# De Jure Versus De Facto Trade Openness and Growth Dynamics in Economic Community of West African States (ECOWAS): Do Institutions Matter?"

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## ABSTRACT

Trade reforms abound across West Africa, yet their growth pay-off remains stubbornly uneven. Do institutions determine whether policy openness translates into real integration and higher incomes in ECOWAS? This study addresses that question by distinguishing de jure (policy-based) from de facto (flow-based) trade openness and testing the moderating role of institutional quality. Using a balanced panel of fifteen ECOWAS economies over 2000–2022, we assemble secondary annual data from WDI, UNCTAD and the Fraser Institute. Methodologically, we estimate pooled OLS, select Random Effects via a Hausman test, and implement Pooled Mean Group (PMG) estimators to separate short-run from long-run effects. De jure openness, proxied by the mean tariff rate, is positively and significantly associated with economic growth in the long run (PMG), whereas de facto openness (trade/GDP) is insignificantly related to growth. Institutional quality (control of corruption) exerts a direct positive effect and strengthens the impact of both de jure and de facto openness in interaction models. Foreign direct investment and exchange rate appreciation are also positively associated with income in the Random Effects specification. The study contributes theoretically by integrating an institutional-augmented endogenous growth lens to explain why policy commitments yield divergent outcomes, and practically by showing that durable gains from AfCFTA and ECOWAS schemes hinge on credible governance and trade-facilitation reforms. Policymakers should prioritise institutional strengthening and stable macroeconomic settings to convert legal liberalisation into sustained, inclusive growth.

**Keywords:** De facto trade openness; De jure trade openness; Economic growth; ECOWAS; Institutional quality

**JEL Classification Codes:** F13, F43, O43, O55

## INTRODUCTION

Over two decades of liberalisation, ECOWAS economies have lowered statutory barriers, expanded market access and signed regional and continental agreements, yet growth outcomes remain uneven. The persistence of high trade costs, infrastructural bottlenecks and governance constraints raises a first-order question: do policy commitments to openness translate into real integration and, if so, under what institutional conditions. Classical and neoclassical traditions underscore the potential of trade to raise productivity through specialisation and scale, while modern growth theory links openness to innovation, technology diffusion and capability building. Still, recent evidence for Sub-Saharan Africa is mixed, with studies reporting positive, insignificant or short-lived effects that often hinge on measurement choices and institutional capacity (Oloyede et al., 2021; Okoro et al., 2020; Adjei and Grega, 2023). This background motivates a closer examination of the distinction between de jure openness, reflected in laws, tariffs and agreements, and de facto openness, reflected in realised trade flows

and value-chain participation, a distinction that is crucial because the two dimensions need not move together (Gräbner et al., 2020; Yotov, 2022).

This study, titled "De Jure vs. De Facto Trade Openness and Growth Dynamics in ECOWAS: Do Institutions Matter?", investigates the nexus between trade openness, institutional quality and economic growth in ECOWAS countries. The first objective is to analyse the impact of trade liberalisation on economic growth in the region. The second is to examine whether institutional quality moderates the relationship between liberalisation and growth. The third is to investigate the differential effects of de jure and de facto openness on growth. These aims translate into four research questions that guide the analysis: to what extent does trade liberalisation influence economic growth in ECOWAS countries; how does institutional quality moderate the relationship between liberalisation and growth; what are the differential effects of de jure and de facto openness on growth; and how do political, administrative and regulatory institutions shape the effectiveness of liberalisation policies in ECOWAS.

The study responds to two interrelated gaps in the literature. First, many assessments conflate policy stance with realised integration, obscuring whether weak results reflect limited ambition or implementation shortfalls. Within ECOWAS, the evidence increasingly suggests that policy reforms do not automatically lower effective trade costs nor guarantee productivity-enhancing reallocation, especially where behind-the-border frictions persist (Oloyede et al., 2021; Okoro et al., 2020). Second, institutional quality is frequently treated as a control rather than as a moderator that governs the pass-through from rules to flows and from flows to productivity. Recent work for West Africa indicates that de facto globalisation is more closely associated with growth than de jure measures, and that effects are typically short run, consistent with institutional and infrastructural constraints that limit policy traction (Adjei and Grega, 2023). By foregrounding the de jure–de facto distinction and modelling the moderating role of institutions, the study advances current debates on why ostensibly similar reforms yield divergent outcomes across member states.

The contribution is twofold. Conceptually, the study integrates insights from institutional economics with endogenous growth mechanisms to clarify how governance quality conditions the growth dividends of openness. It shows that the key margins are the credibility and enforcement that convert legal commitments into lower trade costs, and the absorptive capacity that converts increased flows into innovation, learning and structural transformation. Empirically, the study provides ECOWAS-specific evidence based on a panel of fifteen economies from 2000 to 2022, distinguishing the effects of de jure and de facto openness and testing interaction terms that capture institutional moderation. The results speak directly to policy frameworks such as the ECOWAS Trade Liberalisation Scheme and the African Continental Free Trade Area, where the success of formal commitments depends on complementary reforms in contract enforcement, regulatory quality and trade facilitation.

The study is important for governments, regional bodies and development partners seeking to design reforms that yield durable growth rather than transitory gains. For national authorities, the analysis identifies the institutional levers that raise the probability that liberalisation delivers lower effective trade costs and firm-level upgrading. For ECOWAS institutions, it offers an evidence base for sequencing regional integration with governance enhancements. For the private sector, it clarifies the conditions under which policy certainty and administrative efficiency translate market access into investment and employment. In short, by separating policy from outcomes and placing institutions at the centre of the trade–growth mechanism, the study provides a rigorous framework for understanding and improving growth dynamics in West Africa.

## LITERATURE REVIEW

### Conceptual and Theoretical Foundations

Classical and neoclassical traditions provide the foundational logic for linking trade openness to economic growth, while contemporary frameworks refine the conditions under which these links hold. In the classical view, expanding markets through external trade raises productivity by deepening the division of labour and enabling specialisation. Smith's argument that market size governs the scope for specialisation and learning

complements Ricardo's formalisation of comparative advantage, whereby cost differences underpin mutually beneficial exchange and reallocation toward more efficient activities. Neoclassical growth theory, as formalised by Solow, embeds these gains through improved allocative efficiency and capital deepening, but it treats long run growth as driven by exogenous technical change. Within this framework, openness promotes factor reallocation and diffusion of best practice, yet the permanence of growth improvements turns on how trade interacts with technology and structural change.

Modern growth theory endogenises these channels. Endogenous growth models explain how openness shapes incentives to invest in research and development, to accumulate human capital and to absorb foreign technologies. Larger markets can raise the private return to innovation, while import competition and access to foreign intermediate and capital goods shift resources toward more productive firms and sectors. However, recent contributions caution against uniform optimism. Hoyos (2024) shows that North South trade may harm the South when specialisation concentrates activity in traditional sectors with low spillovers, even when technology diffusion is present. Kishi and Okada (2020) demonstrate that the productivity effects of liberalisation depend on innovation frequency, with gains more likely where innovation is infrequent and the scope for catch up is substantial. Cai et al. (2022) stress that liberalisation reallocates R&D across sectors and that heterogeneous knowledge diffusion amplifies specialisation effects, while Schiff and Wang (2023) provide evidence that trade related technology diffusion from G7 economies raises total factor productivity, with education, governance and distance conditioning the magnitude of these effects. These findings align with critiques of the standard neoclassical model. Dosi and Nuvolari (2020) argue that mainstream assumptions underplay the role of institutions and the dynamics of technical change that Chris Freeman emphasised, while Kümmel and Lindenberger (2020) contend that ignoring thermodynamic constraints and the role of energy obscures the sources of the Solow residual. Thomas (2023) further revisits classical thought, showing that demand side considerations were present in Smith and Ricardo and that a narrow reading of Say's law is historically fragile. Together, these perspectives indicate that trade is a catalyst whose growth effect depends on innovation systems, capability formation and structural composition.

Clarity about key concepts is necessary for credible inference, particularly in ECOWAS. Trade openness comprises de jure and de facto dimensions that need not coincide. De jure openness captures the policy stance such as tariffs, non-tariff measures and trade agreements, while de facto openness records realised integration through trade volumes, value chain participation and the presence of foreign actors in domestic markets. Gräbner et al. (2020) show that the two are only loosely correlated and that empirical results can vary materially with the chosen measure. For ECOWAS, where commodity cycles, infrastructure bottlenecks and policy credibility differ across countries, de jure reforms may fail to raise flows if behind the border frictions remain high, while de facto openness can rise during commodity booms without durable policy change. The importance of careful measurement extends to structural models of trade. Yotov (2022) demonstrates that theory consistent policy analysis requires domestic trade flows alongside international flows, underscoring that internal frictions and market size shape how policy translates into outcomes.

Institutional economics provides the bridge between policy intentions and realised outcomes. Institutions determine the credibility and effectiveness of reforms by shaping transaction costs, enforcement and coordination. When institutional quality is high, trade reforms are more likely to reduce uncertainty, strengthen contract enforcement and support complementary investments in infrastructure and skills. Where institutions are weak, corruption, regulatory instability and administrative inefficiency can mute or reverse expected gains from openness. This moderating role is consistent with the mixed empirical record. Seyfullayev (2022) finds only short run causality from openness to growth in Azerbaijan, a result shaped by resource dependence and weak diversification. Fatima et al. (2020) show that low human capital can render openness harmful for growth, while Raghutla (2020) reports a positive long run association in emerging economies with causality from growth to openness in the short run. Kumari et al. (2021) report no bidirectional causality between openness and growth in India while confirming two-way links between foreign direct investment and growth, again pointing to channels beyond tariffs and trade volumes. Within ECOWAS, Adjei and Grega (2023) find that de facto trade globalisation contributes positively to growth whereas de jure measures do not, and that short run effects dominate. This pattern is consistent with a setting where policy reforms face implementation gaps and where institutional and infrastructural constraints limit pass through from law to flows and from flows to productivity.

Taken together, the theoretical and empirical literature supports a context dependent view of the trade growth nexus in ECOWAS. De jure liberalisation sets the rules, but de facto integration depends on infrastructure, market access costs and credible enforcement. Economic growth, understood as sustained increases in per capita income underpinned by productivity improvements and structural transformation, materialises when de facto integration activates learning, selection and technology diffusion mechanisms. Institutional quality moderates both margins by raising the probability that policy reduces real trade costs and by enabling firms to translate exposure to international markets into capability building. The implication is that measurement must distinguish policy from outcomes and that modelling must allow institutions and human capital to condition the gains from openness. This conceptual architecture justifies the empirical strategy that separates de jure and de facto openness and tests the moderating role of institutions in explaining the growth effects of trade in ECOWAS.

**Empirical Evidence on Trade Openness and Economic Growth**

Empirical research on the trade openness–growth nexus yields heterogeneous results that vary with country characteristics, measures of openness, and econometric design. For a broad set of emerging markets, Raghutla (2020) reports a positive long run association between trade openness and economic growth, alongside short run unidirectional causality from growth to openness, suggesting that expanding income may itself facilitate integration through higher import capacity and export competitiveness. Cross country syntheses point to similar but qualified patterns. Using 167 countries over 1970–2011, Gries and Redlin (2020) find positive short run and long run links between trade and income, although the long run effects are concentrated in high income economies and in countries with already high levels of openness. Complementary work underscores the role of international production networks. Jangam and Rath (2021) show that participation in global value chains is associated with faster growth across 58 economies, with regional value chains generating comparatively larger gains and sectoral heterogeneity indicating uneven diffusion of benefits. Financial integration may reinforce these effects. Sahoo and Sethi (2020) document positive long run relationships among financial globalisation, trade openness and growth in South Asia, with causality running from growth to financial globalisation, again consistent with the role of scale and absorptive capacity. A systematic review by Pomerlyan and Belitski (2023) highlights integration's growth channels through competition, market access and technology diffusion, while also noting the field's methodological evolution and persistent identification challenges.

At the country level, findings remain mixed. For a resource rich emerging economy, Seyfullayev (2022) uncovers no long run cointegration between openness and growth in Azerbaijan, but identifies short run causality from openness to growth, consistent with transitory gains tied to oil exports rather than broad based diversification. In the BRICS, Sheikh and Malik (2021) show that imports significantly promote growth whereas exports and aggregate openness are positive but not statistically significant, and they emphasise the complementary role of institutional quality. For India, Kumari et al. (2021) do not find a long run relationship between trade openness and growth and detect no bidirectional causality between them, although foreign direct investment and growth are mutually reinforcing. These divergent results indicate that measurement choice, structural features and institutions shape how openness translates into income dynamics.

Evidence from Sub Saharan Africa, and ECOWAS in particular, reflects the same complexity. Oloyede et al. (2021) identify positive but statistically insignificant effects of openness on growth in both ECOWAS and SADC, which suggests that trade reforms alone may not suffice in settings with infrastructural bottlenecks and limited productive diversification. Disaggregating trade by origin reveals further nuance. Okoro et al. (2020) find that intra ECOWAS trade is growth enhancing, whereas non regional trade exerts negative and insignificant effects, pointing to potential gains from regional market deepening and to the importance of learning and scale economies within familiar regulatory and logistical environments. When the form of globalisation is distinguished, results become sharper. Adjei and Grega (2023) show that de facto trade globalisation contributes positively to growth in ECOWAS, while de jure measures do not, and that these effects are short lived. This pattern is consistent with a setting where policy changes face implementation gaps and where behind the border frictions limit the pass through from formal liberalisation to realised integration and productivity upgrading. Nonlinearities also appear salient. Chabi and Saygılı (2024) identify threshold effects whereby openness fosters production related structural change up to an estimated openness level of 147.64 percent, beyond which the effect turns negative, indicating that very high openness without adequate capability building may entrench specialisations with weak spillovers.

Taken together, the literature points to contradictory outcomes. Positive effects arise in studies where integration is embedded in production networks, where human and financial capital raise absorptive capacity, and where institutions support the translation of trade into investment and learning (Raghutla, 2020; Gries and Redlin, 2020; Jangam and Rath, 2021; Sahoo and Sethi, 2020). Insignificant or fragile effects are reported where openness is measured broadly without distinguishing policy from outcomes, where economies are commodity dependent, or where institutional quality is weak (Oloyede et al., 2021; Sheikh and Malik, 2021; Seyfullayev, 2022). Negative or null findings also emerge in single country analyses that do not capture value chain linkages or that face strong structural constraints (Kumari et al., 2021). For ECOWAS, the balance of evidence suggests that de facto integration, especially within the region, is more reliably associated with near term growth than formal liberalisation alone, and that the trade–growth link is conditioned by institutional capacity, infrastructure and the stage of structural transformation (Okoro et al., 2020; Adjei and Grega, 2023). This synthesis motivates an empirical strategy that separates de jure from de facto openness, allows for threshold effects and short run dynamics, and tests whether institutional quality and regional integration shape the magnitude and persistence of trade induced growth gains in the ECOWAS context.

**Institutional Quality and Economic Performance**

Institutions are the rules, norms and enforcement mechanisms that structure economic and political interaction. North (1990) describes them as the "rules of the game" that reduce uncertainty and coordinate expectations, distinguishing between formal institutions such as laws, regulations and judicial enforcement, and informal institutions including social norms, reputations and conventions. Recent work clarifies this taxonomy. Hodgson (2025) argues that formal institutions are best defined by legal enforceability rather than by whether rules are written down, while informal institutions can adjust rapidly in response to legislation. Webb et al. (2020) extend the analysis by introducing the notion of institutional voids that arise in both formal and informal domains and that interact to shape entrepreneurial choices and market development. Dau et al. (2022) highlight informal institutions as "invisible threads" that connect social groups in international business, yet remain under theorised and under measured. Ho (2020) further challenges the presumption that formal institutions are necessarily superior by showing that informal arrangements can be equally credible and functional across a range of contexts. Together, these contributions underscore that institutional quality is multidimensional and cannot be proxied by legality alone; credibility, predictability and coordination capacity are central attributes that condition economic performance.

A core implication for trade is that institutional quality alters the level and composition of cross border exchange by changing trade costs, credibility of policy and the enforceability of contracts. Large cross-country studies indicate that better institutions are associated with lower overall, agricultural and manufacturing trade costs, improving the viability of participation in international markets (Hou et al., 2020). In a regional context, institutional quality is positively linked to trade within NAFTA, with the largest gains accruing to middle income partners, while effects are weaker for low-income countries and materialise over longer horizons, consistent with gradual trust formation and reputation building (Heo et al., 2020). The composition of trade also responds. Higher institutional standards reduce trade in pollution intensive products, in part through stricter environmental regulation that raises compliance and abatement incentives (Peiró-Palomino et al., 2022). These findings suggest that institutions operate through multiple channels that influence both the extensive and intensive margins of trade as well as the sectoral pattern of specialisation.

Evidence from Africa and other developing regions is more heterogeneous, reflecting variation in governance, administrative capacity and market structure. Bilateral analyses involving Malaysia and 25 African OIC countries show that government effectiveness, regulatory quality and political stability can be negatively associated with bilateral trade volumes, indicating that relative differences in institutional development, contractual practices and market familiarity may impede exchange despite improvements in domestic governance (Yusuf et al., 2021). For Sub Saharan Africa, institutional quality in exporting countries can deter trade, whereas better institutional quality in destination countries tends to facilitate inflows, a pattern that speaks to asymmetries in credibility, standards and certification that exporters must satisfy to penetrate better governed markets (Chigeto et al., 2024). Broader development channels reinforce the complexity. Institutional quality conditions the effectiveness of external finance, with aid impacts varying by sector and region. Education aid is most effective in South America and health aid in Asia, while average effects are muted where institutional

capacity is weak (Maruta et al., 2020). Environmental outcomes also depend on institutions. In Sub Saharan Africa, institutional quality is associated with lower environmental sustainability on average, although harmonised institutional frameworks aligned with robust environmental laws can ameliorate this tendency (Ibrahim and Ajide, 2020). These results caution that identical reforms can yield different trade and welfare outcomes across settings depending on institutional complementarities and constraints.

The literature on trade openness and growth mirrors these contradictions and points to a moderating role for institutions. Positive long run associations are documented in samples of emerging markets and broad cross-country panels, particularly where openness is embedded in production networks and absorptive capacity is higher (Raghutla, 2020; Gries and Redlin, 2020; Jangam and Rath, 2021). Yet insignificant or fragile effects are common in African regional studies and in economies with commodity dependence or weak institutional capacity, where policy reforms may not translate into lower effective trade costs or productivity upgrading (Oloyede et al., 2021; Sheikh and Malik, 2021). Single country analyses sometimes find only short run causality from openness to growth without long run cointegration, consistent with transitory gains from favourable terms of trade rather than institutionally supported diversification (Seyfullayev, 2022). In other cases, there is no long run relationship between openness and growth and no bidirectional causality, while foreign direct investment is more robustly linked to growth, again pointing to channels that require credible property rights, regulatory quality and judicial effectiveness to operate (Kumari et al., 2021). Within ECOWAS, studies that distinguish de facto from de jure openness report that realised integration is associated with growth whereas policy openness is not, and that effects are short lived, implying implementation gaps and behind the border frictions that only improved institutional quality can resolve (Adjei and Grega, 2023). Overall, the balance of evidence indicates that institutional quality shapes both the magnitude and durability of the trade–growth link by governing the pass through from legal liberalisation to actual flows and from flows to productivity gains.

**Evidence from ECOWAS and Emerging Policy Perspectives**

Evidence within ECOWAS and cognate regional communities points to a nuanced trade–growth–institutions nexus in which policy intent, realised integration and governance capacity jointly determine outcomes. For ECOWAS and SADC, Oloyede et al. (2021) report positive but statistically insignificant associations between trade openness and growth, suggesting that formal liberalisation has not consistently translated into productivity gains or structural transformation. Disaggregating by partner type, Okoro et al. (2020) find that intra-regional trade among ECOWAS members is growth-enhancing, whereas extra-regional trade is negative and insignificant, implying that proximity, regulatory familiarity and network effects within regional markets can raise the likelihood that openness transmits into scale economies and learning. The institutional channel is central to these patterns. Raimi and Haini (2023) show that indicators of entrepreneurial governance such as government integrity and business freedom are positively associated with economic growth in ECOWAS, while regulatory barriers depress performance, aligning with the view that credible rules and administrative quality lower trade costs and support firm upgrading. At a broader Sub-Saharan African level, Agyei and Idan (2022) provide evidence that stronger institutions reinforce the positive association between openness and inclusive growth, indicating that institutional quality conditions the equity and durability of trade-related gains.

Comparative evidence from other developing regions reinforces this interpretation while cautioning against uniform policy prescriptions. Using cross-country and sectoral perspectives, Baccini et al. (2021) demonstrate that the growth benefits of liberalisation are smaller in coordinated market economies, partly because wage bargaining and vocational training dampen the reallocation towards the most productive firms; less productive firms also suffer smaller revenue losses, underscoring the distributive and capability-building roles of labour-market institutions. Saad (2020) highlights a reverse causality risk whereby specialisation in goods that thrive under weak institutions can entrench poor institutional equilibria, as beneficiaries lobby to preserve lax standards. Consistent with institutions as first-order trade determinants, Beverelli et al. (2023) estimate that observed institutional quality changes in low-income countries between 1996 and 2006 produced welfare effects ranging from −2% to 5%, while country-specific evidence for Colombia shows that institutional quality at home and institutional distance with trading partners significantly shape export performance, especially through regulatory quality and the rule of law (Abreo et al., 2021). These findings resonate with ECOWAS realities, where heterogeneity in contract enforcement, customs efficiency and regulatory predictability can mute or reverse expected openness effects.

Regional policy frameworks seek to close this policy–outcome gap. ECOWAS has progressively advanced treaties that anchor the Trade Liberalisation Scheme, the Common External Tariff and the Protocol on Free Movement of Persons, Goods and Services, aimed at lowering tariff and non-tariff barriers and harmonising standards. The African Continental Free Trade Area (AfCFTA) adds a continent-wide layer, promising tariff elimination and reductions in non-tariff barriers but making effective implementation contingent on simplified and harmonised procedures, improved logistics and coordinated regulatory reform (Attia, 2021). Quantitative assessments suggest large pay-offs if such facilitation is delivered: for ECOWAS coastal economies, trade facilitation reforms are estimated to yield welfare gains of US$1.6–2.7 billion annually, or 0.24–0.42% of combined GDP, by accelerating clearance, improving port efficiency and reducing documentary costs (Safaeimanesh and Jenkins, 2020). Broader Sub-Saharan evidence finds that trade facilitation supports sustainable growth when paired with institutional enablers such as government effectiveness, political stability and regulatory quality (Jiahao et al., 2022). Yet the interaction with environmental objectives is complex; in the region, institutional quality is associated with lower environmental sustainability on average, and consumption-oriented impacts can be more severe than production-oriented ones, underscoring the need for carefully designed environmental regulations alongside pro-trade reforms (Ibrahim and Ajide, 2020).

Overall, ECOWAS-focused studies converge on three policy-relevant regularities. First, liberalisation embedded in regional markets is more reliably growth-enhancing than undifferentiated global openness, consistent with network, learning and rules-of-origin effects within ECOWAS (Okoro et al., 2020; Oloyede et al., 2021). Second, the translation of legal commitments into realised integration is conditional on institutional quality that lowers behind-the-border costs and supports firm capability formation (Raimi and Haini, 2023; Agyei and Idan, 2022). Third, facilitation reforms tied to ECOWAS treaties and AfCFTA can generate significant welfare gains, but their effectiveness depends on credible enforcement and administrative coherence (Attia, 2021; Safaeimanesh and Jenkins, 2020). Notwithstanding these insights, two gaps persist in the ECOWAS literature. Many studies conflate de jure and de facto openness, obscuring whether weak results arise from limited policy ambition or from implementation shortfalls and structural bottlenecks. In parallel, the moderating role of institutional quality is often treated peripherally rather than modelled explicitly through interaction terms that capture how governance shapes both the pass-through from rules to flows and from flows to productivity. The present study addresses both gaps by distinguishing policy stance from realised integration and by testing the moderating influence of institutional quality on the trade–growth link within ECOWAS.

# METHODOLOGY

## Theoretical Framework

This study is anchored on the Institutional-Augmented Endogenous Growth Framework, which integrates the principles of Endogenous Growth Theory (Romer, 1990; Lucas, 1988) with New Institutional Economics (North, 1990). Endogenous Growth Theory posits that economic growth is driven by internal factors such as human capital accumulation, innovation, and knowledge diffusion, rather than by external technological shocks. Trade openness enhances these growth mechanisms by facilitating technology transfer, increasing market size, and fostering competition and learning effects. Through exposure to international markets, economies can achieve productivity gains and sustained growth, provided they possess the capacity to absorb and adapt imported technologies.

However, the extent to which trade openness translates into growth is largely determined by the quality of a country's institutions. Drawing from North (1990), institutions comprise the formal and informal rules that shape economic incentives, reduce transaction costs, and ensure policy credibility. Strong institutions promote transparency, protect property rights, and encourage investment, thereby amplifying the positive effects of trade liberalisation. Conversely, weak institutions generate inefficiencies, corruption, and policy instability that diminish the benefits of openness.

In the ECOWAS context, this framework explains why similar trade policies yield divergent outcomes across member states. Countries with effective governance and regulatory systems are better positioned to transform trade gains into sustainable development, while those with institutional weaknesses experience limited or short-lived benefits. The model also aligns with regional frameworks such as the ECOWAS Trade Liberalisation

Scheme (ETLS) and the AfCFTA, which emphasise institutional harmonisation as a prerequisite for integration. Accordingly, the framework underscores that trade openness contributes to growth only when supported by strong institutional structures that ensure efficient policy implementation and economic resilience.

**Data Description, Measurement and Sources**

This study utilises a balanced panel dataset comprising annual observations for fifteen ECOWAS member countries covering the period 2000–2022. The selection of this timeframe is guided by the availability and consistency of data across key macroeconomic and institutional indicators. The dataset is sourced from globally recognised repositories, including the World Bank's World Development Indicators (WDI), the United Nations Conference on Trade and Development (UNCTAD) database, and the Fraser Institute's Economic Freedom dataset. These sources ensure both cross-country comparability and empirical robustness for the estimation of the trade–growth–institutions nexus in the ECOWAS region.

The dependent variable is economic growth, measured by GDP per capita, which captures the average income level and overall economic performance of each country. GDP per capita remains one of the most widely accepted measures of economic growth, reflecting the efficiency with which productive resources are converted into output and welfare. The primary explanatory variable is trade openness, measured in two distinct forms to capture both the policy and outcome dimensions of trade. De facto trade openness is proxied by the ratio of exports plus imports to GDP, representing the actual flow of goods and services across borders and the degree of integration into global markets. De jure trade openness, on the other hand, is measured by the mean tariff rate, which reflects statutory trade policies, restrictions, and the level of governmental intervention in cross-border transactions. This distinction allows the study to differentiate between policy intent and realised integration outcomes.

Additional explanatory variables are incorporated to provide a comprehensive account of the economic and institutional environment influencing trade and growth. Institutional quality, proxied by control of corruption, represents the strength of governance and the credibility of institutions, in line with the governance indicators reported by the Fraser Institute. Foreign direct investment (FDI) measures external capital inflows and their contribution to domestic investment and productivity, while the exchange rate (EXR), expressed in US dollars, captures macroeconomic stability and competitiveness across ECOWAS economies.

The selection of these variables follows established empirical precedents in trade–growth literature (Intisar et al., 2020; Yeboah & Saleem, 2012; Adu-Gyamfi et al., 2020; Guei & Le Roux, 2019; Akpan & Atan, 2016). This approach ensures theoretical coherence and empirical validity, providing a solid foundation for examining the moderating role of institutional quality in the relationship between trade openness and economic growth within ECOWAS.

Table 1: Description of data

| Variable | Description | Source | Expected Sign |
|---|---|---|---|
| Economic Growth (GDP) | This is the value of the final goods and services produced in a country in a given period. In the study, economic growth is proxied by GDP per capita. GDP per capita is defined as the GDP of a country divided by the total population | United Nations Conference on Trade and Development (UNCTAD) | + |
| Trade Openness (TOP) | Trade openness is the level of international transactions between a country and the rest of the world. It is measured by the ratio of the sum of exports and imports to GDP | World Development Indicators (WDI) | + |
| Foreign Direct Investment (FDI) | This is the investment in another country for purpose of acquiring lasting equity share. It is measured in this study as stock of FDI | UNCTAD | + |
| Exchange Rate (EXR) | This is the price of the domestic currency of a country in terms of other currencies | UNCTAD | +/- |

| | | | |
|---|---|---|---|
| Institutional Quality (IQ) | This is the quality of institutions in a country The control of corruption was used as a measure of this variable | The Worldwide Governance Indicators. (WGI) | + |
| Mean Tariff Rate (MTR) | The mean tariff rate represents the average tariff imposed on goods traded between countries. This metric is used to assess the level of governmental restrictions on international trade, including revenue generated from trade taxes as a percentage of the trade sector. | The Fraser Institute | + |

Source: Author's compilation

**Model Specification and Estimation**

**Baseline Model**

This study employs panel data regression techniques to examine the short-run and long-run effects of de jure and de facto trade openness on economic growth among ECOWAS countries. Panel data methods are particularly appropriate for this analysis as they account for unobserved country-specific heterogeneity, control for time-invariant characteristics, and allow the simultaneous consideration of cross-sectional and time-series dynamics.

The baseline model is specified as:

$$LNGDP_{it} = \beta_0+\beta_1 LNTOP_{it}+\beta_2 LNMTR_{it}+\beta_3 LNIQ_{it}+\beta_4 LNFDI_{it}+\beta_5 LNEXRit+\varepsilon it \quad (1)$$

Where $LNGDP_{it}$ represents the log of GDP per capita for country i at time t, serving as the proxy for economic growth $LNTOP_{it}$ and $LNMTR_{it}$ denote the logs of de facto and de jure trade openness, respectively. $LNIQ_{it}$ is the log of institutional quality, $LNFDI_{it}$ measures the log of foreign direct investment inflows, and $LNEXR_{it}$ is the log of the exchange rate. $\beta_0$ is the intercept term, $\beta_1-\beta_5$ are the coefficients of the explanatory variables, and $\varepsilon_{it}$ is the stochastic error term.

To capture the moderating role of institutional quality, the model is extended into an interaction form expressed as:

$$LNGDP_{it} = \beta_0 +\beta_1 LNTOP_{it} + \beta_2 LNMTR_{it}+ \beta_3 LNIQTOP_{it} + \beta_4 LNIQMTR_{it} + \beta_5 LNIQ_{it} + \beta_6 LNFDI_{it} + \beta_7 LNEXRit + \varepsilon it \quad (2)$$

Here, $LNIQTOP_{it}$ and $LNIQMTR_{it}$ represent the interaction terms between institutional quality and de facto and de jure trade openness, respectively. These terms enable an assessment of whether institutional quality strengthens or weakens the impact of trade openness on economic growth across ECOWAS economies.

If the coefficients of the interaction terms $\beta_3$ and $\beta_4$ are statistically significant, it suggests that institutional quality influences the relationship between trade openness and economic growth. A positive coefficient indicates that better institutional quality strengthens the impact of trade openness on economic growth. A negative coefficient implies that weak institutions may reduce the benefits of trade openness. This interactive model enhances our understanding of the role institutional quality plays in shaping the trade-growth relationship, providing crucial policy insights for ECOWAS countries.

The estimation proceeds in stages to ensure robustness and methodological validity. First, the study applies the Pooled Ordinary Least Squares (Pooled OLS) estimator to provide baseline results. Subsequently, based on the outcome of the Hausman specification test, either the Fixed Effects (FE) or Random Effects (RE) estimator is employed to account for potential endogeneity arising from unobserved heterogeneity.

Finally, to distinguish between the short-run and long-run effects of trade openness and institutional quality, the study implements the Pooled Mean Group (PMG) estimator proposed by Pesaran, Shin, and Smith (1999). The PMG approach is particularly suitable for heterogeneous panels, as it allows for country-specific short-run

dynamics while constraining long-run coefficients to be homogeneous across countries. This technique provides a more comprehensive understanding of how de jure and de facto trade openness influence economic growth in both the short and long term, under varying institutional conditions across ECOWAS economies.

# RESULTS AND DISCUSSION

## Descriptive Statistics

The descriptive statistics in Table 4.1, shows that the mean GDP was 1060 and a maximum of 3754.30. It also indicates that the average tariff rate for ECOWAS was 7.53 within the study period. Considering the standard deviation (S.D) which measures the level of variation or degree of dispersion of the variables from their mean reveals that the actual deviation of the data from their quite small for mean tariff rate, institutional quality and foreign direct investment while it was large for GDP, trade openness and exchange rate. The result further shows that exchange rate was more volatile (331779.5) and followed by trade openness when compared to other variables. The least volatile is electricity (0.23) followed by transport (0.29). The kurtosis results indicates that all the variables exhibited a leptokurtic distribution, indicating positive kurtosis (peaked curve) with higher values than the sample mean. With respect to the skewness, it showed that GDP, TOP, FDI and EXR have distributions that are right-tailed, also implying that there are higher values than the sample mean while MTR and IQ have a negative skewness (long left tail) indicating the presence of lower values than the sample mean. However, if the variables are stationary at level or first difference, the multivariate time series technique will be employed.

Table 4.1 Descriptive Statistics Results

| | GDP | TOP | MTR | LNIQ | FDI | EXR |
|---|---|---|---|---|---|---|
| Mean | 1060.57 | 1554.58 | 7.53 | 3.26 | 0.63 | 19255.56 |
| Median | 714.22 | 58.49 | 7.59 | 3.36 | 0.13 | 510.56 |
| Maximum | 3754.30 | 511844.00 | 8.06 | 5.18 | 8.84 | 6154302.00 |
| Minimum | 284.05 | 11.17 | 5.04 | -0.67 | 0.00 | 0.54 |
| Std. Dev. | 751.57 | 27593.20 | 0.35 | 0.75 | 1.31 | 331779.50 |
| Skewness | 1.51 | 18.47 | -3.98 | -1.06 | 3.53 | 18.46 |
| Kurtosis | 4.41 | 342.00 | 27.79 | 5.38 | 17.45 | 341.86 |
| Jarque-Bera | 159.87 | 1666770.00 | 9718.70 | 145.96 | 3705.41 | 1665341.00 |
| Probability | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sum | 364836.40 | 534774.30 | 2589.82 | 1120.93 | 217.43 | 6623914.00 |
| Sum Sq. Dev. | 194000000.00 | 261000000000.00 | 42.42 | 192.71 | 588.24 | 37800000000000.00 |
| Observations | 344.00 | 344.00 | 344.00 | 344.00 | 344.00 | 344.00 |

Source: Author's computation (using Eviews 12)

## Correlation Matrix

To examine the possible degree of association among the variables the correlation matrix was obtained. Table 4.2 below presents the correlation matrix of the variables used in the study. The directions of relationship are revealed by the correlation table. Generally, the results in Table 4.2 show that only the log foreign direct investment (LNFDI) and the log of institutional quality (LNIQ) are weakly and positively correlated with the log of gross domestic product (LNGDP). Exchange rate (LNEXR) has a weak negative association with GDP while de facto (LNTOP) and de jur (LNMTR) trade openness showed an insignificant association with economic growth.

Table 4.2: Correlation Matrix for selected variables

| | LNGDP | LNTOP | LNMTR | LNIQ | LNFDI | LNEXR |
|---|---|---|---|---|---|---|
| LNGDP | 1.0000 | | | | | |
| LNTOP | 0.0671 | 1.0000 | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LNMTR | 0.0337 | 0.2983 | 1.0000 | | | |
| LNIQ | 0.2554 | 0.1495 | 0.3099 | 1.0000 | | |
| LNFDI | 0.4259 | 0.0526 | -0.0516 | 0.0247 | 1.0000 | |
| LNEXR | -0.2875 | -0.1823 | 0.0926 | -0.2423 | -0.1895 | 1.0000 |

Source: Author's computation (using Eviews 12)

**Panel Unit Root Test**

In the course of the methodology of the study, unit root test was used to analyze the univariate characteristics of the data. Since the data is pooled panel or cross-sectional data, the panel unit root was used to ascertain whether there exist potential cointegration (that is long-run relationship) among the variables. In this study, the Im Pesaran and Shin W-Stattistics, Augmented Dickey-fuller (Fisher's Chi-square) and Fisher-Philips Perron (Fisher – PP) statistic were used to test the unit root properties of the data. The results are as presented in table 4.2.

Table 4.3: Summary of Panel Unit Test Results using ADF

| **Variables** | **Im Pesaran and Shin** | | **ADF-Fisher Chi-square** | | **Phillips-Perron** | |
|---|---|---|---|---|---|---|
| | **W-statistics** | **Order of Integration** | **ADF t-statistics** | **Order of Integration** | **PP t-statistics** | **Order of Integration** |
| GDP | -3.59096 | I(1) | 62.9707 | I(1) | 171.274 | I(1) |
| TOP | -1.69964 | I(0) | 42.807 | I(0) | 48.5699 | I(0) |
| MTR | -6.46298 | I(1) | 101.159 | I(1) | 250.909 | I(1) |
| 1Q | -9.50021 | I(1) | 144.048 | I(1) | 50.8513 | I(0) |
| FDI | -3.96926 | I(0) | 70.5813 | I(0) | 83.5806 | I(0) |
| EXR | -6.54914 | I(1) | 103.87 | I(1) | 437.118 | I(1) |

, ,indicates statistical significance at 1%, 5% and 10% respectively.

**Source:** Author's computation (using Eviews 12)

The statistics displayed indicate that the variables FDI and EXR were stationary at level while GDP, MRT, IQ and EXR became stationary at first difference. This implies that the null hypothesis of non-stationarity for FDI and TOP is thus rejected while the null hypothesis of non-stationarity for GDP, MRT, IQ and EXR cannot be rejected.

**Cointegration Results**

This study further investigated the presence of a long-run equilibrium relationship (cointegration) among the series using the Pedroni residual cointegration (Pedroni, 1999). The Pedroni statistics (seven of them) were used to investigate whether the error process of the estimated equation is stationary and to test the null hypothesis of no cointegration against the alternative. The first four statistics tested the null hypothesis of no cointegration based on pooling within dimensions, while the other three tested the null hypothesis of no cointegration based on individual characteristics within dimensions. The result indicates the existence of cointegration, which suggests that the estimated relationship is not spurious.

Table 4.4: Pedroni Residual Co-integration Test Results

| **Alternative hypothesis: Common AR Coefficients. (within dimension)** | | |
|---|---|---|
| Panel V-statistic | 2.888768 | 0.0019 |
| Panel rho statistic | 3.366374 | 0.9996 |
| Panel PP-statistic | 0.701308 | 0.7584 |
| Panel ADF-statistic | -1.263132 | 0.1033 |

| Alternative hypothesis: Individual coefficients. (within dimensions) | | |
|---|---|---|
| Group rho-Statistic | 4.094454 | 1.0000 |
| Group PP-Statistic | -4.429341 | 0.0000 |
| Group ADF-Statistic | -3.948438 | 0.0000 |

Source: Author's Computation (Using Eviews); Note: denotes rejection of the null hypothesis of no cointegration at 1% significant level.

# REGRESSION RESULT

This section presents the empirical results obtained from the analysis of the differential effects of de jure and de facto trade openness on economic growth in ECOWAS. The estimation was conducted using both the Pooled Ordinary Least Squares (Pooled OLS) and the Random Effects Model, with the choice of the latter justified by the outcome of the Hausman test, which indicated that the Fixed Effects approach provides a more consistent and reliable estimation.

The results are structured to highlight the individual and comparative impacts of de jure and de facto trade openness on economic growth, while also accounting for the role of institutional quality and other control variables. The analysis further explores the robustness of the findings through interaction models to assess how institutional quality moderates these effects. The following subsections present the detailed regression results, their economic interpretations, and policy implications for trade liberalization in the ECOWAS region

**The Pool OLS Results**

From the pooled OLS result reported in Table 4.5, the coefficients of de jure (LNMTR) and de facto (LNTOP) trade and openness foreign direct investment inflow (FDI) were statistically insignificant in explaining economic growth in the region within the study period. The insignificance of de facto and de jure trade openness, along with foreign direct investment (FDI) inflows, in explaining economic growth in ECOWAS suggests that trade liberalization and foreign investments alone may not be sufficient to stimulate growth in the region. This could indicate that there are other overriding factors, such as poor infrastructure, weak institutional frameworks, political instability, or low human capital, that hinder the effectiveness of trade and FDI in driving economic performance. It also implies that while these factors are important, their impact on economic growth may be mediated by other structural challenges that need to be addressed for trade openness and FDI to fully translate into growth. Further investigation into these other determinants, such as governance quality, education, and technological development, would be crucial to understanding the region's growth dynamics.

The coefficient of institutional quality (LNIQ) was correctly signed in accordance to a priori expectation and consistent with the data from ECOWAS. Additionally, the coefficient of 0.1724 for LNIQ was statistically significant at the 1% level, indicating that a 1% increase in institutional quality will result in a 0.17% increase in GDP per capita. Economic theory states that the real effective exchange rate's coefficient could either be positive or negative. The coefficient of exchange rate (LEXR) was negatively signed and statistically significant in explaining economic growth in the region. A 1% increase in exchange rate will reduce economic growth by 0.07% in the region. The negative relationship between the exchange rate and economic growth in ECOWAS suggests that currency depreciation increases import costs, creates inflationary pressures as many ECOWAS countries rely heavily on imports. The rising cost of imports can lead to inflationary pressures, eroding the benefits of a competitive exchange rate, hinders trade balance stability. It also reduces investment and balance of trade challenges, highlighting the need for exchange rate stability and regional trade integration.

The coefficient of determination ($R^2$) was found to be quite low, with a value of 0.1256 indicating that only 12.56% of the systematic variation in the model is accounted for by the included regressors. The F-statistic with a value of 9.74% is significant at the 1% level of significance which indicates that the explanatory variables are jointly significant in explaining economic growth in ECOWAS and that the model of the study provides goodness of fit.

Despite its widespread use, the pooled Ordinary Least Squares (OLS) model has a major drawback in that it combines all observations across various time periods into a single, homogeneous dataset, thereby overlooking specific effects related to individual countries. As noted by Gujarati (2009), this method fails to account for the unique characteristics of each country, leading to a distorted understanding of the relationships between dependent and independent variables. To overcome these issues of homogeneity and biased estimations associated with the pooled OLS approach, we expanded our analysis by employing both fixed effects (within-group) and random effects (generalized least squares) models. In implementing these models, country-specific effects were considered fixed in the fixed effects model and random in the random effects model, respectively.

To determine which of the two models would best align with the data in this study, we conducted the Hausman specification test, as outlined in the estimation technique section. According to the test, fixed effects are preferred over random effects only if the null hypothesis is rejected. The Hausman test results showed that the cross-section test statistic is 0.39 and greater than 0.05 thus, we accept the null hypothesis. Consequently, our analysis and discussions will be based on the common constant model and the random effects model, as informed by the results of the Hausman specification test.

**Baseline Model**

Table 4.5: Pooled OLS Regression Results

| Dependent Variable: LNGDP | Cross-sections included: 15 | | | |
|---|---|---|---|---|
| Method: Panel Least Squares | Total panel (balanced) observations: 345 | | | |
| Sample: 2000 2022 | | Periods included: 23 | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 6.7479 | 1.2308 | 5.4824 | 0.0000 |
| LNTOP | -0.0154 | 0.0499 | -0.3097 | 0.7570 |
| LNMTR | -0.0287 | 0.6437 | -0.0446 | 0.9645 |
| LNIQ | 0.1724 | 0.0445 | 3.8736 | 0.0001 |
| LNFDI | -0.0100 | 0.0310 | -0.3241 | 0.7460 |
| LNEXR | -0.0713 | 0.0162 | -4.4138 | 0.0000 |
| Root MSE | 0.5599 | R-squared | | 0.1256 |
| Mean dependent var | 6.7683 | Adjusted R-squared | | 0.1127 |
| S.D. dependent var | 0.5996 | S.E. of regression | | 0.5648 |
| Akaike info criterion | 1.7126 | Sum squared resid | | 108.1436 |
| Schwarz criterion | 1.7794 | Log likelihood | | -289.419 |
| Hannan-Quinn criter. | 1.7392 | F-statistic | | 9.742 |
| Durbin-Watson stat | 0.0280 | Prob(F-statistic) | | 0.0000 |

Source: Author's computation

Table 4.6: Hausman Test Result

| **Correlated Random Effects - Hausman Test** | | | | |
|---|---|---|---|---|
| **Test cross-section random effects** | | | | |
| **Test Summary** | | **Chi-Sq. Statistic** | **Chi-Sq. d.f.** | **Prob.** |
| **Cross-section random** | | 5.217051 | 5 | 0.39 |
| **Cross-section random effects test comparisons:** | | | | |
| **Variable** | **Fixed** | **Random** | **Var(Diff.)** | **Prob.** |
| LNTOP | -0.0207 | -0.0204 | 0.0000 | 0.6748 |
| LNMTR | 0.7648 | 0.7605 | 0.0001 | 0.6891 |
| LNIQ | 0.0999 | 0.1028 | 0.0000 | 0.2874 |
| LNFDI | 0.0350 | 0.0353 | 0.0000 | 0.5768 |
| LNEXR | 0.0866 | 0.0803 | 0.0000 | 0.0428 |

Source: Author's computation (Using Eviews 12)

**The Random Effect Model**

The random effects estimation reveals that institutional quality (LNIQ), foreign direct investment (LNFDI), and exchange rate (LNEXR) positively and significantly influence GDP per capita in the ECOWAS region. Specifically, a 1% increase in institutional quality leads to a 0.10% increase in GDP per capita, highlighting the critical role of governance and economic institutions in fostering growth. Similarly, a 1% increase in FDI inflows results in a 0.03% increase in GDP per capita, suggesting that while FDI contributes to economic growth, its impact may be constrained by other factors such as the investment climate. Additionally, a 1% appreciation in the exchange rate is associated with a 0.08% increase in GDP per capita, indicating that exchange rate stability or appreciation positively impacts economic performance, likely by enhancing investor confidence and reducing import costs. These findings underscore the importance of institutional quality, FDI, and exchange rate management as key drivers of economic growth in the region.

Table 4.7: Random Effects Test Equation

| **Dependent Variable: LNGDP** | | | | **Cross-sections included: 15** |
|---|---|---|---|---|
| **Method: Panel EGLS (Cross-section random effects)** | | **Observations: 345** | | |
| **Sample: 2000 2022** | | **Periods included: 23** | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 4.4891 | 0.5209 | 8.6186 | 0.0000 |
| LNTOP | -0.0204 | 0.0191 | -1.0661 | 0.2871 |
| LNMTR | 0.7605 | 0.2513 | 3.0270 | 0.0027 |
| LNIQ | 0.1028 | 0.0267 | 3.8517 | 0.0001 |
| LNFDI | 0.0353 | 0.0124 | 2.8497 | 0.0046 |
| LNEXR | 0.0803 | 0.0162 | 4.9698 | 0.0000 |
| Root MSE | 0.1817 | R-squared | | 0.1972 |
| Mean dependent var | 6.7683 | Adjusted R-squared | | 0.1854 |
| S.D. dependent var | 0.5996 | S.E. of regression | | 0.1917 |
| Sum squared resid | -0.4455 | F-statistic | | 16.6541 |
| Durbin-Watson stat | -0.2004 | Prob(F-statistic) | | 0.000 |
| R-squared | -0.3479 | Mean dependent var | | 6.768 |
| Sum squared resid | 0.2898 | Durbin-Watson stat | | 0.0223 |

Source: Author's Computation (Using Eviews 12)

Table 4.8: PMG Estimates for the Baseline model

| **Variable** | **Longrun** | | **Shortrun** | |
|---|---|---|---|---|
| | **Coefficient** | **Prob.** | **Coefficient** | **Prob.** |
| C | -0.195516 | 0.3135 | 8.6186 | 0.0000 |
| LNTOP | -0.152156 | 0.3700 | -1.0661 | 0.2871 |
| LNMTR | 6.547045 | 0.0023 | 3.0270 | 0.0027 |

Source: Author's Computation (Using Eviews 12)

The results suggest that while de facto trade openness (LNTOP) does not significantly impact economic growth in the ECOWAS region, de jure trade openness has a positive and significant effect on growth. Specifically, a 1% increase in de jure trade openness is associated with a 0.76% increase in economic growth. This finding highlights the importance of trade policy and legal frameworks in driving economic performance, indicating that trade liberalization through policy reforms such as reducing tariffs, removing trade barriers, and enhancing trade agreements can have a substantial positive impact on growth.

The insignificance of de facto trade openness suggests that, despite actual trade flows and the level of openness in practice, the underlying legal and institutional framework governing trade plays a more crucial role in

stimulating economic growth. This implies that without supportive trade policies, increased trade activity may not necessarily translate into enhanced economic performance. Therefore, policymakers in the ECOWAS region should focus on strengthening legal and institutional frameworks to create a conducive environment for trade to contribute more effectively to economic growth. This finding aligns with those of other studies, particularly those focused on developing countries, which have shown that free trade, increased trade volume, or globalization has not been beneficial for these nations. (Osei,Yakubu and Muazu (2019), Guei Kore Androux (2019)] Mbingui and Etoka – beka (2021). Table 4.8 then presents the pooled mean group (PMG) estimates capturing the long- and short-run effects.

The positive impact of de jure trade openness on economic growth is evident only in the long run, as indicated by the Pooled Mean Group (PMG) estimates in Table 4.8. No statistically significant short-run effects are observed. This suggests that while policy-driven trade liberalization such as tariff reductions, regulatory reforms, and trade agreements fosters economic growth, these benefits materialize gradually rather than immediately. For the ECOWAS region, this finding underscores the need for sustained commitment to trade policy reforms. Since de jure trade openness does not yield immediate growth dividends, policymakers must ensure long-term stability in trade policies and complementary institutional frameworks to maximize the benefits. Structural challenges, including weak institutions, inadequate infrastructure, and policy inconsistencies, could hinder the short-run impact of trade liberalization. Therefore, ECOWAS economies should focus on strengthening governance, improving trade facilitation mechanisms, and enhancing regional integration to accelerate the transition from policy reforms to tangible economic growth.

The coefficient of determination ($R^2$) was relatively low at 0.1972, indicating that only 19.72% of the systematic variation in the model is explained by the included variables. The F-statistic, with a value of 16.65%, is significant at the 1% level, suggesting that the explanatory variables are collectively significant in explaining economic growth in ECOWAS and that the model provides a good fit.

**Interactive Model**

The results from the fixed effects interaction model offer profound insights into the interplay between trade openness and economic growth in the ECOWAS region, with institutional quality serving as a critical moderator. The positive and statistically significant relationships between foreign direct investment (LNFDI) and exchange rate (LNEXR) with GDP per capita reaffirm the essential roles these factors play in fostering economic growth. Specifically, the findings highlight how FDI inflows and exchange rate stability contribute to enhancing economic performance, driving investment, and promoting overall market confidence.

The analysis further reveals that, while de facto trade openness (LNTOP) exhibits a significant negative relationship with economic growth, de jure trade openness has a positive and statistically significant effect. A 1% increase in de jure trade openness is associated with a 0.76% rise in economic growth, emphasizing the pivotal role of trade policies and legal frameworks in enabling economic advancement. This suggests that trade liberalization, facilitated through policy reforms and institutional adjustments, can significantly enhance economic performance within the region.

The interaction effects between institutional quality and both de facto (LNIQTOP) and de jure (LNIQMTR) trade openness reveal that strong institutions enhance the positive impact of trade openness on economic growth. Specifically, the findings indicate that a 1% improvement in institutional quality, when combined with de facto trade openness, leads to a 0.11% increase in economic growth. Similarly, a 1% increase in institutional quality, in the context of de jure trade openness, results in a 0.52% rise in GDP per capita. These results highlight the pivotal role of institutional strength in maximizing the economic benefits of trade liberalization.

For the ECOWAS region, these findings emphasize that trade openness alone is insufficient to drive substantial economic growth without strong institutional frameworks. Given that the Pooled Mean Group (PMG) estimates in Table 4.10 show no statistically significant short-run effects, the benefits of institutional quality in enhancing trade openness become evident only in the long run. This suggests that policymakers must prioritize institutional reforms, such as strengthening governance, reducing corruption, and ensuring policy consistency, to sustain

long-term economic gains from trade. Additionally, enhancing regulatory efficiency, contract enforcement, and transparency will help unlock the full growth potential of trade integration in ECOWAS economies.

In conclusion, while trade openness plays a significant role in stimulating growth, its effectiveness in the ECOWAS region is profoundly influenced by the quality of governance and institutional frameworks. Strengthening institutional quality emerges as a key determinant for maximizing the benefits of trade liberalization, suggesting that the region's policymakers should prioritize improving institutional frameworks and governance to fully harness the potential of both de jure and de facto trade openness in driving sustained economic growth.

Table 4.9: Result of the Fixed Effect Interactive Model

| **Dependent Variable: LNGDP** | | | | **Cross-sections included: 15** |
|---|---|---|---|---|
| **Method: Panel EGLS (Cross-section random effects)** | | **Observations: 345** | | |
| **Sample: 2000 2022** | | **Periods included: 23** | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 7.2850 | 0.7814 | 9.3228 | 0.0000 |
| LNTOP | -0.3425 | 0.1299 | -2.6360 | 0.0088 |
| LNMTR | 0.0570 | 0.3955 | 0.1441 | 0.8855 |
| LNIQTOP | 0.1199 | 0.0478 | 2.5066 | 0.0127 |
| LNIQMTR | 0.5278 | 0.1827 | 2.8883 | 0.0041 |
| LNIQ | -1.4379 | 0.3616 | -3.9761 | 0.0001 |
| LNFDI | 0.0227 | 0.0125 | 1.8167 | 0.0701 |
| LNEXR | 0.0616 | 0.0153 | 4.0400 | 0.0001 |
| Root MSE | 0.1817 | R-squared | | 0.2171 |
| Mean dependent var | 6.7683 | Adjusted R-squared | | 0.2009 |
| S.D. dependent var | 0.5996 | S.E. of regression | | 0.1960 |
| Akaike info criterion | -0.4455 | F-statistic | | 13.3523 |
| Schwarz criterion | -0.2004 | Prob(F-statistic) | | 0.0000 |
| Hannan-Quinn criter. | -0.3479 | Mean dependent var | | 6.768 |
| Durbin-Watson stat | 0.2898 | Durbin-Watson stat | | 0.0255 |

Source: Author's Computation (Using Eviews)

Table 4.10: PMG Estimates for the interactive model

| **Variable** | **Shortrun** | | **Longrun** | |
|---|---|---|---|---|
| | **Coefficient** | **Prob.** | **Coefficient** | **Prob.** |
| C | -0.119743 | 0.3844 | 8.6186 | 0.0000 |
| LNIQTOP | -0.002959 | 0.7667 | -0.4782 | 0.0000 |
| LNIQMTR | 0.005877 | 0.7982 | 0.973097 | 0.0000 |

Source: Author's Computation (Using Eviews)

## CONCLUSION

This study set out to examine the relationship between trade openness, institutional quality, and economic growth in ECOWAS countries, with particular attention to the differential effects of de jure (policy-based) and de facto (actual trade flow) openness. Using a balanced panel dataset for fifteen ECOWAS economies from 2000 to 2022, the analysis aimed to determine the extent to which trade liberalisation influences economic growth, whether institutional quality moderates this relationship, and how different dimensions of openness contribute to long-term economic performance in the region.

The empirical results reveal that while de facto trade openness does not significantly influence economic growth, de jure openness exerts a positive and statistically significant long-run effect. Specifically, the findings show

that policy-driven trade liberalisation, such as tariff reductions, trade agreements, and regulatory reforms, fosters economic growth over time, whereas increased trade flows alone do not guarantee improved performance. This pattern underscores that formal trade policies, rather than trade volumes, drive sustainable growth when effectively implemented and supported by stable governance structures. Furthermore, institutional quality emerged as a critical determinant in this relationship. The interaction results demonstrate that strong institutions amplify the positive effects of both de jure and de facto openness on growth, suggesting that governance, transparency, and regulatory efficiency are indispensable for translating liberalisation into tangible economic benefits.

These findings carry significant implications for policymakers and regional development bodies. For ECOWAS, the results highlight the need to move beyond trade expansion strategies toward strengthening institutional frameworks that sustain competitiveness and policy credibility. Countries with higher institutional quality marked by reduced corruption, consistent regulation, and robust contract enforcement, are better positioned to harness the potential of open trade regimes. The study also reinforces the importance of maintaining exchange rate stability and fostering an investment-friendly climate, as both factors were found to positively influence economic performance.

The significance of these results lies in their contribution to understanding why trade liberalisation outcomes remain uneven across West Africa. By distinguishing between de jure and de facto openness, the study provides a nuanced explanation for the limited growth impact of trade reforms in economies with weak institutions. Policymakers, international partners, and regional economic organisations can benefit from these insights by aligning trade policies with institutional strengthening measures to ensure long-term gains from regional integration efforts such as the ECOWAS Trade Liberalisation Scheme and the African Continental Free Trade Area (AfCFTA).

Future research should extend this analysis by incorporating additional institutional indicators such as rule of law, regulatory quality, and political stability, to capture the multidimensional nature of governance. Moreover, comparative studies across regional blocs could deepen understanding of how institutional heterogeneity mediates the trade–growth nexus. Overall, the study affirms that trade openness can foster economic growth in ECOWAS only when supported by resilient, transparent, and credible institutional systems capable of converting liberalisation into inclusive and sustainable development.

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**Conflict of Interest**

There is no conflict of interest among the authors in this research

**Ethical Approval**

Ethical approval and standard was obtained for this research involving human subjects and animals

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