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Abstract

How do government policies and institutions affect stock market performance? As stock markets grow broader and deeper in African countries, the question becomes more critical. Government quality dynamics of corruption-control, government-effectiveness, political-stability or no violence, voice & accountability, regulation quality and rule of law are instrumented with income-levels, religious-dominations, press-freedom degrees and legal-origins to account for stock market performance dynamics of capitalization, value traded, turnover and number of listed companies. The results demonstrate a significant positive association between stock market performance measures and the quality of government institutions. These findings suggest countries with better developed government institutions would favor stock markets with higher market capitalization, better turnover ratios, higher value in shares traded and greater number of listed companies.

1. Introduction

The emergence of London as a world financial center was made possible by the reputation of fairness that the English courts and common-law had acquired by the 20th century (Rosenberg & Birdzell, 1986). The Russian experience has shown that foreign investors are willing to provide funds and much needed managing expertise to newly privatized firms only if the legal and political infrastructure is adequate at curbing corruption among government officials and limiting the risks of expropriation(Lambardo,2000; Lombardo & Pagano,2002).

The deepening and broadening of stock markets in developing countries presents an important concern of how government policies and institutions affect stock market performance. According to the IMF (2006) and Mosley (2008) stock market capitalization stood at $37.2 trillion, compared to global GDP of $41.3 trillion. Whereas this figure was slightly less than global commercial bank assets ($ 57.3 trillion), it markedly exceeded the total size of outstanding public securities, which stood at $ 23.1 trillion. The bulk of global stock market capitalization broadly represents developed-country equity markets, but less developed countries which accounted for 14% of total capitalization in 2004 are quickly gaining ground. For instance some emerging markets like those of Malaysia, Singapore and South Africa have total stock market capitalizations that exceed their respective Gross Domestic Products. The overall growth of developing financial markets has attracted attention from scholars and pundits. A large literature in economics, political science and public policy considers the ways in which the increased globalization in trade and finance affects national economic outcomes and government policy making (Helleiner, 1994; Strange, 1996; Friedman, 1999; Armijo, 1999; Obstfeld & Taylor, 2004). However, given the increasing importance of developing capital markets in the world economy, we currently know very little about how government quality influences financial

market dynamics. In this work we address this gap by exploring how government quality dynamics of corruption-control, government-effectiveness, political-stability (or no violence), voice & accountability, regulation quality and rule of law, affect stock market performance in African financial markets.

The main idea is that the process of increasing stock market value depends on appropriate policies that are the outcome of good governance. Therefore is it important to identify institutional factors that promote the performance of African financial markets for two main reasons. (1) The current African business climate depicts a dire need for alternative forms of investment beside the failed attempts to attract foreign direct investment(FDI) through liberalization policies(Rolfe & Woodward,2004). (2) A rapidly expanding empirical literature demonstrates that the quality of a country's capital markets depends on the quality of its rules on corporate governance and disclosure. Bearing this in mind, the institutional environment in Africa over the last decade has been plagued by corruption, political strife and a host of investor unfriendly governance qualms(Kenyan post election crises in 2007/2008, Zimbabwe's economic meltdown, Nigeria's marred transition in 2008, the unending Egyptian revolution, not to mention recent coups d'états in Mali and Guinea-Bissau).

This study aims to assess three main concerns. Firstly, investigate how the process by which those in authority are selected and replaced(political governance: voice & accountability and political stability) affect the smooth running of financial markets. Secondly, assess the manner in which stock market health is affected by the capacity of governments to formulate & implement policies, as well as deliver services(economic governance: regulatory quality and government effectiveness). Thirdly, examine how the respect of citizens and state for institutions

that govern interactions among them affect capital markets(institutional governance: rule of law and corruption control).

   The paper's contribution to the literature is fivefold. (1) Owing to lack of relevant data, the nexus between formal institutions and stock market performance in Africa has escaped scholarly attention. Beside, good governance indicators for African countries seeing the light of day only in 1996, most stock markets in the continent were still at their infancy with only scanty exploitable data available. (2) The increasing depth of stock markets in African countries represent an important challenge to policies and institutions. Hence the need to assess how political, economic and institutional governance plays-out on the performance of these stock markets. (3) The current African business climate depicts a dire need for alternative forms of investment owing to failed liberalization policies that sought to attract FDI(Rolfe & Woodward,2004). Indeed the African business environment is increasingly faced with the need for alternative forms of investment(beside those accruing from failing privatization projects) and financing sources for firms. The available weight of evidence on business challenges in the continent suggests that, this need for alternative capital flows is compounded by issues of regulatory and institutional quality(Bartel et al.,2009; Toumi,2011; Darley,2012). Hence the motivation for investigating the bearing of good governance policies on an alternative long-term financial source: stock markets. (4) Current stock market trends in the continent suggest that those in French speaking sub-Sahara have been slow to pick-up. The outcome of this study could provide the much needed policy measures necessary to help them gain even-pace with their English speaking counterparts. (5) In spite of the large chunk of studies in the institutional-finance literature, very few works have focused on developing countries, especially the African continent. Much scholarly focus has been on the emerging economies of Latin America and East

Asia. Alagidede(2008) has suggested a reason for such neglect could be traced to the African institutional environment; hence the need assess the incidence of formal institutions on long-term financial performance dynamics.

The rest of the paper is organized in the following manner. Section 2 reviews existing literature. Data and methodology are discussed and outlined respectively in Section 3. Empirical analysis and discussion of results are covered in Section 4. Section 5 concludes.

2. Literature Review

2.1 Theoretical framework

In this section, we provide theoretical premises to justify the choice of instrumental variables for the empirical phase of the paper. Therefore, we provide theoretical justification to the empirical validity of legal-origins, income-levels, religious-dominations and press-freedom qualities in the finance-growth nexus. These will be presented in four main strands.

In the first strand, we highlight the imperative for legal-origin moment conditions. This could be explained from two standpoints: the 'law & finance' theory and the 'political and adaptability' channels. The first stance of the 'law & finance' theory emphasizes that legal institutions have a bearing on corporate finance and financial development (La Porta et al., 1998). The 'law & finance' theory stresses that cross-country disparities in (i) contract, company, bankruptcy and security laws, (ii) the legal system's emphasis on private property rights, and (iii) the efficiency of enforcement; influence the degree of expropriation and consequently the confidence with which people purchase securities and take part in financial markets. In the second stance we find theories by Beck et al. (2003) which assess 'why' legal

origin matter in financial development. They examine two mechanisms by which legal origins may influence financial development: the political[1] and adaptability[2] channels.

In the second strand, we provide theoretical justification to the choice of wealth-effect instrumental variables. It has been well documented that income-levels, play a substantial role in the finance-growth nexus (Beck et al., 1999; Asongu, 2011a). From theoretical and empirical literature premises, considerable differences in wealth exiting across countries have substantial effects on cross-country disparities in financial structure and development (Asongu, 2012a). Theoretical justification for income-levels is grounded on three perspectives. Firstly, financial intermediary development embodies: central banks assets to total assets, deposit money bank assets to total assets, other financial institutions' assets to total assets and deposit money versus central bank assets (Beck et al.1999, p.13). With respect to this position, central banks loose relative importance as one moves from low to high-income countries, whereas other financial institutions gain relative importance in the process. Conversely, deposit money banks gain importance vis-à-vis central banks with a higher income level. Financial depth also increases with income levels. Secondly, private credit and life insurance companies, the life insurance penetration and the life insurance density increase with per capita economic prosperity. Interestingly, for the first two indicators, the lower-middle income group exhibits the lowest medians (Beck et al., 1999, p.21)[3]. Thirdly, there is a significant difference in size, activity and

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[1]The political mechanism is based on two standpoints. Firstly, legal traditions differ in the emphasis they attribute to protecting the rights of private investors vis-à-vis those of the state. Secondly, private property rights protection make-up the foundation for financial development.

[2] The second channel linking legal-origin to financial development is the adaptability mechanism that is also built on two foundations. Firstly, legal systems differ in their ability to adjust to changing and evolving circumstances(situations). Secondly, when a country's legal system adapts only timidly to changing circumstances (especially economic), large gaps will open between the financial needs of an economy and the ability of the legal system to support and fulfill those needs.

[3] It is worthwhile noting that high-income countries demonstrate a life insurance penetration ten times as high as lower-middle income countries and a life insurance density nearly one hundred times higher than low-income countries.

efficiency of stock markets across income groups. Countries with higher levels of per capita economic prosperity have bigger, more active and more efficient financial markets (Beck et al., 1999, 25)[4].

In the third strand we lay the theoretical basis for the empirical validity of the religious instruments. Borrowing from Hearn et al.(2011), Islam represents a system of beliefs founded on the interpretation of passages from the Qu'ran and various Had'ith & Sunnah that are short texts regarding customs of the Muslim community and relating experiences of the prophet Mohammed(Pryor, 2007). These form the basis of Shari'ya law, that permeates all areas of the wider Islamic system, including economics, finance, law, politics & government and that have common values of Islamic social justice(Asutey,2007). The Islamic financial system is premised and regulated on the same Shari'ya principles as the overall economy and society (Iqbal, 1997). These govern the design of institutions and the nature of contracts to guide the market and regulation of participants' behavior. Hence, individuals within an Islamic financial system will be subject to behavioral norms, that give rise to very heterogeneous assumptions to those which form the foundation of regulation in western markets.

In the last strand, we highlight a case for the validity of press-freedom instrumental variables. From a theoretical standpoint, press-freedom and the Efficiency Market Hypothesis (EMH) of finance move hand-in-gove. Empirically, freedom of the press is one of the major efficient market channels and only with unrestricted press-freedom can information be rapidly spread and fully incorporated into asset prices (Guo-Ping, 2008).

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[4] Let us also note here that, wealthy countries also have larger bond markets and issue more equity & private bonds. Financial markets have soared in size, activity and efficiency over the last three decades owing to significant changes in higher GDP per capita countries.

2. 2 Government quality, stock market performance and growth

Democracy and good governance(or government quality: GQ) have been subject to much attention in circles dealing with developing countries. GQ is now used by many national development agencies and international organizations such as the World Bank, International Monetary Fund (IMF) and the United Nations to assess the state of developing countries. In 1996, the concern of the IMF with development could be summarized in the following declaration: *"promoting good governance in all its aspects, including by ensuring the rule of law, improving the efficiency and accountability of the public sector, and tackling corruption, as essential elements of a framework within which economies can prosper"* (IMF, 2005). Elements of this definition will guide our conception of GQ through-out the paper.

As we have outlined earlier, this paper investigates how GQ dynamics affect the performance of stock markets in African countries. GQ describes the institutional arrangements that regulate financial markets. These institutions compose the legal, political and supervisory bodies that provide cohesion and order in business activities. The equitable functioning of the legal process, the degree of political stability, the level of systematic corruption, the height of voice & accountability, the rule of law and regulation quality are factors that define the quality of these institutions and their ability to oversee financial markets. GQ has important implications on the dealings of firms and institutions, as well as the cost associated with such interactions.

The capacity of the judiciary to enforce contractual rights of shareholders impinges on the possibility of managerial expropriation and ultimately on the profitability of firms. In this line of thought, La Porta et al. (1997, 1998) argue that improving corporate governance rules, their enforcements and the quality of accounting standards results in greater reliance on stock market financing by companies. More so, judicial factors directly infringe on the amount of

corporate resources diverted by managers and allow shareholders the possibility of monitoring managers at lower cost. Legal systems supportive of investor protection tend to improve the amount of funds that risk-averse investors are willing to channel towards firms. Some authors have pointed to the importance of legal environments and corporate standards in fund manager investments (Aggarwal et al., 2002).

GQ environment can increase returns to shareholders by reducing both transaction and agency costs. The early literature on GQ is focused on firm-level agency cost arising from the ownership and control delineation structure of firms. The seminal work of Jensen & Meckling (1976) provided the conceptual framework for a growing body of studies. The pioneering work discovered that corporate governance mechanisms themselves are subject to varying interpretations and weak degrees of enforceability and that the level of investor protection which such mechanisms were designed to promote could deteriorate in the face of structurally flawless governance provisions. Thus the strength of such mechanisms rested solely on the ability of firms to adhere to them. Consequently, enforceability of contractual provisions became the first extension in the conception and understanding of the agency conflict between managers and shareholders. In recent literature however, the focus has been shifted from firm-specific governance to country-level governance environments (La Porta et al., 1997, 1998; Shleifer & Wolfenson, 2002; Asongu, 2011bcdef; Agbor, 2011). Beyond the interaction between firms and institutions resulting from agency cost, transaction costs have been the neglect in many market-centered views of economic structure. North (1994) argued that tightly defined property rights and their cost effective enforcements are important requirements for low-cost transactions which are paramount to productive economies.

The benefits of judicial improvements include not only stock market enlargement but also greater integration with world financial markets through the appeal to influx of capital. But increasing integration may turn to decrease the importance of the quality of securities regulation. According to Hooper et al. (2009) increasing market integration significantly lowers the cost of capital. Hail & Leuz (2003) investigate to what extent the effect of legal institutions and securities regulation differs by market regulation and economic progress. Supposing investors can invest freely around the world, the quality of securities regulation of any particular country may become less important. From both theoretical and empirical evidence, country-specific factors become less important in asset pricing as markets become more integrated (Bekaert & Harvey, 1995; Stulz, 1999). However note should be taken of the fact that, the precedence of this increasing integration are the benefits of judicial enforcement and environmental GQ. Hail & Leuz(2003) assess international differences in the cost of equity for firms across 40 countries. They analyze if differences in countries' legal institutions (and in particular securities regulation) are systematically related to international cost of capital variations. Their findings reveal that firms in countries with strong legal institutions have on average lower cost of capital than those in countries with weak legal systems, after controlling for risk and country factors. In essence, cost of capital is systematically lower in countries with strong securities regulation which have extensive disclosure rules and strong legal enforcement. Thus, effects are highest for institutions that mandate disclosure to investors and are also present for those institutions that facilitate the enforcement of financial contracts, either by lowering the burden of proof in securities litigation or by providing effective courts.

Rosenberg & Birdzell (1986) postulate the emergence of London as a world financial center was made possible by the reputation of fairness that the English courts and common-law

had acquired by the 20th century. The experience of transitional economies and the central role that legal institutions play in the functioning of markets has been abundantly discussed (La Porta et al., 2000b). The Russian experience has shown that foreign investors are willing to provide funds and much needed managing expertise to newly privatized firms only if the legal and political infrastructure is adequate in curbing corruption among government officials and limiting the risks of expropriation(Lambardo,2000; Lombardo & Pagano,2002). Lombardo & Pagano(2002) join Johnson & Shleifer(1999) in underlining that, in order to reap the benefits from market-oriented reforms, policy makers in transition economies must make sure that a fair level playing field is established so that investors can concentrate on exploiting growth opportunities without fearing the abuse of their property rights.

Another important GQ dynamic developing countries must enforce is the control of corruption which is often the source of insider-dealing and a great many impediments to the smooth growth of financial markets. Bhattacharya & Daouk(1999) assess the impact on the cost of equity capital of insider trading regulation and discover that, while the mere existence of law prohibiting insider trading is ineffectual, their enforcement reduces the risk-adjusted expected return on equity. After controlling for risk factors, a liquidity factor and other legal determinants of the cost of equity, the assessment finds that the enforcement of insider trading laws reduces the cost of equity by 5%. Himmelberg et al.(2004) hypothesize that lack of investor protection forces company insiders to hold greater fractions of the equity of the companies they manage. These high holdings subject insiders to a greater rate of idiosyncratic risk that in turn increase the risk premium and thus the marginal cost of capital. They postulate a negative link between the degree of investor protection and the fraction of equity held by insiders and a positive relationship between equity ownership and the marginal return to capital.

2.3 African perspective of governance and stock market performance

2.3.1 Motivations for African stock market performance

In line with Asongu(2012a), although a number of papers have investigated the dynamic performance of equity markets worldwide, the emphasis has often been on developed economies and the emerging markets of Latin America and Asia. With respect to Alagidede(2008), such neglect is far from surprising as Africa's markets are perceived as excessively risky, highly illiquid with less developed operating institutional environments. Economic instability and political strife have plagued many African countries and continue to pose a threat to foreign investments(Kenyan post election crises in 2007/2008, Zimbabwe's economic meltdown, Nigeria's marred transition in 2008, the unending Egyptian revolution, not to mention recent coups d'état in Mali and Guinea-Bissau). But for South Africa, no African country has emerged as an economic power. This might partly elucidate the lack of academic research on the capital markets of the continent. Africa has recently witnessed significant economic and financial developments, thus how formal institutions are playing-out in the development of financial markets in the continent could have important policy implications.

Financial theory deems integrated and performing markets to be relatively more efficient compared to divergent ones. An integrated and performing stock market stimulates cross-border flow of funds, improves trading volume which in-turn increases stock market liquidity. Developed markets grant investors the opportunity to efficiently allocate capital(Chen et al.,2002; Asongu, 2012bcd). This results in a lower cost of capital for firms and lower transaction cost for investors(Kim et al.,2005). More so, a performing financial market has the positive rewards to financial stability as it minimizes the probability of asymmetric shocks(Umutlu et al.,2010). Financial stability in-turn may reduce the risk of cross-border

financial contagion(Beine et al.,2010) and improve the capacity of economies to absorb shocks(Yu et al., 2010).

It is also worth pointing-out stock markets may also be performing to reflect the level of arbitrage activity. When markets are well developed, it denotes there is a common force such as arbitrage activity that attracts the markets together. It further implies that the development of markets will mean the potential for making above normal profits and international diversification will be limited as supernormal profits are arbitraged away(Von Furstenberg & Jeon, 1989). In the same line of march, if barriers or potential barriers generating country risks and exchange rate premiums are absent, the consequence is similar yields for financial assets of similar risk and liquidity regardless of nationality and locality(Von Furstenberg & Jeon, 1989). Therefore, the need for African stock market development draws on the tenets of arbitrage and the hypothesis proffered by the portfolio theory. This implies, the motivations for growth in financial markets has premises in the literature of stock market interdependence and portfolio diversification(Grubel.,1968; Levy & Sarnat, 1970).

2.3.2 Institutions, finance and African business

But for a few exceptions(Osinubi & Amaghionveodiwe,2003)[5], historically capital markets have played a significant role in financing the development of African economies. In line with the literature(Gray & Bythewood, 2001; Alagidede,2008; Asongu,2012a), African securities markets have not received the academic attention of those in Latin America and Southeast Asia. As sustained by Gray & Bythehood(2001), African governments are focusing on the importance of moving toward more market-oriented economies and developing the financial market infrastructure to mobilize funds from both the private and public sectors. This motivation

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[5] This study empirically assessed the relationship between stock market development and long-run economic growth in Nigeria for the period 1980 to 2000 and no significant effect of the former on the later was found.

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stems from issues of finance in small and medium-size enterprises(SMEs) in developing countries that have dominated the research agenda at various policy levels(Quartey,2003; Biekpe,2004).

Some studies have recommended regional cooperation as a possible way of alleviating the problem resulting from small financial systems(Bossone & Honohan, 2003). The absence of standardized rules and regulations(Clark,2003) have also incited researchers to assess African stock market reforms. Ngugi et al.(2003) have investigated how African stock markets have responded to the reform process and identified three main types of reforms implemented in these markets since the 1990s, namely: revitalization of the regulatory framework, modernization of trading systems and relaxation of restrictions on foreign investors. A comparative analysis across sampled countries has demonstrated that markets with advanced trading technology, tight regulatory system and relaxed foreign investors' participation show greater efficiency and lower market volatility. These strands on reforms have been confirmed by Mutenheri & Green(2003) in a Zimbabwean context. They examined financial reforms and financing decisions of listed firms in the country to find out that the difference between the pre-reform and post-reform era suggest that the reforms achieved some success in opening-up the capital markets and improving the transparency of firm financing behavior.

Another strand of issues in African business focuses on how to improve Africa's share of FDI. Rolfe & Woodward(2004) have investigated the Zambian experience of attracting foreign investment through privatization. Findings show that despite increased foreign-investment during the 1990s, the economy has stagnated. They conclude that, having sold-off its state assets Zambia like other sub-Saharan African(SSA) countries must endeavor to attract investment through other channels. Much recently, Bartels et al.(2009) have assessed the reason SSA's FDI

share has persistently averaged 1% of global flows. Motivated by the intuition that location decision and perceptions of investors are very instructive in policy making, they analyze a survey of perceptions, operations and motivations of 758 foreign investors in 10 SSA countries. Their results show that, the provision of transaction cost-reducing information on industries and markets on the one hand and utility services to investors on the other hand , before and after a firm's FDI decision are significant factors. Hence they conclude that FDI location decision in SSA is influenced by strongly political economy considerations, while labor and production input variables are not influential. As a broad extension of this analysis, using microdata and firm interviews to explore the role of FDI drivers in South Africa, Toumi(2011) uses a micro level of analysis which enables specification of the investment climate constraints and finds that political and regulatory uncertainty, skills, labor regulation and exchange volatility are decisive factors. Two insights relevant to the context of this paper could be drawn from the above literature:(1) the need for an alternative source of finance beside FDI and; (2) the imperative character of formal institutions in ensuring smooth financing activities for African business.

Institutional issues plaguing African business have been buttressed by recent studies. Kolstad & Wiig (2011) investigating Chinese FDI in Africa have established that these(FDIs) are resources-driven and conclude: exploiting resources and weak institutions appears to be the name of the investment game in Africa. Most recently Darley(2012) has presented public policy challenges, strategies and implications on the issue of increasing SSA's share of FDI. The author describes anecdotal predictors of FDI inflows which include key indicators of development, governance variables, information infrastructure and business environment. Among the suggested strategies and implications are: looking outside the traditional inflows of FDI to Africa, establishing carefully monitored export processing zones, expanding regional

trading arrangements, working together to change the negative perception of the region and reducing corruption.

2.3.3 Scope and positioning of the paper

The available weight of evidence on institutional challenges to African business could be summarized in three strands: (1)there are crucial needs for capital inflows, regulatory reforms and institutional quality : having sold a great chunk of its state assets Zambia like other sub-Saharan African countries must endeavor to attract investment through other channels (Rolfe & Woodward,2004); (2) capital location decision in SSA is influenced by strongly political economy considerations (Bartels et al.,2009); and (3) political & regulatory uncertainty (Toumi,2011) and reducing corruption (Darley,2012) are crucial for capital flows.

Perhaps one of the most exhaustive study known to African business that underlines the need for GQ is by Goldsmith(2003). In a survey of business and government leaders on perceptions of governance in Africa, the paper reviews 800 business leaders in Ghana, Kenya, Madagascar, Malawi, Senegal, Tanzania, Uganda and Zambia. Like most African countries, these eight countries had undertaken governance reforms over the past decade. Thus the survey aimed to learn how business and government leaders perceive those recent governance reforms. Most respondents saw major problems with governance, though across countries they reported an impression of improvement and expected further gains. The findings presented grounds for wary optimism about business-government relations in the region. Owing to the need for finance in the African continent, the need to look for other sources of investment beside FDI(as a result of failed privatization) and the established role of stock market development in economic growth; it is imperative to assess the role of governance on stock market development.

The dual aim of this study as well as its fivefold contribution to the literature have already been substantially covered in the introduction of the paper. The empirical section will assess three main concerns: (1) investigate how the process by which those in authority are selected and replaced(political governance: voice & accountability and political stability) affect the smooth running of financial markets; (2) assess the manner in which stock market health is affected by the capacity of governments to formulate & implement policies, as well as deliver services(economic governance: regulatory quality and government effectiveness); (3) examine how the respect of citizens and state for institutions that govern interactions among them affect capital markets(institutional governance: rule of law and corruption control).

3. Data and Methodology

3.1 Data

We investigate a panel of 14 African countries with data from African Development Indicators (ADI) of the World Bank (WB) ranging from 1990 to 2010. Corresponding variables and countries are presented in the appendices (Appendix 3 and Appendix 4 respectively). In accordance with Yang (2011), dependent variables are stock market capitalization, stock market value traded, stock market turnover, and number of listed companies. In line with the IMF (2005) definition, government quality independent variables include: corruption-control, government-effectiveness, voice and accountability, political stability or no violence, rule of law and regulation quality. Instrumental variables are: legal-origins, press-freedoms, income-levels and religious-dominations. These instruments have been largely documented in the economic development literature (La Porta et al., 1997; Stulz & Williamson, 2003; Beck et al., 2003; Agbor, 2011; Asongu, 2011bc). More so, Gray & Bythewood(2001) have concluded that

historical and cultural factors play a significant role in the characteristics of African stock markets. The instrumental variables are dummy variables(see Appendix 1) and the presence of perfect negative correlations (between: French and English; Islam and Christian; Low-income and Middle-Income countries) means the relationship that appears to exist between the two variables is negative 100% of the time. For instance, no French country is English at the same time and vice versa. This interpretation also holds for religious-domination and income-level dummies. In the regressions we control for GDP growth and population growth at the first-stage and only for the former in the two-stage regressions.

Summary statistics and correlation analysis are presented in Appendix 1 and Appendix 2 respectively. While the former indicates that the distributions of the variables are comparable, the later guides the empirical analysis in avoiding issues related to multicolinearity and overparametization. Only 14 African countries are included instead of the whole continent because only these countries have well functioning stock-markets will exploitable data.

3.2 Methodology

3.2.1 Endogeneity

While GQ affects stock market performance, activities of financial markets also have a bearing on GQ. Though some scholars take a restrained view, others argue that financial globalization generates a 'golden straightjacket' for governments (Friedman, 1999). At the extreme, financial markets become masters of governments, eviscerating the authority of national states (Helleiner, 1994; Strange, 1996; Cerny, 1999). Investors' capacity for exit and the political voice it confers is crucial to these accounts. Whereas financial market openness provides governments with greater access to capital, it also subjects them to external market discipline (Armijo, 1999; Obstfeld & Taylor, 2004). Governments must sell their policies not

only to voters but also to foreign investors. Based on the fact that investors can respond swiftly and severely to actual or expected outcomes, government must consider financial participants' preferences when choosing policies. The logic follows that financial openness should reduce the capacity of governments to tax and spend or more generally pursue divergent policies. Therefore this evidence of reverse-causality presents an important issue of endogeneity that should be taken into account by the estimation technique. More so, GQ indicators are perception-based measures which further confirm the endogeneity issue due to biased perceptions and omitted variables.

Beside the most important source of endogeneity which is reverse-causality as described above, it can also arise from measurement error, autoregression with autocorrelated errors, simultaneity, omitted variables and sample selection errors.

3.2.2 Estimation Technique

In accordance with Beck et al.(2003) and recent African law-finance literature(Asongu, 2011bc) the paper adopts an Instrumental Variable(IV) estimation technique. IV estimates address the puzzle of endogeneity and thus avoid the inconsistency of estimated coefficients by Ordinary Least Squares (OLS) when the explaining variables are correlated with the error term in the equation of interest. In line with Asongu (2011bc), the Two-Stage-Least-Squares (TSLS) estimation method adopted by this paper will entail the following steps.

First-stage regression:

$$Gov'tQuality_{it} = \gamma_0 + \gamma_1(legalorigin)_{it} + \gamma_2(religion)_{it} + \gamma_3(incomelevel)_{it}$$
$$+ \gamma_4(pressfreedom)_{it} + \alpha_i X_{it} + \upsilon \tag{1}$$

Second-stage regression:

$$Finance_{it} = \gamma_0 + \gamma_1(Gov'tChannel)_{it} + \beta_i X_{it} + \mu$$

<div align="right">(2)</div>

In the two equations, X is a set of explaining control variables. For the first and second equations, v and u, respectively represent the disturbance terms. Instrumental variables are legal-origins, dominant-religions, press-freedoms and income-levels. In Eq.(1), '$Gov'tQuality$' represents: regulation quality, the rule of law, government effectiveness, political stability, voice & accountability and corruption-control. '$Finance$' in Eq.(2) denotes stock market performance dynamics of: stock market capitalization, stock market value traded, stock market turnover ratio and number of listed companies.

We adopt the following steps in the analysis:

-justify the use of a TSLS over an OLS estimation technique with the Hausman-test for endogeneity;

-account, the instruments are exogenous to the endogenous components of explaining variables (GQ channels), conditional on other covariates (control variables);

-ensure the instruments are valid and not correlated with the error-term in the equation of interest through an Over-identifying Restrictions (OIR) test.

3.2.3 Robustness checks

To ensure robustness of the analysis, the following checks will be carried out: (1) usage of alternative indicators of GQ dynamics; (2) employment of two distinct interchangeable sets of moment conditions that encompass every category of the instruments; (3) usage of alternative indicators of stock market performance; (4) account for the concern of endogeneity.

4. Empirical Analysis

This section addresses the ability of exogenous components of GQ dynamics to account for differences in stock market performance; the ability of the instruments to explain variations in the endogenous components of GQ dynamics and the possibility of the instruments to account for stock market performance beyond GQ dynamic channels. To make these investigations, we use the TSLS-IV estimation method with legal-origins, press-freedoms, income-levels and religious-dominations as instrumental variables.

4.1 Quality of government and instruments

Table 1 assesses the validity of the instruments in explaining differences in GQ. Clearly it could be observed that distinguishing African countries by legal-origins, income-levels, religious-denominations and press-freedoms help explain cross-country differences in GQ. The instruments taken together enter significantly in all regressions at the 1% significance level. Broadly, the following could be established. (1) But for political stability, English common-law countries have substantially better levels of GQ than their French civil-law counterparts; broadly in accordance with the law-finance (growth) literature (La Portal et al., 1997, 1998; Beck et al., 2003) and recent African law-finance (growth) literature (Asongu, 2011bcdef; Agbor, 2011). (2) But for political-stability, the dominance of Christian nations over those of Moslem decent is very significant; which is broadly consistent with El Badawi, & Makdisi (2007). (3)With the exception of political stability, GQ increases with income-levels; broadly in accordance with Narayan et al.(2011). This interpretation is only valid without the decomposition of middle-income countries. However, when middle-income countries are sub-divided into lower and higher middle income components, further exceptions apply. These exceptions apply to the wealth-effects on government effectiveness and voice & accountability. In fact there appears to be a U-shape relationship between income-levels and these GQ dynamics: as you move from

low-income to lower-middle-income, then to middle-income and lastly to higher income countries. (4) GQ improves with press-freedom; contrary to Vaidya (2005) and Oscarsson (2008).

4.2 Stock market performance (SMP) and quality of government

Table 2 investigates two main issues: (1) the ability of GQ channels to account for SMP dynamics and; (2) the possibility of the instrumental variables explaining SMP dynamics beyond GQ channels. Whereas we address the first issue by assessing the significance of estimated coefficients, the second is looked at through the OIR test. The null hypothesis of this test is the position that the instruments account for SMP dynamics only through GQ channels. Thus a rejection of the null hypothesis is the rejection of the view that the instruments explain SMP dynamics through no other mechanisms than GQ channels. The Hausman test for endogeneity precedes every IV regression. The null hypothesis of this test is the position that OLS estimates are consistent and efficient. Therefore a rejection of the null hypothesis points to the issue of reverse-causality (endogeneity)[6] we have elucidated earlier (see Section 3.2.1) and hence lends credit to the IV estimation technique. Otherwise we estimate by OLS. In some cases, the adjusted coefficient of determination is negative and thus we do not report any results pertaining to the regressions. For robustness purposes, results are replicated using an alternative set of instrumental variables, as depicted in the second and third to the last lines of Panels A-B in Table 2.

With regard to the first concern which is addressed by the significance of estimated coefficients, it can be firmly established that GQ dynamics significantly improve SMP in Africa.

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[6] Beside the most important source of endogeneity which is reverse-causality as described in Section 3.2.1, the phenomenon can also arise as a result of measurement error, autoregression with autocorrelated errors, simultaneity, omitted variables and sample selection errors.

As concerns the second-issue, failure to reject the null hypothesis of the OIR test in all regressions (where applicable) signifies that the instruments do not explain SMP through some other mechanisms beyond GQ channels. Thus the instruments are valid and not correlated with the error term in the equation of interest; the instruments do not suffer-from endogeneity.

The difference in the signs of growth elasticities in Table 1-2 could be explained on two counts: firstly, they are subject to different outcome variables and; secondly, while those in Table 2 are contingent on the instruments, the growth elasticities in Table 1 are not based on any moment conditions.

4.3 Discussion of results, policy implications and limitations

The results demonstrate that GQ is positively associated with stock market performance in the African continent; consistent with Hooper et al. (2009). Thus countries that have an efficient institutional environment should expect improvements in their stock market performance dynamics. Risk-averse investors would not invest in countries that are not mean-variance efficient. Results indirectly support the view that the quality of governance reduces both transaction and agency costs, which maximize shareholder return.

The findings of this paper integrate various strands of the African business literature from three perspectives: the need for institutional reforms; issues in the financing of SMEs and alternative sources of FDI. (1) With regard to the need for reforms, results support: the imperative of standardized rules and regulation(Clark,2003), especially a revitalization of regulation (Ngugi,2003), since a tight regulation will lead to greater market efficiency and low volatility(Mutenheri & Green(2003). (2) As sustained by Gray & Bythehood(2001), African governments are focusing on the importance of moving toward more market-oriented economies and developing the financial market infrastructure to mobilize funds from both the private and

public sectors. This motivation stems from issues of finance in small and medium-size enterprises(SMEs) in developing countries that have dominated the research agenda at various policy levels(Quartey,2003; Biekpe,2004). Hence the improvement of government quality could enhance stock market performance and represent a good opportunity for the financing of SMEs. (3) As to what concerns alternative sources to FDI, owing to the failure of the privatization process in attracting investment into many African countries(Rolfe & Woodward,2004), improvements in political economy considerations(Bartels et al.,2009), especially the mitigation of political & regulatory uncertainty(Toumi,2011) and reduction of corruption(Darley, 2012) will increase the possibility of funding through stock markets as well as create an appealing atmosphere for the return of the much needed FDI.

Many African countries especially those in French speaking sub-Saharan Africa have stock markets that are taking too long to pick-up. The road to stock market development depends significantly on institutional arrangements and the regulatory environment. Quite often these arrangements have been ignored. Corruption remains dire in the continent and represents a significant risk to financial market development. To sum up, a policy recommendation to African countries could be summarized in the following: increase the control of corruption; improve government effectiveness; avoid incidences of violence and political instability that send wrong signals to international investors; promote institutions of voice and accountability; maintain sound regulation quality and respect for the rule of law. These recommendations are broadly in line with La Porta et al. (1997, 1998) who argue that improving corporate governance rules, their enforcements and the quality of accounting standards results in greater reliance on stock market financing by companies.

The main limitation of this work is that it doesn't incorporate the diversification dimension into the analysis. It has been well documented that integration reduces the country risk effects on the decision of investment (Bekaert & Harvey, 1995; Stulz, 1999; Hail & Leuz, 2003). Therefore with international market integration and diversification, poor governance impact on SMP could become insignificant. In this context, stocks in a market with higher risk and lower returns are still held by risk-averse investors due to the portfolio diversification benefits. However, this limitation (absence of diversification dimension) doesn't much apply to African stock markets owing to relatively lower levels of integration (with the exceptions of South Africa and Egypt). Another important limitation worth mentioning is that this kind of analysis depends to a great extent on the integrity of the proxy for GQ obtained from perception-based measures. Therefore omitted variables and media-effect may significantly influence perceptions of GQ and consequently bias the link between the GQ indicators and the performance measures. However, to the best of our knowledge there are no better indicators of GQ other than those from African Development Indicators of the World Bank. The paper has limited this setback by using six different measures of GQ. Also the use of a methodology that accounts for endogeneity addresses concerns of omitted-variables and bias in the perception-based measures.

5. Conclusion

Many African countries especially those in French speaking sub-Sahara have stock markets that are taking too long to pick-up. How do government policies and institutions affect stock market performance? As stock markets grow broader and deeper in developing countries, the question becomes more critical. Government quality dynamics of corruption-control, government-effectiveness, political-stability or no violence, voice and accountability, regulation

quality and rule of law have been instrumented with income-levels, religious-dominations, press-freedom degrees and legal origins to account for stock market performance qualities of capitalization, value traded, turnover and number of listed companies. The results demonstrate a significant positive association between stock market performance measures and the quality of government institutions. These findings suggest countries with better developed government institutions would favor stock markets with higher market capitalization, better turnover ratios, higher value in shares traded and greater number of listed companies.

A future research direction on the association between institutional factors and financial markets should use firm-specific indicators to confirm the findings. Also, exploring how foreign direct investment is impacted by the quality of government could have interesting policy implications.

Table 1: First-stage regressions (Government quality and instruments)

| | | Dependent Variables | | | | | | | | | | | |
		Control of Corruption		Government Effectiveness		Voice & Accountability		Political Stability		Regulation Quality		Rule of Law	
	Constant	-2.865 *** (-8.948)	-0.301* (-1.851)	-1.329*** (-7.190)	-0.254* (-1.666)	-0.906*** (-3.748)	-1.103*** (-7.964)	-3.739*** (-6.762)	-6.693*** (-4.733)	-3.235*** (-9.485)	-0.764*** (-4.556)	-2.886*** (-7.490)	-0.684*** (-3.467)
Legal-origins	English common-law	0.711*** (4.642)	---	0.342** (2.438)	---	-0.055 (-0.485)	---	1.481*** (5.694)	---	0.538*** (3.357)	---	0.771*** (4.251)	---
	French civil-law	---	-0.495*** (-3.053)	---	-0.432*** (-3.007)	---	0.108 (0.810)	---	7.477*** (5.637)	---	-0.518*** (-3.204)	---	-0.725*** (-3.809)
Religions	Christianity	0.955*** (5.722)	---	---	---	-0.050 (-0.420)	---	1.545*** (5.633)	---	1.180*** (6.976)	---	0.984*** (5.147)	---
	Islam	---	-0.924*** (-5.514)	---	-0.887*** (-5.495)	---	-0.058 (-0.420)	---	7.256*** (5.208)	---	-1.223*** (-7.230)	---	-1.078*** (-5.418)
	Low Income	---	-0.520*** (-3.991)	---	-0.485*** (-3.937)	---	0.628*** (5.895)	---	9.248*** (8.685)	---	-0.489*** (-3.794)	---	-0.234 (-1.546)
Income Levels	Middle Income	1.070*** (10.27)	---	0.874*** (8.970)	---	0.650*** (8.466)	---	0.931*** (5.298)	---	0.941*** (8.685)	---	0.912*** (7.446)	---
	Lower Middle Income	-0.376** (-2.423)	---	-0.769*** (-5.277)	---	-1.237*** (-11.06)	---	-0.499* (-1.953)	---	-0.435*** (-2.762)	---	-0.640*** (-3.596)	---
	Upper Middle Income	---	0.592*** (3.948)	---	0.591*** (3.944)	---	1.443*** (11.46)	---	13.838*** (10.88)	---	0.516*** (3.387)	---	0.820*** (4.571)
	Free	0.452*** (3.956)	---	0.519*** (4.758)	---	0.747*** (8.697)	---	-0.002 (-0.013)	---	0.344*** (2.842)	---	0.395*** (2.884)	---
Press Freedoms	Partly Free	0.115 (1.088)	---	0.132 (1.224)	---	0.284*** (3.631)	---	-0.392** (-2.194)	---	0.163 (1.482)	---	-0.006 (-0.054)	---
	No Freedom	---	-0.173* (-1.731)	---	-0.183* (-1.846)	---	-0.461*** (-5.354)	---	-3.151*** (-3.750)	---	-0.232** (-2.233)	---	-0.146 (-1.195)
	GDP Growth	---	0.032*** (3.523)	---	0.036*** (4.826)	0.035*** (5.370)	0.040*** (5.231)	0.064*** (4.258)	0.156** (1.985)	0.040*** (4.304)	0.042*** (4.496)	0.040*** (3.836)	0.044*** (4.058)
Control Variables	Population Growth	0.166*** (3.747)	0.044 (0.837)	0.113*** (2.763)	---	0.120*** (3.133)	0.081* (1.821)	0.033 (0.385)	0.209 (0.494)	0.348*** (6.410)	0.332*** (6.146)	0.103* (1.692)	0.069 (1.096)
	Adjusted R²	0.811	0.813	0.829	0.813	0.926	0.898	0.716	0.708	0.823	0.819	0.809	0.788
	Fisher test	67.539***	68.266***	80.633***	79.760***	173.466***	138.922***	35.440***	57.919***	64.372***	71.658***	58.819***	59.160***
	Observations	109	109	99	109	110	110	110	165	110	110	110	110

*,**,***: significance levels of 10%, 5% and 1% respectively.

Table 2: Two-stage regressions (Stock market performance and government quality)

Dependent Variables

Panel A: Stock Market Capitalization and Total Value Traded

	Stock Market Capitalization						Stock Market Value Traded					
Constant	0.627*** (3.605)	0.210*** (4.531)	0.707*** (9.283)	n.a	0.638*** (3.575)	0.630*** (3.449)	0.174* (1.866)	0.210*** (4.531)	0.217*** (4.664)	n.a	0.168* (1.822)	0.166* (1.743)
Control of Corruption	0.462*** (4.199)	---	---	---	---	---	0.190*** (3.190)	---	---	---	---	---
Government Effectiveness	---	0.189*** (3.671)	---	---	---	---	---	0.189*** (3.671)	---	---	---	---
Voice & Accountability	---	---	0.290*** (4.792)	---	---	---	---	---	0.131*** (3.469)	---	---	---
Political Stability	---	---	---	n.a	---	---	---	---	---	n.a	---	---
Regulation Quality	---	---	---	---	0.540*** (4.135)	---	---	---	---	---	0.218*** (3.119)	---
Rule of Law	---	---	---	---	---	0.401*** (4.036)	---	---	---	---	---	0.162*** (3.050)
GDP Growth	-0.029 (-0.759)	-0.016* (-1.920)	-0.041*** (-3.219)	n.a	-0.033 (-0.847)	-0.021 (-0.542)	-0.006 (-0.297)	-0.016* (-1.920)	-0.013* (-1.730)	---	-0.006 (-0.293)	-0.001 (-0.051)
Hausman test	19.074***	0.201	1.059	53.801***	15.435***	40.681***	14.389***	0.201	1.438	26.733***	5.904*	27.894***
OIR-Sargan	1.333	n.a	n.a	n.a	1.210	0.809	0.935	n.a	n.a	n.a	1.793	1.159
P-value	[0.721]				[0.750]	[0.816]	[0.816]				[0.616]	[0.762]
Cragg-Donald	3.581	n.a	n.a	n.a	3.916	3.860	3.482	n.a	n.a	n.a	3.863	3.828
Adjusted R²	0.094	0.131	0.145	-0.019	0.082	0.034	0.035	0.087	0.073	-0.017	0.055	0.001
Fisher	10.564***	6.770***	13.473***	n.a	10.239***	9.722***	6.695***	7.004***	6.361***	n.a	6.521***	6.157***
Observations	105	91	148		106	106	100	127	137		101	101

Panel B: Stock Market Turnover and Number of Listed Companies

	Stock Market Turnover						Number of Listed Companies					
Constant	n.a	0.142*** (7.910)	n.a	n.a	n.a	n.a	0.126*** (5.564)	0.140*** (4.822)	0.102*** (9.765)	0.083*** (3.778)	0.135*** (5.062)	0.110*** (11.08)
Control of Corruption	n.a	---	---	---	---	---	0.113*** (6.562)	---	---	---	---	---
Government Effectiveness	---	0.070*** (3.532)	---	---	---	---	---	0.124*** (5.265)	---	---	---	---
Voice & Accountability	---	---	n.a	---	---	---	---	---	0.058*** (6.627)	---	---	---
Political Stability	---	---	---	n.a	---	---	---	---	---	0.077*** (5.315)	---	---
Regulation Quality	---	---	---	---	n.a	---	---	---	---	---	0.126*** (5.642)	---
Rule of Law	---	---	---	---	---	n.a	---	---	---	---	---	0.073*** (8.300)
GDP Growth	n.a	-0.005* (-1.658)	n.a	n.a	n.a	n.a	-0.005 (-1.177)	-0.010 (-1.439)	-0.003* (-1.869)	0.004 (0.883)	-0.008 (-1.385)	-0.004*** (-2.930)
Hausman test	23.554***	0.711	3.653	26.733***	16.414***	54.909****	19.159***	6.609**	0.238	21.731***	26.916***	3.519
OIR-Sargan	n.a	n.a	n.a	n.a	n.a	n.a	0.436	3.265	n.a	5.250	4.324	n.a
P-value							[0.932]	[0.352]		[0.154]	[0.228]	
Cragg-Donald	n.a	n.a	n.a	n.a	n.a	n.a	4.475	2.247	n.a	5.854	4.771	n.a
Adjusted R²	-0.002	0.073	-0.0006	-0.012	-0.004	-0.018	0.265	0.093	0.217	0.154	0.176	0.307
Fisher	n.a	6.330***	n.a	n.a	n.a	n.a	26.485***	22.102***	21.984***	17.915***	20.010***	34.477***
Observations		135					108	98	152	109	109	152
Initial Instruments	Constant; Lower Middle Income; Middle Income; English; Christians; Free Press; Partly Free Press											
Robust Instruments	Constant; Upper Middle Income; Low Income; French; Islam; Not Free Press											

*,**,***: significance levels of 10%, 5% and 1% respectively. OIR: Overidentifying Restrictions

Appendices

Appendix 1: Summary Statistics

	Variables	Mean	S.D	Min.	Max.	Observations
Stock Market Performance	Stock Market Capitalization	0.354	0.521	0.008	3.382	259
	Stock Market Value Traded	0.078	0.268	0.000	2.591	245
	Stock Market Turnover	0.095	0.119	0.000	0.704	253
	Number of Listed Companies	0.067	0.085	0.002	0.712	268
Government Quality	Control of Corruption	-0.259	0.666	-1.489	1.086	167
	Government Effectiveness	-0.171	0.654	-1.674	0.807	155
	Political Stability	-0.314	0.885	-2.530	1.122	168
	Regulation Quality	-0.224	0.694	-2.394	0.905	168
	Rule of Law	-0.325	0.756	-1.913	1.053	168
	Voice and Accountability	-0.389	0.793	-1.805	1.047	168
Control Variables	GDP growth	3.504	3.719	-17.254	12.272	294
	Population growth	1.952	0.775	-0.143	3.739	294
Instrumental Variables	English Common-Law	0.714	0.452	0.000	1.000	294
	French Civil-Law	0.285	0.452	0.000	1.000	294
	Christianity	0.714	0.452	0.000	1.000	294
	Islam	0.285	0.452	0.000	1.000	294
	Low Income	0.285	0.452	0.000	1.000	294
	Middle Income	0.714	0.452	0.000	1.000	294
	Lower Middle Income	0.428	0.495	0.000	1.000	294
	Upper Middle Income	0.285	0.452	0.000	1.000	294
	Press Freedom	0.345	0.476	0.000	1.000	165
	Partial Press Freedom	0.230	0.422	0.000	1.000	165
	No Press Freedom	0.424	0.495	0.000	1.000	165

S.D: Standard Deviation. Min: Minimum. Max: Maximum.

Appendix 2: Correlation Analysis

Stock Market Performance				Quality of Government						Control Vles		Instrumental Variables											
SMC	SMVT	SMT	ListC	CC	Gov.E	PolS	R.Q	R.L	V&A	GDP	Popg	Eng.	Frch.	Chris	Islam	LI	MI	LMI	UMI	Free	PFree	NFree	
1.000	0.863	0.733	0.242	0.19	0.308	0.008	0.22	0.165	0.310	-0.11	-0.29	0.109	-0.109	0.123	-0.12	-0.14	0.144	-0.234	0.399	0.391	-0.12	-0.272	SMC
	1.000	0.795	0.084	0.15	0.273	0.045	0.21	0.119	0.257	-0.04	-0.20	0.074	-0.074	0.065	-0.06	-0.13	0.130	-0.138	0.274	0.337	-0.13	-0.215	SMVT
		1.000	0.078	0.09	0.261	-0.061	0.12	0.115	0.096	-0.02	-0.30	-0.18	0.180	-0.24	0.24	-0.17	0.176	0.048	0.117	0.340	-0.06	-0.277	SMT
			1.000	0.43	0.423	0.397	0.33	0.526	0.458	0.029	-0.38	0.146	-0.146	0.156	-0.15	-0.30	0.308	-0.261	0.596	0.557	-0.18	-0.375	ListC
				1.00	0.912	0.826	0.82	0.899	0.719	0.299	-0.21	0.068	-0.068	0.100	-0.10	-0.48	0.482	-0.233	0.737	0.725	-0.14	-0.588	CC
					1.000	0.737	0.84	0.888	0.719	0.347	-0.17	0.064	-0.064	-0.16	0.163	-0.50	0.050	-0.184	0.695	0.777	-0.00	-0.769	Gov. E
						1.000	0.71	0.848	0.627	0.270	-0.24	0.211	-0.211	0.238	-0.23	-0.19	0.190	-0.375	0.601	0.591	-0.24	-0.370	PolS
							1.00	0.866	0.725	0.444	-0.39	0.013	-0.013	0.066	-0.06	-0.39	0.399	-0.207	0.627	0.618	-0.02	-0.583	R..Q
								1.000	0.709	0.336	-0.18	0.004	-0.004	0.007	-0.00	-0.39	0.391	-0.245	0.660	0.730	-0.15	-0.581	R.L
									1.000	0.292	0.065	0.471	-0.471	0.397	-0.39	-0.07	0.079	-0.676	0.821	0.805	-0.00	-0.784	V&A
										1.000	0.134	-0.03	0.033	-0.16	0.165	-0.17	0.174	0.070	0.097	0.254	0.107	-0.336	GDPg
											1.000	0.099	-0.099	0.152	-0.15	0.214	-0.214	-0.038	-0.17	-0.24	0.253	0.017	Popg
												1.000	-1.000	0.650	-0.65	0.400	-0.400	-0.730	0.400	0.229	0.173	-0.368	English
													1.000	-0.65	0.65	-0.40	0.400	0.730	-0.40	-0.22	-0.17	0.368	French
														1.000	-1.00	0.400	-0.400	0.400	-0.40	-0.22	-0.37	0.100	Christian
															1.000	-0.40	0.400	0.730	-0.40	-0.22	0.377	-0.100	Islam
																1.000	-1.000	0.547	0.400	-0.36	-0.09	-0.268	LIncome
																	1.000	0.547	0.400	0.363	-0.09	-0.268	MIncome
																		1.000	-0.54	-0.44	0.020	0.410	LMI
																			1.000	0.775	-0.11	-0.648	UMI
																				1.000	-0.39	-0.623	Free
																					1.000	-0.469	PFree
																						1.000	NFree

SMC: Stock Market Capitalization. SMVT: Stock Market Value Traded. SMT: Stock Market Turnover. ListC: Listed Companies. CC: Control of Corruption. Gov. E: Government Effectiveness. PolS: Political Stability or No Violence. R.Q: Regulation Quality. R.L: Rule of Law. V& A: Voice and Accountability. GDPg: GDP growth. Popg: Population growth. Eng: English Common-Law. Frch: French Civil-Law. Chris: Christian Religion. LI: Low Income. MI: Middle Income. LMI: Lower Middle Income. UMI: Upper Middle Income. Free: Freedom of the Press. PFree: Partial Freedom of the Press. NFree: No Freedom of the Press.

Appendix 3: Variable Definitions

Variables	Signs	Variable Definitions(Measurement)	Sources
Stock Market Capitalization	SMC	Stock Market Capitalization(% of GDP): Measured as the share price times the number of shares outstanding.	World Bank(FDSD)
Stock Market Value Traded	SMVT	Stock Market Total Value Traded(% of GDP): Measured as total value of shares traded during a given period.	World Bank(FDSD)
Stock Market Turnover	SMT	Stock Market Turnover Ratio: Measured as total value of shares traded during a period divided by average market capitalization for that period.	World Bank(FDSD)
Listed Companies	ListC	Number of Listed Companies Per Capita(% of Population)	World Bank(FDSD)
Control of Corruption	CC	Control of Corruption(estimate):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.	World Bank(WDI)
Government Effectiveness	Gov. E	Government Effectiveness(estimate): Measures the quality of public services, the quality and degree of independence from political pressures of the civil service, the quality of policy formulation and implementation, and the credibility of governments commitments to such policies.	World Bank(WDI)
Political Stability/ No Violence	PolS	Political Stability/ No Violence (estimate): Measured as the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional and violent means, including domestic violence and terrorism.	World Bank(WDI)
Regulation Quality	R.Q	Regulation Quality (estimate): Measured as the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	World Bank(WDI)
Rule of Law	R.L	Rule of Law(estimate): Captures 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, the courts, as well as the likelihood of crime and violence.	World Bank(WDI)
Voice and Accountability	V & A	Voice and Accountability (estimate): Measures the extent to which a country's citizens are able to participate in selecting their government and to enjoy freedom of expression, freedom of association, and a free media.	World Bank(WDI)
Population growth	Popg	Average annual population growth rate	World Bank(WDI)
Growth of GDP	GDPg	Average annual GDP growth rate	World Bank(WDI)
Population growth	Popg	Average annual population growth rate	World Bank(WDI)

FDSD: Financial Development and Structure Database. WDI: World Bank Development Indicators.

Appendix 4: Presentation of Countries

Instruments	Instrument Category	Countries	Num
Law	English Common-Law	Botswana, Ghana, Kenya, Mauritius, Namibia, Nigeria, South Africa, Swaziland, Zambia, Zimbabwe.	10
	French Civil-Law	Ivory Coast, Egypt, Morocco, Tunisia.	4
Religion	Christianity	Botswana, Ivory Coast, Ghana, Kenya, Mauritius, Namibia, South Africa, Swaziland, Zambia, Zimbabwe.	10
	Islam	Egypt, Morocco, Nigeria, Tunisia.	4
Income Levels	Low Income	Ghana, Kenya, Zambia, Zimbabwe.	4
	Middle Income	Botswana, Ivory Coast, Egypt, Mauritius, Morocco, Namibia, Nigeria, South Africa, Swaziland, Tunisia.	10
	Lower Middle Income	Ivory Coast, Egypt, Morocco, Nigeria, Senegal, Sudan, Swaziland, Tunisia.	8
	Upper Middle Income	Botswana, Mauritius, Namibia, South Africa.	4

Num: Number of cross sections(countries)

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