# Does Institutional Quality Matter for Financial Development? Evidence from Six Asian Emerging Economies

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**Abstract**

This study attempted to evaluate the role of institutional quality on the development of financial sector in the emerging Asian economies. The dependent variable of this study was financial development, measured by Domestic Credit to Private Sector (as percentage of GDP). In order to represent institutional quality, six governance effectiveness dimensions of Worldwide Governance Indicators (WGI), namely—Government Effectiveness, Control of Corruption, Political Stability and Absence of Violence/Terrorism, Regulatory Quality, Rule of Law, and Voice and Accountability were used. Additionally, the study included economic growth (measured by GDP per capita at constant $2015) and trade openness (percentage of trade in GDP) as control variables. Data, ranged from 2002 to 2016, were collected from the data sources of World Bank, for six emerging Asian economies: Bangladesh, India, Pakistan, Iran, Malaysia, and Philippines. Cross-sectional dependence, serial correlation and heteroskedasticity in the model were confirmed by the Breusch-Pagan LM test of independence, the Wooldridge test and the Modified Wald test for groupwise heteroskedasticity. To counter aforementioned complications and generate unbiased estimators, the study used the FGLS for heteroskedastic panels with cross-sectional dependence and common AR(1) for all panels. The study found political stability and absence of violence/terrorism to be a positive contributor to financial development, alongside rule of law, with both being statistically significant. The study has also reported insignificant impact of corruption control, government effectiveness, and voice and accountability, while the impact of regulatory quality is found significantly negative. Furthermore, the study reveals that, higher economic growth and trade openness enhance financial sector development significantly.

**Keywords:** Financial Development; Institutional Quality; Worldwide Governance Indicators (WGI); Asian Emerging Economies; Feasible Generalized Least Squares (FGLS)

## 1. Background and Rationale of the Study

The argument that development in financial sector substantially contributes to economic growth is widely supported by the existing literature, amplifying the significance of financial development. According to the definition provided by World Bank (2023a), financial sector comprises the set of institutions, instruments, markets alongside the legal and regulatory framework that are required for facilitating financial and credit transactions. Incidentally, financial development (FD) can be characterized as the reduction in costs associated with the acquisition of information, enforcement of contracts and execution of transactions. However, the ease with which these economic activities can be carried out often depends on the quality of institutions, including but not limited to that of financial sector.

Multiple researches conclude that financial development can be obstructed despite rich endowment of natural resources, if the institutional framework of the economy remains underdeveloped (Khan et al., 2020, 2019; Bhattacharyya and Hodler, 2014). Having defined institutions to be the rules pertaining to constitutions, laws, codes of conduct and behavior, North (1990) identified them to be crucial for the growth process of financial development. To be more specific, strength in the institutional framework has been recognized as a prerequisite for the development of banking sector in multiple studies (Levine and Zervos, 1998; Demetriades and Law, 2006; Law and Azman-Saini, 2008). Additionally, upon investigation of developing and emerging economies, improvements in legal system, political rights, civil liberty and quality of governance have been argued to have positive impact on the level of financial development (Anwar and Cooray, 2012; La Porta et al., 1997; Knack and Keefer, 1995). According to Tun et al. (2012), stock market development is dependent on institutional framework as well. Subsequently, Asiama and Mobolaji (2011) assessed that trade and financial integration alongside low-quality institutions impact financial development. However, Law and Azman-Saini (2012) proposed a conditional impact of institutional quality on financial development, implying that the former affect stock market development only when a threshold level of institutional development has been achieved. The study also explained that the trend is more prevalent in low-income countries that lie on the lower end of the list, connotating significant implications for policy measures.

With all these in the backdrop, Institutional Quality (IQ) can be identified as a crucial factor for Financial Development (FD). As per the Worldwide Governance Indicators (WGI) project (World Bank, 2023b), six dimensions of governance namely—Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption can be aggregated to measure IQ. Using these measures, impact of IQ on FD can be assessed.

## 2. Objective of the Study

The main objective of the study is to evaluate the role of institutional quality (six dimensions of governance) in the development of financial sector in the emerging Asian economies.

## 3. Methodology of the Study

The dependent variable of this study is financial development, which is measured by Domestic Credit to Private Sector (as percentage of GDP). In this study, six governance effectiveness dimensions: Government Effectiveness, Control of Corruption, Political Stability and Absence of Violence/Terrorism, Regulatory Quality, Rule of Law, and Voice and Accountability are used to represent institutional quality. Additionally, the study includes economic growth (measured by GDP per capita at constant $2015) and trade openness (percentage of trade in GDP) as control variables. Data, ranged from 2002 to 2016, have been collected from the data sources of World Bank, for six emerging Asian economies: Bangladesh, India, Pakistan, Iran, Malaysia, and Philippines.

Increments in real GDP per capita and trade openness signify increasing economic activity with robustness, which can be expected to have positive impacts on financial development. In terms of institutional quality, forming expectations can come with slight ambiguity. On one hand, better performance in the dimensions of governance can enhance investors' confidence, which can affect the financial sector positively. On the other hand, imposition of laws and regulations, for instance, without sufficient facilitation of business environment may prove to be stringent for the stakeholders in the financial sector.

Definitions of the relevant variables, along with their expected signs, are summarized in Table 1.

The variables have been used upon their logarithmic transformations, for the ease of obtaining the measures of elasticity. The panel data estimation method has been utilized regarding the following model to conduct empirical analysis:

$$\begin{aligned} \text{LNFD}_{it} = \alpha &+ \beta_1 \text{LNGDP}_{it} + \beta_2 \text{LNTRADE}_{it} \\ &+ \beta_3 \text{LNCON_CORR}_{it} + \beta_4 \text{LNGOV_EFFECT}_{it} + \beta_5 \text{LNPOLITIC}_{it} \\ &+ \beta_6 \text{LNREGU}_{it} + \beta_7 \text{LNRULE_LAW}_{it} + \beta_8 \text{LNVOICE}_{it} + \varepsilon_{it} \end{aligned} \tag{1}$$

where $i = 1, 2, 3, \ldots, n$; $t = 1, 2, 3, \ldots, T$; and $\varepsilon_{it}$ is the error or the disturbance term.

**Table 1:** Description of the Variables

| Variable | Definition | Measured By | Expected Sign |
|---|---|---|---|
| LNFD | Natural Log of Financial Development | Domestic Credit to Private Sector (as percentage of GDP) | |
| LNGDP | Natural Log of Economic Growth | GDP per capita at constant $2015 | (+) |
| LNTRADE | Natural Log of Trade Openness | Percentage of trade in GDP | (+) |
| LNCON_CORR | Natural Log of Control of Corruption | | (+/−) |
| LNGOV_EFFECT | Natural Log of Government Effectiveness | World Governance Indicators | (+) |
| LNPOLITIC | Natural Log of Political Stability and Absence of Violence/Terrorism | | (+) |
| LNREGU | Natural Log of Regulatory Quality | | (+/−) |
| LNRULE_LAW | Natural Log of Rule of Law | | (+/−) |
| LNVOICE | Natural Log of Voice and Accountability | | (+/−) |

### 3.1. Fixed and Random Effect Models

Initially, functional forms of a panel fixed effect model and a panel random effect model were obtained as equations (2) and (3).

$$\begin{aligned} \text{LNFD}_{it} = {} & (\alpha + \mu_i) + \beta_1 \text{LNGDP}_{it} + \beta_2 \text{LNTRADE}_{it} \\ & + \beta_3 \text{LNCON_CORR}_{it} + \beta_4 \text{LNGOV_EFFECT}_{it} + \beta_5 \text{LNPOLITIC}_{it} \\ & + \beta_6 \text{LNREGU}_{it} + \beta_7 \text{LNRULE_LAW}_{it} + \beta_8 \text{LNVOICE}_{it} + \varepsilon_{it} \end{aligned} \tag{2}$$

$$\begin{aligned} \text{LNFD}_{it} = {} & \alpha + \beta_1 \text{LNGDP}_{it} + \beta_2 \text{LNTRADE}_{it} \\ & + \beta_3 \text{LNCON_CORR}_{it} + \beta_4 \text{LNGOV_EFFECT}_{it} + \beta_5 \text{LNPOLITIC}_{it} \\ & + \beta_6 \text{LNREGU}_{it} + \beta_7 \text{LNRULE_LAW}_{it} + \beta_8 \text{LNVOICE}_{it} + (\mu_i + \varepsilon_{it}) \end{aligned} \tag{3}$$

Equation (2) renders the fixed effect model where the intercept term may vary across cross-sectional units, while remaining fixed over time. The random effect model delineated by equation (3), on the other hand, captures the differences in error variance components across time or cross-sectional units.

### 3.2. Hausman Test

Based on the Hausman test results reported in Table 2, it has been found that the fixed effect model is appropriate for this study.

**Table 2:** Result of Hausman Test

| Hausman Test | Chi-Sq Statistic | Chi-Sq d.f. | Probability |
|---|---|---|---|
| Cross-section random | 59.37 | 5 | 0.0000 |

### 3.3. Diagnostic Tests

Several diagnostic tests are run upon the estimation of fixed effect model, which include the Breusch-Pagan LM test of independence for cross-sectional dependence, the Modified Wald test for groupwise heteroskedasticity, and the Wooldridge test for autocorrelation in panel data.

**Table 3:** Results of Cross-Section Dependence Test

*Residual Cross-Section Dependence Test*

| Test | Statistic | d.f. | Probability |
|---|---|---|---|
| Breusch-Pagan LM | 37.152 | 15 | 0.0012 |

*Null hypothesis:* No cross-section dependence (correlation) in residuals.

**Table 4:** Results of Groupwise Heteroskedasticity Test

*Residual Groupwise Heteroskedasticity Test*

| Test | Statistic | d.f. | Probability |
|---|---|---|---|
| Modified Wald Test | 75.78 | 6 | 0.0000 |

*Null hypothesis:* No groupwise heteroskedasticity in residuals.

Cross-sectional dependence is confirmed by the Breusch-Pagan LM test of independence (Table 3). The existence of heteroskedasticity in the model is confirmed by the Modified Wald test for groupwise heteroskedasticity (Table 4).

Furthermore, serial correlation is confirmed by the Wooldridge test for autocorrelation in panel data (Table 5). As a result, in this sense, the fixed or random effect model will yield biased estimators.

### 3.4. Feasible Generalized Least Squares (FGLS)

The cross-sectional time-series Feasible Generalized Least Squares (FGLS) regression has been applied in this study to get around the problems of cross-sectional dependence, heteroskedasticity, and serial correlation. To generate unbiased estimators, the study used the FGLS for heteroskedastic panels with cross-sectional dependence and common AR(1) for all panels.

**Table 5:** Results of Autocorrelation Test in Panel Data

*Residual Autocorrelation Test*

| Test | Statistic | d.f. | Probability |
|---|---|---|---|
| Wooldridge Test | 82.853 | (1, 5) | 0.0003 |

*Null hypothesis:* No first-order autocorrelation.

## 4. Results and Discussion

Table 6 demonstrates the associated descriptive statistics.

Table 7 reports the results of the Feasible Generalized Least Squares (FGLS) regression, alongside that of Fixed Effect (FE) and Random Effect (RE) models, with measures of elasticity for each variable and their corresponding probability values.

From the estimated FGLS model, it can be observed that political stability, absence of violence/terrorism and rule of law have significant positive impact on financial development. According to the model, one percent increase in the index of Political Stability and Absence of Violence/Terrorism increases the financial development by 0.0942224 percent on average, with the estimation being significant at the level of 1 percent. This result is in line with the findings of Girma and Shortland (2008) and Roe and Siegel (2011), who demonstrated that there exists strong positive relationship between a country's political stability and its financial development. The result also complements certain presumptions or theory that a stable political environment and absence of violence is essential for driving investment by creating confidence among the investors and for fostering financial growth (Ertugrul et al., 2019; Kombo and Koumou, 2021). In addition, it has been found that a one percent increase in the index of rule of law increases financial development by 0.3398133 percent on average, and the result is significant at 1 percent level. The finding is consistent with the theoretical expectation that rule of law enhances the scope and ability of financial development. Rule of law reduces violence and terrorism and creates a more stable political environment (Haggard et al., 2008; Waldron, 2016). The result is consistent with the findings of Kiarie (2020) as well, who used the quarterly data of South Africa between the period 1996–2017 to show that rule of law, along with FDI, monetary policy and stock market capitalization, is one of the long-term determinants of financial development. H. Khan et al. (2022) found significant positive relationship between rule of law and financial development while working on developing and emergent economies.

There is an interesting finding in the study that, the regulatory quality is significantly negatively related to the financial development. According to the world governance indicator, regulatory quality index measures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector

**Table 6:** Descriptive Statistics

| Variable | | Mean | Std. Dev. | Min | Max | Observations |
|---|---|---|---|---|---|---|
| | Overall | 3.5 | 1.717393 | 1 | 6 | $N = 90$ |
| Id | Between | | 1.870829 | 1 | 6 | $n = 6$ |
| | Within | | 0 | 3.5 | 3.5 | $T = 15$ |
| | Overall | 2009 | 4.344698 | 2002 | 2016 | $N = 90$ |
| Year | Between | | 0 | 2009 | 2009 | $n = 6$ |
| | Within | | 4.344698 | 2002 | 2016 | $T = 15$ |
| | Overall | 7.616398 | 0.9333635 | 6.011177 | 9.208754 | $N = 90$ |
| LNGDP | Between | | 0.9815799 | 6.572776 | 8.991335 | $n = 6$ |
| | Within | | 0.2433721 | 7.021835 | 8.458172 | $T = 15$ |
| | Overall | 3.737201 | 0.538775 | 2.733463 | 4.813026 | $N = 90$ |
| LNFD | Between | | 0.554236 | 3.063062 | 4.720673 | $n = 6$ |
| | Within | | 0.177258 | 3.308612 | 4.037677 | $T = 15$ |
| | Overall | 4.020199 | 0.564805 | 3.231051 | 5.348888 | $N = 90$ |
| LNTRADE | Between | | 0.595206 | 3.444127 | 5.118655 | $n = 6$ |
| | Within | | 0.143045 | 3.613938 | 4.262902 | $T = 15$ |
| | Overall | 3.254735 | 0.8576082 | −0.63658 | 4.209139 | $N = 90$ |
| LNCONTRL | Between | | 0.729369 | 2.021711 | 4.117319 | $n = 6$ |
| | Within | | 0.535906 | 0.596447 | 4.319728 | $T = 15$ |
| | Overall | 3.750378 | 0.440547 | 2.912783 | 4.447778 | $N = 90$ |
| LNGOVEFFECT | Between | | 0.460228 | 3.160908 | 4.386263 | $n = 6$ |
| | Within | | 0.124862 | 3.494365 | 4.101396 | $T = 15$ |
| | Overall | 2.413116 | 1.104488 | −0.74669 | 4.191737 | $N = 90$ |
| LNPOLITIC | Between | | 1.080945 | 0.597668 | 3.969521 | $n = 6$ |
| | Within | | 0.485026 | 1.068761 | 3.835365 | $T = 15$ |
| | Overall | 3.292811 | 0.836375 | 1.054595 | 4.336536 | $N = 90$ |
| LNREGULATION | Between | | 0.878881 | 1.775896 | 4.215433 | $n = 6$ |
| | Within | | 0.220447 | 2.571510 | 3.982019 | $T = 15$ |
| | Overall | 3.483269 | 0.501478 | 2.563469 | 4.264844 | $N = 90$ |
| LNRULELAW | Between | | 0.520207 | 2.956379 | 4.146151 | $n = 6$ |
| | Within | | 0.153081 | 3.081416 | 3.984178 | $T = 15$ |
| | Overall | 3.381292 | 0.669641 | 1.641773 | 4.146052 | $N = 90$ |
| LNVOICE | Between | | 0.704755 | 2.119530 | 4.107500 | $n = 6$ |
| | Within | | 0.172825 | 2.903534 | 4.118975 | $T = 15$ |

**Table 7:** Results of the FGLS Regression

| Variables | (1)<br>Fixed Effect | (2)<br>Random Effect | (3)<br>FGLS |
|---|---|---|---|
| LNGDP | 0.3209960*** | −0.0410215 | 0.0747836** |
| | (0.000) | (0.601) | (0.017) |
| LNTRADE | 0.3038852*** | 0.4807139*** | 0.4787528*** |
| | (0.004) | (0.000) | (0.000) |
| LNCON_CORR | 0.0488938 | −0.0201655 | −0.0090983 |
| | (0.206) | (0.727) | (0.604) |
| LNGOV_EFFECT | 0.7040994*** | −0.0535876 | 0.0321315 |
| | (0.000) | (0.709) | (0.530) |
| LNPOLITIC | 0.0208101 | −0.1525164*** | 0.0942224*** |
| | (0.530) | (0.000) | (0.000) |
| LNREGU | −0.0489219 | −0.1500429 | −0.1626140*** |
| | (0.582) | (0.101) | (0.000) |
| LNRULE_LAW | −0.2022622 | 0.5948364*** | 0.3398133*** |
| | (0.175) | (0.001) | (0.000) |
| LNVOICE | −0.2358812** | −0.2314441** | −0.0229070 |
| | (0.031) | (0.042) | (0.590) |
| Constant | −1.1160970 | 1.2203060*** | 0.3650594* |
| | (0.266) | (0.010) | (0.071) |

*Notes:* Dependent variable is LNFD. Probability values are in parentheses. *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.

development. However, often additional regulation or control can hinder the scope of financial development, especially for developing and emerging economies with poor social infrastructure and institutional quality. According to the estimated model, at the level of 1 percent significance, a one percent increase in the index of regulatory quality on an average decreases financial development by 0.1626140 percent. The result is unfailing with the findings of Di Vita (2018) and Ofoeda et al. (2024), who showed that regulatory and legislative complexity may hinder financial growth and inclusiveness. The finding also reinforces the works of Kombo and Koumou (2021), who found the regulatory quality to be a hindrance to the financial development of CEMAC countries. However, the result somewhat contradicts with the findings of H. Khan et al. (2022) who showed significant positive association between regulatory quality and financial development. This juxtaposition can be explained by the fact that efficacy of regulatory policies depends on the respective institutional and bureaucratic quality, accountability and transparency. Added regulation can create lag and increase rent seeking behaviors within a poor bureaucratic structure.

In the estimated model, Voice and Accountability, Government Effectiveness and Control of Corruption have insignificant relationship with financial development. The result complements the findings of H. Khan et al. (2022) who found insignificant relationship between government effectiveness and financial development in system GMM model. Moreover, the author identified a negative but insignificant relationship between voice and accountability and financial development. The result can be explained by priori theory and expectations. As Kombo and Koumou (2021) argue, the South Asian emerging economies are yet to reach the threshold, from where government effectiveness or voice and accountability might have a positive impact on financial development. The policy taken by the Government could be manipulated or influenced by few dominant groups, which could lead to the overall welfare loss of the society (Gökmenoğlu, 2020; M. A. Khan et al., 2019). Although Gökmenoğlu (2020) found significant negative relationship between control of corruption and financial development, the negative relationship found between them in this study appeared to be insignificant. Several other studies (H. Khan et al., 2022; Kombo and Koumou, 2021) found the control of corruption to be positively associated with financial development. This ambiguity can be explained to some extent, after taking into consideration that the existing level of corruption differs across countries. If the prevailing level of corruption is high, then corruption control might not have any significant positive control on financial development. Another important factor is the social status quo. In many developing countries such as in South Asia, most of the large-scale investments are carried out by influential groups or companies, who often use corrupt systems to allow their businesses to thrive.

This study included real GDP per capita and trade as percentage of GDP to assess

the impacts of economic growth and trade openness as control variables on financial development. Findings suggest that both of these variables significantly influence the development of financial sector in a positive manner. With 1 percent increase in real GDP per capita, share of domestic credit to private sector in GDP goes up by approximately 0.075 percent. This impact bears statistical significance at the level of 2 percent, and is extensively supported by the existing literature (Gurley and Shaw, 1967; Goldsmith, 1969; Jung, 1986). In the case of developing countries, increase in economic growth boosts demand for financial services, causing the financial sector to develop. Furthermore, bidirectional causality between financial development and economic growth has been identified by Demetriades and Hussein (1996), Shan et al. (2001), and Calderón and Liu (2003).

As the share of trade in GDP increases by 1 percent, about 0.479 percent increase in financial development is brought forth, with this result being statistically significant at 1 percent. This revelation is supported by the findings of Asghar and Hussain (2014), which identified trade openness to be an important factor for financial development upon investigating panel data for developing countries. According to Kim et al. (2010), in relatively low-income or high-inflation economies, trade openness can affect financial sector adversely in the short-run. However, having scrutinized data over the time frame 1960–2005, the study also inferred a positive long-run relationship between the variables. Additionally, Ibrahim and Sare (2018) have shown that trade openness interacts with human capital in order to significantly improve financial development.

## 5. Conclusions and Recommendations

Upon scrutiny of six emerging Asian economies, this study has attempted to assess the impact of various dimensions of institutional quality on financial development. Findings have disclosed that only three of the indicators, namely—Political Stability and Absence of Violence/Terrorism, Regulatory Quality and Rule of Law, significantly affect the dependent variable; whereas the influences of Government Effectiveness, Control of Corruption and Voice and Accountability remain insignificant. Of the determining factors, rule of law appears to contribute the most in financial development, whose 1 percent increment increases the latter by almost 0.34 percent. Alongside, political stability and absence of violence/terrorism, which has an elasticity of 0.094, positively impacts financial development. Interestingly, improvement in regulatory quality might deter financial advancement, the effect being more prominent than that of political stability. These conclusions offer rudimentary as well as practical insights for the policymakers, on how institutions might be shaped for propelling development in the financial sector. Finally, the inferences drawn from the control variables and their respective significance emphasize on the determinants' widely-discussed influence over financial development.

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