

**THE DETERMINANTS OF STOCK MARKET DEVELOPMENT:
THE CASE FOR THE NAIROBI STOCK EXCHANGE**

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DECLARATION

This research project is my original work and has not been submitted for a degree in any other university.

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DEDICATION

To my beloved parents:

Mr. Thomas Masila Ndaya

and

Mrs. Lucia Nzisa Masila

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Now unto the King immortal, unto the King eternal, unto the King invisible, the only wise God. Unto the King be glory and honour FOREVER MORE.

ABSTRACT

This study sought to investigate the determinants of development in the Nairobi Stock Exchange. Secondary data for the period 2005-2009 was used to model the factors influencing the development of the NSE. The regression results found that, macro-economic factors such as stock market liquidity, institutional quality, income per capita, domestic savings and bank development are important determinants of stock market development in the Nairobi Stock Exchange. The regression analysis reported no relationship between stock market development and macroeconomic stability – inflation and private capital flows.

The results also show that Institutional quality represented by law and order and bureaucratic quality, democratic accountability and corruption index are important determinants of stock market development because they enhance the viability of external finance. This result suggests that the resolution of political risk can be an important factor in the development of the Nairobi Stock Exchange.

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ABBREVIATIONS

ADB	Africa Development Bank
AGC	Ashanti Gold Corporation
APT	Arbitrage Pricing Theory
ASEAN	Association of South East Asian Nations
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
EMH	Efficient Markets Hypothesis
EVA	Economic Value Added
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GSE	Ghana Stock Exchange
IFC	International Finance Corporation
IMF	International Monetary Fund
IPO	Initial Public Offering
KNBS	Kenya National Bureau of Statistics
MENA	Middle-Eastern and North African
NASI	NSE All Share Index
NSE	Nairobi Stock Exchange
SSA	Sub-Saharan Africa

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Financial markets play a fundamental role in the economic development of a country. They are the intermediary link in facilitating the flow of funds from savers to investors. By providing an institutional mechanism for mobilizing domestic savings and efficiently channeling them into productive investments, they lower the cost of capital to investors and accelerate economic growth of the country. Financial intermediation between borrowers and savers is done by commercial banks. This credit market enables debt financing for investments. An alternative method of intermediation is through equity financing. This is only possible through the development of capital markets. Capital markets, which deal with securities such as stocks and bonds, are associated with financial resource mobilization on a long term basis. By raising capital directly from the public, they lower the cost of capital. Capital markets also allow for wider ownership among the public, thereby distributing risks and wealth amongst smaller investors. For investors, they provide an effective vehicle for making investment choices which suit their own preferences of risk and returns based on available information. As such, capital markets help the economy to generate more savings and productive investments. A basic feature of an efficient capital market is constant liquidity, i.e., an easy mechanism for entry and exit by investors. This requires sufficient volume and size of transactions in the market (Tuladhar, 1996).

The stock market forms a significant component of the financial sector of any economy. The proponents of stock markets emphasize the importance of having a developed stock market in enhancing the efficiency of investment. A well-functioning stock market is expected to lead to a lower cost of equity capital for firms and allow individuals to more effectively price and hedge risk. Stock markets can attract foreign portfolio capital and increase domestic resource mobilization, expanding the resources available for investment in developing countries. Recognizing the importance of stock market on economic growth, prudential authorities such as World Bank, IMF and ADB undertook stock market development programs for emerging markets in developing countries during 80s and 90s and they found that, emerging stock markets have experienced considerable development since the early 1990s. The market capitalization of emerging market countries has more than doubled over the past decade growing from less than \$2 trillion in 1995 to about \$5 trillion in 2005 (Yartey, 2008). As a percentage of world market capitalization, emerging markets are now more than 12 percent and steadily growing (Standard and Poor, 2005).

The stock market is one of the most important sources for companies to raise funds. This allows businesses to be publicly traded, or raise additional capital for expansion by selling shares of ownership of the company in a public market. The liquidity that an exchange provides affords investors the ability to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as real estate. History has shown that the price of shares and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. An economy where the stock market is on the rise is considered to be an

up-and-coming economy. In fact, the stock market is often considered the primary indicator of a country's economic strength and development. Rising share prices, for instance, tend to be associated with increased business investment and vice versa. Share prices also affect the wealth of households and their consumption. Therefore, central banks tend to keep an eye on the control and behavior of the stock market and, in general, on the smooth operation of the financial system functions. Financial stability is the *raison d'être* of central banks. Exchanges also act as the clearinghouse for each transaction, meaning that they collect and deliver the shares, and guarantee payment to the seller of a security. This eliminates the risk to an individual buyer or seller that the counterparty could default on the transaction (en.wikipedia.org/wiki/Stockmarket 2010).

An emerging market is a financial market of a developing country, usually a small market with a short operating history. These markets are not considered developed like the United States of America, Western Europe and Japan. Emerging Markets have high profit potential and at the same time very risky. Currently, there are 28 emerging markets in the world with the economies of China and India considered by far the two largest. The Association of South East Asian Nations (ASEAN) – China Free Trade Area lunched on January 1, 2010 is the largest regional emerging market in the world. Initially, in the 1970s, these markets were referred to as the less economically developed nations, this was felt by some as not positive enough, the term emerging market was coined by a World Bank Economist, Antoine van Agtmael. According to Emerging Economies Report, The Centre for knowledge Societies give examples of emerging markets as India, China, Indonesia, South Africa, Kenya, Egypt and Brazil (Joshi et al. 2008).

There has been a considerable research on determinants of financial sector development of late. Garcia and Liu (1999), Demirguc-Kunt and Levine (1996), Yartey and Adjasi (2007), and many more have analyzed the relationship between financial market development and macroeconomic variables, financial reform, and other country –specific factors, and the relationships among the development of the various parts of a financial system. It is clear from the previous studies that financial markets tend to develop as the economy grows and financial reform progresses. Stock market development is embodied in the general financial sector development. In other words, stock market complements the development of other parts of the financial system. For example Singh (1997) find positive relationship between economic growth and stock market development and a large number of empirical studies on the role of foreign Direct Investment (FDI) in host countries suggest that FDI is an important source of capital, complements domestic private investment, is usually associated with new job opportunities and enhancement of technology transfer, and boosts overall economic growth in host countries. Adam and Tweneboah (2009) observe a triangular causal relationship that FDI stimulates economic growth, economic growth promotes stock market development; and FDI promote stock market development related study, Errunza (1983) found that foreign capital inflows have long term impact on stock market development and increase investor participation. Foreign investment is associated with institutional and regulatory reform, adequate disclosure and listing requirements and fair trading practices which inspire greater confidence in domestic markets. This increases the investor’s base and participation which leads to more capital flows (Yartey, 2008).

1.1.1 The Nairobi Stock Exchange: An overview

The Nairobi Stock Exchange (NSE) was founded in 1954. During the first three years of independence in 1963, the stock market experienced steady growth, rekindling confidence in the market. The exchange also handled a number of highly oversubscribed issues. In 1972, growth of the market halted when the oil crisis introduced inflationary pressures in the economy that depressed the shares. Capital gains tax was introduced in 1975 and suspended in 1985. The Government of Kenya realized the need to design and implement policy reforms to foster sustainable economic development supported by an efficient and stable financial system. In particular, it set out to enhance the role of the private sector in the economy, reduced demand in public enterprises on the exchequer, rationalize the operations of the public sector and broaden the base of local ownership and at the same time enhance capital markets development (NSE Market Fact File 2008).

In 1984, a study by IMF/CBK on development of money and capital markets culminated in the formation of The Capital Markets Authority (CMA) in 1989. The overall objective of CMA is to assist in the creation of an enabling environment conducive for the growth and development of the country's capital markets. The first privatization exercise was the sale of 20% government stake in Kenya Commercial Bank. Kenya airways followed in 1996. To encourage FDIs, the government introduced several incentives for capital markets growth including tax free Venture Capital Funds, removal of capital gains tax on insurance companies' investments, allowance of beneficial ownership by foreigners in local stockbrokers and fund managers (The NSE Market Fact File 2008).

In 1994, the NSE 20-Share Index recorded an all-record high of 5030 points on Feb. 18, 1994. The NSE is rated by the International Finance Corporation (IFC) as the best performing market in the world with a return of 179% in dollar terms. An extensive modernization exercise is undertaken, including a move to more spacious premises at the Nation Centre in July 1994, setting up a computerized delivery and settlement system (DASS) and a modern Information Centre. For the first time since the formation of the NSE, the number of stockbrokers increased with the licensing of 8 new brokers. In 1995, The Kenyan Government relaxed restrictions on foreign ownership in locally controlled companies subject to an aggregate limit of 20% with any single holding not exceeding 2.5%. To help encourage foreign portfolio investments these were doubled to 40% and 5% respectively in the June 1995 budget. The entire Exchange Control Act was repealed in December 1995. Seven more stockbrokers are licensed, bringing the number to twenty from the original six (one of which still survives) at the inception of the exchange in 1954. Commission rates were reduced considerably from 2.5% to between 2% and 1 % on a sliding scale for equities and 0.0625% for all fixed interest securities. Kenya adopted International Accounting Standards (IAS) in 1999 (The NSE Market Fact File 2008).

Implementation of live trading on the automated trading systems (ATS) at the NSE commenced in September 2006 on September 11th 2006 saw the. The ATS is sourced from Millennium Information. Technologies (MIT) of Colombo, Sri Lanka, who are also the suppliers of the Central Depository System. MIT have also supplied similar solutions to the Colombo Stock Exchange and the Mauritius Stock Exchange. To ensure that there were no significant departures from the overall trading principles in our market the NSE

ATS solution was customised to uphold the spirit of the Open Outcry Trading Rules in an automated environment. Trading hours also increased from two (10:00 am –12:00 pm) to three hours (10:00 am – 1:00 pm). Other innovations included the removal of the block trades board and introduction of the functionality for the trading of rights in the same manner as equities. Besides trading equities, the ATS is also fully capable of trading immobilised corporate bonds and treasury bonds. The anticipated benefits of the new system include greater transparency in the placement of bids and offers. The system will also improve market surveillance and transmit almost in real time, trading information relating to index movements and price and volume movements of traded securities. More current information will become readily available to a wider constituency of our stakeholders, facilitating the decision making process and lowering the risk of participating in our markets. As such the Exchange views a situation where it will soon have an opportunity to enhance its revenue streams through information vending to our stakeholders (NSE Market Fact File 2008).

November, 2006 saw the signing of a memorandum of understanding (MoU) between the Nairobi Stock Exchange and Uganda Securities Exchange on mass cross listing. The MoU will allow listed companies in both exchanges to dualist. This will facilitate growth and development of the regional securities markets. Some of NSE's listed companies that have dual- listed include: Kenya Airways, East Africa Breweries and Jubilee Holdings. Benefits that accrue to cross listed companies include: access to a wider capital base across the region, a regional presence, resulting in a wider acceptance and recognition of the company brand across the region by company stakeholder- shareholders, employees,

customers and regulators) and the prestige of a regional listing (NSE Market Fact File 2008).

NSE has experienced considerable growth with more companies listing oversubscribed Initial Public Offerings (IPO's). These include KenGen Initial Public Offering in May 2006, Scangroup in August 2006 and the historical Safaricom IPO June 2008. Safaricom's IPO was a landmark. Through this IPO, the government realized Kshs. 50 billion. The IPO was oversubscribed by 532% attracting Kshs. 286 billion from both local and foreign investors (The NSE Market Fact File 2008).

Based on performance of the equity market in 2009 in Sub Saharan Africa, the NSE is currently ranked fifth in terms of equity market capitalization (US\$10.96 Million), position one is South Africa's Johannesburg Stock Exchange with equity capitalization of US\$776.686 Million, There has been a remarkable resurgence in equity markets during the first quarter of 2010. The NSE 20 Share Index is up 24.89% to 4,072.93 points as at end of March 2010. This is compared to 3,261.17 points at the beginning of January 2010. The NSE All Share Index (NASI) is up 17.44% TP 84.43 points at the end of March compared to 71.81 points at the start of 2010. Market capitalization is also up 17.44% to stand at Kshs. 893.117 billion. In comparison to the top 5 equity markets in Africa, the NSE has recorded the highest gains of 24%. NSE is therefore the best performing top ranked equity market in Africa during the first quarter of 2010. On 4th March 2010, the members of The NSE approved its demutualization at an extra-ordinary general meeting. The members reiterated their commitment towards fostering a vibrant capital market.

This resolution to demutualize the Exchange will enable it to effectively play its role in sustainably developing the Kenyan economy. Demutualisation will transform the Exchange and position it to realize its vast potential and attain its vision “To be the leading securities exchange in Africa with a global reach” (The NSE website).

1.2 Statement of the Problem

The stock market has become an essential market playing a vital role in economic prosperity thus fostering capital formation and sustaining economic growth. Stock markets are more than a place to trade securities; they operate as a facilitator between savers and users of capital by means of pooling of funds, sharing risk, and transferring wealth. Stock markets are essential for economic growth as they facilitate the flow of resources to the most productive investment opportunities in other words; they help in terms of efficient allocation of credit in the economy.

Demirguc-Kunt and Levine (1996), Singh (1997) and Levine and Zervos (1998) find that stock market growth plays an important role in predicating future economic growth in situations where the stock markets are active. The arguments of Demirguc-Kunt et al. (1996) indicate that economies without well-functioning stock markets may suffer from three types of imperfections: first, opportunities for risk diversification are limited for investors and entrepreneurs, second, firms are unable to optimally structure their financing packages and third, countries without well functioning markets lack information about the prospects of firms whose shares are traded, thereby restricting the promotion of investment and its' efficiency. The proponents of stock markets emphasize

the importance of having a developed stock market in enhancing the efficiency of investment. Recognizing the importance of stock market on economic growth, prudential authorities such as World Bank, IMF and ADB undertook stock market development programs for emerging markets in developing countries during 80s and 90s and found that, the emerging stock markets have experienced considerable development since the early 1990s. In light of the above presentation, the importance of Nairobi stock exchange to the entire East African community cannot be overemphasized.

While most studies have often focused on the performance of individual company stock prices, no study has devoted much attention to the determinants of stock market development at the NSE, Muga (1974) looked at the history, organization and its role in the Kenyan economy, Muli (1991) studied the systematic risk for the NSE, Njoroge (2001) looked at dividend policies, growth in assets, ROTA and ROE at the NSE. Nangayaj (2003) looked at the pricing options using Black & Scholes Model and Mbugua (2007) looked at the impact of stock exchange automation, volume, volatility and liquidity on stocks. There is no study on the NSE to investigate the determinants of its development. This gap is therefore the motivating factor towards this research study.

1.3 Objective of the Study

The main objective of the study was to investigate the determinants of the development of the Nairobi Stock Exchange.

1.4 Significance of the Study

The Nairobi Stock Exchange and Stock Market Players

The study may be of help to the local bourse in formulation of rules and regulation regarding its future growth strategies in line with its vision and vision 2030. The study may also benefit the market players who require proper understanding of the operations of the stock market. Participants in the market can understand the importance of various factors in ensuring successful trading.

Academic Researchers

Future researchers on stock market operations can use the findings of this study as a source of reference in enhancing their future studies.

The Government and the Regulator

This study may guide the government in policy formulation. Capital Markets Authority (CMA) as the regulator and the champion of reforms in the capital market may use this study in formulating policy to promote diversified, competitive and vibrant capital market in order to raise investor confidence, domestic and foreign resource mobilization and allocative efficiency leading to accelerated growth and development of the economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review of the study; the objective of the study is to investigate determinants of development of the Nairobi Stock Exchange. The chapter explores the theoretical models of stock markets, empirical findings of other research studies on the same subject and also present literature on the identified variables, both dependent and independent.

2.2 Theoretical Framework

2.2.1 Financial Liberalization Theory of International Monetary Fund

Financial liberalization theory originated in separate work of McKinnon (1973) and Shaw (1973). The hypothesis supporting this theory proposed that financial development and economic growth were strongly attached. The more the liberalization of financial systems, the more growth in economic development. The liberalization theory was during the 90s in developing countries based on the idea that financial institutions would benefit from foreign capital inflows and competition among banks and financial institutions would foster efficiency, however the inflow increased the instability of these countries Shaw, (1973). The application of the liberalization theory resulted in chaos and crises in developing countries. In 1989 Venezuela's banking system broke and 60% of their assets were lost. In Mexico, in the late 90s government intervention to solve financial crisis represented costs of 17% of the GDP. Studies done on real savings and real GDP

statistics found that the relationship was growth-to savings and not savings-to growth. Liberalization theory was based on strong classical assumptions about the role of the interest rate. Shaw (1973) considered interest rates as a signal of opportunities of investments, and therefore an increase in economic development. For McKinnon (1973) high interest rates would increase savings flows and decrease any excess of demands. Flaws of the liberalization model resided in forgetting that markets are not sophisticated and that markets are imperfect (Thomson, 2007).

2.2.2 The Efficient – Market Hypothesis

The efficient-market hypothesis (EMH) is the basic theory describing the behaviour of a perfect market in which securities are typically in equilibrium, security prices fully reflect all public information available and react swiftly to new information; because stocks are fully and fairly priced, investors need not waste time looking for mispriced securities. Active markets such as the New York Stock Exchange are efficient. They are made up of many rational investors who react quickly and objectively to new information (Gitman, 2006).

There are three levels of Market Efficiency; the weak, semi-strong and strong. The weak form simply states that past price information is unrelated to future prices and that trends cannot be predicted and taken advantage of by investors, The semi-strong form states that, prices reflect all public information, studies in this area focuses on changes in public information and on the measurement of how rapidly the prices converge to a new equilibrium after new information has been released. The strong form states that all

information both private and public is immediately reflected on stock prices. If markets are efficient in the strong form, insiders and large institutions should not be able to make profits in excess of the market in general (Block, 1987).

EMH is a stock market efficiency theory discussed by Eugene Fama (1965) and French (1965) and again by Ball and Brown (1968). Efficient markets are characterized by competition among “profit maximizers” who attempt to estimate the value of securities in the future relying on the information they have. Fama and French divided valuation portfolios in two: Value Stock firms (with high book to market) and growth stock (with low book-to market value) (Anderson and Garcia- Feijoo, 2006). Theory predicts that portfolio with low book to market value will have an increased return before portfolio formation and then would decrease. This return to equilibrium was a key element in the model (Fama and French 1996). Fama and French (1992, 1993, and 1996) proposed a three-factor model that describes variations in time that may affect the measurement of stock return: Book-to market ratio, size and excess market return. Following the theory of market efficiency, Anderson and Garcia-Feijoo (2006) conducted a study to test that firm valuation and valuation ratios respond to optimal corporate investment decisions. The model tested consistently with the predictions of Fama and French theory but also concluded that pricing factors resulting from size and book-to- market portfolios become irrelevant when macroeconomic conditions of growth prevail. Anderson and Garcia-Feijoo suggest including a fourth factor (investment-growth factor) to the model of Fama and French, in order to help explain the anomalous returns in portfolios (Anderson & Garcia-Feijoo, 2004). Limitations of the model include the unrealistic assumption that

information is a commodity and is costless. International applications of the Fama and French model require a country specific study to observe particular patterns of corporate investment activity (Thomson, 2007).

2.2.3 The Behavioural Finance Theory.

Although considerable evidence supports the concept of market efficiency, a growing body of academic evidence has begun to cast doubt on the validity of this notion. The research documents various anomalies, deviations from accepted beliefs in stock returns. A number of academics as well as practitioners have also recognized that emotions and other subjective factors play a role in investment decisions. This focus on investor behaviour has resulted in a significant body of research which is collectively referred to as behavioural finance. Advocates of behavioural finance are commonly referred to as behaviourists (Gitman, 2006).

A notable event that acknowledged the importance of this field was the awarding of the 2002 Nobel Prize in economics to Daniel Kahneman for his work in integrating insights from psychology and economics. The proponents of EMH say that investors are rational, the markets are always right, and relevant new information is immediately reflected on stock prices and, most investors can't beat the market. Behavioural finance hold the view that, in practice, markets are far from perfect and investors are not rational but are motivated by greed, fear, and other emotions. According to the behaviourists, many investors let their emotions overrule rational analysis. Emotional investors listen to their gut instincts which help them focus on broader issues. They say even the most rational

investors cannot totally eliminate emotion. Emotion is an important aspect of the human condition that can actually enhance decision-making. Although behavioural theory says that investors can beat the market, behaviourist Richard Thaler of the University of Chicago cautions that individual investors probably do not have the skills to do so and neither do many active mutual fund managers (Gitman, 2006).

The emotional state of investors was no doubt the most important factors causing the historical market dip in the NSE during the post election violence in 2008.

2.2.4 The Capital Asset Pricing Model

The capital asset pricing model (CAPM) is the basic theory that links risk and return for all assets. It was developed separately by William Sharpe (1964) and John Lintner (1965) and used to identify the adequate cost of capital in project valuation (Brounen et al. 2004). Ball (2001) defines it as a “method of estimation expected returns which passive investors would otherwise have earned in the absence of the information being tested” An equation for CAPM may look like this: $E(R) = R_f + b (R_m - R_f) (1)$

Stock's expected return $E(R)$ is equal to a riskless rate R_f plus a risk premium compound by b and the amount a stock of average risk (R_m) is expected to earn above the riskless rate (R_f). CAPM is popular because there is no any other accepted model to compute expected returns. A survey conducted by Brounen et al, (2004) reported CAPM was used by 64.2% of U.S. firms and an average of 57% of European companies, with high occurrence in large and public firms across the data of 6,500 firms, where CEOs have

long tenures, regardless of their educational background. Fama and French (1996) critique CAPM flaws in recording anomalies of the market and expected returns. CAPM's major weakness is in the determination of betas in efficient markets and the inability to explain the temporality of risk premiums and the amount of the expected changes in that risk ratio. Some theorists contend CAPM is not a valid model to compute expected returns, given the premise that dividends and earnings are non-fundamental to stock pricing determination. Its use in the computation of EVA also has been challenged (Chen & Dodd, 2002).

CAPM was developed to explain the behaviour of security prices and provide a mechanism whereby investors could assess the impact of a proposed security investment on their portfolio overall risk and return. Despite its limitations CAPM provides a useful conceptual framework for evaluating and linking risk and return. An awareness of this trade-off and an attempt to consider risk as well as returns in financial decision making should help financial managers achieve their goals (Gitman, 2006).

2.2.5 The Agency Theory

A corporation is a legal entity that serves as a nexus for a complex set of explicit and implicit contracts among disparate individuals. The behaviour of an organization is the equilibrium behaviour of a complex contractual system made up of maximizing agents with diverse and conflicting objectives. In this sense, the behaviour of the organization is like the equilibrium behaviour of a market. Construction of a theory of organizations involves describing the equilibrium behaviour of these complex contractual systems

where the individual agent is the elementary unit of analysis. In such a theory the exogenous variables are individuals' preferences and opportunity sets, including the impact of the contracting technology on opportunity sets. The structure of contracts, the forms of institutions, and the firm's investment, financing, dividend, insurance, accounting, production, and marketing policies are all endogenous, that is, determined within the system (Smith & Jensen 2000).

The key to understanding the agency problem is recognition that the parties to a contract bear the agency costs of the relationship. Therefore, for any given scale of activity, self-interested maximizing agents minimize the agency costs in any contracting relationship. Incentives exist to write contracts that provide monitoring and bonding activities to the point where their marginal cost equals the marginal gains from reducing the residual loss. Specifically, parties to a contract can make themselves better off by forecasting the activities to be accomplished and structuring contracts to facilitate the anticipated activities. This means that, in the absence of externalities, incentives exist within the contracting process to produce an efficient utilization of resources. Externalities are situations in which the actions of one party have a physical effect on others and the acting party does not have to pay for costs imposed on others or cannot charge for benefits granted to others. Competition is as pervasive a phenomenon among agents in the social and economic sphere as among species in nature (Smith and Jensen, 2000).

Jensen and Erhard investigate the integrity issues that cause huge problems in the lives of most individuals and to every one we come in contact with. They present a positive

model of integrity that, as we distinguish and define integrity, provides powerful access to increased performance for individuals, groups, organizations, and societies. Their model reveals the causal link between integrity and increased performance, quality of life, and value-creation for all entities, and provides access to that causal link. Integrity is thus a factor of production as important as knowledge and technology, yet its major role in productivity and performance has been largely hidden or unnoticed, or even ignored by economists and others (Jensen and Erhard, 2010).

Agency theory has provided a useful tool for detailed analysis of the determinants of the complex contractual arrangement called the modern corporation. A survey of the applications of this theory to the conflicts of interest between corporate managers, stockholders, and creditors find that the analysis of these conflicts and their resolution increases the understanding of the survival of many contractual practices that heretofore have either been taken for granted or viewed with great suspicion. It also illustrates the often close relation between financial and organizational practices (Smith and Jensen 2002).

Under the theoretical model, the value of institutions to shareholders results from their regulation of transaction and agency costs. Governance indicators are a reflection of the ability of institutions to effectively support the minimization of these costs, ultimately borne by shareholders. The indicators compose measures of the stability of governments, the proper regulation of markets and the degree of systemic corruption. These factors shape the ability of institutions to govern financial markets. Better governance

environments can increase returns to shareholders by reducing both transaction costs and agency costs (Hooper *et al*, 2005).

2.3 The Role of the Financial Sector in an Economy

The main reason why an efficient financial system is essential to an economy is that there is substantial information and transactions costs associated with information asymmetry. Asymmetric information creates adverse selection and moral hazard, and high transactions costs impose inefficiencies. By specializing in collecting information, evaluating projects, sharing risks, and providing liquidity, an efficient financial system increases financial savings, and improves their allocations across investments. Financial intermediation increases capital productivity, and promotes economic growth.

Financial intermediaries and markets may affect economic growth in different ways. Firstly, a developing financial sector makes room for increasing saving rates. By using economies of scale and expertise, financial intermediaries and markets are able to provide savers with a relatively higher yield, and therefore stimulate savings. A lot of literature has shown the role played by financial intermediaries and markets in increasing savings. McKinnon (1973) and Shaw (1973) emphasize the role played by financial liberalization in increasing savings and, hence, investment. They claim that financial deepening improves not only productivity of capital but also the saving rate and, therefore, investment and growth. Secondly, by reducing information and transactions costs, the financial intermediaries and markets perform the essential economic function of increasing the funneling of funds from lenders to borrowers. Gurley and Shaw (1955,

1960 and 1967) stress the importance of financial intermediation in channeling savings to investment. Thirdly, the financial sector improves the allocation of resources.

A recent line of research argues forcefully that financial development enhances growth by promoting an efficient allocation of investment through various mechanisms; fund pooling, that is, making large investment projects possible and lending cheaper, risk diversification, that is, reducing productivity and default risks by holding diversified portfolios, liquidity management, that is, providing liquidity to investment projects, screening, that is, gathering and evaluating information on projects to channel funds to the most profitable ones, monitoring, that is, disciplining borrowers' performance to make sure they fulfill their commitments (Garcia and Liu 1999).

It also generates perverse incentives, rewarding managers for their success in financial engineering rather than creating new wealth through organic growth Singh (1997). In addition, empirical evidence shows that the takeover mechanism does not perform a disciplinary function and that competitive selection in the market for corporate control takes place much more on the basis of size rather than performance Singh (1971). Therefore, a large inefficient firm has a higher chance of survival than a small relatively efficient firm. Critics further argue that stock market liquidity may negatively influence corporate governance because very liquid stock market may encourage investor myopia. Since investors can easily sell their shares, more liquid stock markets may weaken investors' commitment and incentive to exert corporate control (Bhide, 1993).

These problems are further magnified in emerging market countries with their weaker regulatory institutions and greater macroeconomic volatility. These serious limitations of the stock market have had led many analysts to question the importance of the system in promoting economic growth in emerging markets. Empirical evidence linking stock market development to economic growth has been inconclusive even though the balance of evidence is in favor of a positive relationship between stock markets and economic growth. Levine (1997) shows that stock markets help protect investors against idiosyncratic risk by providing firms with the opportunity to hold a diversified portfolio. The diversification of risk also promotes investment in higher return projects and generates higher overall output growth (Saint-Paul, 1992; Devereux and Smith, 1994; Obitfeld, 1994).

Various measures of stock market activity are positively correlated with measures of real economic growth across countries, and that the association is particularly strong for developing countries. Their results also show that after controlling for initial conditions and economic and political factors, the measures of banking and stock market development are robustly correlated with current and future rates of economic growth and productivity improvement. (Levine and Zervos, 1998).

The positive impact of stock market development is largely dependent on the inclusion of higher income countries in the regression samples, which limits the relevance for lower income countries. Empirical evidence indicates that stock market development has a

more positive impact on growth for greater levels of GDP per capita, lower levels of country credit risk, and higher levels of legal development (Durham 2002).

While the question of whether stock markets promote growth has gained considerable attention in academic and policy discussions, there is little theoretical and empirical work on the determinants of stock market development in emerging markets. Calderon-Rossell (1991) developed a partial equilibrium model of stock market growth. This model represents the most comprehensive attempt to develop the foundation of a financial theory of stock market development. Recent works tend to focus on the role of financial liberalization in promoting stock market development. Garcia and Liu (1999) examined the macroeconomic determinants of stock market development in a sample of Latin American and Asian countries. The results show that GDP growth, domestic investment, and financial intermediary sector development are important factors. A percentage point increase in financial intermediary sector development tends to increase stock market development in Africa by 0.6 points controlling for macroeconomic stability, economic development, and the quality of legal and political institutions (Yartey 2007).

2.4 Stock Market Development in Emerging Markets

The stock markets in emerging markets have seen considerable development since the early 1990s. The market capitalization of emerging market countries has more than doubled over the past decade growing from less than \$2 trillion in 1995 to about \$5 trillion in 2005. As a percentage of world market capitalization, emerging markets are now more than 12 percent and steadily growing (Standard and Poor, 2005).

The rapid development of stock markets in emerging market does not mean that even the most advanced emerging stock markets are mature. In most stock markets, trading occurs in only a few stocks, which account for a considerable part of the total market capitalization. Beyond these actively traded shares, there are serious informational and disclosure deficiencies for other stocks. There are serious weaknesses in the transparency of transactions on these markets. The less developed of the stock markets suffer from a far wider range of such deficits. Compared with the highly organized and properly regulated stock market activity in the US and the UK, most emerging markets do not have such a well functioning market. Not only is there inadequate government regulation, private information gathering and dissemination firms as found in more developed stock markets are inadequate. Moreover, young firms in emerging stock markets do not have a long enough track record to form a reputation. As a result, one expects share prices in emerging markets to be arbitrary and volatile (Tirole, 1991).

Empirical evidence indicates that share prices in emerging markets are considerably more volatile than in advanced markets. Despite this volatility, large corporations have made considerable use of the stock market. For example, the Indian stock market has more than 8,000 listed firms, one of the highest in the World. Financing pattern in emerging markets indicate that, contrary to expectation, emerging market corporations rely heavily on external finance and new equity issues to finance long term investment. This result indicates that stock markets have been successful in providing considerable funds to the top 100 corporations in emerging markets (Singh, 1995).

A study done on the Ghana Stock Exchange (GSE) finds that, institutional factors particularly the legal and regulatory framework that ensure the protection and security of investors are important in the development of the stock market. Additionally, the study analysed the impact of the listing of Ashanti Goldfields Corporation (AGC) on the development of GSE. In addition capital flows by investors from Europe, America and the Far East have boosted the market capitalization. The researcher recommends that Ghana government needs to give fiscal incentives in the form of taxation in favour of listed companies, and to pursue prudent macroeconomic policies, particularly in the area of inflation management, to regularly review the legal and regulatory framework within which the investment laws operate in order to boost the confidence of investors (Osei, 1998).

Mun *et al* (2008) posit that, stock market liberalisation in terms of foreign direct investment (FDI) helps to attract greater volume of FDI flow into Malaysia, provide portfolio diversification and enable individual firms to engage in specialized production with efficiency gain. They underscore the need for the Malaysian government to develop the domestic equity market as there were evidences that showed that a more developed equity market may provide liquidity that lowers the cost of the foreign capital essential for development, thus, nation with greater development of equity market tends to generate more domestic savings for economic growth. They proposed that in order to boost the confidence of foreigner to invest in the stock market, the Malaysian government should ensure that all public information which is provided by all those public listed companies must be accurate and transparent. Securities Commission of Malaysia to

tighten the regulation such as Capital Markets and Services Act 2007 to avoid incidents of inaccurate information. This will be a boost to protect the interest of public by creating a fair and transparent condition for domestic equity market to rebuild the confidence of foreigner as well as domestic investors. A more developed stock market does provide incentive for managers to make investment decisions that may affect firm value in the long run. They further enlisted the government to improve the liquidity of stock market by providing more capital market services such as derivative markets, so as to enable firms to acquire much needed capital quickly to facilitate capital allocation for greater investment that lead to economic growth. These markets provide a platform for foreign portfolio investors as well as domestic portfolio investors to diversify their portfolio in domestic equity market (Mun et al, 2008).

A study done on a sample of twelve Middle-Eastern and North African (MENA) countries to identify the main macroeconomic determinants of stock market development and the impact of financial intermediary development on stock market capitalization found that saving rate, financial intermediary (specially credit to private sector), stock market liquidity (specially the ration of value traded to GDP) and the stabilization variable (inflation change) are the important determinants of stock market development, while income as well as investment do not prove to be significant. Financial intermediaries and stock markets are complements rather than substitutes in the growth process. The study recommends that, in order to promote stock market development in the region, it is important to encourage savings by appropriate incentives, to improve stock market liquidity, to develop financial intermediaries and to control inflation. The

study also examines the impact of financial intermediary development on stock market capitalization and finds that saving rate, financial intermediary (specially credit to private sector), stock market liquidity (specially the ration of value traded to GDP) and the stabilization variable (inflation change) are the important determinants of stock market development, while income as well as investment do not prove to be significant. Financial intermediaries and stock markets are complements rather than substitutes in the growth process (Naceur *et al*, 2005).

Research done on the economic importance of stock markets in Africa in terms of policy options for promoting the development of stock market in Africa finds that stock markets have contributed to the financing of the growth of large corporations in certain African countries. An econometric investigation of the impact of stock markets on growth in selected African countries, however, finds inconclusive evidence even though stock market value traded seem to be positively and significantly associated with growth. African stock exchanges now face the challenge of integration and need better technical and institutional development to address the problem of low liquidity. Preconditions for successful regional approaches include the harmonization of legislations such as bankruptcy and accounting laws and a liberalized trade regime. Robust electronic trading systems and central depository systems are important. Domestic financial liberalisation such as steps to improve the legal and accounting framework, private sector credit evaluation capabilities, and public sector regulatory oversight would also be beneficial. (Yartey and Adjasi, 2007)

2.5 Stock Market Development and Economic Growth

In principle, stock markets are expected to accelerate economic growth by providing a boost to domestic savings and increasing the quantity and the quality of investment. In particular, stock markets can encourage economic growth by providing an avenue for growing companies to raise capital at lower cost. In addition, companies in countries with developed stock markets are less dependent on bank financing, which can reduce the risk of a credit crunch. The stock market is also expected to perform an 'act of magic' by permitting long term investment to be financed by funds provided by individuals, many of whom wish to make them available for only a very limited period, or who wish to be able to withdraw them at will (Baumol, 1965).

Ever since the pioneering contributions of Gurley and Shaw (1955, 1960, 1967), McKinnon (1973) and Shaw (1973), the relationship between financial development and economic growth has been an important issue of debate. Numerous studies have dealt with different aspects of this relationship at both theoretical and empirical levels. The broadest division of a financial system is between financial intermediaries (banks, insurance companies, and pension funds) and markets (bond and stock markets). A large part of an economy's savings is intermediated towards productive investments through financial intermediaries and markets. Since the rate of capital accumulation is a fundamental determinant of long-term growth, an efficient financial system is essential for an economy. Earlier research emphasized the role of the banking sector in economic growth. In the past decade, the world stock markets surged, and emerging markets accounted for a large amount of this boom. Recent research has therefore begun to focus

on the linkages between the stock markets and economic development and found positive correlation between stock market development and economic growth (Van Nieuweburgh *et al.*, 2005, Capasso, 2008).

Stock market development plays an important role in predicting future economic growth. It is by now widely recognized that a well-functioning financial system is crucial to economic growth. As part of the financial system, the stock markets play important roles in economic growth. Then, the question of what determines stock market development becomes important. Research done on the macroeconomic determinants of stock market development finds that stock market development is a multi-dimensional concept. It is usually measured by stock market size, liquidity, volatility, concentration, integration with world capital markets, and the legal rule (regulation and supervision) in the market (Levine and Zervos 1998).

Kunt and Levine (1996), Singh (1997) and Levine and Zervos (1998) find that stock market growth plays an important role in predicating future economic growth in situations where the stock markets are active. The arguments of Kunt *et al.* (1996) indicate that economies without well-functioning stock markets may suffer from three types of imperfections: first, opportunities for risk diversification are limited for investors and entrepreneurs, second, firms are unable to optimally structure their financing packages and third, countries without well-functioning markets lack information about the prospects of firms whose shares are traded, thereby restricting the promotion of investment and its efficiency. New theoretical research works show that stock market

development might boost economic growth and empirical evidence tends to provide some support to this assertion. Levine and Zervos (1998), for instance, find that stock market development plays an important role in predicting future economic growth.

Not until recently has the emphasis increasingly shifted to stock market indicators, due to the increasing role of financial markets in economies. Atje and Jovanovic (1993) test the hypothesis that the stock markets have a positive impact on growth performance. They find significant correlations between economic growth and the value of stock market trading divided by GDP for 40 countries over the period 1980-88. Acemoglu and Zilibotti, 1997 argue that, due to the availability of portfolio diversification, firms have the opportunity to specialize in production activities thus increasing firm efficiency. Similarly, Levine and Zervos (1996, 1998) and Singh (1997) show that stock market development is positively and robustly associated with long run economic even after controlling for economic and political factors. Both stock market liquidity and banking development significantly predict future rates of growth. Stock markets provide important but different financial services from banks. Countries with better-developed stock markets also have better-developed financial intermediaries. Stock market development goes hand-in-hand with financial intermediary development. Large stock markets are more liquid, less volatile, and more internationally integrated than smaller markets. Furthermore, institutionally developed markets with strong information disclosure laws, international accounting standards, and unrestricted capital flows are larger and more liquid markets. Theory also point out a rich array of channels through which the stock markets market size, liquidity, and integration with world capital

markets, and volatility may be linked to economic growth (Demirguc-Kunt and Levine, 1996a).

Pagano (1993) shows the increased risk-sharing benefits from larger stock market size through market externalities, while Levine (1991) and Bencivenga, Smith, and Starr (1995) show that stock markets may affect economic activity through the creation of liquidity. Bencivenga et al. (1995), show that stock markets make financial assets tradable, thus reducing the liquidity risk. Similarly, Devereux and Smith (1994) and Obstfeld (1994) show that risk diversification through internationally integrated stock markets is another vehicle through which the stock markets can affect economic growth. Besides stock market size, liquidity, and integration with world capital markets, theorists have examined stock return volatility. In addition, using cross-country data for 47 countries from 1976-93, Levine and Zervos (1998) find that stock market liquidity is positively and significantly correlated with current and future rates of economic growth, Zervos *et.al.* (1989) argue that excess volatility in the stock market can hinder investment, and therefore growth.

Pardy (1992) has noted that even in less developed countries, capital markets are able to mobilize domestic savings leading to efficient allocation of funds. Thus stock markets play a crucial role in inducing growth in less developed countries. Perotti and van Oijen (1999) show that the existence of diverse equity ownership helps create political stability which further spurs growth. Harris (1997) found that, stock markets promote growth, though this occurs only for developed countries. Rousseau and Wachtel (2000) also find

that stock markets influence growth via value traded of shares, whilst Arestis et al (2001) using time series on five industrialised countries find that stock market play a role in growth. In principle, stock markets are expected to accelerate economic growth by providing a boost to domestic savings and increasing the quantity and the quality of investment. In particular, stock markets can encourage economic growth by providing an avenue for growing companies to raise capital at lower cost. In addition, companies in countries with developed stock markets are less dependent on bank financing, which can reduce the risk of a credit crunch. The stock market is also expected to perform an 'act of magic' by permitting long term investment to be financed by funds provided by individuals, many of whom wish to make them available for only a very limited period, or who wish to be able to withdraw them at will (Baumol, 1965).

Better savings mobilization may increase the savings rate. If efficient stock markets enable savings to be allocated to investment projects with higher returns, the rate of return to savers increases, making savings more attractive. As a result, more savings are channelled to the corporate sector. Theoretically, a free market in corporate control, by providing financial discipline, is expected to provide the best guarantee of efficiency in the use of assets. The presumption is that, if management does not maximize firm value, another economic agent may take control of the firm, replace management, and reap the gains from a more efficient firm (Yartey, 2008).

Equity market liberalizations, on average, lead to a one percent increase in annual real economic growth. The effect is robust to alternative definitions of liberalizations and

does not reflect variation in the world business cycle. The effect also remains intact when an exogenous measure of growth opportunities is included in the regression. We find that capital account liberalizations also play a role in future economic growth, but, importantly, it does not subsume the contribution of equity market liberalizations. Other simultaneous reforms only partially account for the equity market liberalizations effect. The largest growth response occurs in countries with high quality institutions (Bekaert *et al*, 2004).

2.6 Determinants of Stock Markets Development

There are two approaches to assess stock market capitalization which is the proxy for market development, one is institutional and the other is macroeconomic. The institutional approach looks at institutional factors such as property rights, clearance and settlement issues, transparency and the inside information problems, taxation issues, and accounting standards. The macroeconomic approach looks at factors such as income growth, savings and investment, financial development, and inflation. As we know, both institutional and macroeconomic factors are important in stock market development. Regulatory and institutional factors may influence the functioning of stock markets. For example, mandatory disclosure of reliable information about firms may enhance investor participation, and regulations that instill investor's confidence in brokers should encourage investment and trading in the stock markets (Pagano 1993)

Furthermore, some authors take the institutional approach for an individual country. For example, Miller (1991) finds that in Sweden the (securities) transaction tax was, by far,

the highest in the world. Similarly, Ness and Martinez (1997) examine the effects of the institutional factors on Argentine and Brazilian stock markets. Institutional factors are directly reflected in macroeconomic factors. It has been shown that some institutional measures such as legal rule are highly correlated with stock market liquidity, while stock market liquidity is one of the macroeconomic determinants. For example, Kunt and Levine (1996) find that countries with well-developed regulatory and institutional systems tend to have large, liquid stock markets.

Macroeconomic factors determine stock market development, particularly market capitalization. Real income, saving rate, financial intermediary development and stock market liquidity are important determinants of stock market development. They do not find a strong relationship between macroeconomic volatility and stock market development. They also find that stock market development and financial intermediary development are complements instead of substitutes (Garcia and Liu, 1999).

2.6.1 Real Income Levels

Real income has been found to be highly correlated with the stock market size. Higher volume of intermediation through stock markets causes higher real income growth. High-income growth in turn promotes development in the stock market. As income increases, its cyclical component should impact the size of the stock market and its price index. In addition, because higher income usually goes hand in hand with better-defined property rights, better education, and a better general environment for business, we expect it to have a positive effect on the stock market size. Like financial intermediaries stock

markets intermediate savings to investment projects. Usually the larger the savings, the higher the amount of capital flows through stock markets. However, savings may not be highly correlated with income in our sample. In fact in Latin America during the last several years it is negatively correlated, probably due to the sizable capital flows. Thus, we expect savings and investment to be important determinants of stock market capitalization. Again, to avoid the causality problem, we use last year's saving or investment rate in the regressions (La Porta *at al* 1997).

A key constraint for Sub-Saharan Africa (SSA) countries is the low savings rates which limits intermediation through the stock market development. On average, 96 percent of SSA (44 out of 46 countries) had a negative savings-investment gap between 1991 and 2007.⁹ Only the resource rich countries such as Angola, Botswana, Republic of Congo, Gabon, Lesotho, and Nigeria experienced positive savings-investment balances in 2007. Foreign savings is thus an important source of development finance for SSA countries. Thus SSA countries run current account deficits as they expand domestic investment beyond the resources available from domestic savers through reliance on foreign savings. Typically the savings shortfall pertains to both public and private sectors. The public sector shortfall tends to crowd out investment in the private sector by limiting the flow of private savings available for domestic intermediation. Thus very low domestic savings is a major constraint on capital market development in SSA countries (Adelegan, 2008).

2.6.2 Banking Sector Development

Considering financial intermediary development, since both the banking sector and stock markets intermediate savings towards investment projects, they can be either complements or substitutes. From the “demand for funds” point of view, the Modigliani-Miller theorem (1958) states that in a perfect market with symmetric information, the market value of all the securities issued by a firm is independent of the firm’s source of finance and consequently firms could go either to the banking sector or to the stock markets to finance their capital. However, asymmetric and imperfect information dominates in the real world. Some countries also distort the financing choices through taxes, subsidies and regulations.

Thus, debt or equity financing does matter. From the supply of funds point of view, in the short run the relationship might be negative because of arbitrage between interest rates and stock market returns, but in the medium and longer term investors would probably want to diversify their financial assets and spread their savings between the banking sector and stock markets. The substitutes or complements issue could be country specific due to special incentives to obtain debt or equity financing. This complements or substitutes issue has been addressed by many researchers. Boyd and Smith (1996) suggest that stock markets and banks may act as complements rather than as substitute sources of capital. Kunt and Levine (1996) find that across countries the level of stock market development is positively correlated with development of financial intermediaries. Thus, they conclude that stock markets and financial institutions are generally complements and they grow simultaneously.

In contrast, Garcia (1986) finds that many developing countries have had many episodes of intermittent monetary policies with immediate consequences on banking credit. By changing credit in an exogenous way the central bank may create a negative correlation between banking credit and other sources of finance. To evaluate whether stock market development is significantly correlated with financial intermediary development, we include the measures of financial intermediary development in the regressions. Two empirical indicators are used to measure the financial intermediary development. One is domestic credit to the private sector divided by GDP, and the other is the ratio of broad money supply M3 to GDP. Liquid liabilities consist of currency held outside the banking system plus demand and interest-bearing liabilities of banks and non-bank financial intermediaries. The M3 to GDP ratio is an indicator of the size of the banking sector in relation to the economy as a whole. This indicator has been used in several studies of the effect of the financial sector on economic growth. In contrast, domestic credit to the private sector divided by GDP measures the role of banks in provision of longer-term financing to private corporations.

2.6.3 Stock Market Liquidity

Liquidity is usually defined as the ease and speed at which agents can buy and sell securities. It is one of the most important functions the stock markets provide (Miller, 1991). Many high-return projects require a long-run commitment of capital, which bears higher default and liquidity risks. Investors are generally reluctant to take these risks. Thus, without liquid stock markets less investment may occur to the high-return projects. In contrast, liquid stock markets allow investors to alter their portfolios quickly and

cheaply: it makes investment less risky and facilitates longer-term, more profitable investments (Levine (1991) and Bencivenga, Smith and Starr (1996). Consequently, the more liquid the stock market, the larger the amount of savings is channeled through stock markets. Therefore, a more liquid market is expected to lead to higher market capitalization. Mishkin (2001) argued that financial liberalization promotes transparency and accountability, reducing adverse selection and moral hazard. These improvements tend to reduce the cost of borrowing in stock markets, which eventually increase the liquidity, and the size of the stock market.

2.6.4 Macroeconomic Stability

General macroeconomic stability may well be an important factor for the development of the stock market. It is expected that the higher the volatility of the underlying economic situation the less incentive firms and savers would have to participate in the market. With the high instability found in many developing countries, particularly during the seventies and eighties, stock markets became more opaque. Prices become signals with large standard deviations, which make it very difficult to assert whether price changes were temporary or permanent, and markets become more uncertain and prone to attract mostly gamblers. Assuming that firms operate in a perfect and frictionless capital market, Modigliani and Miller (1958) argue that the value of a firm is independent of its capital structure. But other researchers argue that financial leverage depends on firm, industry and country-specific factors. As an economy transforms itself from an agro-based one to an industry and services-based one, the orientation of its financial system may also change. The orientation of the financial system and macroeconomic variables are

expected to affect the sources of finance and the costs and benefits associated with different forms of financing. A study done on the Indian firms in period 1981-2007 found that financial leverage is negatively related to stock market development and positively related to banking sector development, rate of inflation and effective rate of corporate tax (Sett and Sarkhel 2010).

Using international asset pricing models to investigate the link between quality of government institutions and the performance of global stock markets demonstrate a significant positive association between stock market performance measures and the quality of the institutional environment using performance measures of the average monthly stock index excess returns and the Sharpe ratio, adjusted for global and local risk factors known to explain their international variation. There is a negative correlation between quality of governance and stock market total risk and idiosyncratic risk, consistent with the notion that stable institutions are linked to reduced variations in equity returns. Therefore countries with better-developed governance systems have stock markets with higher returns on equity and lower levels of risk. This is in support of the view that a precondition for financial market development is the improvement of the institutions which govern the process of exchange (Hooper *et al*, 2005).

Ever since the pioneering contributions of Gurley and Shaw (1955, 1960, 1967), McKinnon (1973) and Shaw (1973), the relationship between financial development and economic growth has been an important issue of debate. The broadest division of a financial system is between financial intermediaries (banks, insurance companies, and

pension funds) and markets (bond and stock markets). A large part of an economy's savings is intermediated towards productive investments through financial intermediaries and markets. Since the rate of capital accumulation is a fundamental determinant of long-term growth, an efficient financial system is essential for an economy. Earlier research emphasized the role of the banking sector in economic growth. In the past decade, the world stock markets surged, and emerging markets accounted for a large amount of this boom. Recent research has therefore begun to focus on the linkages between the stock markets and economic development (Van Nieuweburgh et al 2005, Capasso 2008).

New theoretical work shows how stock market development might boost long-run economic growth, and new empirical evidence supports this view. For example, Demirguc-Kunt and Levine (1996a), Singh (1997), and Levine and Zervos (1998) find that stock market development plays an important role in predicting future economic growth. It is by now widely recognized that a well functioning financial system is crucial to economic growth. As part of the financial system, the stock markets play important roles in economic growth. Then, the question of what determines stock market development becomes important. However, surprisingly, little work has been done on this issue. In this paper, we study the macroeconomic determinants of stock market development and shed some light on this issue.

Stock market development is a multi-dimensional concept. It is usually measured by stock market size, liquidity, volatility, concentration, integration with world capital markets, and the legal rule (regulation and supervision) in the market. Macroeconomic

factors such as income level, gross domestic investment, banking sector development, private capital flows, and stock market liquidity are important determinants of stock market development in emerging markets. Political risk, law and order, and bureaucratic quality are important determinants of stock market development because they enhance the viability of external finance. This suggests that the resolution of political risk can be an important factor in the development of emerging stock markets (Yartey, 2008).

Other studies have found that economies without well-functioning stock markets may suffer from three types of imperfections: first, opportunities for risk diversification are limited for investors and entrepreneurs, second, firms are unable to optimally structure their financing packages and third, countries without well-functioning markets lack information about the prospects of firms whose shares are traded, thereby restricting the promotion of investment and its efficiency. New theoretical research works show that stock market development might boost economic growth and empirical evidence tends to provide some support to this assertion. Levine and Zervos (1998), for instance, find that stock market development plays an important role in predicting future economic growth. Sarkar (2007) finds no strong evidence between financial liberalisation and stock market development.

2.7 Summary of Literature Review

From the literature review, Stock market development appears to be a function of both macroeconomic and institutional factors. These are; income levels, banking sector development, savings and investments, stock market liquidity, private capital flow, macroeconomic stability and institutional quality.

McKinnon (1973) and Shaw (1973) emphasize the role played by financial liberalization in increasing savings and, hence, investment. They claim that financial deepening improves not only productivity of capital but also the saving rate and, therefore, investment and growth. Levine and Zervos (1998) find a strong relationship between stock market liquidity and stock market development. This is inconsistent with the findings of Bhide (1993) who finds a negative relationship between stock market liquidity and stock market development, he argues that liquid stock markets may weaken investors' commitment and incentive to exert corporate control hence weaken the market. Pagano (1993) finds a strong relationship between regulatory and institutional factors and stock market development. Levine (1996) finds that countries with well-developed regulatory and institutional systems tend to have large, liquid stock markets. Kunt and Levine (1996) find that countries with better-developed stock markets also have better-developed financial intermediaries. Thus, they conclude that stock market development goes hand-in-hand with financial intermediary development. This is inconsistent with the findings of Garcia and Liu (1999) who find no relationship between financial intermediary development and stock market development. Instead they find that financial intermediary development and stock market development are compliments and

not substitutes. Capasso (2008) finds positive correlation between stock market development and economic growth.

Tweneboah (2009), Errunza (1983) and (Yartey, 2008) find a strong positive relationship between FDI or Private Capital Flows and stock market development. This is in line with the findings of Musau (2002) who also found a positive relationship between financial liberalization and financial sector development. Yartey (2009) finds that macroeconomic factors such as income level, gross domestic investment, banking sector development, private capital flows, and stock market liquidity are important determinants of stock market development in emerging market countries. Political risk, law and order, and bureaucratic quality are important determinants of stock market development because they enhance the viability of external finance. This study seeks to test whether the above factors hold for The Nairobi Stock Exchange in terms of its development.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology and covers the research design, data collection methods, measurement of variables and data analysis.

3.2 Research Design

This study adopted a descriptive approach. According to Cooper and Schindler (2003) descriptive studies are more formalized and typically structured with clearly stated hypotheses or investigative questions. It serves a variety of research objective such as descriptions of phenomenon or characteristics associated with a subject population, estimates of proportions of a population that have these characteristics and discovery of associations among different variables. Studies by Garcia and Liu (1999) and Yartey (2008) have used a similar research design.

3.3 Target Population and Sample

The focus of the study was the NSE. The NSE plays an integral role as far as economic development is concerned. Empirical evidence finds that a well developed stock market can foster economic growth in the long run. This is in line with theories that a well – functioning stock market can promote economic development by fueling the engine of growth through faster capital accumulation and by tuning it through better resource allocation. (Corporale et al, 2004). The NSE is one the fastest growing emerging stock

markets and therefore worth studying. The NSE is the ideal market for carrying out this study based on availability, accessibility, and reliability of the data. Data for the last five years (2005-2009) was used.

3.4 Data Collection Methods

The study employed secondary data to model the impact of macroeconomics and institutional factors on the development of the NSE. Macroeconomic factors data included income level, savings and investment, stock market liquidity, macroeconomic stability and private capital flows. Institutional factors data will include political risk, bureaucratic quality, law and order, corruption and democratic accountability. Period of data covered was from 2005-2009.

3.5 Measurement of Variables

Dependent Variable: Stock Market Development (V) – Proxy of Market Capitalisation as a proportion of GDP. Data on this variable was obtained from the NSE.

Income Level (IL) – This study used the log GDP per capita in Kshs to measure the income level Per capita income is a crucial variable in explaining the enforcement of legal rights and the quality of accounting standards which are important determinants of stock market development (La Porta et al (1997). Data on this variable was obtained from the Kenya National Bureau of Statistics (KNBS).

Banking Sector Development (BSD) - The value of domestic credit provided by the banking system to the private sector relative to GDP. To understand the nature of the

relationship between banking sector development and stock market development, the study included the square of bank credit to the private sector as a percentage of GDP in the regression. Data on this variable was obtained from the Central Bank of Kenya Library.

Savings and Investment (SI) - The study used gross domestic savings as percentage of GDP and gross domestic investment as a percentage of GDP. Data on this variable was obtained from the KNBS.

Stock Market Liquidity (SML) -The study measured stock market liquidity using value traded as a percentage of GDP. Data on this variable was obtained from the NSE.

Macroeconomic Stability (MS) – Inflation as a measure of macroeconomic stability was used. Data was obtained from CBK. Similar study by Garcia and Liu (1999) used the same statistic.

Private Capital Flows (PC) -Capital flows are measured in this study using foreign direct investment as a percentage of GDP and net private capital flows as a percentage of GDP. Data on this variable was obtained from the NSE.

Institutional Quality (IQ) – Political Risk was used as a measure of institutional quality. (law and order, bureaucratic quality, democratic accountability and corruption) International Country Risk Guide (ICRG) rating system was used. Data on this variable was obtained from the World Bank Library.

3.6 Data Analysis

The study used regression analysis to determine the relationship between the variables of study. Studies by Yartey (2008) and Lazaridis and Troforidis (2006) have used regression analysis while researching on relationship among variables. The regression model below was used to determine the impact of each variable in the development of the NSE.

$$V = a (IL) + b (BSD) + c (SI) + d (SML) + e (MS) + f (PC) + g (IQ)$$

Where V	stock market development,	IL	income level	
	BSD	banking sector development,	SI	savings and investment
	SML	stock market liquidity,	MS	macroeconomic stability
	PC	private capital flows;	IQ	institutional quality

The coefficients a, b, c, d, e, f and g represent the constants to the respective independent variables and indicate the type of relationship between each of the independent variables and the dependent variable. With the model, the study was able to identify the values of the independent variables and predict the future values. The data was analysed using a statistical package: Eviews - version 3.1. Eviews was used to analyse the macroeconomic time series data.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF THE RESULTS

4.1 Introduction

This section presents the data analysis and findings of the study. The chapter commences with the descriptive statistics, which gives the exploration of the variables used in the analysis. Then, Pearson correlation coefficients of dependent variable and independent variables are reported. Regression analysis results highlighting the model summary, analysis of variance and regression coefficients are reported at the end of the chapter.

4.2 Descriptive Statistics of Variables

Before embarking on the details of empirical issues, it's important to examine the data which was collected and used in analysis. Table 4.1 gives the summary of the descriptive statistics of the data used in this study. Apart from income per capita which is represented in absolute terms in Kshs and macroeconomic stability -inflation which is in percentage, the other variables domestic savings, private capital flows, stock market liquidity, banking sector development and stock market development are represented as a ratio of GDP. Institutional quality is an index reported by World Bank explaining how financial sector are independent from political manipulations.

Table 4.1: Summary of descriptive statistics of variables

	Minimum	Maximum	Mean	Std. Deviation
Stock market development	0.33	0.49	0.4113	0.06727
Banking sector development	0.28	0.33	0.2968	0.02333
Income per capita (Kshs)	40292	57887	49330	7070.5
Stock market liquidity	0.01	0.06	0.0289	.02420
Macroeconomic stability	4.90	17.80	8.1800	5.45500
Private capital flows	0.001	0.02	0.0098	.01173
Institutional quality	0.01	0.16	0.0846	.06218
Domestic savings	0.12	0.15	0.1389	.01463

Most economic data is skewed (non-normal), possibly due to the fact that economic data has a clear floor but no definite ceiling. Also it could be the presence of outliers. The Jarque-bera statistics test is used to test normality of the series. It utilizes the mean based coefficients of skewness and kurtosis to check normality of variables used. Skewness is the tilt in the distribution and should be within the -2 and +2 range for normally distributed series. Kurtosis put simply is the peakedness of a distribution and should be within -3 and +3 range when data is normally distributed. Normality test uses the null hypothesis of normality against the alternative hypothesis of non-normality. If the probability value is less than Jarque-Bera chi-square at the 5% level of significance, the null hypothesis is not rejected. Table 4.2 gives the normality test of the data used in this study. The normality test shows that macroeconomic stability –inflation, domestic savings, private capital flows, stock market liquidity, banking sector development and institutional quality are not normally distributed while stock market development and private capital flows are normally distributed. This is likely to impair the normality of the residuals forming the long run relationship. This is likely to lead to non normality of residual series.

Table 4.2: Normality test of the data used

Statistics	Stock market development	Banking sector development	Income per capita (Kshs)	Stock market liquidity	Macro-economic stability	Private capital flows	Institutional quality	Domestic savings
Skewness	0.756	-1.019	2.354	0.924	-1.030	1.188	0.991	0.532
Kurtosis	2.797	2.511	10.464	2.103	3.654	3.783	2.585	1.283
Jarque-Bera	3.293	6.410	113.577	6.150	6.810	9.129	5.979	5.950
Probability	0.193	0.041**	0.000*	0.046**	0.033**	0.010	0.050**	0.051**

Note: **Reject hypothesis of normality at 5% level

*Reject hypothesis of normality at 1% level

The descriptive statistics among others do give guide on which of the equations is more able to yield better results and highlight on possible problems to encounter. However there is need to supplement the statistics by more incisive quantitative analysis such as the correlation analysis and regression analysis that are discussed in section 4.3.

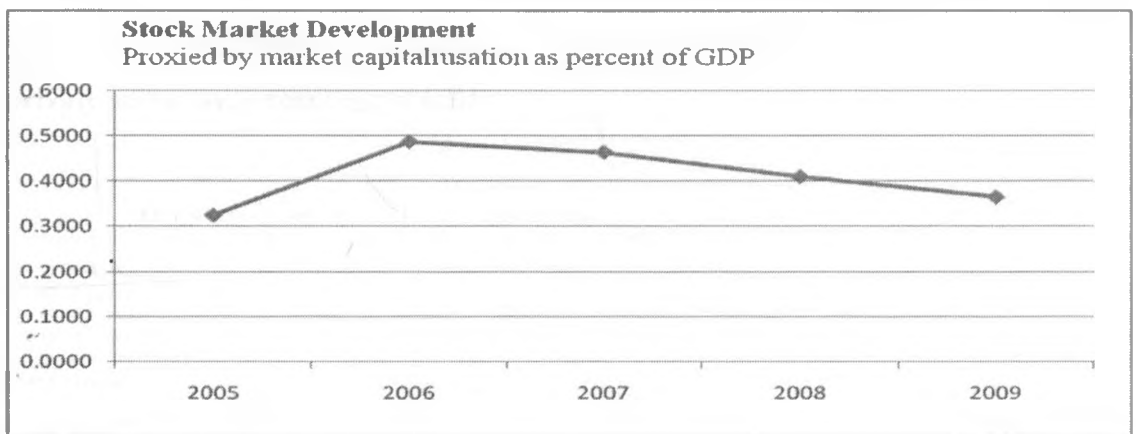
For the purpose of showing the trend exhibited by the variables over the study, the variables were plotted. The following section reports the trends of variables in graphical representation.

4.2.1 Stock Market Development

Dependent variable: stock market development is proxy of market capitalization as a proportion of GDP. The primary role of a stock market is to provide a market where

financial instruments can be traded in a regulated environment without constraint. According to Glen et al. (1995) stock market is a vital part of any economic system in which ownership can be bought or sold. A stock exchange and its presence in an economic system can be justified by the following functions it performs- channels savings into investments. It converts investments into cash, thus supplying market liquidity and helps in evaluating and managing securities. Figure 4.1 show that the NSE expanded from 2005 to 2006 before contracting up to 2009.

Figure 4.1: Graphical representation of market capitalisation as percentage of GDP

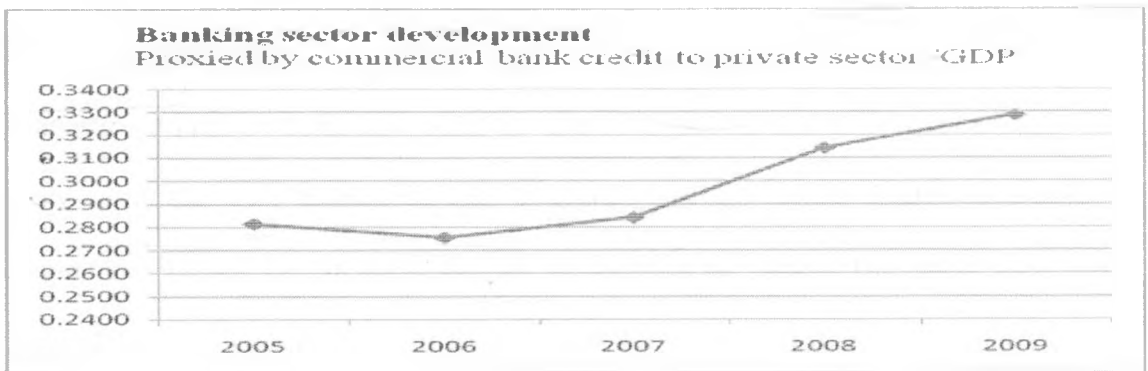


4.2.2 Banking Sector Development (BSD)

Banking sector is key player in the economic development process. Major players in the sector are commercial banks, Non Financial Banking Institutions (NFBIs), the retirement benefits institutions, and the development finance institutions. To strength the financial sector, the government pledges to reform the sector and play only regulatory role. These reforms were aimed at making credit and other financial services affordable and encourage savings in order to provide a basis for economic growth and eradication of poverty.

Banking Sector Development was proxied by the total value of domestic credit provided by the commercial banking system to the private sector relative to GDP. To understand the nature of the relationship between banking sector development and stock market development, the study includes the commercial bank credit to the private sector as a percentage of GDP in the regression. Figure 4.2 shows that commercial banks credit provided to the private sector has been increasing steadily from 2006 to 2009. From the graphical representation below, it can be concluded that the rise in commercial banks credit provided to the private sector has contributed to development of stock market.

Figure 4.2: Graphical representation of commercial banks credit provided to the private sector as percentage of GDP

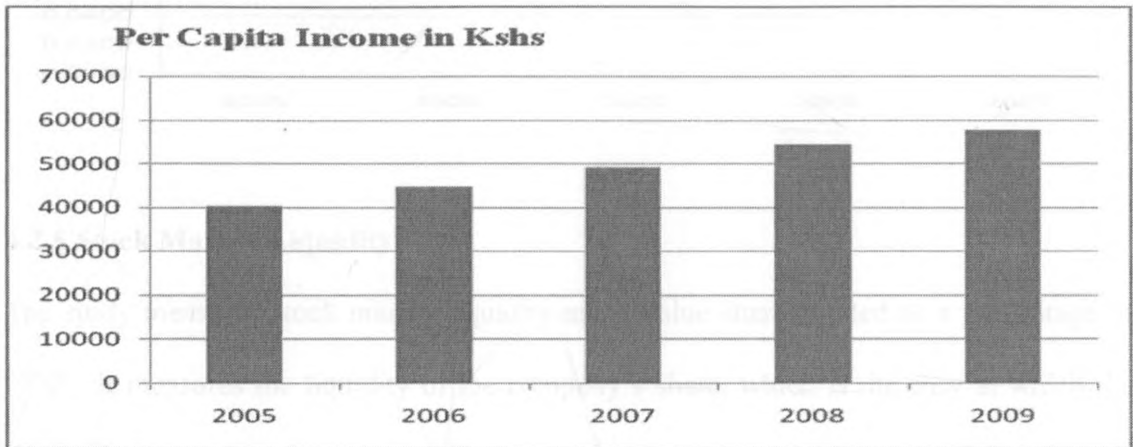


4.2.3 Income per Capita

This study uses the GDP per capita in Kshs to measure the income level in the country. The variable indicates the purchasing power parity of the population. Per capita income is a crucial variable in explaining the enforcement of legal rights and the quality of accounting standards which are important determinants of stock market development (La

Porta et al (1997). Table 4.3 shows that per capita income has been increasing steadily since 2005, and hence contributing to development of the stock market.

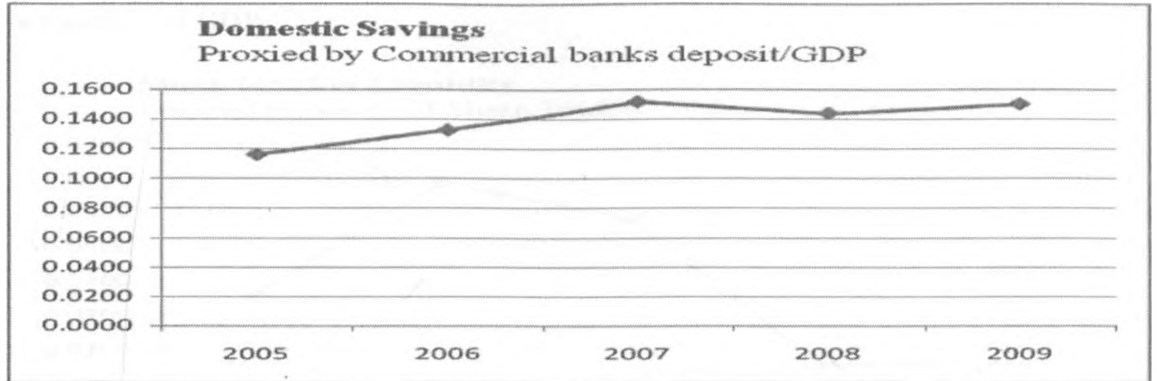
Table 4.3: Per capita income measuring the purchasing power parity of the population



4.2.4 Domestic Savings

Domestic savings, by definition, equal the sum of household and enterprise savings. This study used the sum household and enterprise savings which readily available in commercial banks, i.e., demand deposit to commercial banks. The study used gross domestic savings as percentage of GDP. Figure 4.3 shows that domestic saving has been increasing steadily since 2005, and hence contributing to development of the stock market. Through the financial intermediation is a process of pooling the savings from surplus economic agents to deficit economic agents, the stock market is able to expand.

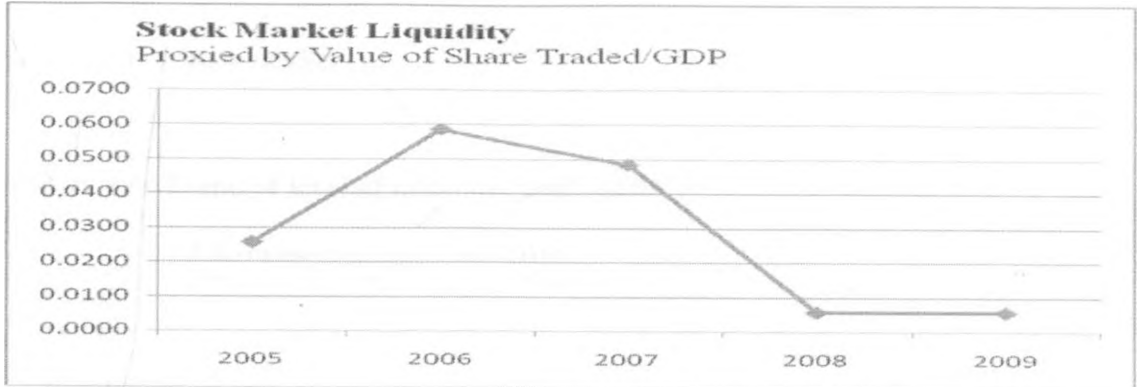
Figure 4.3: Household and enterprise savings deposits in commercial banks



4.2.5 Stock Market Liquidity

The study measures stock market liquidity using value shares traded as a percentage of GDP. It measures the liquidity of the company's share, which is the ease at which the firm's shares are bought and sold. The quicker and easier it is to buy or sell the share on the market, the more accurately the price reflects all available information. When firm's share prices reflect all the available information, the firm's transaction costs will go down and this was expected to have a positive impact on the stock market development. Figure 4.4 below shows that the liquidity has been on a downwards trend since 2006, but stabilized in between 2008 and 2009. This reflects lack of information sharing among firm listed and hence negative impact to stock market development.

Figure 4.4: Stock market liquidity measured as value of shares traded as a percentage of GDP

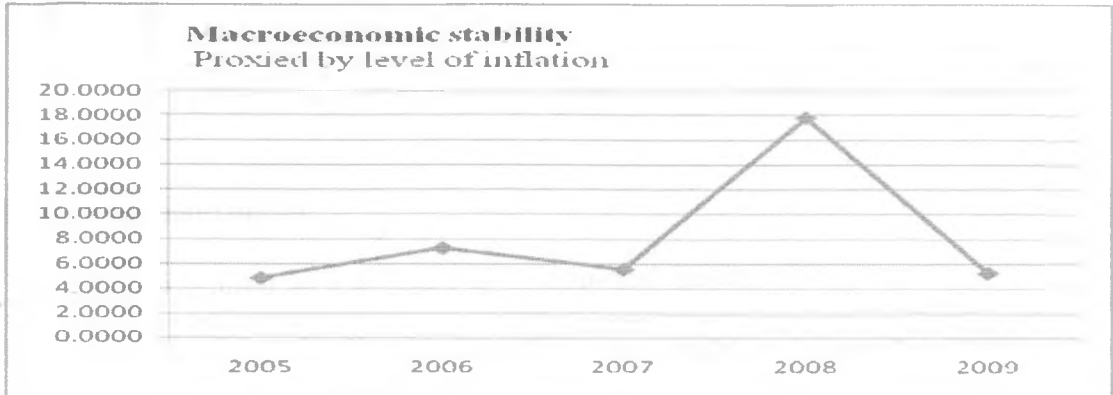


4.2.6 Macroeconomic Stability

Broadly, macroeconomic stability is a situation where key economic relationships are in balance and sustainable. Although there is no unique set of thresholds for each macroeconomic variable between stability and instability, there is a continuum of various combinations of level of key macroeconomic variables (e.g. growth, inflation, fiscal deficit, current account deficit, international reserves) that could indicate macroeconomic instability. In any economy, macroeconomic stability depends on macroeconomic management of the economy as well as the structure of key markets and sector. The essential idea is that markets are key elements of the institutions that provide the incentive structure of the economy and shape the direction of economic change towards growth, stagnation or decline. A growing economy must have a well-functioning system of markets that can generate correct price signals that determine the flow of resources. A stable macroeconomic environment; characterized by low inflation and predictable inflation. In this study, macroeconomic stability was measured by level inflation rate that prevailed in the country over the study period. Figure 4.5 below shows that Kenyan

economy experienced macroeconomic stability, and therefore investments were less affected by inflation. This also indicates less susceptibility to internal shocks and hence expansion of stock market.

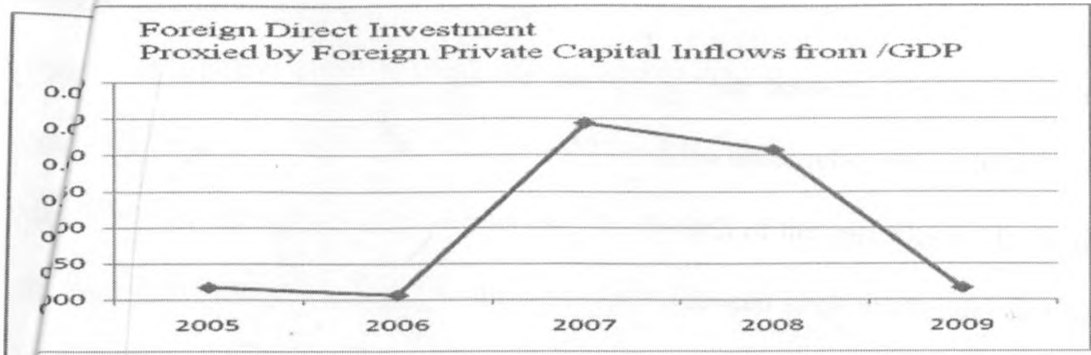
Figure 4.5: Trend of level of inflation, 2005 -2009



4.2.7 Foreign Capital Investment

The fact is foreign direct investment (FDI) plays an important role in the developing of developing countries. FDI can have a positive impact on growth by engaging domestic capital accumulation. Strong domestic investment performance is a sign of high returns to capital, which in turn will attract more foreign capital. FDI also has potential to enhance growth of domestic firms through complementarily in production and productivity spillovers. Private capital flows as percent of GDP were used to measure foreign direct investment. Figure 4.6 show a downward trend of private capital flows into the country over the study period.

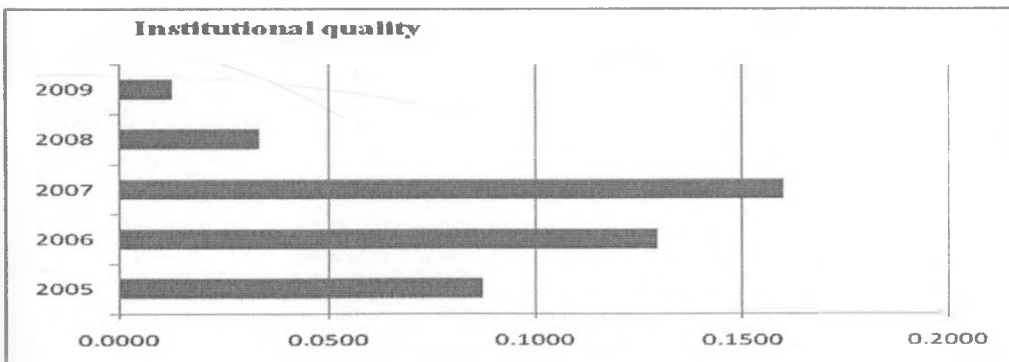
Figure Foreign capital investment measured as private foreign capital inflows as a percentage of GDP



4) Institutional Quality

Political Risk was used as a measure of institutional quality. This is a law and order, bureaucratic quality, democratic accountability and corruption index. The international Country Risk Guide (ICRG) rating system by World Bank was used. The index explains stability of financial institutions and lacks of political manipulation hence their reliability in enhancing operations of stock market. Table 4.4 reports that in 2008 and 2009, the political risks in country were at minimal hence no risks in investing in stock markets and thus overall development.

Table 4.4: Political risk as measure of institutional quality



4.3 Relationship between Dependent Variable and Independent Variables

4.3.1 Correlation Analysis

Pearson correlation is used to evaluate the relationship between the variables. The correlation matrix is an important indicator that tests the linear relationship, between the variables. The matrix also helps to determine the strength of the variables in the model, that is, which variable best explains the relationship between stock market development and its determinants. This is important and helps in deciding which variable(s) to drop from the equation. Table 4.5 presents the correlation matrix of the variables in levels. The table shows that there is positive correlation between stock market development and income per capita, macroeconomic stability –inflation, domestic savings, private capital flows, stock market liquidity and Institutional quality. However, stock market development is negatively related to banking sector development, though the strength of relationship is low at -0.396 . The Pearson correlation coefficient between stock market development and income per capita, macroeconomic stability –inflation, domestic savings, private capital flows, stock market liquidity and institutional quality is 0.017 , 0.137 , 0.410 , 0.365 , 0.715 and 0.651 respectively. Except the high correlation coefficients between stock market development and stock market liquidity and institutional quality which show more power of the relationships, the other coefficients show low relationships.

Table 4.5: Pearson correlation co-efficient between variables

	Stock Market Development	Banking Sector Development	Per Capita Income	Stock Market Liquidity	Macroeconomic Stability	Foreign Direct Investment	Institutional Quality	Domestic Savings
Stock Market Development	1							
Banking Sector Development	-.396	1						
Per Capita Income	.017	.903(*)	1					
Stock Market Liquidity	.715	-.877	-.615	1				
Macroeconomic Stability	.137	.349	.374	-.420	1			
Foreign Direct Investment	.365	.054	.291	-.016	.489	1		
Institutional Quality	.631	-.888(*)	-.629	.938(*)	-.386	.244	1	
Domestic Savings	.410	.556	.846	-.170	.195	.565	-.123	1

* Correlation is significant at the 0.05 level (2-tailed)

The findings in table 4.5 indicate that stock market development is determined by stock market liquidity and Institutional quality. This is because Pearson correlation coefficient between stock market development and stock market liquidity and institutional quality indicated high relationship among them. However, over the study period income per capita, macroeconomic stability –inflation, domestic savings and private capital flows, bank development seem not to influence stock market development.

4.3.2 Regression Analysis

In order to establish the relationships and effects of stock market liquidity and institutional quality income per capita, macroeconomic stability –inflation, domestic

savings and private capital flows, bank development on stock market development regression analysis was conducted.

Table 4.6 below summarizes regression results. As indicated in the regression statistics R-squared was 0.724. This means that 72% variations from the expected and actual output (dependent variable: stock market development) are explained by the independent variables. These indicate good fit of the regression equation 1. Thus, this is a good reflection of the true position that stock market development is determined by the stock market liquidity and institutional quality income per capita, macroeconomic stability – inflation, domestic savings and private capital flows and bank development. Analysis of Variance shows that f-calculated is greater than f – critical ($2.577 > 0.228$). This implies that the regression equation 1 was well specified.

Co-efficient of the regression shows that there is relationship between stock market developments and stock market liquidity, institutional quality, income per capita, domestic savings and bank development. However, regression analysis coefficient shows no relationship between stock market development and macroeconomic stability – inflation and private capital flows.

Table 4.6: Summary of Regression Analysis Results

<i>Regression Model Summary: Dependent variable stock Market Development</i>			
R Squared			0.7204
Adjusted R Squared			0.6409
Observations			5
<i>ANOVA (Analysis of Variance)</i>			
	<i>Degree of freedom</i>	<i>Sum of Squares</i>	<i>Mean Square</i>
Regression	4	3.299	1.099
Residual	1	1.281	0.426
Total	5	4.580	
<i>Calculated F</i>			2.577
<i>Significance F</i>			0.2286
<i>Output of Regression – Co-efficient</i>			
<i>Predictor- Independent Variable</i>	<i>Coefficients</i>	<i>Standard Error</i>	<i>t -Statistics</i>
(Constant)	3.336	1.154	2.891*
Macroeconomic stability	-0.011	-0.030	0.372
Private capital flows	-5.313	-7.836	0.678
Institutional quality	-1.435	-0.716	2.004*
Domestic savings	4.209	2.175	1.935**
Income per capita	1.258	0.636	1.978**
Stock market liquidity	1.764	-0.840	2.101*
Bank sector development	0.02	0.001	2.001*

Note: * significance at 1%, ** significance at 5%

Estimated Equation: Stock market development = 3.336 - 1.435* political risk -institutional quality + 4.209 *domestic savings + 1.258*income per capita + 1.764*stock market liquidity + 0.02*bank development

Table 4.6 above represents the regression results for the existence of a short run relationship among the variables. The results shows that the coefficients of political risk - institutional quality, domestic savings, and income per capita, stock market liquidity and bank development are statically significance. This implies that these variables have an effect/impact on the stock market development. However, the variables macroeconomic stability and private capital inflows have no impact on stock market development since the coefficients are statically insignificance.

In particular, there is a negative effect of institutional quality on stock market development. 1% rise in political risk leads to 1.435% decline in the stock market development. This is explained by the fact when there is political unrest investors will pull out from investing in stock markets.

The result of domestic saving coefficient has the correct sign and significant. This indicate that domestic savings affects positively the stock market development at 1% level, which is in line with theory as reflecting financial intermediation role of stack market. An increase in domestic savings by one Kenya shillings leads stock market expansion by Kenya shillings 4,209. This is expected. Savings are directly related to investment. This has a direct link to the level of investment in the economy as the investors add more investment in stock market and increase their production to meet the increased demand. As the economy grows and investment increases, people invest from their earlier savings.

The private sector commercial bank credit to GDP ratio as proxy of banking sector development has the correct sign and is statistically significant at the 1% level. An increase of 1% in commercial bank credit to private sector promotes stock market development savings by 0.02%. These results confirm the existence of financial intermediation as earlier postulated, which contributed to the real savings and hence more investment in stock market. Consequently, the current experiments with financial liberalization and restructuring that designed to improve the efficiency of financial intermediaries will lead to real savings if credit to productive private sector enterprises increases. This will in turn lead to stock market development as people invest in stocks from savings in banking sector.

The coefficient of per capita income has the correct sign. An increase of 1% in per capita income leads to 1.258% stock market development. These results indicate increase in disposable national income will lead to population investing more in stock market.

The stock market liquidity has the correct sign and is statistically significant at the 1% level. An increase of 1% in stock market liquidity promotes stock market development savings by 1.764%. This reflects increased the level of investment in the economy as the investors add more investment due to increased liquidity as share value appreciate with time.

4.4 Summary of findings and Implication

The Pearson correlation which establishes relationship between variables indicated that stock market development is determined by stock market liquidity and institutional quality. This is because Pearson correlation coefficient between stock market development and stock market liquidity and institutional quality indicated high relationship among them. However, over the study period income per capita, macroeconomic stability –inflation, domestic savings and private capital flows, bank development seem not to influence stock market development.

The regression results for the period were run to determine the relationship among the variables. In particular, there is a negative effect of institutional quality on stock market development. This is explained by the fact when there is political unrest investors will pull out from investing in stock markets.

The result of domestic saving coefficient has the correct sign and significant. This indicate that domestic savings affects positively the stock market development at 1% level, which is in line with theory as reflecting financial intermediation role of stack market. Savings are directly related to investment. This has a direct link to the level of investment in the economy as the investors add more investment in stock market and increase their production to meet the increased demand.

The private sector commercial bank credit to GDP ratio as proxy of banking sector development has the correct sign and is statistically significant at the 1% level. These

results confirm the existence of financial intermediation which contributed to the real savings and hence more investment in stock market. Consequently, the current experiments with financial liberalization and restructuring that designed to improve the efficiency of financial intermediaries will lead to real savings if credit to productive private sector enterprises increases. This will in turn lead to stock market development as people invest in stocks from savings in banking sector.

The coefficient of per capita income has the correct sign. These results indicate increase in disposable national income will lead to population investing more in stock market.

The stock market liquidity has the correct sign and is statistically significant at the 1% level. This reflects increased the level of investment in the economy as the investors add more investment due to increased liquidity as share value appreciate with time.

CHAPTER FIVE

SUMMARY, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1 Summary

The primary role of a stock market is to provide a market where financial instruments can be traded in a regulated environment without constraint. According to Glen et al. (1995) stock market is a vital part of any economic system in which ownership can be bought or sold. A stock exchange and its presence in an economic system can be justified by the following functions it performs- channels savings into investments. It converts investments into cash, thus supplying market liquidity and helps in evaluating and managing securities.

This research project sought to investigate the determinants of the development of the Nairobi Stock Exchange. The study adopted a descriptive approach. The focus of the study was the NSE since it was ideal market for carrying out this study based on availability, accessibility, and reliability of the data. Data for the last five years (2005-2009) was used. The study employed secondary data to model the impact of macroeconomics and institutional factors on the development of the NSE. Macroeconomic factors data included income level, savings and investment, stock market liquidity, macroeconomic stability and private capital flows. Institutional factors data included political risk, bureaucratic quality, law and order, corruption and democratic accountability.

The regression results revealed that there is relationship between stock market developments and stock market liquidity, institutional quality, income per capita, domestic savings and bank development. However, regression analysis reported no relationship between stock market development and macroeconomic stability –inflation and private capital flows. Therefore it can be concluded that stock market developments is determined by stock market liquidity, institutional quality, income per capita, domestic savings and bank development.

The study recommended that the share of bank lending which goes to the private sector ought to be increased to avoid public sector programmes crowding out private investment financed through financial saving. This therefore calls for dismantling of any impediments to increased availability of credit to the private sector. The government should address constraints affecting domestic saving. Policy approaches should be geared toward strengthening the banking legal infrastructure, in order to lower costs and risks associated with non-performing loans and addressing the high intermediation margins. This will make banks attractive to savers hence increasing financial savings. There is need for macroeconomic stability, the establishment of conditions that favour private investment and adequate bank supervision, which enhances financial stability and stock market development.

5.2 Conclusions

From the findings above there is relationship between stock market developments and stock market liquidity, institutional quality, income per capita, domestic savings and bank

development. However, regression analysis coefficient shows no relationship between stock market development and macroeconomic stability –inflation and private capital flows.

Empirical studies by Garcia and Liu (1996) have linked stock market development and economic growth once more underscoring the importance of having a developed stock markets in an economy.

Therefore it can be concluded that stock market developments is determined by stock market liquidity, institutional quality, income per capita, domestic savings and bank development. Any nation that seeks economic growth must focus on developing its stock market.

5.3 Policy Recommendations

The strategy to pursue stock market development means diminishing the role of the public sector and greater reliance on the private sector. The share of bank lending which goes to the private sector ought to be increased to avoid public sector programmes crowding out private investment financed through financial saving. This therefore calls for dismantling of any impediments to increased availability of credit to the private sector.

The government should address constraints affecting domestic saving. Rather the government should embark on reducing the interest rate spread and widen access to credit by the private sector. Policy approaches should be geared toward strengthening the

banking legal infrastructure, in order to lower costs and risks associated with non-performing loans and addressing the high intermediation margins. This will make banks attractive to savers hence increasing financial savings.

There is need for macroeconomic stability, the establishment of conditions that favour private investment and adequate bank supervision, which enhances financial stability and stock market development. This is crucial for achieving positive results from the liberalization process. Macroeconomic stability necessitates consistent macroeconomic policies, hence the need for low stable inflation policy by the government.

The government need to address political risks associated with political unrest as this scares away investors, therefore compromising stock market development process.

5.4 Limitations of the Study

The study used macroeconomics time series data for the period of five years from 2005-2009. This means that only 5 observations were included in the analysis. A longer period with 30 and more observations is more appropriate when working with macroeconomics data; however collection of such data was not possible.

This study use secondary data and is subject to all limitations associated with secondary data which may affect the research findings.

Time factor is another limitation which resulted to using of a short measurement period which may affect the significance of the findings.

5.5 Recommendations for Further Research

This study found that macroeconomic stability proxied by inflation and foreign private capital inflow has no effects stock market development. Therefore there is need for further research geared toward establishing if macroeconomic instability and foreign private capital inflow affect stock market development.

This study focused on the macroeconomic factors as well as the institutional factors as determinants of growth in the NSE, further research need to be done on other factors like the behavioural factors.

Further research could also be conducted to include the East African countries to compare different factors affecting stock market growth in the East African Community countries.

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APPENDICES

Appendix I: Data Collected and Used in the Analysis

Raw Data Used in the Analysis

Year	GDP at Market Price in Billion Kshs	Inflation (%)	Per Capita GDP	Share Value Traded in million Kshs	Market Capitalization in Billion Kshs	Domestic Credit in Million Kshs	Domestic Saving in Billion Kshs	Foreign Direct Inflows in Billion Kshs
2005	1415.724	4.9	40292	36524	462	398491	164.795	2.427
2006	1622.591	7.3	44899	94953	792	446824	215.31	1.056
2007	1828.788	5.6	49204	88620	851	519457	277.186	44.726
2008	2077.433	17.8	54371	11983	854	652829	298.899	43.067
2009	2273.685	5.3	57887	13043	832	747312	341.253	3.728

Summarized Data Used in the Analysis

Year	V	BSD	IL	SML	MS	PC	IQ	SI
2005	0.3263	0.2815	40,292	0.0258	4.9000	0.0017	0.0873	0.1164
2006	0.4881	0.2754	44,899	0.0585	7.3000	0.0007	0.1295	0.1327
2007	0.4653	0.2840	49,204	0.0485	5.6000	0.0245	0.1598	0.1516
2008	0.4111	0.3142	54,371	0.0058	17.8000	0.0207	0.0337	0.1439
2009	0.3659	0.3287	57,887	0.0057	5.3000	0.0016	0.0125	0.1501

Regression model and definition of variables:

$$V = a (\text{IL}) + b (\text{BSD}) + c (\text{SI}) + d (\text{SML}) + e (\text{MS}) + f (\text{PC}) + g (\text{IQ})$$

Where V stock market development, IL income level
 BSD banking sector development, SI savings and investment
 SML stock market liquidity, MS macroeconomic stability
 PC private capital flows; IQ institutional quality

Appendix II: Quoted Companies in Nairobi Stock Exchange

Main Investments Market Segment (MIMS)

Agriculture

1. Rea Vipingo Ltd.
2. Sasini Tea & Coffee Ltd.
3. Kakuzi Ltd.

Commercial and Services

1. Access Kenya Group
2. Marshalls E.A. Ltd.
3. Car & General Ltd.
4. Hutchings Biemer Ltd. **Suspended**
5. Kenya Airways Ltd.
6. CMC Holdings Ltd.
7. Uchumi Supermarkets Ltd. **Suspended**
8. Nation Media Group Ltd.
9. TPS (Serena) Ltd.
10. ScanGroup Ltd.
11. Standard Group Ltd.
12. Safaricom Ltd.

Finance and Investment

1. Barclays Bank of Kenya Ltd.
2. CFC Stanbic Bank Ltd.
3. Housing Finance Ltd.
4. Centum Investment Ltd.
5. Kenya Commercial Bank Ltd.
6. National Bank of Kenya Ltd.
7. Pan Africa Insurance Holdings Co. Ltd

8. Diamond Trust Bank of Kenya Ltd.
9. Jubilee Insurance Co. Ltd
10. Standard Chartered Bank Ltd.
11. NIC Bank Ltd.
12. Equity Bank Ltd.
13. Olympia Capital Holdings Ltd
14. The Co-operative Bank of Kenya Ltd.
15. Kenya Re-Insurance Ltd.

Industrial and Allied

1. Athi River Mining Ltd.
2. BOC Kenya Ltd.
3. British American Tobacco Kenya Ltd.
4. Carbacid Investments Ltd. .
5. E.A. Cables Ltd.
6. E.A. Breweries Ltd.
7. Sameer Africa Ltd.
8. Kenya Oil Ltd.
9. Mumias Sugar Company Ltd.
10. Unga Group Ltd.
11. Bamburi Cement Ltd.
12. Crown berger (K) Ltd.
13. E.A Portland Cement Co. Ltd.
14. Kenya Power & Lighting Co. Ltd.
15. Total Kenya Ltd.
16. Eveready East Africa Ltd.
17. Kengen Ltd.

Alternative Investments Market Segment (AIMS)

A.Baumann & Co.Ltd Ord 5.00	City Trust Ltd Ord 5.00
Eaagads Ltd Ord 1.25	Express Ltd Ord 5.00
Williamson Tea Kenya Ltd Ord 5.00	Kapchorua Tea Co. Ltd Ord Ord 5.00
Kenya Orchards Ltd Ord 5.00	Limuru Tea Co. Ltd Ord 20.00

Fixed Income Security Market Segment (FISMS)

Preference shares

Government of Kenya Treasury Bonds

Government Infrastructure BondEADB Bond

Faulu Kenya Ltd. Floating rate Notes

PTA Bank Ltd Floating Rate Bond

Athi River Mining Medium Term Floating Rate Notes

Barclays Bank Medium Term Floating Rate Notes

Sasini Ltd.

Mabati Rolling Mills

CFC Stanbic Bank Senior and Subordinated Bonds

Shelter Afrique Medium Term Unsecured Notes

Kengen Public Infrastructure Bond

Source: NSE Website- www.nse.ke

Appendix III: Stockbrokers/Authorized Member Firms

The licensed member firms of the Nairobi Stock Exchange are licensed to buy and sell securities listed on The Nairobi Stock Exchange on behalf of investors.

NSE Member Firms	
Drummond Investment Bank Limited	Dyer & Blair Investment Bank Ltd
Ngenge Kariuki & Co. Ltd(Under statutory management)	Suntra Investment Bank Ltd
Reliable Securities Ltd.	CFC Stanbic Financial Services Ltd
Kingdom Securities Ltd.	Afrika Investment Bank Limited
ABC Capital Limited	Sterling Investment Bank Limited
ApexAfrica Capital Ltd	Faida Investment Bank Limited
NIC Securities Ltd	Standard Investment Bank Ltd
Kestrel Capital (EA) Limited	Discount Securities Ltd.(Under statutory management)
African Alliance Kenya Securities.	Renaissance Capital (Kenya) Limited
Genghis Capital limited	Nyaga Stockbrokers (Under Statutory management)

Source: NSE Website - www.nse.ke