)$$

Where: GDP_{it} represents gross domestic product per capita, a proxy for economic growth; ED_{it} is external debt stock, total (Disbursed and Outstanding Debt, current US$); FDI_{it} is foreign direct investment, net inflows; ODA_{it} is net official development assistance and foreign aid received; ER_{it} is the official exchange rate, (LCU per US$, period average); GE_{it} is government effectiveness moderating all independent variables; $\mathcal{X}_{it}$ is a set of control variables that represent gross fixed capital formation $(GFCF)_{it}$ as a percentage of GDP; export of goods and services $(EXP)_{it}$ as a percentage of GDP; and the human development index $(HDI)_{it}$ as used in previous empirical studies of Dinga et al (2024) in SSA. Slow accumulation of external debt, FDI, ODA, and favourable depreciation shocks moderated by GE are expected to contribute to growth, whereas large debt accumulation with exchange appreciation retards growth. Control variables are incorporated into asymmetric modelling in equation (11) to account for macroeconomic stability, reduce spurious iterations, improve robustness, and mitigate variable-omission bias (Khanday et al. 2024). Natural logs of GDP_{it}, ED_{it}, FDI_{it}, ODA_{it}, ER_{it}, GE_{it} and $\mathcal{X}_{it}$ were used in the model to stabilise dispersion, heteroscedasticity, multicollinearity and aid economic interpretations in terms of elasticities (Lin et al. 2023).

The asymmetric long and short-run of equation (1) above is derived by moderating first external debt, FDI, ODA, and exchange rate with GE and then computing their partial sum decompositions as initially advocated by Shin et al (2014) in a nonlinear framework. The intent is to augment institutional quality synergetic effects towards growth by moderating first the regressor variables (Farooq et al. 2024). This unveils that the synergistic impact of independent variables on growth is grounded in improvements in governance quality, not merely in the mechanical quantity of decompositions performed (Alabi 2026; Rahman & Hossain 2025). This approach ensures that institutional governance optimally transmits foreign financial inflows and exchange rate effects on growth, beyond the traditional shock decomposition (Akpilic 2025). Economic growth can be accelerated through pragmatic policies anchored in the improvement of governance frameworks for the management of foreign financial inflows in the bloc (Beyene 2024). To enhance the efficient utilisation of external debt, FDI, and ODA inflows, it is vital for the bloc to instil IQs as the most critical success factors in the public administration of resources to maximise economic benefits (Chowdhury et al. 2024). Moderating first with GE, then performing partial sum decomposition reveals the efficacy of external debt, FDI, ODA, and exchange rate policies grounded in institutional governance within the EAC bloc in allocating resources productively.

The partial sum decompositions of the regressor variables in modelling the NARDL were performed using the pool mean group (PMG) estimator after the Hausman (1978) test ruled out dynamic fixed effects (DFE), as shown in Table 5 (Espoir et al. 2023). Estimation using MG failed due to limited degrees of freedom under T=28 and N=6 (Ramos-Herrera, 2025). Presence of asymmetric effects was tested using the Wald test restriction, the null H_0: $\beta_i^+ = \beta_i^-$ tested against the alternative $Ha : \beta_i^+ \neq \beta_i^-$, and found to exist for the variables.

External debt, FDI, ODA, and exchange rates are each moderated with GE as follows:

$$\text{In}(EDGE)_{it} = InED_{it} * InGE_{it}) \quad (2)$$
$$\text{In}(FDIGE)_{it} = InFDI_{it} * InGE_{it}) \quad (3)$$
$$\text{In}(ODAGE)_{it} = InODA_{it} * InGE_{it}) \quad (4)$$
$$\text{In}(ERGE)_{it} = InER_{it} * InGE_{it}) \quad (5)$$

Where $\text{In}(EDGE)_{it}$ is the natural log of external debt moderated with GE, etc. Control variables are not moderated nor decomposed. Government effectiveness, i.e. $\text{In}(GE)_{it}$ is used both as a moderator and regressor, as shown in equation 11.

The following are the partial sum decompositions of the moderated variables:

$$\ln(EDGE)_t^+ = \sum_{k=1}^{t} \Delta ln(EDGE)_{ik}^+ = \sum_{k=1}^{t} \max(\Delta\, ln\, EDGE_{ik}, 0) \quad (6a)$$

$$\ln(EDGE)_t^- = \sum_{k=1}^{t} \Delta ln(EDGE)_{ik}^- = \sum_{k=1}^{t} \min(\Delta\, ln\, EDGE_{ik}, 0) \quad (6b)$$

$$\ln(FDIGE)_t^+ = \sum_{k=1}^{t} \Delta ln(FDIGE)_{ik}^+ = \sum_{k=1}^{t} \max(\Delta\, ln\, FDIGE_{ik}, 0) \quad (7a)$$

$$\ln(FDIGE)_t^- = \sum_{k=1}^{t} \Delta ln\, FDIGE_{ik}^- = \sum_{k=1}^{t} \min(\Delta\, ln\, FDIGE_{ik}, 0) \quad (7b)$$

$$\ln(ODAGE)_t^+ = \sum_{k=1}^{t} \Delta ln\, ODAGE_{ik}^+ = \sum_{k=1}^{t} \max(\Delta\, ln\, ODAGE_{ik}, 0) \quad (8a)$$

$$\ln(ODAGE)_t^- = \sum_{k=1}^{t} \Delta ln\, ODAGE_{ik}^- = \sum_{k=1}^{t} \min(\Delta\, ln\, ODAGE_{ik}, 0) \quad (8b)$$

$$\ln(ERGE)_t^+ = \sum_{k=1}^{t} \Delta ln\, ERGE_{ik}^+ = \sum_{k=1}^{t} \max(\Delta\, ln\, ER\, GE_{ik}, 0) \quad (9a)$$

$$\ln(ERGE)_t^- = \sum_{k=1}^{t} \Delta ln\, ERGE_{ik}^- = \sum_{k=1}^{t} \min(\Delta\, ln\, ERGE_{ik}, 0) \quad (9b)$$

$$\ln(GE)_t^+ = \sum_{k=1}^{t} \Delta lnGE_{ik}^+ = \sum_{k=1}^{t} \max(\Delta\, ln\, GE_{ik}, 0) \quad (10a)$$

$$\ln(GE)_t^- = \sum_{k=1}^{t} \Delta lnGE_{ik}^- = \sum_{k=1}^{t} \min(\Delta\, ln\, GE_{ik}, 0) \quad (10b)$$

The asymmetric panel NARDL specification modelling is shown in equation (11) below.

$$\Delta \ln GDP_{it} = \beta_0 + \beta_{1i} \ln GDP_{i,t-1} + \beta_{2i}^{+} \ln(EDGE)_{i,t-1}^{+} + \beta_{3i}^{-} \ln(EDGE)_{i,t-1}^{-} + \beta_{4i}^{+} \ln(FDIGE)_{i,t-1}^{+} + \beta_{5i}^{-} \ln(FDIGE)_{i,t-1}^{-} + \beta_{6i}^{+} \ln(ODAGE)_{i,t-1}^{+} + \beta_{7i}^{-} \ln(ODAGE)_{i,t-1}^{-} + \beta_{8i}^{+} \ln(ERGE)_{i,t-1}^{+} + \beta_{9i}^{-} \ln(ERGE)_{i,t-1}^{-} + \beta_{10i}^{+} \ln(GE)_{i,t-1}^{+} + \beta_{11i}^{-} \ln(GE)_{i,t-1}^{-} + \beta_{12i} \ln(GFCF)_{i,t-1} + \beta_{13i} \ln(HDI)_{i,t-1} + \beta_{14i} \ln(EXP)_{i,t-1} + \sum_{j-1}^{N1} \lambda_{ij} \Delta \ln GDP_{i,t-1} + \sum_{j-1}^{N2} (\gamma_{ij}\, \Delta^{+} \ln(EDGE)^{+}_{i,t-1} + \gamma_{ij} \Delta^{-} \ln(EDGE)^{-}_{i,t-1}) + \sum_{j-1}^{N3} (\vartheta_{ij}\, \Delta^{+} \ln(FDIGE)^{+}_{i,t-1} + \vartheta_{ij} \Delta^{-} \ln(FDIGE)^{-}_{i,t-1}) + \sum_{j-1}^{N4} (\rho_{ij} \Delta^{+} \ln(ODAGE)^{+}_{i,t-1} + \rho_{ij} \Delta^{-} \ln(ODAGE)^{-}_{i,t-1}) + \sum_{j-1}^{N5} (\delta_{ij}\, \Delta^{+} \ln(ERGE)^{+}_{i,t-1} + \delta_{ij} \Delta^{-} \ln(ERGE)^{-}_{i,t-1}) + \sum_{j-1}^{N6} (\pi_{ij}\, \Delta^{+} \ln(GE)^{+}_{i,t-1} + \pi_{ij} \Delta^{-} \ln(GE)^{-}_{i,t-1}) + \sum_{j-1}^{N7} \theta_{ij} \Delta \ln GFCF_{i,t-1} + \sum_{j-1}^{N8} \Psi_{ij} \Delta \ln HDI_{i,t-1} + \sum_{j-1}^{N9} \sigma_{ij} \Delta \ln EXP_{i,t-1} + \mu_i + \varepsilon_{it} \quad (11)$$

Where $\boldsymbol{\mu_i}$ denotes country-specific effects, and $\boldsymbol{\varepsilon_{it}}$ is the error term. The reduced version of equation (11) above expressed in error correction form is as follows:

$$\boldsymbol{\Delta \ln GDP_{it}} = \boldsymbol{\psi_{1i} \varrho_{i,t-1}} + \sum_{j-1}^{N1} \boldsymbol{\lambda_{ij}} \Delta \ln \boldsymbol{GDP_{i,t-1}} + \sum_{j-1}^{N2} (\boldsymbol{\gamma_{ij}}\, \Delta^{+} \ln(\boldsymbol{EDGE})^{+}_{i,t-1} + \boldsymbol{\gamma_{ij}} \Delta^{-} \ln(\boldsymbol{EDGE})^{-}_{i,t-1}) + \sum_{j-1}^{N3} (\boldsymbol{\vartheta_{ij}}\, \Delta^{+} \ln(\boldsymbol{FDIGE})^{+}_{i,t-1} + \boldsymbol{\vartheta_{ij}} \Delta^{-} \ln(\boldsymbol{FDIGE})^{-}_{i,t-1}) + \sum_{j-1}^{N4} (\boldsymbol{\rho_{ij}} \Delta^{+} \ln(\boldsymbol{ODAGE})^{+}_{i,t-1} + \boldsymbol{\rho_{ij}} \Delta^{-} \ln(ODAGE)^{-}_{i,t-1}) + \sum_{j-1}^{N5} (\delta_{ij}\, \Delta^{+} \ln(ERGE)^{+}_{i,t-1} + \delta_{ij} \Delta^{-} \ln(ERGE)^{-}_{i,t-1}) + \sum_{j-1}^{N6} (\pi_{ij}\, \Delta^{+} \ln(GE)^{+}_{i,t-1} + \pi_{ij} \Delta^{-} \ln(GE)^{-}_{i,t-1}) + \sum_{j-1}^{N7} \theta_{ij} \Delta \ln GFCF_{i,t-1} + \sum_{j-1}^{N8} \Psi_{ij} \Delta \ln HDI_{i,t-1} + \sum_{j-1}^{N9} \sigma_{ij} \Delta \ln EXP_{i,t-1} + \mu_i + \varepsilon_{it} \quad (12)$$

This research carried out a common known structural break in the bloc using the command *xtbreak* developed by Ditzen et al. (2025b), detailing the mechanisms to examine whether the mean coefficient of the asymmetric variables has undergone a structural break within the time span from 1996 to 2023. The authors scrutinise whether the coefficients exhibit breaks whose occurrence and timing are identical across all cross-sectional units (Ditzen et al. 2025a). This was carried out to supplement the baseline findings, as the NARDL asymptotic distribution of its standard errors can handle structural disruptions from dynamic intricacies in the real world (Shrawan & Dubey 2025). The test statistics developed by Karavias et al. (2023) revealed that a common breakpoint occurred in 2008 during the global financial crisis in this study, with a significant p-value shown in Table 5.

RESULTS AND DISCUSSION

EMPIRICAL RESULTS

This section starts by highlighting the descriptive statistics of the findings in Table 1.

TABLE 1. Descriptive statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max	Skew.	Kurt.
GDP	168	582.8954	434.8911	96.31922	2109.563	1.436898	5.012779
ED	168	8520000000	8810000000	434000000	42900000000	1.890742	6.745099
FDI	168	672.1267	748.7008	0.00229	3312.143	1.103909	3.602197
ODA	168	1620000000	1130000000	87100000	7510000000	1.262021	6.522543
ER	168	1127.409	935.2794	0.5018492	3727.069	0.9534491	3.482529
GE	168	33.07504	10.74541	13.17127	57.76725	-0.2099773	2.160844
GFCF	168	19.88532	8.279303	2.1	42.82035	0.4370189	3.368241

HDI	168	0.4550952	0.0792444	0.28	0.604	-0.2685743	2.360135
EXP	168	16.39678	8.713327	4.54932	45.49795	1.116108	4.178266

Source: Data (2025)

A descriptive statistics summary is presented in Table 1 above, showing GDP per capita had a mean of $582.90, max inflows of $2,109.56 from Kenya, minimum inflows of $96.32 from DRC, and a leptokurtic kurtosis of 5.013. External debt standard deviation was $8.810 billion greater than its mean, with the largest inflows of $42.90 billion from Kenya. Kurtosis was 6.745, inferring data wasn't normally distributed. FDI mean was $672.13 million with a standard deviation of $748.70 million exceeding the mean, and a kurtosis of 3.602 indicating the data array was not normally distributed (Patel et al. 2024). ODA had a mean of $1.62 billion, with the highest inflows of $7.510 billion reported in the DRC. The kurtosis was 6.523, indicating that the data fit the proposed asymmetric NARDL model. The mean of the exchange rate was $1,127.41 with a maximum fluctuation of $3,727.07 from Uganda and a kurtosis of 3.483, indicating an asymmetric distribution.

Panel data is susceptible to cross-sectional dependence (CSD) due to geographical proximity, globalisation of trade and commerce, foreign financial transfers, and unobserved factors (Chaudhry et al. 2024). It requires an assessment of CSD to avoid inconsistent results and to devise appropriate econometric estimation models (Voumik et al. 2024). To check the presence of CSD in the panel data, the authors used the Pesaran et al. (2008) CSD tests and Breusch-Pagan (1980) Lagrange Multiplier tests, as shown in Table 2.

TABLE 2. Pesaran and Breusch-Pagan LM CSD Tests

Series	Pesaran CSD		Breusch-Pagan LM	
	Statistics	P-value	Statistics	P-value
lnGDP	19.062	0.000	593.91	0.000
lnED	3.242	0.001	1060.62	0.000
lnFDI	16.072	0.000	811.89	0.000
lnODA	16.209	0.000	492.84	0.000
lnER	18.838	0.000	590.49	0.000
lnGFCF	13.844	0.000	293.58	0.000
lnHDI	19.782	0.000	340.39	0.000
lnEXP	3.472	0.001	957.64	0.000

Source: Data (2025)

The findings in Table 2 above confirmed the existence of CSD in all cross-sectional units. These results warrant the authors' deployment of the second-generation panel unit root tests, as traditional unit root tests failed to account for CSD (Sun et al. 2025). This study used cross-sectional augmented Dickey-Fuller (CADF) as it produces robust results in the presence of CSD, controls heterogeneity, and gives accurate inputs for the integration order (Chaudhry et al. 2024).

TABLE 3. Unit root tests using CADF

	At Levels			First Difference			
Variables	CADF			CADF			Inter. Order
lnGDP	-3.566***			-7.626			I (0)
lnED	+3.237			-5.422***			I (1)
lnFDI	-3.925***			-10.48			I (0)
lnODA	-3.934***			-10.451			I (0)
lnER	+2.981			-5.017***			I (1)
lnGFCF	-3.679***			-10.034			I (0)
lnHDI	+0.647			-3.079***			I (1)
lnEXP	+0.381			-8.745***			I (1)
Critical Value	1%	5%	10%	1%	5%	10%	
	2.57	-2.33	-2.21	-2.57	-2.33	-2.21	

Source: Data (2025), Notes(s): ***, **, * denote 1%, 5%, and 10% significance level respectively.

The study found that GDP, FDI, ODA, and GFCF are stationary at levels, while ED, ER, HDI, and EXP are stationary at their first differences. None is found at I(2). This study employed the methodology of Amoh et al. (2024) to assess whether the variables had a long-term relationship using the Kao (1999) and Pedroni (2004) cointegration tests.

TABLE 4. Panel cointegration tests

	Statistic	P-value
Kao Test		
Modified Dickey-Fuller t	-7.3632	0.0000
Dickey-Fuller t	-4.4977	0.0000
Augmented Dickey-Fuller t	3.4697	0.0003
Unadjusted modified Dickey-Fuller t	-7.3632	0.0000

Unadjusted Dickey-Fuller t	-4.4977	0.0000
Pedroni Test		
Modified Phillips-Perron t	3.3831	0.0004
Phillips-Perron t	-15.6764	0.0000
Augmented Dickey-Fuller t	-5.3201	0.0000

Source: Data (2025)

The cointegration results in Table 4 above indicate the existence of long-run relationships among the variables. In scrutinising the long-run relationships, the Hausman (1978) test indicated that the PMG is the effective estimator in running the NARDL model from DFE (Amoh et al. 2024). Thus, the paper reported results iterated with the PMG estimator.

TABLE 5. Asymmetric results without GE to growth

Dependent variable: lnGDP Variables	Coefficient	Std. Error	*Z*-Stat
Long run estimates			
lnED^+	−0.78212**	0.39924	-1.96
lnED^-	0.78411***	0.16622	4.72
lnFDI^+	−0.30843***	0.08028	-3.84
lnFDI^-	0.67717***	0.12820	5.28
lnODA^+	−0.44682	0.33948	-1.32
lnODA^-	0.11334	0.35230	0.32
lnER^+	−5.43538***	0.92366	-5.88
lnER^-	−4.64931	3.28433	-1.42
ln*GFCF*	−0.00891	0.00948	-0.94
ln*HDI*	2.32895***	0.87109	2.67
ln*EXP*	−0.00032	0.10568	-0.03
ECT(-1)	−0.0848331***	0.03479	-2.44
_CONS	0.3155699***	0.13505	2.34
No. of observations	162		
Number of groups	6		
Log likelihood	275.5589		
VIF Mean	2.17		
Hausman Test	0.14		
Prob > chi2: Hausman	1.0000		
Slope Heterogeneity Test	5.269***		
Post-Structural Break Test	80.04***		

Source: Data (2025), Notes(s): ***, **, * denote 1%, 5%, and 10% significance level respectively.

The asymmetric results moderated by GE are shown in Table 6 below, which compares with Table 5 above in the discussion of findings, with the robustness checks in Table 7.

TABLE 6. Asymmetric foreign financial inflows moderated by ge to growth

Dependent variable: lnGDP Variables	Coefficient	Std. Error	*Z*-Stat
Long run estimates			
ln$EDGE^+$	−0.04358	0.02964	-1.47
ln$EDGE^-$	0.29363***	0.04207	6.98
ln$FDIGE^+$	0.06860***	0.01692	4.05
ln$FDIGE^-$	0.00036	0.01454	0.02
ln$ODAGE^+$	−0.06925***	0.02933	-2.36
ln$ODAGE^-$	−0.00003	0.03355	-0.00
ln$ERGE^+$	−0.02509*	0.01899	-1.32
ln$ERGE^-$	−0.45406***	0.10758	-4.22
lnGE^+	2.63053***	0.80942	3.25
lnGE^-	−1.77113	1.48539	-1.19
ln*GFCF*	0.50832***	0.04371	11.63
ln*HDI*	1.03877***	0.21001	4.95
ln*EXP*	0.10780***	0.04313	2.50
ECT(-1)	−0.310014***	0.10880	-2.85
CONS	1.024652***	0.34810	2.94
No. of observations	162		
Number of groups	6		
Log likelihood	269.3994		

Source: Data (2025), Notes(s): ***, **, * denote 1%, 5%, and 10% significance level respectively.

The results from the long-run estimates in Table 5 reveal that a cumulative positive change in external debt reduces growth by 0.78% for a 1.96% rise in the positive shock, whereas a cumulative negative change yields a positive growth of 0.78%, meaning a 4.72% reduction in external debt accumulation significantly improves growth. The slow accumulation of external debt has a greater impact on growth than positive shocks, due to debt overhang effects that divert investment toward debt repayments (Abille & Kiliç 2023; Dawood et al. 2024). The moderation effects of GE in Table 6 yielded insignificant results for positive shocks. Likewise, the moderation of slow accumulation from external debt generated significant growth, but with a lower magnitude of 0.29% compared to the baseline findings in Table 5, revealing the feeble institutional landscape in the bloc, with a mean of 33% (Kunawotor et al. 2026). These findings did not support hypothesis H1a*,* which examined the impact of positive shocks from external debt, moderated by GE, to analyse if it substantially deterred growth. Findings in Table 6 showed negative and insignificant results for growth as a consequence of consumption, and a large share of borrowings was diverted to service debt (Mejia 2024). Results contravened the Institutional Growth Theory, necessitating management of external borrowing and instilling productive investment not driven by political ambitions in the bloc (Ramzan et al. 2023). The positive shocks from external debt were significantly negative under the robustness tests in Table 7, using DCCE, as previously found by Sim and Sek (2025) in validating the NARDL findings.

In the long-run, asymmetric effects reveal that cumulative positive FDI shocks retarded growth by 0.31% for a rise in the positive partial sum component, significant at the 1% critical level in Table 5. Economic growth was depressed by debt overhang that had crowded-out private investments in the form of infrastructure development, being insignificantly negative in Table 5 (Epor et al. 2024; Ojeka et al. 2024). A negative cumulative change from FDI shocks is significantly associated with a 0.68% change in economic growth, indicating that reduced volatility enhances investment in the bloc. This resulted from the diminution of debt overhang uncertainty that fostered quality FDI, which had alignment with local investors (Alam et al. 2024). The moderation of the FDI positive shock with GE in Table 6 revealed that IQs significantly reduced the deterrence impact of debt overhang by promoting multiplier effects from infrastructure growth, human capital skills, and exports, raising the long-run growth effect to 0.069%. Positive shocks from GE, on its own, promoted substantial growth of 2.63%, considerably reduced debt-overhang uncertainty, and curtailed profits repatriation and tax avoidance by MNCs by reducing exploitative FDI in natural resources to promote growth (Chengyonghui et al. 2023; Vu & Pavelková 2023). These findings supported hypothesis *H2a* that examined the impact induced by increasing FDI shocks to assess if it was positively and significantly moderated by improvement of GE in the EAC bloc. Results were in tandem with the Institutional Growth Theory, as corroborated by Patel et al (2024), who found that GE transmits improved policies for the design and implementation of sound investments in the bloc. The negative shocks from FDI moderated by GE in the robustness test in Table 7 resulted in significant growth, as a shift away from many inefficient and exploitative FDI investments towards fewer but more productive, domestically aligned FDI investments with SMEs led to growth (Nam & Ryu 2023). Prior studies by Kurtovic et al (2024) found negative shocks from FDI driving growth.

The baseline findings in Table 5 show that positive shocks from ODA are inimical to growth, while its moderate inflows promote growth, albeit insignificant. The moderation with GE in Table 6 significantly mitigated the negative growth impact from positive shocks at the 1% critical level. This shows that increasing inflows of ODA and foreign aid in the bloc were not prudently supplementing the development budget for infrastructure and exports, resulting in a negative effect on growth in Table 5. Reliance on ODA inflows within a shabby, ineffective governance monitoring mechanism, exacerbated by corruption, led to aid dependency syndrome, resource fungibility, undermined reforms, and the entrapment of rent-seeking motives (Barkat et al. 2025). These findings negated hypothesis *H3a*, as the moderation impacts in Table 6 revealed a marginally significant negative relationship from ODA to growth. Studies from Zardoub and Sboui (2023) found that ODA with IQs led to negative growth, as ODA requires a well-governed economy. These findings contravened the Institutional Growth Theory, which grounds nurturing IQs as a crucial success factor in maximising ODA absorption for productive use (Barkat et al. 2025).

The impact from depreciation (positive) and appreciation (negative) shocks to growth was pervasively deleterious in the absence of GE. The roles of GE in containing the deleterious effects of distortions to growth were credited, as the moderation of both positive and negative exchange-rate shocks lessened the inimical impacts from 5.44% to 0.03% for positive shocks and from 4.65% to a significant 0.45% for negative shocks. This meant GE reduced speculative and political pressures on exchange supervision and promoted infrastructure, human capital skills, and export diversification in Table 6 (Jara & Piña 2023; Ramos-Herrera 2025). Large depreciation shocks hurt growth, as the infrastructure, with unpredictable energy and a manufacturing base still in its rudimentary form, leads to insignificant negative growth, as shown in Table 5. This crowds out export performance and diversification, as exports had a marginal insignificant negative impact on growth in Table 5 (ADB 2025; Amor et al. 2023). Appreciation pressures in the EAC bloc made exports become expensive, weakened local SMEs' productivity, and liquidated FDI inflows as investors screened elsewhere for competitive investments (Gao et al. 2026). The robustness test in Table 7 validated the presence of appreciation shocks with significant results. The findings in Table 6 on exchange appreciation shocks supported hypothesis H_{4a} with a significant negative coefficient of 0.45% at the 1% critical level. GE positive shocks substantially addressed the growth of 2.63% at the 1% critical level in Table 6, but the moderation with

exchange rates yielded significant negative results, underscoring the necessity for joint efforts from monetary and fiscal policy reforms in tandem with institutional strengthening in the bloc.

These findings were corroborated by structural break results showing a significant coefficient at the 1% critical level, as shown in Table 5. The robustness checks were performed using Dynamic Common Correlated Effects (DCCEs), following the methodology detailed by Chaudhry et al (2024) in Table 7. The cross-sectional dependence (CSD) test statistic was not significant, indicating that DCCEs effectively accounted for cross-sectional dependence in the bloc.

TABLE 7: Robustness checks using DCCEs

Dependent variable: lnGDP Variables	Coefficient	Std. Error	*Z*-Stat
Long-run estimates			
ln$EDGE^{+}$	−0.4454118***	0.1866201	-2.39
ln$EDGE^{-}$	0.2680868**	0.1249137	2.15
ln$FDIGE^{+}$	−0.0456679	0.0371099	-1.23
ln$FDIGE^{-}$	0.0825362**	0.0420766	1.96
ln$ODAGE^{+}$	−0.0345771	0.0331831	1.04
ln$ODAGE^{-}$	−0.1399283	0.0910863	-1.54
ln$ERGE^{+}$	0.1552327	0.1900437	0.82
ln$ERGE^{-}$	−0.5961587*	0.349886	-1.70
lnGE^{+}	9.364574**	4.211025	2.22
lnGE^{-}	2.198071	2.231582	0.98
ln*GFCF*	0.3103034*	0.1859974	1.67
ln*HDI*	6.652789***	2.445422	2.72
ln*EXP*	−0.0036814	0.0205285	-0.18
No. of observations	168		
Number of groups	6		
Obs. per group	28		
CD Statistic	1.29		
p-value CD	0.1962		

Source: Data (2025), Notes(s): ***, **, * denote 1%, 5%, and 10% significance level respectively.

CONCLUSION AND POLICY RECOMMENDATIONS

This study sought to examine the moderating impacts of GE on external debt, FDI, ODA, and exchange rate shocks on economic growth in the EAC bloc, using the panel NARDL model. The findings from the NARDL indicate that the impact of foreign financial inflows, moderated by GE, mitigates debt overhang, amplifies significant positive FDI shocks, restrains ineffective ODA positive shocks, and stabilises deviations from exchange rates. The bloc is urged to strengthen its external debt management strategies, enhance the efficiency and productive use of debt-financed projects, and reduce adverse effects from debt overhang. Strategic policy interventions are necessary to enforce a ceiling on external debt accumulation in the bloc. Empower debt management fiscal councils with the mandate to increase debt transparency, collection, and reporting. Curtail commercial borrowings that expose the bloc to high-interest repayments and exchange rate vulnerabilities. The study emphasises the importance of government effectiveness reforms, from the mean of 33.08%, to enhance the strong link between foreign financial inflows, growth, and institutions. This will attract quality FDI inflows and control corruption that clouds ODA effectiveness by injecting technical ODA to transfer skills and technology in the EAC. This will expand the infrastructure capacity in mobilising domestic resources to repay the accumulated debt and cushion exchange rate pressures. To enhance resilience against adverse exchange rate shocks, the bloc is called to improve its monetary policy, embedded with robust institutional governance, while making necessary macroeconomic adjustments.

The study results provide critical extensions and refined insights into the debt overhang and institutional growth theory within the EAC context. The findings in Table 5 revealed that excessive accumulation of external debt constrained domestic investments through positive FDI shocks, infrastructure development, and exchange rate volatility (Dawood et al. 2024; Mwakalila & Muba 2025). The findings in Table 6 reinforced the institutional growth theory by revealing that improved GE significantly mitigated the adverse consequences of FDI, ODA-positive shocks, and exchange pressures (Beyene 2024). The study moderated first foreign financial inflows (FFIs) before decomposition, conditioning asymmetric variables on institutional governance absorptive capacity, thereby demanding robust and pragmatic governance policy reforms in the bloc (Chengying et al. 2023). The dearth of NARDL iterations validated with DCCE within the bloc contributes to methodological improvement, with the potential to be replicated in future research in sub-Saharan Africa (SSA) with large samples to overcome the limitation of a small sample.

The short-term effects, as revealed by the error correction term (ECT), means it takes about 3.23 years for changes in external debt, FDI, ODA, and exchange shocks moderated by GE to converge towards an equilibrium state, hinting that the EAC bloc's policy agendas on foreign financial inflows may take time to materialise.

REFERENCES

Abdelgany, M.F. & Al-deen, T.B. 2023. Constraints to debt sustainability in Egypt: Structural response and fiscal fatigue. *International Journal of Economics, Finance and Management Sciences* 11(2): 44–61.

Abille, A.B. & Kiliç, E. 2023. Asymmetric modeling of the public debt–economic growth nexus in Ghana. *Review of Economics and Political Science* 8(2): 108–122.

Abille, A.B. & Mumuni, S. 2023. Tax incentives, ease of doing business and inflows of FDI in Africa: Does governance matter? *Cogent Economics & Finance* 11(1).

Acemoglu, D., Johnson, S. & Robinson, J. 2005. *Institutions as a Fundamental Cause of Long-Run Growth*. 385–472. Handbook of Economic Growth. Elsevier. https://econpapers.repec.org/bookchap/eeegrochp/1-06.htm

ADB. (2025). *Making Africa's Capital Work Better for Africa's Development* (p. 48) [Practical Information]. African Development Bank Group. https://www.afdb.org/sites/default/files/documents/publications/afdb25-01_aeo _main _report _english_.pdf

Akalpler, E. 2023. Triggering economic growth to ensure financial stability: Case study of Northern Cyprus. *Financial Innovation* 9(1).

Akpilic, F. 2025. Global uncertainty, institutional quality, financial development, and foreign direct investment inflows. *The Journal of International Trade & Economic Development*: 1–27.

Alabi, A.T. 2026. Synergistic effects of government expenditure and governance quality in alleviating energy poverty in Sub-Saharan Africa: Evidence from mean-based, distributional, and configurational analyses. *International Economics and Economic Policy* 23(1): 1–16.

Alam, W., Ikram, F., Kumar, P., Haseeb, M. & Ali, N. 2024. Asymmetric effects of foreign direct investment on economic growth: fresh evidence from india using NARDL simulation. *Millennial Asia* 15(3): 409–428.

Alessandria, G., Khan, S.Y., Khederlarian, A., Ruhl, K.J. & Steinberg, J.B. 2025. Trade war and peace: U.S.-China trade and tariff risk from 2015–2050. *Journal of International Economics* 155.

Aloulou, R., Kalai, M. & Helali, K. 2023. The symmetric and asymmetric impacts of external debt on economic growth in Tunisia: Evidence from linear and nonlinear ARDL models. *SN Business & Economics* 3(7): 1-28.

Amoh, J.K., Abdul-Mumuni, A. & Amankwa Fosu, R. 2024. Revisiting the debt–growth nexus in sub-Saharan Africa: Fresh evidence from panel nonlinear ARDL approach. *International Journal of Emerging Markets*.

Amor, T.H., Nouira, R., Rault, C. & Sova, A.D. 2023. Real exchange rate misalignments and economic growth in Tunisia: New evidence from a threshold analysis of asymmetric adjustments. *The Quarterly Review of Economics and Finance* 88: 215–227.

Arellano, M. & Bover, O. 1995. Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics* 68(1): 29–51.

Asaleye, A.J., Ojo, A.P. & Olagunju, O.E. 2023. Asymmetric and shock effects of foreign AID on economic growth and employment generation. *Research in Globalization* 6.

Atakpa, D.A., Kalu, C.U., Ezenekwe, U.R., Okeyika, K. & Chinanuife, E. 2024. Asymmetric analysis of the impact of foreign capital inflows on economic growth in Nigeria. *International Journal of Research and Innovation in Social Science VIII*(VII): 987–997.

Barkat, K., Mimouni, K., Alsamara, M. & Maouchi, Y. 2025. Assessing foreign aid's influence on tourism demand for developing economies: When more isn't better. *Journal of Travel Research Text*: 1–24.

Baxa, J. & Paulus, M. 2024. Exchange rate misalignments, growth, and institutions. *Empirical Economics*, *67*(4), 1705–1799.

Beyene, A.B. 2024. Governance quality and economic growth in Sub-Saharan Africa: The dynamic panel model. *Journal of Economic and Administrative Sciences* 40(2): 404–418.

Bhasin, N. & Garg, S. 2020. Impact of institutional environment on inward FDI: A case of select emerging market economies. *Global Business Review* 21(5): 1279–1301.

BOT. 2025. *Bank of Tanzania Monthly Economic Review, September 2025: September 2025*. BOT.https://www.bot.go.z/ Publications/Regular/Monthly%20Economic%20Review/en/2025101508491975.pdf

Breusch, T.S. & Pagan, A.R. 1980. The lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies* 47(1): 239-253.

CBK. 2025. *Central Bank of Kenya Weekly Bulletin, Recent Monetary and Financial Developments, September 2025* (Information Statistics September 2025; Weekly Bulletin, September 2025, pp. 1–6). Central Bank of Kenya. https://www.centralbank.go.ke/uploads/weekly_bulletin/1502248475_Weekly%20CBK%20Bulletin%20September%20 12,%202025.pdf

Chaudhry, I.S., Yusop, Z. & Habibullah, M.S. 2024. Dynamic common correlated effects of financial inclusion on economic growth: Empirical evidence from Organization of Islamic Cooperation (OIC) countries. *International Journal of Emerging Markets* 19(10): 3088–3110.

Chengying, H., Wang, T., Shah, S.A., Chang, Y. & Zhou, X. 2023. A study on the moderating role of national absorptive capacity between institutional quality and FDI inflow: Evidence from developing countries. *Economic Research-Ekonomska Istraživanja* 36(1): 2177–2198.

Chengyonghui, D., Ni, S. W., San, O.T. & Rahim, N.B.A. 2023. What role public debt plays to moderate the influence of natural resources on financial development? Appraising Resource-Curse Hypothesis in MENA Region. *Resources Policy* 86.

Chowdhury, M.A.F., Prince, E.R., Shoyeb, M. & Abdullah, M. 2024. The threshold effect of institutional quality on sovereign debt and economic stability. *Journal of Policy Modeling* 46(1): 39–59.

Chudik, A. & Pesaran, M.H. 2015. Common correlated effects estimation of heterogeneous dynamic panel data models with weakly exogenous regressors✂. *Journal of Econometrics* 188(2): 393–420.

Dash, A.K. 2023. Does foreign aid influence economic growth? Evidence from South Asian countries. *Transnational Corporations Review* 15(3): 72–85.

Dawood, M., Feng, Z.R., Ilyas, M. & Abbas, G. 2024. External debt, transmission channels, and economic growth: evidence of debt overhang and crowding-out effect. *Sage Open* 14(3).

Dawood, M., Feng, Z. R., Li, M., Tunio, F.H., Mutai, N.C. & Li, Z.H. 2026. Foreign debt and economic growth: The Role of institutional quality and financial development in asian developing countries. *Economics of Transition and Institutional Change* 34(1): 161–182.

Dinga, G.D., Fonchamnyo, D.C. & Afumbom, N.S. 2024. A multidimensional appraisal of domestic investment, external debt and economic development nexus: Evidence from SSA. *Journal of Business and Socio-Economic Development* 5(2): 171-186.

Ditzen, J., Karavias, Y. & Westerlund, J. 2025a. Multiple structural breaks in interactive effects panel data models. *Journal of Applied Econometrics Text* 40(1): 74–88.

Ditzen, J., Karavias, Y. & Westerlund, J. 2025b. *Testing and Estimating Structural Breaks in Time Series and Panel Data in Stata* (arXiv:2110.14550). arXiv.

Elkhalfi, O., Chaabita, R., Benboubker, M., Ghoujdam, M., Zahraoui, K., Alaoui, H.E., Laalam, S., Belhaj, I. & Hammouch, H. (2024). The impact of external debt on economic growth: The case of emerging countries (Pt 100248). *Research in Globalization* 9: 1–10.

Epor, S.O., Yua, H. & Terhemba Iorember, P. 2024. Foreign direct investment and economic growth in developing countries: The role of international trade and foreign debt. *Modern Finance* 2(1): 1–17.

Espoir, D.K., Sunge, R. & Bannor, F. 2023. Exploring the dynamic effect of economic growth on carbon dioxide emissions in Africa: Evidence from panel PMG estimator. *Environmental Science and Pollution Research* 30(52): 112959–112976.

Farooq, U., Ahmed, A., Tabash, M. I., Al-Absy, M. S. M. & Elsantil, Y. (2024). External debt and economic growth: Moderating role of governance in South Asia Region. *Eurasian Economic Review* 14(2): 339–360.

Fisera, B. 2024. Exchange rates and the speed of economic recovery: The role of financial development. *Economic Systems* 48(1).

Ftiti, Z., Ben Ameur, H., Louhichi, W., Anastasiou, D. & Awijen, H. 2024. Revisiting capital flow drivers: Regional dynamics, constraints, and geopolitical influences. *Journal of International Money and Finance* 142.

Gao, X., Cheng, T., Khalid, Z., Nisar, U. & Elahi, E. 2026. RMB appreciation and export product quality: The mediating roles of inward and outward foreign direct investment. *Applied Economics*: 1–15.

Glebocki, H. & Saha, S. 2024. Global uncertainty and exchange rate conditions: Assessing the impact of uncertainty shocks in emerging markets and advanced economies. *Journal of International Financial Markets, Institutions and Money* 96: 1–18.

Hausman, J.A. 1978. Specification tests in econometrics. *Econometrica* 46(6): 1251-1271.

Hilger, A.M., Nedelko, Z. & Steger, T. 2023. Outward foreign direct investment from post-socialist to advanced economies: Motives and determinants of Slovene investment in Germany. *International Journal of Emerging Markets* 20(4): 1593–1616.

Hordofa, D.F. 2023. Impacts of external factors on Ethiopia's economic growth: Insights on foreign direct investment, remittances, exchange rates, and imports. *Elsevier Limited*.

IMF. 2025. *Global Debt Monitor, Fiscal Affairs Department, International Monetary Fund*. International Monetary Fund. https://www.imf.org/external/datamapper/GDD/2025%20Global%20Debt%20Monitor.pdf

Jara, A. & Piña, M. 2023. Exchange rate volatility and the effectiveness of FX interventions: The case of Chile. *Latin American Journal of Central Banking* 4(2).

Kao, C. 1999. Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics* 90(1): 1–44.

Karavias, Y., Narayan, P.K. & Westerlund, J. 2023. Structural breaks in interactive effects panels and the stock market reaction to COVID-19. *Journal of Business & Economic Statistics* 41(3): 653–666.

Khanday, I.N., Tarique, Md., Wani, I.U. & Dar, M.H. 2024. Poverty and financial development: An asymmetric and nonlinear ARDL analysis for India. *Journal of Economic Studies* 51(4): 764–782.
Khanday, I.N., Wani, I.U., Tarique, Md. & Dar, M.H. 2024. Does poverty respond asymmetrically to financial development? Evidence from India using asymmetric cointegration and causality tests. *Quality & Quantity* 58(3): 2789–2811.
Kitole, F.A. 2025. Assessing the role of foreign aid in promoting economic growth in Tanzania. *Applied Economics Letter*: 1–6.
Kolawole, K.D. & Seyingbo, O.A. 2025. The impact of foreign direct investment, inflation, and exchange rate fluctuations on economic growth in Nigeria. *Accounting and Finance* 109(3): 113–124.
Krugman, P. 1988. Financing vs forgiving a debt overhang. *National Bureau of Economic Research, NBER Working Paper Series*, *Working Paper No 2486*: 1–34.
Kunawotor, M.E., Osei, B., Dziwornu, R.K. & Ahiabor, G. 2026. Institutional quality, economic growth and welfare: Empirical evidence from Africa. *Journal of the Knowledge Economy*: 1–17.
Kurtovic, S., Halili, B., Maxhuni, N. & Krasniqi, B. 2024. Outward foreign direct investment and the economic growth of Central, East and Southeast Europe: An asymmetric approach. *International Journal of Emerging Markets* 19(12): 4543–4562.
Lemurt, J., Elvis, K., Kongo, Y. & Nganai, S. 2024. The moderating role of government effectiveness on the relationship between selected macroeconomic variables and horticultural export performance in Kenya. *Journal of Economics, Finance and Management Studies* 07(05): 2798–2808.
Lin, S., Razzaq, A. & Yi, K. 2023. Heterogenous influence of productive capacities pillars and natural resources on ecological sustainability in developing Belt and Road host countries. *Resources Policy* 85.
Lv, X., Shan, H., Zheng, J., A. Nassani, A., H. Binsaeed, R., The Cong, P. & Thuy Vinh, N.T. 2023. Government effectiveness towards economic recovery and value addition in natural resource market: Asymmetric analysis of Chinese green economy (Pt 103649). *Resources Policy* 83: 1–10.
Mapendo, J.J., Senadjki, A. & Choong, Y.O. 2025. Stock market development and foreign direct investment: The moderating role of government effectiveness. *International Journal of Emerging Markets* 21(1): 47–66.
Mashoene, M., Tweneboah, G. & Schaling, E. 2025. FinTech and financial inclusion in emerging and developing economies: A system GMM model (Pt 2491701). *Cogent Social Sciences* 11(1): 1–22.
Mejia, S.A. 2024. The effects of debt dependence on economic growth in less-developed countries, 1990–2019. *Social Science Research* 117: 1–17.
Mongi, C. & Saidi, K. 2024. The impact of corruption, government effectiveness, FDI, and GFC on economic growth: New evidence from global panel of 48 middle-income countries. *Journal of the Knowledge Economy* 15(3): 10696–10721.
Musse, O.S.H., Sharofiddin, A. & Mohamed, M.A. 2024. The impact of external debt stock on economic growth: Ethical dilemmas and evidence from East African community bloc. *International Journal of Ethics and Systems* 42(2): 260–275.
Mwakalila, E. & Muba, S. 2025. Public debt sustainability in Tanzania: A non-linear analysis of fiscal and monetary policy interactions. *Cogent Economics & Finance* 13(1).
Nam, H.-J. & Ryu, D. 2023. FDI and human development: The role of governance, ODA, and national competitiveness. *Journal of International Financial Markets, Institutions and Money* 85.
Nazamuddin, B.S., Wahyuni, S.S., Fakhruddin, F. & Fitriyani, F. 2024. The nexus between foreign exchange and external debt in Indonesia: Evidence from linear and nonlinear ARDL approaches. *Journal of the Asia Pacific Economy* 29(2): 810–836.
Ndou, E., Gumata, N. & Moletsane, T. 2024. Exchange rate and GDP nexus in South Africa: The disconnect after the 2008 global recession. *SN Business & Economics* 4(2): 1–19.
Nutassey, V.A., Nomlala, B.C. & Sibanda, M. 2023. Economic institutions, political institutions and public debt in Sub-Saharan Africa. *International Journal of Emerging Markets* 20(4): 1666–1685.
Ojeka, O.J., Egbetunde, T., Okoduwa, G.O., Ojeyode, A.O., Jimoh, M. & Ogunbowale, G.O. 2024. Moderating effect of institutional quality on the influence of debt on investment in sub-Saharan Africa. *Future Business Journal* 10(1): 1–18.
Onatunji, O.G. 2025. Revisiting the fiscal policy–income inequality nexus in Sub-Saharan Africa: Does institutional quality matter? *Managerial and Decision Economics* 46(5): 3172–3188.
Oyadeyi, O.O., Agboola, O.W., Okunade, S.O. & Osinubi, T.T. 2024. The debt-growth nexus and debt sustainability in Nigeria: Are there reasons to be concerned? *Journal of Policy Modeling* 46(1): 129–152.
Patel, R., Mohapatra, D.R. & Yadav, S.K. 2024. Nexus between formal institutions and inward FDI in India: A nonlinear autoregressive distributive lag approach. *International Journal of Social Economics* 52(6): 1849–1867.
Pedroni, P. 2004. Panel cointegration: asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis. *Econometric Theory* 20(03).
Pesaran, M.H., Shin, Y. & Smith, R.P. 1999. Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association, Text* 94(446): 621–634.

Pesaran, M.H., Ullah, A. & Yamagata, T. 2008. A bias-adjusted LM test of error cross-section independence. *The Econometrics Journal* 11(1): 105–127.
Rahman, Md. M. & Hossain, Md. E. 2025. Synergy of governance, finance, and technology for sustainable natural resource management (Pt 100468). *Journal of Open Innovation: Technology, Market, and Complexity* 11(1): 1–14.
Ramesh, R. & Vinayagathasan, T. 2023. The impact of corruption, rule of law, accountability, and government expenditure on government effectiveness: Evidence from Sri Lanka. *Journal of Asian and African Studies*: 1–19.
Ramos-Herrera, M.D.C. 2025. Economic growth and deviations from the equilibrium exchange rate: A panel ARDL and panel NARDL approach. *Applied Economic Analysis* 33(98): 118–139.
Ramzan, M., HongXing, Y., Abbas, Q., Fatima, S. & Hussain, R.Y. 2023. Role of institutional quality in debt-growth relationship in Pakistan: An econometric inquiry. *Heliyon* 9(8).
Rao, D.T., Sethi, N., Dash, D.P. & Bhujabal, P. 2023. Foreign Aid, FDI and economic growth in South-East Asia and South Asia. *Global Business Review* 24(1): 31–47.
Reuters. (2025, May 6). *Global debt hits record of over $324 trillion, banking trade group says* [Informational]. Global Debt Hits Record of over $324 Trillion, Banking Trade Group Says. https://www.reuters.com/world/china/global-debt-hits-record-over-324-trillion-says-iif-2025-05-06/
Romer, P.M. 1990. Endogenous technological change. *Journal of Political Economy, The University of Chicago Press Journals* 98(5): S71–S102.
Sadiq, M., Talbi, B., Ghosh, S. & Bashir, M.F. 2024. How does external debt and governance quality impact renewable energy consumption: Novel policy insights from BRICS countries. *Environmental Science and Pollution Research* 31(30): 43049–43065.
Seraj, M., Coskuner, C. & Alhassan, A. 2023. Role of institutions of exchange rate and economic growth in South Africa. *Journal of Economic and Administrative Sciences* 1-18.
Shammre, A.S. & Alshahrani, M.N. 2024. A dynamic analysis of sustainable economic growth and FDI inflow in Saudi Arabia using ARDL approach and VECM technique. *Energies* 17(18).
Shin, Y., Yu, B. & Greenwood-Nimmo, M. 2014. Modelling asymmetric cointegration and dynamic multipliers in a nonlinear ARDL framework. *Festschrift in Honor of Peter Schmidt, Springer*: 281–314.
Shrawan, A. & Dubey, A. 2025. Differential impact of money growth on inflationary outcomes: Evidence from emerging markets using panel NARDL approach. *Journal of Economic Studies* 52(3): 549–565.
Sim, K.Y. & Sek, S.K. 2025. Revisiting the energy-economic growth nexus in low versus high-income economies: New evidence using nonlinear DCCE, CS-NARDL, and CS-NDL approaches (Pt 0958305X251315399). *Energy & Environment*: 1–29.
Sokhanvar, A. 2025. FDI and productivity: Facts versus fiction of high growth. *International Journal of Emerging Markets*, 20(2): 913–932.
Solow, R.M. 1956. A contribution to the theory of economic growth. *The Quarterly Journal of Economics* 70(1): 65-94.
Sun, J., Ather Bukhari, A.A., Pervaiz, A., Ather Bukhari, W.A. & Zhong, K. 2025. Green trade as a competing policy choice for mitigating production-based and consumption-based emissions in G7 economies (Pt 126018). *Journal of Environmental Management* 389: 1–11.
Szepanski, A. 2024. Debt as a phenomenon of the Over. In *Capitalism in the Age of Catastrophe: The Newest Developments of Financial Capital in Times of Polycrisis*. A. Szepanski (Ed.). 233–240. Springer Nature Switzerland.
Thaker, M.T.M.A., Baryal, B. & Taghizadeh-Hesary, F. 2024. The effect of foreign direct investment on economic growth in Afghanistan: An empirical insight. *International Journal of Emerging Markets* 20(10): 4217–4234.
UNCTAD. 2023. *World Investment Report 2023: Investing in Sustainable Energy for All*. United Nations.
UNCTAD. 2025a. *A world of debt 2025: It is time for reform* (Information Statistics UNCTAD/OSG/TT/INF/2025/4; p. 26). UNCTAD. https://unctad.org/publication/world-of-debt
UNCTAD. 2025b. *Aid at the crossroads: Trends in official development assistance*. UN trade and development. https://unctad.org/publication/aid-crossroads-trends-official-development-assistance
Voumik, L.C., Islam, Md. A. & Nafi, S. Md. 2024. Does tourism have an impact on carbon emissions in Asia? An application of fresh panel methodology. *Environment, Development and Sustainability* 26(4): 9481–9499.
Vu, H. D. & Pavelková, D. 2023. Determinants of profit repatriation: Evidence from the Czech Republic and OECD countries as a group. *Structural Change and Economic Dynamics* 67: 58–68.
Waldron, K. & Coyne, C.J. 2024. You can't develop what you don't know: the realities and limitations of foreign aid missions. In *Moonshots and the New Industrial Policy: Questioning the Mission Economy*. 191–212. Springer Nature Switzerland.
Wang, L., Hafeez, M., Ullah, S. & Yonter, I.U. 2025. Cross-sectional dependence in financial openness and its influence on renewable energy consumption in Asia. *Energy & Environment* 36(7): 3294–3315.
Wang, X., Wu, Y. & Xu, W. 2024. Geopolitical risk and investment. *Journal of Money, Credit and Banking* 56(8): 2023–2059.

Wen, J., Farooq, U., Tabash, M.I., El Refae, G.A. & Subhani, B.H. 2023. Governance and tax revenue: Does foreign aid matter? *International Review of Administrative Sciences* 89(1): 273–291.
World Bank. 2023a. *World Bank Open Data, free and access to global data* [Informational Statistics]. World Bank Open Data. https://data.worldbank.org
World Bank. 2023b. *Worldwide Governance Indicators* [Text/HTML]. World Bank. https://www.worldbank.org/en/publication/worldwide-governance-indicators
Zardoub, A. 2023. Exploring the links between financial flows and economic growth: A panel ARDL approach. *PSU Research Review* 7(2): 90–104.
Zardoub, A. & Sboui, F. 2023. Impact of foreign direct investment, remittances and official development assistance on economic growth: Panel data approach. *PSU Research Review* 7(2): 73–89.

Richard B. Laswai
Teh Hong Piow Faculty of Business and Finance
Universiti Tunku Abdul Rahman
31900 Kampar, Perak, MALAYSIA.
E-mail: laswai2014@gmail.com

Abdelhak Senadjki*
Teh Hong Piow Faculty of Business and Finance
Universiti Tunku Abdul Rahman
31900 Kampar, PeraK, MALAYSIA.
E-mail: abdelhak@utar.edu.my

William Choo Keng Soon
Teh Hong Piow Faculty of Business and Finance
Universiti Tunku Abdul Rahman
31900 Kampar, PeraK, MALAYSIA.
E-mail: chooks@utar.edu.my

* Corresponding author