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Quality of governance and stock market performance: the Nigerian experience

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Quality of Governance and Stock Market Performance: The Nigerian Experience

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Abstract

The paper examined the impact of governance on stock market performance using quarterly data series spanning 1996Q1 to 2010Q4. An ARDL bound testing methodology was employed to explore such causal relationship. Long-run stable relationships were established through the error correction terms of each of the measures used to the tune of -0.4821,-0.4034 and -0.4080 for all share price index, market capitalisation and the value of total stock traded, respectively. Findings indicate that macroeconomic and financial stability should be constantly maintained and promoted as it constitutes a drag on the stock performance; any acts of corruption should be eschewed as it scares away potential investors into the country and the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies should be enhanced altogether.

I. Introduction

The stock market performance is an important barometer by which the financial health of an economyis gauged. The centrality of the market as well as its functionality has been accentuated by the recent global financial crises occasioned by the sub-prime mortgage lending originated in the US housing market. The contagious impact of the resulting crises had unavoidably inflicted unquantifiable collateral damages to all and sundry. The cost of damage experienced, however, depends, to a greater extent, on the level of integration of a country's financial market with the international capital market. The inevitable outburst of the crises has consequently forced many economies to embark on bail out schemes in their various domains in order to save some of the ailing sectors and companies which may not ordinarily have survived such calamity-imposing phenomenon.

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Evidences have, however, shown that governance and stock market performance are somewhat inseparable; thus, suggesting they both go parripassu. This is underscored by the fact that a precondition for financial market development is the improvement of the institutions, which govern the process of exchange. Aggarwal et. al., (2002) noted that fund managers invest less in countries with poor legal environments and low corporate governance standards. Thus, better governance environments can increase returns to shareholders by reducing both transaction costs and agency costs (Hooper et. al.,, 2009). Further, a well governed country or firm as the case may be, tends to score highly in stock market ratings than a poorly governed one. More importantly, the post-financial crises' reports of countries poor and volatile stock market prices have lent credence to the fact that the enormity of firm-specific corporate governance abuses thrives under the ambiance of poor country-level governance environments of the country concerned.

Observably, the African continent is notorious for her poor governance records and this has been found to constitute a stumbling block on her growth trajectory for decades. Unarguably, Africa has had a chequered past in terms of good governance records as compared with the advanced countries. The history of poor and bad governance is particularly appalling for sub-Saharan Africa where dictatorial tendencies and sit-tightism syndrome seem more prevalent than any other continents in the world. Nigeria, just like other countries within the sub-region had witnessed series of regime shifts from the extreme decree-based to constitutionally-inclined system of governance. Amid these developments, several cases of mis-governance remain the common feature of Nigeria's socio-economic and political landscape. Thus, effective functioning of any investment activity hinges on good corporate governance mechanisms, which in turn depend on the quality of governance framework of a country. This is because firms do not operate in a vacuum as they are affected by the governance systems in which they operate. Specifically, the issue bordering on corporate governance problem has been found to be more prevalent in the financial segment of the economy. This in effect, implies that the quality of a country's governance is known to have rippling effects on the operation of financial and capital markets through its influence on the availability of external financing, cost of funding, market valuations, and quality of investments (see, Hail and Leuz, 2006; Hooper et. al., 2009; Chen et. al., 2009; Giannetti and Koskinen, 2010; Chiou et. al., 2010; among others for detailed exposition).

[1] The important interaction between governance mechanism at firm level and country-level governance framework is illustrated in a number of cross-country studies such as Klapper and Love (2004), Durnev and Kim (2005), Chen et.al., 2009, Bruno and Claessens (2009), among others.

The situation has so degenerated to the extent that there are reported cases of flagrant abuses of corporate governance codes and guidelines among the management and other top decision making units of organisations. This is rampart among the financial institutions in the economy. For instance, government at different points in time has had to interfere with running and workings of the Nigerian financial sector owing largely to corporate governance abuses by the financial and other fund managers alike. As a corollary, some experts and stock analysts have attributed post-global financial crises crash of the Nigerian Stock Exchange market, in part to governance abuses among the financial managers as well as captains of the industry. In view of the various misgovernance and extreme intervention through battery of reforms by the government towards maintaining sound financial architecture, the pertinent question remains: to what extent does governance influence stock market performance in Nigeria.

Most empirical studies that had been conducted in the past focus mainly on firm-specific corporate governance as it affects stock market returns or prices as the case may be. This study charts a different path as it beams a searchlight on the country-level governance environment under which firm-specific corporate governance is implemented. The underlying assumption is that if a sound country-level governance structure exists, then all things being equal, all other sub-governance structures will be bettered. Governance factor apart, literature is also replete on other factors as playing contributory roles on stock market performance. These include but not limited to country ratings (Erb et. al., 1995; Bekaert et. al., 1997; Bekaert and Harvey, 2000, Cantor and Packer, 1996), valuation ratios (Campbell and Shiller, 1998; Fama and French, 1992; Maroney et. al., 2004; Claessens et. al., 1998; Groot and Verschoor, 2002), inflation rates (Erb et. al., 1995; Hooper, 2009), population demographics (Bakshi and Chen, 1994; Bekaert et. al., 1998), exchange rates (Bailey and Chung, 1995; Harvey, 1995), and sovereign spreads (Gendreau and Heckman, 2003).

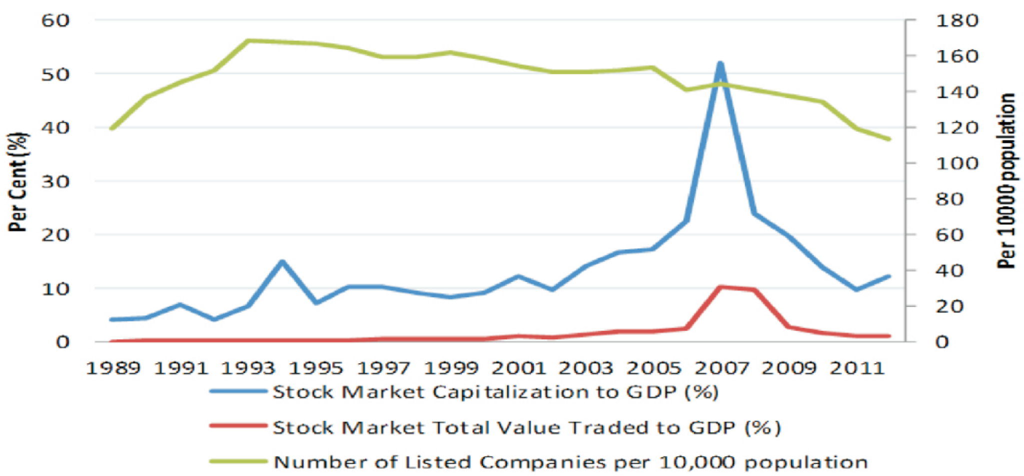
The novelty of this study over the previous related studies stems from the following grounds: First, we are not aware of any country-specific studies on governance-stock market performance for Nigeria thus signifying that ours represent the first empirical attempt at investigating such relationship for the country. Second, literature on the subject is scanty and is usually conducted at the cross-country or sectional levels. As a consequence, this study adds new empirical evidence to the existing stock of knowledge. Third, an advanced econometric technique of Bound testing approach of ARDL is employed. Lastly, a high frequency dataset is used thus guaranteeing the credibility of estimates as well as ensuring a more robust policy recommendations.

While section one gives the introductory part, section two presents the stylised facts about governance and stock market performance in Nigeria. Section three reviews the literature on governance-stock market performance nexus with a view to situating the issue in the proper perspective and also the layout of the theoretical framework on which the study is anchored. The methodological tools to be adopted is properly outlined in section four. Section five presents the empirical analysis of the findings while section six concludes and gives policy recommendations.

II. Stylised Facts on Governance and Stock Market Performance in Nigeria

This section presents some stylised information about the trends of key variables like value of total stock traded, market capitalisation, all share price index, number of listed companies, inflation, real interest and exchange rates as well as the components of governance index for Nigeria. It can be observed from Figure 1 that there have been sustained growths both in the values of total value of stock traded and market capitalisation. The latter witnessed unprecedented jumps in growth beginning from 2002 up till 2007 before it nosedived sharply due mainly to global financial crises occasioned by sub-prime mortgage lending originated in the US housing bubble in the late 2007. Similar pattern of movements are also observed in the case of the former.

Figure 1: Trends of Stock Market Performance in Nigeria (1988-2012)

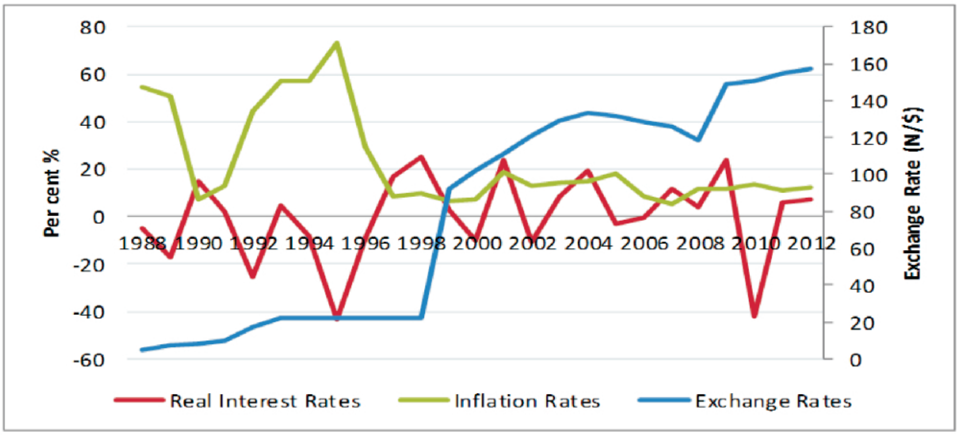


Source: Author's Graphed based on World Development Indicators (WDI, 2015)

We also observed consistent upward trend of movements in the number of listed companies in Nigeria but slight downward trends became noticeable between 2006 and 2012. The fall in the number of companies can be said to be due to the spate of liquidations experienced by the listed companies for the reasons that has to do with corporate governance problems like insider dealings, irrecoverable debts, falsification of accounting records, etc.

The macroeconomic environment can also be explained within the context of macroeconomic instability as captured by the inflationary trend, real interest rates and exchange rate, respectively. Double digit inflation rates largely characterised the Nigerian experience and this became heighted in 1995 when the rate was well over 70 percent. Beginning from 1996 till 2012, there were remarkable declines from the rates owing largely to policy targets aimed at maintaining price stability usually at single digit. For the real interest rates, the values were in large part negative for the most part of the period under consideration. With double digit inflation rate and negative values of real interest rates, the performance of stock were adversely affected. Further, the value of naira to dollar kept depreciating for the large part of the period as can be observed from Figure 2.

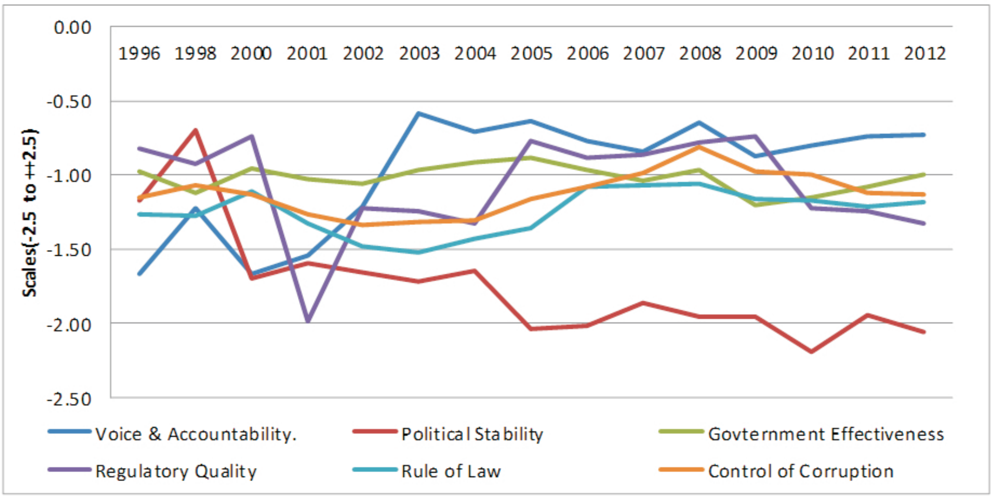
Figure 2: Trends of Inflation, Real Interest and Exchange rates in Nigeria (1988-2012)



Source: Author's Graphed based on World Development Indicators (WDI, 2015)

The components of governance index like voice and accountability, political instability, government effectiveness, regulatory quality, rule of law and control of corruption are in negative values beginning from 1996 up till 2012, thus, portending bad and worsening condition of governance in the country. Of the components, political instability drifts away from the baseline as compared to others as can be observed from the diagram. Same goes for rule of law and control of corruption lines.

Fiaure 3: Trends of Governance Dimensions in Niaeria (1996-2012)



Source: Author's Graphed based on World Governance Indicators (WGI, 2013)

III. Literature Review on Governance-Stock Market Performance Nexus

Extensive literature has documented the importance of stock market development in stimulating economic growth[2]. The strand of literature that dwells on the relationship between governance and stock market performance is still emerging and scanty. The seminal work of Jensen and Meckling (1976) provided the early literature on governance but focused on firm-level agency costs[3] arising from the ownership and control delineation structure of firms. The more recent literature (see, La Porta et. al., 1997, 1998, 2000; Ball et. al., 2000; Gul and Qui, 2002; Shleifer and Wolfenson, 2002) shifted the focus from firm-specific corporate governance to country-level governance environments.

Garcia and Liu (1999) empirically explored the determinants of stock market development, particularly market capitalisation. They also examined the association between financial intermediary development and stock market development using a sample of fifteen industrial and developing countries from 1980 to 1995. They concluded that real income level, saving rate, financial intermediary development, and stock market liquidity are important predictors of market capitalisation, while macroeconomic stability does not have any explaining power. They confirmed that stock market development and financial intermediary development are complements rather than substitutes.

[2] For example, Demirguc-Kunt and Levine (1996a), Singh (1997), and Levine and Zervos (1998) find that stock market development plays an important role in predicting future economic growth. *The World Bank Economic Review issue of* May 1996 is dedicated exclusively to the role of the stock markets in economic growth.
[3] Love (2010) provides a good review on corporate governance and performance around the world.

Lombardo and Pagano (2000) estimated the correlation between the quality of the institutional environment and the return on equity for a cross-section of national stock market indices from both developed and emerging markets. They use several measures of the return on equity, such as the total return on national equity markets (controlling for risk premia), accounting-based measures of return including dividend yields and earning-price ratios (controlling for international differences in growth and inflation), and the degree of initial public offering (IPO) underpricing. They found that all estimates reveal a positive correlation between the risk adjusted return on equity and measures of the quality of legal institutions. These measures include the origins of the judicial system, respect for the law, lack of corruption among government officials, quality of accounting standards and the risk of contract repudiation. The same results were found when they used accounting measures of the rate of return on equity: both the dividend yield and the earnings-price ratio were found to be positively correlated with measures of the quality of legal institutions.

Naceur et. al., (2007) investigated the determinants of stock market development in 12 Middle-Eastern and North-African region countries, employing fixed and random estimation technique. Their results showed that saving rate, financial intermediary, stock market liquidity and stabilisation variables appeared as important determinants of stock market development. In addition, it was found that financial intermediaries and stock markets are complements rather than substitutes in the growth process.

Hooper et. al., (2009) used international asset pricing models to investigate the link between the quality of government institutions and the performance of global stock markets. The results demonstrate a significant positive association between stock market performance measures and the quality of the institutional environment. Performance measures examined for the cross-section of countries were the average monthly stock index excess returns and the Sharpe ratio. All measures of performance were adjusted for global and local risk factors known to explain their international variation. The quality of governance is also found to be negatively associated with stock market total risk and idiosyncratic risk, consistent with the notion that stable institutions are linked to reduced variations in equity returns. These findings suggest countries with better developed governance systems have stock markets with higher returns on equity and lower levels of risk.

Lowry et. al., (2010) examined the link between country-level governance and global stock market returns. They found a negative relation between governance quality and equity return. Countries with low governance scores, on average, had higher equity returns than those with high governance scores after controlling for global risk factors known to influence international equity returns. The implication is that investors associate low governance quality with increased risk and, thus, demand higher risk premium. They also confirmed from their result that the quality of governance as measured by political stability and absence of violence is key governance dimension affecting international equity returns, suggesting that heightened investor concerns over political risks had profound impact on equity markets. Interestingly, they found no evidence that variation in equity returns is affected by the governance indicator representing voice and accountability.

The foregoing provides the basis for the void the study intends to plug, which distinguishes it from previous studies at least in a major respect. To the best of our knowledge, this paper represents one of the pioneering studies that has examined the possible impacts of governance on stock market performance for the sub-Saharan region at a country-specific level.

IV. Model Specification, Data and Estimation Techniques

This section presents a framework to model the impact of governance on the stock market performance and the objective is to identify the simple relationship between stock market performance, components of governance index and some selected key macroeconomic variables. In line with the previous empirical studies, the causal relations among the variables is, thus, specified as follows:

$$STKPERF = f\ (GOVERNANCE\_FACTORS, CONTROL\_VAR \ldots\ldots\ldots\ldots\ldots (1)$$

Where STKPERF represents stock market performances, GOVERNANCE_FACTORS as components of governance index and CONTROL_VAR stands for other control variables. GOVERNANCE _ FACTORS can be decomposed as:

$$(GOVERNANCE\_FACTORS, CONTROL\_VAR\ \ f\,(CC, GE, PS, RL, RQ, VA) \ldots\ldots\ldots\ldots (2)$$

Governance comprises of six governance measures (World Governance Indicators-WGI) provided by the World Bank as proxies of countries' governance quality (Kaufmann et al., 2006). The indicators are constructed using an unobserved components methodology (Kaufmann et al., 2010). Control of Corruption (CC) captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. *Political Stability and Absence of Violence* (PS) measures the perceptions of the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means, including domestic violence and terrorism. *Government Effectiveness* (GE) captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. *Regulatory Quality* (RQ) indicates perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. *Rule of Law* (RL) represents perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. *Voice and Accountability* (VA) captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. We then specify the empirical model as:

$$STKPERF_i = f(CC, GE, PS, RL, RQ, VA, INF, RINR, EXCR) \quad (3)$$

Where $STKPERF_i$ stands for stock market performance and subscript $_i$ represents the three measures used as proxy for stock market performance such as all-share price index, market capitalisationand value of total stock traded.

A positive relationship ishypothesised between any of the stock market performance measures and governance indicators. That, an improvement or increase in any of the governance indicators is expected to increase the value of stock market performance. Hence CC, GE, PS, RL, RQ and VA in relation to stock performance measures should be greater than zero and the converse holds in the case of the diminution in governance indicators. Inflation reduces the value of stock market performance, thus, suggesting that it has negative effects on stock market activities. A higher interest rate has a tendency of stimulating stock market activity and conversely a lower rate of interest discourages investment activities.
In this case a negative relationship is hypothesised. Finally, an inverse relationship is posited between exchange rates and stock market performance. Symbolically, it can be stated as:

IV.1 Methodology

The methodology adopted inthis study is designed to assess the impact of thez governance on stock markets performance in Nigeria. In this study, the Autoregressive Distributed Lag (ARDL) approach to cointegration as outlined by Pesaran and Pesaran, 1997 and Pesaran and Shin, 1998 was used. The ARDL model has been chosen here because it has numerous advantages. Firstly, it can be applied irrespective of whether the individual regressors are integrated of the order I(0) or I(1). Secondly, the ARDL model takes sufficient number of lags to capture the data generating process from a general to specific modeling framework (Laurenceson and Chai, 2003). Thirdly, the ARDL approach yields superior estimates of long-run coefficient, and, the diagnostic tests of the estimated equation are more reliable Gerrard and Godfrey, 1998, p.235 and Laurenceson and Chai 1998, p 405). Fourthly, from the ARDL model, one can derive a dynamic error correction model (ECM) through a simple linear transformation (Banarjee et. al., 1994, pp 50-52). The ECM also helps us to measure the short-run relationship among the model's variables. Finally, the ARDL model is a more appropriate measure in the case of a smaller sample. Since the sample size of our study is limited to 60 observations, it provides more motivation for the study to apply the ARDL approach for analysis.

$$\Delta STKPERF_t = \xi_0 + \sum_{i=1}^{p}\xi_1 \Delta STKPERF_{t-i} + \sum_{i=1}^{p}\xi_2 \Delta INF_{t-i} + \sum_{i=1}^{p}\xi_3 \Delta RINR_{t-i} + \sum_{i=1}^{p}\xi_4 \Delta EXCR_{t-i} + \sum_{i=1}^{p}\xi_5 \Delta CC_{t-i} + \sum_{i=1}^{p}\xi_6 \Delta GE_{t-i} + \sum_{i=1}^{p}\xi_7 \Delta PS_{t-i} + \sum_{i=1}^{p}\xi_8 \Delta RL_{t-i} + \sum_{i=1}^{p}\xi_9 \Delta RQ_{t-i} + \sum_{i=1}^{p}\xi_{10} \Delta VA_{t-i} + \Xi_1 STKPERF_{t-i} + \Xi_2 INF_{t-1} + \Xi_3 RINR_{t-1} + \Xi_4 EXCR_{t-1} + \Xi_5 CC_{t-1} + \Xi_6 GE_{t-i} + \Xi_7 PS_{t-i} + \Xi_8 RL_{t-i} + \Xi_9 RQ_{t-i} + \Xi_{10} VA_{t-i} + \sigma_t \quad (4)$$

where Δ = 1st difference of a variable, L indicates that the data set are expressed in natural logarithms,

ξ_0 is a constant,

ρ is a maximum lag order,

ξ_1---------------- ξ_{10} represent the short-run coefficients (error correction dynamic),

Ξ_1----------------Ξ_{10} correspond to the long-run relationship, i time trend, and, σ_t; is the white noise error.

The implementation of the ARDL approach involves two stages. First, the existence of the long-run nexus (cointegration) between variables under investigation is tested by computing the F-statistics for analysing the significance of the lagged levels of the variables. Pesaran, Shin, and Smith(1999) and Narayan(2004) have provided two sets of appropriate critical values for different numbers of regressors (variables). This model contains an intercept or trend or both. One set assumes that all the variables in the ARDL model are I(0), and another assumes that all the variables are I(1). If the F-statistic lies above the upper-bound critical value for a given significance level, the conclusion is that there is a non-spurious long-run level relationship with the dependent variable. If the F-statistic lies below the lower bound critical value, the conclusion is that there is no long-run level relationship with the dependent variable. If it lies between the lower and the upper limits, the result is inconclusive. The general form of the null and alternative hypotheses for the F-statistic test is as follows:

$$H_O: \Xi_1 = \Xi_2 = \Xi_3 = \Xi_4 = \Xi_5 = \Xi_6 = \Xi_7 = \Xi_8 = \Xi_9 = \Xi_{10} = 0$$
$$H_O: \Xi_1 \neq \Xi_2 \neq \Xi_3 \neq \Xi_4 \neq \Xi_5 \neq \Xi_6 \neq \Xi_7 \neq \Xi_8 \neq \Xi_9 \neq \Xi_{10} \neq 0 \ldots\ldots (5)$$

Secondly, if the cointegration between variables is identified, then one can undertake further analysis of long-run and short-run (error correction) relationship between the variables.*The error correction representation of the series can be* specified as follows:

$$\Delta STKPERF_t = \xi_0 + \sum_{i=0}^{p} \xi_1 \Delta STKPERF_{t-i} + \sum_{i=0}^{p} \xi_2 \Delta INF_{t-i} + \sum_{i=0}^{p} \xi_3 \Delta RINR_{t-i} + \sum_{i=0}^{p} \xi_4 \Delta EXCR_{t-i} + \sum_{i=0}^{p} \xi_5 \Delta CC_{t-i} +$$
$$\sum_{i=0}^{p} \xi_6 \Delta GE_{t-i} + \sum_{i=0}^{p} \xi_7 \Delta PS_{t-i} + \sum_{i=0}^{p} \xi_8 \Delta RL_{t-i} + \sum_{i=0}^{p} \xi_9 \Delta RQ_{t-i} + \sum_{i=0}^{p} \xi_{10} \Delta VA_{t-i} + \psi\, ECT_{t-1} + \varepsilon_t \ \ldots.(6)$$

Where Ψ is the speed of adjustment parameter and ECM is the residuals obtained from equation 1 (i.e. the error correction term). The coefficient of the lagged error correction term Ψ is expected to be negative and statistically significant to further confirm the existence of a co-integrating relationship.

Data Source

The data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin various issues, Nigerian stock market fact book, World Development Indicators (WDI) 2012, World Governance Indicators (WGI) by Kaufmann et.al., 2012.

V. Analysis of Empirical Results

Following the convention in contemporary time series investigations, to avoid spurious regression estimates, unit root tests are carried out. The results of Ng and Perron (2001) unit root tests are reported in Table 1. Ng–Perron test is preferred as the results are more reliable and consistent compared with the traditional ADF and P–P tests. DeJong et. al., (1992) and Harris and Sollis (2003) argued that due to their poor size and power properties,these tests are not reliable for small sample size. These tests will over-reject the null hypotheses when it is true and accept the null when it is false. Ng–Perron test circumvents the problem of over-rejection of null hypothesis and can be applied on small sample size. Table 1 shows that some variables are I(0) while some are I(1), thus, providing the justification for the use of ARDL.

Table.1: Results of the Ng-Perron unit root test

Variables	MZa		MZt		MSB		MPT	
	Level	First Diff.	Level	First Diff.	Level	First Diff.	Level	First Diff.
ALLSHR	-12.63241**	-34.9812***	-3.7617	-3.1341	0.1176	0.1157	27.8918	3.6424
MKTCAP	-17.9712**	-52.9081***	-4.6175	-2.9087	0.1852	0.1091	19.1981	4.4526
TVSTK	-5.7432	-29.9342***	-1.8767	-5.0917	0.2343	0.1324	29.4524	5.2561
CC	-4.9871	-18.9816**	-0.9871	-2.9871	0.5464	0.1171	21.2341	6.6123
GE	-5.1551	-19.8614**	-1.1232	-3.3141	0.4231	0.1615	17.9021	6.2871
PS	-7.9770	-22.9123***	-1.4526	-4.0041	0.3081	0.1342	19.0341	4.2561
RL	-4.0918	-28.9181***	-1.4352	-3.1173	0.2322	0.1228	20.1020	3.8791
RQ	-5.9776	-20.0198**	-0.9898	-2.8979	0.3397	0.1671	18.7681	3.9082
VA	-4.4616	-19.0445***	-0.7876	-4.7521	0.2871	0.1342	19.7657	5.0245

Note: ***(**)* indicate the significance at the 1 per cent,5 per cent and 10 per cent respectively

Given a relatively small sample size, a lag length of 2 is used in the bounds test. The results of the bound test are given in table 2. The critical values used in this paper are extracted from Narayan (2004)[4]. The F-statistic for the models are 6.5866, 9.8981 and 10.9538, which are greater than the upper critical bounds both at the 1 and 5 per cent significance levels. This suggests that there is a long-run relationship among stock market performance (all-share price index, market capitalisation and value of total stock traded) and inflation, real interest rate, exchange rates, components of governance index such as control of corruption, government effectiveness, political instability, rule of law, regulatory quality and voice and accountability, respectively.

[4] Narayan (2004) has provided critical values that are considered to be more appropriate for ARDL modeling using small samples as compared to Pesaran and Pesaran (1997) and Pesaranet.al., (2001). These critical values are based on small sample size between 30 and 80 observations, unlike Pesaran and Pesaran (1997) and Pesaran et al (2001) which are based on 500 and 1000 observations and suitable for large sample size.

Table.2: Estimated ARDL Models and Bounds F-test for Co integration

Models for estimation	Lag Length	F-Statistics	Critical value at 1 per cent	Critical value at 5 per cent
$(ALLSHR / INF, RINR, EXCR, CC, GE, PS, RL, RQ, VA)$	2	6.5866	3.674-5.019	2.694-3.829
$(MKTCAP / INF, RINR, EXCR, CC, GE, PS, RL, RQ, VA)$	2	9.8981	3.674-5.019	2.694-3.829
$(TVSTK / INF, RINR, EXCR, CC, GE, PS, RL, RQ, VA)$	2	10.9538	3.674-5.019	2.694-3.829

Source: Computed

Notes: The critical values (CV) for the lower I(0) and upper I(1) bounds are taken from Narayan (2005, Appendix: Case II).

Table 3 presents long-run static results of an ARDL model. From Table 3, Inflation rate was found to conform with a priori expectation of model 1 with and without control for autocorrelation problems. In 1(a) a one per cent increase in inflation rate will lead to -1.44 per cent decrease in all-share price index and this is statistically significant at 1.0 per cent level. This seems logical as increasing rate of inflation has a depressing impact on share prices as suggested by the result. The real rate of interest also does not repudiate theoretical expectation. This is particularly true since an increase in the real interest rate tends to drive up the demand for shares and which consequently stimulates increase in the prices of shares. This is statistically significant at a conventional level of 1.0 per cent in both 1a and 1b respectively. The depreciating value of naira vis-à-vis dollar measured by exchange rate appeared insignificant in 1(a) but statistically significant in 1(b) and this can be said to be due to costly nature of the rate of exchange of naira to dollar mostly by foreigners when purchasing shares in Nigeria. Also, three out of the six components of governance index comply with theoretical predictions.

These include control of corruption (CC), government effectiveness (GE) and regulatory quality (RQ) respectively. Variations, however, exist in terms of variables significance in both 1(a) and 1(b). Five components appeared as significant in the former whereas three were significant in the case of the latter. A marginal increase in the unit of corruption control will make share prices to command much higher prices than the case when corruption was made to thrive. A unit increase in the coefficient of control of corruption (CC) will make all share price index to rise by 37.0 and 48.0 per cent, respectively. Also, the level of government effectiveness will likely increase share prices by 1.43 and 1.10 percent, respectively. The coefficient on political instability variable conveys a contrary *a priori* signs, thus,confirming the declining impact of the variable on share prices.

This is plausible as no individual or country would want to invest in a country that is embroiled in political turmoil as witnessed by Nigeria. In fact, the level of significance occurs at 1.0 per cent in model 1 both with and without autocorrelation problems. Furthermore, the deficiency in the freedom of voice and accountability and rule of law also exert negative impact on the share prices whereas regulation impinges positive effects as can be observed on the table. Unlike 1(a), none of the component variables appear statistically significant in 1(b). For model 2, the resulting outcomes are almost similar to model1 except for the variable of voice and accountability component that has negative association with market capitalisation at the highest level of statistical significance of 1.0 per cent most especially after controlling for problems of autocorrelation that invalidated model 2(a). Noticeably, the impact of corruption control seems to exert greater influence on market capitalisation at least at a 1 per cent level as indicated on the table.

Model 3 also share similar traits with models 1 and 2 in many respects. The slight difference, however, seems to occur in 3(b) when the impact of regulatory quality imposes significant negative impacts on the total value of stock traded on the floor of the stock exchange market. The possible explanation can be likened to the fact that firms or companies will only be allowed to trade in their stocks provided all the laid down rules guiding the conduct of the trading processes are duly complied with. More importantly, the basic statistics measured by R-squared show that all the models' dependent variables are adequately explained by the explanatory variables at over 90.0 per cent while the Durbin-watson statistic fall within the acceptable region for models 1b, 2b and 3c that were controlled for autocorrelation problems. In addition, all the models (those controlled for autocorrelation) passed the diagnostic tests relating to residual normality and serial correlation.

Table.3: Long-run Estimates of an ARDL Model

	Model 1		Model 2		Model 3	
	Dependent variable: All Share Price Index (ALLSHR)		Dependent variable: Market Capitalisation (MKTCAP)		Dependent variable: Value of Total Stock Traded (TVSTK)	
	Without control for Autocorrelation (1a)	Control for Autocorrelation (1b)	Without control for Autocorrelation (2a)	Control for Autocorrelation (2b)	Without control for Autocorrelation (3a)	Control for Autocorrelation (3b)
Intercept	3.5757 (14.3953)***	4.8481 (3.3958)***	9.2514 (32.9616)***	10.4438 (9.7502)***	9.5388 (22.8671)***	11.8101 (6.3107)***
INF	-0.0144 (-4.4447)***	-0.0060 (-2.4505)**	-0.0192 (-5.2289)***	-0.0095 (-3.4873)***	-0.0188 (-3.4492)***	-0.0096 (-2.2630)**
RINR	0.0092 (4.9883)***	0.0066 (4.8788)***	0.0109 (5.2132)***	0.0079 (5.2764)***	0.0153 (4.9225)***	0.0111 (4.7690)***
EXCR	-0.0003 (-0.2692)	-0.0034 (-3.2698)***	0.0019 (1.3721)	-0.0021 (-1.8255)*	0.0029 (1.4608)	-0.0021 (-1.1640)
CC	0.3796 (1.7926)*	0.4759 (2.1198)**	1.4135 (5.9072)***	0.6018 (2.3958)**	3.4169 (9.6081)***	1.9109 (4.9082)***
GE	1.4309 (7.3791)***	1.1012 (5.1663)***	1.2863 (5.8708)***	0.8980 (3.7678)***	1.8450 (5.6660)***	1.7138 (4.6353)***
PS	-1.0328 (-9.8977)***	-0.6195 (-5.5134)***	-1.3479 (-11.4320)***	-0.9684 (-7.7013)***	-1.5293 (-8.7268)***	-0.8669 (-4.4441)***
RL	-0.5689 (-2.1620)**	-0.0209 (-0.0923)	-0.7783 (-2.6179)**	-0.2194 (-0.8679)	-1.5516 (-3.5115)***	-0.5090 (-1.3018)
RQ	0.0607 (0.4542)	0.0222 (0.2216)	0.0974 (0.6446)	0.0109 (0.0974)	-0.3460 (-1.5416)	-0.5082 (-2.9286)**
VA	-0.4480 (-4.1084)***	-0.1714 (-1.4161)	-0.8088 (-6.5646)***	-0.5030 (-3.7141)***	-0.4249 (-2.3202)**	-0.2560 (-1.2230)
AR(1)	-	0.9845 (37.5734)***	-	0.9800 (36.0174)***		0.9807 (39.7411)***
Basic Statistic						
R^2	0.928	0.977	0.963	0.988	0.964	0.987
D.W	0.6240	2.1129	0.6065	2.1162	0.6448	2.1662
Diagnostic Tests						
2 -	4.9248 (0.0852)	211.003 (0.8212)	5.1188 (0.0774)	187.783 (0.4211)	5.6677 (0.0588)	438.790 (0.2862)
2 -	2.07E+24 (0.0000)	0.6931 (0.7780)	1.68E+24 (0.0000)	0.6814 (0.7890)	9.80E+23 (0.0000)	0.7856 (0.6864)
2 -	157.57 (0.0000)	0.5075 (0.4790)	116.134 (0.0000)	0.5354 (0.4672)	1.88.195 (0.0000)	0.2506 (0.6185)
2 -	85.946 (0.0000)	8.1990 (0.0061)	73.376 (0.0000)	6.8289 (0.0118)	11.5095 (0.0013)	4.5025 (0.0387)
2 -	24.486 (0.0000)	0.1978 (0.8212)	25.974 (0.0000)	0.2142 (0.8079)	23.049 (0.0000)	0.4500 (0.6402)

The results of the short-run dynamics associated with the ARDL are reported in table 4. The coefficient of ECM (-1) showed the speed of adjustment from short-run to long-run and for all the models, they are statistically significant with negative signs. The coefficient of the lagged error correction term for model 1 (-0.4821) is negative and statistically significant. The magnitude of the coefficient implies that 48 per cent of the disequilibrium caused by previous quarter's shocks converges back to the long-run equilibrium in the current quarter.Banarjeeet. al., (1994) noted that significant lagged error term with negative sign is a way to prove that the established long-run relationship is stable. The deviation of all share price index from short-run to the long-run is corrected by 48.2 per cent each quarter. Just like in the long-run, inflation and exchange rates reduce all share price index by meager 0.006 and 0.0034 percent, respectively. The real rate of interest exerts a positive impact on share prices as indicated by t-value of 3.2117. Of the components of governance index, the impacts of control of corruption, government effectiveness and political instability stand out prominently as they are statistically significant at both 1 and 5 per cent levels but with alternating signs. While that of corruption and political instability carry negative signs and the coefficient on government effectiveness bears a positive sign. Other components remain insignificant with alternating signs.

In the same vein, error correction models for both models 2 and 3 confirm the existence of a stable long-run relationship and cointegration relationship among variables. Table.4 shows that the coefficients on the error correction term ECM (-1) are statistically significant with the negative expected signs. This confirms the existence of a stable long-run relationship among the variables. The coefficients on ECM (-1) for models 2 and 3 are -0.403 and -40.8 per cent, which suggests fast adjustment processes. Nearly 40 and 41 per cent of the disequilibrium of the previous quarter's shock adjusts back to the long-run equilibrium in the current quarter. All other variables remain as they are in the long-run static results.

Table.4: Estimates of Short-run Dynamics of an ARDL Model

	Model 1	Model 2	Model 3
	Dependent variable: All Share Price Index (ALLSHR)	Dependent variable: Market Capitalisation (MKTCAP)	Dependent variable: Value of Total Stock Traded (TVSTK)
Intercept	0.0126(1.7273)*	0.0143(1.7291)*	0.0258(2.0545)**
Δ INF	-0.0060(-2.3981)**	-0.0095(-3.4198)***	-0.0096(-2.2222)**
Δ RINR	0.0066(4.7991)***	0.0080(5.2017)***	0.0112(4.7116)***
Δ EXCR	-0.0034(-3.2117)***	-0.0021(-1.7955)*	-0.0021(-1.1566)
Δ CC	0.4787(2.0891)**	0.5992(2.3395)**	1.9032(4.7981)***
Δ GE	1.1085(5.0847)***	0.9074(3.7247)***	1.7321(4.5911)***
Δ PS	-0.6148(-5.0847)***	-0.9617(-7.4865)***	-0.8550(-4.2990)***
Δ RL	-0.0190(-0.0826)	-0.2187(-0.8499)	-0.5057(-1.2701)
Δ RQ	0.0175(0.1712)	0.0046(0.0404)	-0.5195(-2.9373)**
Δ VA	-0.1648(-1.3550)	-0.4919(-3.6271)***	-0.2391(-1.1373)
ECM(-1)	-0.4821(-2.3611)**	-0.4034(-2.2032)**	-0.4080(-2.4012)**
AR(1)	0.0078(0.0058)	-0.0244(0.0244)	0.0011(0.0010)
Basic Statistics			
R^2	0.538	0.635	0.66
D.W	1.999	1.996	2.000

Source: Computed by the author.

VI. Conclusion and Policy Recommendations

The paper examined the impact of governance on stock market performance using quarterly data series spanning 1996Q1 to 2010Q4. An ARDL bound testing methodology was employed to explore such causal relationship. The important role of the variables like inflation, real interest rate and exchange rate were clearly brought to fore as influencing the performance of stock measured through all share price index, market capitalisation and the value of total stock traded. Of interest, however, are the key roles of the components of governance index on the stock performance. Notably, control of corruption and government effectiveness exert positive impact while political instability had a dampening impact on such measures of stock performance. More importantly, long-run stable relationships were established through the error correction terms of each of the measures used to the tune of -0.4821,-0.4034 and -0.4080 for all share price index, market capitalisation and the value of total stock traded, respectively. Emanating from this, are a few policy messages, which includes: macroeconomic and financial stability should be constantly maintained and promoted as it constitutes a drag on the stock performance; any acts of corruption should be eschewed as it scares away potential investors into the country and the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies should be enhanced altogether.

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