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Dynamics between disaggregates of governance and stock market performance in selected South Asia countries

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Abstract

This study explores the dynamics between disaggregated factors of governance and stock market development for the panel of selected South Asian countries (i.e., Bangladesh, India, Pakistan and Sri Lanka). Using newly developed data for disaggregates of governance with annual frequency between 1996 and 2014, this study pioneers in South Asian context. Doing so, this study incorporates dynamic panel data technique pool mean group estimation for robust and policy oriented outcomes. The empirical results show that three indicators of governance (control of corruption, accountability and rule of law) have a positive and statistically significant impact on stock market development. The results of long-run estimations are homogenous across the countries but, the short-run estimates, and the speed of adjustment towards the long-run equilibrium are found to be heterogeneous. It could be due to volatility effect of governance in each cross section country. From the policy perspective, the study concludes that the institutional quality and governance are the significant factors on market capitalization in the panel countries. The institutional factors (i.e., control of corruption, accountability and rule of law) support stock market development through high market capitalization, strengthens investor's confidence for long term investment in the countries.

KEYWORDS

Governance, panel ARDL, pooled mean group estimation (PMG), stock market development

JEL CLASSIFICATION

G1; O16

1 | INTRODUCTION

Governance narrates the institutional provisions that reign the financial markets. These establishments form legitimate political and regulatory entities that give cohesion and order to exercises business practices in the best interest of public and economy. The impartial working of legal procedure, level of political dependability, extent of organized corruption, and responsibility are the key determinants of governance that characterize the nature of these establishments and their capacity to regulate financial markets. Consequently, the institutional quality has absolute effects on the firms' interaction, quality of institutions and the associated transaction cost.

Over the past few decades, the global economy has observed consistent increase in the market share of developing countries. The fundamental reforms in the financial structure of developing and emerging economies are the key attributes behind such trend. It likewise causes capital streams from developed to developing economies.

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Different measures shown that stock market development to GDP ratio in developing economies grew from 10 to 60% between 1990 and 2015 (World Bank, 2015). However, this sustained financial sector development in developing economies is associated with the overall improvement in level of governance in the country.

Many studies inspected the effects of macroeconomic factors on the development of stock market in developing economies. However, research on the impact of governance on stock market development is still being developed. Consensus of such studies about governance indicators impacts on the improvement of stock markets brings up an important issue on 'what part does governance play in affecting market performance'. Similarly, it raises another important question that to what extend the governance is prioritized in the long-range policy plans in developing and emerging economies. For example; Eita (2015) considers 'reinforcing the property' as one of the governance indicators and established that it boosts investor's trust to invest more in stock market. Furthermore, her results conclude that equity investment is more attractive for investors as political risk diminishes. These findings confirm the argument of Perotti and Van Oijen (2001), who found that the improvement in institutional quality significantly increase the stock market performance.

The findings of previous literature on the legal framework and corporate finance nexus is closely related to the findings on the linkages between governance and stock market performance. As indicated by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997); countries with weak legal frameworks and law enforcement have a tendency of small and immature capital markets. Therefore, listed firms in these countries tend to have more concentrated ownership. Studies conducted on South Asian stock market were assessed stock market development by various macroeconomic factors, such as GDP, cash supply and costs, interest rate, among others. These research works did not give any more emphasis on governance indicators as potential determinants of stock market development.

Considering the importance of governance on financial performance, we empirically examine the linkages between disaggregated indicators of governance and stock market performance in case of four South Asian countries. For this purpose, for the first time, we use newly developed data on the disaggregates of governance over the period between 1996 and 2014 and empirically examine their impact on stock market development in selected South Asian countries. The rationale behind the selection of South Asian countries (Bangladesh, India, Pakistan and Sri Lanka) is their robust economic growth and their increasing governance issues in the region. Furthermore, the region is expected to achieve 7.1% GDP growth target in 2016 and picking up to 7.3% in 2018 (World Bank, 2016). The recent Institutional Quality Index (IQI, 2017) studied 190 countries around the globe where, Bangladesh, India Pakistan and Srilanka ranked 158, 90, 152 and 107, respectively. This notion further necessitates the conduct of this research to determine that to what extend governance limit region's potential growth performance via stock market.

For empirical setting, unlike previous studies, this study uses recently developed dynamic Panel heterogeneity model developed by Pesaran, Shin, and Smith (1999). For long- and short-run dynamics between disaggregates of governance and stock market development, we particularly use auto-regressive distributed lag (ARDL) model in panel. The short- and long-run dynamics determined in this study are unique in a way that it incorporates pooled mean group (PMG) estimation technique. This technique possesses a distinct feature of rendering consistent estimates even if there is endogeneity in the time series because, it includes lags of all underlying variables (Pesaran et al., 1999). The robust econometric analysis enables us to determine the contribution of governance indicators to the stock market development in South Asian countries. However, the key purpose of this study is to empirically examine the impact of diaggregates of governance on the stock market development in selected South Asian economies (Bangladesh, India, Pakistan and Sri Lanka). The findings possess deep policy implications and reliable for policy control.

2 | LITERATURE REVIEW

To ensure the economic and financial development in any economy, Governance is the major and highly significant concept. It is utilized by different national and international development associations (i.e., United Nations, World Bank and Interntaional Monetary Fund [IMF]) to assess the current position of developing nations. Over the past, extensive literature is available on the relationship between governance and severa; indicators of development. For instance, Cule and Fulton (2013) found that with the moderate level of bureaucracy and a high concerns for proper regulations to control the corruption is suppose to create an effective and business friendly environment that further boost the overall economic landscape.

La Porta et al. (1997) suggest that enhancing corporate administration controls, the implementation and the nature of accounting codes yield high confidence on equity financing in the organizations. Legal factor directly influences the capital formation through organization's managerial capacity to mobilize capital at higher

level and allows shareholders to observe organizations's performance at lower level. Supportive legal framework has ability to enhance the capital formation, so the risk-averse investors are inclined to channel towards firms. Aggarwal, Klapper, and Wysocki (2002) studied the impact of corporate standards and legal environment in managing funds and investments. In addition, Bhattacharya and Daouk (2002) support the same argument.

The previous researches on governance were centred on firm level organization costs emerging from the control delineation and ownership structure of firms. The pioneering work of Jensen and Meckling (1976) introduce the conceptual framework to develop the relevant literature. It was discovered that level of agency cost depends on common laws, statutory laws and human skills while devising the contracts. Sophistication and contractual laws, both are relevant to modern corporations. These products are strong incentives for individuals to minimize agency cost. Apart from agency cost, transaction cost appears as another source of interaction between firms and institutions under a neoclassical economic theory. This notion has been ignored of market oriented views of economic regime. Coase (1992) opines that an economy can achieve its potential production in presence of transaction cost by the distribution of legal rights among economic agents. Better governance environment boost up shareholder returns by lowering the transaction and agency cost (Hooper, Sim, & Uppal, 2009).

In recent studies, focus of firm specific governance has been shifted towards country specific governance, such as: Agbor (2011), Asongu (2012, 2014), La Porta et al. (1997), La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998), Shleifer and Wolfenzon (2002), Zubair and Khan (2014), and Mazhar and Goraya (2015). The existence of sound judiciary system in a country will strengthen all other sub-governance structures (Chen, Chen, & Wei, 2009; Hooper et al., 2009).

Klapper and Love (2004) found a positive effect of governance on stock market performance and valuation. Firm level governance is important on a micro level in countries where investor's rights are poorly protected. Weak judiciary system can be one of the reasons. They stated that firm level governance cannot substitute the weak legal system. Cross country studies put emphasis on the quality of corporate governance and its legal enforcement in the area of finance. Aggarwal et al. (2002) study the similar phenomenon and conclude that mutual funds manager invest more in countries which has a strong legal environment and efficient corporate governance standards. In case of emerging countries, based on a sample of 42 countries over 1990–2004, Yartey (2008) concluded that Governance improves stock market development. Results are also confirmed by Eita (2015). By distinguishing the long run and short run effect of Governance indicators on stock performance in Nigeria, Ajide (2014) used a time series data from 1996Q1 to 2010Q4 and found mixed effects.

In addition, it is revealed that stock market and financial intermediaries are complements to each other in the development outcome process. Hooper et al. (2009) tested the impact of governance for G7 countries on stock market development by utilizing the International Asset Pricing model. Results demonstrated that better governed economies have lower level of idiosyncratic risk with a high equity returns. Asongu (2012) also suggested that countries with good quality governance dynamics favor stock market with higher value in shares traded, higher market capitalization and higher turnover ratios. According to Low, Kew, and Tee (2011), positive impact of governance on stock market performance is aligned with demand centred view. This view argues that good quality governance leads reduction in transaction cost of business operations and increase stockholders returns. This is done by higher equity finance demand.

The study by Naceur and Ghazouani (2007), comprising 12 Middle Eastern and North American region countries used fixed and random effects panel data estimation techniques. Their findings showed that financial intermediaries, saving rate, stock market liquidity and stabilization considered as important factors of stock market development. For instance, Harvey (1995) found that advance countries have strong governance than poor economies. Developing economies have highly volatile stock returns with high equity risk premiums. Later his findings were supported by Albuquerue and Wang (2008) while calibrating Dynamic stochastic general equilibrium model on United States and Korean economies. Their results revealed that managing investor protection elevated 22% in stock market value, in return shareholders are agreed to pay 11% of their capital. Lombardo and Pagano (2000) conducted the cross-sectional analysis for the panel comprising of both developing and developed countries to investigate the link between equity returns and institutional quality. Using multiple measures of equity returns and institutional quality, their study conclude strong positive correlation between both the determinants. For equity returns their study used the measures, that is, dividend yields, IPO and earning-price ratios.

Furthermore, La Porta et al. (1998) for the first time used the 'rights of shareholders' as an indicator and conclude that the rights were uncorrelated with the return on equity according to the findings of Lombardo and Pagano (2000). This might because of the fact that, constructed index by La Porta et al. (1998) has not captured all aspects of the regulatory apparatus and the legal codes which determines the degree of protection of

shareholders' rights discussed by Coffee Jr (1999). There is a need to establish a fair level playing field in transition economies by the policy makers to assure the focus of attention of investors on exploiting opportunities for growth without any fear of their property rights to gain the benefits from market oriented reforms, emphasizing by Johnson and Shleifer (1999). Their views were confirmed by the study of Lombardo and Pagano (1999). Their work also contributes that for the determination of the expected return on equity, from expected auditing, monitoring and other enforcement costs, there is a need of compensation provided to the global investors. Tunyi and Ntim (2016) study the impact of governance quality on stock market development in case of 15 African countries and found the positive and significant impact. A similar study is conducted by Cherif and Dreger (2016) and found identical results for African countries. Paramati, Ahmed, and Shi (2019) empirically investigate the impact of institutional quality on stock market development and price volatility in ASEAN+3 countries and found institutional quality as strong determinant for stock market development on the region. Thus, the institutional quality has emerged as a driving force for oveall financial development in emerging and developing countries (see Kong, Xiang, & Zhang, 2019).

In context to above discussion, our study is unique and first of its kind that examine the possible effect of diaggregates of governance on stock market development for the selected South Asian countries both in panel and individual effect, by using the Dynamic Panel ARDL model. Time series and cross-sectional analysis both having shortcomings in analyzing the cross country data. Therefore, literature urges to undertake panel data to examine the time series analysis along with cross-sectional analysis for the policy control purpose (Eita, 2015; Hooper et al., 2009; Yartey, 2008). In contrast to our study, all these studies used tradiotional methods of estimation (i.e., random- or fixed-effect methods). As far as methodology and empirical technique is concerened, this study avoids several limitations that literature points-out. For example; our modeling technique neither use averages for the country specific data to avoid the trend effect not it necessitate the similar order of integrationas mentioned in Pesaran (1997) and Pesaran and Smith (1995).

This study uses the time series data for the panel of selected south Asian countries (i.e., Bangladesh, India, Pakistan and Sri Lanka) over the period of 1996–2014, and empirically examine the dynamic relationship between the disaggregates of governance and stock market development. The data is gathered from the multiple sources (i.e., World Wide Governance Indicator,[1] World Development Indicators,[2] Asian Development outlook, Bloomberg and each country's Stock Exchange).

3 | DATA METHODOLOGY AND MODELING

3.1 | The dependent variable and control variable

The Stock market development is the dependent variable and measured through market capitalization. We take in consideration a range of exogenous variables which typically used in the stock market development literature: The real GDP growth rates across countries over time, real interest rate, Money supply M2, and foreign direct investment which capture the dynamics features of internationalization that could influence the stock market activity, exchange rate and inflation rate taken as proxy for a macroeconomic stability. However, when all the variables in regression analysis, and several turned out as insignificant. Therefore, we proceeded to eliminate one by one the insignificant exogenous variables (The complete results are available on demand).

3.2 | Measures of governance

Any country's economic growth is also influenced by the processes of government selection, monitoring and replacement; governmental capacity to implement and formulate policies and procedures effectively; respect of nation's people and state of institutions which manage economic and social interactions. There are six governance indicators which measure the governance level for the countries (Kaufmann, Kraay, & Mastruzzi, 2009). These governance indicators are described as:

i. Voice and accountability (TVA): It measures the level of citizens' participation in selecting the government, independence of media and the level of freedom of expression in a country.
ii. Political stability and absence of violence/terror (TPSAV): This dimension addresses the probability of destabilized government due to violent or illegal acts in which politically motivated terrorism and violence are also included.

iii. Government effectiveness (TGEF): This dimension captures the perceptions regarding quality of civil and public services, level of independence, level of these services from political pressure, quality of formulation and implementation of these policies and government's credibility regarding commitment for these procedure policies.

iv. Regulatory quality (TRQ): It measures the extent to which governmental ability for formulation and

TABLE 1 Descriptive statistics

	TMC	TVA	TPSAV	TGEF	TRQ	TRL	TCC
Mean	23.845	1.460	1.853	1.248	1.287	1.306	1.350
Median	23.739	1.449	1.553	1.194	1.218	1.246	1.224
Maximum	28.229	2.320	3.810	1.860	2.100	2.200	2.490
Minimum	20.391	0.999	0.997	0.995	0.999	0.998	0.997
SD	2.104	0.281	0.698	0.222	0.256	0.275	0.355
Skewness	0.434	0.808	1.009	1.373	1.688	1.843	1.796
Kurtosis	2.502	4.436	3.401	4.435	5.663	6.345	5.877
Jarque–Bera	3.089	14.417	13.058	29.615	57.061	76.403	65.315
Probability	0.213	0.000	0.001	0.000	0.000	0.000	0.000
Sum	1764.559	108.086	137.139	92.404	95.261	96.701	99.914
Sum Sq. Dev.	323.248	5.779	35.643	3.602	4.815	5.531	9.228
Observations	74	74	74	74	74	74	74

implementation of effective policies and regulatory framework which allow and support development of market activities.

v. Rule of law (TRL): This dimension captures the level of confidence and acceptance of the societal rules by the nation's people, quality of contractual enforcement and their interaction with all institutions that support in governing those interaction.

vi. Control of corruption (TCC): This dimension captures the perception about the level to which public power is used to obtain private gains. It includes both forms of corruption: grand and petty corruption.

Descriptive statistics are presented in Table 1 and the trend in the variables is shown in Figure 1.

3.3 | Static panel models

The general framework of panel data is briefly discussed in this section. The later section enumerates the methodology and econometric techniques employed in this study along with brief comparison to standard methods used in past studies. However, for detailed statistical properties and modeling of panel ARDL model with PMG estimator, see Pesaran et al. (1999). The standard panel models like fixed effects models, random and pooled OLS have some limitations. Such as pooled OLS considered as highly restrictive model due to its imposed condition of slope co-efficients and constant term across the cross-sections and ignores the heterogeneity at individual level.

Moreover, the fixed-effect models consider that the estimator has country specific intercepts but common slope and variances. By putting dummy variables, time variant and cross section effects combine be observed in a two dimensional fixed-effect models. In such modeling technique, estimator may loose the required degree of freedom. Furthermore, the fixed-effect model does not resolve the problem of endogenity biasness due to time varying unobserved effects and due to time varying measurement error simultaneously (Campos & Kinoshita, 2008). Random-effect model is least restrictive than fixed-effect model concerning the degree of freedom because it assumes common intercept. However, it assumes the model a time invariant while error to be uncorrelated over the past that is referred as strict exogenity (for details see. Arellano, 2003). It is for notice that this process proves to be void as error at any point of time is oftenly correlated with the past items. Furthermore, the static panel does not capture the long run and short run dynamics simultaneously and conventionally. It assumes the homogeneity in estimates of the lagged dependent variables (Holly & Raissi, 2009). Biased results will generate because of heterogeneity in cross sectional dynamics.

At the end, static panel methods are not capable to analyze the dynamics of the data. It is a basic problem in stock market development literature. Additionally, the estimators could only probe structural-heterogeneity but, may create common slope-coefficients for all cross-sections in random and fixed-effects models though there may be substantially variance.

3.4 | Dynamic panel models

In case the data set has more cross sections (N) relative to time (T), Roodman (2006) proposes to use the estimator

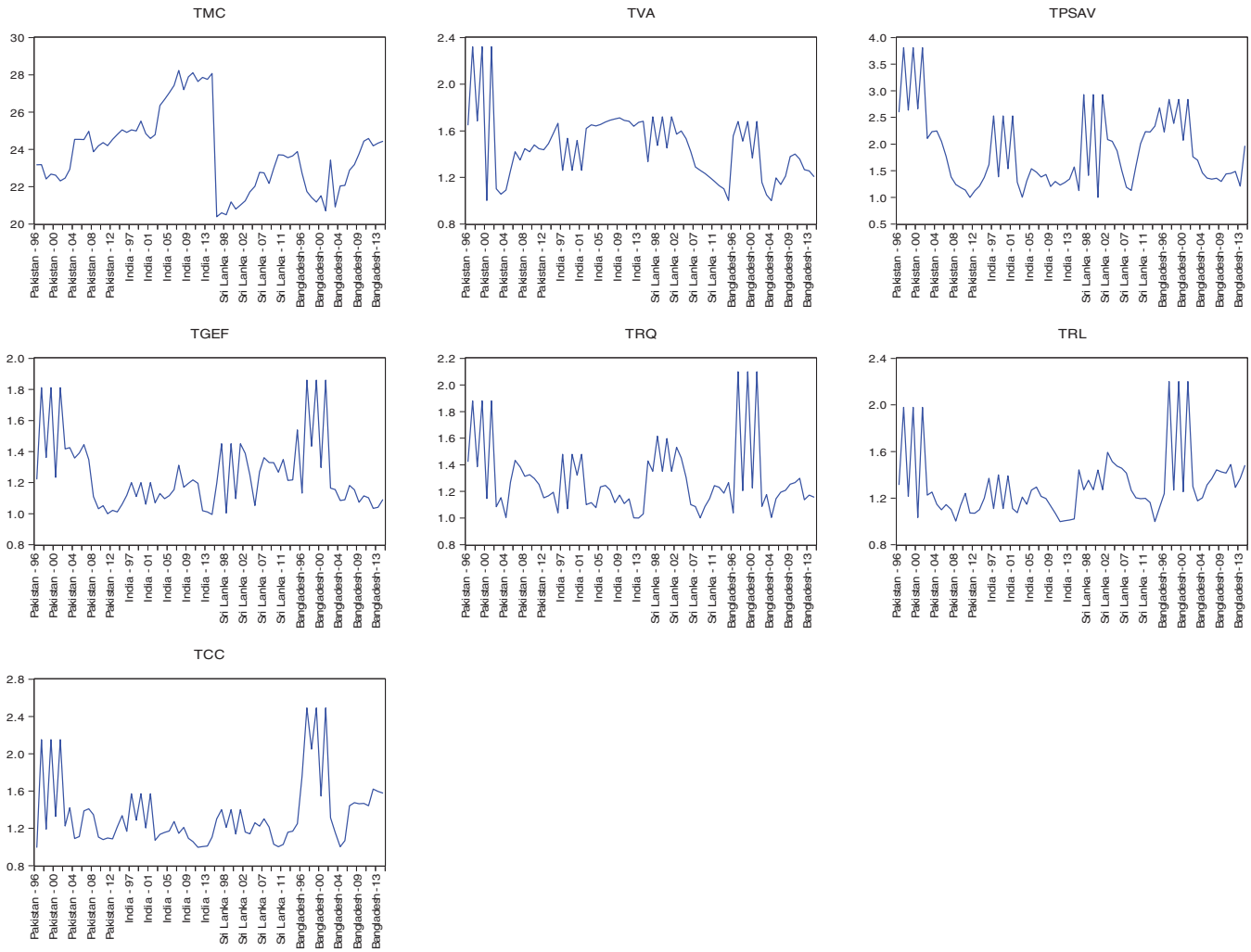

FIGURE 1 Graph for variables of the model [Colour figure can be viewed at wileyonlinelibrary.com]

after taking the difference in GMM setting, a method developed by Arellano and Bond (1991). Otherwise, the results may be spurious due to two key reasons. Firstly, small N may leads to the problem of auto-correlation. Secondly, as the larger T allows the larger instruments and subsequently results in validating the 'Sargan-test[3]'. It may reject the null hypothesis of instruments' exogenity. GMM estimates are restricted to short-run dynamics effect and unit-root in the series is ignored. So, the structural long run equilibrium effects are doubtful (Christopoulos & Tsionas, 2004). The assumption of homogeneity on estimates of lagged dependent variables in GMM setting is expected to cause biasness unless they are same (Kiviet, 1995; Pesaran & Smith, 1995; Pesaran, 1997; Pesaran & Shin, 1999). Pesaran et al. (1999) developed the dynamic panel regression model with heterogeneity in which error-correction model (ECM) can be incorporated by using $\mathrm{ARDL}_{p,q}$ method, where 'p' and 'q' are the lag of the dependent variable and independent variables, respectively. It can be specified as:

$$\Delta SMD_{it} = \sum_{j=1}^{p-1} \gamma_j^i \Delta SMD_{i,t-j} + \sum_{j=1}^{q-1} \delta_j^i \Delta X_{i,t-j} + \varphi^i \left[\mathrm{SMD}_{i,t-1} - \left\{ \beta_0^i + \beta_1^i \mathrm{X}_{i,t-1} \right\} \right] + \varepsilon_{it} \tag{1}$$

Where SMD stands for stock market development, X for six disaggregated indicators of governance, γ and δ denote the short-run co-efficients of leg dependent regressor and regressant, respectively. β's represent the long-run estimates, and φ is the estimate showing the speed of adjustment towards the equilibrium. Whereas, i and t represent the cross-section and time, respectively. In Equation (1), the square bracket term represents the long-run equation and can be expressed by the following equation:

$$\mathrm{SMD}_{i,t} = \beta_0^i + \beta_1^i \mathrm{X}_{i,t} + \mu_{it} \text{ where } \mu_{it} \sim I(0) \tag{2}$$

Equation (1) can be estimated by the PMG estimator given by Pesaran et al. (1999). Pesaran and Smith (1995),

Pesaran (1997) and Pesaran and Shin (1999) introduced a new co-integration test called ARDL model with error-correction method. But here the need is to render the reliable and unbiased estimates to capture long run effects. Johansen (1995) and Phillips and Hansen (1990) state a long term relationship exist only when order of integration is same among variables. Pesaran and Shin (1999) preferred panel ARDL model as it can be use even with variables not having the same order of integration or a mixture of it and make unit root testing unnecessary. In addition, the large number of cross-section and time line help to explore the long- and short-run effects. Subsequently, the ARDL model with PMG estimator gives consistent estimates free of endogeneity problem because it uses lag function for all underlying variables (Pesaran et al., 1999).

3.5 | PMG model

The PMG gives a unique and meaningful intermediate alternative for both random and fixed effects models. It necessitates the common long-run estimates for each cross-section and allow intercepts, short-run coefficients and error-correction term (ECT) towards long-run equilibrium under heterogeneous variance. It has more practical advantage when it is expected to have long-run equilibrium relationship for same or atleast at sub-group level. However, short run adjustments differ freely across groups due to the impact of external shocks, financial crises and different stabilization and economic policies.

Further, PMG estimator have several requirements for its validity and reliability.

i. To confirm the long-run association among the underlying variables, the coefficient of ECT is required to be negative with numerical value not less than 2.
ii. An important criterion for the consistency of the ARDL model is to treat independent variables as exogenous where the residual of the ECM should not correlate.
iii. The relative size of T and N need to be greater in order to be useful for dynamic panel data technique. It overcomes the bias in the average estimators. Therefore, if these conditions of heterogeneity are not fulfilled it will produce unreliable estimation in PMG.

Equation (1) is estimated with PMG. As we have taken developing countries in our study, we expect the sample should be homogenous relating to stock market development and governance. However, because of the effect of local regulatory laws it is restricted to be country-specific heterogeneity in short run. More efficient estimates are offer by PMG estimator in comparison to the other estimators assumed to be homogenous in the long run. In addition, this study has taken a 19 years data set. The ARDL lag structure should be examine by some reliable criterion. Thus, we used auto select lag structure based on Akaike Information Criteria (AIC) for the market capitalization and diaggregates of governance in six dimensions. The correlation matrix is presented in Table 2.

4 | RESULTS AND DISCUSSION

This section elaborates the results based on the methodology outlined in the previous section. The recent relevant literature argues that the panel unit-root test possesses high power in comparison to perform a separate unit-root test for each cross-section because the presence of different cross section generates multiple series instead of single series. Thus, we chose to use Im–Pesaran–Shin panel unit-root test proposed by Im, Pesaran, and Shin (2003) over different types of panel unit root tests available, that is, Levin, Lin, and Chu (2002), Breitung (2001), Fisher-type tests using ADF

TABLE 2 Correlational matrix

	$\ln TMC_{it}$	$\ln TVA_{it}$	$\ln TPSAV_{it}$	$\ln TGEF_{it}$	$\ln TRQ_{it}$	$\ln TRL_{it}$	$\ln TCC_{it}$
$\ln TMC_{it}$	1						
$\ln TVA_{it}$	0.1460	1					
$\ln TPSAV_{it}$	−0.408	0.337	1				
$\ln TGEF_{it}$	−0.410	0.365	0.783	1			
$\ln TRQ_{it}$	−0.431	0.470	0.609	0.704	1		
$\ln TRL_{it}$	−0.471	0.453	0.492	0.683	0.787	1	
$\ln TCC_{it}$	−0.372	0.362	0.615	0.703	0.744	0.786	1

TABLE 3 Results of unit root test

Variables	Level	First difference
$\ln TMC_{it}$	1.774 (0.962)	−4.006* (0.000)
$\ln TVA_{it}$	1.041 (0.851)	−2.609* (0.004)
$\ln TPSAV_{it}$	0.260 (0.602)	−2.464* (0.006)
$\ln TGEF_{it}$	0.499 (0.691)	−2.204* (0.013)
$\ln TRQ_{it}$	0.803 (0.789)	−3.862* (0.000)
$\ln TRL_{it}$	0.141 (0.556)	−3.482* (0.000)
$\ln TCC_{it}$	0.055 (0.522)	−3.482* (0.007)

*Significant at 1% level of significance.

TABLE 4 *p*ARDL long run results

Dependent variable: market capitalization ($\ln TMC_{it}$)				
Variable	**Coeff-**	***SE***	***t*-Stats**	**Pr.**
Long run equation				
$\ln TVA_{it}$	6.681	0.417	16.022	0.000
$\ln TPSAV_{it}$	−1.260	0.192	−6.534	0.000
$\ln TGEF_{it}$	−5.265	0.507	−10.366	0.000
$\ln TRQ_{it}$	−5.839	0.713	−8.181	0.000
$\ln TRL_{it}$	5.836	0.655	8.905	0.000
$\ln TCC_{it}$	0.401	0.1861	2.155	0.037

and PP tests (Maddala and Wu (1999) and Choi (2001). The main reason to do so is because it allows for heterogeneous coefficients and requires to specify appropriate lags and deterministic terms for each cross-section ADF equation. Individual constant and trend terms can also be included. Unit root test results are presented in Table 3.

Since all the variables are stationary at first difference, the static panel models produce invalid results. To overcome this problem, we need to move towards dynamic panel models such as Panel ARDL model which explain the short-run and long-run effects of all the variables in the model.

Table 4 reports the long run static results of Panel ARDL Pooled mean group estimation model. Out of six components of Governance index, three comply with the theoretical prediction. These include control of corruption (CC), voice and accountability (VA) and rule of law (RL). Variation however, exist in terms of theoretical signs of variables but all the components appeared as significant. A marginal increase in the unit of corruption control will make share prices to command much higher market capitalization than the situation when corruption was made to thrive. A unit increase in the coefficient of CC will exert greater influence by 40% in market capitalization. The level of VA and RL increase the market capitalization 6.68 and 5.84% respectively and exert a positive impact on market capitalization.

The contrary sign on the coefficient of Political instability (−1.26) confirming the declining impacts on the market capitalization. This is possible in a sense as no country or individual wants to invest in a country which is facing a political turmoil. Results are partial consistent with further, the deficient in the Regulatory Quality and Government Effectiveness imposes a significant negative impact on the market capitalization. Results show the poor performance of governments in improving the overall system of governance. Consistent improvement can be seen in the VA indicator but PS and GE declining over time. Although slight improvement has been witnessed in RQ indicator in south Asian countries but this trend is declining as compared to India and Sri Lanka. South Asian countries going through many political turmoil phases' in terms of their change in political structure which will lead to continuous policy changes. Successive governments have limited visions to the time they are in power and pay little attention to the institution building.

GE is linked with bureaucratic efficiency and economic management. Due to government with its extra ordinary power, army or police enforcement, damages the human welfare intentionally. Violation of comparative advantage principle is the cause of frequent government failures. Direct participation of political bodies in economic activities, Subsidies and regulations (especially enforcement of contracts) are some of violations which leads towards failure of government in these emerging economies. Government behaves according to the social cost and benefit as a result of absence of proper mechanism. Although after the implementation liberalization policy in 1990's, market to international investors were announced which boost the bullish trend. This trend is persistent in India but for the rest of three countries market capitalization and value traded in GDP is still very low.

Opposite theoretical results of RQ are also plausible as it inhibit the market activity. With limited visions of governments they pay less heed to institution building and the benefits gets in the long horizon. Regulatory institutions in the sampled countries are defunct organizations and their effective functioning is hampered by interference of central powers and bureau. Regulatory intrusion is noticeable for its various negative effects including deterrence of domestic and foreign investment (Fischer, Alonso-Gamo, & Von Allmen, 2001), Corruption, less democratic government and informal activities (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2002).

Table 5 represents the short run dynamics associated with ARDL. The coefficient of ECT (−1) shows speed of

TABLE 5 Short run results

Dep-variable ($\Delta \ln TMC_{it}$)				
Variable	**Coeff-**	***SE***	***t*-Stats**	**Pr.***
ECT (−1)	−0.309	0.0276	−2.121	0.026
$\Delta \ln TVA_{it}$	−3.573	1.044	−3.422	0.001
$\Delta \ln TPSAV_{it}$	0.756	0.259	2.919	0.006
$\Delta \ln TGEF_{it}$	1.752	1.052	1.664	0.104
$\Delta \ln TRQ_{it}$	−0.831	0.726	−1.145	0.259
$\Delta \ln TRL_{it}$	0.749	0.738	1.014	0.316
$\Delta \ln TCC_{it}$	−1.511	0.521	−2.897	0.006
C	6.843	5.933	1.153	0.256
Diagnostic tests				
Mean dependent var	0.146		*SD* DV	0.682
SE of regression	0.351		AIC	0.639
Sum squared resid	4.455		SCB	1.822
Log likelihood	14.353		HQC	1.111

TABLE 6 Wald test for long run relationship confirmation

Wald test:			
Test stats	**Value**	***df***	**Pr**
F-stats	801.387	(6, 36)	0.000
Chi-square	4,808.322	6	0.000
Null hypothesis: (1) = $C(2) = C(3) = C(4) = C(5) = C(6) = 0$			
Normalized restriction (= 0)		Value	*SE*
$C(1)$		6.6816	0.417
$C(2)$		−1.260	0.192
$C(3)$		−5.265	0.507
$C(4)$		−5.839	0.713
$C(5)$		5.836	0.655
$C(6)$		0.401	0.186

Note: Restrictions are linear in coefficients.

adjustment from short run to long run equilibrium. The value of error correction coefficient (−.309) is negative and statistically significant. It shows that speed is properly convergent towards long run equilibrium and the forcing variables remain same in the long run. Out of six Governance indicators, the impact of VA, political stability and CC are stand out prominently as they are statistically significant but VA and CC are with opposite theoretical signs. While the other remaining indicators remain statistically insignificant.

The model findings are checked for robustness using Wald test and the findings are reported in Table 6. The results show that all the explanatory variables are significant.

TABLE 7 Cross section short run coefficients

Pakistan				
Variable	**Coeff-**	***SE***	***t*-stats**	**Pr. ***
ECT (−1)	0.243	0.004	57.606	0.000
$\Delta \ln TVA_{it}$	0.829	0.546	1.519	0.226
$\Delta \ln TPSAV_{it}$	1.313	0.198	6.613	0.007
$\Delta \ln TGEF_{it}$	3.344	1.668	2.004	0.138
$\Delta \ln TRQ_{it}$	−2.312	1.883	−1.227	0.307
$\Delta \ln TRL_{it}$	1.736	0.985	1.763	0.176
$\Delta \ln TCC_{it}$	2.025	0.414	4.889	0.016
C	−5.347	2.232	−2.395	0.096
India				
Variable	**Coeff-**	***SE***	***t*-Stats**	**Pr. ***
ECT (−1)	−0.426	0.004	−90.121	0.0000
$\Delta \ln TVA_{it}$	−4.392	3.078	−1.426	0.249
$\Delta \ln TPSAV_{it}$	0.094	0.160	0.585	0.599
$\Delta \ln TGEF_{it}$	3.686	0.790	4.664	0.018
$\Delta \ln TRQ_{it}$	0.731	0.625	1.169	0.326
$\Delta \ln TRL_{it}$	−1.409	0.751	−1.875	0.157
$\Delta \ln TCC_{it}$	−2.328	1.282	−1.816	0.167
C	10.223	2.802	3.648	0.035
Sri Lanka				
Variable	**Coeff-**	***SE***	***t*-Stats**	**Pr. ***
ECT (−1)	−0.027	0.001	−22.014	0.000
$\Delta \ln TVA_{it}$	−3.304	2.181	−1.515	0.227
$\Delta \ln TPSAV_{it}$	0.969	0.097	9.905	0.002
$\Delta \ln TGEF_{it}$	−0.647	0.417	−1.551	0.218
$\Delta \ln TRQ_{it}$	−1.790	1.312	−1.364	0.265
$\Delta \ln TRL_{it}$	1.662	0.941	1.766	0.175
$\Delta \ln TCC_{it}$	−1.697	0.802	−2.115	0.124
C	0.673	0.549	1.226	0.307
Bangladesh				
Variable	**Coeff-**	***SE***	***t*-Stats**	**Pr. ***
ECT (−1)	−0.028	0.002	−446.194	0.000
$\Delta \ln TVA_{it}$	5.766	0.162	35.483	0.000
$\Delta \ln TPSAV_{it}$	0.649	0.029	22.123	0.000
$\Delta \ln TGEF_{it}$	0.627	0.285	2.197	0.115
$\Delta \ln TRQ_{it}$	0.044	0.228	0.194	0.857
$\Delta \ln TRL_{it}$	1.006	0.129	7.752	0.004
$\Delta \ln TCC_{it}$	0.004	0.039	0.123	0.909
C	21.824	1.743	12.515	0.001

For further policy control analysis, the study computes country specific estimates and results are shown in Table 7 below. In case of Pakistan, coefficients of TPSAV

and CC are positive and statistically significant in the short run. It means the political stability, absence of violence and CC are significant factors affecting the market capitalization. Thus, improved political, law-and-order and transparency system enhance the market capitalization. In case of India, TGEF is significant which means government effectiveness has positive and statistically significant impact on market capitalization in the country. In case of Sri Lanka, TPSAV is statistically significant. However, in case of Bangladesh, three factors are found to be significant, that is, TVA, TPSAV and TRL. It means the improved system of VA, political stability and RL positively affect the market capitalization.

5 | CONCLUSION AND POLICY IMPLICATIONS

Since the surge of the industrial revolution throughout the developing world, stock markets have been and continue to play vital role in the industrial development of the developing and emerging economies. However, over the same course, failure of stock markets in developing countries have caused recessions and sustained huge losses in the affected economies. Thus, there is a great deal of literature studying the stock market performance and factors that affect their performance. One of the most recent and highly debated topics is an institutional quality and governance that limit the stock market performance and corporate development. In addition, the literature suggest that the stock market performances of a corporation are the result of many factors of a cyclical, macro-economic, strategic or competitive nature and reflect as well as decisions made in the more or less distant past. Thus, to add the existing literature, this study takes market capitalization as the proxy of stock market performance and corporate development along with six indicators of governance at once for the first time for the panel of selected South Asian countries (Bangladesh, India, Pakistan and Sri Lanka) for the data with annual frequency between 1996 and 2014.

We apply advance econometric technique to assess the impact of Governance indicators on Stock market development. It includes ECM based on ARDL (p, q) model specifically using the PMG estimator in a panel setting. The results find long-run equilibrium relationship between disaggregates of governance and market capitalization in panel countries. The long-run estimates suggest that three factors of governance (control-of-corruption, accountability and rule-of-law) have a positive and statistically significant impact on stock market development through market capitalization in the panel countries. More importantly through ECM, the study concludes stable long-run relationship among the governance indicators with the market capitalization. However, the country specific findings conclude that consistent stock market performance and corporate progress is subject to improvement in governance and institutional quality in each country. Since the value of ECT for India and Pakistan are larger than that of Bangladesh and Srilanka, the ECM concludes that India and Pakistan are less sensitive to policy change or exogenous shock than Bangladesh and Srilanka. In otherwords, it takes longer time to return to long-run equilibrium in case of Bangladesh and Srilanka than that of India and Pakistan.

From the policy implications, this study proposes that consistent improvement in the governance indicators is instrumental to the consistent performance of stock markets in the panel countries. Since stock markets are important to financial stability and economic growth, the good governance leads to effective regulatory framework, which ultimately strengthens and helps financial markets in the countries. At political level, establishment of clear objectives, ensured policy consistency and long term policy frameworks for implanting these actions are needed. Furthermore, systematically assess the impact and review of those rules to ensure that objectives are met in the changing socio-economic scenarios. All these actions are subject to transparency and non-discrimination.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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ENDNOTES

[1] World Bank, 2017

[2] World Development Indicators (WDI), 2017

[3] Sargan test is used to check the validation of instrumental variables

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