Does Governance Quality Enhance Stock Market Performance: Empirical Evidence from Pakistan

Ahsan Aslam Khan, Farzana Munir, Javaria Abbas, Muhammad Umar

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ABSTRACT

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The current study examined the impact of governance on stock market performance in Pakistan. The study employed the ARDL model using Pakistani data with complete relevant data for the period spanning from 1996 to 2018. The study reveals that quality of governance as captured by voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law, and control of corruption positively affect stock market performance. The findings suggest countries with better developed political systems would favor stock markets with higher market capitalization, better turnover ratios, higher value in shares traded, and a greater number of listed companies.

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1. Introduction

The stock market acts as the heart of the financial market and plays a significant role in elevating economic growth (Levine and Zervos, 1988). The stock market has two main functions: it serves as a platform for the listed companies to raise equity funds and stock trading between the stock market participants. Thus, stock market performance always attracts the attention of investors, researchers, and business or financial organizations. Intuitively, the stock market index is used as the benchmark for stock market performance. However, the stock market performance can be measured from different aspects of investments, such as returns, development, and liquidity. As stated by Ayaydin and Baltaci (2013), the development of the financial system is greatly influenced by the stock market development. Analysts have been exploring several factors that impact stock market efficiencies in the last decade, such as inflation and deflation, exchange rates, gold prices,
interest rates, global market movements, money supply, and many other macroeconomic variables (Matadeen 2017). The research aims to calculate the impact of governance on stock exchange performance in Pakistan. In a fluctuating economy like Pakistan, this research examines the impact of governance and political uncertainty on stock exchange performance. It also tests the causal relationship between the variables. In addition, inflation, GDP, and the effective exchange rate are used as secondary considerations. This study's uniqueness over the previous linked research derives from the following reasons: first, although several studies had been conducted in the past, the primary focus had been on firm-specific corporate governance and stock market performance (Zaremba et al., 2019; Hussain et al., 2019). The present study beams a searchlight on the country-level governance environment.

Second, while many surveys have been undertaken, firm-specific corporate governance and stock market success have been the primary subjects. The present thesis shines a searchlight on the governance system at the country level. Third, stock market success literature is based mainly on non-governmental indicators such as sovereign spreads (Gendreau and Heckman, 2003), price ratios (Campbell and Shiller, 1998; Maroney et al., 2004; Groot and Verschoor, 2002), demographic population (Bakshi and Chen, 1994; Bekaert et al., 1998), exchange rates (Bailey and Chung, 1995; Harvey, 1995), and population demographics (Bakshi and Chen, 1994; Bekaert et al., 1998). As a result, this research provides new analytical data to the current stock of information about the effect of government and political uncertainty on stock exchange results. Lastly, the dataset used in this analysis consists of only one country, Pakistan, with fully valid data for 1996 to 2018. The high-frequency dataset ensures that policy recommendations are made more robustly.

2. Literature Review

Previous research has widely discussed the political, economic, and governance ramifications of capital market demographic developments. In addition, previous analysis suggests that there is evidence that phenomena such as conflicts, political events, fiscal policies, GDP, Inflation, etc., have a direct effect on consumer behavior.

Hussain et al. (2019) analyzed the relationship between the efficacy of government, corruption, and political stability in the stock market’s success. The findings show that the stock market’s success has a clear positive association between political prosperity, corruption, and government effectiveness. The study’s most critical contribution is its focus on the determinants of government efficiency and the South Asian economies' stock market results. Keita et al. (2019) conducted a complex empirical study on 89 emerging and developing economies. The authors concluded that transparency of public finances, fiscal reporting, debt management, and fiscal strategy is essential in improving credit ratings, issuing bonds, and obtaining a lower cost of external financing. Durable fiscal governance significantly increases a country's capacity to access international capital markets, impacts its credit rating, and influences the terms and cost of its external debt. Coulibaly et al. (2019) argued that poor governance and fiscal indiscipline contributed to the debt overhang and that, unless there are genuine systemic reforms, history will repeat itself.

Zaremba (2019) investigated a cross-section of country equity returns and found that the empirical results indicate many cross-sectional patterns in country equity indices. Bhagat and Bolton (2008) suggested that stock market-based performance measures were vulnerable to investor anticipation due to inter-relationships between corporate governance, corporate performance, corporate capital structure, and corporate ownership structure. Matadeen (2017) conducted
empirical research and argued that the determinants of stock market development include: macroeconomic determinants (real income, saving rate, financial development, inflation, interest rate, and stock market liquidity) and institutional determinants (corruption, political rights, public sector efficiency, and regulatory burdens, legal protection of private property and law enforcement, but also the limits on political leaders). Narayan et al. (2015) researched whether the standard of governance will forecast stock market returns. Using data from the International Country Risk Guide database, they created a governance variable through principal component analysis. They explored how governance at the national level forecasts financial market returns only in countries where the standard of governance is weak.

Hooper et al., (2009) Disclosed an important and optimistic correlation between the level of governance and the success of the financial market. Pagano and Lombardo (2000) used a cross-section of established and developed national stock market indices to affirm the correlation between return on equity and quality of governance. Wang and Albuquerque (2008) find that weak investor security frequently necessitates high investments. In the recent literature, there are two kinds of claims regarding corruption. At the same time, most researchers believe that corruption negatively affects the stock market, and some believe that corruption is a driving force for economic development. Corruption has a positive effect on stock market growth, according to Brooks (2016). Ahlin and Pang (2008) claim that liquidity is improved by corruption, and liquidity contributes to financial growth. In contrast, many reports have indicated a negative correlation between stock market growth and corruption. Daouk et al., (2006) suggest that stock market appreciation adversely impacts corruption by exploiting FDI. They also believed that corruption detrimental impacted economic development because it decreased stock-market competition. In addition, corruption makes it hard and costly to perform international acts by securing permits and licenses. There is a negative effect of corruption on FDI, according to Wie (2000), Lambsdorf (2003), and Voyr and Bemish (2004). Some studies have shown that the development of the stock market asymmetrically influences corruption based on the circumstances of the economy, i.e., whether developed or developing.

3. Conceptual Framework

![Figure 1: Governance and stock market performance](image)

Source: Authors' conclusion

Figure 1 shows how governance can impact the performance of the stock market in Pakistan. Good governance ultimately results in an improvement in corporate governance policies, and the
implementation of these policies in a timely manner boosts the confidence of locals and as well as international brokers. With a boost in confidence from investors in governance policies, it will also improve the confidence in the company’s equity and stock market stability. This results in an increase in financial and capital market activities, including selling and buying shares. Hence, good governance can ultimately boost the stock market performance.

As defined above in figure 4.2, corruption control plays a very important role in the enhancement or demoralization of investors in any business activity in a country. There is a wide agreement between researchers that across international financial markets, corruption is found to be associated with higher borrowing costs, lower stock valuations, and worse corporate governance. This ultimately affects the transparency of international investments and thus low confidence in the financial system and stock markets. With this deterioration, the confidence will have a negative impact on the equity value of the firm, and with a decrease in the value of firms, that will bring down the stock market index. With the decrease in corruption, high activity in financial and capital markets can be achieved by bringing foreign investment directly into the stock market.

4. Data and Methodology
This study uses five variables that include Karachi Stock Market Index (KSE), Gross Domestic Product (GDP), Governance Indicators Index (GI), Effective Exchange Rate (EER) and Inflation rate (INR), and Political Instability (PS), along with their theoretical and empirical explanations. The data for Karachi Stock Market Index (KSE) is obtained from the official PSX website and yahoo finance. This data is obtained on an annual basis from 1996 to 2018. Data for GI, GDP, INR, and PS are collected with an annual frequency from the World Development Indices from 1996 to 2018 from the World Bank's official website. Since they are the most accurate and often used by any researcher, the data sources listed above were selected.

4.1 Model Specification
To explore the impact of Governance (GI) and political instability (PS), inflation rate (INR), Gross domestic product (GDP), and Effective Exchange Rate (EER) on stock exchange performance.

\[ KSE_t = \beta_0 + \beta_1 GI_t + \beta_2 INR_t + \beta_3 GDP_t + \beta_4 EER_t + \epsilon_t \]
Where
KSE = Karachi Stock Exchange express
GI = Governance Indicator
INR = Inflation Rate
EER= Real Effective Exchange Rate
GDP= Gross Domestic Product
$\epsilon$ = Error Term

5. Results and Discussion
This section shows the empirical analysis of the data regarding governance impact on stock market performance. Along with other controlled variables including effective exchange rate, GDP and interest rate.

5.1 Descriptive and Correlation Analysis
The descriptive statistics and correlation matrix are shown in the following Table 1. Table 1 shows that the average values of all variables of model Karachi Stock Exchange express, Governance Indicator, Real Effective Exchange Rate, Gross Domestic Product and Inflation Rate are 8.787, -0.1356, 104.7515, 4.1775 and 7.6782 respectively. While the maximum values of Karachi Stock Exchange express, Governance Indicator, Real Effective Exchange Rate, Gross Domestic Product and Inflation Rate are 10.7764, 0.0282, 121.4698, 7.546860 and 20.3000 respectively and minimum values of Karachi Stock Exchange express, Governance Indicator, Real Effective Exchange Rate, Gross Domestic Product and Inflation Rate are 6.8514, -0.3701, 95.2734, 1.0143 and 2.5000 respectively. The following table 4.1 also displays the correlation matrix of key variables which is used in our model of lower-income countries.

| Table 1: Descriptive and correlation analysis |
|---------------------------------------------|
| KSE  | GI  | EER    | GDP    | INR    |
|------|-----|--------|--------|--------|
| Mean | 8.787 | -0.1356 | 104.7515 | 4.1775 | 7.6782 |
| Median | 9.1497 | -0.1276 | 102.4354 | 4.3964 | 7.4000 |
| Maximum | 10.7764 | 0.0282 | 121.4698 | 7.546860 | 20.3000 |
| Minimum | 6.8514 | -0.3701 | 95.2734 | 1.0143 | 2.5000 |
| Std Dev | 1.2632 | 0.1091 | 8.1492 | 1.6823 | 4.3547 |
| Skewness | -0.0503 | -0.4555 | 0.6166 | -0.07621 | 1.0610 |
| Kurtosis | 3.6905 | 2.5852 | 2.1755 | 2.2470 | -0.0762 |
| Jarque - Bera | 1.6529 | 0.9602 | 2.1089 | 0.5655 | 5.38687 |
| Probability | 0.4375 | 0.6187 | 0.3483 | 0.7536 | 0.0676 |
| Sum | 202.1158 | -3.1197 | 2408.466 | 96.0836 | 176.6000 |
| Sum Sq.Dev | 35.1049 | 0.26192 | 1461.016 | 63.4482 | 417.191 |

Source: Author's calculations based on data collected from WGI
5.2 Unit Root Test

Table 2 shows unit-roots results of all variables by applying Augmented Dicky Fuller test. Results show that all variables Governance Indicator, Real Effective Exchange Rate, Gross Domestic Product and Inflation Rate, Karachi Stock Exchange express are stationary at 1st difference. So, we are applied Auto Regressive Distributed Lag econometric technique for determining the long-run relationship results.

| Variables | 1st Difference | Results |
|-----------|----------------|---------|
|            | Intercept      | Trends and intercepts | None | Intercept | Trends and intercepts | None |
| GI        | -2.628077      | (0.1026) | -2.620892 | (0.2752) | 0.450620 | (0.8033) | -5.413728* | (0.0003) | -5.955774* | (0.0006) | -5.450350* | (0.0000) | I (1) |
| EER       | -1.681079      | (0.4265) | -1.836793 | (0.6520) | -0.333445 | (0.5534) | -3.157465** | (0.0375) | -3.099374 | (0.1318) | -3.27905** | (0.0023) | I (1) |
| GDP       | 2.220527       | (0.2050) | -2.389430 | (0.3742) | -0.646687 | (0.4255) | 2.220527 | (0.2050) | -5.26468** | (0.0020) | -5.516803* | (0.0000) | I (1) |
| IR        | -2.082881      | (0.2527) | -2.028919 | (0.5544) | -1.290377 | (0.1756) | -5.803903* | (0.0001) | -5.647265* | (0.0009) | -5.873004* | (0.0000) | I (1) |
| KSE       | 1.987808       | (0.9997) | -1.617738 | (0.7524) | 3.036948 | (0.9986) | -5.4027* | (0.0003) | -6.644655* | (0.0001) | -1.547932 | (0.1117) | I (1) |

Note: "***" denotes the significance at the 5% level, and "**"at the 1% level

5.3 Co-integration Bound Test

In order to check whether long-run relations exist between dependents and independent variables. If the F-statistic is above the upper critical value, regardless of the integration orders for the time series, the null hypothesis of no long-run relationship can be dismissed. Conversely, the null hypothesis cannot be discarded if the test statistic falls below the lower critical value. Finally, the conclusion is inconclusive if the figure falls between the lower and upper critical values.

Table 3: Co-integration bound test results

| Variable | F-statistics | Significance at 5% | Significance at 10% |
|----------|--------------|--------------------|---------------------|
|          |              | I(o) Bound         | I(1) Bound          | I(o) Bound         | I(1) Bound |
| KSE      | 9.207        | 2.86               | 4.01                | 2.45               | 3.52       |

Source: Author’s own calculation using E-Views

The above table shows that 9.207 is the F-statistics value, which clearly exceeds even the 1 percent critical value for the upper bound. Therefore, firmly deny the "No Long-Run Relationship" hypothesis. The null hypotheses of no co-integration are thus dismissed, suggesting that among the variables, there are long-term co-integration relationships.

5.4 Auto Regressive Distributed Lag Model Results for the Short Run

In this section, we will discuss the results of ARDL models for Pakistan. This result shows the relationship between governance and Pakistan stock market performance. The findings demonstrate that there is a statistically significant positive relationship between the quality of governance and
stock market performance, with a probability value of 0.0044. It means that a one percent increase in the governance index will bring an 8.18% increase in stock market performance. All other variables Real effective exchange rate, Gross domestic product, and inflation rate, show a positive relationship with Stock exchange performance. The coefficients of the Governance index, EER, GDP, and INR show positive signs, which show that an increase in these variables will bring stock performance upwards.

### Table 4: ARDL Long Run Coefficient

| Variable | Coefficient | Std.Error | T-statistics | Prob  |
|----------|-------------|-----------|--------------|-------|
| GI       | 8.1838      | 2.2921    | 3.5703       | 0.0044|
| EER      | 0.0872      | 0.0259    | 3.3645       | 0.0063|
| GDP      | 0.4583      | 0.1823    | 2.5128       | 0.0288|
| IR       | 0.1204      | 0.0623    | 1.9339       | 0.0793|

Source: Author's own calculations based on data collected from different sources

The results of the model explained that inflation rates showed a significant negative relationship with stock market indexes. Effective exchange rate (EER) at present value, governance at lag 1,2, and 3, and GDP have shown a positive relationship with KSE Index, which shows that increase in governance index and GDP, Governance and EER will ultimately bring positive change in KSE Index.

All four variables Governance, Real effective exchange rate, Gross domestic product, and inflation rate, show a positive relationship with Stock exchange performance. The coefficients of the Governance index, EER, GDP, and INR show positive signs, which show that an increase in these variables will bring stock performance upwards.

The above results show the long-run relationship between the governance index and Stock exchange performance. The findings demonstrate that there is a statistically significant positive relationship between the quality of governance and stock market performance, with a probability value of 0.0044. It means that a one percent increase in the governance index will bring an 8.18% increase in stock market performance.

Coefficients of the governance index variable (GI) are positive and significant at 1%, indicating the governance policy whether it is related to political stability, corruption control, or the rule of law. Hooper et al. (2009) result also examined the positive, significant relationship between stock market performance and quality of governance.

Our second variable result shows the long-run relationship between EER and Stock exchange performance. The findings demonstrate that there is a statistically significant positive relationship between EER and stock market performance with a probability value of 0.0063. It means that a one percent increase in the governance index will bring a 0.0875% increase in stock market performance.
Our third variable result shows the long-run relationship between GDP and Stock exchange performance. The findings demonstrate that there is a statistically significant positive relationship between GDP and stock market performance with a probability value of 0.0288 percent. It means that a one percent increase in the governance index will bring a 0.45% increase in stock market performance.

The short-run coefficients of the GDP growth variable (GDP) are positive and highly significant, indicating that economic growth is a major factor in stimulating investment. The result justifies the argument that a conducive economic environment enhances investment activity in the economy. Better economic condition through an increase in income is a signal of optimism and leads to high rates of investment [DeLong and Summers (1992); Blomstrom, et al. (1996); Booth (1999); Ghura and Goodwin (2000); Krishnaa, et al. (2003)]. It also matches the results from analysis from Dimson, Marsh, and Staunton, the Schroders Economics team (2017), which found that over the past sixty years, there has tended to be a positive relationship between GDP growth and equity market returns during the recovery, expansion, and slowdown phases of the traditional business cycle.

Our latest variable results show the long-run relationship between inflation rate and stock exchange performance. The finding demonstrates that there is a statistically significant positive relationship between the Inflation rate and stock market performance with a probability value of 0.0793, which shows it is significant at 10%. It means that a one percent increase in the governance index will bring a 0.45% increase in stock market performance. This result is inconsistent with previous studies that showed that inflation has a negative impact on the stock market index. The inflation did not have a negative impact on the stock market because, in Pakistan the stock market is dominated by the major players like the stock broker and other big investors, and inflation does not affect those investors Waseem Ahmad et al. (2014).

| Variable | Coefficient | Std.Error | T-statistics | Prob |
|----------|-------------|-----------|--------------|------|
| D(GI)    | -0.8636     | 0.9837    | -0.8779      | 0.3988 |
| D(GI(-1))| 2.6337      | 0.9136    | 2.8825       | 0.0149 |
| D(EER)   | 0.0266      | 0.0122    | 2.1704       | 0.0527 |
| D(GDP)   | 0.0491      | 2.8440    | 2.8440       | 0.0160 |
| D(IR)    | 0.0890      | 0.0226    | 3.3977       | 0.0023 |
| CintEq(-1)| -0.3051    | 0.0928    | -3.2865      | 0.0072 |

Source: Author's own calculations based on data collected from different sources

In the short run, the Governance index has had a significant impact on stock exchange performance with a time lag of one. Similarly, the real effective exchange rate is also significant at the 5% level and has a positive short-term impact on KSE. Further, GDP also shows a significant and positive relationship with KSE. Inflation rates are also showing positive short-run relationships. Inflation also shows a positive and significant relationship between Inflation and KSE.

Further, a significant and negative value in CointEq indicated the existing long-run relationship in the model. A value of -0.3051 shows the speed of adjustment may be seen as 30.5%, which is on the slower side. The results suggested that any shock in these variables would be offset -0.3051 times.
5.5 Granger Causality Test

Through the Granger causality method, the structures of the causal relationships between variables were analyzed. The Granger causality test is a statistical hypothesis test to assess if it is useful to predict another series.

| Null Hypothesis:                        | Obs | F-Statistic | Prob. |
|-----------------------------------------|-----|-------------|-------|
| GI is not Granger Cause KSE             | 16  | 3.20010     | 0.0618|
| KSE does not Granger Cause GI           |     | 1.0693      | 0.4264|

Source: Author's own calculation using E-Views

In table 6.7 above, when four lags are applied, the null hypothesis that GI does not Granger cause KSE can be rejected at a 10% level of significance, and accept the alternative hypothesis that GI does Granger cause KSE. On the other hand, the null hypothesis is that KSE does not Granger cause GI has a significance level of 0.1220. Thus, accept the null hypothesis that KSE does not Granger cause GI. The above table shows uni-direction causality from GI to KSE, and no bi-directional causality is found.

6. Conclusion and Recommendation

This research emphasizes the quality of the governance Index and political stability and its impact on Stock market performance in Pakistan. The core purpose of this research is to find the relationship between the quality of governance, political stability, and stock market performance.

For this reason, 22 years of data is taken from 1996 to 2018. The data is being collected from different sources. The Governance Index, calculated by taking geometric means of six indicators, namely, Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption, is taken from World Bank Governance Indicator DataStream. Stock market index data was taken from Yahoo Finance. Other Variables, GDP, Inflation rate, and Exchange rate, are taken from World Bank Development Indicator Data.

The augmented Dickey-Fuller (ADF) test is applied to check the unit-roots/stationarity of the data. Further, to check the short-run relationship between the stock market index, governance, and political stability ARDL integration technique is used. The ARDL integration technique determines the long-run relationship between series with different orders of integration. Pesaran and Shin (1995) and Pesaran et al. (1996b) proposed an Autoregressive Distributed Lag (ARDL) approach to co-integration or bound procedure for a long-running relationship, irrespective of whether the underlying variables are I (0), I (1) or a combination of both. ARDL is further used when the sample data size is small (n≤ 30) or finite, the ARDL error correction representation becomes relatively more efficient. The major advantage of this approach lies in its identification of the co-integrating vectors where there are multiple co-integrating vectors. The ARDL technique provides a unified framework for testing and estimating the co-integration relations in the context of a single equation. To check the long-term relationship between variables, Bond Test is applied.

The study reveals that the quality of political stability and governance as captured by Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory
Quality, Rule of Law, and Control of Corruption significantly affect stock market performance and have a positive relationship with stock market performance. The results demonstrate that quality of governance is statistically significant with stock market performance, consistent with Hooper et al. (2009). This indicates that strong stock market performance is largely a result of an efficient institutional environment. Besides, investors who are not risk lovers would like to invest in countries with mean-variance efficiency. Good governance is even more important in reducing the transaction costs inherent in business operations than in compelling investors to provide more equity finance to firms. This is supported by the higher shareholder returns in countries with better governance systems. If the quality of legal institutions is considered a sub-set of the quality of governance, then the results are consistent with Lombardo and Pagano (2000).

It is recommended that government policymakers should develop policies that create a friendly business environment where investors feel relaxed with the legal and financial framework of the country. The first measure is the assurance of political stability in the country. The government of Pakistan must pass a law that protects foreign investors’ interests from changing government policies. The government must make efforts to control volatility in the exchange rate and inflation rate through effective monetary policy measures. Political stability must be the first and foremost priority of the government of Pakistan if they want to achieve the above-mentioned objectives. The results of this study cannot be generalized to all developing countries because all countries have their own local changing aspects.

Therefore, policies that improve the condition of the governance of a country should be pursued moderately since it has an important impact on the equity market. The findings of this study highlight the importance of the political dimension and thus imply that political reform deserves urgent policy attention in countries with weak political structures. This surely deserves attention in future research.

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