

THE RELATIONSHIP BETWEEN CAPITAL MARKET RETURNS
AND ECONOMIC GROWTH IN KENYA

BY

MARANGA GEORGE WACHIRA

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DECLARATION

DECLARATION BY THE STUDENT

I, **MARANGA GEORGE WACHIRA**, hereby declare that this project is my original work and has not been presented for a degree in this, or any other institution known and unknown to me.

MARANGA GEORGE WACHIRA

Signature.....

Date.....

DECLARATION BY THE SUPERVISOR

This project has been submitted for examination with my approval as a university supervisor.

MIRIE MWANGI

Signature.....

Date.....

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DEDICATION

To my dear parents, Mr. and Mrs. Elvis Wachira, who have given it, their all in educating and encouraging me to pursue great dreams, thank you. You have been a great blessing and source of inspiration to me and may God bless you.

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ABSTRACT

The relationship between the economic growth and the stock market return has been an important issue in the global arena, where investors are seeking to invest in countries that will yield best returns. This notion is adopted by most governments in different countries and has made their stock (securities) markets vital in the quest to spur the economic growth. Therefore, this study is undertaken with the purpose or objective to determine the relationship between the GDP growth and the stock market returns.

The study adopted a causal relationship research design in order to determine the relationship between capital markets return and economic growth. The study population was the Nairobi Securities Exchange 20 share index and Gross domestic product. Moreover, the period under study was between 1982 to 2012 and the data collected within the period was analysed using descriptive statistics, correlations and linear regression analysis.

The study results showed there was weak negative correlation between GDP growth and Changes in SMI. The reason being that NSE20 share index was represented by a few companies in the whole economy and GDP is measured in terms of sales not profit. Changes in FDI and population also indicated a weak positive correlation to GDP growth. The study recommends that to ensure the importance of the NSE20 share index does not diminish in the economy; both the government and the Capital Market Authority (CMA) encourage more companies to be part of the securities market.

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LIST OF ABBREVIATIONS

CMA	Capital Markets Authority
ECM	Error Correction Mechanism
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
IMF	International Monetary Fund
NPV	Net Present Value
NSE	Nairobi Securities Exchange
SMI	Stock Market Index
UK	United Kingdom
USA	United State of America
VECM	Vector Error Correction Model

CHAPTER ONE

INTRODUCTION

1.1 Background

In modern days, most of the countries including intergovernmental bodies and global companies are concerned with the performance of the various countries. The major concern on the various countries is the ability to improve the economy and the living standards of the various people in society. The major instruments to achieve such growth are the use of the governmental bodies and private companies or the public private partnership in which the financial sector is involved. The various markets have been studied to help propel this growth. Government and private firm spending have been directed towards growth areas and markets in order to inspire growth in the various economies. It is crucial to note that the securities market has been used as a means to spur growth in the various sectors. The reason being that the stock market is heterogeneous in terms of the number of companies, nature, products and the underlying sectors the various firms are undertaking their business. The stock market is within the financial sector but interacts with other sectors such as planning and tourism (Aduda et el, 2012).

In light of the characteristic of the stock market, the securities/stock market has been seen as a source of finance or capital for both the governments and private sectors. The

government has been involved in the market through taxation policy, regulation and privatization of the market through selling its share in the market to the various private and foreign investors. On the other hand, the private sector has been the vibrant participant in the market where it has been involved in sale and buying of shares, raising capital and demanding of new products. In essence, the capital markets are a vital part of many nations' growth agenda and policy implementation in terms of developments. Atje and Jovanovic (1993) in agreement presented a cross-country study of stock markets and economic growth in which they found a significant correlation between growth over the period 1980-1988 and the value of stock market trading divided by GDP for 40 countries. Furthermore, Levine and Zervos (1998) mentioned that the relevant authorities control for economic and political factors that may influence growth to gauge the sensitivity of the results to changes in the conditioning information set.

In addition, Ihendinihu and Onwuchekwa (2012) mentioned that the functions of the stock market are mobilization of savings, creation of liquidity, risk diversification, improved dissemination and acquisition of the information and enhanced incentive for corporate control. Thus, they presuppose that the capital market functions if well managed, will ensure efficiency and effectiveness in the performance of the market which will translate into buoyancy in economic development (Aduda et al, 2012).

Most nations deem economic growth rate as an important part of the economy and as a measure of growth. It is on this that the World Bank, International Monetary Fund (IMF) and multinationals consider vital as one of the economic indicators of the economy,

which the capital market is a contributor. Wu (2012) confirmed that the GDP growth rate is considered as a leading indicator measure of macroeconomic performance. Therefore, it is important to consider the level of GDP growth rate and the capital markets return.

1.1.1 Market Returns

The capital market is a vital component for growth in the economy especially with its ability to raise adequate funds or capital for further injection into the economy where the funds is invested in viable or positive net present valued projects that will increase individual firm value and profitability according to the shareholders' interest. These profits are majorly distributed to the investors in the stock exchange through dividend payment and share price increases. These profits and losses usually reflect on the share price and the market index. Murungi (2012) confirmed this, through his findings that stock returns are usually in the form of profit or dividends given by the company to its shareholders.

Nkukuu (2012) mentions that market returns of the Securities Exchange are generally carried out using the market indices. Thus, the various indices are used to measure the value of stock market and are used to compare the changes in the value of the stock market which is as a result of improved returns from the market. Cecchetti (2008) mentions that stock indices help various participants of the market to understand both much the value of average stock changes and how much wealth has changed. Therefore, the indices are a good measure of performance of the stock market.

Therefore, in this study the market return is measured using the market indices. It is crucial to note that the stock market indices reflect the returns of individual firms in terms of capital gains and dividends attributable to its shareholders. Wu (2012) mentions that sometimes the stock market indices may not reflect the whole economy's firms profits as just a few are in the market. Conversely, Ito and Rose (2008) argued that the stock market is the aggregate collection of financial claims on the real assets of an economy. Further, they mentioned that the rate of return to stock market (real assets) depended on their productivity as determined by the interaction of capital, labor, technology, and institutions. In addition, they mentioned that returns in emerging countries in their case Latin America was more volatile, with low Sharpe's ratio and higher returns than stocks in America.

1.1.2 Economic Growth

The economic growth is a long term expansion of the country's productive potential and is measured using Growth domestic product (GDP). It is also the expansionary effect of a country's output or income due to investment measures by various stakeholders. According to Schiller (2008), economic growth refers to increases in the output of goods and services. Thus, economic growth is the expanding of the county's economy. The economy is measured using Gross Domestic Product (GDP) which is the aggregate demand (Expenditure approach) in the economy or the sum of consumption demanded (denoted as C), government spending (denoted as G) and investment demanded (denoted as I) assuming a closed economy (i.e. $GDP=C+I+G$). Further, he mentioned that the

economic growth is measured using economic growth rate, which is the change in real output between two periods divided by total output in the base period. This means that a change in GDP for two periods divided by base GDP would give the growth rate of the economy (Froyen, 2009).

According to Reynolds (1982), economic growth rate is defined as the rate of increase in output per capita. According to him, the economy can be measured using Gross National Product (GNP), which shows the productive capacity of a nation and not consumer welfare. Thus, the change in Gross National Product divided by the base Gross National Product measures economic growth.

GDP and GNP are all equal when it is assumed that the economy is closed. The difference between the two is that GNP is a measure used to adjust GDP for net property income from abroad i.e. $(GNP = GDP + \text{net property income from abroad})$. Reynolds (1982) also mentioned that the economic growth is driven by increase in factors of production such as labour, capital and increase in raw materials such as discovery of a mineral and technical progression due to technological advancement that make systems more efficient.

1.1.3 Linkage Between Market Return and Economic Growth

The relationship between market return and economic growth has been a subject of many studies. This study aims at exploring and finding out the contribution of the securities

market on economic growth of an economy. There are several theories by different researchers who explain the link between the stock market return and economic growth.

Accordingly, GDP is also the expansionary effect of a country's output or income due to investment measures by various stakeholders. Thus, normal intuition dictates that most of the business earnings or profits including listed companies, which distribute dividends and/ or reinvest earnings. Thus, results in expansion of the stock markets and subsequently the economy. Financial analysts view economic growth as a good indicator for buying stocks and for investors, economic forecasts are used to determine where to invest in. Hui (2000) mentions that since dividend is an important component of GDP, any growth or increase in dividends will increase stock market returns, the stock price increase may merely reflect higher expected future output. Young (1995) concurs that real economic growth in emerging markets is derived from high savings rate and the more efficient utilization of labor. However, they caution that these factors do not necessarily translate to higher profits accruing to the shareholders of existing firms. Ritter (2004) mentions that the earnings from dividends and profits, if reinvested at $q > 1$ using the Q theory explanation enhances the stock market return growth translating to higher economic growth. According to Ritter, (2004) q is the value of installed capital relative to the replacement cost and determines the growth level of the stock market.

Moreover, Ito and Rose (2008) use the Solow growth model to explain the linkage between the stock market returns and economic growth. They mention that an increase in saving rate of a country will temporarily raise the growth rate since this will reduce the

rate of return to capital. Therefore, increasing the rate of investment causing capital to be 'less scarce' and marginal benefit to reduce from additional units. Therefore, in the stock exchange market, whenever, the returns on capital are less, more investments are undertaken to increase it, thereby increasing the country's output through investment in viable projects.

Further, Ito and Rose (2008) explain the linkage between the stock market returns and economic growth where they relate aggregate stock market returns and rate of return to real assets where the rate of return is dependent on the real assets' productivity. This productivity of real asset is determined by the combination and utilization of capital, labor, technology, and institutions. Hence, to ensure economic growth, the various factors of production will be raised to enhance increase in stock market return.

On the contrary, Wu (2012) saw that there was no relationship between the stock market returns and the economic growth. The reason is that GDP reflects sales of goods and services produced in a country within a period whereas stock markets are measured in terms of profitability. Thus, sales do not necessarily translate to profitability. Moreover, profits of listed companies may be from the home country and its subsidiaries in other countries. The other reason is that the stock market is a part or portion of the economy in which the stock market activity may have big or small influence depending on the number of firms listed in the stock market as compared to the total number of firms in the economy.

1.1.4 Kenya's Economy and Its Securities Market

The Kenya's economy has experienced a continued varied growth over a period. In 2007, the economy grew by 7%, 2009 by 2.7%, 2010 by 5.8%, 2011 by 4.4% and 2011 by 4.6%. This has seen the expansion of the economy in various sectors in the economy and an increase in the output of the economy. The main sectors grew such as agriculture & forestry grew by 3.8%, wholesale & retail trade by 6.4%, transport & communication by 4.0%, manufacturing by 3.1%, financial intermediation by 6.5% and construction by 4.8% in 2012. The various sectors similarly to the economic growth has grown heterogeneously. The main impediment to better economic growth has been inflation and political instability especially during election periods. Moreover, in the recent times the global crisis and the volatile oil market has had an effect on the economy as witnessed by the inflation levels of about 14% in 2011 and 9.4% in 2012 (www.knbs.or.ke).

Similarly, the stock market has experienced growth over recent periods. This is evidenced by the increase in market capitalization by 46.5 per cent from Kenya Shillings (Kshs) 868 billion in 2011 to Kenya Shillings (Kshs) 1,272 billion in December 2012. Moreover, in August 2013 the market capitalization is Kshs. 1,774.53 billion. On a different aspect, the NSE 20 Share Index rose by 29.0 per cent to 4,133 from 3,205 in December 2011 and by August, 2013 it was at 4,851.54. It is crucial to see that while the Kenyan economy is growing the NSE 20 Share Index is also growing and as to whether the two are related is a question the study seeks to answer (www.nse.co.ke).

1.2 Research Problem

The relationship between stock market return and economic growth has seen to either having a positive linear relationship or no relationship at all. Ito and Rose (2008) uses the Solow model to explain the positive relationship between stock market return where the rate of saving was used to indicate an influence in the rate of investments that would affect overall stock market output levels. Young (1995) also supported this notion but also cautions that this does not necessarily translate to profitability. Moreover, Hui (2000) on the other end emphasizes that market returns such as dividends influence economic growth directly and indirectly in terms of increased spending power (disposable income) of both the firms (retained earnings) and investors in that they are able to invest more or consume more in the economy. On the contrary, Wu (2012) mention that there is no relation between the two variables indicating that profit is not equal to sales (national output) and that the stock market is a part of the whole economy.

From empirical evidence, in a local context, Nkukuu (2012) in her study to define the relationship between government budget balance and stock market return mentioned that there is a relationship between the economic environment and profitability of the companies in the stock market due to the growth that had been seen through the years and the economic growth of Kenya. Moreover, in her study she mentions that most of the other macroeconomic factors exert more pressure on the stock market performance. This gives more possibilities of the results as to whether market return is positively or negatively correlated to the economic growth of Kenya.

Moreover, Aduda et al (2012), Owiti (2012), Murungi (2002) and Ndege (2012) did infer in their different studies that macroeconomic factors do have either a positive or a negative relationship with the capital market performance and development. Thus, macroeconomic factors such as economic growth could be the subject of a study to define its relation with capital market performance such as market return. Ndung'u (2011) in his study does not consider the capital market returns but considers the market liquidity in which a strong correlation relationship was found to exist between capital market liquidity and capital market development. Therefore, there is no study that clearly mentions the relationship between securities market returns and market returns in Kenya. Therefore, there is a gap in this sense.

Internationally, according to Levine and Zervos (1998) asserts that financial markets are the brain of the entire economic system and thus, the economic depends on them. Moreover, according to Atje and Jovanovic (1993) noted from their study that there is a significant correlation between growth over the period 1980-1988 and the value of stock market trading divided by GDP for 40 countries. Furthermore, Ihendinihu and Onwuchekwa (2012) in their study of stock market performance and economic growth in Nigeria between 1984 and 2011, they noted that the capital market is one of the major institutions that act to propel a prostrate economy through sustainable investments for growth and development. This suggests an important aspect of the securities market to the general economy. In their findings, they discovered that that there was a positive link between the performance in the stock and the economic growth in Nigeria.

Further, Caporale and Spagnolo (2011) in their study of the stock market and economic growth in Central and Eastern European Countries found that the growth of the stock market indeed had an effect on the economic growth and since the European Union (EU) was formed. This may be the case in Kenya but Arestis et al (2001) warns that with the absence of the relevant data on developing economies during his study, no inferences can be made on the stock market's relation with the economic growth of the country. Finally, Wu (2012) in his study of the linkage between stock market returns and GDP growth rate in the United States of America (USA), just like Ihendinihu and Onwuchekwa (2012) mentioned that in the long run, countries with longer GDP growth rate may have lower annualized stock market returns than countries with lower GDP growth rate. In his study, he discovered that there is no significant relationship between stock market return and economic growth rate in the USA.

Therefore, in Kenya, the research findings have inferred a relationship of the variables with through their various study of the stock market. This shows that there is a gap of knowledge as to whether Kenya's economic growth and NSE have a relation. There has been little study on the subject to directly and specifically underscore and define the relationship. Thus, the purpose for this study is to define the relationship between stock market return and economic growth in Kenya. Thus, the research question is: Does the market return have any relations with the economic growth?

1.3 Research Objective

To determine the relationship between the capital market return and the economic growth rate in Kenya.

1.4 Value of the Study

The intention of the study is to determine the relationship between capital market return and economic growth rate of a country that will help in adding more information to the theory of finance. This is crucial to the academic researchers especially in the finance field in that the findings and recommendations will contribute to the existing body of knowledge. It will also help to bridge the current knowledge gap that exists apart from giving researchers more information in the area and used as a source reference.

In addition, the research aims at advancing the practice of finance where the findings will help in formulating and implementing macroeconomic and microeconomic policy planning by the various organizations and governments in order to achieve a sustainable capital market development and the overall economic development in their countries. The government would be able to use the research findings in financial planning in terms of fiscal policies and monetary policies. Thus, in Kenya the government could easily achieve its vision 2030 with ease due to the known relation of the above variables, as the NSE is a key tool in the mobilization of capital in the economy. Further, the study will be of crucial importance to Capital Markets Authority (CMA) in regards to managing investors' expectations, investors fair play, NSE-government relations and in the

understanding of the different economic cycles that affect the stock market through its regulations.

Finally, the study will help the investors and the NSE's stakeholders to apply the findings in make better decisions in terms of investment and company policies in consideration of the macroeconomic environment. Hence, ensures good financial and economic planning among the management of the firms and the capital markets in order to avoid loss of wealth to the capital markets and firms' stakeholder.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter gives a general view on the stock exchange market and discusses the relation between the economic growth and the stock/ securities exchange market returns. The aim of literature review in this study is to highlight previous similar studies that show the relation between the economic growth and the stock/ securities exchange market returns and identify a gap.

2.2 Theoretical Review

This section describes the various theories that explain both the economic growth and capital market returns.

2.2.1 Neoclassical Growth Models

The neoclassical theories were developed in the 1950s where the various authors related growth with the production functions. They postulated an increase in output indicated economic growth and that growth was majorly, affected by the technological progress over time. Moreover, they described that the factors of productions are also key to economic growth. This was evidenced when they changed the various factors of production (variables) applied to the economy both as individual and as combined while holding technological progression at a constant. This is referred to as ‘Neutral

technological change'. The main factors of production in the theories are usually labour and capital (Froyen, 2009 and Gartner, 2009).

In neoclassical growth models, the long run rate of growth is exogenously determined (i.e. it is determined outside the model). The assumption made in the theories is that the economy is a closed economy. The economy is also deemed to be at an equilibrium and any changes would result to a new steady state. Moreover, the labor growth is assumed to be non- zero rate which means that in the short run there is diminishing returns on the economy by the labour increase resulting to slowed growth and the economy converging to a steady state (Froyen, 2009 and Gartner, 2009).

2.2.2 Harrod and Domar Growth Model

This is one of the neoclassical growth model developed by Roy Harrod and Evsey Domar. The model is similar to Solow growth model. They developed similar models of long run economic growth by introducing a dynamic factor changes in the stock of capital into the static Keynesian model. The model shows how economic growth in the long run is improved by changes in investments, labour force and technology. It postulates increase in investments and labour force and technological progress would increase the aggregate demand in the economy, hence spur growth over time.

The model assumes: the economy is a closed economy; for full employment, level of national income is assumed to be proportional to the capital stock; technology progress is fixed; production function in which labour and capital stock have to be combined in fixed

proportions and production function has a constant returns to scale. The model is criticised for failure to take into consideration of the institutional efficiency among the various producers and fails to explain how the technological progress occurs in an economy (Delome and Ekelund, 1983).

2.2.3 The Theory of Invisible Hand

According to Adam Smith, competition and free market system act as the ‘invisible hand’ that guides resources to their most productive use. He also mentioned that under competitive free market conditions and less government control, participants act in their own interest and bring the greatest good in society (Clayton, 1995). This indicates that different nations are inclined to own growth just as different firms within the various industries are inclined to their own growth and survival which eventually through the ‘invisible hand’ ensure economic growth.

Butler (2011) mentions that Adam Smith definition of wealth as what money buys – namely, the ‘annual produce of the land and labour of the society’. He defines this as gross national product or GNP in modern term, and used as the measure of different countries’ prosperity. According to him, Adam Smith saw that economic growth was a result of a country ‘producing surplus that they can then exchange with others’. He mentioned that this was achievable through investment in factors of production in the agricultural sector, which will eventually contribute to the other industries.

2.2.4 Efficiency Market Hypothesis

This theory explains the type of various markets in terms of their efficiency to reflect available information on stock prices. BPP learning media Ltd (2007) indicated that under a weak form market hypothesis, the current share prices reflect all information available from past changes in the price. This means that the price of a stock in the weak market reflects the historical information. Thus, if one had new information that is publicly available and insider information, one would be able to arbitrage and make economic profit.

On the other hand, a semi-strong form market's stock prices reflects all relevant information about past price movements and new information that is publicly available in the financial press, annual accounts and company accounts. This gives opportunity for arbitrage when an investor has insider information on any of the companies in the market where one will be able to make economic profit. For this market, market financial analysts are important since they can capitalize on information to be able to make economic profit (BPP learning media Ltd, 2007).

Finally, strong form efficiency markets are characterized by share prices that reflect all available information from past price changes (historical information), all public available information and insider information. Therefore, the share prices are price sensitive in this market and no arbitrage opportunity exists to make economic profit. The

theory is criticised for only looking at information efficiency (BPP learning media Ltd, 2007).

Other than information efficiency as postulated by the efficiency, capital markets have different allocation efficiency defined as a form of economic efficiency that ensures funds are allocated in investments that yield the highest and best use. Therefore, ensures that capital allocated yields the best returns as compared to the risk level. Finally, a market can be operationally efficient if the costs of conducting transactions are as low as possible. Capital market transactions may include broker commissions, underwriting spread, and bid-ask spreads. Levine and Zervos (1998) showed that by lowering information costs, financial intermediaries foster more efficient resource allocation and thereby accelerate technological innovation and long-run growth. Thus, if costs are high, fewer transactions will be undertaken by the firms in the market resulting in less implementation or investment in positive net present value (NPV) or viable projects resulting to less employment of the factors of production (capital and labour) and lower economic growth.

2.3 Determinants of Economic Growth

According to Osaze (2000) found out that the capital markets were the major driver economic growth and development in various countries. The reason being that any capital market is essential for the 'long-term growth capital formation'. He stated that financial markets are useful in ensuring 'mobilization of savings and channeling of such savings to

profitable self-liquidating investment'. Aduda et al (2012) also mentioned that by the very reason that capital markets deal with securities such as stocks and bonds, they are used to mobilize finances on a long term basis. Thus, they are able to help the economy in savings and productive investments.

Moreover, Aduda et al (2012) postulates that the financial markets are vital to economic growth since they are able not only to attract funds from within the economy but also from without. This ensures adequate funds for productive investments in developing countries that ensure economic growth. Ritter (2004) concur that real economic growth in emerging markets is derived from high savings rate and the more efficient utilization of labor. However, they caution that these factors do not necessarily translate to higher profits accruing to the shareholders of existing firms.

Moreover, stock markets are seen to be related to the economic growth through their allocative functions. Ogboi and Oladipo (2012) mentions that this function is critical in the determination of the overall growth of any economy since it affects the liquidity, acquisition of information about firms, risk diversification, savings mobilization and corporate control. Aduda et al (2012) also concurs that through the efficient location of capital the stock markets are able to achieve economic growth. This is done through the capital markets' ability to facilitate the flow of resources to the most productive investment opportunities.

In addition, Arestis, Demetriades, Luintel (2001) found that less-risky assets and easy access to capital markets improved the allocation of capital and that more savings and

investment will ensure long-term economic growth. Tennat, Kirton and Abdulkadri (2011) concur as they found that the financial sector generates the largest impact on economic growth by mobilizing savings and ensuring that those funds are allocated to productive uses (resource allocation).

Moreover, stock markets are seen to be related to the economic growth through their liquidity functions. According to Demirguc -Kunt and Levine (1996) found empirically that the measures of stock market liquidity were strongly related to growth, capital accumulation and productivity while stock market size did not seem to correlate to economic growth. Aduda et el (2012) expounds that liquidity that an exchange provides enable investors the ability to quickly and easily sell securities.

Moreover, Levine and Zervos (1998) mentioned that liquidity is the ‘disincentive’ to investing in long term projects since investors can easily sell their stake in the project if they need their savings before the project matures. Enhanced liquidity, there-fore, facilitates investment in longer-run, higher-return projects that boost productivity growth. However, Arestis, Demetriades, Luintel (2001) conceded, though, that increased liquidity can also influence growth negatively given ‘the ambiguous effect of uncertainty on savings, greater stock market liquidity might in fact reduce savings rates through its negative impact on uncertainty since less uncertainty may decrease the demand for precautionary savings’.

2.4 Empirical Evidence

Ito and Rose (2008) in their study of growth and returns in emerging markets, sought to estimate the average relationship between unexpected returns and unexpected growth across Latin America, Asia, and developed markets (i.e. US). They used data from 1985 to 2005 where they found out that that unexpected growth significantly predicts unexpected returns. Notably, from 2002 to 2005, GDP growth in emerging markets has been stronger than expected and realized returns have exceeded expected returns. Their study indicates that there is a more pronounced positive relationship between economic growth and stock market returns in the developing markets than the developed countries.

Ihendinihu and Onwuchekwa (2012) in their study of stock market performance and economic growth in Nigeria between 1984 and 2011 utilized Time series data on major stock market performance and economic growth indices to come to the same conclusion. They collected data on market capitalization, All-Shares Index, value of transactions in the market, the total number of listed companies in the Nigerian Stock Market, and the Gross Domestic Product. A model was constructed with GDPs being the dependent variables while market capitalization, value of transaction, All-Share Index and total listed companies served as the independent variables. They found out that market capitalization and value of transaction had a relationship with the economic growth while the other variables had little relationship both in the long run and short run.

In Nigeria, Ogboi and Oladipo (2012) also examine the relationship between stock market and economic growth where they used time series to examine annual time series data from 1981 to 2008 on the variables. They used an Error Correction Mechanism (ECM) Model for analysis and granger causality test to determine the causal relationship. They found there was unidirectional causality between stock market and economic growth, which ran from economic growth (GDP) to stock market. This relationship was found to be significant in the long run. This finding reinforces the relationship between the variables in Nigeria.

Moreover, Paramati and Gupta, (2011) similarly examined whether the stock market performance related to economic growth by examining short-run and long-run dynamics of the stock market which was achieved using monthly Index of Industrial Production and quarterly GDP data for the time span of 1996 to 2009. They found bidirectional relationship between Index Industrial Production and Stock prices while using monthly results of Granger causality test. Moreover, the Engle-Granger residual based co-integration test suggested that there is a long-run relationship between the stock market performance and economic growth.

Antonios (2010) also investigates the causal relationship between stock market development and economic growth for Germany for the period 1965-2007 using a Vector Error Correction Model (VECM). The results of Granger causality tests indicated that there is a unidirectional causality between stock market development and economic

growth with direction from stock market development to economic growth. This suggests a similar relationship between stock market return and economic growth.

Additionally, Ihendinihu and Onwuchekwa (2012) empirically examined the causal relationship between stock market development and economic growth for the Indian economy. They applied the techniques of unit– root tests and the long–run Granger non-causality test proposed by Toda and Yamamoto (1995) and found a strong causal flow from the stock market development to economic growth. There also exists a bi directional causal relationship between real market capitalization ratio and economic growth. This suggests a similar relationship between stock market return and economic growth.

Ritter (2004) in his study of economic growth and equity returns in 16 developed countries (Belgium, Italy, German, France, Spain, Japan, Switzerland, Ireland, Denmark, Netherlands, UK, Canada, US, South Africa, Sweden and Australia) using data for between 1900–2002 found cross country correlation of real stock returns and per capita GDP growth to be negative. He explains that economic growth occurs from high personal savings rates and increased labor force participation, and from technological change. Further, he mentions that if increases in capital and labor inputs go into new corporations, these do not boost the present value of dividends on existing corporations.

Arestis et al (2001) in their study of financial development and economic growth sought to determine the role of stock markets in which they utilized time series methods and data from five developed economies (i.e. France, Japan, United States, United Kingdom (UK) and Germany). They found out that both banks and stock markets were able to promote

economic growth in the respective countries but banks were more prominent. They also suggested that the contribution of stock markets on economic growth could be overstated by studies that utilize cross-country growth regressions. This infers that the relationship between stock market return and economic growth may be weak.

However, Wu (2012) in his study of the linkage between stock market returns and GDP growth rate in the United States used regression analysis the relationship between stock market return and GDP growth to conclude otherwise. He used data collected from World Bank and S&P 500 index for a period of 42 years (1968 to 2010). He found out that there is no significant relationship between stock market returns and GDP growth rates in the U.S. stock market.

In a local context, Aduda et al (2012) in their study of the determinants of stock market development in Kenya used secondary data for the period 2005-2009 to model the factors influencing the development of the NSE. Their findings from the regression analysis indicated 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. They also found that there is no relationship between stock market development and macroeconomic stability - inflation and private capital flows. This infers that there could be no relationship between stock market return and economic growth.

Ndege (2012) in his study of the impact of the financial sector deepening on the economic growth in Kenya mentioned that either a positive or a negative relation exists

between stock market returns and the economic growth. This makes this study vital to determine its current relations. In his study, he found out that financial sector deepening improved the economic growth by increasing accessibility in the economy. Thus, suggesting that this sector which is also within the stock market, will also influence stock market returns and ensure economic growth.

On the contrary, Ndung'u (2011) in his study of the relationship between economic growth and stock market development, mentions Munga (1974) who argued that the NSE had failed as a vehicle for mobilizing capital for development thereby resulting to its failure to perform successfully the classical functions of a stock exchange. Thus, Munga (1974) concludes that the NSE is unimportant to Kenya's economic growth. However, Ndung'u (2011) in his study found out that there is a positive relationship between economic growth and the measures of the stock market development. Moreover, his findings give evidence that market liquidity has a strong relationship with the economic growth as compared to market size.

Finally, Nkukuu (2012) in her study to define the relationship between government budget balance and stock market return mentioned that there is a relationship between the economic environment and profitability of the companies in the stock market due to the growth that had been seen through the years and the economic growth of Kenya. Moreover, in her study she discovered that there's a weak correlation between budget balances and stock market performance. The budget balances does not impact on the performance of the stock market. This is an indicator that some of the macroeconomic

factors such as budget balances might have weak relations with stock market return. It is also a possibility that the study may reveal similar results. However, Nkukuu (2012) mentions that most of the other macroeconomic factors exert more pressure on the stock market performance. This gives more possibilities of the results as to whether market return is positively or negatively correlated to the economic growth of Kenya.

2.5 Summary of Literature Review

The relationship between stock market developments and economic growth rate according to many researchers' findings is that there is a relation between the two variables even though this is aided by the notion that stock market function such as liquidity, mobilizing the capital, risk diversification and its allocation of capital ability. These functions together with market efficiency enhance stock market development, which eventually contribute to economic growth.

According to various researchers, the relationship between the stock market return and economic growth is dependent on whether a nation is developed or is among the developing nations. The relationship has been found to be immense on the developing nations or emerging nations as compared to the developed nations. Moreover, the relationship between the two variables is also dependent on the time. Most researchers have concluded that the relationship is only significant on the long run and can only be significant if the economy can be able to reflect the changes within the yearly period.

Finally, there exist a gap in the local context as to whether there is a relationship between stock market return and economic growth. Most of the researchers infer findings in their various studies that give conclusion of an existing relationship both positively and negatively. Therefore, this study will help to get a direct relation between the stock market return and economic growth.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section discusses the research design, target population, research instruments, data collection and data analysis procedures that was used in the study. It discusses the methodology used to analyse the relationship between stock market returns and the economic growth of Kenya.

3.2 Research Design

This study adopted a causal relationship research design. It was a type of conclusive research where the major objective is to obtain evidence regarding cause and effect relationships. The research design enabled the researcher to understand how one variable affects the other and vice versa. In relation to this study, the dependent variable was explained by the independent variable i.e. GDP growth was explained by the stock market returns.

3.3 Target Population

The study primarily focuses on stock market return and economic growth in Kenya. Thus, the target population for this research was the Nairobi Securities Exchange 20

share Index and the GDP, which measured the stock market returns and economic growth rate, respectively.

3.4 Data Collection

The study used secondary data in the form of annual economic growth rates, population change and Foreign Direct Investment and stock market indices (NSE 20 share index) for a period of 30 years (1982 to 2011). The data was obtained from the NSE, the Central Bank of Kenya (CBK), World Bank website and the Central Bureau of Statistics.

3.5 Data Analysis

The collected data was analysed using descriptive statistics, tables, correlations, simple linear regression analysis. The simple linear regression analysis was used to come up with the model expressing the relationship between the dependent variable (GDP growth), independent variable (stock market return) and Control variables (Population change and Foreign Direct Investment). The linear regression equation that includes all variables for this study was computed as follows:

$$\mathbf{GDP_g = \beta_0 + \beta_1\Delta SMI + \beta_2\Delta FDI+ \beta_3\Delta P+\mu}$$

Where;

$\mathbf{GDP_g}$ = Change in Gross Domestic Product in percentage i.e.

$$\text{GDP growth} = \frac{(\text{GDP}_{t1} - \text{GDP}_{t0})}{\text{GDP}_{t0}} \times 100\%$$

$$\text{GDP}_{t0}$$

β = Regression coefficients

μ = Error

Δ FDI = Change of net Foreign Direct Investments.

Δ P = Change in Population.

Δ SMI = Change of stock market index (NSE 20 share Index)

$$(\text{SMI}_{t1} - \text{SMI}_{t0})$$

A t-statistic test was used to determine the importance of the independent variables influencing economic growth. The t-statistic was used to test the hypothesis at a maximum of 95% significance level.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The study's objective was to determine the relationship between the capital market return and the economic growth rate in Kenya. Therefore, this chapter presents the various findings from data collected and analysed. It also serves as a basis on which conclusion and recommendations are made.

4.2 Data Presentation

4.2.1 Descriptive Analysis

The study indicated that the dependent variable (GDP) the average GDP growth is 3.4965% per annum. The independent variables averages were 659.8481%, 2.8331% and 8.7842% for changes in FDI, Population and NSE 20 Share Index. The standard deviations from the mean for the variables were 2.22494%, 2823.39671%, 0.57569% and 27.98516% for changes in GDP, FDI, Population and NSE 20 Share Index (Table 4.1).

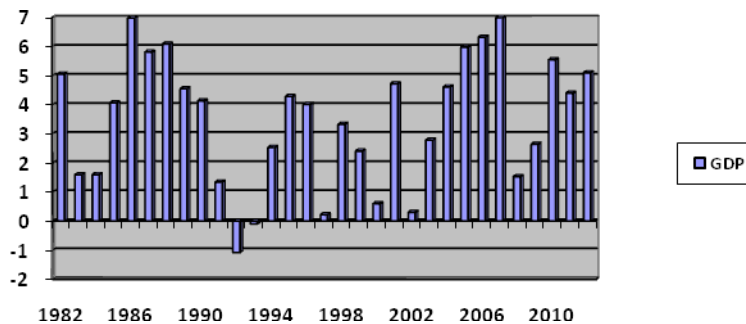
Table 4.1: Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CHGDP	31	-1.08	6.99	3.4965	2.22494
CHFDI	31	-99.00	15667.00	659.8481	2823.39671
CHPOL	29	1.94	3.63	2.8331	.57569
CHSMI	31	-28.57	89.40	8.7842	27.98516
Valid N (list wise)	29				

Source: Author’s data, September 2013

The study established that Kenya has experienced fluctuating growth rate of the economy where the highest growth rate was in 2007 at 6.99% and lowest decline in 1992 at -1.08% (Table 4.1 and Figure 4.1).

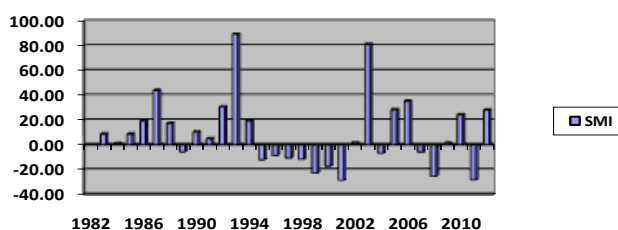
Figure 4.1: GDP growth



Source: Author’s data, September 2013

The study established that Kenya has experienced fluctuating growth or decline rates of the Securities Market Index (SMI) where the highest growth rate was in 1993 at 89.40% and lowest decline in 2001 at -28.57% (Table 4.2 and Figure 4.2).

Figure 4.2: SMI Changes



Source: Author’s data, September 2013

On the other hand, the study showed that the maximum change (increases) over the study period was 15667%, 3.63% and 89.4% while minimum change was growth/decline (denoted with a negative) was -99%, 1.94% and -28.57% in net FDI, Population and NSE 20 share index, respectively (Figure 4.1).

4.2.2 Correlation Analysis

The study indicated that changes in GDP and changes in NSE 20 share index had a correlation coefficient of -0.016 while changes in GDP and changes in net FDI and population had positive correlation coefficients of 0.068 and 0.249, respectively. Moreover, the correlation coefficients between the independent variables i.e. NSE 20

share index and changes in Net FDI and changes in population was -0.028 and 0.075, respectively while the correlation coefficient between changes in Net FDI and changes in population was 0.173 (Table 4.2).

Table 4.2: Correlation statistics

Correlations

	CHGDP	CHSMI	CHFDI	CHPOL
CHGDP Pearson Correlation	1	-.016	.068	.249
Sig. (2-tailed)		.934	.714	.193
N	31	31	31	29
CHSMI Pearson Correlation	-.016	1	-.028	.075
Sig. (2-tailed)	.934		.880	.700
N	31	31	31	29
CHFDI Pearson Correlation	.068	-.028	1	.173
Sig. (2-tailed)	.714	.880		.371
N	31	31	31	29

CHPOL Pearson Correlation	.249	.075	.173	1
Sig. (2-tailed)	.193	.700	.371	
N	29	29	29	29

Source: Author's data, September 2013

4.2.3 Regression Analysis

The study indicated that the multiple R statistics is 0.253^a and the R² is 0.064 while the standard error for the estimate is 2.329 (Table 4.3a).

Table 4.3a: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.253^a	.064	-.048	2.32900

a. Predictors: (Constant), CHPOL, CHSMI, CHFDI

Source: Author's data, September 2013

The study also indicated that the probability of the F statistic (0.572) for the overall regression relationship is > 0.001 i.e. the p-value was 0.639^a (Table 4.3b).

Table 4.3b: ANOVA

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.300	3	3.100	.572	.639 ^a
	Residual	135.607	25	5.424		
	Total	144.907	28			

a. Predictors: (Constant), CHPOL, CHSMI, CHFDI

b. Dependent Variable: CHGDP

Moreover, the study revealed that the regression coefficient for changes in NSE20 share index (CHSMI) was -0.003 and the probability of the t statistic (-0.161) for regression coefficient β_2 is 0.873. On the other hand, regression coefficients of changes in net FDI (CHFDI) and changes in population (CHPOL) were 2.741E-5 and 0.968, respectively. The probability of t statistic (0.179) for CHFDI's regression coefficient β_2 is 0.86 while that of CHPOL's regression coefficient β_3 is 0.225 (Table 4.3c).

Table 4.3c: Coefficients

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.671	2.226		.301	.766
	CHSMI	-.003	.016	-.031	-.161	.873
	CHFDI	2.741E-5	.000	.035	.179	.860
	CHPOL	.968	.779	.245	1.244	.225

a. Dependent Variable: CHGDP

Source: Author's data, September 2013

Therefore, from the table above (Table 4.3c), the study's regression concludes that the multivariable model would be as follows:

$$GDP_g = \beta_0 + \beta_1 \Delta SMI + \beta_2 \Delta FDI + \beta_3 \Delta P + \mu$$

$$Y = 0.671 - 0.03 \Delta SMI + 2.741E-5 \Delta FDI + 0.968 \Delta P$$

4.3 Summary and Interpretation

The study showed that there has been maximum growth in GDP in the year 2007 at 6.99% and an economic decline of 1.08% in 1992 experienced over the study period. The net FDI maximum growth was 15667% in 1989 while the net FDI's most decline was in 1988 at 99%. Maximum population growth experienced was in 1982 at 3.63% while the least growth was in 2005 at 1.94%. Moreover, the NSE 20 share index experienced its highest growth in 1993 at 89.4% while its most decline at 28.57% in 2001.

Moreover, the study reveal that Pearson's correlation coefficient (r_1) for change in GDP and change in SMI is -0.016, which indicates a negative weak correlation between the variable as it lies between -1 and +1. The correlation coefficient (r_2) between change in GDP and change in net FDI is also a weak correlation but a positive one of +0.068. The third variable (change in population) also had a weak positive correlation with change in GDP as indicated by a correlation coefficient (r_3) of +0.249.

In the regression analysis, the study (Table 3a) reveals that the multiple R for the relationship between the set of independent variables and the dependent variable is 0.253. This is indicative of a weak relationship as it is between 0.20 and 0.40 in the rule of thumb. The R-square is 0.064; meaning 6.4% of the variation in the growth of GDP could be explained by variation in the independent variables. Thus, 93.6% is explained by other factors not in the model.

Furthermore, the p-value (Table 3b) for the regression model F-test is 0.639. The probability of the F statistic (0.572) for the overall regression relationship is >0.001 , more than the level of significance of 0.05. Therefore, we accept the null hypothesis that there is no relationship between the set of independent variables and the dependent variable ($R^2 = 0.639$). The model is not significant, and we can conclude that these three independent variables together predict part of the GDP growth.

Finally, the relationship between the change in GDP and change in SMI is inverse as indicated by the regression coefficient β_1 of -0.003. Therefore, an increase of change in SMI will cause a decline in GDP. However, for the relationship between change in GDP and the other independent variables, the relationship is positive as indicated by the regression coefficients β_2 and β_3 of $2.741E-5$ and 0.968 for change in net FDI and change in population, respectively. Thus, an increase in either net FDI or population would cause GDP growth. Arestis et al (2001) confirmed this position by inferring that the relationship between stock market return and economic growth is weak.

However, even though the regression coefficients are either positive or negative, the relationships are not statistically significant since for the independent variables strength of affiliation, the probability of the t statistic (-0.161, 0.179 and 1.244) for the b coefficients are >0.001 which are more than the level of significance of 0.05. We accept the null hypothesis that the slope associated with strength of affiliation is equal to zero ($b = 0.873, 0.860$ and 0.225). The findings are similar to what Wu (2012) found out, in that there is no significant relationship between stock market returns and GDP growth rates in

the U.S. stock market. Munga (1974) who concludes that the NSE is an unimportant to Kenya's economic growth confirms this.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study had the objective to determine the relationship between the capital market return and the economic growth rate in Kenya. This is crucial since the stock market is a crucial market that functions to mobilize capital, enhances liquidity and risk diversification by various investors and stakeholders. Therefore, the market has grown tremendously having attracted more participants domestically and internationally. Thus, with such stock market development, the study has sought to determine the contribution of the securities or stock market to the general economic growth.

In a quest to fulfill the objectives of the study, the study found out that there is a weak negative relationship between the variations in GDP and variations in the stock market index over the study period. However, the variations in GDP and other independent variables (variations in net FDI and population) were found to have weak positive relationships. This chapter will discuss the conclusions and recommend various policy ideas that would help in both development of the stock market and the growth of the economy in the country.

5.2 Conclusion

Generally, there has been a growth in the economy of Kenya over the period of 1982 to 2012 with a few declines noted in the years 1992-1993, which were due to political violence in the country. The economy shrunk with a small margin during that period at worse at 1.08% GDP decline. Notably, at the same period the NSE 20 share index experienced growth of 30.67% and 89.40% in the years 1992 and 1993, respectively. The growth in 1993% was the highest over the study period in the history of the NSE 20 share index, which happened during a period of recession. This shows an inverse relationship between the GDP growth and the NSE 20 share index.

Moreover, even though the NSE 20 share index has grown from Index point 350.31 in 1982 to 4133 in 2012, the growth has not been commensurate to GDP growth rate. The study has found out that there is a weak negative relationship between the variation of GDP and variation in SMI. This could be due to the reason Wu (2012) gave that the GDP reflects sales of goods and services produced in a country within a period whereas stock markets are measured in terms of profitability. Moreover, they also mentioned that another reason is that the stock market is a part or portion of the economy in which the stock market activity may have big or small influence depending on the number of firms listed in the stock market as compared to the total number of firms in the economy.

The study also found out that the net FDI has been increasing over the years even though the increase has been ragged. The growth has been tremendous at some years and

a few years have experienced declines. This has been due to increased political, economic and innovation within the economy over some periods of the study period, which has increased foreign investor's confidence. One of the areas that has seen increased FDI is the stock market, which has an inverse weak correlation with the SMI. This could be due to the foreign investors taking advantage of low prices of stock when the stock market is on decline and selling when it is bullish to make capital gains.

The study indicated a weak positive correlation between the variation in net FDI and the variation in GDP, which indicates increased foreign investment as the economy grows. This indicates the crucial nature of economic growth in the economy as it gives various investors more confidence to invest their funds. The business environment affects the nature and quality of investment that the various investors are able to invest. This is informed by the economic growth and other macro-environment measures such as interest rates, inflation and tax policy.

Moreover, in the study the change in population and variation in GDP is weakly positive correlated. An increase in the population resulted to an increase in GDP. The reason why it may be weak is that economic growth is not limited to one factor but many factors, hence each factor contributes a fraction to the growth directly or indirectly. In addition, the population growth, does not necessarily mean productivity in the economy and thus, the new additions may have an impact in the future as the new population would have gained meaningful knowledge and experience to become productive. The study found

that the population of Kenya has grown from 17 Million in 1982 to over 40 million in 2012.

Finally, even though the variations of stock market index, FDI and population have little impact on the economic growth, their usefulness can not be ignored in policy formulation. The economy still depends on the stock market for capital mobilization, enhancement of liquidity and risk diversification. It also depends on population in terms of meaningful production from the employable. The FDI would enhance new investments and technologies in the economy that would increase the GDP and create employment.

5.3 Policy Recommendations

The government should consider ensuring the fiscal policies and monetary policies are favorable to the NSE listed companies in order to ensure they contribute to the national economy through their own performance and as a whole as a market. This will encourage various companies outside the market are attracted to listing. This will also ensure good financial management and improved performance by the various joining or listing companies due to the regulation in the stock market.

The government should invest more on the population to ensure they have the technical knowhow to be productive through education institution on the various levels and the different sectors. The intention is to increase the productivity of the population. In addition, policies on making the economy liberal and technologically update should be done, to ensure increased opportunities to find FDI on individual or community projects.

This will also improve the strategic and financial management of the various individual companies being formed and increase productivity, profitability and their contribution to the economy.

The capital markets authorities should review their regulations to allow them attract more companies in the stock market in order to increase the significance of the market and increase efficiency through competitiveness in the market. This will ensure improved performance among already listed and listing firms, which will eventually lead to more productivity and NSE contribution to the market. The market would also be able to mobilize and efficiently allocate more foreign direct investments (FDIs) since more new and unknown opportunities could be more visible from listing in the NSE.

The tertiary institutions should be seek to make financial and business studies crucial to the population to ensure improved productivity and self-dependence through the self-employment. The intention is to increase knowledge on how to access FDI as a source of finance, increase efficiency in strategic and financial management of all companies in Kenya with a view of achieving Vision 2030. Moreover, knowledge on the NSE to all non-listed companies would help improve their transparency and improve research quality and production in Kenya.

The global economy is growing and there is interest from all investors to look at new ventures in various countries especially those depicting economic growth. Thus, it is crucial for investors to seek more information on companies, stock markets and sectors

they seek to invest in, with the country of interest. This is due to the reason that GDP growth does not translate to profitability or good returns.

5.4 Limitations of the Study

The study was unable to obtain the semi-annual data of the various parameters or variables since most of the variables' data were in annual form as provided in the various source documents. This led to the conversion and analysis of some the secondary data in an annual basis. This reduced the population target.

The study relied on secondary data alone since most of the data can not be obtained from primary sources. This due to the nature of the data in terms of credibility, large and cumbersome nature only leaves governmental, international or quasi-governmental bodies to provide. Therefore, the study relied on information from secondary sources with the assumption of its reliability and validity.

The study was done within a certain period and is specific to Kenya. Thus, the study limited to country and time specific as it can not be inferred to other countries and time periods. This is due to the different operating environment experienced in other countries and the dynamic nature of the Kenya's economy.

The study was also limited to the NSE 20 share index. Thus, the study is limited to the NSE20 share index as a representative of the whole stock market returns. Therefore, the results may be different if the NSE all share index was used. This could have been done but there was limited time period to undertake the study.

5.4 Suggestions for Further Research

First, the area of how profitability of all companies in Kenya affects the economic growth would be an interesting study. It would be a crucial topic since it will gauge the importance of all the companies to the economy. It will also help to understand why the stock market return has little effect on the economy and draw comparisons.

Secondly, the area of how stock market return in Kenya affects the interest rates would also help to understand the contribution of market return to variations in inflation. This would help in understanding whether stock market returns have impact on other economic variables such as interest rate levels. Thus, improve the body of knowledge on how to reduce the interest rate levels in the country.

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APPENDIX

YEAR	GDP	Opening NSE 20 Share index	Closing NSE 20 Share index	Net FDI	Population
	growth	at the beginning of the year	at the end of the year	in US (\$)	growth
	(%)	January	December		(%)
1982	5.05	350.43	350.31	13,000,900.00	3.63
1983	1.59	351.35	382.23	23,738,840.00	3.58
1984	1.60	382.23	386.55	10,753,530.00	3.57
1985	4.07	386.29	420.28	28,845,950.00	3.60
1986	6.98	423.16	505.30	32,725,780.00	3.59
1987	5.81	506.71	729.49	39,381,340.00	3.54
1988	6.09	729.59	856.59	394,431.00	3.48
1989	4.55	862.74	814.95	62,189,920.00	3.39
1990	4.13	811.25	895.76	57,081,100.00	3.28
1991	1.34	913.91	959.97	18,830,980.00	3.09
1992	(1.08)	954.03	1,246.65	6,363,133.00	2.90
1993	(0.10)	1,165.31	2,207.11	145,655,500.00	2.71
1994	2.53	3,818.74	4,559.40	7,432,413.00	2.52
1995	4.29	3,939.68	3,468.88	42,289,250.00	2.33
1996	4.01	3,409.40	3,114.11	108,672,900.00	2.30
1997	0.22	3,479.67	3,115.14	62,096,810.00	2.26
1998	3.33	3,348.11	2,962.06	26,548,250.00	2.10
1999	2.41	2,983.48	2,303.18	51,953,460.00	2.29
2000	0.60	2,308.43	1,913.35	110,904,600.00	2.35
2001	4.73	1,897.00	1,355.00	5,302,623.00	2.54
2002	0.30	1,343.41	1,362.85	27,618,450.00	2.11
2003	2.79	1,510.63	2,737.50	81,738,240.00	2.06
2004	4.62	3,157.90	2,945.58	46,063,930.00	2.00
2005	5.98	3,094.30	3,973.00	21,211,690.00	1.94
2006	6.33	4,171.80	5,645.65	50,674,720.00	3.01
2007	6.99	5,774.24	5,444.83	729,044,200.00	3.01
2008	1.53	4,712.71	3,521.18	95,585,680.00	3.01
2009	2.65	3,198.90	3,247.40	116,257,600.00	3.01
2010	5.55	3,565.30	4,432.60	178,064,600.00	2.96
2011	4.40	4,464.00	3,205.00	335,249,900.00	3.00