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**Democracy and Stock Market Performance in African Countries**

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**Abstract**

**Purpose** – This paper assesses the incidence of political institutions on stock market performance dynamics in Africa.

**Design/methodology/approach** – The estimation technique used is a Two-Stage-Least Squares Instrumental Variable methodology. Channels of democracy, polity and autocracy are instrumented with legal-origins, religious-legacies, income-levels and press-freedom qualities to account for stock market performance dynamics of capitalization, value traded, turnover and number of listed companies. To ensure robustness of the analysis, the following checks are carried out: (1) usage of alternative indicators of political institutions; (2) employment of two distinct interchangeable sets of moment conditions that engender every category of the instruments; (3) usage of alternative indicators of stock market performance; (4) account for the concern of endogeneity; (5) usage of Principal Component Analysis(PCA) to reduce the dimensions of stock market dynamics and political indicators and then check for further robustness of findings in the regressions from resulting indexes.

**Findings** – Findings broadly demonstrate that democracy improves investigated stock market performance dynamics.

**Practical implications** – As a policy recommendation, the role of sound political institutions is crucial for financial development in Africa. Democracies have important effects on both the degree of competition for public office and the quality of public offices that favor stock market development in the African continent.

**Originality/value** – To the best of our knowledge this is the first paper to assess the incidence of democracy on stock market performance in an exclusive African context. Political strife has plagued many African countries and continue to pose a significant threat to financial market development.

*JEL Classification:* G10 ; G18; G28; P16; P43

*Keywords:* Financial Markets; Government Policy; Political Economy; Development

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## 1. Introduction

The deepening of stock markets in developing countries and threats to democratic institutions in Africa represent an important challenge to the manner in which political institutions are affecting stock market performance in the continent<sup>2</sup>. Although a number of studies have investigated the dynamics of stock market performance worldwide, the emphasis has often been on developed economies and the emerging markets of Latin America and Asia. In line with the literature (Alagidede, 2008; Asongu, 2012a), such neglect is far from amazing because Africa's markets are perceived as excessively risky and highly illiquid with less developed operating institutional environments. Economic instability and political strife have plagued many African countries and continue to pose a significant 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). With the exception of South Africa, no African country has emerged as an economic power with a standard financial market. This might partly account for the lack of academic research on the capital markets of the continent. However Africa has recently witnessed significant economic and financial developments. This overall growth has attracted attention from scholars and pundits. Thus how established institutions are playing-out in the development of financial markets in the continent could have relevant policy implications.

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<sup>2</sup> With respect 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 surpassed the total size of outstanding public securities, which stood at \$ 23.1 trillion. A substantial 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 example some emerging markets like those of Malaysia, Singapore and South Africa have total stock market capitalizations that exceed their respective Gross Domestic Products.

Though there is a large literature in economics, political science and public policy which considers ways in which increased globalization in trade and finance affects national economic outcomes and government policy making(Helleiner, 1994; Strange, 1996; Friedman, 1999; Obstfeld & Taylor, 2004), with the growing importance of financial markets owing to globalization, we currently know very little about how democracy(another product of globalization in some respect) affects the quality of financial markets. This work aims to breach the gap by exploring how political institutions affect government quality dynamics of stock market capitalization, total value traded, turnover and number of listed companies in the African continent.

The relevance of this study also draws on the need for alternative sources of investment in the continent. With the failure of privatization projects, the African business environment is increasingly faced with the need for alternative forms of investment(Rolfe & Woodward,2004), financing sources for Small and Medium Enterprises(SMEs) and revitalization of business regulation. Owing to the weight of available business challenges in the African continent, there are crucial needs for capital inflows, regulatory reforms and institutional quality. Having sold a great chunk of its state assets, the Zambian government like other sub-Saharan African countries are looking for alternative channels of investment(Rolfe & Woodward,2004). It has been established in African business literature that foreign capital inflow location-decision is strongly influenced by political economy considerations(Bartels et al.,2009), political & regulatory uncertainty(Toumi,2011) and the peril of corruption(Darley, 2012).

Apart from the need for investment in the continent, financial market performance is imperative for a multitude of reasons. Financial theory regards integrated and performing markets to be relatively more efficient compared to divergent ones. A well performing stock

market stimulates cross-border flow of funds, improves trading volume which in-turn increases stock market liquidity and grants investors the opportunity to efficiently allocate capital(Chen et al.,2002; Asongu, 2012bcd). These result in a lower cost of capital for firms and lower transaction cost for investors(Kim et al.,2005). Moreover, 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 augment the capacity of African economies to absorb shocks(Yu et al., 2010). It is also interesting to note that stock markets may also be performing to reflect the level of arbitrage activity. When markets are developed and well performing, it denotes there is a common force such as arbitrage activity that attracts the markets together. It further indicates that the growth of markets will mean the potential for making above normal profits and international diversification will be limited as supernormal profits are arbitrated away(Von Furstenberg & Jeon, 1989). In the same line of reasoning, 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 imperative 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 foundations in the literature of stock market interdependence and portfolio diversification(Grubel.,1968; Levy & Sarnat, 1970).

In fact sound political institutions are crucial for African stock market development because 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). A proportion of African countries especially those of French speaking sub-Sahara have stock markets that are taking too long to gain grounds. Hence the findings of this study could really result in relevant institutional policy recommendations. The rest of the paper is organized as follows. Section 2 examines existing literature. Data and methodology are presented and outlined respectively in Section 3. Section 4 covers empirical analysis and corresponding discussion. We conclude with Section 5.

## **2. Literature Review**

### **2.1 Theoretical framework**

#### *2.1.1 Legal origins and financial development*

This section describes the law and finance theory. We devote space to spell-out the difference in how legal heritage continue to shape private property rights protection, investor protection laws and financial development today. In this section, we also describe two mechanisms via which legal-origin may influence the contracting environment: the political and adaptability mechanisms.

##### *a) Law, enforcement and financial development*

The first strand of the law and finance theory emphasizes that legal institutions influence corporate finance and financial development(La Porta et al.,1998). The law and finance theory stresses that cross-country differences in (i) contract, company, bankruptcy and security laws, (iii) the legal system' emphasis on private property rights, and (iii) the efficiency of enforcement influence the degree of expropriation and hence the confidence with which people purchase securities and take part in financial markets. As sustained by La Porta et al.(2000a) and backed by Beck & Levine(2005) the law and finance view follows naturally from the evolution of

corporate finance theory during the past half century. A country's contract, company, security and bankruptcy laws, as well as the enforcement of these laws fundamentally determine the rights of securities holders and the operation of financial systems. Debt and equity are viewed by Modigliani & Miller(1958) as legal claims on the cash flow of firms; statutory law and the degree to which courts enforce those laws shape the types of contracts that are used to address agency problems(Jensen & Meckling,1976); financial economists have increasingly focused on the control that financial securities bring to their owners and the effect of different legal rules on corporate control(Hart, 1995).

As to how legal establishments should influence corporate finance and financial development, within a broad vision there are differing opinions regarding the degree to which legal systems should support the private contractual arrangements and the degree to which the legal system should have specific laws concerning shareholder and creditor rights. According to Coasians(Coase, 1960), the legal system should simply enforce private contracts. Thus effective legal establishments allow knowledgeable and experienced financial market participants to design a vast array of sophisticated private contracts in a bid to ameliorate complex agency problems(Coase, 1960; Stigler, 1964; Easterbrook & Fischel, 1991). The law and finance theory three-point view has been highlighted in the introduction of this strand. Whether assuming a Coasian dependence on enforcing complex private contracts or an approach that augments the support of private contracts with company, bankruptcy, securities law...etc, the law and finance's first part argues that the degree of protection of private investors is a paramount determinant of financial development.

*b) From legal-origin to finance: political and adaptability mechanisms*

In the second strand we elucidate theories by Beck et al.(2003) which assess ‘why’ legal origin matter in financial development. They examine two channels by which legal origins may influence financial development: the political and adaptability channels.

The political mechanism is founded on two standpoints. Firstly, legal traditions differ in the emphasis they attribute to protecting the rights of private investors relative to those of the state. Secondly, private property rights protection forms the foundation for financial development. Hence historical based differences in legal origin can help explain existing disparities in financial development with respect to this component of law and finance(La Porta et al.,1998). A great many scholars argue that the Civil law has tended to support the rights of the State, vis-à-vis private property rights, that is quite the opposite in Common law. Therefore Civil law countries have provided for legal systems that have unhealthy implications for financial development. A powerful State with a responsive civil law at its disposal will tend to divert the flows of society’s resources towards favored ends, which is not conducive to competitive financial markets. More so a powerful State will have difficulty credibly committing to not interfere in financial markets, that will also obstruct financial development. Thus, the law and finance theory emphasizes that Civil law countries will have feebler property rights protection and lower levels of financial development than countries with other legal traditions. In contrast, Common law has historically tended to side with private property owners against the State according to this view. Instead of becoming a tool of the state, Common law has acted as a powerful tool in the brandishing of private property rights. Rajan & Zingales(2003) note that governments in Civil law countries were more effective than governments in Common law countries in stretching the role of government at the cost of financial market growth during



the Interwar period 1919-1939. They attribute this to the heavy task of the judiciary vis-à-vis the legislature. Thus, the law and finance theory postulates that the British Common law supports financial development to a greater extent than Civil law systems.

The second mechanism linking legal origin to financial development is the adaptability channel, that is also built on two premises. Firstly, legal systems differ in their ability to adjust to changing and evolving circumstances. Secondly, if a country's legal system adapts only slowly to changing circumstance(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. An influential, albeit by no means unanimous position of inquiry holds that legal systems that embrace case and judicial discretion tend to adhere more efficiently to changing conditions than legal systems that adapt rigidly to formalistic procedures and that rely more strictly on judgments narrowly based on statutory law(Coase, 1960). Posner(1973) disputes that although, legislators consider the impact on particular individuals and interest groups when writing statutes, judges are forbidden from considering the deservedness of specific litigants and thus more likely to render decisions premised on objective efficiency criteria(Rubin,1982, 205). It follows that Common law systems are much more efficient than statutory-based systems because inefficient laws are routinely litigated and re-litigated pushing the law toward more efficient outcomes(Rubin, 1977; Priest, 1977). In another line of march, some authors argue that statutory law evolves slowly and is subject to a greater degree of inefficient political pressures than Common law(Posner, 1973; Bailey & Rubin,1994).

### *2.1.2 Wealth-effects in financial development*

This section aims to justify our choice of income-level instrumental variables in the empirical phase of the paper. In accordance with Beck et al.(1999) and Asongu(2011a) financial

development varies with wealth. Therefore theoretical and empirical literature show considerable differences across countries with respect to wealth<sup>3</sup>. This theory could be explained from three main strands: financial intermediary development; private credit & life insurance and stock market development.

The first strand on financial intermediary development engenders: central bank assets to total financial assets, deposit money bank assets to total financial assets, other financial institutions assets to total financial assets and deposit money versus central bank assets(Beck et al,1999,p.13). With respect to this strand, central banks loose relative importance as one moves from low to high-income countries, whereas other financial institutions gain relative importance. Deposit money banks gain importance versus Central banks with a higher income level. Financial depth increases with income levels. Deposit money banks and other financial institutions are bigger and more active in rich countries, while central banks are smaller. As presented by Beck et al.(1999), from the 1960s to 1980s central bank assets increased and then decreased again in the 1990s. They emphasized that the ‘deposit money banks versus central bank assets’ rise and drop was mainly driven by low-income countries.

The second strand focuses on private domestic credit and life insurance across income groups(Beck et al.,1999, p.21). ‘Private credit by other financial institutions’ embodies bank-like institutions, insurance companies, private pension and provident funds, pool investment schemes and development banks; whereas insurance development consists of life insurance companies, life insurance penetration and life insurance density. With regard to this strand, private credit by

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<sup>3</sup> “To assess the size and activity of financial intermediaries across countries, we use the World Bank classification of countries according to their income levels (World Development Indicators 1998). We can distinguish between four country groups; high income countries with a GNP per capita in 1997 higher than \$9,656, upper middle income countries with a GNP per capita between \$3,126 and \$9,655, lower middle income countries with a GNP per capita between \$786 and \$3,125 and low income countries with a GNP per capita of less than \$786”(Beck et al.,1999, p.13).

all five categories of ‘other financial institutions’ augment as we move from low to high-income countries. Private credit by life insurance companies, the life insurance penetration and the life insurance density increases with GDP per capita. Interestingly, for the first two indicators, the lower-middle income group exhibits the lowest medians. It is also worth noting 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.

In the third strand, we have stock market development across income groups, which is interesting for our paper as it vindicates the choice of income-level instrumental variables in the empirical section. Stock market development is in 6 categories: stock market capitalization, stock market total value traded, stock market turnover, private bond market capitalization, equity issues and long-term private debt. This strand suggests that there is a significant variation in size, activity and efficiency of stock markets across income groups. Countries with higher levels of GDP per capita have bigger, more active and more efficient financial markets(Beck et al.,1999,25). Wealthy countries also have larger bond markets and issue more equity and private bonds. Stock markets have soared in size, activity and efficiency over the last three decades largely due to significant changes in higher GDP per capita countries.

### *2.1.3 Theoretical background to Islamic financial markets*

This section aims to lay the theoretical foundation 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 and Sunnah that are short texts regarding customs of the Muslim community and relating experiences of the prophet Mohammed(Pryor, 2007). These form the premise of Shari’ya law, that permeates all

areas of the wider Islamic system, including economics, finance, law, politics and government as integral parts and that have common values of Islamic social justice(Asutey,2007). The Islamic financial system is based and regulated on the same Shari'ya principles as the overall economy and society(Iqbal,1997). These govern the nature of contracts and the design of institutions to support the market and regulation of participants' behavior. Individuals within an Islamic financial system will be subject to behavioral norms, which give rise to very heterogenous assumptions to those that form the foundation of regulation in western markets.

#### *2.1.4 Press-freedom and finance*

In this section, we highlight a case for the choice of press-freedom instrumental variables. From a theoretical perspective, press-freedom and the Efficiency Market Hypothesis(EMH) of financial markets move hand-in-glove. 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).

## **2. 2 Democracy, stock market performance and growth**

Democracy has been subject to much attention in circles dealing with developing countries. Democracy 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. As we have outlined earlier, this paper examines how political institutions affect the performance of stock markets in African countries. Political institutions describe the arrangements that regulate financial markets. These institutions compose the legal, political and supervisory bodies which provide cohesion and order in business activities. The equitable functioning of the legal process, the height of political stability, the level of systematic corruption, the degree of voice & accountability, the rule of law and

regulation quality are factors that define the quality of these institutions and their capacity to oversee financial markets. Democracy has important implications on the dealings of firms and institutions and the cost associated with such interactions.

The ability of the judiciary to enforce contractual rights of shareholders impinges on the possibility of managerial expropriation and ultimately on the profitability of firms. On this position 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 enable shareholders the possibility of monitoring managers at lower cost. Legal systems supportive of investor protection tend to augment the amount of funds that risk-averse investors are willing to channel towards firms. Some authors have emphasized the importance of legal environments and corporate standards in fund manager investments (Aggarwal et al., 2002).

A democratic environment can increase returns to shareholders by reducing both transaction and agency costs. The early literature on political institutions is focused on firm-level agency cost resulting from the ownership and control delineation structure of firms. The seminal work of Jensen & Meckling (1976) provided the conceptual framework for a soaring body of studies. The pioneering work discovered that corporate governance channels themselves are subject to different interpretations and weak degrees of enforceability and that the level of investor protection which such channels were designed to promote could deteriorate in the face of structurally flawless governance provisions. Thus the strength of such mechanisms were based solely on the ability of firms to adhere to them. Hence, 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 atmospheres (La Porta et al., 1997, 1998; Shleifer & Wolfenson, 2002; Asongu, 2011bcdef; Agbor, 2011). Beyond the interaction between firms and institutions arising from agency costs, transaction costs have been the neglect in many market-centered views of economic structure. North (1994) has argued that tightly defined property rights and their cost effective enforcements are important requirements for low-cost transactions which are imperative to productive economies.

The rewards of judicial improvements include not only stock market enlargement but also greater integration with world financial markets through the appeal to influx of capital. However increasing integration may turn to decrease the importance of the quality of securities regulation. In line with Hooper et al. (2009) increasing market integration significantly lowers the cost of capital. Hail & Leuz (2003) assess to what extent the effect of the 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 relevant. From both theoretical and empirical evidence, country-specific factors become less relevant in asset pricing as markets become more integrated (Bekaert & Harvey, 1995; Stulz, 1999). Nay note should be taken of the fact that, the precedence of this increasing integration are the benefits of judicial enforcement and environmental institutional quality. Hail & Leuz(2003) have assessed 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 linked to international cost of capital variations. Their results show 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 substance, cost of capital is systematically lower in countries with strong securities regulation which have extensive disclosure rules and strong legal enforcement. Therefore, consequences 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) posit 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 20<sup>th</sup> century. The experience of transitional economies and the central role that legal institutions play in the working of markets has been abundantly discussed (La Porta et al., 2000b). The Russian experience has demonstrated 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 assuaging the risks of expropriation (Lambardo, 2000; Lambardo & Pagano, 2002). Lambardo & Pagano (2002) join Johnson & Shleifer (1999) in stressing 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 instituted so that investors can concentrate on exploiting growth opportunities without fearing the abuse of their property rights.

Another important parameter democratic institutions enforce is the control of corruption which is often the source of insider-dealing and substantial impediments to the smooth growth of financial markets. Bhattacharya & Daouk (1999) examine the impact on the cost of equity capital of insider trading regulation and find that, whereas 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 investigation 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 obliges company insiders to hold greater fractions of the equity of the companies they manage. These high holdings subject insiders to a higher rate of idiosyncratic risk that in turn augments the risk premium and hence the marginal cost of capital. They suggest 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 accordance 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. According 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 serious 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). With the exceptions of South Africa, no African country has emerged as an economic power. This might partly explain the lack of academic research on the financial markets of the continent. Africa has recently witnessed significant economic and financial developments, hence an investigation of how established political



institutions are playing-out in the development of financial markets in the continent could have important policy implications.

Financial theory establishes that integrated and performing markets are relatively more efficient compared to divergent ones. An integrated and performing stock market stimulates cross-border flow of funds, ameliorates trading volume which in-turn increases stock market liquidity. Developed financial 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 as well as lower transaction cost for investors(Kim et al.,2005). More so a performing financial market has the positive rewards to financial stability as it mitigates the probability of asymmetric shocks(Umutlu et al.,2010). Financial stability in-turn may curb the risk of cross-border financial contagion(Beine et al.,2010) and ameliorate the capacity of economies to absorb shocks(Yu et al., 2010).

It is also worth stressing that stock markets may also be performing to reflect the level of arbitrage activity. When markets are well developed, it implies there is a common force such as arbitrage activity that binds the markets together. It further denotes that the development of markets will mean the potential for making above normal profits and international diversification will be restricted as supernormal profits are arbitrated away(Von Furstenberg & Jeon, 1989). In the same line of march, if walls 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). Thus, the need for African financial 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 also 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)<sup>4</sup>, historically capital markets have played a significant role in financing the growth of African economies. Borrowing from 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 stressed 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 arises 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 papers have recommended regional cooperation as a possible way of alleviating the problem resulting from small financial systems(Bossone & Honohan, 2003). The lack of standardized rules and regulations(Clark,2003) have also incited researcher 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: modernization of trading systems, revitalization of the regulatory framework and relaxation of restrictions on foreign investors. A comparative analysis across sampled countries has demonstrated that markets with advanced trading technology, strict regulatory system and relaxed foreign investors' participation show greater efficiency and lower

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<sup>4</sup> 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 stock market development on the later was found.

market volatility. This stance on reforms has been acknowledged 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 ameliorating the transparency of firm financing-behavior.

Another category of issues in African business focuses on how to improve Africa's share of Foreign Direct Investment(FDI). Rolfe & Woodward(2004) have assessed the Zambian experience of attracting FDI through privatization. Findings reveal 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 countries must endeavor to attract investment through other mechanisms. Bartels et al.(2009) examine the reason SSA's FDI share has persistently averaged 1% of global flows. Inspired 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 important factors. Hence they conclude that FDI location decision in SSA is strongly influenced by 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 concludes that political and regulatory uncertainty, skills, labor regulation and exchange volatility are decisive factors. Kolstad & Wiig (2011) investigating Chinese FDI in Africa have established

that these(FDIs) are resources-driven and posited: exploiting resources and weak institutions appears to be the name of the investment game in Africa. Most recently Darley(2012) has presented public policy strategies, challenges and implications on the issue of increasing SSA's share of FDI. The author describes anecdotal predictors of FDI inflows that include key indicators of development, governance variables, information infrastructure and business environment. Among the suggested strategies and implications are: establishing carefully monitored export processing zones, looking outside the traditional inflows of FDI to Africa, 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*

Based on available weight of business challenges and suggestions in the African continent, 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 mechanisms(Rolfe & Woodward,2004); FDI location decision in SSA is influenced by strong political economy considerations (Bartels et al.,2009); political & regulatory uncertainty(Toumi,2011) and reducing corruption (Darley,2012) are crucial for FDI. Maybe one of the most exhaustive empirical study known to African business that underlines the need for sound political institutions 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 8 countries had undertaken governance reforms over the past decade. Therefore the survey aimed to learn how business and government leaders perceive those recent governance reforms. A great chunk of respondents saw major problems

with governance and political institutions, though across countries they reported an impression of improvement and expected further gains. The results presented grounds for wary optimism about business-government relations in the region. Owing to the need for finance in the African continent, the imperative of looking for other sources of investment beside FDI and the established role of stock market development in economic growth; it is worthwhile assessing the role of political institutions on stock market development. Many African countries especially those of French speaking sub-Sahara have financial markets that are taking too long to pick-up. Thus findings could lead to some crucial policy implications.

### **3. Data and Methodology**

#### **3.1 Data**

We examine 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 line with Yang (2011), dependent variables are stock market capitalization, stock market value traded, stock market turnover, and number of listed companies. Political institutions variables include, democracy, polity and autocracy. 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). Moreover 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 (see summary statistics in 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(see correlation analysis in Appendix 2). For instance, no English country is French at the same time and vice versa. This interpretation is also valid for religious-domination and income-level dummies.

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

## **3.2 Methodology**

### *3.2.1 Endogeneity*

While political institutions affect stock market performance, activities of financial markets also have a bearing on political institutions. Albeit 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(political powers), eviscerating the authority of national states (Helleiner, 1994; Strange, 1996; Cerny, 1999). Investors’ capacity for quit and the political voice it confers is crucial to these accounts. While financial market openness provides political institutions with greater access to capital, it also subjects them to external market discipline (Obstfeld & Taylor, 2004). Political establishments 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, political institutions must consider financial participants’ preferences when choosing policies. The logic follows that financial openness should mitigate the capacity of governments to tax and spend or more generally pursue divergent policies. Thus this evidence of reverse-causality presents an

important issue of endogeneity that should be accounted for in the estimation technique. Moreover, political institution indicators are perception-based measures which further confirm the endogeneity issue due to biased perceptions and omitted variables. Apart from 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.

### 2.2.2 Estimation Technique

Borrowing from Beck et al.(2003) and recent African 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 main equation. Borrowing from Asongu (2011bc), the Two-Stage-Least-Squares (TSLS) estimation method adopted by this paper will entail the following steps.

First-stage regression:

$$\begin{aligned} PoliticalChannel_{it} = & \gamma_0 + \gamma_1(legalorigin)_{it} + \gamma_2(religion)_{it} + \gamma_3(incomelevel)_{it} \\ & + \gamma_4(pressfreedom)_{it} + \alpha_i X_{it} + v \end{aligned} \quad (1)$$

Second-stage regression:

$$Finance_{it} = \gamma_0 + \gamma_1(Democracy)_{it} + \gamma_2(Autocracy)_{it} + \beta_i X_{it} + \mu \quad (2)$$

In both equations,  $X$  is a set of explaining control variables. For Eq.(1) and Eq.(2),  $v$  and  $u$ , respectively represent the disturbance terms. Instrumental variables include legal-origins, dominant-religions, press-freedoms and income-levels. In Eq.(1), ‘*PoliticalChannel*’ denotes: democracy, polity and autocracy. ‘*Finance*’ in Eq.(2) represents 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;
- demonstrate, the instruments are exogenous to the endogenous components of explaining variables (political institutions), conditional on other covariates (control variables);
- verify 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 political institutions; (2) employment of two distinct interchangeable sets of moment conditions that engender every category of the instruments; (3) usage of alternative indicators of stock market performance; (4) account for the concern of endogeneity; (5) usage of Principal Component Analysis(PCA) to reduce the dimensions of stock market dynamics and political indicators and then check for further robustness of findings in the regressions of resulting indexes.

## **4. Empirical Analysis**

This section addresses the ability of the exogenous components of political institutions to account for differences in stock market performance; the ability of the instruments to explain variations in the endogenous components of political institutions and the possibility of the instruments to account for stock market performance beyond political institution channels. To



make these assessments, we use the TSLS-IV estimation method with legal-origins, press-freedoms, income-levels and religious-dominations as instrumental variables.

#### **4.1 Political regimes and instruments**

In Table 1 below, we regress political-regime indicators on the instruments and test for their joint significance. This is the first-stage (requirement) of the IV estimation technique in which the endogenous components of the independent variables must be explained by the instruments, contingent on other covariates (control variables). From the results of the Fisher-statistics, it could be established that the instruments are strong, as in presence of control variables they enter jointly significantly into all regressions at the 1% significance level. Thus, ‘instrumenting’ political regimes with legal-origins, religious-dominations, income-levels and press-freedom qualities help account for cross-country differences in the quality and nature of political institutions. We carry-out two separate regressions for each political-regime: one with the first set of instruments and the other with the second set. The results premised on both sets of instruments are alike. Based on the findings the following could be established. (1) Consistent with the law-finance(growth) literature (La Portal et al.,1997,1998; Beck et al.,2003; Agbor,2011), English common-law countries have higher levels of democracy than their French civil-law counterparts. (2) Democratic institutions improve with press-freedoms ; contrary to Vaidya (2005) and Oscarsson (2008).

**Table 1: Political-regime channels and instruments (First-Stage regressions)**

		Democracy		Polity		Autocracy	
Legal-origins	Constant	0.948 (0.456)	<b>6.374***</b> (5.970)	<b>21.016***</b> (8.080)	0.359 (0.345)	<b>-20.311***</b> (-8.830)	<b>6.374***</b> (5.970)
	English common-law	<b>4.193***</b> (4.417)	---	<b>-8.805***</b> (-7.411)	---	<b>13.004***</b> (12.38)	---
	French civil-law	---	<b>-12.597***</b> (-12.37)	---	<b>7.594***</b> (7.641)	---	<b>-12.597***</b> (-12.37)
Religions	Christianity	-1.062 (-0.900)	---	<b>-9.909***</b> (-6.706)	---	<b>9.035***</b> (6.914)	---
	Islam	---	<b>-8.171***</b> (-7.089)	---	<b>7.211***</b> (6.408)	---	<b>-8.171***</b> (-7.089)
Income Levels	Low Income	---	<b>-5.537***</b> (-6.041)	---	<b>6.152***</b> (6.874)	---	<b>-5.537***</b> (-6.041)
	Middle Income	-0.479 (-0.657)	---	-0.257 (-0.282)	---	-0.236 (-0.293)	---
	Lower Middle Income	<b>-2.935***</b> (-2.868)	---	<b>-10.057***</b> (-7.848)	---	<b>7.175***</b> (6.332)	---
	Upper Middle Income	---	<b>-5.106***</b> (-3.781)	---	<b>4.078***</b> (3.093)	---	<b>-5.106***</b> (-3.781)
Press Freedoms	Free	<b>4.113***</b> (5.032)	---	<b>5.375***</b> (5.253)	---	-1.193 (-1.318)	---
	Partly Free	<b>2.818***</b> (3.870)	---	<b>3.695***</b> (4.055)	---	-0.780 (-0.969)	---
	No Freedom	---	0.108 (0.131)	---	<b>-1.845**</b> (-2.286)	---	0.1086 (0.131)
Control Variables	Regulation Quality	<b>1.601***</b> (3.721)	---	<b>2.384***</b> (4.425)	---	<b>-0.804*</b> (-1.688)	---
	Voice and Accountability	---	<b>-1.914***</b> (-2.867)	---	<b>5.716***</b> (8.767)	---	<b>-1.914***</b> (-2.867)
Adjusted R <sup>2</sup>		0.796	0.637	0.808	0.864	0.617	0.637
Fisher test		<b>61.842***</b>	<b>32.957***</b>	<b>66.576***</b>	<b>116.951***</b>	<b>26.107***</b>	<b>32.957***</b>
Observations		110	110	110	110	110	110

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

## 4.2 Financial market and democracy

This section seeks to address two main issues: (1) the ability of the exogenous components of political institutions to explain stock market performance and; (2) the ability of the instruments to explain stock market performance beyond political regimes channels. To make these assessments, we employ the second-stage of the TSLS approach.

In the second-stage regressions, we first justify our choice of the IV estimation technique with the Hausman test for endogeneity. The null hypothesis of the Hausman test is the position that the estimates by OLS are efficient and consistent. Thus a rejection of the null hypothesis points to the concern of inconsistent estimates as a result of endogeneity and hence lends credit to the choice of our estimation technique. In cases where the null hypothesis of the Hausman test

is not rejected (first four columns), regressions by OLS are provided. We also examine the validity and strength of the instruments with the Sargan-OIR and Craig-Donald tests respectively. The null hypothesis of the OIR test is the stance that the instruments explain stock market performance only through political regime channels. Thus a rejection of the null hypothesis is a rejection of the view that the instruments do not explain stock market performance beyond political regime channels. The Craig-Donald test is for the strength of the instruments at first-stage regressions. Its null hypothesis is the position that the instruments are weak. Hence its rejection confirms the strength of the instruments. While the first issue is addressed by the significance of estimated coefficients, the second issue depends on the outcome of the OIR test.

With regard to the first concern, overwhelming significance of political-regime elasticities of stock market performance dynamics indicate that: democracy and polity positively affect stock market development, while autocracy (but for 'listed companies') mitigates it. The signs and significance of these elasticities are robust to the 'stock market index' regressions in the last column. As concerns the second issue which is addressed by the Sargan-OIR test, only the instruments pertaining to 'stock market turnover' and 'stock market index' regressions are valid, since their null hypotheses are not rejected. Hence we conclude that, while the instruments explain the 'number of listed companies' through some other mechanisms beyond political regime channels, they (instruments) do not explain 'stock market turnover' and 'stock market index' beyond political regime channels. For all regressions that passed the Hausman test (last five columns), the instruments are strong based on the Craig-Donald test since the critical values for TSLS bias relative to OLS are 15.72 and 9.48 for 5% and 10% significance levels respectively. Overall, we find evidence that contrary to Mulligan et al. (2004), democracies have

important effects on both the degree of competition for public office and the quality of public policies that favor stock market development in developing countries.

**Table 2: Second-Stage regressions**

	Stock Market(SM) Performance								Robustness
	SM Capitalization		SM Value Traded		SM Turnover		Listed Companies		SM Index
Constant	<b>0.312***</b> (6.594)	<b>0.294***</b> (6.103)	<b>0.045*</b> (1.825)	0.041 (1.610)	<b>0.046***</b> (3.192)	<b>0.046***</b> (3.242)	<b>0.022*</b> (1.876)	<b>0.023*</b> (1.939)	<b>-0.277*</b> (-1.655)
Democracy	<b>0.0308***</b> (4.169)	---	<b>0.013***</b> (3.547)	---	<b>0.008***</b> (3.991)	---	<b>0.012***</b> (6.722)	---	---
Polity 2(Revised)	---	<b>0.034***</b> (4.518)	---	<b>0.014***</b> (3.604)	---	<b>0.008***</b> (3.982)	---	<b>0.012***</b> (6.702)	---
Democracy Index	---	---	---	---	---	---	---	---	<b>0.580***</b> (4.722)
Autocracy	<b>-0.019**</b> (-2.333)	0.016 (1.302)	-0.003 (-0.866)	0.011 (1.638)	-0.004 (-1.352)	0.004 (0.987)	-0.002 (-0.842)	<b>0.010***</b> (2.803)	-0.001 (-0.021)
Hausman-test	4.190	4.240	2.496	2.524	<b>7.473**</b>	<b>7.552**</b>	<b>6.545**</b>	<b>6.721**</b>	<b>5.593*</b>
OIR-Sargan	---	---	---	---	<b>2.196</b>	<b>2.249</b>	32.909***	32.93***	<b>6.467</b>
P-value	---	---	---	---	[0.699]	[0.690]	[0.000]	[0.000]	[0.166]
Cragg-Donald	---	---	---	---	<b>21.144**</b>	<b>20.992**</b>	<b>23.167**</b>	<b>22.982**</b>	<b>20.605**</b>
Adjusted R <sup>2</sup>	0.098	0.108	0.053	0.054	0.085	0.084	0.241	0.087	0.134
Fisher Statistics	<b>15.163***</b>	<b>16.750***</b>	<b>7.846***</b>	<b>8.052***</b>	<b>11.516***</b>	<b>11.478***</b>	<b>27.529***</b>	<b>27.380***</b>	<b>15.096***</b>
Observations	259	259	245	245	158	158	163	163	154
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								

OIR: Overidentifying Restrictions. Cragg-Donald Weak Instrument test for First-Stage regressions. Critical values for TSLS bias relative to OLS for Cragg-Donald Statistics are 15.72 and 9.48 for 5% and 10% respectively. \*, \*\*, \*\*\*: significance levels of 10%, 5% and 1% respectively. The democracy index is the first principal component of democracy and polity, while the stock market index is the first principal component of all stock market performance dynamics.

## 4. 2 Discussion and policy implications

Before delving into discussion of the findings, it is imperative to highlight the intuition and facts motivating this paper. There's a dire need for alternative means of financing in the African continent, owing to failed privatization initiatives in most African countries. Economic instability and political strife have plagued many African countries and continue to pose a significant 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). The available weight of empirical evidence as we have noticed in the literature points to the need for sound political and legal institutions in promoting stock market development.

In the study we have found robust evidence that democratic institutions are relevant in the development of stock markets in Africa. Thus this positive democracy-financial development nexus may partly elucidate the reason many African countries especially those of French speaking decent, have financial markets that are taking too long to pick-up. The relative importance of democratic institutions in English common-law countries in comparison with their French civil-law counterparts confirm why stock markets of some French speaking countries of SSA (like the Douala Stock Exchange of Cameroon) have not improved much in operational activities since they were launched.

As a policy recommendation, the role of sound political institutions is crucial for financial development in Africa. Democracies have important effects on both the degree of competition for public office and the quality of public offices that favor stock market development in the African continent.

## **5. Conclusion**

This paper has assessed the incidence of political institutions on stock market performance dynamics in Africa. Channels of democracy, polity and autocracy have been instrumented with legal-origins, religious-legacies, income-levels and press-freedom qualities to account for stock market performance dynamics of capitalization, value traded, turnover and number of listed companies. Findings broadly demonstrate that democracy improves investigated stock market performance dynamics. As a policy recommendation, the role of sound political institutions is crucial for financial development in Africa. Democracies have important effects on both the degree of competition for public office and the quality of public offices that favor stock market development in the African continent.

## Appendices

### Appendix 1: Summary Statistics (1990 to 2010)

		Mean	S.D	Min.	Max.	Obser.
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
Democracy	Democracy Index	3.170	4.315	-8.000	10.000	294
	Polity Index(Revised)	0.653	6.499	-10.000	10.000	294
Autocracy	Autocracy Index	2.544	3.837	-8.000	10.000	294
Control Variables	Regulation Quality	-0.224	0.694	-2.394	0.905	168
	Voice and Accountability	-0.389	0.793	-1.805	1.047	168
Legal Origin Religion	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
Income Levels	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
Freedom of the Press	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. Obser : Observations

## Appendix 2: Correlation Analysis

Stock Market Performance				Political-regimes			Control Vbles		Instrumental Variables											
SMC	SMVT	SMT	ListC	Demo	Poli	Auto	R.Q	V&A	Eng.	Frch.	Chris	Islam	LI	MI	LMI	UMI	Free	PFree	NFree	
1.000	0.863	0.733	0.242	0.294	0.331	-0.21	0.220	0.310	0.109	-0.10	0.123	-0.12	-0.14	0.144	-0.23	0.399	0.391	-0.12	-0.27	SMC
	1.000	0.795	0.084	0.240	0.228	-0.10	0.218	0.257	0.074	-0.07	0.065	-0.06	-0.13	0.130	-0.13	0.274	0.337	-0.13	-0.21	SMV
		1.000	0.078	0.118	0.056	0.039	0.128	0.096	-0.18	0.180	-0.24	0.242	-0.17	0.176	0.048	0.117	0.340	-0.06	-0.27	SMT
			1.000	0.442	0.405	-0.16	0.334	0.458	0.146	-0.14	0.156	-0.15	-0.30	0.308	-0.26	0.596	0.557	-0.18	-0.37	ListC
				1.000	0.805	-0.25	0.526	0.840	0.535	-0.53	0.353	-0.35	0.031	-0.03	-0.63	0.667	0.679	0.051	-0.69	Demo
					1.000	-0.77	0.429	0.836	0.496	-0.49	0.437	-0.43	0.032	-0.03	-0.68	0.718	0.667	0.060	-0.69	Poli
						1.000	-0.08	-0.39	-0.23	0.232	-0.33	0.336	-0.03	0.032	0.434	-0.44	-0.30	-0.03	0.324	Auto
							1.000	0.725	0.013	-0.01	0.066	-0.06	-0.39	0.399	-0.20	0.627	0.618	-0.02	-0.58	R.Q
								1.000	0.471	-0.47	0.397	-0.39	-0.07	0.079	-0.67	0.821	0.805	-0.00	-0.78	V&A
									1.000	-1.00	0.650	-0.65	0.400	-0.40	-0.73	0.400	0.229	0.173	-0.36	Eng.
										1.000	-0.65	0.650	-0.40	0.400	0.730	-0.40	-0.22	-0.17	0.368	Frch.
											1.000	-1.00	0.400	-0.40	-0.73	0.400	0.229	-0.37	0.100	Chris
												1.000	-4.00	0.400	0.730	-0.40	-0.22	0.377	-0.10	Islam
													1.000	-1.00	-0.54	-0.40	-0.36	0.095	0.268	LI
														1.000	0.547	0.400	0.363	-0.09	-0.26	MI
															1.000	-0.54	-0.44	0.020	0.410	LMI
																1.000	0.775	-0.11	-0.64	UMI
																	1.000	-0.39	-0.62	Free
																		1.000	-0.46	PFree
																			1.000	NFree

SMC: Stock Market Capitalization. SMVT: Stock Market Value Traded. SMT: Stock Market Turnover. ListC: Listed Companies. Demo: Democracy. Poli: Polity. Auto: Autocracy. R.Q: Regulation Quality. V&A: Voice and Accountability. Eng: English Common-Law. Frch. French Civil-Law. Chris: Christianity. LI: Low Income Countries. MI: Middle-Income-Countries. LMI: Lower-Middle-Income Countries. UMI: Upper-Middle-Income Countries. 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)
Democracy	Demo	Institutionalized Democracy: Measured by the presence of institutions and procedures through which citizens can express preferences about alternative policies and leaders; the guarantee of civil liberties for all citizens.	World Bank(WDI)
Polity	Pol	Revised Combined Polity Score: Measured as Net Democracy/ Autocracy Scores.	World Bank(WDI)
Autocracy	Auto	Institutionalized Autocracy: Measured by the absence of institutions and procedures through which citizens can express preferences about alternative policies and leaders; absence of guarantees for civil liberties for all citizens.	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)
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)
Press Freedom	Free	Freedom House Index : Level media freedom	Freedom House

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
	Christianity	Botswana, Ivory Coast, Ghana, Kenya, Mauritius, Namibia, South Africa, Swaziland, Zambia, Zimbabwe.	10
Religion	Islam	Egypt, Morocco, Nigeria, Tunisia.	4
	Low-Income	Ghana, Kenya, Zambia, Zimbabwe.	4
Income Levels	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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