

**THE RELATIONSHIP BETWEEN STOCK MARKET DEVELOPMENT  
AND ECONOMIC GROWTH IN KENYA**

**BY:**

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## DECLARATION

I declare that this project is my original work and has never been submitted to any other University for assessment or award of a degree.

Signature..

... Date.....1 1 1 .

BY: OWITI JANET: D63/68428/2011

This project has been submitted with my authority as the university supervisor.

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## **DEDICATION**

This study is dedicated to my family and my dear friends, for their support and encouragement during the entire period of my study and continued prayers towards successful completion of this course.

May God bless you all.

## **ACKNOWLEDGEMENT**

This project could not have been successful without the spiritual, technical and moral support from all those I interacted with in the process of its compilation. First I would like to thank the almighty God for bringing me this far. His protection, blessings and endowment to pursue this research to the end is much appreciated.

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My appreciation goes to my family for their encouragement and moral support throughout the course. Special thanks to my dad for a great financial support to pursue this research. Finally, I would like to acknowledge my friends who graciously shared their ideas and assisted me in this research. All other people who contributed in the project in one way or another; I thank you all.

## **ABSTRACT**

This study examines the relationship between stock market development and economic growth in Kenya. Stock markets in the world individually and collectively play a critical role in the national economies. However, controversies do exist on the role of stock markets in an economy. For instance, Singh (1997) argued that stock market might not be important in attaining higher economic growth while Levine and Zervos (1998) find that stock market development plays an important role in predicting future economic growth.

Empirical evidence linking stock market development to economic growth has been inconclusive even though the balance of evidence is in favour of a positive relationship between stock market development and economic growth. Levine and Zervos (1998) emphasize on the fact that stock market liquidity measured as the value of stock traded relative to the size of the market and the size of the economy is significantly and positively related to the rate of economic growth. Levine (2001) also confirm this similarity of significance in stock market development in the course of economic growth and he argues that the expansion of both banks and stock markets significantly affects growth. The literature survey reveals that some key factors that explain economic growth are as follows: initial level of development, which is proxied by real income per capita; gross investment to GDP ratio; macroeconomic instability, which is proxied by inflation rate. Stock market development and institutional factors are also identified in the literature as critical determinants of economic growth.

This study has used data from 1990- 2010 and has employed a regression model technique. The target population for this study is the Nairobi stock exchange as an organisation and the performance of the overall economy is targeted and measured by the growth in GDP. The objective was to establish the relationship between stock market development and economic growth in Kenya. From the results, it was revealed that there was a positive relationship between stock market development indicators and economic growth in Kenya. Thus, the study lends support both to the financial intermediation literature as well as to the traditional growth literature. The study used Granger causality test to establish the link between stock market development and economic growth in Kenya (i.e. whether stock market development cause

economic growth or itself is a consequence of increased economic growth). The findings exhibited a two-way causality between stock market development and economic growth in Kenya.

The NSE plays an important role in the economic growth of Kenya and the study therefore recommends that the government needs to do much to attract and encourage active participation of stock markets sector. The study recommends that NSE needs to be developed further to enhance domestic resource mobilization. Policymakers should encourage stock market development. The study also recommends that various policies and programs that affect stock markets such as tax, legal, and regulatory barriers need to be addressed.

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## **ABBREVIATION**

GDP - Gross domestic product

INF - Inflation

INV-Investments

MCP - Market capitalization

NSE - Nairobi Stock Exchange

PI - Consumer Price index

SMD - Stock market development

TR - Stock turnover

## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

Stock markets in the world individually and collectively play a critical role in the national economies. The markets perform a wide range of economic and political functions while offering trading, investment, speculation, hedging, and arbitrage opportunities. In addition, they serve as a mechanism for price discovery and information dissemination while providing vehicles for raising finances for companies. Stock markets are used to implement privatization programs, and they often play an important role in the development of emerging economies (Levine, 1991).

According to Surya and Neupane (2006), Stock market development has assumed developmental role in global economics and finance following the impact they have exerted in corporate finance and economic activity. Paudel (2005) states that stock markets, due to their liquidity, enable firms to acquire much needed capital quickly, hence facilitating capital allocation, investment and growth. Stock market activity is thus rapidly playing an important role in helping to determine the level of economic activities in most economies.

However, controversy does exist on the role of financial system in the economy. The controversies started with Schumpeter (1912) who argued that in a well-functioning financial system, banks help to facilitate economic growth by enhancing technological innovation through identification and funding of entrepreneurs with the best chance of successfully implementing innovative products as well as production process. Supporting this view, Bagehot (1873) and Hicks (1969) asserted that the development of the financial sector helped to trigger industrialization in England by increasing the access of the people to funds, which in turn they used to finance and execute capital projects.

Contrary to the views of Bagehot, Schumpeter and Hicks, some scholars argue that financial system does not really matter in the growth of the economy. For instance, Shliefer and Summers (1988) asserted that stockmarket development may hinder economic growth by promoting

counter-productive corporate takeovers. Furthermore, Singh (1997) argued that stock market might not be important in attaining higher economic growth.

Given these conflicting views, this paper will try to determine whether stock market development accelerates economic growth in Kenya.

### **1.1.1 Stock Market Development**

A stock market in where shares are issued and traded through exchanges or over-the-counter markets. Also known as the equity market, it is one of the most vital areas of a market economy as it provides companies with access to capital and investors with a slice of ownership in the company and the potential of gains based on the company's future performance. The stock market can be split into two main sections: the primary and secondary market. The primary market is where new issues are first offered with any subsequent trading going on in the secondary market (The Nairobi Stock Exchange, 2012).

Stock market development is measured by stock market size, liquidity, volatility, concentration, integration with world capital markets, and the legal rule (regulation and supervision) in the market. Some theoretical work shows how stock market development might boost economic growth, and new empirical evidence supports this view. For example, Demirguc-Kunt and Levine (1996), Singh (1997), and Levine and Zervos (1998) find that stock market, development plays an important role in predicting future economic growth. The World Bank Economic Review also dedicates in its May 1996 issue to the role of the stock markets in economic growth. In this study, the researcher will use stock market capitalization and turnover ratio to measure stock market development.

### **1.1.2 Economic Growth**

Economic growth is an increase in gross domestic product (GDP). It represents the market value of all goods and services produced by the economy during the period measured, including personal consumption, government purchases, private inventories, paid-in construction costs and the foreign trade balance. Increase in GDP means an increase in all the values of goods and services produced in an economy (Pettinger, 2011).

Some scholars postulate a causal relationship from economic growth to financial development. In this view, financial development appears because of the overall economic development. Continual economic expansion requires more financial services and new instruments. The financial system adapts itself to the financing needs of the real sector and fits in with autonomous development. Therefore, this type of financial development plays a rather passive role in the growth process. For example, Gurley and Shaw (1955) and Goldsmith (1969) show that economic growth propels financial development, Robinson (1952) consequently states, "It seems to be the case that where enterprise leads finance follows". The same impulses within an economy, which sets enterprise on foot, make owners of wealth venturesome, and when a strong impulse to invest is fettered by lack of finance, devices are invented to release it and habit and institutions are developed.

### **1.1.3 The Relationship between Stock Market Development and Economic Growth**

There is now an abundance of scholarly literature documenting the link between the level of the stock market development and economic growth of countries. A stock market is expected to accelerate economic growth, by providing a boost to domestic savings and increasing the quality of investments (Singh, 1997). The stock market encourages savings by providing individual with an additional financial instrument that may increase the savings rate (Levine and Zervos, 1996). Capasso (2003) argues that companies in countries with developed stock markets are less dependent on bank financing, which can reduce the risk of credit crunch. Stock markets therefore are able to positively influence economic growth through savings amongst individuals, and providing avenues for firm financing.

The stock market is supposed to ensure through the takeover mechanism that past investment are also most efficiently used. Theoretically, the threat of takeover is expected to provide management with an incentive to maximize firm value. 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 the more efficient form. Thus, stock market promotes corporate control, by providing financial discipline, which is expected to provide the best guarantee of efficiency in the use of assets. Similarly, the ability to effect changes in the

management of listed companies is expected to ensure that managerial resources are used efficiently (Morck, Shleifer and Vishny, 1990).

Efficient stock markets may also reduce the costs of information, they may do so through the generation and dissemination of firm specific information that efficient stock prices reveal. Stock markets are efficient if prices incorporate all available information. Reducing the costs of acquiring information is expected to facilitate and improve the acquisition of information about investment opportunities and thereby improves resource allocation. Stock prices determined in exchanges and other publicly available information may help investor make better investment decisions and thereby ensure better allocation (of funds among corporations and as a result a higher rate of economic growth (Adjasi, 2007).

Greenwood and Smith (1996) show that large stock markets can lower the cost of mobilizing savings and thereby facilitate investment in the most productive technology. Bencivenga et al (1996) and Levine (1991) argue that stock market liquidity (the ability to trade equity easily) is more important for growth. Although many profitable investments require a long-run commitment of capital, savers do not like to relinquish control of their savings for long periods. Liquid equity markets ease this tension by providing an asset to savers that they can inexpensively and quickly sell. Simultaneously, firms have permanent access to capital raised through equity issue. Additionally, Kyle (1994) and Holmstrom and Tirole (1993) argue that liquid stock market can increase incentives for investors to get information about firms and improve corporate governance.

#### **1.1.4 The Nairobi Stock Exchange**

In Kenya, dealing in stocks and shares started in the 1920s when the country was still under British colony. There was however no formal market, no rules and no regulations to govern stock brokerage activities. Trading took place on gentlemen's agreement in which standard commissions were charged with clients being obligated to honor their contractual agreements of making good delivery and settling relevant costs. In 1951, an Estate Agent by the name of Francis Drummond established the first professional stockbroker firm and other stock brokerage

firms were later established. The NSE came into being in 1954 when trading used to take place over a cup of tea at the New Stanley Hotel. It was constituted as a voluntary association of stockbrokers registered under the societies Act in 1954 and in 1991; the Nairobi Stock Exchange was incorporated under the companies Act of Kenya as a company limited by guarantee and without a share capital. Subsequent development of the market has seen an increase in the number of stockbrokers, introduction of investment banks, establishment of custodial institutions and credit rating agencies and the number of listed companies have increased over time. Securities traded include, equities, bonds and preference shares (Muga, 1974).

In 1996 the largest share issue in the then history of NSE, the privatization of Kenya Airways, came to the market. More than 110,000 shareholders acquired a take in the airline. The Kenya Airways privatization team was awarded the World Bank award for Excellence in 1996 for being a success story in the divestiture of state owned enterprise. In 1998, the government expanded the scope for foreign investment by introducing incentives for capital markets growth including the setting up of tax-free Venture Capital Funds, and removal of Capital Gains Tax. Subsequently, listed companies split their shares at NSE while others issued bonus shares. In November 2004 the Central Depository System was introduced thus automating settlement of transactions at NSE. The NSE trading hours increased from 2 to 3 hours (10.00 am- 1.00 pm) and subsequently increased to 5 hours (10.00a.m -3.00p.m). The new system offers and has led to greater transparency in the placement of bids and offers improvement in market surveillance. Transmission is almost real time and trading information relating to index movements, price and volume movements of traded securities is released on a timely basis. Subsequent development of the market has seen an increase in the number of stockbrokers, introduction of investment banks, establishment of custodial institutions and credit rating agencies and the number of listed companies have increased over time. Securities traded include, equities, bonds and preference shares (The Nairobi Security Exchange, 2012).

## **1.2 Research Problem**

Since the past few decades, the link between financial intermediation and economic growth is a subject of high interest among academics, policy makers and economists around the world. There have been attempts to empirically assess the role of stock market and economic growth.

The link between stock market and growth has varied in methods and results (Levine, 1997) There exist two controversies in the predictions.

Ndung'u (2011) conducted a study on the relationship between stock market development and economic growth in Kenya. He employed a regression model complemented by a granger causality test. The result of the study indicates a positive relationship between economic growth and stock market development in Kenya. Olweny and Kimani (2011) investigate the causal relationship between stock market performance and economic growth in Kenya using Granger causality test based on the Vector Autoregressive (VAR) model. The results inferred that the movement of stock prices in the Nairobi stock e> change reflect the macroeconomic condition of the country and can therefore be used to predict the future path of economic growth. Levine and Zervos (1996) conducted a study on stock markets, banks, and economic growth focusing on 49 countries Kenya included. Their findings indicated a strong positive link between financial development and economic growth and the results suggest that financial factors are an integral part of the growth process.

There are also alternate views about the role stock markets play in economic growth. Apart from the view that stock markets may be having no real effect on growth, there are theoretical constructs that show that stock market development may actually hurt economic growth. For instance, Stiglitz (1985, 1994), Shleifer and Vishny (1986), Bencivenga and Smith (1991) and Bhide (1993) note that stock markets can actually harm economic growth. They argue that due to their liquidity, stock markets may hurt growth since savings rates may reduce due to externalities in capital accumulation. Diffuse ownership may also negatively affect corporate governance and invariably the performance of listed firms, thus impeding the growth of stock markets. Arestis, Demetriades and Kuintel (2001) utilized time series data from five developed countries, to examine the relationship between stock market and economic growth, controlling for other effect of the banking system and stock market volatility. Their result supports the view that, although banks and stock market may promote economic growth, the effect of bank is more.



They suggested that the contribution of stock market to economic growth may have been exaggerated by studies that use cross-country regressions.

Despite of alternative views empirical works continue to show largely some degree of positive relationship between stock markets and growth. Traditional growth theorists believed that there is no correlation between stock market development and economic growth because of the presence of level effect not the rate effect. Singh (1997) contended that stock markets are not necessary institutions for achieving high levels of economic development. This clearly indicates that a group of studies argues that stock market does not help in economic growth of a nation while the other group argues that it helps in economic development. These studies largely based on developed countries. Only few studies have been conducted in context of Kenya stock market, and those conducted studies show a positive relation but do not show a clear conclusion regarding the direction of the relationship. This study seeks to answer the following questions: what is the relationship between stock market development and economic growth in Kenya? What is the direction of the relationship?

### **1.3 Objective of the study**

To establish the relationship between stock market development on economic growth in Kenya

### **1.4 Value of the study**

This study will assist researchers in the area of stock market development and economic growth. It will serve as a point of reference for the researchers as they conduct studies in this area.

This study will also contribute to both theoretical and empirical literature on the impacts of stock market in Kenya's growth and development.

The findings of the study will equally enable policy makers to develop a keen interest on the role of stock markets on the economy based on empirical evidence.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter reviews various studies that have been conducted in the area of stock market and economic growth. Among the issues discussed include: theories of economic growth and development; stock market development and economic growth; history of the Nairobi Stock Exchange; determinants of stock market development; Conceptual framework and empirical studies on the impact of stock market development on economic growth.

### **2.2 Theoretical Review**

#### **2.2.1 Neoclassical/Solow Growth Model**

The Solow model is the starting point for almost all analysis of economic growth. The main contributor to this model, Solow (1956) developed a relatively simple growth model which fit available data on US economic growth with some success. The Exogenous growth model was an addition to the Harrod-Domar model which included the new term, "productivity growth". Solow growth model shows how saving, population growth and technological progress influence economic growth over time. It also shows why countries experience differential growth rates over time.

The main assumptions of this model are: production function has constant returns to scale; diminishing returns to each factor input; constant saving rate; exogenous technology; the model also shows how capital accumulation, population growth and technological advancement interact to generate a country's output. The criticisms of the Model: Model fails to take into account entrepreneurship which may be one of the vehicles behind economic growth and also the strength of institutions which aid economic growth. Moreover, it does not make clear how or why technological progress occurs. These limitations have led to the development of endogenous growth theory, which try to endogenize technological progress.

#### **2.2.2 Endogenous Growth Model**

Neoclassical/Solow growth model is limited by the assumption of diminishing returns thus the endogenous growth models attempt to overcome neoclassical weaknesses by endogenising

technological progress. These new growth models also include other factors of production for example government policy, institutions, education and trade policies. Key contributors of this model are Romer (1990) and Aghion and Howitt (1992). Main inspiration is that the production function does not require exhibit diminishing returns. The simplest form of endogenous growth model is an AK model, which says that MPK is constant and thus capital can generate growth in the end. Other types of endogenous growth model: Learning-by-doing for example training and re-tooling; Research and development and Technological diffusion for example internal trade and factor mobility.

The assumptions of the model include: exogenous technology sustains growth in the long run or steady state, the savings rate is constant exogenous, there is no depreciation and population growth is exogenous. The critics to the model include Mankiw *et al* (1992), Barro and Sala-i-Martin (1992). They showed that using data from the second half of the 20th century, which most countries seem to be converging to roughly similar long-run growth rates, whereas endogenous growth theory seems to imply that, because many countries have different policies and institutions, they should have different long-run growth rates.

The finance-led growth hypothesis postulates the supply-leading relationship between financial and economic developments. It is argued that the existence of financial sector, as well-functioning financial intermediations in channeling the limited resources from surplus units to deficit units, would provide efficient allocation resources thereby leading the other economic sectors in their growth process. Indeed, a number of studies have argued that the development of financial sector has significantly promoted economic development (Schumpeter, 1912; Levine, 1997). In contrast, the growth-led finance hypothesis states that a high economic growth may create demand for certain financial instruments and arrangements and the financial markets are effectively response to these demands and changes. In other words, this hypothesis suggests a demand following relationship between financial and economic developments. The impact of economic growth on the financial development has been documented in Robinson (1952) and Romer (1990) among others.

Finally, the feedback hypothesis suggests a two-way causal relationship between financial development and economic performance. In this hypothesis, it is asserted that a country with a well-developed financial system could promote high economic expansion through technological changes, product and services innovation (Schumpeter, 1912). This in turn, will create high demand on the financial arrangements and services (Levine, 1997). As the banking institutions, effectively response to these demands, then these changes will stimulate a higher economic performance. Therefore, both financial development and economic growth are interdependent and their relationship could lead to feedback causality.

Several empirical studies analyze the correlation between the economic growth and the financial development. Levine and Zervos (1996) examines whether there is a strong empirical association between stock market development and long-run economic growth. The study used pooled cross-country time-series regression of forty-one countries from 1976 to 1993 to evaluate this association. The study tow the line of Demirgüç-Kunt and Levine (1996) by conglomerating measures such as stock market size, liquidity, and integration with world markets, into index of stock market development. The growth rate of Gross Domestic Product (GDP) per capita was regressed on a variety of variables designed to control for initial conditions, political stability, investment in human capital, and macroeconomic conditions; and then include the conglomerated index of stock market development. The finding was that a strong correlation between overall stock market development and long-run economic growth exist. This means that the result is consistent with the theories that imply a positive relationship between stock market development and economic growth.

Greenwood and Smith (1996) argue that stock markets lower the cost of mobilizing savings and facilitate investments into the most productive sectors and diversifying the risks. Obstfeld(1994) indicates that international risk sharing through internationally integrated stock markets improve resource allocation and accelerate growth. Levine and Zervos (1998) also emphasize on the fact that stock market liquidity measured as the value of stock traded relative to the size of the market and the size of the economy is significantly and positively related to the rate of economic growth. They also suggest that the level of banking development measured as the ratio of bank loans to the private sector to GDP is directly related with the level of economic growth. Beck and

Levine (2001) also confirm this similarity of significance in stock market development in the course of economic growth and he argues that the expansion of both banks and stock markets significantly affects growth.

Atje and Jovanovich (1993) have more so concluded that there is strong positive correlation between the level of financial development and stock market development and economic growth. Creane *et al.* (2003) argued that a modern and efficient financial system mobilizes savings, promotes investment by identifying and funding good business opportunities, monitors the performance of managers, enables the trading, hedging, and diversification of risk, and facilitates the exchange of goods and services. These functions ultimately result in a more efficient allocation of resources, a more rapid accumulation of human and physical capital, and in faster technological progress, which in turn feed economic growth.

Tsuru (2000) also explained the finance-growth link by arguing that financial development can promote economic growth via its positive impact on capital productivity or the efficiency of financial systems in converting financial resources into real investment. However, its effect on the saving rate is ambiguous and could affect the growth rate negatively. 'In net terms, the impact on welfare is likely to be positive, since increased efficiency of investment in the long term can offset any reduction in the propensity to save' (Tsuru, 2000).

The relationship between financial development and economic growth was in fact extensively analysed more than two decades ago by Goldsmith (1969); McKinnon (1973); Shaw (1973). They found strong and positive correlations between the degree of financial market development and the rate of economic growth. King and Levine (1993) undertook more comprehensive empirical research. They confirmed a very strong relationship between the development of stock markets and economic growth. Pioneering work from Pardy (1992), Atje and Jovanovic (1993) show that stock market development is strongly correlated with growth rates of real GDP per capita. More importantly, they found that stock market liquidity predict the future growth rate of economy. Levine and Zervos(1998) and Rousseau and Wachtel (2000) examined stock

market-growth nexus and exhibited positive casual correlation between stock market development and economic activity.

There are also alternate views about the role stock markets play in economic growth. Apart from the view that stock markets may be having a real effect on growth, there are theoretical constructs that show that stock market development may actually hurt economic growth. For instance, Stiglitz (1985, 1994), Shleifer and Vishny (1986), Bencivenga and Smith (1991) and Bhidé (1993) note that stock markets can actually impair economic growth. They argue that due to their liquidity, stock markets may hurt growth since savings rates may reduce due to externalities in capital accumulation. Diffuse ownership may also negatively affect corporate governance and invariably the performance of listed firms, thus impeding the growth of stock markets.

Despite these alternative views, empirical works continue to show largely some degree of positive relationship between stock markets and growth. Kenny and Moss (2001) conclude that stock market activity generates positive effects, which far outstrip any negative effect. Levine and Zervos (1998) also observe that the speed of economic growth hinges on active and developed stock markets and banks. Bekaert *et al.* (2004) also go further to show the important part that equity market liberalization plays in boosting economic growth and for emerging markets like those in Africa, further studies on the link between stock markets and economic growth becomes more appealing given the potential benefits in terms of additional growth points.

### **2.3 Stock Market Development and Economic Growth**

According to Bencivenga and Smith (1991), stock market liquidity is expected to reduce the downside risk and costs of investing in projects that do not pay off for a long time. With a liquid market, the initial investors do not lose access to their savings for the duration of the investment project because they can easily, quickly, and cheaply, sell their stake in the company.

However, critics of the stock market 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. In other words, instant stock market liquidity may discourage investors from having long-term commitment with firms whose shares they own and therefore create potential corporate governance problem with serious ramifications for economic growth (Bhide,1994).

Critics further point out that the actual operation of the pricing and takeover mechanism in well-functioning stock markets lead to short term and lower rates of long-term investment. It also generates perverse incentives, rewarding managers for their success in financial engineering rather than creating new wealth through organic growth (Singh, 1997). This is because prices react very quickly to a variety of information influencing expectations on financial markets.

Therefore, prices on the stock market tend to be highly volatile and enable profits within short periods. Moreover, because the stock market undervalues long-term investment, managers are not encouraged to undertake long-term investments since their activities are judged by the performance of a company's financial assets, which may harm long run prospects of companies (Binswanger, 1999).

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 based on size rather than performance (Singh,1971). Therefore, a large inefficient firm has a higher chance of survival than a small relatively efficient firm does.

## **2.4 Determinants Stock Market Development**

A sound macroeconomic environment, well developed banking sector, transparent and accountable institutions, and shareholder protection are considered necessary preconditions for the efficient functioning of stock markets in Africa (Adjasi, 2007).

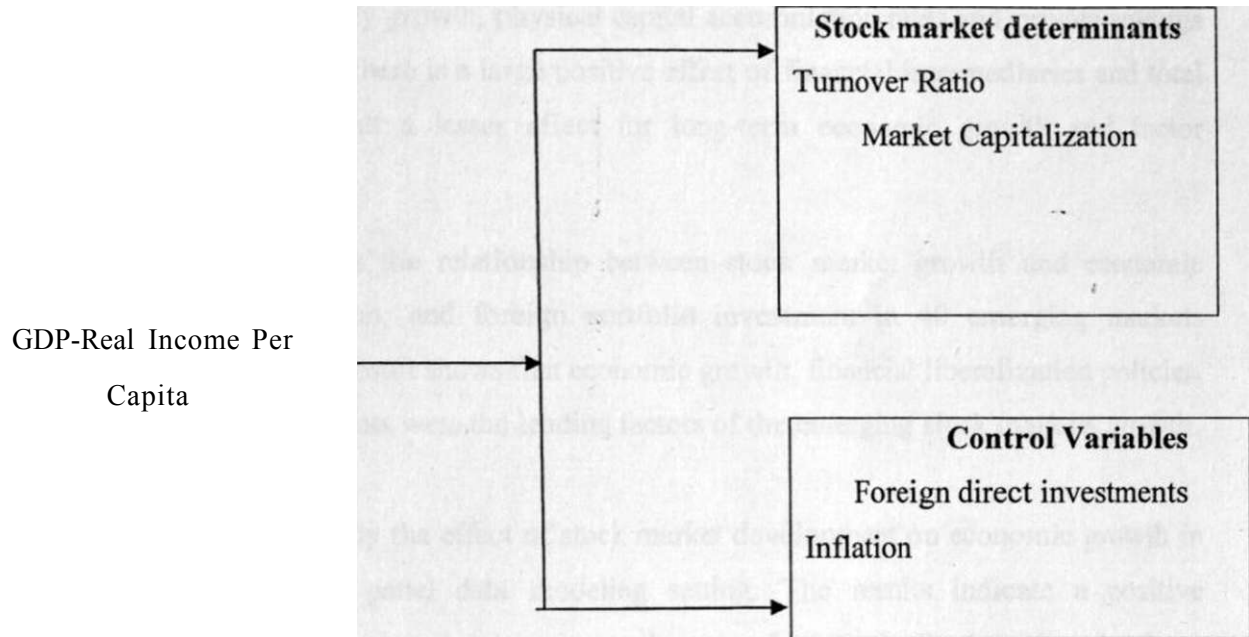
A stable macroeconomic environment is crucial for the development of the stock market. Macroeconomic volatility worsens the problem of informational asymmetries and becomes a

source of vulnerability to the financial system. Low and predictable rates of inflation are more likely to contribute to stock market development and economic growth. Both domestic and foreign investors will be unwilling to invest in the stock market where there are expectations of high inflation. The development of the banking sector is important for stock market development in Africa. At the early stages of its establishment the stock market is a complement rather than substitute for the banking sector.

Developing the financial intermediary sector can promote stock market development. Many East Asian countries are successful examples. Support services from the banking system contribute significantly to the development of the stock market. Consequently, liquid inter-bank markets, largely supported by an efficient banking system, are important for the development of the stock market. Conversely, a weak-banking system can constrain the development of the stock market. Institutional quality is important for stock market development because efficient and accountable institutions tend to broaden appeal and confidence in equity investment. Equity investment thus becomes gradually more attractive as political risk is resolved over time. Therefore, the development of good quality institutions can affect the attractiveness of equity investment and lead to stock market development. Stock market development is more likely in countries with strong shareholder protection because investors do not fear expropriation as much. In addition, ownership in such markets can be relatively dispersed, which provides liquidity to the market.



## 2.6 Conceptual Framework



Source: Researcher (2012)

Market Capitalization/GDP equals the value of listed shares divided by GDP. The assumption behind this measure is that overall market size is positively correlated with the ability to mobilize capital and diversify risk on an economy-wide basis. Stock Turnover/GDP equals the value of total shares traded divided by market capitalization. However, it is not a direct measure of theoretical definitions of liquidity; high turnover is often used as an indicator of low transaction costs. The turnover ratio complements the market capitalization ratio. A large but inactive market will have a large market capitalization ratio but a small turnover ratio. Turnover also complements the total value traded ratio. While the total -value-traded ratio captures trading relative to the size of the economy, turnover measures trading relative to the size of the stock market. A small liquid market will have a high tu-nover ratio but a small total value traded ratio.

Flow of foreign direct investment (FDI) to and from the country is used as a control variable since we believe that FDI is an important determinant of economic growth. The level of inflation has Also Been Used as a Control Variable.

## **2.7 Empirical Studies**

Beck et al. (2000) analyzed the relationship between financial development and economic growth, total factor productivity growth, physical capital accumulation rates and private savings rates. The study reported that there is a large positive effect of financial intermediaries and total factor productivity growth but a lesser effect for long-term economic growth and factor productivity growth.

El-Wassal (2005) investigates the relationship between stock market growth and economic growth, financial liberalization, and foreign portfolio investment in 40 emerging markets between 1980 and 2000. The result shows that economic growth, financial liberalization policies, and foreign portfolio investments were the leading factors of the emerging stock markets growth.

Adjasi and Biekpe (2006) study the effect of stock market development on economic growth in 14 countries in a dynamic panel data modeling setting. The results indicate a positive relationship between stock market development and economic growth. Further investigations, based on the level of economic development and stock market capitalization reveal that the positive influence of stock market development on economic growth is significant for countries classified as upper middle-income economies. The general trend in results shows that low-income African countries and less developed stock markets need to grow more and develop their markets to achieve economic gains from stock markets.

According to N'zue (2006), the relationship between the development of the Ivorian stock market and the country's economic performance is positive. The result also reveal that gross domestic product and stock market development are cointegrated when the control variables are included in the analysis. Moreover, there is a unidirectional causality running from stock market development to economic growth.

Capasso (2006) using a sample of 24 emerging ec onomies investigates the linkage between stock market development and economic growth covering the period 1988-2002. The finding shows a strong and positive correlation between stock market development and economic growth and

later concludes that stock markets tend to emerge and develop only when economies reach a reasonable size and with high level of capital accumulation.

Rousseau and Watchel (2001) found that stock markets influence growth through value traded of shares, while Arestis and Luintel (2001) using time series on five industrialized countries also indicate that stock markets play a role in growth. Empirically it has been shown that the level of financial intermediation is a good predictor of long-run rates of economic growth, capital accumulation, and productivity improvements (King and Lavine, 1993).

Guha and Mukherjee (2008) employed time series econometric model in his study, "Does stock market development cause economic growth? A time series analysis for Indian Economy". This involved use of Granger causality test and its subsequent improved version Toda Yamamoto approach for analysis. Toda Yamamoto approach was used to assess the direction of causality between stock market and economic growth. The research finding was that there is a strong causal flow from the stock market development to economic growth. A bi-directional causal relationship was also observed between market capitalization ratio and economic growth.

## **2.8 Conclusion**

The relationship between financial and economic growth has important policy implications for development strategies. If there is unidirectional causality running from financial development to growth, this would mean that financial sector not only facilitates the allocation of financial resources between deficit and surplus units, but also promotes economic growth through capital augmentation and technological innovations (Levine, 1997). On the other hand, if the causal process occurs in the opposite direction, it would mean that economic growth is a prerequisite for a country to reform its financial sector because the evolution of a financial sector is highly dependent on the demands created by market agents (Romer, 1990). Moreover, the process of the financial sector development depends on the nation's absorptive capacity such as human capital development, investment policy and effective macroeconomic policies. If the causal process is bidirectional, financial sector and economic growth have a reinforcing causal relationship.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter addresses the research design of the study. It discusses the population, sample size, research procedures. A method of pretesting used is reviewed and so are the methods of data collection and data analysis used.

### **3.2 Research Design**

This study adopts a causal relationship research design. This is a type of conclusive research where the major objective is to obtain evidence regarding cause-and-effect relationships.

This research design enables the researcher to understand how one variable under study affected is responsible for a change in another variable. The research design is chosen because in business research, the cause-effect relationship is less explicit. Cooper and Pamela (2006) pointed out that, use of a causal research design eases the understanding, explanation, prediction and control of any relationship between variables under study. Co-relational and time series research design has been employed in the study.

### **3.3 Target Population**

The target population for this research is the Nairobi stock exchange as an organisation.

On the other hand, the performance of the overall economy is targeted and measured by the growth in GDP, which is a leading indicator about the health of the economy.

### **3.4 Data Collection**

The study used secondary data in the form of yearly economic growth rates, stock market liquidity and capitalisation ratios covering a period of 20 years (from 1990 to 2010). This data was obtained from the NSE, the Central Bureau of Statistics, Kenya Investment Authority, Central Bank of Kenya and the World Bank's financial structure database.

### 3.5 Data Analysis

The study used a regression model to estimate the impact of stock market development on Kenya's economic growth. The Granger Causality test is used to indicate the direction of the relationship between stock market development and economic growth.

#### 3.5.1 Analytical model

In line with the works of Levine and Zervos (1996), the proposed test adopted the GDP per capita growth (growth) as the dependent variable. This is used to proxy economic growth.

The researcher will also use consumer price index as a proxy for inflation rate (PI).

The Ordinary Least Square multiple regression is used to estimate the various models. The functional form of the model is specified as;

$$Y_i = B_1 + B_2X_{2i} + B_3X_{3i} + u_i \quad (0)$$

Where, Y is the dependent variable. X2 and X3 are the explanatory variables and U is the stochastic error term, and i the ith observation since the data is time serial.

$$GDP_t = \beta_0 + \beta_1CV_t + \beta_2SMD + e_t \quad (2)$$

GDP (dependent variable) is GDP per capita, CV is the control variable and SMD is the stock market development variable. The researcher will use turnover ratio and market capitalization to measure stock market development.

The basic relationship to estimate stock market development indicators and growth version of equation (1), is of the following form:

$$GDP_t = \beta_0 + \beta_1R_t + \beta_2PI_t + \beta_3INV_t + \beta_4MC_t + e_t \quad (3)$$

Where TR is the turnover ratio, PI is the consumer price index, MC is the market capitalization, and INV is the Foreign Direct Investments and  $E$  is the stochastic error term

## CHAPTER FOUR

### DATA ANALYSIS, FINDINGS AND DISCUSSIONS

#### 4.1 Introduction

This chapter presents the research findings to establish the existence of a relationship between stock market development and economic growth in Kenya and to establish the direction of the relationship between stock market development and economic growth in Kenya. The Granger causality test has been used to determine the nature of the relationship. Secondary data was collected and analyzed using SPSS to generate various regression analyses as stipulated in the methodology. Data on Foreign Direct Investments and consumer price index is used as control variables.

#### 4.2 Regression Analysis

##### 4.2.1 Regression model one

Table 4.1 Table of model one coefficients

		Coefficients <sup>a</sup>											
		Unstandardized Coefficients		Standardized Coefficients		95% Confidence interval for B		Correlations		Collinearity Statistics			
Model	Dependent Variable	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	M	9.019	3.368		2.947	.009	1.519	1.557E10					
	TO	1.314E9	3.683E8	.596	3.567	.002	5.365E8	2.091E9	.736	.654	.533	.799	1.252
	PI	-1.190	1.218	-.193	-1.218	.240	-4.1E8	1.093E8	-.422	-.283	-.182	.888	1.126
	TO	11.835	8.483	.222	1.395	.181	-6.063	29.733	.453	.321	.208	.882	1.134

a. Dependent Variable: GOP

Source: Researcher (2012)

From the table above, Tolerance and VIF values are given. Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent

variables in the model. If this value is less than 0.1, it indicates that the multiple correlation with other variables is high, suggesting a possibility of multicollinearity and if VIF (variance inflation factor) values are greater than 10, it will indicate multicollinearity. From the table, no values of tolerance are less than 0.1 and all the values of VIF are not greater than 10. Therefore, the researcher has not violated the multicollinearity assumption.

Foreign direct investments (FDI) and stock turnover ratio (TR) correlate substantially with GDP as seen from table 4.1.

The adjusted R square measures the proportion of the variance in the dependent variable (GDP) that was explained by variations in the independent variables. The adjusted R square shows that 55.4% of the variance is explained as seen in model one summary on the appendix. R-squared indicates the variation in GDP % changes with changes in Foreign Direct Investments, stock turnover ratio and the consumer price index.

Stock turnover ratio has the largest beta in table 4.1. This means that this variable makes the strongest unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for. Consumer price index made less of a unique contribution to explaining the dependent variable. FDI and PI have a significance value of more than 0.05, which indicates that the variables do not make a statistically unique contribution to the equation.

The coefficients in the table 4.1 were used in coming up with the model below:

$$\text{GDP} = 9.076\text{E}+9 + 11.835*\text{FDI} + 1.314\text{E}+9*\text{TR} - 1.494\text{E}+9*\text{PI}$$

From the model, an increase in foreign direct investments (FDI) and stock turnover ratio (TR) would lead to an increase in GDP % changes while an increase in consumer price index would lead to a decrease in GDP % changes.

#### **4.2.2 Regression model two**

Foreign direct investments (FDI), consumer price index (PI) and market capitalization (MCP) correlate substantially with GDP as seen from table 4.2.

The adjusted R square measures the proportion of the variance in the dependent variable (GDP) that was explained by variations in the independent variables. From the table 4.2, the adjusted R square shows that 55.9% of the variance is explained. R-squared indicates the variation in GDP % changes with changes in Foreign Direct Investments, market capitalization and the consumer price index.

Table 4.2 Table of model two coefficients

Coefficients									
	Unstandardized Coefficients		Standardized Coefficients			Correlations		Collinearity Statistics	
	<b>B</b>	Std. Error	Beta	t	Sig.	Zero order	Partial	Tolerance	VIF
(Constant)	1.08E+10	2.72E+09		3.977	<b>0.001</b>				
PI	-2.69E+08	1.16E+08	-0.348	-2.318	0.033	-0.422	-0.49	0.98	1.021
FDI	6.645	8.981	0.125	0.74	0.469	0.453	0.177	0.777	1.287
MCP	3.28E+08	9.06E+07	0.606	3.618	0.002	0.697	0.66	0.785	1.274
R square 0.626					Adjusted 0.559				
Dependent Variable: GDP									

Source: Researcher (2012)

Tolerance and VIF values are given as seen in the table above. Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. If this value is less than 0.1, it indicates that the multiple correlation with other variables is high, suggesting a possibility of multicollinearity and if VIF (variance inflation factor) values are greater than 10, it will indicate multicollinearity. From the table 4.2, no values of tolerance are less than 0.1 and all the values of VIF are not greater than 10. Therefore, the researcher has not violated the multicollinearity assumption.

Market capitalization has the largest beta in table 4.2. This means that this variable makes the strongest unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for. FDI has a significance value of more than 0.05, which indicates that the variable does not make a statistically unique contribution to the equation.



The coefficients in the table 4.2 were used in coming up with the model below:

$$\text{GDP} = 1.08\text{E}+10 + 6.645*\text{FDI} + 3.28\text{E}+08*\text{MCP} - 2.69\text{E}+08*\text{PI}$$

From the model, an increase in foreign direct investments and market capitalization would lead to an increase in GDP % changes while an increase in consumer price index would lead to a decrease in GDP % changes.

### 4.2.2 Regression model three

Table 4.3 table of model three coefficients

Coefficients<sup>a</sup>

		Unstandardized Coefficients		Standardized	95% Confidence Interval for B			Correlations		Collinearity Statistics			
		B	Std. Error	Beta	1	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Tolerance	VIF	
1	(Constant)	8.905E9	2.985E9		2.982	.009	2.575E9	1.521E10					
	PI	-1.9980	1.233E8	-.258	-1.611	.126	-4.622E8	6.255E7	-.122	-.374	-.234	.818	1.222
	FDI	7.384	87/1	.138	.812	.112	-11.210	25.977	.153	.206	.122	.774	1.292
	HCP	1.9210	1.324E8	.356	1.153	.166	-8.828E7	1.731 E8	.697	.341	.210	.350	2.860
	1R	7.349E8	5.347E8	.333	1.371	.188	-3.986E8	1.868E9	.736	.325	.199	.356	2.811

a. Dependent Variable: GOP

Source: Researcher (2012)

From the table above, Tolerance and VIF values are also given. Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. If this value is less than 0.1, it indicates that the multiple correlation with other variables is high, suggesting a possibility of multicollinearity and if VIF (variance inflation factor) values are greater than 10, it will indicate multicollinearity. In table 4.3, no values of tolerance are less than 0.1 and all the values of VIF are not greater than 10. Therefore, the researcher has not violated the multicollinearity assumption.

Foreign direct investments (FDI), market capitalization and consumer price index correlate substantially with GDP as seen from table 4.3.

The adjusted R square measures the proportion of the variance in the dependent variable (GDP) that was explained by variations in the independent variables. The adjusted R square shows that 58.1% of the variance is explained as seen in model three summary in the appendix. R-squared indicates the variation in GDP % changes with changes in Foreign Direct Investments, stock turnover ratio, market capitalization and the consumer price index.

Stock turnover ratio and market capitalization have a larger beta as seen in table 4.3. This means that these variables make a stronger unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for.

FDI made less of a unique contribution to explaining the dependent variable since it has the lowest beta of 0.138 as seen in table 3.

The coefficients in the table 4.3 were used in coming up with the model below:

$$\text{GDP} = 8.905\text{E}+9 + 7.384*\text{FDI} + 7.349\text{E}+8*\text{TR} - 1.998\text{E}+8*\text{PI} + 1.924\text{E}+8*\text{MCP}$$

From the model, an increase in foreign direct investments, market capitalization and stock turnover ratio would lead to an increase in GDP % changes while an increase in consumer price index would lead to a decrease in GDP % changes.

From the three models, stock market liquidity indicators (MCP and TR) made a stronger unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for. Market capitalization is seen to be a better market liquidity indicator than the stock turnover ratio. The control variables seem to vary depending on the factor being investigated. Increase in consumer price index leads to a decrease in GDP % changes while increase in other variables in the models leads to an increase in GDP % changes.

### 4.3 Granger Causality Test

Table 4.4 Table of Granger causality test

Pairwise Granger Causality Tests

Sample: 1990-2010

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause TR	19	5.79784	0.0146
TR does not Granger Cause GDP		7.00064	0.0078
GDP does not Granger Cause PI	19	0.84677	0.4496
PI does not Granger Cause GDP		0.35302	0.7086
FDI does not Granger Cause MCP	19	0.13093	0.8783
MCP does not Granger Cause FDI		4.93985	0.0238
GDP does not Granger Cause MCP	19	0.13093	0.8783
MCP does not Granger Cause GDP		4.93985	0.0238

From table 4.4, we do not reject the hypothesis that GDP does not Granger cause market capitalization (MCP) but we reject the hypothesis that MCP does not Granger cause GDP. Therefore, the Granger causality runs one way from market capitalization to GDP and not the other way.

We reject the hypothesis that GDP does not Granger cause stock turnover (TR) as seen in table 4.4 but we do not reject the hypothesis that TR does Granger cause GDP. This means that the Granger causality runs one way from GDP to TP

The above findings have exhibited a two-way causality between stock market development and economic growth in Kenya

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

From the analysis and data collected, the following summary of findings, conclusions and recommendations were made. The responses were based on the objective of the study. The researcher had intended to establish the existence of the relationship between stock market development and economic growth in Kenya. The researcher also wanted to know the direction of the relationship.

#### **5.2 Summary**

From the first model, the adjusted R square shows that 55.4% of the variance is explained. R-squared indicates the variation in GDP % changes with changes in Foreign Direct Investments, stock turnover ratio and the consumer price index. Stock turnover ratio has the largest beta in model one. This means that this variable made the strongest unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for. Consumer price index made less of a unique contribution to explaining the dependent variable. FDI and PI have a significance value of more than 0.05, which indicates that the variables do not make a statistically unique contribution to the equation. From model one, an increase in foreign direct investments and stock turnover ratio would lead to an increase in GDP % changes while an increase in consumer price index would lead to a decrease in GDP % changes. Below are the coefficients of model one:

$$\text{GDP} = 9.076\text{E}+9 + 11,835*\text{FDI} + 1.314\text{E}+9*\text{TR} - 1.494\text{E}+9*\text{PI}$$

In the second model, foreign direct investments (FDI), consumer price index (PI) and market capitalization (MCP) correlate substantially with GDP. In the second model, the adjusted R square shows that 55.9% of the variance is explained. R-squared indicates the variation in GDP % changes with changes in Foreign Direct Investments, market capitalization and the consumer price index.

Market capitalization has the largest beta in model two. This means that this variable made the strongest unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for. FDI has a significance value of more than 0.05, which indicates that the variable does not make a statistically unique contribution to the equation. In model two, an increase in foreign direct investments and market capitalization would lead to an increase in GDP % changes while an increase in consumer price index would lead to a decrease in GDP % change. Below are the coefficients of model two:

$$\text{GDP} = 1.08\text{E}+10 + 6.645*\text{FDI} + 3.28\text{E}+08*\text{MCP} - 2.69\text{E}+08*\text{PI}$$

In the third model, Foreign direct investments (FDI), market capitalization and consumer price index correlate substantially with GDP. The adjusted R square in model three shows that 58.1% of the variance is explained. R-squared indicates the variation in GDP % changes with changes in Foreign Direct Investments, stock turnover ratio, market capitalization and the consumer price index. Stock turnover and market capitalization have a larger beta in model three. This means that these variables made a stronger unique contribution to explaining the dependent variable (GDP), when the variance explained by all other variables in the model is controlled for. FDI made less of a unique contribution to explaining the dependent variable since it has the lowest beta. In model three, an increase in foreign direct investments, market capitalization and stock turnover ratio would lead to an increase in GDP % changes while an increase in consumer price index would lead to a decrease in GDP % changes. Below are the coefficients of model three:

$$\text{GDP} = 8.905\text{E}+9 + 7.384*\text{FDI} + 7.349\text{E}+8*\text{TR} - 1,998\text{E}+8*\text{PI} + 1.924\text{E}+8*\text{MCP}$$

### **5.3 Conclusion**

The study examined stock market development and economic growth in Kenya from 1990 -2010 using a regression model. The objective was to establish the relationship between stock market development and economic growth in Kenya. In the process of doing this, the hypothesis that stock market promotes economic growth in Kenya was validated. The indicator (MCP and TR) used to capture stock market development in Kenya was found to be positively related to

economic growth and significant but the two indicators gave two different results in the Granger causality test. When the MCP is used in the Granger causality test, the Granger causality runs one way from market capitalization to GDP and not the other way but when consumer price index is used, Granger causality runs one way from GDP to TR.

In view of this ongoing debate on the relationship between stock market development and economic growth, the result of the present study should not be viewed as conclusive empirical evidence, but rather as an additional motivation for further research in this area.

## **5.4 Recommendations**

The stock market plays an important role in the economic growth but the government needs to do much to attract and encourage active participation of stock markets sector. The country has mainly focused on banking systems reforms: introducing interest rate controls, reducing government involvement in credit allocation, minimizing taxation of financial intermediaries, managing bank insolvency, now the country needs to focus on stock markets

This study therefore has important implications on prevailing policies. The study emphasizes that to improve the economic growth in Kenya; the government should consider favourable macroeconomic policies that encourage stock market development and investments, which enhance economic growth. Inflation and its volatility have an important consequence on stock markets. Therefore, the government should put in place measures to ensure that inflation rate is controlled. Policymakers should encourage stock market development. They should remove impediments to stock markets, such as tax, legal, and regulatory barriers.

Currently the NSE has less than 65 companies listed in the stock exchange market. The study recommends that more companies and especially the small and medium enterprises should be encouraged to be listed in the stock exchange market, allowed access in order to access investible funds from the masses thereby stimulating and boosting the financial system and the stock market in particular, and consequently raise economic growth.

## **5.4 Limitations of the study**

Foreign direct investments made less contribution to explaining the dependent variable. More control variables should have been used instead of two control variables to enable the model to explain the relationship between stock market development and economic growth adequately.

The regression equation used in the study is only an estimator of Y. One cannot possibly account for every factor that goes into each Y value. Thus, the model did not adequately represent the relationship between stock market development and economic growth in Kenya.

Stock market development indicators used in this study may not be adequate. Market capitalization ratio and stock turnover ratio as proxies of stock market development has been popular in literature, it clearly does not include other indicators of stock market development like international integration, market concentration, regulatory and institutional indicators and stock market volatility.

## **5.5 Suggestion for further research**

This study sought to investigate the relationship between stock market development and economic growth in Kenya. The findings of this study have concluded that the stock market has a positive effect on economic growth. These results are consistent with earlier studies done by Levine and Zervos (1996).

Although the paper sheds light on the role of stock market development on economic growth, further work needs to be done to establish whether other aspects of the stock market such as size, volatility, and trade volume and, depth in terms of instruments on offer exhibits different results from the ones reached in the conclusion of this study. Another direction for future research is a cross-national study involving other developing countries such as the sub-Saharan African countries as well, in order to bring out further empirical evidence with regard to the direction of causality between the stock market and economic activity. This study has been constrained because the causality used in the study is Grange-causality. Thus, the need of further research is

obvious in order to get more evidence about the bi-directional relationship between the stock markets and economic growth in Kenya.



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### APPENDIX III

#### Model one Summary

Model	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	
					F Change	df1	df2		
1	.788 <sup>a</sup>	.621	.554	5.458E9	.621	9.280	3	17	.001

a. Predictors: (Constant), FDI, **PI**, TR

b. Dependent Variable: GDP

#### Model two Summary

Model	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	
					F Change	df1	df2		
1	.788 <sup>a</sup>	.621	.554	5.458E9	.621	9.280	3	17	.001

a. Predictors: (Constant), FDI, PI, TR

b. Dependent Variable: GDP

#### Model three Summary

Model	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	
					F Change	df1	df2		
1	.816 <sup>a</sup>	.665	.581	5.288E9	.665	7.943	4	16	.001

a. Predictors: (Constant), TR, PI, FDI, MCP

b. Dependent Variable: GDP

## APPENDIX II

### STOCK TURNOVER, CONSUMER PRICE INDEX, FOREIGN DIRECT INVESTMENTS AND MARKET CAPITALIZATION (1990-2010)

<b>Year</b>	<b>GDP (annual %)</b>	<b>Stock traded, turnover %</b>	<b>Consumer price index</b>	<b>Foreign direct investments current US\$</b>	<b>Market capitalization (% of GDP)</b>
1990	8590574252.40	2.10	11.20	57081096.18	5.27
1991	8152105054.25	2.43	19.10	18830976.84	5.56
1992	8220718082.65	2.20	27.33	6363133.14	7.75
1993	5751786609.50	1.65	45.98	145655517.11	18.43
1994	7148143144.01	3.00	28.81	7432412.60	43.09
1995	9046331923.21	2.62	1.55	42289248.46	20.85
1996	12045836991.71	3.59	8.86	108672931.62	15.32
1997	13115729422.01	5.78	11.92	62096809.78	13.91
1998	14093228424.71	4.11	6.72	26548245.97	14.36
1999	12896050251.69	4.32	5.75	51953455.95	10.93
2000	12691278914.24	3.53	9.96	110904550.40	10.11
2001	12986519857.43	3.41	5.73	5302622.94	8.08
2002	13149263398.53	2.94	1.97	27618447.06	10.82
2003	14903634448.25	7.46	9.81	81738242.64	28.03
2004	16096109637.49	8.54	11.79	46063931.45	24.17
2005	18737895400.78	9.83	9.87	21211685.40	34.07
2006	22502291403.39	14.63	6.04	50674725.18	50.56
2007	27236739895.94	10.64	4.27	729044146.04	49.15
2008	30519165008.69	11.83	15.10	95585680.23	35.77
2009	30580367979.31	4.59	10.55	116257608.99	35.17
2010	32198151217.22	8.60	4.09	185793189.89	44.91

### APPENDIX III

COMPANIES LISTED AT THE NAIROBI STOCK EXCHANGE	
Kapchorua Tea Co.	Equity Bank Ltd.
Kakuzi	The Co-operative Bank of Kenya Ltd.
Limuru Tea Co. Ltd.	. utilee Holdings Ltd.
Rea Vipingo Plantations Ltd.	<sup>5</sup> ar Africa Insurance Holdings Ltd.
Sasini Ltd.	Kenya Re-Insurance Corporation Ltd.
Williamson Tea Kenya Ltd.	CFC Insurance Holdings
Express Ltd.	British-American Investments Company ( Kenya).
Kenya Airways Ltd.	CIC Insurance Group Ltd.
Nation Media Group	City Trust Ltd.
Standard Group Ltd.	Olympia Capital Holdings Ltd.
TPS Eastern Africa (Serena) Ltd.	Centum Investment Co Ltd.
Scangroup Ltd.	Trans-Century Ltd
Uchumi Supermarket Ltd.	B.O.C Kenya Ltd.
Hutchings Biemer Ltd.	British American Tobacco Kenya Ltd.
Longhorn Kenya Ltd.	Carbacid Investments Ltd.
AccessKenya Group Ltd.	East African Breweries Ltd.
Safaricom Ltd.	Mumias Sugar Co. Ltd.
Car and General (K) Ltd.	Unga Group Ltd.
CMC Holdings Ltd.	Eveready East Africa Ltd.
Sameer Africa Ltd.	Kenya Orchards Ltd.
Marshalls (E.A.) Ltd.	A.Baumann CO Ltd.
Barclays Bank Ltd.	Athi River Mining
CFC Stanbic Holdings Ltd.	Eaagads Ltd.
Diamond Trust Bank Kenya Ltd.	Bamburi Cement Ltd.
Housing Finance Co Ltd.	Crown Berger Ltd.
Kenya Commercial Bank Ltd.	E.A.Cables Ltd.
National Bank of Kenya Ltd.	E.A.Portland Cement Ltd.
NIC Bank Ltd.	Ke.iolKobil Ltd.
Standard Chartered Bank Ltd.	Total Kenya Ltd.
Kenya Power & Lighting Co Ltd.	KenGen Ltd.
Source: Nairobi Stock Exchange (2012)	