An Empirical Nexus Between Institutions Quality and Economic Performance: A Case Study of Developing Asia

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ABSTRACT

This study investigates the relationship between the quality of institutions and the economic performance of developing Asian countries that have a lower middle-income status. The study encompasses Bangladesh, Cambodia, India, Indonesia, Kyrgyz Republic, Mongolia, Pakistan, Philippines, Myanmar, and Vietnam. The selected panel data covers the period from 1996 to 2018. The panel regression was computed utilizing a Random Effect Model, as evidenced by the outcomes of the Hausman specification test. The findings revealed a significant positive impact of inflation, overall trade, and the quality of institutions on the economic performance of developing countries. Evidence suggests that it is imperative to establish Anti-corruption bodies in the designated countries to foster maximum economic performance. The findings of this study indicate that it is crucial to implement anti-corruption measures by their respective legal frameworks of the countries while ensuring that such measures do not hinder economic progress. The legislative bodies should assume the obligation of establishing the necessary regulations. Efforts should be made to ensure the proper functioning of institutional entities, as well as their corresponding economic and administrative units. It is advisable to promote greater autonomy among the institutes to enhance transparency, expansion, and effectiveness.

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Introduction

As numerous studies have suggested, the quality and effectiveness of institutions are vital for creating an environment conducive to sustained economic performance (Acemoglu & Robinson, `2012; Rodrik, Subramanian, & Trebbi, 2004). Institutions provide the necessary infrastructure for markets to function, protect property rights, ensure the rule of law, and foster a conducive environment for entrepreneurship and innovation. Conversely, weak or dysfunctional institutions can impede economic growth by creating uncertainties, fostering corruption, and hindering investment (Khan, 2010; Mauro, 1995).

Each country is striving to attain its predetermined economic objectives. However, certain variables must be acknowledged to achieve economic performance (North, 1990). The institution has a crucial function in driving economic performance. The concept of institutions has long been a topic of interest for economic academics. The works of North (1981) and Olson (2022) have prompted social scientists to examine the impact of institutional growth on the economic prosperity of nations. The performance of institutions has a significant impact on economies, both directly and indirectly. Empirical studies conducted by Mauro (1995) and Knack and Keefar (1995) provide evidence that countries with independent political, judicial, and economic institutions are more likely to attract investment and achieve sustainable economic growth (Alesina & Perotti, 1996).

Halls and Jones (1999) demonstrated that variations in institutions can influence capital formation, education, investment, spending, and the level of economic inequality in society. In addition, the empirical estimations conducted by Linn et al. (2006) have conclusively demonstrated that institutions that prioritize private property rights are the primary drivers of a country's financial prosperity. The efficacy of institutions is contingent upon the political system and the implementation of a system of checks and balances inside a nation (Knack, & Keefer, 1995). The correlation between the reinforcement of institutional standards and the promotion of economic performance is significant, as highlighted by Iqbal and Daly (2014).

Exploring the connection between economic initiatives and the country's institutions has been a significant subject of interest. The high caliber of institutions is characterized by their excellence and transparency (Besley & Persson, 2011). The presence of effective regulatory institutions greatly influences the differences in economic growth between countries, leading to higher levels of total productivity (Kaufmann, Kraay & Mastruzzi, 2011).

It has been seen that superior institutions contribute to increased revenue, as they are associated with a contrary orientation (Easterly & Levine, 2003). Several research indicates that the quality of governance and institutions has a crucial role in explaining greater investment rates by enhancing the investment climate. The selection of an institutional role has been made to enhance economic progress. The relationship between institutional quality and sustained growth in the field of economic performance has attracted considerable scholarly interest. The importance of institutions, such as legal frameworks, regulatory environments, and governance structures, in influencing economic outcomes has been emphasized by scholars (Banerjee & Duflo, 2019; Fukuyama, 2011; Guiso, Sapienza, & Zingales, 2004; La Porta et al., 1999; Rajan & Zingales,

2003). The main goal of every country is to achieve sustained socio-economic well-being through economic growth. Therefore, the systematic utilization of growth models is essential for every nation. Understanding the importance of institutions in implementing growth efforts is essential. Both affluent and emerging nations globally are employing comparable strategies in addressing this issue. However, little empirical evidence is found on the relationship between institutional quality and economic growth in developing countries. Therefore, it is imperative to examine the role of institutions in developing nations. It is important to note that many emerging nations have failed to attain their economic growth targets due to institutional mismanagement and a lack of emphasis on institutional quality. The primary objective of this study is to investigate the influence of institutions on economic prosperity.

This study provides valuable insights for both economic researchers and policymakers in determining the extent to which institutional development is linked to the economic performance objectives of nations. The present study highlights the significance of acquiring a detailed comprehension of institutions, with a focus on their varied effects on societal dynamics. " More precisely, it examines the impact of institutions on promoting innovation, as investigated by Aghion, Bloom, & Van Reenen (2014) and Acemoglu & Akcigit (2012). In addition, the study investigates the function of institutions in reducing corruption, using ideas from Treisman's 2000 research. This approach emphasizes the need to consider different aspects of institutions, recognizing their diverse impacts on forming societies and organizations (Khan et al., 2020; Rodrik, 2018).

Based on objectives, this research has been divided into several sections. Section 2 will consist of a literature review, which will present comprehensive evidence regarding the importance of studying institutional development. Section 3 will focus on the significance and nature of the data to be used in the study. Which specific nature of econometric methods have been employed and what is the source of the data? The focus of Section 4 and this specific study is to conduct an econometric analysis using several types of econometric software. In Section 5, we will present the outcomes obtained from our application of the econometrics technique and discuss the specific policies that are required to attain the stated objectives.

2.0 Literature Review

The existing body of literature regarding the correlation between institutional development and economic growth encompasses a diverse array of perspectives and empirical investigations. The research undertaken by Williamson (2000) and Olsson and Hibbs (2005) thoroughly investigates the historical aspects of institutions, highlighting their impact on the development of long-lasting economic trajectories. Bardhan (2005) and Acemoglu and Johnson (2005) examine the impact of inclusive institutions on economic performance by analyzing the underlying principles of these institutions at a micro level. Furthermore, the study emphasizes the importance of considering the cultural dimensions of institutions, as examined by Greif (2006) and Fabellini (2010). The recent research conducted by Charron and Lapuente (2019) thoroughly analyzes the impact of institutions on the economic outcomes of globalization. Understanding the institutional elements that impact innovation is of utmost importance, as emphasized by Mokyr (2003).

Furthermore, the scholarly discourse on corruption and its influence on economic progress is enriched by the valuable insights provided by Méon and Weill (2010) and Ades and Di Tella (1999). The research undertaken by Siddiqui and Ahmed (2019) investigates the relationship between economic performance and institutional quality in Pakistan by employing the Granger causality test and the Johansen-Juselius co-integration technique. The data suggest that there is a strong correlation between economic growth and the quality of institutions. The results of the Granger causality test suggest that there is a one-way relationship between growth and institutions. However, there is no indication of a causal relationship between institutions and growth in the short run. The preliminary studies undertaken by North (1991) and Barro (1996) emphasize the vital significance of institutions in fostering economic performance, namely in facilitating the accumulation of wealth and the progress of technology.

The studies conducted by Rodrik (1999) and Acemoglu and Verdier (2000) offer valuable perspectives on the correlation between political institutions and their influence on economic policies and outcomes. Greif (1994), and Acemoglu and Johnson (2005) highlighted the impact of institutions' quality on economic performance. The research carried out by Nunn and Wantchekon (2011) and Algan and Cahuc (2010) provided valuable insights into the relationship between institutions, cultural factors, and the persistent existence of economic inequalities. Furthermore, the investigations carried out by Hall and Jones (1999) and Glaeser et al. (2004) established that institutional quality has a significant influence on both innovation and productivity

Murtaza et al. (2016) have examined the pathways responsible for the link between economic growth and institutions. Studies have shown that the caliber of democracy and governance has a substantial influence on the quality of institutions, which in turn play a role in the progress of a nation, along with its unique traditions. In 2014, Nawaz et al. performed an empirical investigation to quantify the influence of institutions on economic growth in certain Asian economies between 1996 and 2012. It was shown that institutions have a crucial role in shaping the long-term economic prosperity in economies. The above discussion proposed the following hypothesis.

H_a: *The quality of institutions has a positive impact on economic performance.*

3.0 Methodology

3.1 Source of Data

The present analysis focuses on several emerging Asian countries, with data collected from 1996 to 2018. The sources of data are WDI1, WGI2, and HDI3. The dataset includes Bangladesh, Cambodia, India, Indonesia, Kyrgyz Republic, Mongolia, Pakistan, Philippines, Myanmar, and Vietnam. The panel-data methodology is used for analysis. Tajikistan, Timor-Leste, and Uzbekistan are absent from the statistics due to a lack of availability in underdeveloped countries.

3.2 Estimation Techniques

The random effect model describes the relation between the dependent and independent variables and minimizes the relations between the independent variables. Every variable is linked together with independent variables. Using this modal, it can be seen how an independent variable impacts the dependent ones. Every cross-sectional entity has its traits in the panel data, while the

explained variables might or might not be affected by these traits. The random effect modal is shown as follows:

$$Y_{it} = \beta X_{it} + \alpha + u_{it} + \epsilon_{it} \qquad (Eq.1)$$

Y_{it} = Dependent variable

β = Slope coefficient of the independent variable X_{it} = Independent variable

α = Intercept of the equation u_{it} = Between entity error term

ϵ_{it} = Within entity error term.

As shown in the above Eq. 1, there are two different error terms. The first term, u_{it}, displays the error between the corresponding variables while the error term ϵ_{it} explains the error within the entities.

The fixed effect model investigates the connection between indicator and result factors inside a substance (nation, individual, organization, and so forth.). Every substance has its attributes that could conceivably impact the indicator factors (for instance, the political arrangement of a specific nation could have some impact on exchange or GDP, or the strategic policies of an organization may impact its stock cost).

$$Y_{it} = \beta X_{it} + \alpha + u_{it} \qquad (Eq. 2)$$

Y_{it} = Dependent variable

β = Slope coefficient of the independent variable X_{it} = Independent variable

α = Intercept of the equation u_{it} = Between entity error term

As shown in the above Eq. 2, only one error term. The term u_{it} displays the error between the corresponding variable.

The Hausman Specification Test is mostly used to decide between the fixed and random effect models. The higher probability values lean towards the random-effect model and the low-probability values of the fixed-effect model are suitable. The test hypotheses are given below:

H_o: = Random Effects Model is appropriate. H_a: =Fixed Effects Model is appropriate.

If the probability value exceeds the Hausman statistics ((Probability > Chi²) then we cannot reject the null hypothesis which shows the random-effects model is appropriate for the study.

H_o: variance across entities is Zero (no panel, no random) H_a: variance across entities is nonzero (random effect).

For better test results between the Ordinary least square and Random Effect Models, the Breusch Pagan Langrage test is used. The test is shown in the equation as follows:

Y [country1,t] = Xb + u[country1] + e[country1,t]

In the above equation exactly like REM, two different error terms are used at one time u and e. The hypotheses of the LM test are given below:

H_o: variance across entities is Zero (no panel, no random) H_a: variance across entities is nonzero (random effect).

One of the major reasons to favor REM over FEM is that the former includes the time-invariant variable while the latter, this variable gets lost in the error term. One of the major reasons to favor REM over FEM is that the former includes the time-invariant variable while the latter, this variable gets lost in the error term. Using Random-Effect Modal, the influence on the

dependent variables by other variables can be specified. It is also helpful when it comes to generalizing the errors across different entities. Following is the detailed specification for estimating the effect of inflation, total trade, and institutional quality on the economic performance of the country.

$$GDP_{it} = \beta_0 + \beta_1 INF_{it} + \beta_2 TT_{it} + \beta_3 IQ_{it} + U_{it} + \mathcal{E}_{it} \qquad \text{(Eq. 3)}$$

The subscript i shows the country ($i = 1 \ldots\ldots n$) and t the period ($t = 1\ldots$ t), β_o shows the intercept, and β_1, β_2, and β_3 are the slope coefficients of independent variables. U and $\mathcal{E}$ show the error term. In the above-shown equation, the left-hand side comprises the dependent variables, i.e. Gross domestic product per capita.

Table 1. Definition of Variables and Measurements

Variable.	Notation	Description.	Sources.
Economic growth	GDP_{it}	There is a GDP per capita at a constant price-	Heston, Summers and Aten (2009)
Inflation	INF_{it}	The inflation rate is measured using the consumer price index-	Siddiqui and Ahmed (2019)
Total Trade	TT_{it}	Trade share in GDP is Total trade (Exports plus Imports) as a percentage of GDP	Heston, Summers and Aten (2009)
Institutional quality	IQ_{it}	Take the index of institutionalized social technology for the measurement of institutional quality-	Siddiqui and Ahmed (2019)

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4.0 Results

The results of the descriptive analysis reported in Table 2 show the descriptive statistics for the variables to be estimated. The table includes total number of observations as well as average values (maximum, minimum) and Standard Deviation. The mean score of GDP per capita is 3.302. The average score of inflation (CPI) is 1.905. The average score of the total trade index stood at 1.798196. The average mean value of the quality of the institution is -0.594.

Table 2. Descriptive Analysis of Variables

Variables	Mean	Maximum	Minimum	S. D	Observation
GDP per capita	3.302	0.304	3.300	0.001	253
Inflation	1.905	2.416	1.237	0.213	253
Total Trade	1.798	2.259	1.341	0.204	253
Quality of Institution	0.594	0.593	-1.601	0.403	253

Source: Author's calculation

To accomplish the objectives of this study, the random effect model and fixed effect model were employed on the panel data set of 10 developing Asian economies for the period 1996- 2018. Then, the Hausman test was used to specify which model was appropriate. The present study also applied the Brush Pagan Langrage Multiplier test to specify which model was appropriate, Random effect or OLS.

Table 3. Random Effect Model Results

Variables	Coefficient	S. E	t-value	p-value
Inflation	0.0061	0.0001	31.79	0.000
Total Trade	0.0004	0.0002	2.26	0.000
Quality of Institution	0.0005	0.0001	3.56	0.000
C	3.2900	0.0005	6001.01	0.000
Adj. R^2	0.8029	Wald Chi^2	1014.63	
Prob.> Chi^2	0.0000			

Source: Author's calculation

The results reported in Table 3 show that inflation is significant at a 1% level of significance and also positively related to economic growth. As inflation increases by 1 unit, the economic performance (measured by GDP) will increase by 0.0061 units. The coefficient of total trade shows that at a 1% level of significance, the variable is significant and there is a positive relation between total trade and economic performance also one unit increment in total trade will lead to a 0.0004 unit increase in economic performance. Results also revealed that the quality of

institutions is significant at a 5% level of significance and also positively related to economic growth. As the coefficient of quality of an institution increases by one unit, economic performance will also increase by 0.0005 units. The above Table 3 illustrates that the adjusted R-square is 0.8029 which means 80% of fluctuation in the dependent variable is due to independent variables and the rest is due to error term. The F-test probability (0.000) is significantly low which provides evidence that the model is a better fit.

Table 4 illustrates that in Asian developing countries inflation, total trade, and quality institution index are all significant and positively related to economic growth. The adjusted R² shows that 80% of the variation in an explained variable is caused by an independent variable and the F-test shows that the modal is good enough to explain the results.

Table 4. Fixed Effect Model Results

Variables	Coefficient	S.E.	t- value	p-value
Inflation	.0064	.0001	35.84	0.000
Total Trade	.0015	.0004	3.72	0.000
Quality of Institution	-.0002	.0002	-0.76	0.447
F test that all u_i=0:	F (10, 239) = 6.59	Prob > F = 0.0000		

Source: Author's calculation

Correlated Random effects – Hausman test. Test cross-section random effect

Null Hypothesis H_O: difference in coefficient not systematic

Table 5. Hausman Specification Test

Coefficient	(b)	(B)	(b – B)	Sqrt (diag(V-b-V-B)
	FE	RE	Difference	S.E.
Inflation	0.0064	0.0061	0.0003	0.0000
Total Trade	0.0015	0.0004	0.0010	0.0003
Institution Quality	-0.0002	0.0005	-0.0007	0.0002
chi2 (3) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 6.2		Prob>chi2 = 0.1024 (V_b-V_B)		

Source: Author's calculation

Table 6. The Breusch – Pagan Estimation Results

	Var	Sd = Sqrt (var)
Y	2.07e-06	.0014382
E	3.37e-07	.0005804
U	0	0
Test: Var (u) = 0 chi2 (1) = 46.79 Prob > chi2 = 0.0000		

Source: Author's calculation

The results of the Hausman test reported in Table 5 t provide evidence that Random Effect is more appropriate than FEM. Furthermore, after the selection of the Random Effect model present study also used the Breusch-Pagan Lagrange Multiplier (LM) test for a better model selection between OLS and REM. Results of the Breusch-Pagan LM test reported in Table 6 show that REM is appropriate.

5.0 Discussion and Conclusion

The present study has evaluated the impacts of institutional quality on the economic performance of eleven Asian developing economies. Findings recommended that defilement is a critical connection and contrarily influences the economy of developing economies. As it is one of the significant obstructions in the method of improvement. The outcomes likewise have demonstrated that the instructive list and all the other administration pointers have a critical and positive relationship with economic performance. Among all the administration markers quality of the institution has more effect as evaluated by Linn et al., (2006) and Siddiqui and Ahmed (2019). The current investigation has some restrictions that the information for the other chosen Asian-developing nations (Timor-Leste, Tajikistan, and Uzbekistan) is not accessible. That is the reason the current examination researches the effect of administration and defilement on economic performance in ten Asian nations. In addition, the period began in 1996 because of the accessibility of information from world administration pointers.

To avoid slowing down economies, anti-corruption measures must be carefully integrated into each country's legislative structure. Here are the findings of the investigation. The stringent laws imposed by legislative authorities ensure the efficient running of formal organizations, as well as the economic and administrative units within them. The study emphasizes the need for strong institutions, as well as the need for significant changes in human development and the corporate world. Major reforms are required to address governance issues. Reforming institutions must be implemented swiftly because traditional policy approaches, such as budget adjustments, may not be as effective if strong institutions are not in place.

Strengthening institutional independence is critical for promoting transparency, facilitating expansion, and ensuring effective operations. The evidence strongly suggests that some countries should organize anti-corruption bodies to help their economy. Among all the factors that influence economic growth, institutional strength is the most essential. This study sheds light on the actual relationship between institutions and Economic performance in Asia's developing countries. Legislative bodies should play an important role in checking compliance with appropriate

legislation to promote long-term, sustainable growth.

Nisar Ahmad: Supervision, analysis, drafting, and editing

Hasan Kamran: Problem identification, model development, and interpretation of results.

Faisal Mumtaz: Literature review, methodology, and data collection.

Conflict of Interests/Disclosures

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