

INSTITUTIONAL QUALITY, STRUCTURAL CONSTRAINTS, AND
ECONOMIC GROWTH IN DEVELOPING ECONOMIESMirza Nouman Ali Talib^{*1}, Awais Aslam Malik², Farah Aslam Malik³^{*1}Department of Economics, National Defence University, Islamabad²Bahria University Islamabad³Department of International Relations Bahria University IslamabadDOI: <https://doi.org/10.5281/zenodo.18267360>

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Abstract

This paper examines the relationship between institutional quality, structural constraints, and economic growth in developing economies. Despite extensive theoretical and empirical work linking institutions to growth, the mechanisms through which structural constraints condition institutional effectiveness remain underexplored. Drawing on neoclassical growth theory, endogenous growth models, and new institutional economics, this study synthesizes evidence from panel data econometrics, instrumental variables estimation, and threshold regression analyses across diverse developing country contexts. The analysis reveals that institutional quality exerts heterogeneous growth effects contingent upon the severity of structural constraints including infrastructure deficits, human capital limitations, financial market inefficiencies, and market structure imperfections. Threshold effects are pronounced, with institutional improvements yielding substantial growth dividends only after economies surpass critical infrastructure and human capital thresholds. Regional evidence demonstrates significant variation, with institutional quality showing stronger growth impacts in East Asia and Latin America compared to Sub-Saharan Africa, where binding structural constraints attenuate institutional effectiveness. The findings suggest that institutional reforms must be sequenced with investments in infrastructure and human capital to maximize growth outcomes. This research contributes to development economics by providing a systematic framework for understanding the conditional nature of institutions-growth relationships and identifying policy-relevant interaction effects between institutional quality and structural constraints.

1. INTRODUCTION

Economic growth in developing economies remains characterized by substantial heterogeneity, with some countries achieving sustained prosperity while others experience persistent stagnation or episodic volatility (Ghosh & Saha, 2025). Between 1996 and 2020, developing countries exhibited annual GDP growth rates ranging from negative values to over

10 percent, with this variation unexplained by traditional factors such as capital accumulation or labor force expansion (Tarchoun, 2025). Contemporary development economics increasingly recognizes that institutional quality—encompassing governance effectiveness, regulatory frameworks, rule of law, and corruption control—plays a central role in determining growth

trajectories (Liang & Li, 2025). However, empirical evidence reveals that institutional improvements do not uniformly translate into accelerated growth across all developing country contexts, suggesting that structural constraints condition the growth-enhancing potential of institutional quality (Dawood et al., 2025).

Structural constraints in developing economies include infrastructure deficits limiting connectivity and market access, human capital limitations reducing absorptive capacity for technology and knowledge spillovers, financial market inefficiencies constraining credit allocation, and market structure imperfections restricting competition and entrepreneurship (Silaban, 2025). These constraints interact with institutional quality in complex ways that existing literature has not fully characterized. Theoretical frameworks emphasize that institutions shape incentive structures and transaction costs, thereby influencing investment, innovation, and resource allocation efficiency (Bekana, 2020). Yet the extent to which these institutional effects depend on complementary factors such as infrastructure availability or human capital stock remains an open empirical question with significant policy implications (Wang, 2025).

Research Questions

- 1) How does institutional quality directly affect economic growth in developing economies, and do these effects exhibit threshold or non-linear characteristics?
- 2) How do structural constraints moderate the relationship between institutional quality and economic growth?
- 3) What are the regional variations in institutions-growth relationships, and what do these patterns reveal about the conditioning role of structural factors?

Addressing these questions contributes to development economics in several ways. The analysis provides a comprehensive synthesis of theoretical mechanisms linking institutions to growth while explicitly incorporating structural constraints as conditioning factors. By examining threshold effects and interaction mechanisms, the study offers insights into the sequencing of

institutional reforms and complementary investments. The regional comparative perspective illuminates context-specific factors shaping institutional effectiveness, providing a foundation for tailored policy recommendations.

Literature Review

2.1 Institutions and Economic Growth

The theoretical and empirical literature on institutions and economic growth has evolved substantially since North's seminal contributions establishing institutions as fundamental determinants of economic performance (Bekana, 2020). Early cross-country growth regressions demonstrated positive correlations between institutional quality measures and GDP growth, though concerns regarding endogeneity and omitted variable bias limited causal interpretation (Liang & Li, 2025). Subsequent research employing instrumental variables approaches using historical and geographical instruments provided stronger evidence for causal effects running from institutions to growth (Acemolu et al., 2012). Recent panel data studies covering 1996-2020 periods across diverse developing country samples confirm that improvements in government effectiveness, regulatory quality, and rule of law significantly enhance economic growth, with effect sizes that are economically meaningful (Ghosh & Saha, 2025).

Research examining specific institutional dimensions reveals nuanced patterns. Government effectiveness and regulatory quality consistently show positive growth effects across most developing country contexts (Ghosh & Saha, 2025). Rule of law demonstrates particularly strong impacts on investment and long-run growth through enhanced property rights security and contract enforcement (Okoh, 2024). Control of corruption exhibits mixed effects, with some studies finding significant positive impacts while others report weaker or statistically insignificant relationships (Rooms, 2017). Political stability generally supports growth by reducing uncertainty and enabling longer planning horizons, though authoritarian regimes occasionally achieve high growth rates, suggesting complex political economy dynamics (Jibir & Sofah, 2025). Voice

and accountability show inconsistent growth effects, possibly reflecting the long time lags between democratic governance improvements and observable economic outcomes (Phuc, 2025). Methodological advances have addressed earlier empirical challenges. System GMM estimators control for endogeneity and dynamic panel bias (Mensah et al., 2025). Threshold regression techniques identify non-linear institutional effects and critical quality levels necessary for growth acceleration (Dawood et al., 2025). Disaggregated analyses examining institutional effects across income groups reveal that institutional quality matters more for FDI-led growth in developing countries compared to advanced economies (Ghosh & Saha, 2025). Long-run versus short-run distinctions demonstrate that institutional effects operate primarily through sustained mechanisms rather than immediate impacts, with ARDL models showing adjustment periods extending over multiple years (Tarchoun & Ghraieb, 2025).

2.2 Structural Constraints in Developing Economies

Structural constraints represent binding impediments to economic growth that characterize many developing economies. Infrastructure deficits constitute a primary constraint, with inadequate transportation networks, unreliable energy systems, and limited telecommunications infrastructure raising logistics costs, restricting market access, and reducing competitiveness (Silaban, 2025). Empirical evidence indicates that infrastructure investment, particularly in transportation and energy sectors, significantly enhances growth rates in previously isolated regions, though effectiveness depends critically on complementary factors including management quality, education levels, and technology availability (Silaban, 2025). Research on Sub-Saharan Africa highlights that infrastructure gaps in power generation and road quality represent binding constraints limiting industrialization and export diversification (Hocini et al., 2025).

Human capital constraints affect both labor productivity and economies' absorptive capacity for advanced technologies and knowledge

spillovers. While theoretical frameworks emphasize human capital's growth-enhancing role through productivity improvements and innovation facilitation, empirical evidence reveals mixed results (Lamichhane et al., 2025). Some studies find positive significant effects of education enrollment and health indicators on growth, while others report weak or even negative short-run impacts attributable to education quality deficiencies, skills mismatches with labor market needs, and brain drain phenomena (Zafar, 2021). These findings underscore that quantitative human capital expansion must be accompanied by qualitative improvements ensuring skills acquired align with economic structure and technological demands (Lazko, 2025).

Financial market inefficiencies constrain growth through multiple channels including limited credit availability for productive investment, high intermediation costs, and misallocation of capital toward politically connected or low-productivity uses (DawayDucanes & GochocoBautista, 2019). Research employing dynamic threshold models reveals U-shaped relationships between financial development and growth in developing countries, indicating that financial systems must achieve critical scale and efficiency levels before expansion positively affects growth (DawayDucanes & GochocoBautista, 2019). Studies covering developing economies during 1984-2013 demonstrate that approximately 50-90% of sampled countries exhibit negative long-run effects of financial expansion on manufacturing and services growth, suggesting widespread "too little finance" problems explained by weak institutions, market failures, and insufficient scale to support large investments (DawayDucanes & GochocoBautista, 2019).

Market structure imperfections including concentrated markets, entry barriers, and regulatory frameworks protecting incumbents reduce allocative efficiency and constrain productivity growth (Author, 2025). Evidence indicates that trade liberalization and pro-competition reforms yield positive growth effects, though benefits are conditional upon institutional quality factors including transparent regulation and corruption control (Author, 2025). Research

on SME development highlights how financial accessibility limitations, digital transformation barriers, skills mismatches, and fragmented institutional support collectively suppress innovation and hinder transitions toward higher productivity activities (Yusof et al., 2025).

2.3 Institutional Quality and Growth Channels

Institutional quality conditions the growth effects of multiple transmission channels. Regarding foreign direct investment, extensive evidence demonstrates that weak institutions severely limit FDI's growth benefits while strong institutional frameworks amplify positive spillovers (Ghosh & Saha, 2025). Research covering 135 developing countries from 1996-2020 reveals that enhancements in government effectiveness, regulatory quality, and rule of law strengthen FDI's impact on growth, with institutional quality mattering more for FDI-led growth in developing versus advanced economies (Ghosh & Saha, 2025). Mechanisms include reduced expropriation risks encouraging technology transfer, lower business costs facilitating operations, corruption control ensuring productive investment, and political stability enabling long-term commitments (Okoh, 2024). Trade openness-growth relationships similarly depend on institutional quality. Studies employing interaction models for 70 developing nations demonstrate that countries with strong institutions attract greater benefits from trade integration through enhanced technology absorption and reduced transaction costs (Ayub et al., 2023). However, evidence also reveals potential negative interaction effects, with research on industrial development finding that weak institutions erode positive trade effects, suggesting complex non-linearities whereby trade benefits growth in well-governed environments but may generate adverse effects including deindustrialization in poor governance contexts (Author, 2025).

Financial development-growth linkages exhibit strong conditioning by institutional quality, with robust financial systems requiring institutional foundations to channel resources productively (Mensah et al., 2025). Research on 33 emerging

economies reveals heterogeneous growth effects depending on institutional quality levels (Mensah et al., 2025). Studies of African economies demonstrate that initial financial development enhances wealth, but beyond thresholds of 0.41-1.21, additional expansion reduces wealth, suggesting that financial sector growth in weak institutional environments generates instability and misallocation (OforiSasu et al., 2025). Digital finance offers partial compensation for institutional weaknesses through reduced information asymmetries and transaction costs, though maximizing benefits still requires regulatory frameworks establishing optimal development levels (OforiSasu et al., 2025).

External debt impacts on growth are critically moderated by institutional quality. Research employing CS-ARDL methodology for developing countries demonstrates that external debt negatively impacts growth in weak institutional contexts consistent with debt overhang hypotheses, whereas strong institutions reduce negative impacts and can enable positive debt effects (Tarchoun & Ghraieb, 2025). Studies of ECOWAS nations confirm that governance quality moderates debt-growth relationships, with strong institutions enhancing positive effects while weak governance exacerbates macroeconomic instability risks (Jibir & Sofah, 2025). Threshold analyses indicate institutional quality must exceed 0.91-0.93 levels before external debt functions as a growth catalyst rather than impediment (Dawood et al., 2025).

2.4 Regional Evidence from Developing Economies

Regional heterogeneity represents a consistent empirical finding. African economies display distinctive patterns wherein political stability and rule of law exert positive significant impacts on long-run growth, while government effectiveness and regulatory quality show mixed or negative effects in some contexts (Phuc, 2025). This may reflect measurement challenges, country-specific factors, or stage-dependent institutional effects where certain dimensions become growth-enhancing only after achieving minimum development thresholds (Abodunrin et al., 2025).

Research on 37 Sub-Saharan African economies demonstrates strong support for direct institutional quality effects on performance and indirect effects through innovation channels (Bekana, 2020).

South Asian economies present different institutional dynamics. Studies reveal mixed effects, with institutional quality enhancing growth in certain specifications while showing limited direct impact in others, potentially reflecting heterogeneous institutional landscapes across the region (Zafar, 2021). East Asian economies demonstrate that institutional quality improvements, especially in regulatory frameworks and rule of law, precede and enable sustained growth episodes (Hocini et al., 2025). Research on ASEAN developing countries from 1996-2023 indicates institutional quality significantly impacts growth through enhanced trade integration and FDI effectiveness (Author, 2025).

Latin American evidence indicates institutional quality contributes positively to growth, though magnitudes vary across countries depending on political economy configurations (Husnain et al., 2024). Studies covering the region emphasize that institutional quality, FDI, and domestic investment have significant positive long-run growth impacts, with institutional quality playing particularly important roles in moderating external economic relationships (Husnain et al., 2024). Middle Eastern economies show institutional quality effects conditioned by resource dependence, with oil-exporting countries exhibiting different institutional-growth dynamics compared to diversified economies (Moudatsou, 2024).

Cross-regional comparative analyses reveal that institutional effects are stronger in East Asia and Latin America compared to Sub-Saharan Africa and South Asia, suggesting that structural constraints including infrastructure and human capital deficits attenuate institutional effectiveness (Nawaz et al., 2014). Research comparing developed and developing Asia finds institutional quality thresholds of 0.91 for lower-middle-income countries versus 0.85 for upper-middle-income countries, indicating context-dependent benchmarks (Dawood et al., 2025). These regional

variations underscore the importance of tailoring institutional reform strategies to specific structural and developmental contexts rather than applying universal blueprints.

Theoretical Framework

3.1 Neoclassical Growth Theory

The neoclassical growth model provides foundational insights into long-run growth determinants, emphasizing capital accumulation, labor force expansion, and exogenous technological progress (Cvetanovi et al., 2019). Under the Solow-Swan framework, economies converge toward steady-state income levels determined by savings rates, population growth, and technology, with per capita income growth ceasing once capital-labor ratios reach equilibrium (Otieno & Aduda, 2022). This framework treats institutional factors as background conditions captured within the residual or technology parameter rather than as explicit growth determinants (Nugroho et al., 2019). However, extensions incorporating human capital demonstrate that quality-adjusted labor inputs significantly affect growth trajectories, providing theoretical space for institutions influencing human capital formation (Ali et al., 2015).

The convergence predictions of neoclassical models proved inconsistent with persistent cross-country income disparities, motivating theoretical refinements. Conditional convergence hypotheses posit that countries converge toward different steady states determined by country-specific characteristics including institutional quality (Liang & Li, 2025). This perspective suggests that institutional differences explain why some economies achieve high steady-state income levels while others remain trapped at low equilibria (Bekana, 2020). Empirically, conditional convergence receives support from panel growth regressions showing that controlling for institutional quality and other structural factors reveals convergence patterns obscured in unconditional specifications (Ghosh & Saha, 2025).

3.2 Endogenous Growth Models

Endogenous growth theory posits that sustained growth arises through internal mechanisms rather

than exogenous technological change, with knowledge accumulation, human capital development, and innovation generating increasing returns (Grossman & Helpman, 1994). Romer's knowledge-based models demonstrate how investments in R&D create non-rivalrous ideas yielding positive externalities and sustained productivity growth (Otieno & Aduda, 2022). Lucas's human capital framework emphasizes education's dual role in directly enhancing labor productivity and facilitating technology adoption and innovation (Ali et al., 2015). These models create explicit roles for institutional factors by highlighting the importance of property rights protection, innovation incentives, and knowledge spillovers—all fundamentally institutional in nature (Nugroho et al., 2019).

The AK model variant, where output exhibits constant returns to broad capital encompassing physical and human components, generates endogenous growth without requiring exogenous technological progress (Oughton & Tobin, 2023). This framework suggests that institutional quality affects growth rates permanently rather than merely influencing transition dynamics or steady-state levels (Liang & Li, 2025). Policy implications differ substantially from neoclassical predictions, as temporary institutional improvements can generate permanent growth effects through enhanced accumulation incentives (Bekana, 2020). Empirical tests of endogenous growth predictions yield mixed results, with some studies supporting permanent institutional effects while others find evidence consistent with neoclassical level effects (Ghosh & Saha, 2025).

3.3 New Institutional Economics

New institutional economics establishes institutions as fundamental determinants of economic performance by shaping transaction costs, property rights security, and contractual enforcement (Author, 2012). North's framework distinguishes formal institutions including laws, regulations, and constitutions from informal institutions encompassing norms, customs, and social conventions (Ali et al., 2015). Both dimensions jointly determine the incentive structure facing economic actors, with well-

functioning institutions reducing uncertainty, facilitating exchange, and enabling productive specialization (Bekana, 2020). Institutional quality encompasses not only rule content but also enforcement effectiveness, implementing agency competence, and policy credibility (Ghosh & Saha, 2025).

Institutions influence growth through multiple transmission mechanisms. First, secure property rights and contract enforcement directly affect investment incentives by reducing expropriation risks and enabling long-term economic planning (Bekana, 2020). Second, institutional quality shapes resource allocation efficiency by affecting market competitiveness, rent-seeking prevalence, and regulatory distortions (Ghosh & Saha, 2025). Third, institutions condition human capital accumulation through effects on education and health service quality and returns to skill acquisition versus rent-seeking (Bounahr & Khattab, 2025). Fourth, institutional quality influences technology adoption and innovation through intellectual property protection, business regulation, and entrepreneurial environments (Fayyaz & Bartha, 2025). Fifth, institutions affect macroeconomic stability through fiscal and monetary frameworks, with weak institutions associated with higher inflation and output volatility (Dawood et al., 2025).

3.4 Political Economy of Development

Political economy perspectives emphasize that institutions reflect underlying power distributions and political configurations, with elite capture, distributional conflicts, and collective action problems shaping institutional evolution (Hall & Sobel, 2008). Acemoglu and Robinson's framework distinguishes inclusive institutions fostering broad-based economic participation from extractive institutions enabling elite rent extraction at the expense of growth (Acemolu et al., 2012). This perspective suggests that institutional quality improvements require political coalitions overcoming vested interests benefiting from existing institutional arrangements (Wang, 2025). The persistence of poor institutions despite apparent growth costs reflects political economy equilibria where elites

prefer extractive institutions preserving their power over inclusive institutions generating higher aggregate income (Hocini et al., 2025).

Threshold effects in institutions-growth relationships may arise from political economy mechanisms. Below critical institutional quality levels, elites retain sufficient power to block reforms or capture reform benefits, preventing institutional improvements from translating into growth (Liang & Li, 2025). Above thresholds, broader coalitions emerge capable of sustaining institutional quality and ensuring growth benefits are shared sufficiently to maintain reform momentum (Jibir & Sofah, 2025). Regional variations in institutional effectiveness may reflect different historical trajectories shaping contemporary political economy configurations, with colonial legacies, resource endowments, and ethnic fractionalization affecting institutional evolution (Acemolu et al., 2012).

3.5 Threshold Effects and Non-Linear Relationships

Theoretical frameworks suggest multiple sources of non-linearities in institutions-growth relationships. Complementarity mechanisms imply that institutional quality becomes growth-enhancing only when combined with sufficient levels of complementary factors including infrastructure, human capital, and financial development (Dawood et al., 2025). Below thresholds where complementary factors are severely deficient, institutional improvements may show weak growth effects as binding constraints lie elsewhere (Silaban, 2025). Above thresholds, institutional quality's marginal growth contribution increases substantially as complementary factors enable institutions to function effectively (Wang, 2025).

Network externalities represent another source of non-linearities, with institutional quality benefits depending on how many economic actors operate under improved institutional frameworks (Hall & Sobel, 2008). Partial institutional reforms affecting limited sectors or regions may generate minimal aggregate growth effects, while comprehensive reforms reaching critical mass unlock substantial productivity gains (Liang & Li,

2025). Absorptive capacity considerations suggest that economies require minimum institutional quality levels to effectively utilize external resources including FDI, aid, and technology transfers (Ghosh & Saha, 2025). Below absorptive capacity thresholds, institutional weaknesses prevent productive resource utilization regardless of resource quantities, while above thresholds, resources finance growth-enhancing investments (Dawood et al., 2025).

Conceptual Framework

4.1 Defining Institutional Quality

Institutional quality is conceptualized as a multi-dimensional construct encompassing governance effectiveness, regulatory frameworks, legal system functionality, and corruption control (Ghosh & Saha, 2025). Drawing on Worldwide Governance Indicators, this framework distinguishes six institutional dimensions: voice and accountability capturing political participation and civil liberties; political stability measuring governance continuity and violence absence; government effectiveness reflecting public service quality and bureaucratic competence; regulatory quality assessing policy formulation and implementation soundness; rule of law evaluating contract enforcement and property rights protection; and control of corruption gauging public power exercise for private gain prevention (Jibir & Sofah, 2025).

Each institutional dimension influences growth through distinct channels while exhibiting complementarities. Voice and accountability affect growth through political stability, policy credibility, and inclusive decision-making enabling broad-based human capital investment (Phuc, 2025). Political stability reduces investment uncertainty and enables long-term planning essential for productivity-enhancing capital accumulation (Jibir & Sofah, 2025). Government effectiveness determines resource allocation efficiency and public service delivery quality affecting human capital formation (Ghosh & Saha, 2025). Regulatory quality shapes market efficiency and entrepreneurship by establishing business operation frameworks (Author, 2025). Rule of law provides investment security and reduces transaction costs through reliable contract

enforcement (Bekana, 2020). Corruption control ensures resources finance productive uses rather than rent-seeking activities (Okoh, 2024).

4.2 Characterizing Structural Constraints

Structural constraints represent binding impediments to productive resource utilization that characterize developing economies. Infrastructure deficits encompass transportation network inadequacies limiting market access, energy supply unreliability restricting production, and telecommunications coverage gaps constraining information flows (Silaban, 2025). These deficits raise logistics costs, reduce economies of scale potential, and limit firm productivity regardless of institutional quality (Hocini et al., 2025). Human capital limitations include low educational attainment reducing labor productivity, skills mismatches between education system outputs and labor market demands, and health deficiencies constraining work capacity (Lamichhane et al., 2025). These limitations reduce absorptive capacity for advanced technologies and knowledge spillovers that institutional quality might otherwise facilitate (Lazko, 2025).

Financial market inefficiencies manifest as shallow financial systems with limited credit supply, high intermediation costs due to information asymmetries and weak contract enforcement, and misallocation toward low-productivity uses reflecting political influence or regulatory distortions (DawayDucanes & GochocoBautista, 2019). These inefficiencies prevent institutional quality improvements from translating into enhanced credit access for productive investment (OforiSasu et al., 2025). Market structure imperfections include concentrated industries with limited competition, entry barriers protecting incumbents, and regulatory capture enabling rent extraction (Author, 2025). These imperfections reduce the growth benefits of regulatory quality improvements by preventing competitive pressures that would otherwise drive efficiency gains (Yusof et al., 2025).

4.3 Interaction Mechanisms Between Institutions and Growth Drivers

Institutional quality interacts with growth drivers through complementarity and moderating mechanisms. For foreign direct investment, institutional quality determines whether FDI finances long-term productive investments generating technology spillovers or short-term extractive activities with limited development benefits (Ghosh & Saha, 2025). Strong institutions reduce expropriation risks encouraging technology transfer, lower business costs facilitating operations, control corruption ensuring productive investment, and provide political stability enabling long-term commitments (Okoh, 2024). These mechanisms imply that FDI's growth impact depends on institutional quality, with positive effects emerging only above minimum governance thresholds (Ayub et al., 2023).

Trade openness interacts with institutional quality through technology absorption and adjustment capacity channels. Strong institutions facilitate adoption of imported technologies embodied in traded goods, reduce trade-related transaction costs, and enable effective responses to competitive pressures (Ayub et al., 2023). Weak institutions may prevent economies from capturing trade benefits while exposing them to deindustrialization risks as import competition destroys domestic industries without enabling reallocation toward comparative advantage sectors (Author, 2025). Financial development's growth effects depend on institutional quality ensuring credit allocation toward productive uses rather than speculative activities or politically connected borrowers (DawayDucanes & GochocoBautista, 2019). Regulatory frameworks, contract enforcement, and corruption control determine whether financial deepening enhances capital allocation efficiency or generates instability and misallocation (OforiSasu et al., 2025).

Human capital accumulation interacts with institutional quality through quality assurance and returns structures. Institutional quality affects education system effectiveness, ensuring skills taught match labor market needs and education expenditure translates into learning outcomes

(Bounahr & Khattab, 2025). Strong institutions create economic environments where returns to education through productivity improvements exceed returns to rent-seeking, incentivizing human capital investment (Ali et al., 2015). Infrastructure's growth effects depend on institutional quality ensuring infrastructure investments serve productive purposes, maintenance adequacy, and corruption control preventing quality compromises (Silaban, 2025). These interaction mechanisms suggest that institutional quality's growth impact depends on complementary factor availability, while complementary factors' effectiveness depends on institutional quality.

4.4 Conceptual Model of Conditional Growth Effects

The conceptual model posits that economic growth results from institutions, structural constraints, and their interactions. Formally, growth rates depend on institutional quality, infrastructure stock, human capital, financial development, and interaction terms capturing complementarities. At low institutional quality levels, structural constraints bind severely, preventing institutional improvements from generating growth. At intermediate institutional levels, growth becomes responsive to institutional quality as constraints loosen, though effects remain modest. At high institutional quality levels, growth responds strongly to further improvements as complementarities with well-developed structural factors amplify benefits.

This framework generates empirically testable predictions. First, institutional quality exhibits threshold effects, with marginal growth impacts increasing at higher quality levels. Second, interaction terms between institutional quality and structural factors show positive coefficients, indicating complementarity. Third, regional variations in institutions-growth relationships reflect differences in structural constraint severity, with stronger institutional effects in regions with better infrastructure and human capital. Fourth, institutional quality improvements show stronger growth effects in middle-income countries approaching thresholds compared to low-income

countries where binding constraints lie elsewhere. Fifth, institutional quality moderates other growth determinants' effects, with stronger moderating impacts where structural factors are less constrained.

Methodology

5.1 Systematic Literature Review Approach

This study employs a systematic literature review methodology synthesizing theoretical and empirical research on institutional quality, structural constraints, and economic growth in developing economies. The review follows established protocols ensuring comprehensive coverage, transparent selection criteria, and rigorous quality assessment (Udeh et al., 2025). Literature searches targeted peer-reviewed journal articles, working papers from international financial institutions, and academic publications indexed in major databases including EconLit, Web of Science, and Google Scholar. Search terms combined variations of "institutional quality," "governance," "economic growth," "developing economies," "structural constraints," and "panel data" to identify relevant studies.

Selection criteria prioritized studies published after 2000 employing quantitative empirical methods including panel data econometrics, instrumental variables estimation, and threshold regression techniques. Studies were included if they examined developing country samples, employed institutional quality measures from established sources including Worldwide Governance Indicators or International Country Risk Guide, and reported growth effects with appropriate statistical inference. Excluded were purely theoretical papers without empirical components, case studies of single countries lacking comparative perspective, and studies focusing exclusively on advanced economies. The final sample comprised approximately 50 empirical studies spanning diverse developing country regions and employing varying methodological approaches.

5.2 Synthesis of Panel Data Econometric Evidence

The review synthesizes evidence from panel data studies employing fixed effects, random effects, and dynamic panel GMM estimators to examine institutions-growth relationships while controlling for unobserved heterogeneity and endogeneity (Mensah et al., 2025). Fixed effects specifications eliminate time-invariant country characteristics potentially confounding institutional quality-growth correlations, while random effects models exploit both within-country temporal variation and cross-country institutional differences (Orji et al., 2025). System GMM estimators address endogeneity arising from reverse causality wherein successful growth enables institutional improvements, employing lagged institutional quality levels and differences as internal instruments (Mensah et al., 2025).

Synthesized findings indicate that institutional quality coefficients in panel growth regressions are consistently positive and statistically significant across diverse specifications, with effect sizes suggesting that one standard deviation institutional quality improvement associates with 0.5-2.0 percentage point increases in annual GDP growth (Ghosh & Saha, 2025). Dynamic panel models reveal that institutional effects operate primarily in the long run, with error correction terms indicating adjustment speeds of 6-45% annually (Tarchoun & Ghraieb, 2025). Robustness checks employing alternative institutional quality measures, varying control variable specifications, and different estimation periods confirm result stability (Jibir & Sofah, 2025).

5.3 Analysis of Instrumental Variables Studies

Instrumental variables approaches address endogeneity by exploiting exogenous variation in institutional quality arising from historical and geographical factors (Acemolu et al., 2012). Commonly employed instruments include colonial settler mortality rates affecting institutional transplantation during colonial periods, legal system origins determining institutional frameworks, and geographical factors including latitude and landlocked status

correlating with institutional development (Liang & Li, 2025). Two-stage least squares estimates employing these instruments generally show larger institutional quality effects on growth compared to OLS estimates, consistent with measurement error attenuating OLS coefficients and reverse causality biasing estimates toward zero (Bekana, 2020).

Synthesized IV evidence confirms causal effects running from institutions to growth, though instrument validity remains debated (Acemolu et al., 2012). Concerns include exclusion restriction violations if instruments affect growth through channels beyond institutional quality, and weak instrument problems when historical factors correlate poorly with contemporary institutional variation (Liang & Li, 2025). Sensitivity analyses examining instrument strength through first-stage F-statistics and overidentification tests generally support instrument validity, though some studies report results sensitive to instrument choice (Ghosh & Saha, 2025). Nonetheless, the preponderance of IV evidence supports institutional quality's causal growth impact.

5.4 Review of Threshold Regression Findings

Threshold regression methods identify non-linear institutional effects and critical quality levels where marginal growth impacts change significantly (Dawood et al., 2025). These approaches estimate piecewise linear or polynomial relationships allowing institutional quality's growth effect to vary across quality levels, formally testing whether threshold parameters are statistically significant and estimating threshold values (Jibir & Sofah, 2025). Panel threshold models extend cross-sectional methods to exploit within-country temporal variation while allowing threshold parameters to differ across countries or regions (Tarchoun & Ghraieb, 2025).

Synthesized threshold regression evidence reveals pronounced non-linearities, with institutional quality exhibiting weak or statistically insignificant growth effects below critical thresholds but strong positive effects above thresholds (Dawood et al., 2025). Estimated thresholds vary across studies and institutional quality measures but generally fall in ranges of 0.85-0.93 on -2.5 to +2.5 scales, corresponding to governance effectiveness levels

achieved by upper-middle-income developing economies (Dawood et al., 2025). Lower-middle-income countries face lower thresholds around 0.91, while upper-middle-income countries require stricter standards around 0.85 (Dawood et al., 2025). These findings suggest that institutional quality's marginal growth contribution increases at higher quality levels, consistent with complementarity mechanisms where institutional improvements combine with better infrastructure and human capital.

5.5 Methodological Justification

The systematic literature review approach is appropriate for synthesizing diverse empirical evidence on complex relationships characterized by contextual heterogeneity (Udeh et al., 2025). While meta-analytic techniques could quantitatively pool effect sizes across studies, institutional quality measurement differences, varying growth rate calculations, and diverse control variable specifications limit comparability (Ghosh & Saha, 2025). The narrative synthesis employed here accommodates this heterogeneity while systematically extracting patterns regarding institutional effects, threshold dynamics, and regional variations (Wang, 2025).

Focusing on panel data econometrics, instrumental variables, and threshold regression studies ensures methodological rigor addressing key empirical challenges including endogeneity, omitted variable bias, and non-linear relationships (Liang & Li, 2025). These methods represent current best practices in growth econometrics and provide credible identification of institutional effects and moderating mechanisms (Ghosh & Saha, 2025). The synthesis across methodological approaches strengthens confidence in robust findings emerging consistently while highlighting areas where results remain sensitive to methodological choices, informing future research directions (Jibir & Sofah, 2025).

Discussion

6.1 Direct Effects of Institutional Quality on Growth

The synthesized evidence demonstrates that institutional quality exerts positive significant

effects on economic growth in developing economies, with these effects robust across panel data specifications, instrumental variables approaches, and diverse institutional quality measures (Ghosh & Saha, 2025). Government effectiveness, regulatory quality, and rule of law emerge as particularly influential dimensions, consistently showing strong positive growth effects across regional contexts (Ghosh & Saha, 2025). Political stability contributes positively to growth by reducing uncertainty and enabling long-term investment, though effects vary with conflict exposure and regime type (Jibir & Sofah, 2025). Control of corruption exhibits more mixed effects, with some specifications showing strong positive impacts while others report weak or insignificant coefficients (Rooms, 2017).

The magnitude of institutional effects is economically meaningful, with estimates suggesting that one standard deviation improvement in composite institutional quality indices associates with 0.5-2.0 percentage point increases in annual GDP growth rates (Ghosh & Saha, 2025). These effect sizes imply that sustained institutional improvements over decade-long periods could substantially alter development trajectories, raising long-run income levels by 10-30 percent relative to counterfactual scenarios without institutional quality gains (Liang & Li, 2025). The larger effect sizes emerging from instrumental variables estimates compared to OLS suggest that measurement error in institutional quality indicators attenuates OLS coefficients, while addressing endogeneity through instrumentation reveals stronger causal effects (Bekana, 2020).

However, institutional effects exhibit substantial heterogeneity across country contexts and development stages. Low-income countries show weaker or more variable institutional effects compared to middle-income countries, suggesting that binding structural constraints attenuate institutional quality's growth contribution when infrastructure and human capital deficits are severe (Nawaz et al., 2014). Upper-middle-income countries approaching high-income thresholds display particularly strong institutional effects, indicating that at advanced development stages,

institutional quality becomes the primary growth determinant as physical and human capital constraints loosen (Liang & Li, 2025). This pattern of increasing marginal institutional effects at higher development levels provides evidence for complementarity between institutional quality and structural factors.

6.2 Threshold Effects and Non-Linearities

Threshold regression evidence reveals pronounced non-linearities in institutions-growth relationships, with institutional quality exhibiting weak growth effects below critical thresholds but strong positive effects above thresholds (Dawood et al., 2025). Estimated threshold parameters vary across studies but generally indicate that institutional quality must exceed levels of 0.85-0.93 on -2.5 to +2.5 scales before marginal quality improvements generate substantial growth dividends (Dawood et al., 2025). These thresholds correspond to governance effectiveness achieved by countries including Thailand, Peru, and South Africa, representing upper ranges for lower-middle-income countries and lower ranges for upper-middle-income countries (Dawood et al., 2025).

Below thresholds, institutional quality improvements show statistically insignificant or economically small growth effects, suggesting that partial institutional reforms failing to reach critical mass generate minimal aggregate benefits (Liang & Li, 2025). This pattern may reflect complementarity mechanisms wherein institutional quality requires sufficient levels to function effectively, with weak institutions across multiple dimensions mutually reinforcing dysfunction (Bekana, 2020). Alternatively, political economy factors may prevent institutional improvements below thresholds from translating into growth as elite capture channels benefits toward rent extraction rather than productive investment (Wang, 2025). Above thresholds, institutional quality's marginal growth contribution increases substantially, potentially reflecting positive feedback loops wherein growth success strengthens political coalitions supporting further institutional improvements (Jibir & Sofah, 2025).

Disaggregated threshold analyses reveal that lower-middle-income countries face institutional quality thresholds around 0.91, while upper-middle-income countries require stricter thresholds around 0.85 (Dawood et al., 2025). This pattern suggests that as countries develop and accumulate physical and human capital, higher institutional standards become necessary to sustain growth acceleration, consistent with the notion that institutional requirements evolve with development stages (Liang & Li, 2025). The finding that institutional thresholds are higher for upper-middle-income countries may also reflect that these economies compete in more sophisticated product markets requiring stronger contract enforcement and regulatory frameworks (Author, 2025).

6.3 Structural Constraints as Moderators

Structural constraints significantly moderate institutional quality's growth effects, with infrastructure deficits, human capital limitations, financial market inefficiencies, and market imperfections attenuating institutional effectiveness (Silaban, 2025). Evidence from countries with severe infrastructure gaps shows that institutional quality improvements generate weaker growth effects compared to countries with adequate infrastructure, indicating that institutional quality requires complementary infrastructure to fully translate into productivity gains (Silaban, 2025). Research examining infrastructure investment demonstrates that management quality, education levels, and technology availability are crucial for maximizing infrastructure's growth impacts, underscoring complementarity between institutional quality and structural factors (Silaban, 2025).

Human capital constraints moderate institutional effects through absorptive capacity channels. Countries with low educational attainment and skills mismatches exhibit weaker institutional quality-growth relationships, suggesting that institutional improvements cannot substitute for fundamental human capital deficiencies (Lamichhane et al., 2025). Conversely, countries with better human capital development show stronger institutional effects, as educated

populations effectively utilize institutional quality improvements to enhance productivity and innovation (Lazko, 2025). This complementarity implies that institutional reforms and human capital investments should proceed in tandem rather than sequentially, with coordinated improvements generating larger growth effects than isolated interventions (Wang, 2025).

Financial market inefficiencies condition institutional quality's growth impact by limiting credit availability for productive investment even when institutional improvements reduce business costs and enhance property rights security (DawayDucanes & GochocoBautista, 2019). Studies showing U-shaped financial development-growth relationships in developing countries indicate that financial systems must achieve minimum scale and efficiency before expansion positively affects growth, with this threshold dependent on institutional quality ensuring credit allocation toward productive uses (DawayDucanes & GochocoBautista, 2019). Digital finance may partially compensate for traditional financial sector weaknesses by reducing information asymmetries and transaction costs, though maximizing digital finance benefits still requires regulatory frameworks constituting institutional quality (OforiSasu et al., 2025).

Market structure imperfections including industry concentration and entry barriers limit the growth benefits of regulatory quality improvements by preventing competitive pressures that would otherwise drive efficiency gains (Author, 2025). Evidence indicates that trade liberalization and pro-competition reforms yield positive growth effects conditional upon institutional quality enabling adjustment and preventing regulatory capture (Author, 2025). Research on SME development demonstrates how financial access limitations, digital transformation barriers, and fragmented institutional support collectively suppress the innovation and productivity gains that institutional quality improvements might otherwise facilitate (Yusof et al., 2025).

6.4 Regional Heterogeneity in Institutional Effects

Regional variation in institutions-growth relationships provides insights into structural constraint moderation mechanisms. Sub-Saharan African economies display weaker average institutional effects compared to East Asian and Latin American countries, with political stability and rule of law showing positive impacts while government effectiveness and regulatory quality exhibit mixed or negative effects in some specifications (Phuc, 2025). This pattern suggests that severe infrastructure deficits and human capital constraints in many African countries prevent institutional quality improvements from translating into growth, or that measurement challenges and country-specific factors obscure relationships (Abodunrin et al., 2025).

East Asian developing economies demonstrate particularly strong institutional effects, with evidence indicating that regulatory quality and rule of law improvements precede and enable growth acceleration episodes (Hocini et al., 2025). The region's relatively developed infrastructure and human capital stocks likely enable institutional quality to effectively enhance productivity and attract growth-promoting investments (Author, 2025). Research on ASEAN countries confirms that institutional quality significantly impacts growth through trade integration and FDI effectiveness channels, with complementary structural factors enabling these transmission mechanisms to operate (Author, 2025).

Latin American evidence shows positive institutional quality-growth relationships with magnitudes intermediate between African and East Asian experiences (Husnain et al., 2024). Studies emphasize that institutional quality, FDI, and domestic investment have significant long-run growth impacts, with institutional quality moderating external economic relationships (Husnain et al., 2024). The region's mixed structural development, with some countries possessing adequate infrastructure and human capital while others face significant deficits, may explain intermediate institutional effect magnitudes (Wang, 2025).

South Asian economies exhibit mixed institutional effects reflecting substantial heterogeneity in governance quality and structural constraints across countries (Zafar, 2021). Some studies find institutional quality enhancing growth while others report limited direct impacts, potentially indicating that institutional effects are conditional upon country-specific structural factors varying widely across India, Pakistan, Bangladesh, and Sri Lanka (Lamichhane et al., 2025). Middle Eastern oil exporters display institutional-growth dynamics conditioned by resource dependence, with institutional quality showing different relationships with growth in resource-rich versus diversified economies (Moudatsou, 2024).

6.5 Sequencing and Complementarity Effects

The evidence of threshold effects and structural constraint moderation carries important implications for reform sequencing. Institutional quality improvements below critical thresholds generate weak growth effects, suggesting that partial reforms may disappoint policymakers expecting rapid growth dividends (Dawood et al., 2025). However, this does not imply that institutional reforms should be delayed until structural constraints are addressed, as institutional quality likely influences the effectiveness of infrastructure and human capital investments themselves (Silaban, 2025). Instead, coordinated strategies pursuing simultaneous improvements in institutional quality and structural factors appear optimal, leveraging complementarities between governance effectiveness ensuring infrastructure quality and human capital systems delivering actual learning (Wang, 2025).

The finding that institutional effects are stronger in middle-income countries approaching thresholds suggests that institutional reforms deserve priority as countries develop and structural constraints loosen (Liang & Li, 2025). For the poorest developing countries with severe infrastructure and human capital deficits, institutional reforms remain important but may show growth effects only over longer time horizons as complementary factors gradually develop

(Abodunrin et al., 2025). Sustaining political commitment to institutional improvement during periods of weak observable growth effects represents a key challenge, requiring realistic expectations and long-term perspectives (Jibir & Sofah, 2025).

Complementarity between institutional quality and growth channel effectiveness implies that the returns to institutional reform vary with country characteristics. Countries with high FDI potential or trade integration prospects may prioritize regulatory quality and rule of law improvements directly affecting investor confidence and trade costs (Ghosh & Saha, 2025). Countries with domestic savings available for investment may emphasize corruption control and government effectiveness ensuring public investment quality (Okoh, 2024). Countries with educated populations may focus on regulatory frameworks supporting entrepreneurship and innovation (Fayyaz & Bartha, 2025). These context-specific priorities suggest that institutional reform agendas should be tailored to country circumstances rather than following universal sequences.

Policy Implications

7.1 Institutional Capacity Building

The evidence that institutional quality exerts significant growth effects, particularly above critical thresholds, suggests that building institutional capacity represents a fundamental policy priority for developing economies (Ghosh & Saha, 2025). Institutional capacity building should address multiple governance dimensions simultaneously, including government effectiveness through civil service reforms enhancing bureaucratic competence, regulatory quality through business regulation streamlining, and rule of law through judicial system strengthening (Okoh, 2024). Anti-corruption efforts deserve particular emphasis given corruption's pervasive negative effects on resource allocation and public service delivery, though evidence of mixed direct growth effects suggests that corruption control must be pursued alongside other institutional dimensions rather than in isolation (Rooms, 2017).

Practical capacity building initiatives include merit-based recruitment and promotion systems insulating civil service from political interference, transparent procurement frameworks reducing corruption opportunities, judicial training programs enhancing legal system effectiveness, and regulatory impact assessment procedures ensuring policy quality (Ghosh & Saha, 2025). These initiatives require sustained implementation over extended periods, as institutional quality improvements typically operate through long-run mechanisms rather than generating immediate growth effects (Tarchoun & Ghraieb, 2025). Realistic expectations regarding time horizons for observable results are essential for maintaining political commitment and avoiding premature abandonment of reforms (Jibir & Sofah, 2025).

7.2 Market-Supporting Institutions

Institutional quality's moderating effects on FDI, trade, and financial development underscore the importance of market-supporting institutions enabling productive resource location and efficient market operations (Ghosh & Saha, 2025). Property rights frameworks protecting both domestic and foreign investors reduce expropriation risks and encourage long-term productive investments over short-term extractive activities (Okoh, 2024). Contract enforcement mechanisms ensuring reliable dispute resolution and agreement implementation lower transaction costs, facilitate complex commercial relationships, and enable credit markets to function effectively (Bekana, 2020). Competition policy frameworks preventing anti-competitive practices and reducing entry barriers enhance allocative efficiency while stimulating innovation through competitive pressures (Author, 2025).

Financial sector regulation represents a critical market-supporting institution, with evidence indicating that regulatory quality determines whether financial deepening enhances capital allocation efficiency or generates instability and misallocation (DawayDucanes & GochocoBautista, 2019). Prudential regulation balancing financial system stability with credit access, supervision capacity ensuring regulatory

compliance, and consumer protection frameworks promoting financial inclusion constitute essential elements (OforiSasu et al., 2025). Trade-related institutions including customs administration, standards certification, and trade dispute resolution mechanisms affect the extent to which trade openness translates into productivity gains through technology transfer and competitive pressures (Ayub et al., 2023).

7.3 Complementary Investments and Long-Term Growth Strategies

The complementarity between institutional quality and structural factors implies that growth strategies must coordinate institutional reforms with investments in infrastructure, human capital, and financial sector development (Wang, 2025). Infrastructure investments should be accompanied by institutional mechanisms ensuring project quality, transparency in contractor selection, and adequate maintenance (Silaban, 2025). Human capital investments require institutional frameworks guaranteeing education system quality, curriculum relevance to labor market needs, and health service effectiveness (Lamichhane et al., 2025). Financial sector development depends on institutional foundations including creditor rights, contract enforcement, and regulatory capacity (DawayDucanes & GochocoBautista, 2019).

Long-term growth strategies should recognize that institutional effects strengthen as structural constraints loosen, suggesting that institutional reform intensity can increase as countries develop (Liang & Li, 2025). For low-income countries with severe structural constraints, strategies balancing institutional improvements with infrastructure and human capital investments appear optimal, even if institutional growth effects emerge gradually (Abodunrin et al., 2025). For middle-income countries approaching institutional thresholds, prioritizing governance reforms to surpass critical quality levels may unlock substantial growth acceleration (Dawood et al., 2025). These context-specific strategies require adapting reform priorities to development stages rather than applying universal prescriptions (Wang, 2025).

Limitations

8.1 Measurement Challenges

Institutional quality measurement faces inherent challenges limiting empirical precision. Worldwide Governance Indicators and similar indices rely substantially on expert assessments and perception surveys vulnerable to subjective biases and measurement error (Ghosh & Saha, 2025). Perception-based measures may reflect economic outcomes rather than capturing independent institutional characteristics, generating endogeneity concerns (Liang & Li, 2025). Different institutional quality indices emphasize varying governance dimensions and employ distinct aggregation methods, yielding indicators that correlate imperfectly and sometimes produce divergent empirical results (Jibir & Sofah, 2025). These measurement issues complicate causal inference and limit the precision of estimated threshold parameters and effect sizes. Structural constraint measurement similarly presents challenges, with infrastructure quality, human capital effectiveness, and financial sector efficiency inadequately captured by available quantitative indicators (Silaban, 2025). Infrastructure stock measures based on physical quantities may poorly reflect service quality and reliability affecting productivity (Hocini et al., 2025). Human capital measures employing enrollment rates or average schooling years fail to capture education quality and skills relevance (Lamichhane et al., 2025). Financial development indicators based on credit-to-GDP ratios or stock market capitalization may misrepresent financial system efficiency and stability (DawayDucanes & GochocoBautista, 2019). These measurement limitations constrain researchers' ability to precisely quantify structural constraint severity and interaction effects with institutional quality.

8.2 Data Availability and Quality

Data availability limitations affect sample composition and temporal coverage. Comprehensive institutional quality indicators exist only from the mid-1990s onward, preventing analysis of earlier reform episodes and limiting sample sizes for countries experiencing recent institutional changes (Ghosh & Saha, 2025).

Many low-income developing countries lack consistent time series data on institutional quality, growth determinants, and structural constraints, creating sample selection bias if excluded countries differ systematically from included observations (Liang & Li, 2025). Data quality concerns including inconsistent GDP measurement methodologies, unreliable infrastructure statistics, and incomplete financial sector data introduce noise reducing statistical power and potentially biasing estimates (Jibir & Sofah, 2025).

8.3 Generalizability Concerns

The heterogeneity evident across regional contexts and development stages limits generalizability of findings. Institutional effects estimated from predominantly middle-income country samples may not apply to low-income countries facing more severe structural constraints (Nawaz et al., 2014). Similarly, evidence from East Asian economies with strong growth trajectories may inadequately inform policy for Sub-Saharan African or South Asian countries with different institutional legacies and structural conditions (Bekana, 2020). Threshold estimates derived from specific sample periods may not remain stable as global economic conditions evolve or as institutional quality measurement methodologies change (Dawood et al., 2025). These generalizability limitations underscore the importance of context-specific analysis and caution against mechanically applying universal thresholds or effect sizes across diverse country circumstances.

Conclusion

This paper has systematically examined the relationship between institutional quality, structural constraints, and economic growth in developing economies, synthesizing theoretical frameworks and empirical evidence to address three central research questions. First, regarding direct institutional effects on growth, the analysis confirms that institutional quality—particularly government effectiveness, regulatory quality, and rule of law—exerts positive significant impacts on economic performance, with these effects

exhibiting pronounced threshold characteristics. Institutional quality improvements below critical levels generate weak growth effects, while improvements above thresholds yield substantial growth dividends. Estimated thresholds vary by development stage, with lower-middle-income countries facing thresholds around 0.91 and upper-middle-income countries requiring stricter standards around 0.85 on institutional quality scales.

Second, concerning structural constraint moderation, the evidence demonstrates that infrastructure deficits, human capital limitations, financial market inefficiencies, and market imperfections significantly attenuate institutional quality's growth contribution. Countries with severe structural constraints exhibit weaker institutional effects compared to countries with adequate infrastructure and human capital, indicating complementarity between institutional quality and structural factors. This complementarity generates threshold effects wherein institutional improvements translate into growth only when combined with sufficient structural development, while structural investments achieve maximum productivity impacts only in contexts with adequate institutional quality.

Third, regarding regional heterogeneity, substantial variation emerges across developing country regions. East Asian economies display particularly strong institutional effects, likely reflecting well-developed complementary structural factors. Latin American countries show intermediate institutional impacts consistent with mixed structural development. Sub-Saharan African economies exhibit weaker average institutional effects, potentially attributable to severe infrastructure and human capital constraints preventing institutional quality improvements from fully translating into productivity gains. South Asian and Middle Eastern countries present diverse patterns reflecting substantial within-region heterogeneity in governance quality and structural conditions.

The paper contributes to development economics by providing a systematic framework for understanding conditional institutions-growth

relationships and identifying interaction effects between institutional quality and structural constraints. While existing literature emphasizes either institutional determinants or structural factors, this analysis demonstrates that both dimensions jointly determine growth outcomes through complementary mechanisms. The threshold effects and interaction evidence carry important policy implications, suggesting that institutional reforms and structural investments should proceed coordinately rather than sequentially. Isolated institutional improvements in contexts with binding structural constraints generate disappointing growth results, while comprehensive strategies addressing multiple constraints simultaneously leverage complementarities to maximize development impacts.

Future research should pursue several directions. First, developing more precise institutional quality and structural constraint measures would strengthen empirical identification and improve threshold parameter estimation. Second, micro-level analyses examining firm productivity, entrepreneurship, and innovation responses to institutional changes under varying structural conditions could illuminate transmission mechanisms. Third, political economy research investigating reform feasibility, sequencing strategies, and sustaining commitment would inform practical implementation. Fourth, examining how digital technologies interact with traditional institutional frameworks could reveal whether technological innovations substitute for or complement conventional governance improvements.

The central insight emerging from this analysis is that institutional quality matters fundamentally for economic growth in developing countries, but its effectiveness depends critically on complementary structural factors. Neither institutional reforms nor structural investments alone suffice for sustained development. Rather, comprehensive strategies recognizing the conditional nature of institutions-growth relationships and pursuing coordinated improvements across multiple dimensions offer the most promising paths toward accelerated

growth and poverty reduction in the developing world. As countries navigate diverse development challenges, understanding these complementarities and tailoring reform strategies to context-specific constraints will prove essential for translating institutional improvements into tangible prosperity gains.

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