The Role of Institutional Quality and Market-Based Financial Development in Economic Growth: Novel Evidence from the Next-11 Countries

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Abstract: This study examines the impact of institutional and market-based financial development on economic growth across different quantiles for the Next-11 countries between 1990 and 2021. Employing the panel quantile autoregressive distributed lag (P-QARDL) model, this study captures both short-run and long-run effects while accounting for heterogeneity across countries and growth levels. The empirical findings highlight the significant role of regulatory quality and control of corruption in fostering long-term economic growth, with both factors demonstrating a positive and consistent relationship with GDP growth. However, the rule of law negatively affects economic growth in countries with lower growth rates, while this effect weakens economies with higher growth rates. Additionally, financial institutions exhibit a strong positive impact on economic growth, whereas the financial market index has a negative but statistically insignificant effect. These results emphasize the importance of effective governance, strong financial institutions, and adaptive legal frameworks in promoting sustainable economic growth. The study provides policy recommendations for strengthening institutional frameworks and financial systems tailored to different stages of economic development.

Keywords: Institutional Quality, Financial Markets, Financial Institutions, Economic Growth, Panel QARDL
Jel Codes: O43, G15, G20

Kurumsal Kalite ve Piyasa Tabanlı Finansal Gelişmenin Ekonomik Büyüme Üzerindeki Rolü: Next-11 Ülkelerinden Yeni Kanıtlar

Öz: Bu çalışma, 1990 ile 2021 yılları arasında Next-11 ülkeleri için farklı yüzdelik dilimler arasında kurumsal ve piyasa tabanlı finansal gelişmenin ekonomik büyüme üzerindeki etkisini incelemektedir. Panel kantil otoregresif dağıtılmış gecikme (P-QARDL) modelini kullanan bu çalışma, ülkeler ve büyüme seviyeleri arasındaki heterojenliği hesaba katarak hem kısa vadeli hem de uzun vadeli etkileri ele almaktadır. Ampirik bulgular, uzun vadeli ekonomik büyümeyi teşvik etmede düzenleyici kalitenin ve yolsuzluğun kontrolünün önemli rolünü vurgulamakta ve her iki faktör de GSYİH büyümesi ile pozitif ve tutarlı bir ilişki göstermektedir. Ancak hukukun üstünlüğü, daha düşük büyüme oranlarına sahip ülkelerde ekonomik büyümeyi olumsuz etkilerken, bu etki daha yüksek büyüme oranlarına sahip ekonomileri zayıflatmaktadır. Ek olarak, finansal kuruluşlar ekonomik büyüme üzerinde güçlü bir pozitif etki gösterirken, finansal piyasa endeksi negatif ancak istatistiksel olarak önemsiz bir etkiye sahiptir. Bu sonuçlar, sürdürülebilir ekonomik büyümeyi teşvik etmede etkili yönetişimin, güçlü finansal kurumların ve uyarlanabilir yasal çerçevelerin önemini vurgulamaktadır. Çalışma, ekonomik gelişimin farklı aşamalarına göre uyarlanmış kurumsal çerçeveleri ve finansal sistemleri güçlendirmek için politika önerileri sunmaktadır.

Anahtar Kelimeler: Kurumsal Kalite, Finansal Piyasalar, Finansal Kurumlar, Ekonomik Büyüme, Panel QARDL
Jel Kodları: O43, G15, G20

1. Introduction

The role of institutional quality in shaping economic growth has gained considerable attention in recent years, particularly in the context of emerging economies. Emerging economies, characterized by their rapid economic transitions and structural transformations, often face unique challenges in sustaining growth. As economic globalization deepens, the interplay between institutional frameworks and financial markets has become increasingly critical. Institutions serve as the backbone of economic systems, shaping the rules, norms, and enforcement mechanisms that govern economic activities. High-quality institutions, such as those ensuring regulatory quality, effective control of corruption, and the rule of law, foster an environment conducive to investment, innovation, and sustainable development.

The Next-11 countries, which include Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, the Philippines, South Korea, Turkey, and Vietnam, constitute a particularly interesting sample for analyzing these dynamics. These countries exhibit significant economic potential, large and growing populations, and strategic positions in the global economy. With diverse institutional and financial structures, the Next-11 countries represent a crucial testing ground for understanding the impact of institutional quality and financial development on economic growth. Their economic trajectories are shaped by varying levels of governance quality, financial maturity, and external vulnerabilities, making them an essential case study for exploring the heterogeneous effects of institutional and financial factors on growth.

Emerging economies remain highly vulnerable to debt and financial crises, a concern that continues to occupy economists. According to the IMF (2023), 25% of emerging market economies are at significant risk, exhibiting "default-like" spreads on their sovereign debt, while among low-income nations, 15% are already in debt distress, with an additional 45% at high risk. The degree of vulnerability in these countries often depends on the maturity of their financial systems, the structure and scale of their debt, and the strength of their institutional frameworks (Sachs, 1989; UNCTAD, 2024). The adverse effects of limited financial development, unsustainable debt levels, and weak institutions in emerging and developing economies pose significant challenges to economic growth, underscoring the urgent need for comprehensive and strategic interventions (UNCTAD, 2024).

On the other hand, despite their potential, emerging economies often struggle with weak institutional frameworks that can undermine economic stability and growth. Issues such as inadequate regulatory oversight, corruption, and weak legal systems can hinder the efficient functioning of financial markets, exacerbate inequality, and deter both domestic and foreign investments. Therefore, the relationship between institutional quality and economic growth has been a central theme in development economics. North (1990) emphasized that institutions have a pivotal role in reducing transaction costs and uncertainties, thereby fostering economic growth.

Similarly, Acemoglu, Johnson, and Robinson (2001) provided empirical evidence demonstrating how institutional frameworks shape the economic trajectories of nations, highlighting the importance of property rights and the rule of law in promoting long-term growth.In the context of emerging economies, the quality of institutions has been linked to the efficient allocation of resources and the functioning of financial markets. Beck et al. (2000) argue that well-functioning financial systems, supported by robust institutions, are critical for mobilizing savings and channeling them into productive investments. Conversely, there are several studies (Mauro, 1995; Rodrik et al., 2004) showing that weak institutional environments, characterized by corruption and poor regulatory quality, have been shown to exacerbate economic inefficiencies and undermine growth prospects.

Theoretical perspectives, such as the new institutional economics framework, further underscore the significance of institutions in shaping economic outcomes. According to Williamson (2000), institutions influence transaction costs and governance structures, which in turn affect economic performance. Empirical studies employing advanced

econometric methods have also shed light on the dynamic relationships between institutional quality, financial markets, and economic growth. For instance, Ahmad et al. (2019) utilize panel data techniques to examine the interplay between governance indicators and economic growth in developing countries, highlighting the critical role of institutional quality in sustaining growth over time. Similarly, Khan and Senhadji (2001) found evidence of nonlinear relationships, suggesting that the impact of institutional quality varies across different stages of economic development.

Despite these advancements, significant research gaps remain. Much of the existing literature has focused on linear relationships, overlooking the potential asymmetries and heterogeneities in the effects of institutional quality on economic growth. Additionally, few studies have explored the short-run and long-run dynamics of these relationships, particularly in the context of emerging economies. This study addresses these gaps by employing the Panel Quantile Autoregressive Distributed Lag (P-QARDL) model, which captures both short-term and long-term effects across different quantiles of economic growth, offering a more comprehensive understanding of these complex interactions.

This study is among the first to utilize the P-QARDL model to examine the effects of institutional quality and financial development on economic growth across different quantiles in Next-11 countries. By capturing the heterogeneous effects across varying levels of economic growth, this study extends the understanding of how institutional and financial factors interact dynamically in emerging economies.

Empirical literature highlights the critical role of institutional quality in fostering economic growth, particularly in emerging economies where financial markets and governance structures are still evolving. By building on these insights, this study aims to contribute to the growing body of knowledge on institutional economics and development, providing evidence-based recommendations for policymakers seeking to enhance growth outcomes through institutional reforms. This study delves into the intricate relationships between economic growth and financial market Dynamics, and institutional variables in emerging economies. By integrating financial market indices, such as the financial market index and the financial institution index, the analysis uncovers how these dimensions interact with rule of law, regulatory quality, control of corruption to influence economic outcomes. The regulatory quality, control of corruption, and rule of law are considered critical institutional variables, reflecting the capacity of governments to create a stable and predictable environment for economic actors.

The empirical methodology used in this study is the P-QARDL model, a sophisticated econometric approach that enables a detailed analysis of both short-run and long-run relationships between institutional quality and economic growth. The P-QARDL model is especially beneficial as it enables the analysis of effects across various quantiles of economic growth, offering deeper insights into how institutional factors influence growth at different levels. Unlike traditional models that focus on average or aggregate relationships, the P-QARDL captures the heterogeneous effects across different segments of the growth distribution, making it highly suitable for analyzing emerging economies, where growth experiences often differ significantly.

Additionally, the study spans a significant temporal period, from 1990 to 2021, offering a comprehensive perspective on the evolving relationship between institutional quality and economic growth over more than three decades. This extended time frame allows for the analysis of long-term trends, shifts in governance and financial systems, and the adaptation of institutional frameworks in response to changing global and regional economic conditions. The dynamic nature of the model captures how the effectiveness of different institutional variables has evolved, reflecting broader global trends, such as technological advancements, policy shifts, and financial crises.

The findings of this study aim to contribute to the literature on institutional economics and growth by addressing several key research gaps. First, it extends the understanding of how institutional quality mediates the relationship between financial market development and economic growth. Second, it highlights the asymmetries in these

relationships across different levels of economic performance, offering valuable insights for targeted policy interventions. Finally, the study underscores the importance of strengthening institutional frameworks in emerging economies as a means to unlock their growth potential.

In the sections that follow with section 2 reviews the relevant literature. Section 3 presents the model, data, methodology and the empirical results. Lastly, Section 4 concludes the study with key findings and policy recommendations.

2. Literature Review

This section provides a comprehensive review of previous and recent studies in the literature, focusing on the key factors influencing economic growth within the broader context of sustainable development. The majority of the literature investigates the relationship between economic growth and various dimensions of sustainable development, with economic growth frequently serving as the dependent variable in empirical analyses. Researchers have examined a range of factors, such as financial development, environmental policies, technological innovations, and institutional quality, that play a pivotal role in shaping the trajectory of economic performance in both developed and emerging economies. This review organizes the existing literature under three main themes: (1) Institutional Quality and Economic Growth, (2) Financial Development and Economic Growth, and (3) The Interaction between Institutional Quality and Financial Development.

2.1 Institutional Quality and Economic Growth

A significant body of literature explores the impact of institutional quality on economic growth, highlighting the role of governance, the rule of law, regulatory frameworks, and anti-corruption measures. North (1990) and Rodrik et al. (2004) argue that institutions are a critical determinant of economic growth, as they provide legal and economic frameworks that support property rights, reduce transaction costs, and ensure policy stability. Countries with strong institutions tend to experience higher economic growth rates because institutional frameworks promote investment, innovation, and efficient market functioning.

Recently, Bayraktar et al. (2023) analyze the relationship between economic growth and financial development in emerging markets and middle-income economies, examining the role of institutional quality. They find that financial development positively affects growth when institutional quality is present, but the effect is statistically insignificant without it. Adu-Darko (2024) examines the linear and non-linear effects of institutional quality and financial development on economic growth in 28 sub-Saharan African countries using a panel cointegration model. The findings show that financial development positively impacts growth, with institutional quality strengthening this effect when structural breaks are considered. Moreover, Ahmad and Law (2024) explore the relationship between financial development, institutions, and economic growth using a spatial autoregressive model with data from 82 countries. The finding highlights the concept of institutional proximity, where countries with similar institutions experience similar growth and greater spillovers. The findings show that financial development and political institutions positively impact growth, though financial development's effect turns negative beyond a certain threshold.

Empirical studies on specific country groups further reinforce these findings. Gupta et al. (2024) explore the influence of institutional quality on investment inflows and outflows in BRICS nations using the ARDL method. The results show that IQ positively affects investment inflows in India and South Africa but negatively impacts investment outflows in Brazil and Russia. Control of corruption is identified as a key factor for attracting invesment inflows in Brazil, India, and South Africa, while it is insignificant for Russia and China. Similarly, Karim et al. (2024) investigate how the financial sector and institutional quality influence the relationship between remittances and economic growth

in developing nations, employing fixed effects and GMM methods. The findings show that remittances strengthen financial and institutional frameworks, which, in turn, enhance economic growth. Upper-middle-income countries benefit the most due to robust financial and institutional drivers.

2.2 Financial Development and Economic Growth

The literature has extensively examined the relationship between financial development and economic growth, emphasizing the importance of well-functioning financial systems in facilitating investment, promoting entrepreneurship, and fostering economic stability. King and Levine (1993) demonstrate that financial development positively impacts economic growth by improving capital allocation efficiency and providing necessary funding for investments. Beck et al. (2000) find that well-developed financial markets are associated with higher economic growth and lower income inequality, as financial institutions enhance access to credit and financial services.

However, some studies indicate that the relationship between financial development and growth is more nuanced. Rancière et al. (2008) argue that while financial development can enhance economic growth, it may also increase the likelihood of financial crises if financial systems are poorly managed or overly leveraged. This suggests that financial systems should not only be deepened but also effectively regulated to ensure stability and prevent financial fragility.

More recent studies have focused on the financial sector's role in developing nations. Karim et al. (2024) examine how financial development influences the relationship between remittances and economic growth in developing countries, showing that remittances strengthen financial and institutional frameworks, ultimately enhancing growth. In upper-middle-income countries, financial development plays a crucial role due to stronger financial and institutional drivers.

2.3 Interaction between Institutional Quality and Financial Development

An emerging strand of literature examines the interplay between institutional quality and financial development, emphasizing how institutions shape the effectiveness of financial markets in promoting growth. Law et al. (2013) conclude that the effectiveness of financial markets in fostering economic growth is contingent on the strength of institutional frameworks. Their findings suggest that regulatory quality and the rule of law enhance the positive impact of financial development on economic growth, particularly in emerging markets. Similarly, Demirgüç-Kunt and Levine (2008) emphasize the importance of institutional factors in mitigating the risks associated with financial liberalization.

A study by Jude and Levieuge (2017) explore the relationship between foreign direct investment (FDI) and economic expansion, focusing on the role of institutional quality. Utilizing a panel smooth regression model with data from developing nations, the study reveals that FDI contributes to economic growth only when institutional quality surpasses a certain threshold. The results highlight the need for institutional reforms to be implemented before pursuing FDI attraction strategies to optimize growth outcomes. Moreover, specific reforms can enhance the marginal effects of FDI, while complementarities between institutional factors may result in incremental growth benefits. Moreover, another study by Ullah and Khan (2017) examine the factors influencing FDI in SAARC, ASEAN, and Central Asian countries from 2002 to 2014, focusing on institutional and economic variables. Their findings reveal that real GDP and domestic investment positively impact FDI across all regions, while institutional factors play a stronger role in ASEAN. In SAARC, economic freedom boosts FDI, but governance and labor force have negative effects.

Furthermore, Tran and Dat Le (2019) examines the influence of FDI entrepreneurship in emerging markets, focusing on the role of institutional quality between 2004 and 2015. They find that inward FDI promotes opportunity-driven entrepreneurship in countries with low governance quality, while outward FDI reduces it. In countries with high

governance quality, inward FDI discourages necessity-driven entrepreneurship, while outward FDI promotes it. Another study by Adegboye et al. (2020) investigates the impact of institutional quality on FDI inflows and economic development in Sub-Saharan Africa. The findings show that while FDI is vital for economic growth, poor institutional quality limits its effectiveness, leading to underutilization of domestic resources and hindering investment. Later, Abbas et al. (2022) investigate the relationship between financial development, inequality, and economic growth in 42 middle-income countries, their findings reveal that financial development impacts economic expansion in both lower- and upper-middle-income nations, with a more significant effect observed in the latter group.

Additionally, there are more studies (Alvarado et al., 2024; Duwal, 2024; JinRu and Qamruzzaman, 2022; LiPuma et al., 2013; Shabir et al., 2023; Udeagha and Ngepah, 2022) have focused on examining the impact of institutional quality and financial systems on economic development using P-QARDL models, particularly in the context of emerging economies and sustainable development.

Despite the increasing focus on the role of institutional quality and financial systems in driving economic growth, the specific interplay between governance, financial markets, and institutions in shaping growth outcomes has been less explored. While strong institutions and robust financial systems are essential for fostering development, the precise mechanisms through which these factors interact and influence economic performance remain underexplored. Therefore, this study examines the significant roles that institutional quality, financial markets, and financial institutions play in the economic growth of the Next-11 countries. Unlike previous research, we aim to identify the specific institutional and market-based financial development that have the most substantial impact on economic growth and investigate how these factors interact at different growth stages.

3. Data, Methodology and Empirical Findings

This study utilizes the panel QARDL method to examine the dynamic interactions between economic growth, financial market index, the financial institution index, rule of law, regulatory quality, control of corruption in Next-11 countries. This study utilizes an annual panel dataset spanning 31 years, from 1990 to 2021, across 11 countries. Institutional quality is a broad concept that encompasses economic, financial, and political dimensions. This study focuses primarily on the economic dimension of institutional quality, as it is most directly linked to economic growth and financial development as key research themes. The selected indicators, Regulatory Quality (QUA), Control of Corruption (CORR), and Rule of Law (RL), are widely recognized measures that capture institutional effectiveness in shaping economic activities, market efficiency, and investor confidence.

While institutional quality can also be analyzed through political and financial dimensions, the scope of this study is centered on how institutional factors influence economic growth. Political indicators, such as government stability or democratic accountability, and financial governance indicators, such as central bank independence, play crucial roles in broader governance studies but are beyond the primary objective of this research. Instead, this study prioritizes indicators directly impacting economic performance by shaping regulatory frameworks, reducing corruption-related inefficiencies, and ensuring legal certainty in financial and business environments.

Moreover, the choice of these specific indicators is supported by their frequent use in empirical research examining economic growth and institutional frameworks. Other indices, such as the World Governance Indicators (WGI) and the Index of Economic Freedom, offer alternative institutional measures, but they often aggregate multiple dimensions, making it difficult to isolate the economic effects. The choice of countries and time periods is determined by the availability of data. Table 1 provides the informations of the variables used in the analysis.

Table 1. Data Informations

Variable	Definition	Source
GDP	GDP per capita	WDI
FMI	FD indicator measuring financial access, depth, and markets	IMF
FII	FD indicator measuring financial access, depth, and institutions	IMF
QUA	Regulatory Quality	PRS Group (2022)
CORR	Control corruption	PRS Group (2022)
RL	Rule Of Law	PRS Group (2022)

Institutional quality is a multidimensional concept measured through various methods by different institutions and organizations. In this study, institutional quality is represented by Regulatory Quality (QUA), Control of Corruption (CORR), and Rule of Law (RL) variables. These indicators are sourced from PRS Group (2022) and are widely used governance indicators. Regulatory Quality (QUA) measures the extent to which policies and regulations are market-friendly, Control of Corruption (CORR) assesses the level of misuse of public power for private gain, and Rule of Law (RL) captures the strength of legal frameworks and contract enforcement. Each of these indicators is reported as a ranking score ranging from 1 to 10, where higher values indicate stronger institutional quality. That is, a value closer to 10 suggests a more effective regulatory framework, lower corruption levels, and a stronger rule of law.

While there is no single standardized method for measuring institutional quality, various indices such as the World Governance Indicators (WGI) by the World Bank, and the Economic Freedom Index by the Fraser Institute are commonly used in the literature. These indices differ methodologically and focus on different aspects of governance. The PRS Group indicators were chosen for this study because they provide a comprehensive assessment of institutional quality subcomponents and offer long-term data coverage. Thus, this study clarifies the measurement approach and the content of the institutional quality indicators used. Among the independent variables, FII represents FD, denoting the financial institution index, while FMI signifies financial markets, referring to the financial markets index.

This study employs the panel Quantile Autoregressive Distributed Lag (QARDL) model, which is formulated based on the following equation. The panel QARDL model is designed to analyze the dynamic relationships between variables across different quantiles of the conditional distribution, allowing for a more comprehensive understanding of both short-term and long-term effects within a panel data framework. By using this model, the study accounts for potential heterogeneity across units in the panel, providing insights into how the explanatory variables influence the dependent variable at different quantiles, rather than merely focusing on the mean or average effect. The equation below outlines the specific structure of the model used in this study.

The data for the independent indicators (QUA, RL, CORR, FMI, FII) are provided in detail in Table 1. The panel QARDL model is shown below:

$$QLNGDP_t = \alpha(\tau) + \sum_{l=1}^{\rho} \vartheta_i(\tau)LNGDP_{t-i} + \sum_{i=0}^{q_1} \beta_i(\tau)\,CORR_{t-i} + \sum_{i=0}^{q_2} \theta_i(\tau)\,QUA_{t-i} + \sum_{i=0}^{q_3} \pi_i(\tau)\,RL_{t-i} + \sum_{i=0}^{q_4} \gamma_i(\tau)FII_{t-i}$$

$$+ \sum_{i=0}^{q_5} \delta_i(\tau)FMI_{t-i} + \varepsilon_t$$

where $\varepsilon_t(\tau) = LNGDP - QLNGDP - QLNGDP_t(\tau - F_{t-1})$. A balanced panel dataset covering the Next-11 countries from 1990 to 2021 is utilized, with countries and samples chosen based on the availability of data. This study investigates institutional factors such as rule of law, regulatory quality, control of corruption and financial market index, financial institution index, and economic growth.

Table 2 demonstrates descriptive statistics for the main variables studied, detailing the mean, standard deviation, as well as the minimum and maximum values observed during the sample period.

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
LNGDP	352	3.329	0.524	1.985	4.544
QUA	352	-0.339	0.631	-2.526	1.134
CORR	352	-0.530	0.533	-2.971	0.733
VACC	352	-0.458	0.645	-1.608	0.932
FII	352	0.330	0.159	0.080	0.854
FMI	352	0.332	0.178	0.024	0.864

Table 3 displays the correlation coefficients for all variables, illustrating the extent of correlation between them and providing insights into potential multicollinearity. All correlation coefficients are positive and statistically significant.

Table 3. Correlation Coefficient Estimates

	LNGDP	QUA	CORR	VACC	FII	FMI
LNGDP	1.0000					
QUA	0.5743*	1.0000				
CORR	0.5303*	0.6980*	1.0000			
VACC	0.4446*	0.7511*	0.4882*	1.0000		
FII	0.7601*	0.4884*	0.5618*	0.4173*	1.0000	
FMI	0.6122*	0.6630*	0.5515*	0.3860*	0.6613*	1.0000

Note: *, ** and *** show at 10%, 5% and 1% sig. level, respectively.

To check for cross-sectional dependence, the Breusch and Pagan (1980) Lagrange Multiplier (LM) test is employed. This test is widely used in panel data analysis to detect whether the residuals from different cross-sectional units in the data are correlated, which can lead to biased estimates if ignored. However, given the potential limitations of the LM test, Pesaran (2004) introduced a standardized variant of the LM test, known as the Scaled LM. This variant adjusts for heteroscedasticity and other potential issues in the residuals across panels, offering a more robust alternative when dealing with large panel datasets. Moreover, Pesaran also developed the Cross-Sectional Dependence (CD) test, which is specifically designed to test for dependencies in large panels and is particularly useful when the sample size is large, as it accounts for the increased likelihood of cross-sectional correlations in such settings.

In the context of this study, Table 4 presents the results of the cross-sectional dependence tests for the model. The tests reveal significant test statistics for all variables, indicating that the null hypothesis of no cross-sectional dependence is rejected. These results confirm the presence of cross-sectional dependence across the units in the panel data, suggesting that the residuals from different countries or entities are correlated.

The evidence of cross-sectional dependence implies that further steps must be taken to adjust for this correlation, as ignoring it may lead to inconsistent estimators. Consequently, alternative models or modifications to the estimation procedure should be considered, such as employing second-generation panel data models that account for this issue or applying robust standard errors to correct for potential biases arising from correlated errors across the cross-sectional units (Baltagi, 2021).

Table 4. Cross-sectional Dependence Test

CSD Tests	Test stat.	Prob-value
Breusch-Pagan LM	38.40	0.000
Pesaran scaled LM	8.013	0.000
Bias-corrected scaled LM	86.015	0.000
Pesaran CD	3.662	0.000

After assessing the cross-sectional dependency, second-generation panel unit root tests are applied to account for the possible presence of non-stationarity in the variables across the panel dataset. These tests are crucial as they provide a more reliable understanding of the time series properties in the context of panel data, particularly when cross-sectional dependence exists. The specific tests used in this study are detailed in Table 5. Among these tests are the cross-sectionally adjusted Im-Pesaran-Shin (CIPS) test, proposed by Pesaran (2007), and Pesaran's Augmented Dickey-Fuller (ADF) test (Baltagi, 2021). The CIPS test is particularly valuable for panel datasets with potential cross-sectional dependence, as it adjusts for such dependencies while testing for unit roots.

Table 5. Panel Unit Root Tests

Series	Model	CIPS[a]	CIPS[b]	CADF [a]	CADF [b]
		At level	First diff.	At level	First diff.
LNGDP	Constant	-1.378	-4.900***	-2.446*	-3.579***
	Constant&Trend	-2.380	-4.911***	-2.322	-3.755***
QUA	Constant	-1.828	-5.150***	-1.692	-2.778***
	Constant&Trend	-1.874	-5.277***	-1.983	-2.996***
CORR	Constant	-2.311**	-5.034***	-1.422	-3.581***
	Constant&Trend	-2.414**	-5.923***	-2.634**	-3.757***
RL	Constant	-1.848	-5.112***	-1.685	-3.154***
	Constant&Trend	-2.944	-5.212***	-2.003	-3.181***
FMI	Constant	-2.348**	-5.356***	-2.186*	-2.895***
	Constant&Trend	-2.538**	-5.516***	-2.969***	-3.039***
FII	Constant	-3.041	-5.721***	-1.458	-3.075***
	Constant&Trend	-3.461***	-5.986***	-2.355	-3.076***

Note: *, ** and *** show at 10%, 5% and 1% sig. level, respectively.

The results from these tests provide important insights into the stationarity properties of the variables in the model. Specifically, the findings indicate that LNGDP achieves stationarity at the first difference, as confirmed by the CIPS test. This suggests that LNGDP is integrated of order one, while the variable itself exhibits a unit root at the level. Similarly, QUA and RL achieves stationarity at the first difference in both tests, suggesting that these variables are stationary at the first level. On the other hand, the variables of CORR, FMI, and FII achieve stationarity at the level under the trend specification.

In this study, a lag length of 2 is selected for the P-QARDL (Panel Quantile Autoregressive Distributed Lag) model. The lag length is determined using model selection criteria such as AIC (Akaike Information Criterion) and BIC (Bayesian Information Criterion). The tests indicate that a two-period lag best captures the dynamic relationships in the model. This choice is believed to effectively reflect both short-term and long-term effects, allowing for a more comprehensive analysis of the relationships among variables. Additionally, the selection of lag 2 is considered sufficient to capture the transitional effects between the variables over time. Table 6 and Table 7 present the results from the panel QARDL analysis on the relationship between rule of law, regulatory quality, control of corruption and financial market index, financial institution index, and

economic growth in the Next-11 countries, covering all quantiles from the 10th to the 90th. Table 6 shows the short-run estimates of the Panel QARDL model, highlighting the relationship between various variables and economic growth (Δ LNGDP) across different quantiles (from 10th to 90th) for the Next-11 countries.

Table 6. Short-run P-QARDL Estimates

			Δ LNGDP			
Quantile	dQUA	dCORR	dRL	dFII	dFMI	ECT_{t-1}
10th	0.245	0.669*	-1.00**	1.089***	-0.175	-0.175***
	(0.338)	(0.371)	(0.467)	(0.214)	(0.010)	(0.02)
20th	0.3034*	0.7375***	-1.312***	0.555***	-0.013	- 0.146***
	(0.183)	(0.200)	(0.252)	(0.006)	(0.101)	(0.009)
30th	0.1671	0.7848***	-1.3473***	0.351***	-0.006	-0.230***
	(0.156)	(0.171)	(0.215)	(0.057)	(0.125)	(0.003)
40th	0.134	0.545***	-0.977***	0.265***	0.008	-0.181***
	(0.139)	(0.153)	(0.192)	(0.023)	(0.015)	(0.001)
50th	0.139	0.505***	-1.017***	0.463***	0.016	-0.238***
	(0.122)	(0.133)	(0.168)	(0.023)	(0.214)	(0.006)
60th	0.199*	0.408***	-0.948***	0.343***	0.015	-0.148***
	(0.116)	(0.127)	(0.159)	(0.100)	(0.119)	(0.005)
70th	0.107	0.282*	-0.877***	0.209***	0.019	-0.055***
	(0.136)	(0.149)	(0.188)	(0.102)	(0.018)	(0.009)
80th	0.216	0.117	-0.807***	0.111	-0.000	-0.045***
	(0.202)	(0.221)	(0.278)	(0.003)	(0.122)	(0.043)
90th	0.133	0.071	-0.787*	-0.085	0.019	-0.047***
	(0.235)	(0.257)	(0.324)	(0.006)	(0.212)	(0.050)

Note: *, ** and *** show at 10%, 5% and 1% sig. level, respectively.

The variable of regulatory quality (QUA) shows a positive interaction with economic growth. On the other hand, the other variable of control of corruption (CORR) indicates a strong positive impact of corruption control on economic growth. The coefficients shows a positive and significant effect, emphasizing the role of effective governance.

The coefficient of rule of law (RL) indicates a significant negative effect at lower growth levels. At all quantiles, the coefficients show a negative and significant impact. Also, from 80th to 90th quantiles, the negative impact diminishes significantly, suggesting that at higher growth rates, the role of the rule of law may become less critical.

Financial institution index (FII) has also a strong positive relationship with GDP growth, The coefficients remain positive but decrease, indicating the diminishing impact of financial institution on growth as economic performance improves. In contrast, the financial market index (FMI) variable shows a negative but statistically insignificant impact.

Additionally, Table 7 presents the long-run estimates from the Panel Quantile ARDL model, outlining the effects of various variables on economic growth (LNGDP) across different quantiles (10th to 90th) for the Next-11 countries. The regulatory quality (QUA) variable demonstrates a positive impact, implying that regulatory quality may play a role in fostering growth. This consistently contributes to economic growth in the long run, especially in the higher quantiles.

The coefficient for control of corruption (CORR) shows a positive and significant impact. The coefficient of rule of law (RL) indicates a negative and significant impact on economic growth at all quantiles. However, the coefficient of financial institution index (FII) indicates a positive and significant impact on economic growth at all quantiles, and financial market index (FMI) variable shows a negative but statistically insignificant impact in the long run.

Table 7. Long-run P-QARDL Estimates

Quantile	Δ LNGDP				
	QUA	CORR	RL	FII	FMI
10th	0.245***	0.669*	-1.00**	2.527***	0.227
	(0.338)	(0.371)	(0.467)	(0.159)	(0.15)
20th	0.3034***	0.7375***	-1.312***	2.39***	0.019
	(0.183)	(0.200)	(0.252)	(0.175)	(0.17)
30th	0.1671***	0.7848***	-1.3473***	2.531***	-0.253
	(0.156)	(0.171)	(0.215)	(0.181)	(0.183)
40th	0.134***	0.545***	-0.977***	2.562***	-0.279
	(0.139)	(0.153)	(0.192)	(0.197)	(0.197)
50th	0.139***	0.505***	-1.017***	2.468***	-0.261
	(0.122)	(0.133)	(0.168)	(0.233)	(0.235)
60th	0.199***	0.408***	-0.948***	1.599***	-0.055
	(0.116)	(0.127)	(0.159)	(0.271)	(0.284)
70th	0.107**	0.282*	-0.877***	1.326***	-0.110
	(0.136)	(0.149)	(0.188)	(0.193)	(0.20)
80th	0.216**	0.117	-0.807***	1.5788***	-0.032
	(0.202)	(0.221)	(0.278)	(0.129)	(0.17)
90th	0.133**	0.071	-0.787**	1.611***	0.129
	0.235	0.257	0.324	(0.169)	(0.170)

Note: *, ** and *** show at 10%, 5% and 1% sig. level, respectively.

Tables 6 and 7 highlight not only the statistical significance but also the magnitude of the coefficients, offering a clearer perspective on their relative impact on economic growth. Among the key variables, the financial institution index (FII) exerts the strongest positive influence across all quantiles, underscoring the crucial role of financial institutions in driving economic expansion. Regulatory quality (QUA) and control of corruption (CORR) also contribute positively and significantly to growth, reflecting the importance of governance in economic performance, though their effects are comparatively smaller than that of FII. In contrast, rule of law (RL) consistently demonstrates a negative and significant impact on growth, particularly in lower quantiles, suggesting that weak legal frameworks may act as a constraint on development in low-growth environments. However, this negative effect diminishes at higher growth levels (80th–90th quantiles), indicating that strong economic performance may mitigate the adverse effects of weak legal institutions. Meanwhile, the financial market index (FMI) exhibits a negative but statistically insignificant relationship with growth, implying that financial market development may not be a decisive factor in the studied economies. Overall, these results suggest that financial institutions, governance quality, and corruption control are the most critical drivers of economic growth, while the role of legal frameworks varies depending on the level of economic performance, reinforcing the need for policies that enhance institutional quality and financial accessibility.

The findings reveal that the effects of institutional and financial variables vary across quantiles, emphasizing the need for quantile-specific policies. The rule of law (RL) negatively impacts lower-growth economies, suggesting that strict legal frameworks may hinder economic dynamism at early stages, while this effect weakens in higher-growth economies. Similarly, the financial institution index (FII) strongly supports growth at lower quantiles, but its impact declines as economies develop. These results suggest that low-growth economies may benefit from institutional flexibility, while high-growth economies should focus on financial sector efficiency rather than expansion.

The economic interpretation of coefficient signs and magnitudes requires a more detailed discussion, particularly regarding the negative impact of rule of law (RL) at lower quantiles of economic growth. One possible mechanism behind this finding is that in economies with lower growth rates, strict legal frameworks and institutional enforcement might create rigidities that hinder business activities, increase compliance costs, and limit informal economic flexibility. In contrast, at higher growth levels, firms and investors may already operate within well-established structures, making the role of legal frameworks less restrictive and even facilitating stability. Additionally, in lower-growth economies,

legal institutions might be underdeveloped or inconsistently applied, leading to uncertainty that discourages investment and entrepreneurship, further stalling economic performance.

Overall, the differences between short-run and long-run coefficients suggest the presence of adjustment costs, policy implementation lags, and structural adaptations that influence economic outcomes over time. In the short run, variables such as QUA and CORR exhibit significant effects, indicating immediate responses to governance and institutional changes. However, in the long run, these effects stabilize, reflecting gradual institutional integration and policy effectiveness. Similarly, RL has a stronger negative impact in the short run, possibly due to initial compliance costs, but this effect diminishes over time as economies adapt. These findings highlight the need for gradual policy implementation to minimize short-term disruptions while ensuring long-term stability.

4. Discussion

This study explores the impact of institutional quality and financial development on economic growth in the Next-11 countries, highlighting the significance of governance-related factors. Our findings align with recent empirical research, reinforcing the idea that robust institutions are a prerequisite for sustained economic growth (Acemoglu and Robinson, 2023; Li and Frowne, 2020; Nguyen et al., 2018).

The positive and significant impact of regulatory quality on long-term economic growth is consistent with earlier studies emphasizing the importance of well-designed regulations in fostering economic performance, as an example study by Huang et al. (2022). Regulatory efficiency plays a crucial role in reducing uncertainty for businesses and investors, facilitating capital accumulation and productivity growth, as studied by Divanbeigi and Ramalho, (2015). On the other hand, Messaoud and Teheni, (2014) and Tran and Dat, (2019) focusing on emerging markets have shown that streamlining administrative procedures and reducing bureaucratic inefficiencies can lead to increased FDI inflows and overall economic dynamism.

Similarly, Cieślik and Goczek, (2018) find that the control of corruption has a strong positive effect on economic growth, in line with our findings from recent studies in emerging economies. Conversely, a study by Spyromitros and Panagiotidis (2022), their empirical results show that corruption hinders the economic growth of those developing countries. Moreover, Bermúdez et al. (2024) find that corruption undermines public trust, distorts resource allocation, and reduces incentives for productive investment. In their cross-country analysis, Azimi et al., (2023) highlight the countries with stronger anti-corruption institutions exhibit higher growth rates due to improved transparency and accountability. This underscores the need for Next-11 nations to strengthen judicial independence and oversight mechanisms to combat corruption effectively.

On the other hand, the rule of law has a negative effect on economic growth at lower quantiles, which diminishes as economies develop. Rodrik (2023) contrasts with traditional arguments that emphasize the universal benefits of legal stability Our results suggest that while strong legal institutions are crucial for stabilizing lower-growth economies, they may become fewer binding constraints as economies expand. Similar patterns have been observed in studies on institutional transitions in middle-income countries, where legal frameworks often need to evolve alongside economic structures as (Zhao et al., 2024) studied. In this context, governments should focus on adaptive legal reforms that support innovation, technology adoption, and digital transformation.

In terms of financial development, our results show that the financial institution index (FII) has a significant positive relationship with GDP growth, particularly in early-stage economic development. This is consistent with study by Tang et al., 2022) indicate that well-functioning financial institutions enhance credit access, promote efficient capital allocation, and support entrepreneurship. Financial inclusion is a key factor in fostering economic resilience, as shown by (Hasan et al., 2024), who find that economies with higher financial penetration are better able to withstand external shocks. Consequently,

policymakers in the Next-11 countries should prioritize expanding financial services, particularly for small and medium-sized enterprises (SMEs), rural populations, and women entrepreneurs.

Conversely, the financial market index (FMI) shows an insignificant effect on long-term economic growth and a negative impact on the long run. This contrasts with studies indicating the effect of financial market depth on economic growth in developing countries with large financial sectors and finds that higher stock market capitalization positively influences economic growth. On the other hand, other findings by Setiawan et al. (2021) show that market capitalization and total stock traded positively influence growth, while domestic share trading has a negative effect, while the findings by Basnayake et al. (2024) are comparable to our results that show the financial inclusion positively influences growth, with a threshold effect indicating a non-linear relationship. At the same time, there are several studies (Botev et al., 2019; Li and Frowne, 2020; Mabeba, 2024; Saba et al., 2025) also conclude that the significant impacts of financial markets and financial institutions on economic growth.

In conclusion, this study emphasizes the critical role that institutional quality and financial development play in fostering economic growth within the Next-11 countries. Considering the findings of previous studies, such as those by Acemoglu and Robinson (2023), Li and Frowne (2020), and Nguyen et al. (2018), our results reinforce the importance of good governance and the strategic development of financial institutions in sustaining long-term economic performance. Our results suggest that while the regulatory environment and the control of corruption significantly contribute to economic growth, the relationship between financial development and growth is more nuanced.

5. Conclusion and Policy Implications

This study investigates the impact of various institutional and financial variables on economic growth across different quantiles for the Next-11 countries. The findings suggest that regulatory quality (QUA) plays a positive and significant role in fostering long-term economic growth, particularly in higher growth quantiles. Similarly, the control of corruption (CORR) shows a strong positive and significant impact on economic growth, emphasizing the importance of effective governance in enhancing economic performance.

However, the rule of law (RL) has a significant negative effect at lower growth levels with its influence diminishing as economic performance improves. This suggests that, while the rule of law is critical in lower-growth economies, its role may become less significant as economies grow. Additionally, the financial institution index (FII) exhibits a positive relationship with GDP growth, although its impact weakens as economic growth accelerates. In contrast, the financial market index (FMI) shows a negative but statistically insignificant effect, indicating limited long-term influence on growth.

The results highlight the critical role of institutional factors in shaping economic growth. Governments should prioritize enhancing regulatory quality and strengthening corruption control mechanisms, as these are positively correlated with economic development. Effective governance is key to fostering an environment conducive to sustainable growth. Therefore, there are several policy implications from the results of this study.

The findings underscore the critical role of regulatory quality in stimulating economic growth, particularly in higher growth quantiles. To capitalize on this, policymakers in the Next-11 countries should prioritize reforms aimed at improving the regulatory environment. This includes simplifying administrative procedures, reducing bureaucratic obstacles, and ensuring that regulations are transparent, fair, and business-friendly. In practice, this could involve introducing digital platforms for business registration, streamlining approval processes for investments, and ensuring that regulatory bodies operate independently and efficiently. By creating a conducive regulatory environment, these countries can attract foreign direct investment (FDI), encourage entrepreneurship, and support innovation, which are essential drivers of long-

term economic growth. On the other hand, improving regulatory quality is essential for fostering a more business-friendly environment. Governments should simplify business registration processes by reducing bureaucratic hurdles and lowering administrative costs, similar to the digital one-stop-shop systems used in Estonia and Singapore. Additionally, streamlining licensing procedures can accelerate economic activities, particularly in high-growth sectors such as renewable energy and technology. Establishing independent regulatory bodies with clear mandates can further ensure that policies are implemented transparently and effectively, minimizing inconsistencies that could deter investment.

Effective governance is strongly correlated with economic growth in the Next-11 countries, with corruption control showing a particularly significant impact. Therefore, governments should focus on implementing robust anti-corruption strategies to improve transparency and accountability in both public and private sectors. This can be achieved by enhancing the independence of judicial institutions, creating stronger oversight mechanisms, and empowering civil society organizations to monitor and report corruption. Additionally, policymakers should ensure that public officials and institutions are held accountable for their actions, reducing the misuse of public resources. Encouraging transparency in government transactions, public procurement processes, and decision-making foster trust among investors and citizens alike, ultimately leading to a more stable and conducive environment for economic growth. Moreover, strengthening control of corruption is crucial for improving governance and fostering a stable economic environment. Enhancing transparency in public procurement through e-procurement systems, as successfully implemented in South Korea and Chile, can reduce the risk of corruption and increase competition. Moreover, independent anti-corruption agencies, such as Hong Kong's Independent Commission Against Corruption (ICAC), have proven effective in enforcing regulations and holding public officials accountable. Encouraging whistleblower protections through legal safeguards and incentive mechanisms can also play a key role in identifying and preventing corrupt practices.

The study reveals a significant but diminishing effect of the rule of law as economic growth accelerates. In lower-growth economies, the rule of law is essential for establishing order, protecting property rights, and providing legal certainty, which are foundational to fostering economic activity. However, as economies grow and develop, the focus of legal reforms should shift towards creating more flexible and adaptive legal frameworks that can accommodate the demands of a dynamic economy. Policymakers should consider revisiting laws to ensure they support innovation, technology, and entrepreneurship, particularly in emerging sectors such as digital economies and green technologies. Strengthening intellectual property rights protection and facilitating dispute resolution through alternative mechanisms can also help maintain investor confidence and encourage more robust economic activity.

The positive relationship between the financial institution index and GDP growth suggests that a well-functioning financial system is crucial for economic development. In response, policymakers should focus on improving the accessibility and efficiency of financial institutions. This includes expanding financial services to underserved populations, promoting financial literacy, and encouraging the development of a more diversified banking sector that caters to different business needs, particularly those of small and medium-sized enterprises (SMEs). Strengthening the capital markets to provide better financing options for businesses and individuals is equally important. Governments should also work towards ensuring that the financial system is resilient to external shocks and crises by implementing stronger regulatory frameworks and enhancing the capacity of financial institutions to manage risk. In doing so, they can ensure that businesses have the necessary resources to invest, grow, and create jobs, thereby contributing to sustainable economic growth.

Although the study suggests that financial markets currently have a limited long-term impact on economic growth, their potential to support future growth should not be

overlooked. Policymakers in the Next-11 countries should focus on deepening financial markets by enhancing their efficiency, stability, and inclusiveness. This could involve reforming securities markets to increase liquidity, reducing transaction costs, and improving investor protections. Additionally, the development of venture capital markets and other alternative financing mechanisms could help support the growth of innovative startups and entrepreneurs, particularly in sectors with high growth potential such as technology and green industries. Strengthening market infrastructure, increasing the availability of financial products, and fostering greater integration with global financial markets can help make financial markets a more significant driver of economic growth.

The insignificant effect of financial markets on growth in the long run suggests that financial markets may not play a central role in economic growth in the Next-11 countries. Policymakers should explore policies that enhance the depth and efficiency of financial markets, focusing on improving market infrastructure, transparency, and investor confidence. At the same time, attention should be given to other areas of economic development, such as education, infrastructure, and innovation, which could yield greater long-term benefits. Finally, it is essential to complement institutional and financial policies with measures that promote inclusive growth. This involves reducing income inequality, ensuring equal access to education and healthcare, and establishing social safety nets to protect vulnerable populations. By creating a more inclusive economic environment, Next-11 countries can ensure that growth benefits are widely shared, contributing to long-term stability and social cohesion.

In conclusion, the findings of this study point to the importance of strengthening institutional frameworks, improving governance, and fostering robust financial systems to ensure sustainable and inclusive economic growth in the Next-11 countries. By implementing the above recommendations, these countries can create a favorable environment for long-term economic development, attract investment, and enhance the overall quality of life for their citizens.

While this study provides valuable insights into the relationship between institutional quality, financial development, and economic growth in the Next-11 countries, several limitations should be acknowledged. First, while the panel QARDL model offers a robust framework for analyzing dynamic relationships across different growth quantiles, its implementation is computationally intensive and requires a careful selection of lag structures. Future research could explore alternative estimation techniques, such as Bayesian methods or machine learning-based approaches, to enhance predictive accuracy and robustness.

Second, this study primarily focuses on the economic aspects of institutional quality. Future studies may expand the scope by integrating political and financial governance indicators to provide a more holistic view of institutional influences on economic growth. Furthermore, exploring sectoral-level effects—such as the role of institutional quality in fostering industrial innovation or financial sector resilience—could be a valuable extension of this research.

Future studies could benefit from exploring the nonlinear relationships between institutional variables and economic growth, particularly examining how the impact of factors like regulatory quality and corruption control may differ at various stages of economic development. Cross-country comparative studies could provide further insights into the specific institutional and financial factors that drive growth in different contexts, enabling policymakers to adopt best practices tailored to their unique conditions. Additionally, research could delve into sector-specific effects, analyzing how institutional quality influences growth in industries such as manufacturing, services, or agriculture. Finally, incorporating international trade, global financial trends, and geopolitical influences into the analysis would help capture the broader forces shaping economic growth in the modern world.

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