THE RELATIONSHIP BETWEEN FOREIGN INFLOWS AND STOCK MARKET PERFORMANCE IN KENYA

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DECLARATION

I declare that this dissertation is my original work and has not been previously submitted elsewhere for award of degree. I also declare that this contains no material written or published by other people except where due reference is made and the author duly acknowledged.

Student Name: …… Reg No: ……

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I do hereby confirm that I have examined the master's dissertation of

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ABSTRACT

The paper sought to investigate the relationship between foreign inflows and the performance of the stock market in Kenya over a 6-year monthly period from 2013 to 2018. The population of the study was the market capitalization for the Nairobi Securities Exchange for the period under study. In order to achieve the purpose of the study secondary data from all stocks that traded consistently from January 2013 to December 2018 was employed. Secondary data was collected from the Nairobi Securities Exchange, the World Bank website and the Capital Markets Authority website. The aim of this study was to examine empirically whether there exists a nexus connecting foreign inflows and the stock market performance of the Nairobi Security Exchange by use of the analytical tool STATA. Data stationarity was determined using ADF, and co-integration tests was conducted. An analysis of the cause and effect relationship between the variables was determined through the Granger causality test. The research conducted an analysis of the stocks market through market capitalization against the foreign inflows. The general objective was to determine the relationship between foreign inflows and stock market performance. The study found both short run and long run relationships between the stock market performance and two explanatory variables but no relationship between the explained variable and FDI. The results found that there was significant and negative relationship foreign debt and remittance. The study also established a positive but insignificant relationship between the dependent variable and foreign direct investments. Causality tests established that none of the variables granger-cause the dependent variable. The study recommended that the government monitors the foreign inflows as they have a negative relationship with the performance of the stock market.

Keywords: Foreign Direct Investment, Foreign Debt, Remittance and Stock Market Performance

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DEDICATION

To my loving family, my father Dr. Peter Butali, my late mother Jennifer Butali and my sisters Valentine Butali and Carren Butali for their love and continuous encouragement during the pursuit of my studies.

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ABBREVIATIONS AND ACRONYMS

ADB: African Development Bank

ADF: Augmented Dickey Fuller

AIC: Akaike Information Criterion

BIC: Bayesian (Schwarz) Information Criteria

CMA: Capital Market Authority

EAC: East African Countries

ECM: Error Correction Model

EMH: Efficient Market Hypothesis

FD: Foreign Debt

FDI: Foreign Direct Investment

FPEI: Foreign Portfolio Equity Investment

GDP: Gross Domestic Product

IMF: International Monetary Fund

KNBS: Kenya National Bureau of Statistics

NASI: NSE All Share Index

NSE: Nairobi Securities Exchange

OLS: Ordinary Least Square

REM: Remittance

SPSS: Statistical Package for Social Sciences

VECM: Vector Error Correction Model

VIF: Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Foreign Direct Investment – FDI refers to an investment made by non-residents (not domiciled in Kenya) to acquire long-standing management (usually 10% of the voting stock) in a business that is operating in Kenya.

Foreign Debt –Foreign debt is a process of liquidating anticipated future earnings to the present for a cost. It is a debt owed by an individual or country to another and is enforceable for repayment at a future date (Kawai, 2002).

Foreign Inflows – Consists of foreign direct investments, foreign debt, and remittances.

Granger causality – This refers to a statistical hypothesis test used in determining whether one-time series is applicable in forecasting another time series.

Market Capitalization –It represents the aggregate value of a stock or a company and is a product of price per share and the number of outstanding shares.

Remittance – Remittance refers to personal transfers and compensation to employees. Personal transfers are transfers that are in the form of cash or transfers in kind. These transfers are made or received by households that are either resident or non-resident. On the other hand, compensation of employees refers to income made to seasonal or short-term workers who are employed in areas they are not residents or income to residents employed by non-resident entities.

Stock Market – This is a commonplace (market) in which shares are issued and traded with via the use of over the counter markets (OTC) or exchanges. It is also referred to as an equity market (Mishkin & Eakins, 2009).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The stock market is a key component of the economy of a sovereign nation as it is essential in providing access to capital to various companies, and it serves as a source for potential gains for secondary investors on the foundation that a firm will have exemplarily future performance (Osoro, 2013). The stock market enables companies to float shares for ownership in a public market in order to generate additional capital for expansion. These long-term financial resources generated directly from the public thereby lead to a corresponding decrease in cost of capital for firms. Therefore, the stock market effectively manages to achieve more savings and productive investments leading to overall economic growth. However, returns from equity investments may vary due to movement of share prices, which are dependent on factors that may be firm specific or external.

Private capital inflows and in specific Foreign Direct Inflows facilitate avenues to export markets, encourage enhancement of skills and management techniques and provide cleaner technologies and current development systems (Mwega & Ngugi, 2006). Apart from the capital provision for investment purposes foreign inflows may lead to an increase in competitiveness in the local economy and aid native companies to achieve efficient productivity through incorporating comprehensive technology that is efficient.

Foreign inflow has been categorised as a key activity in the enhancement of economic growth of any nation. According to Ahmed (2005), foreign inflow is defined as any investment

by a non-resident to a company of host nation whereby, they exercise control and earn returns on their investment. Capital required for domestic investment, creation of employment, a pool of managerial skills and technology transfer can be achieved through foreign inflows. The impact of foreign inflows is especially high in African countries. Lack of adequate financing has reduced the capability of most African governments to commission expenditure in infrastructure and social services that are prerequisite in boosting domestic demand, sustaining high economic growth transformation and encouraging private sector activity.

Foreign Inflows possess the ability to influence economic growth through a positive and significant effects on the government controls on all its branches. Bagli & Adhikary (2014) studied the effect of foreign inflows on growth; they found that a country's capital increases when foreign capitals also increase. However, Foreign Direct Investment may not only increase the productivity of firms receiving FDI but also to all other firms. Furthermore, FDI can contribute to the overall economic growth by enhancing competition in the local input market and hence boost home firms in achieving high productivity through several efficient techniques.

1.1.1 Foreign Inflows

Foreign inflows are cross-border capital inflows into developing countries that are key to nations that are beneficiary of the flows. These nations therefore have access to less expensive modes of financing that are beneficial to them. Foreign inflows into a host country have the capacity to affect stock market growth in the long run. Growth in recipient countries is in part due to foreign inflows through augmentation of investment resources, in particular, foreign funds. Foreign inflows comprise remittance, foreign direct investments, and foreign debt among others, the three mentioned forms of foreign inflow will be the focal points of this paper.

Foreign direct investments are investments made by individuals or firms in a different country into a business in another country with the main intention of establishing a long-term interest; it may also be achieved through expanding one's business into a foreign country. Ismaila & Imoughele (2010) defined FDI to be a long-term commitment to a host country and is preferred, as it posts no obligations to the host country. World Bank (2003) interpret FDI as the flow of capital in terms of equity financing from abroad being not less than 10 percent of the share in business activity. Priyanka (2012) stated that investors could invest in their own funds or on behalf of others. FDI serves to offer countries with necessary resources to be utilized in domestic investments that also generate employment opportunities, assist in the transfer of managerial expertise and technology all of which contribute towards growth of the economy.

Dunning (2003) stated that the leading motivation why countries seek foreign direct investments was for resources, this was further supported by Mishkin & Eakins (2009) who observed that African nations seek FDIs in order to gain better economies, eradicate poverty, technological advancement and achieve improved standards of living in Africa. Ismaila & Imoughele (2010) stated that FDI was important as it availed necessary resources that were optimal in improving economic development in developing countries. This is because most developing countries have economies that face challenges such as low productivity levels, low domestic savings and low foreign exchange earnings.

Foreign direct investment is a circumstance resulting because of internationalization that includes the amalgamation of the local economic system with international markets. Countries achieve globalization through the allowance of access to the domestic economic sector by foreign investors in order to pursue business ventures inside the country. FDI flows document the value of transactions across borders that are associated to direct investment in a specific

period, typically per quarter or per annum. Financial transactions are made up of stock trading, placing back earnings for reinvestment, and intercompany debt activities (Lehman, 2002).

A country's access to FDI is subject to restrictions such as privatization of government agencies and government barriers to trade. In addition, the potential growth of a country's economy makes the country more appealing as a candidate for FDI; this is supported by the fact that higher economic regions provide a more conducive environment to take advantage of and reap. Exchange rates and Tax rates also influence foreign direct investment receipts. Lower tax rates on corporate profits will encourage higher levels of foreign direct investments whereas FDI firms prefer areas where the local currency is expected to appreciate against their own currency (Mishkin & Eakins, 2009).

Foreign debts are a combination of short and long-term debts that are owed by firms and government to parties outside the country. Institutions that mostly advance foreign debt are such as the World Bank. Most nations are unable to amass adequate capital to finance their activities. Debt, therefore, is a resource borrowed by a country for its use and does not belong to that country. Kawai (2002) outlined debt as a way of liquidating future anticipated earnings to the present at a cost. Modern law states that debt is that which one person owes the other and is enforceable for repayment in future. Gyimah-Brempong (2012) stated that when engaging in foreign trade it is important to consider the denomination of the currency to be borrowed to improve hedging. Khattak (2008) stated that entities raise currency from the foreign market based on its growth. He gave three reasons as to why: first, hedging in order to safeguard the entity from foreign exchange rates fluctuations. Secondly he observed that borrowing from the Euromarkets would be cheaper than borrowing the same locally, this is possible due to the ability of the entity to gain capital control amnesties and taxes levied by other countries. Thirdly

speculative reasons, this ensure that entities possess enough savings in form of foreign currencies' to ensure that they can undertakes in foreign investment opportunities (Gordon, 2007).

Different studies have defined remittance differently have they all agree conceptually on what remittance entails. CBK (2015) described remittance as the money sent by a person in a foreign land back to their mother country. Dilip and Sonia (2011) defined remittance as economic resources mostly in monetary form channelled back to the country of origin for people living in the diaspora. However, Carling (2008) questioned the technical and conventional definitions for remittance advanced. He argued that most individuals who remitted remittance were not necessarily migrants. In contrast, the source of remittance has not been a source of concern for most experts. Remittance, therefore, refers to funds that are transferred to others in different countries. It is mostly in the form of family members abroad sending money back home to their relatives.

Exponential growth in remittance has led to intense debate and controversy amongst researchers and policy makers as to the exact influence of remittance on the welfare of recipient countries' economies (Adams & Cuecuecha, 2010). The controversy is centred on how remittances are spent. However, the effect of remittance inflows on the economic growth of a country is focused on how the said inflows will be consumed or invested (Burnside and Dollar, 2000). However all researchers are in agreement that if remittance was to be invested wisely, then it would cause a positive impact on growth of the economy. Nevertheless, if remittance were to be consumed it would have no influence whatsoever on the economic growth. Remittance has been on an upward surge however, there are inhibiting factors such as persistent levels on unemployment in the European and American regions that affect the employment

prospects for migrants and toughening political climates for immigration policies. The lack of consensus on remittance towards economic growth despite its vitality therefore makes it necessary to investigate more about it.

Alajekwu (2012) noted that theoretically there existed a positive relationship between the stock market performance and economic growth. However, little evidence has been tabled in support of there being a causal relationship between remittance inflows and the stock market performance. Remittance is different from other foreign inflows due to the fact that they tend more towards stability making them the most reliable source of finances for most developing countries (Biller, 2007). Stability is brought on by the fact that remittance is mostly in the form of person to person flows that are targeted to the individual's specific needs and are rarely affected by governance issues associated with other foreign inflows. Their ability to be channelled directly to the intended recipients makes them less susceptible to corruption or bureaucratic bottlenecks (Ratha & Mohapatra, 2007).

According to Kiptoo (2011) in comparison to other inflows, inflows from immigrants (remittances) are lower than the foreign direct investments, but are roughly eight times higher than portfolio investment flows. Also remittances are three times larger volume-wise as compared to official development assistance. Thus, remittance is a crucial source of capital for countries that are developing. Due to their increasing size and stability unlike other inflows, they have achieved a greater position in the economy. The level of national income increases through remittance due to provision of foreign exchange and raising national savings, which consequently lead to investments. Azeez and Begum (2012) interpret remittance as the transfer of monetary items or cash to their home country whereas Bjuggren, Dzansi and Shukur (2010)

further claimed that worker's remittance were a vital source of investment for developing countries and as such remittance increase investments.

According to the Central Bank of Kenya (CBK, 2018) in the year to June 2018, total remittance inflows amounting to USD 2,438 million were 38.6 percent higher as compared to the June 2017 year to date that was USD 1,759 million. A new partnership between commercial banks and international money remittance providers, which has brought down the cost of international money transfers, is the main contributor to the remittance strength.

Globally, FDI decline contrasted with other foreign inflows. Total global flows that are denoted by FDI, flows from portfolios and other capital flows arising from the private sector persisted in improving over the course of 2017. In 2017 capital flows accounted for 6.9 percent of the total global GDP, this was an improvement from 4.7 percent that associated with the post-crisis low that occurred in 2015. Efficient shorter period economic growth opportunities and suppositions of effortless monetary transitions in the United States improved global financial and liquidity conditions. Rising risk appetite among portfolio investors and lower financial volatility in major asset classes all contributed to improved conditions for foreign inflows, (World Investment Report, 2018). However, in 2018 global FDI fell to estimated US dollars 1.2 trillion as compared to US dollars 1.47 trillion posted during2017. The drop brought the FDI to a low point that was reached after the global financial crisis. The decline was mostly concentrated in developed countries where inflows fell by as much as 40%.

Economies draw foreign inflows from various aspects of external finance, some of which are Foreign Direct Investments, portfolio equity, long period and shorter period loans, official development assistance, remittance (migrant transfers) and other formal flows; however FDI is the most substantial aspect of external finance for economies that are developing, and most

hardiest to economic plus financial shocks. The World Bank, Asian Development Bank, and Inter-American Development Bank in conjunction with host governments are some of the notable sources of foreign inflows.

1.1.2 Nairobi Securities Exchange

The stock market is a setting where the trade of financial securities occurs and a place where long-term capital is raised. The Nairobi Securities Exchange came into existence in the year 1954 and was set to be a volitional organization of stockbrokers (Osamwony, 2013).The Nairobi securities exchange (NSE, 2011) is, therefore, a body governed by the Capital market authority as a volitional association of stockbrokers with the aim of mobilization of resources directed at providing long-term capital for financing activities. Nairobi securities exchange is mainly charged with the duty to be in charge of listing, delisting and regulating the trade of financial securities. In the year 2008, the NSE All-Share Index (NASI) was announced to be a substitute index offering a comprehensive evaluation of stock market performance to investors. NASI is a market capitalization-weighted index encompassing all the NSE securities and with a base value of 100.

Currently, the NSE has 67 listed companies that are group into categories namely, agricultural, automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, investment services, manufacturing and allied, telecommunications, real estate investment trust, and exchange-traded funds (Appendix II). In 2013, the NSE introduced (GEMS) Growth Enterprise Market Segment to increase stock exchange capitalizations due to low listings (NSE, 2015). GEMS main functionality was to assist small and medium-sized companies to raise considerable inceptive and continuous capital

while itself it benefitted from increased levels of profitability and regulations within the regulatory environment in order to meet its needs.

An economy is up-and-coming when the stock market indicators like share indices and market capitalization are on the rise. Share price performance in the stock market is utilized as a measure of business investment in an economy whereby the constant rise in prices may signal increased business investment and vice versa. Worldwide, central banks tend to monitor the operations of the stock markets consequently ensuring the smooth operations of the financial system functions. Foreign portfolio capital investors are attracted to an optimal functioning stock market and this leads to corresponding increases in the mobilization of domestic resources accessible to enable investment in the capital markets. Therefore, an optimal functioning stock market is a key component of an efficient investment environment.

1.1.3 Stock Market Performance

The stock market is a capital market; this refers to the securities market whereby governments and companies engage in raising long-term funds. It is a public market that deals in the trade of company stocks and derivatives at agreed prices, where the securities are listed on the stock exchange and may include privately traded stocks (Jumba, 2010). Efficient market performance is an aggregate measure, which provides market information to investors by characterizing the global markets and certain market segments (Odera, 2005). Yartey and Adjasi (2007) stated that the basic feature of an efficient stock market was constant liquidity that is the performance of the stock market was not stationary. They noted that a lack of static meant that there was ease of entry and exit by investors.

A stock market is inherently a market where individuals and entities trade in shares at prices that are reflective of the demand and supply occurring and low costs of transactions

(Yartey, 2008).The markets are able to transact due to the effective placement of interested buyers and sellers such as firms, individuals, households, and governments in a given location at a given time. Therefore, stock market enhancement is an amalgamation of establishing institutions, markets, and instruments that assist in investments and growth process. This entire factors combined serve to enhance the efficiency of the stock market in its intermediary role.

Stock market performance is an appraisal on how efficient the market is. An efficient market is characterized by a capital market that exhibits sustained liquidity and ease of entry and exit by investors. In order for efficiency to be achieved then there should sufficient transaction volumes in the market (Yartey and Adjasi, 2007).Therefore, the stock market performance is a significant aspect of the financial sector in any given economy. An optimal stock market is anticipated to cause a decrease in the cost of equity capital in firms and to permit individuals to hedge risks efficiently.

An efficient stock market is expected to grow towards lower costs of equity capital for firms and assist individuals in effectively pricing and hedging their risks. Casu et al. (2006) stated that the stock market performance was integral to various stakeholders who might be interested in trading in the market. Parties who may be interested in the stock market performance are various stakeholders such as the direct competitors, shareholders, financial market regulators, credit rating companies and any other investors.

Authorities such as the IMF, World Bank, and ADB undertook initiatives to promote stock market growth in developing countries in the period 1980s and 1990s leading to substantial growth in the emerging markets; this is supported in the work of Yartey and Adjasi (2007) who indicated that stock markets are important for economic growth. Their study showed that growth

in market capitalization increased exponentially from USD 2 trillion in 1995 to about USD 5 trillion in 2005.

The market returns can be measured using a number of methods such as; stock market indexing, market capitalization and stock turnover. Portfolios held by investors are made up of many assets that make it troublesome to keep track of each security progress in a portfolio. Consequently, it is judicious to have the whole market under observation, since it is assumed that the portfolio and aggregate market moved in the same direction. Observation of total returns for an aggregate market and the calculation of the returns are utilized in determining the performance of each portfolio, this is the basic function of a market index such as the NSE All-Share Index.

As stated by Kithinji and Ngugi (2009), an investor could generate a return that is almost similar to the market by randomly picking a substantial number of stocks from the total market. Stock market indices are defined as a comprehensive measure that provides investors with information about market performance through distinguishing the development of global markets and specified market segments (Odera, 2005). Odera (2005) went ahead and determined that Index numbers are used to measure the stock market movements. Therefore, a stock market index number is a summary of numerous price movements. There are both price and volume indexes. Notable international financial indices are used to keep track of the performance of sizeable and substantial companies with the aim of evaluating and predicting economic trends. The more notable indices are the Global DOW and the National Association of Securities Dealers Automated Quotations System, (NASDAQ)

Market capitalization evaluates the market movements by measuring the total value of stock in a certain stock market and then combining the quoted stocks market values (Otuke,

2006). Stock market capitalization specifies the total market value of all shares that are registered and traded at the stock exchange. It is gotten as a product of the prevailing stock prices and the number of shares that are issued by quoted companies. Fluctuations of share prices, issuing new shares, issuing bonus shares and giving new share prices cause changes in market capitalization. All the factors above are evidence that more stock market investments are signaled by inflated activity at the stock market. Stock turnover is indicative off lows both inwards and outwards from the stock market on the basis of shares that are actively traded. Fluctuations in a given day may occur due to changes in share prices, actively traded shares and or the number of shares.

1.1.4 Foreign Inflows and Stock Market Performance

Foreign Direct Investments, Foreign Debt and Remittance are among the stable sources of foreign inflows in countries that are still developing, because they attract foreign currency in large amounts, which assist in among other things stock market performance. They are instrumental in supplementing the resources available to the recipient country and in aiding higher returns. Stock market performance is therefore reliant on foreign inflows as they are instrumental in determining investment activities.

Several studies have tried to illustrate the nexus between foreign inflows and stock market growth as shown. Pavabutr and Yan (2007) established that volatility in day to day and weekly returns were affected by foreign flows in the Thailand Stock market; this is because of the unexpected shocks to foreign flows while Frankel (2011) explained that in developing countries volatility observed originated from financial shocks from global markets, occasioned by globalization. Foreign direct investments offer a positive influence on stock market performance, which results in their growth. Several studies reveal that FDI inflows influence the domestic market development as confirmed by Batten & Vo (2009) who found a linkage

between FDI and the stock market development in which it was established that FDI had a positive impact on economic growth in countries exhibiting higher levels of development in the stock market.

FDI pose varying constructive effects that are visible through the positive influence it exudes on the economy and result in the growth of the economy. Other benefits derived are the transfer of technology in the market that aid developing countries, increase in knowledge and advancement of capital markets. Studies underlying FDIs show the justification for taking on long term associations is that spill over to the stock market motivate policy makers to incorporate more market friendly regulations in various countries that encourage stock trading (Rogoff, 2005).

According to Adam and Tweneboah (2008b), there exists an indirect and strong relationship connecting the stock markets and the foreign direct inflows. They stated that FDI inflows lead to advancements in technology and increase in employment levels in almost all developing countries, this has the corresponding effect of increasing the goods and services production that will eventually, increase the gross domestic product. Increase in share prices and the development of the stock market are positively affected by economic growth. By employing the co-integration method, evidence was found that showed long-term positive relationship existing between FDI and stock market development in Ghana. Yartey (2008) found that institutional and regulatory reforms were advanced by FDI that consequently lead to higher investor belief about the local capital market, which leads to a significant increase in the pool of investors and the trading volume.

Adegbite et al (2008) stated that developing countries opt for external finances as opposed to domestic financing in achieving sustainable development. The Dual Gap theory in

support of this, states that developing countries have insufficient levels of domestic savings that are incapable of financing investments necessary for economic development. Owing to the fact that investments are a function of savings, it is therefore judicious to incorporate complementary external sources of finance. Developing countries have not achieved sustained steady growth and therefore investments of any kind into their economies lead to accelerated growth, this theoretically supports that debt can lead to growth. When optimally utilized foreign debt will not automatically turn into a debt burden. Optimally the marginal return on an investment is expected to be to be greater than or equal to the cost of borrowing in order for debt to have a positive impact on growth. Neoclassical theory supports the statement above, debt has a positive and direct effect on the economic growth of a country due to optimal usage of amount borrowed that consequently leads to increase in investments.

Remittance has been theorized to have a potentially positive impact on the economic growth of a country. Studies by Aggarwal et al (2006); Giuliano and Ruiz – Arranz, (2005) have collaborated that remittance has a positive impact. They show that remittance substitutes other forms of financial means not readily available in developing countries. Yassin (2005) determined that remittance had a positive correlation with the development of financial institutions in the Middle East and North Africa. However, Chami et al. (2005) found a negative relationship between economic performance and remittance.

Locally, net financial inflows grew by 21.6 percent from a surplus of Ksh 546.7 billion in 2017 to Ksh 664.6 billion in 2018; mainly driven by a 40.5 percent increase in inflows of foreign direct investment (KNBS, 2019).The Kenyan government has advanced incentives to attract foreign inflows. The incentives are such as corporate tax cuts and tax allowances in order to try to have FDI diversification in Kenya and not only concentrated on extractive and infrastructure

sectors. Kenya has also created the Nairobi International Finance Centre in order to form special economic zone for financial firms. Foreign inflows provide additional financing for productive investment for enhanced economic growth. However, if not well harnessed the inflows could also accelerate financial instability in the economy, particularly if the foreign inflows promote an increase in import and consumption as opposed to supporting increased production and productivity.

1.2 Statement of the Problem

Considerable growth spurt has been witnessed in the stock markets that exist in developing countries including Kenya in the past two decades in part due to globalization. The interconnection of countries has led to optimal links been created between financial markets and foreign firms from the rest of the world. The stock market should ideally reflect the economic capability of any country. Kalim and Shahbaz (2009) stated that in order to enhance and promote investment, economic growth and savings, the stock market growth is essential and therefore should not be set aside in whichever economy. Thus, the stock market is instrumental in lowering the cost of information by generating and circulating information to firms, which then ensure that efficient markets rise that incorporate all available information in their pricing mechanisms (Yartey & Adjasi, 2007).Given the central position of stock markets, it is therefore paramount to study the influence of foreign inflows on its performance.

In Kenya, the Nairobi security market has witnessed under performance associated to exit by foreign capital (leading to a decrease in foreign inflow) as most investors sold off stocks and exited the market in 2018, which lead to a decline among other factors. The recent outcome indicates that the secondary equities market performance declined marginally in quarter 4 of 2018 to Ksh. 35.44 Billion, compared to Ksh. 36.02 Billion registered in quarter 4 of 2017.

Similarly, other composite indicators such as the NSE All-Share and NSE 20-Share indices recorded decreases of 6.17% and 1.45% closing the quarter at 140.43 points and 2,833.84 points, respectively. Further, market capitalization decreased by 16.65%, with the total market value falling to Ksh. 2,102.02 Billion in quarter 4 of 2018, from Ksh. 2,521.77 Billion in quarter 4 of 2017 (CMA, 2018).

High returns have made stock markets more popular among investors. Therefore, they are a key aspect of the economic world and such fluctuations in the stock market are unhealthy financially to both corporate and individuals.The stock market's major incentives are that they are also financial intermediaries as they are involved in channeling money from surplus units to deficit ones in the economy. This intermediation role can only be optimal if the high returns are certain (Mayowa & Osayuwu, 2012).In the face of such losses, logical investors in the stock market take keen attentiveness in following the stock market performance considering their investments and the need to predict rational forecasts about investment decision making.

The various studies touching on the effect of foreign inflows on the stock market performance provide no consensus from the theoretical and empirical work. There exist two differing schools of thought; the first is of the opinion that introducing foreign inflows into an economy can have a destabilizing effect due to unpredictable inflows and outflows. Studies by Dellas and Martin (2002) and Carlson and Hernandez (2002) support this opinion. The second school of thought supports the openness of the economy that allows foreign inflows enabling the growth of the economies. Raza, Sabir and Mehboob (2015) support this school of thought.

Global and local studies analyze the effects of foreign inflows on stock market performance separately or by region. Reinhart and Rogoff (2010) stated that higher foreign

inflows are not always indicative of improved economic performance. Whereas studies by Pal (2006) and Osinubi & Amaghionyeodiwe (2010) support the notion that foreign inflows are instrumental in complementing scarce domestic resources and enhance better investment strategies key in stock market development. Locally, the growing contradiction can be observed in studies by Nyang'oro (2013) who tested the relationship that occurs between stock market performance in Kenya and foreign portfolio. Whereas Masila, Aduda and Onsongo (2012) examined the determinants of stock market development at the NSE.

From the literature above the lack of consensus of the effect on foreign inflows on the stock market performance in addition to few studies using all components of foreign inflows to analyse stock market performance do not allow for generalization of foreign inflow on the NSE. Given the mixed findings, this study desires to determine the effect of foreign inflows on stock market performance and can be used to give support for rational decision formulation by investors and policy makers.

1.3 Objectives of the Study

1.3.1 General Objective

To determine the relationship between foreign inflows and stock market performance in Kenya

1.3.2 Specific Objective

i. To determine the relationship between Foreign Direct Investments and stock market performance in Kenya.

ii. To evaluate the relationship between Foreign Debt and stock market performance in Kenya.

iii. To ascertain the relationship between Remittance and stock market performance in Kenya.

1.4 Research Questions

i. What is the relationship between Foreign Direct Investments and stock market performance in Kenya?

ii. What is the relationship between Foreign Debt and stock market performance in Kenya?

iii. What is the relationship between Remittance and stock market performance in Kenya?

1.5 Significance of the Study

1.5.1 Policy Makers

According to Montoya (2007), improving implemented economic policies alone will not increase a country's competitive advantage. Development and stability will be assured by instituting optimal institutional structures, elements that will strengthen democracy, law, and order, that are in alignment with the dynamic international trade, markets and practices. Through instituting a strong policy and institutional framework, the government puts itself in a position that fosters trust in foreign investors thereby increasing the likelihood of attracting significant foreign inflows.

The study contributes to the examination of the effects of foreign direct inflows, foreign debt, and remittance on stock market performance in Kenya. Study findings can form an optimal foundation for policies aimed at foreign inflows for the realization of capital to fund the Vision 2030.

1.5.2 Academicians

The study helps researchers and students alike in the identification of study sections, which require additional examination, and analysis of empirical literature to enable identification study gaps. The study will also provide valuable information on the relationship existing between the stock market performance and the foreign inflows thus increasing the body of knowledge in that field.

1.5.3 Domestic Investors at the NSE

The study will prove beneficial to local investors whose activities at the NSE are affected by the investing habits of foreign investors. Thus, the study will be a source of empirical evidence ensuring the local investors are well informed.

1.6 Scope of the Study

The period under study will consist of stocks traded at the Nairobi Security Exchange-listed firms as of December 2018, for a period of six years monthly data starting from January 2013 to December 2018. Only firms that were active in December 2018 will be included. The data set for the study will consist of monthly data observations covering data from January 2013 to December 2018.

1.7 Limitations of the Study

The study will be limited to 6 years of monthly data on the Nairobi Security Exchange market capitalization listed companies in the calculation of the stock market returns. Companies that are not listed at the NSE will be excluded from the analysis. Also of note is the existence of other grouping of stocks (indices) such as the NSE 20- share index, NSE 25- share index and NSE All

Share Index which if utilised would generate different results. The study will eliminate if present stocks from financial firms exhibiting more than 5 consecutive months of missing data for returns as this would lead to presence of outliers that would need to be removed from the final sample leading to a reduction in the overall sample size.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will focus on theoretical and empirical evidence underlying the impact of foreign inflows on the performance of the stock market. Comprehensive review of previous studies concepts and theories will be undertaken to provide a background for analysing and quantifying the impact of foreign inflows on the development of the Nairobi Securities Exchange.

2.2 Theoretical Review

A theoretical review forms a theoretical foundation for the study. It informs the study findings based on existing hypothesis and theories.

2.2.1 Random Walk Model

The random walk hypothesis was proposed by Kendall (1953) and later improved by Fama (1965).The theory held that the stock market performance is independent of rudimentary variables. Fama (1965) stated that the stock returns are independent and uniformly distributed over time; this infers that the stock prices follow a random walk. This therefore implies that not even foreign inflows will have influence in the performance of NSE since the stock markets are assumed to operate efficiently. This form of efficiency comes about when security prices reflect historical price information, therefore investors cannot generate an abnormal profit through trade based on historical price information nor can future prices be predicted by analysing past prices. Therefore, the stock prices are not subject to seasonality indicating that the stock prices are completely random.

The reasoning behind the random nature of security prices is the movement of key information is undisturbed and its prompt replication in the stock market prices. Thus, difference in prices reflects the autonomy of changes in price. The theory implies no seasonality in stock prices hence prices are random and unpredictable. The presence of seasonality would eliminate the random nature making market participants gain supernormal profits, due to ease of determination of stock price patterns inferred by historical information (Kiprono, 2011).This theory therefore infers that the NSE performance is completely independent and not subject to foreign inflow influences. Therefore, entry or exit of foreign inflow capital should not cause any fluctuations in the stock market performance.

2.2.2 Base Broadening Theory

The base broadening theory was proposed by Merton (1987). Base broadening suggests foreign investment activity cause the emerging markets returns to increase. Merton (1987) put forth that once foreign investments occur in a country, the market returns would be affected by other factors other than those that occur in the home country. Chakrabarti (2001) noted that with increase in foreign investors in a country the financial markets would no longer be susceptible to economic factors in the country only, however they will also be affected by movements in the foreign market too. The more the market gets exposed to additional factors than those available earlier then the effect of domestic shocks decline. Therefore, market risk declines leading to investors demanding a lower risk premium on stocks consequently the stock market prices will increase to higher levels.

According to the theory, Merton provides a model illustrating raise in the equity prices due to broadening the investor base for a specific market by lowering the risk premium. That is

the more “informed” investors there exists then required rate of return will be lower. The most perceived barrier to having a fully diversified portfolio is lack of information. However if the domestic and foreign investors have the same information set then, investment in assets will be equal.

Merton (1987) stated that due to assumed barriers investors are unable to hold fully diversified portfolios that are investors will tend to invest only in stocks that they are fully informed about. The base broadening theory therefore suggests that if both domestic and informed foreign investors have the same data set then they will be in a position to effectively allocate fund to their portfolios equivalently. Net purchases done by foreigners have the ability to create considerable shocks to net investments by foreigners. According to Richards (2004), foreign portfolio inflows are based on two assumptions by foreign investors; first is there exists undervaluation of shares and secondly there exist other portfolio gains derived from their investing in emerging markets. Therefore, net purchases arising from foreign inflows create substantial shock to net investor demands, leading to corresponding rise in market returns and performance. An increased substantial change in investor base in the emerging markets has an effect on the pricing. This is mainly due to greater liquidity and increased risk sharing therefore, the anticipated returns would drop causing a corresponding increase in prices.

Locally in the Kenyan market Owen (2013) stated that the implication of foreign flows on the stock market performance are indicative of the fact that the stock market is affected by lagged unexpected flows and not by its concurrent value. Wanyoike (2015) suggest that the implication is that foreign inflows cause the stock prices to rise, which may be due to increased demand in the market.

Therefore, if the investors are more informed about the stock market they will be able to build up their investments of foreign inflows in the stock market. This will help to improve the performance of the stock market at the NSE. As a result foreign inflows influx in the market will drive up returns and NSE performance. The theory therefore supports that foreign inflows serve to push up stock prices in the market due to increased demand.

2.2.3 The Efficient Market Hypothesis

Fama (1965) developed the efficient market hypothesis. EMH has the basic idea underlying it that asset prices promptly reflect all the available information making it difficult for super normal profits realisation regardless of the strategies utilised in investment. The theory states that the perfect market is a market where there exists rational investors with an aim of profit maximisation, participating actively and engaging in future price predictions based on the available information. An efficient market as per Fama (1970) is one in which asset prices are reflective of historical, current and future information pertaining to the assets.

Fama (1970) further distinguished between three forms of the EMH existing in the market: these were the weak, semi-strong and the strong form of market efficiency. Efficient Market Hypothesis in the weak form states prices of assets today are inclusive of information from the past that is relevant. That is the security dividends, trading volumes and past asset prices. However knowledge of past prices behaviour patterns does not preclude what the future stock prices will be. Therefore, EMH supported the random walk view by Kendal (1953), in that asset prices are unpredictable and investors therefore cannot beat the market.

Efficient Market Hypothesis in the semi-strong form states that the assets price currently is a reflection of all available public information. Whereby public information is inclusive of

assets, past information as well as information about expectations about macro-economic factors, relevant GDP information, earnings forecast, balance sheet composition, accounting practices, company's information that is relevant and any other relevant information. Therefore, an individual is unable to make super normal profit in the market by using fundamental analysis. Strong EMH also postulates that asset prices are inclusive of information that is private such as insider information of a specific company's assets. The strong form of EMH asserts that the efficient market will reflect the historical, current as well as future information in its asset prices. In strong market prices tend to be fair and the investors cannot beat the market.

The EMH has broad implications across board, from an investor's point of view; participants in the stock market are not in a position to produce super normal profits despite the information that is in their possession. On the other hand, from an economic perspective efficient stock markets are instrumental in efficient allocation of resources leading to stock market development. Palmgren and Yalnder (2015) on foreign inflows in specific African countries among them Kenya stated that higher FDI implied that the market efficiency was higher. This confirmed Fama's assertion that there exist multiple rational investors in market with an aim of profit maximisation, and with increased inflows, high levels of trading were witnessed in the countries. Therefore, inflows affect the stock market performance by causing increase in its efficiency as put forth by Efficient Market Hypothesis.

2.3 Empirical Review

Empirical review bases the study finding on verifications conducted through observations, experiences and experiments. Foreign portfolio flows have been proposed as a way of enhancing activities in the market and providing foreign capital access. Therefore, the stock market liberalisation is focal to opening the domestic market to foreign trade, by enabling foreign and

domestic investors to share risks in the market, leading to a reduction in the risk premium in the market. The decrease in risk premium reduces the cost of capital and makes negative net present value projects, to have a positive net present value Henry (2000).

2.3.1 Foreign Direct Investments and Stock Market Performance

Adam and Tweneboah (2009) studied FDI effects on the growth of the Ghana stock market using multivariate analysis and accounting of innovation method. Data used was from the period 1991 to 2006 in which the co-integration analysis showed a long run relationship existing between FDI and the Ghanaian Stock Market. The study indicated towards a pragmatic significant impact towards stock market development. They found the Ghanaian stock market growth was influenced largely by FDI using variance decomposition methods and impulse responses functions from the vector error correction model (VECM). The Kenyan and Ghanaian market are almost similar in that they both receive almost similar patterns in FDI inflows. Therefore, it is crucial to traverse the effect of the FDI on the stock market performance in Kenya.

Shahbaz, Lean and Kalim (2013) examined macro-economic variables with a keen interest on FDI with regard to their impact on the Pakistan stock market development. They focused on the complementary role of the FDI played on the market growth for a period ranging from 1971 to 2006. Their study employed the use of co-integration and found that FDI plays a complementary role in the Pakistan stock market development. Their study was indicative of the existence of a notable positive relationship between FDI and the stock market development in the long run. In most studies based on the Pakistan, market focus has been mainly on the macroeconomic factors and not on, institutional factors, which also affect the stock market development.

Karthik and Kannan (2011) investigated India in order to determine macro-economic variables that have an effect on the stock market development with an emphasis on FDI. Data utilized was collected over a period of thirty-five years. A log-linear regression model was formulated and the macroeconomic variable utilized was FDI, Inflation rate, domestic savings, GNP per capita and market capitalization. The stock market measure of development, market capitalization was found to have a positive connection to FDI. This, therefore, indicated the complementary role that FDI plays on the Indian stock market. The study focused only on the macroeconomic factors without any consideration for the institutional factors such as the banking sector and political stability among other factors.

Zafar et al. (2013) studied the relationship that subsists in foreign direct investment and the Pakistan stock market development. The study was conducted from 1998 quarter three to 2009 quarter four. Macro-economic variables utilized in the study were market capitalization, exchange rates, and net FDI inflows. Granger causality test on the study indicated the presence of bidirectional causality between the stock market and FDI in the Pakistan stock market over the sampled period. However, the study indicated that there existed no evidence in the long run of a relationship among the variables. One of the shortcomings of this paper was that they did not utilize data that was current, instead of 2009 that data should have been up to 2012.

Chepkoiwo (2011) analysed elements that have an effect on the development of emerging capital markets for a time span ranging from 2005 to 2010. Using descriptive and regression analysis on external and market factors the conclusion reached was that liquidity of the stock market, institutional quality, domestic savings, income per capita and bank development indicated there existed a relationship with the stock market development. While inflation and private capital inflows showed no clear relationship to the stock market development. The

study's main challenge was the period sampled was too small to formulate significant results as to the emerging capital markets and factors affecting their optimum development.

Njeru (2013) investigated the effects of FDI on the Kenyan economy. The study focused on the period from 1982 to 2012. He employed SPSS to carry out inferential analysis, frequencies, trend analysis and descriptive analysis involving ANOVA and also determined links existing between the variables through the use of correlation analysis. The correlation examination resulted in a significant positive correlation among FDI and GDP variables. Therefore, the conclusion was indicative of FDI triggering the Kenyan economic growth; therefore, there is a need for Kenya to formulate policies that encourage FDI.

Wanjiku (2016) on the effect of FDI on the Kenyan economy growth utilised time series data for a period ranging from 1980 to 2015. Using the ordinary least square method the effect of FDI, inflation, openness of the economy, the level of infrastructure, the ability of human capacity to develop, labour stock, financial development and gross fixed capital formation were determined to have resulted in an overall 73.84% of Kenya's economic growth. She stated that for FDI to be effective it must be in conjunction with the economies openness and the level of infrastructure development in the country. On a general level her aim was focused on the impact of FDI on economic development, however it is advised to determine the specific influence of the inflows on the stock market, which are integral in economic growth and development especially in Kenya.

Using data from 2005 to 2009; Aduda, Masila and Onsongo (2012) studied the NSE in relation to factors affecting the stock market development. Regression analysis determined that factors that are macro-economic in nature like liquidity of the stock market, income per capita,

bank development, domestic savings and institutional quality were key causations of the NSE development. Their study determined that there was no relationship between inflation, stock market development and private capital inflows, while institutional quality enhances stock market development. The study should have focused on a larger period, which would have yielded different results.

2.3.2 Foreign Debt and Stock Market Performance

Kharusi and Ada (2018) studied the emerging economy in relation to its external debt and economic growth. The external debt through continuous borrowing was used by Oman's government to finance its annual budgets. A time series analysis from 1990 to 2015 was sourced from the Central bank of Oman and also the World Bank. Autoregressive Distributed lag co-integration approach was used in the study to describe the error correction method in order to deduce the short run nexus between external debt and economic growth. The study results showed the existence of a negative but significant impact of external debt on the economic growth of Oman. Their study proposed the formulation of more high-yielding usage practices for external debt in order to facilitate constructive growth. Kenya is in a similar position of external debt as Oman; it is unable to collect enough funds to finance its budget and hence has to borrow extensively. It is therefore important to study the corresponding impact foreign debt causes to the performance of the stock market.

Chinaemerem and Anayochukwu (2013) studied the external debt financing in relation to its impact on the Nigerian economic development. Data utilized was a period ranging from 1969 to 2011 on London debt, Paris debt, Multila debt, and promissory notes. The study found that debt related to Paris, Multila and Promissory notes had a negative impact on Nigeria's

entrepreneurship development. External debt financing the development of entrepreneurship, the debt relating to London had a positive impact on the development of entrepreneurship and also facilitated Nigerian economic growth. The study also noted that all the external debt-financing variables were not statistically significant in relation to entrepreneurship development. The variables used are not representative of the current situation as debt is sourced from many sources which if incorporated would yield different results.

Umaru (2013) used the ordinary least square method to come up with a simple relationship on the variables which were under study on external debt and domestic debt impact on economic growth fin Nigeria during the period 1970-2010. The existence of bi-directional causality between domestic debt and the gross domestic product was determined through the use of Granger causality test. External debt was also found to have a negative impact on economic growth whereas domestic debt had a positive effect on economic growth as put forth by the OLS tests. The study therefore suggested that the Nigerian government should prioritise the domestic debt against the external debt as it can be seen to attribute to a certain degree to economic good performance. External debt is seen to be harmful to economic progress due to misuse.

Ibrahim (2015) analysed the effects of external public debt (including the risks and costs) on the economic growth of Tanzania Kenya, Rwanda and Uganda by use of panel data from the year 1981 to the year 2014. His study established that East African Countries economic development was negatively affected by external debt whereas between domestic debt and economic growth no notable effect was discerned. Real interest rate, inflation rate, and exchange rate which are all macro-economic factors were found not affect the economic growth significantly. This study also brought the fact that external debt is affected by exchange rate risks and that EAC countries should implement stabilizing measures on their currencies to avoid

increasing their debt burdens. The study based on the findings proposed that East African countries might improve their economy by mimic of an ideal balancing situation between external and domestic debt in order to achieve sustainable growth.

Shabbir (2013) studied the impact on the economic growth of external debt in developing countries. This study comprised of 70 developing countries utilized over a period ranging from 1976 to 2011.According to the study a general increase in external debt stock lead to the country's ability to service the external debt liabilities reducing therefore slowing down economic growth. He also established that higher debt levels were detrimental to the operations in the private sectors in terms of business growth and development.

Senadza et al. (2018) focused on economic growth in Sub Saharan Africa and the effect that external debt had in relation to the growth. This paper used data from 39 Sub Saharan countries ranging from 1990 to 2013. Study results indicated that economic growth in the countries under study was negatively affected by external debt. Classification of the countries into either low-income or middle-income countries was found to have no significant bearing economic growth as affected by external debt. The paper therefore proposed that despite there being a negative relationship between economic growth and foreign debt, Sub Saharan countries should not shy away from debt however measures should be put in place to ascertain tat investment of foreign loans is in projects that are assures of highest return in order to enable amortization of the debt.

Were (2001) determined that the level of maintaining foreign debt in developing countries is a main challenge. He categorised Sub Saharan Africa including Kenya as being developing, these countries were termed as HIPCs. Excessive levels of debt in Kenya have had a

significant effect on the economic growth of the countries and any future debt sustainability goals. The study determined that Kenya mainly sources its foreign debt from multilateral sources and had been on the rise over the years from the late 1990s. The study used a time series analysis from 1970 to 1995 and concurred that external debt accumulation had a corresponding negative impact on the economic growth and development. Kenya's continued service foreign debt therefore the government should be in a position to offer debt relief measures in order to ensure increased productivity and efficiency of public investments.

Kiptoo (2012) using time series analysis analysed the determinants of Kenya's external debt sustainability from the year 1967 to 2011. The study found that external debt sustainability in Kenya is dictated by GDP, exports, domestic debt, and external debt. Empirical studies indicate that there exists a positive relationship between external debt sustainability, GDP and exports. In addition, empirical results indicate a negative relationship between external debt sustainability, domestic debt and external debt. Ocampo (2005) termed external debt to be sustainable if there existed no foreseeable reasons that would make a country unable to meet its contracts in a timely manner.

Onyango (2016) studied the effect of foreign borrowing on Kenya's economy. In the determination of a comparative relationship between dependent and predictor variables, the study incorporated control variables. These were, FDI, exchange rate, inflation, interest rate and terms of trade. The study was conducted for 40 years ranging between 1975 and 2014. The study concluded that FDI and exchange rate had a significantly affected the growth of the economy, terms of trade at 5% was not sufficient though it had a positive relationship and that both interest rate and inflation negatively impacted the growth of the economy. Lastly, the study supported the

notion that GDP growth was positively affected by foreign debt. Variable under study can never be exhaustive and therefore utilization of other variables can lead to different results.

Conclusively most studies analysed in this paper in relation to foreign debt have implied that it is negatively related to economic growth, as supported by Odhiambo (2010) found a negative link between economic growth and foreign debt in emerging countries as compared to developed countries. Ferrarini (2008) supported economic growth and development could be aided if the finances were utilized productively and at sustainable levels. However, there were scanty studies linking foreign debt to the stock market as opposed to economic growth.

2.3.3 Remittance and Stock Market Performance

Rahkal (2015) studied what affected the performance of the stock market in the Nepalese stock market. The study focused on stock market performance and the effect of remittances, money supply, exchange rate and the interest rate on market performance. The study determined that the stock performance was positively influenced by remittance and money supply while the exchange rate and interest rate negatively affect the stock market performance. He stated that an increase in remittance would lead to significant improvement in the performance of the stock market that is a substantial elevation of remittance invested in the stock market would cause an increase in returns.

Ziesemer (2006) used an open economy model to study economic growth and the effect of remittance on has on the growth through two channels: physical capital and human capital. The study approximated two variants that reflect the open economy model for the two channels by utilizing the general method of moments with autocorrelation correction. The data focused on the year 2003 and comprised of pooled data from four countries that received remittance in that

year. The study demonstrated that remittances had the largest effect on savings in the countries that were found to have a lower per capita income. In addition, remittance was found to have a positive relationship with countries with a steady state level of gross domestic product. The study's results are indicative of the fact that remittance will cause increase in growth not limited to increase in investment but also will stimulate growth through the increase in literacy levels among a country's citizens.

Kamal (2014) carried out an analysis on the causality in the short run and long run that exists between the remittance and variable GDP. This study focused on Nepal's gross domestic product using VECM. The study used a vector error correction model. He also performed the unit root and the co-integration as per VECM and also determined the elasticity of remittance by use of the ordinary least square method. The study revealed that remittance contributes top only 0.07% of gross domestic product. This translates to; a 1% change in remittance would cause a change of 0.07% in a gross domestic product only. Therefore, the remittance that Nepal receives from its migrants is mostly for the purpose of consumption and the little that is left behind is what might be saved or utilized for investment in the production sector. The study showed that in the long run no evidence that remittance causes GDP existed however causality between remittance and GDP existed in the short run. It is therefore important to study remittance in order to encourage its most optimal usage to ensure that it leads to growth through correct investments.

Billmeier and Massa (2009) analysed the stock market development drivers in Middle and Central Asia. The study assessed determinants of stock market capitalization (macroeconomic determinants) in 17 Middle East and Central Asia countries by using panel data. The study was inclusive of countries that were rich in hydrocarbon and economies without sizeable natural resource wealth. Institutional variable and remittance in addition to traditional

variables were used as regressors. The study determined that both remittance and institutional variable had influenced market capitalization positively. In addition, remittance and institutional variables were key where there were no sufficient hydrocarbon sectors while countries rich in resources experienced high stock market capitalization that was mainly driven by oil prices. This study does not account for possible reverse causality between the variables by the use of panel estimation with fixed effects. Reverse causality may occur between the variables. Hence, financial development is interdependent from remittances. Also in hindsight use of the stock market capitalization as a measure of the stock market development is not wise. Stock market capitalization measures only the stock market size, which is only one dimension of the stock market development.

Issahaku et al. (2017) studied the stock markets in developing countries in relation to remittance, banks. He investigated the causal and dynamic linkages existing in international remittance inflows, the banking and stock market sectors development in developing countries. The study employed the use of a least-squares and impulse response functions to analyse the nexus between the variables; stock market, bank and remittance. The study found evidence in low remittance countries that the banking sector developed while in high remittance countries that bank sector development was hindered. In countries with already established banking systems, the study showed a bi-causal negative link between stock markets and remittance. However, countries that received low remittance levels, it was found that the remittance lead to a decrease in the stock market development, however where countries were dependent on remittance the remittance promoted development in the stock market. Development of the stock market was also seen to promote remittance inflow in high remittance countries while being obstructive in low remittance countries.

Njoroge (2015) studied the relationship between the Nairobi Securities Exchange performance and the impact of remittances on it. He used secondary data from the Central Bank of Kenya and the NSE.NSE All-Share Index measured the performance of the NSE while interest rates and exchange rates were used as control variables in the study. Using descriptive analysis on the monthly data, he established that remittance had a strong and notable positive impact on the stock market performance, while interest rates, exchange rates, inflation, and lending rates had a significant negative effect on the stock performance. Performance of the stock market improved with an increase in remittance.

Nyamongo et al. (2012) investigated economic growth in a panel of 36 African countries and the role financial development and remittance played from 1980 – 2009. They used a panel econometrics framework in their study. The study found that firstly, in countries under study remittance was an important source of growth for the period under the study. Secondly, that the volatility in remittances negatively affected the growth of the 36 African countries, thirdly, that remittance and financial development were complementary. Finally, financial development importance in the countries in boosting economic growth was weak in the period under study. However, according to Issahaku et al. (2017), the use of proxies of financial development that do not address the key functions of the financial system could be misleading and may lead to irrelevant policy formulations. These functions are such as screening borrowers, spotting firms with great potential among others

Kiio et al (2015) looked at workers' remittance in relation to Kenyan economic growth. The study was conducted during 1970 to 2010 using a time series analysis on annual secondary data. During the period, there was a marked increase in the flow of remittances. Their study findings indicated that there was a strong positive correlation underlying economic growth and

remittance. High levels of remittance lead to an increase in the gross domestic product levels in Kenya. Higher levels of remittance also amassed capital by leading to a reduction of transactional costs.

Onsomu (2017) did a comparison and analysed the impact of foreign remittance and foreign aid on the economic development qualitatively of recipient countries with emphasis on Kenya. The results indicated that Kenya was greatly dependent on Foreign aid as a source of development finance; however, its volatility is greatly associated with political machinations in the country. In addition, remittance was found to facilitate economic growth in Kenya a stance that was supported by Makori, et al., (2015) and Mwega (2009) who observed that diaspora large-scale investment in Kenya have contributed largely to economic growth through, employment creation, and the raising of the living standards through associated benefits of investment.

Owiti (2012) studied the stock market development in Kenya and economic growth using during the years 1990 to 2010 by employing regression model technique Results indicated that the stock market development indicators and the economic growth in Kenya were positively related. The study also determined a two-way causality existing between economic growth in Kenya and the stock market development.

Misati and Kamau (2018) analysed the relationship between remittance and financial development by use of autoregressive distributed lag (ARDL) in Kenya on quarterly data from 2006 to 2016. The study utilized private sector credit received, mobile transaction numbers, the value of mobile transactions, number of mobile agents and number of bank accounts in Kenya. The analysis, in the long run, was indicative of a strong positive relationship between remittances

and all the above indicators of financial development. This implies that at higher levels of remittance opportunities exist for enhancing bank accounts opening, intensifying savings and ingress financial systems for recipients besides exposing the individuals without banking services to existing and new financial products. This introduces the possible advantages of seizing modern and advanced technology that facilitates international mobile transfer channels. Whereby the usage of international remittance transfer through mobile technology reduces transactional costs through the elimination of the need for physical branches and personnel that currently dominates the traditional remittance, business models.

2.4 Conceptual Framework

The conceptual framework illustrated below shows the relationship between independent variables that is foreign direct inflows, foreign debt and remittances and how they influence the dependent variable that is the stock market performance. The stock market performance will be measured by the use of the natural log of market capitalization while the other variables will be measured by their natural logs.

Independent variable Dependent Variable

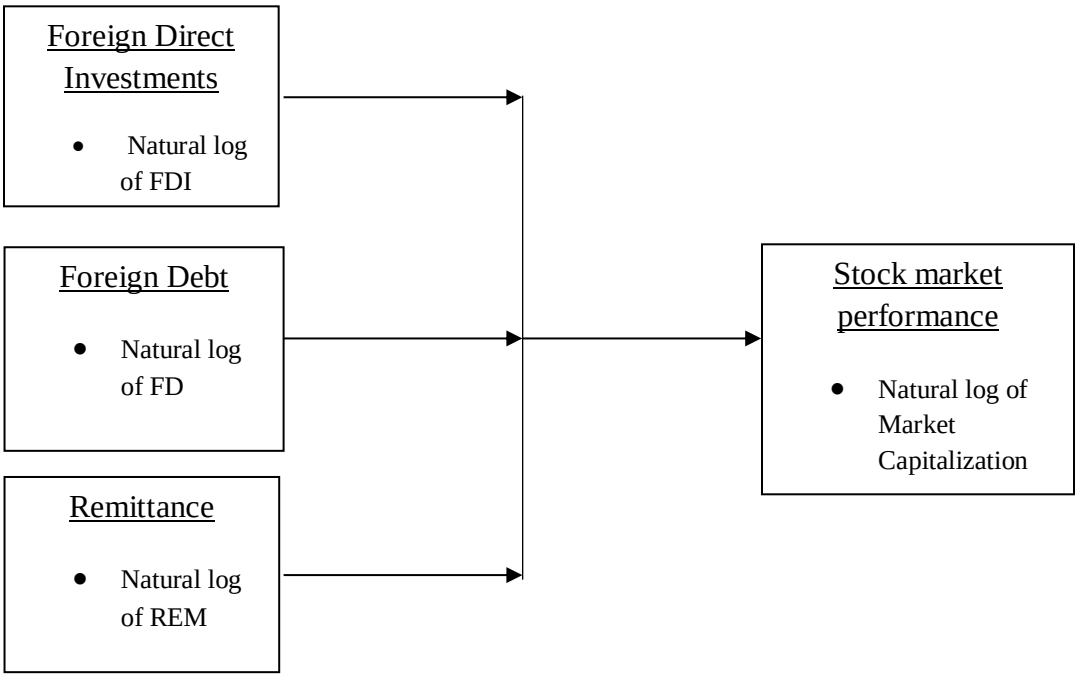

Figure 1: Conceptual Framework

Source: Author (2020)

2.5 Operationalization of Variables

Operationalization gives an analysis of how the variables will be measured and realized. Therefore, this study has the aim of examining the effect of foreign inflows on stock market performance in the NSE. Stock market performance is the dependent variable while Foreign Direct Investment, Foreign Debt, and Remittance make up the independent variables.

The variables will be determined as follows:

Table 1: Operationalization of Variables

Variable type/ Variable		Specific Measure	Scale
Independent variable	Foreign Direct Investment	Natural log of FDI	Ratio
	Foreign Debt	Natural log of FD	Ratio
	Remittance	Natural log of REM	Ratio
Dependent Variable	Stock Market Performance	Natural log of Market Capitalization	Ratio

Source: Ifeakachukwu (2015), Oziengbe & Ovuefeyen (2013)

2.6 Summary of Literature Review

The literature review is indicative of the fact that with the entry of foreign inflows there is a corresponding decrease in the risk premium, the discount rate falls and the asset price will rise accordingly. The stock market consists of a portfolio of assets and therefore stock market index price the portfolio, thus controlling its performance. From the literature review, it is apparent that with an inflow of foreign inflows the prices go up whereas with outflows the prices decrease hence causing price volatility.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter 3 outlines the research methodology adapted to conduct an analysis of the area under research. A research methodology is the set of processes used in the collection and analysis of data used in a study to make informed decisions. The chapter, therefore, involves describing the research design, research instruments used, data collection, as well as data analysis techniques, are undertaken.

3.2 Research Design

Research is a detailed outline of how a research process will progress. It defines the procedures and methods to be undertaken in the course of collecting and analysing data (Borg et al. 2007). According to Kothari (2004), a research design is the conceptual framework under which research goes on; it comprises a blueprint of collecting, measuring and analysing the data. This study employed a descriptive research design in the determination of the performance of the stock market in Kenya in the previous years. Groves (2004) defined a descriptive technique as one that imparts accurate information on persons, events, or situations. Glass and Hopkins (1984) further elaborated that a descriptive research involves the collection of data that is descriptive of the events, organization, tabulation, depiction and description of the data collection. Descriptive design will be utilised in this study, as it is ideal in describing the nature of the respondent and the result of finding in an approach that helps in answering the research question.

3.3 Target Population

A target population consists of all the members of a hypothetical or real set of people, events or objects that a researcher intends to generalize the results of their study (Borg and Gall, 2007). For the purpose of the study the target population was all the Nairobi Security firms as of 2018 (67 listed firms).The figures used for Foreign Direct Investments, Foreign Debt and remittance are the disbursements to Kenya for every year in focus. While for the stock market performance, stock market capitalization was utilized as a proxy for stock market performance.

3.4 Research Instrument

Data collection is a means of information gathering from selected areas of an investigation (Creswell, 2002).This study utilised, secondary data collected monthly from the year January 2013 to December 2018. Secondary data requires the collection and analysis of published material and information from sources such as published journals, annual reports, research centres and libraries. A secondary data collection template was used to collect data (Appendix I).

3.5 Data collection Procedure

Data collection involves the gathering, measuring and analysing of information in order to provide answers to questions advanced during the research undertaking (Flick, 2009).The study used secondary data from the NSE, NSE market capitalization monthly data was collected from January 2013 to December 2018. Apart from the Nairobi Security Exchange, other sources of the secondary data were the Kenya National Bureau of Statistics, Government of Kenya Publications, and The Capital Market Authority, World Bank and Global Development Finance reports. Monthly data was adopted in accordance with other research works in order to overcome the thin trading problem (Kalu, 2008). The use of secondary data is rationalized on the premise

that some of the sources have information that is key to this study and has been screened and accepted.

3.6 Data Analysis

In order to achieve the objectives of this study quantitative data for a period of 6 years monthly data was analysed using stata statistical software and econometric modelling was used to determine the relationship existing between the variables. Data is analysed using both descriptive statistics and inferential methods in order to verify the relationship between the variables under study. Preliminary tests were used to determine the desirable properties of a time series data set in order to ensure that results generated are realistic and reliable.

3.7 Preliminary Tests

Due to the nature of the study, in the determination of the relationship existing between foreign inflows and the stock market performance a time series model was adopted. It was therefore vital to carry out series estimation tests on the data.

3.7.1 Unit Root Test

The first test was to determine whether the data is stationary or non-stationary. Testing for stationarity was to ensure that no spurious regression results occur. Stationarity in a time series data is evident if the mean, variance, and the auto covariance are identical no matter the point from which they are measured (Abala, 2014). The Augmented Dickey-Fuller (ADF) test was conducted to test for stationarity, ADF presumes that the error terms are independently and identically distributed. The null hypothesis denotes non-stationarity while the alternative hypothesis denotes stationarity. For the ADF test, the t-statistic is compared against the t-critical.

If the t-statistic is less than t-critical then reject the null hypothesis that there exists non-stationarity and thus the series is stationary. The reverse is true, if the t-statistic is greater than the t-critical then we accept the null hypothesis and the series is therefore non-stationary.

3.7.2 Lag Length Selection

Secondly, if the series is established to be stationary then the Akaike Information Criterion (AIC) and the Bayesian (Schwarz) Information Criteria (BIC) are employed in the selection of the optimal lag number in order to avoid error term misspecification. However, the optimal lag number of lags proposed is two since the Granger causality test is very sensitive to the number of lags utilized. The optimal length determines how far the effect of change in one variable will be discerned in another variable.

3.7.3 Co-integration Test

Co-integration is indicative of the fact that the series is non-stationary and therefore co-integration analysis was undertaken to establish whether there exists a long term relationship between two or more variables. Co-integration was tested using two tests; the Engle granger test and the Johansen maximum likelihood test. The Engle granger test is two-step; firstly, the regression equation is estimated by the ordinary least square method and the residual (error terms) are retested for stationarity by determining whether the null hypothesis or the alternative hypothesis applies. The null hypothesis is rejected if the absolute statistics test value is found to be greater than the absolute table critical value for the co-integration (Brooks, 2008). Therefore, it follows that if the null hypothesis is rejected then the time series is said to be co-integrated. Existence of a co-integrated time series therefore informs the fitting of a Vector Error Correction Model.

3.8 Error Correction Model

An error correction model was estimated if the null hypothesis stated above is rejected. ECM expresses the short-run dynamics of the model with the ECM that contains information about the long-run relationship existing between variables. ECM relates how fast an adjustment back to long-run equilibrium will be after a temporary exogenous shock. The ECM term should be negative as this is indicative of a return to equilibrium while a positive ECM term is indicative of a shift away from the equilibrium. If there exists stationarity, the ordinary least square method will be utilized to estimate the regression equation. However, if the variables have a unit root (non-stationary) but are found to be co-integrated with the same order of co-integration, then error correction models may be utilized to establish the estimate regression model. The choice of the error correction model will determine the regression model.

3.8.1 Vector Error Correction Model

VAR models do not require a times series model to be co-integrated, however if the variable are co-integrated then a vector error correction model is adopted to determine the relationship between the variables. Therefore a VECM is applied in order to determine short run relationships between co-integrated variables thereby restricting long term relationships of variables through co-integrated relations, whilst a VAR model is adopted in the absence of co-integration.

The VEC model provided a methodical way to represent the dynamics linking the variables under study.

The time series data analysis model is specified as follows assuming a four variable time series, as adopted from Brooks (2008).

$$\Delta y_t = \Gamma (y_{1,2,3,t-1}) + \beta_1 \Delta w_t + \beta_2 \Delta x_t + \beta_3 \Delta z_t + \beta_4 (y_{1t-1} - y_1 x_{t-1} - y_2 w_{t-1} - y_3 z_{t-1}) + \mu_t \quad (1)$$

Where:

$\beta_1, \beta_2, \beta_3$ are first difference coefficient matrices for w, x and z on y

Γ is the level matrix of the variable y_{t-1} and contains the long run equilibrium relationships and a rank equivalent to the co-integrating vectors.

Δ is the difference operator

$(y_{1t-1} - y_1 x_{t-1} - y_2 w_{t-1} - y_3 z_{t-1})$ is the lagged error correction term

β_4 is the speed of adjustment back to the equilibrium position

t-1, t-2,… t-k are the number of lags

y is the dependent variable.

3.9 Post Estimation Tests

3.9.1 Causality Test

The first objective was to determine the causality relationship between foreign direct investments, foreign debt, remittance and stock market performance in Kenya. The Granger causality test was used to attain this objective. Granger Causality is a statistical hypothesis test used to determine the viability of one time series in forecasting another (Granger, 1969). The test was utilized in determining if the past values of a single random variable are able to assist in the prediction of future values pertaining to the other random variable. That is, a time series Y will

granger cause X if it can be proven that the values of Y provide statistically significant information about the future values of X.

3.9.2 Impulse Response Function

The Impulse response function (IRF) was used to analyse the relationship between foreign direct investment, foreign debt, remittance and the stock market performance in Kenya. Impulse response function describes the reaction of macroeconomic endogenous variables at the time of shock over subsequent points in time. They are useful in the determination of the interaction of variables in the vector autoregressive model. They are dynamic multipliers, which are reflective of the current and any subsequent effects on each variable due to unanticipated change in one of the variables.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter focuses the data collected with respect to its analysis, presentation of results and findings using methodology outlined in Chapter 3.It is a comprehensive presentation of data analysed using the statistical software Stata. Data presentation is done using tables and graphs for easier interpretation of the analysis. The chapter is divided into sections; section 4.2 gives the descriptive analysis of data and section 4.3 presents information on specification tests. Section 4.5 gives information on inferential analysis.

4.2 Descriptive Statistics

Descriptive statistics of Market capitalization (MC), Foreign Direct Investment (FDI), Foreign Debt (FD) and Remittance are presented in table 2 below. The total observations for this study were 72 with four variables (One dependent variable and three independent variables). The variables range is determined by the difference between the maximum and minimum values. It is observed that market capitalization was highest at 7.94 and lowest at 7.24 during the period under review. For example, the range for market capitalization is therefore determined by the difference between 7.94 and 7.24 giving a range of 0.70.The mean for market capitalization was 7.65 with a standard deviation of 0.15. The mean foreign direct investment was 19.54 with a standard deviation of 0.38. The mean foreign debt was 14.24 with a standard deviation of 0.40. The mean remittance was 11.87 with a standard deviation of 0.25. Standard deviations are instrumental in showing the spread of values from the mean for comparison purposes, the

standard deviation should not be more than the mean to avoid the chance of there being high variability.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
MC	72	7.646659	0.1458699	7.235482	7.943556
FDI	72	19.54201	0.3792321	18.76499	20.24164
FD	72	14.23992	0.4013771	13.60812	14.81751
Remittance	72	11.87023	0.250382	11.51101	12.49195

Source: Author (2020)

4.3 Trend Analysis

The variables under the study were subjected to trend analysis by use of time plot graphs in order to determine their behaviour across the time period under study. From figure 2 below foreign debt and remittance were observed to have fairly steady growth (upward trend) over the period of study. Market capitalization also exhibited a fairly upward trend except for fluctuations that were observed. FDI however does not follow any specific trend but is seen to wonder up and down which is indicative of random walk.

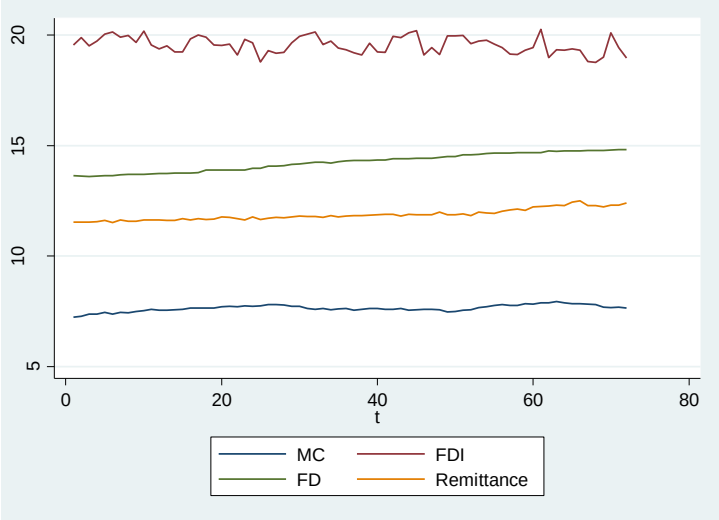

Figure 2: Time Plots

Source: Author (2020)

4.4 Model Specification Tests

The main aim of the study was to scrutinize the relationship between the four variables in order to determine the most suitable empirical model for the intended study. The study carried out tests for stationarity and co-integration. Stationarity is core in time series analysis to avoid instances of spurious results. Therefore, the time series is analysed for unit root or stationarity using the Augmented Dickey Fuller (ADF) test. ADF was employed due to its ability to take care of autocorrelation if it is present in the series (Brooks, 2008).

4.4.1 Unit Root Test for Foreign Direct Investment

From the results below in table 3 at 95% confidence level the absolute test statistics for foreign direct investment is 5.456 which is greater than the corresponding critical value at 2.91 while the P-value is equal to 0.0000 as per rule of thumb if P is less than 0.05 we reject the null hypothesis otherwise we fail to reject the null hypothesis. Therefore for the variable FDI we reject the null and infer that the variable has no unit root and therefore FDI is stationary.

Table 3: Augmented Dickey-Fuller Test for FDI

Dickey-Fuller test for unit root			Number of obs = 71	
		Interpolated Dickey-Fuller		
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-5.456	-3.551	-2.913	-2.592
MacKinnon approximate p-value for Z(t) = 0.0000				

Source: Author (2020)

4.4.2 Unit Root Test for Foreign Debt

The test statistic for foreign debt is 0.478 which is less than the critical value 2.913 at 5% level of confidence and therefore we fail to reject the null hypothesis. Also the P value is 0.8962 which is greater than 0.05 this therefore suggests that foreign debt does not have a constant mean, constant variance and constant covariance a level. Further analysis for unit root on foreign debt was conducted at the first difference and the results below were achieved (table 5).

Table 4: Augmented Dickey-Fuller Test for FD

Dickey-Fuller test for unit root			Number of obs = 71	
		Interpolated Dickey-Fuller		
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-0.478	-3.551	-2.913	-2.592
MacKinnon approximate p-value for Z(t) = 0.8962				

Source: Author (2020)

Subsequently to the first differencing the test statistics is 10.560 which is greater than the critical value 2.914 at 95% confidence interval and the P value 0.0000 is less than 0.05 we therefore conclude that the foreign debt does not have a unit root at the first difference.

Table 5: Augmented Dickey-Fuller Test for FD after first difference

Dickey-Fuller test for unit root			Number of obs = 70	
		Interpolated Dickey-Fuller		
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-10.560	-3.552	-2.914	-2.592
MacKinnon approximate p-value for Z(t) = 0.0000				

Source: Author (2020)

4.4.3 Unit Root Test for Remittance

The test statistic for remittance is 0.491 which is less than the critical value 2.913 at 5% critical value and therefore we fail to reject the null hypothesis. In addition, the P value is 0.8937 which is greater than 0.05 this consequently suggests that remittance does not have a constant mean, constant variance and constant covariance a level. Additional analysis for unit root on remittance was conducted at the first difference and the results below were achieved (table 7).

Table 6: Augmented Dickey-Fuller Test for Remittance

Dickey-Fuller test for unit root			Number of obs = 71	
		Interpolated Dickey-Fuller		
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-0.491	-3.551	-2.913	-2.592
MacKinnon approximate p-value for Z(t) = 0.8937				

Source: Author (2020)

Successively to the first differencing the test statistics is 12.685 which is greater than the critical value 2.914 at 95% confidence interval and the P value 0.0000 is less than 0.05 we therefore conclude that the remittance does not have a unit root at the first difference.

Table 7: Augmented Dickey-Fuller Test for Remittance after first difference

Dickey-Fuller test for unit root			Number of obs = 70	
		Interpolated Dickey-Fuller		
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-12.685	-3.552	-2.914	-2.592
MacKinnon approximate p-value for Z(t) = 0.0000				

Source: Author (2020)

4.4.4 Unit Root Test for Market Capitalization

By the results below in table 8 at 95% confidence level the absolute test statistics for market capitalization is 2.98 which is greater than the corresponding critical value at 2.913 while the P-value is equal to 0.0368 as per rule of thumb if P is less than 0.05 we reject the null hypothesis otherwise we fail to reject the null hypothesis. Therefore for the variable market capitalization we reject the null and accept the null hypothesis that market capitalization variable has no unit root and therefore market capitalization is stationary.

Table 8: Augmented Dickey-Fuller Test for MC

Dickey-Fuller test for unit root			Number of obs = 71	
		Interpolated Dickey-Fuller		
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-2.98	-3.551	-2.913	-2.592
MacKinnon approximate p-value for Z(t) = 0.0368				

Source: Author (2020)

4.4.5 Lag Length Selection

The choice of a lag length is critical to the inference of the model to be undertaken. Hsiao (1981) demonstrated that the acceptance or rejection of a null hypothesis depended on the lag length selected. To test lag length selection of the model, the study is supposed to adopt either VAR or the VECM timer series models. This is to assist in making a decision required on the number of lags to be used in the predictive model. This was assessed using the VAR and VECM pre-estimation diagnostics command.

The results (Table 9) provided the Lag length (LL), the Likelihood Ratio (LR), Akaike's Information Criterion (AIC), the Final Prediction Error (FPE) and, Hannan and Quinn information criterion (HQIC). The results also provided Schwarz's Bayesian information

criterion (SBIC). LR, FPE, AIC, HQIC and SBIC suggested selection of one lag. Since most of the criteria suggested one lag, the study applied one lag to the model.

Table 9: Optimal Lag Length Selection

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	252.842	NA	NA	NA	7.00E-09	-7.42811	-7.37603	-7.29649
1	337.228	168.77*	16 0.	0	9.1e-10*	-9.4695*	-9.20908*	-8.81138*
2	343.335	12.213	16 0.	729	1.20E-09	-9.17417	-8.70541	-7.98955
3	352.018	17.366	16 0.	362	1.50E-09	-8.95575	-8.27866	-7.24464
4	360.14	16.245	16 0.	436	2.00E-09	-8.7206	-7.83518	-6.483

Source: Author (2020)

4.4.6 Co-integration Test

Co-integration evaluates the long run relationship in the underlying variables in a study. For co-integration to exist there must be non-stationarity and the series is integrated of order one. The unit root test conducted above fulfilled these conditions and therefore a co-integration analysis is conducted to determine the presence or absence of long term relationships between variables in the study. The Johansen co-integration test was adopted to test for co-integration using the study's raw data. The Johansen test employees the trace and maximum tests, the trace statistic is a joint test whose null hypothesis is that there exists less than r co-integrating equations and for the first test r=0 against an unspecified or general alternative hypothesis that there are more than r co-integrating vectors . The maximum statistic tests each Eigen value and its null hypothesis states that there are r co-integrating vectors against an alternative hypothesis of r +1 co-integrating vectors (Brook, 2008).

Therefore it stands that if the null hypothesis is rejected in the first r=0 then we conduct a second test r=1 and if the null hypothesis the next test is performed until such at time when the null hypothesis is not rejected. Finally, when the null hypothesis is not rejected the test is completed and the number of rejected test is equivalent to the number of co-integrating vectors and rank number.

Table 10 below shows that the trace statistics indicated that there existed the presence of one co-integrating equation. The λ_{trace} shows that at r=0 of 60.1799 exceeds its critical value of 47.21 and we therefore reject the null hypothesis of no co-integrating equation. However, at r=1, the λ_{trace} value of 20.6386 is less than its critical value of 29.68 which means that we fail to reject the null hypothesis that there is only one co-integration equation in existence. Therefore the results indicated below informed the choice of fitting a vector error correction model in order to determine linkage between the co-integrated variables. The rule of thumb is that if the test statistic is greater than the critical value we reject the null hypothesis otherwise you fail to reject. Therefore, we conclude that the series is co-integrated (20.6386 < 29.68), we fail to reject the hypothesis that the system has one co-integrating equation and conclude that the co-integration equation is one.

Table 10: Co-integration Test

maximum rank	parms	LL	eigenvalue	trace statistic	critical value
0	4	325.0775	.	60.1799	47.21
1	11	344.84818	0.42703	20.6386*	29.68
2	16	350.37385	0.14414	9.5872	15.41
3	19	354.52784	0.11043	1.2793	3.76
4	20	355.16747	0.01786		

Source: Author (2020)

4.5.3 Vector Error Correction Model

The augmented dickey fuller unit root test determined that two series were not stationary at level whilst the Johansen test for co-integration showed the presence of one co-integrating equation. Hossain (2008) stated that VECM breaks down variance of the forecast error for each variable into components such that each individual variable is explained in a linear combination of its own innovations value plus lagged innovation values of all the variables in the system. The study

therefore adopted a Vector Error Correction Model in order to determine the relationship subsisting between market capitalization, foreign direct investment, foreign debt and remittance. From Table 11 below, R-squared for market capitalization equation is 0.0147 and the R-squared value for FDI, FD and Remittance are as follows 0.0012, 0.1188 and 0.6284 sequentially. These results indicate that 0.12%, 11.88% and 62.84% of variability in stock market performance is explained by the dependent variables FDI, FD and Remittance. They therefore have a positive impact on market performance.

The VECM output as shown below in table 11 has two parts, one contains the coefficient estimates that are representative of the long run relationship between the variables. The long run relationship can be summarized as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon_t \quad \ldots\ldots (2)$$

Where:

β_0 is the intercept while $\beta_1, \beta_2, \beta_3$ are representative of the independent variable coefficients and ε_t is the error term.

$$MC = -14.8144 + \underset{(0.006)}{0.3821}FDI - \underset{(0)}{11.4698}FD - \underset{(0)}{10.018}Remittance \quad \ldots\ldots (3)$$

The other part of the output shows the short run dynamics between the variables. Brooks (2008) stated that VECM allows for individual regressors to adjust back to their own long run equilibriums relations and also for collective adjustment of all explanatory variables working together to restore the model's long run equilibrium relationships. VECM restricts the long term relationships of variables through co-integrating relations while allowing for the short run adjustments back to the long run equilibrium whenever deviations occur thereby determining the

short term dynamics of variables. From table 11 below the adjustment speed rate for the model as it returns to its long run equilibrium is 0.26% if there are occurrences of deviations from its long run position. The statistic coefficient of 0.002613 indicates that the short run deviations have fallen below the model's long run equilibrium position and as such the model corrects this by adjusting at a speed of 0.26%upwards in order to restore the long run equilibrium position. The independent variables individual adjustment speed rates back towards their own long run equilibriums were found to be 0.79%, 2.14% and 12.42% for FDI, FD and Remittance respectively. All the three variables were seen to have fallen below their own individual long run equilibriums and the VECM results indicate that they therefore expected to increase at their respective adjustment speed rates in subsequent periods in order to attain their long run equilibriums.

FDI was found to have a significantly low adjustment speed towards its own long run equilibrium. Therefore it adjusted at a slower rate to restore its own long run equilibrium. FD and Remittance exhibited higher speed rates of adjustment than FDI but were still significantly low and the adjustment was gradual. All speed rates were found to be slow enough to enable the short run effects to be felt by the model for a number of periods.

The results indicate that there exists a positive long run albeit insignificant relationship between FDI and stock market performance. These results are in line with findings by Zafar et al (2013) who indicated that there was no evidence of a long run relationship. However the results differed from findings by Adam and Tweneboah (2009) who established a long run relationship between the Ghanaian stock market and FDI. The results showed that there is a negative long run relationship between remittance and stock market performance. This results were contrary to

findings by Rahkal (2015) and Njoroge (2015) who stated that the stock market performance was positively influenced by remittance.

The study established that it is possible to predict the present and future values of stock market performance by studying past values of foreign debt and remittance since they exhibited significant albeit negative effects on the stock market performance. However the same was not true for FDI since the study found and an insignificant positive effect on stock market, thus FDI was found to be insignificant in explaining stock market performance. These results from the study produced mixed results with those adopted by the study. The results are inconsistent with random walk theory and EMH. Random walk theory infers that the stock market performance is completely independent and not subject to foreign inflow influences. This furthers agrees with the postulation that EMH supports random walk view by Kendal (1953), in that asset prices are unpredictable and investors therefore cannot beat the market.

Table 11: Vector Error Correction Output

				No. of obs =	70
				AIC =	-8.229475
Log likelihood = 299.0316				HQIC =	-8.089126
Det(Sigma_ml) = 2.29e-09				SBIC =	-7.87614

Equation	Parms	RMSE	R-sq	chi2	P>chi2
D_MC	2	0.046586	0.0147	1.016342	0.6016
D_FDI	2	0.428174	0.0012	0.079674	0.9609
D_dFD	2	0.042225	0.1188	9.17056	0.0102
D_dRemittance	2	0.069158	0.6284	114.9905	0

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
D_MC						
_ce1						
L1.	0.002613	0.0078034	0.33	0.738	-0.012681	0.017908
_cons	0.005278	0.0055683	0.95	0.343	-0.005636	0.016192
D_FDI						
_ce1						
L1.	0.007906	0.0717216	0.11	0.912	-0.132666	0.148477
_cons	-0.01335	0.0511786	-0.26	0.794	-0.113657	0.086959
D_dFD						
_ce1						
L1.	0.021417	0.0070729	3.03	0.002	0.0075543	0.03528
_cons	6.67E-05	0.005047	0.01	0.989	-0.009825	0.009959
D_dRem						
_ce1						
L1.	0.124204	0.0115843	10.72	0	0.1014996	0.146909
_cons	0.000727	0.0082662	0.09	0.93	-0.015475	0.016929

Cointegrating equations

Equation	Parms	chi2	P>chi2
_ce1	3	199.8229	0

Identification: beta is exactly identified

Johansen normalization restriction imposed

beta	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_ce1						
MC	1	.	.	.	.	.
FDI	0.382097	0.1399395	2.73	0.006	0.1078206	0.656373
dFD	-11.4698	1.852192	-6.19	0	-15.09998	-7.83952
dRemittance	-10.018	0.7835383	-12.79	0	-11.55375	-8.48233
_cons	-14.8144	.	.	.	.	.

Source: Author (2020)

4.6 Post Estimation Tests

4.6.1 Granger Causality Test

Granger causality is usually conducted in order to determine the causal relationship existing between variables in a study. It determines the existence or lack of causal relationships between the dependent and explanatory variables. Brooks (2008) stated that granger causality only reviews the causality relationship between variables in a study and the direction that the relationships are running to or from. However, the test does not report the sign of the relationship neither how long the effects will last.

In the first row below all the P values are greater than 0.05 foreign direct investment (0.466), foreign debt (0.753) and remittance (0.808). Therefore the variables do not granger-cause market capitalization, this therefore means that changes in FDI, FD and remittance do not have an effect on the performance of the stock market in the short run. In the second row the P value for MC is smaller than 0.05 that is ($0.005 < 0.05$). This implies that the direction of causality is from market capitalization to foreign direct investment. In the third row the P value for FDI is smaller than 0.05 that is ($0.044 < 0.05$). This implies that the direction of causality is from foreign direct investment to foreign debt. In the last row above all the P values are greater than 0.05 market capitalization (0.319) foreign direct investment (0.699) and foreign debt (0.134). Therefore the variables do not granger-cause remittance, this therefore means that changes in market capitalization, FDI, and FD do not have an effect on remittance in the short run.

Table 12: Causality Test

Equation	Excluded	chi2	df	Prob > chi2
MC	FDI	0.53105	1	0.466
MC	dFD	0.09888	1	0.753
MC	dRemittance	0.05891	1	0.808
MC	ALL	0.57457	3	0.902
FDI	MC	7.7815	1	0.005
FDI	dFD	0.26115	1	0.609
FDI	dRemittance	0.21679	1	0.641
FDI	ALL	8.6472	3	0.034
dFD	MC	1.5396	1	0.215
dFD	FDI	4.0384	1	0.044
dFD	dRemittance	0.06719	1	0.795
dFD	ALL	4.1543	3	0.245
dRemittance	MC	0.99138	1	0.319
dRemittance	FDI	0.14951	1	0.699
dRemittance	dFD	2.2433	1	0.134
dRemittance	ALL	2.9645	3	0.397

Source: Author (2020)

4.6.2 Impulse Response Analysis

The study employed the use of impulse response analysis to assess how each of the variables would behave to exogenous shocks. Impulse response determines the sensitivity of dependent variables to shocks applied to each of the independent variables. Brooks (2008) stated that if a model is stable then the shock should die gradually but if the model is unstable the shocks would carry on.

Figure 2 below shows the impulse response analysis plots. From the plots it is evident that foreign direct investment is the least responsive to shocks followed by remittance and market capitalization. Foreign debt shows the highest responses to exogenous shocks. The plots are also indicative that the variables are responsive to their own shocks. Cross shocks indicate that foreign debt is more responsive to shocks emanating from foreign direct investments than shocks from market capitalization and foreign debt. Shocks originating from foreign debt are the

least causative in inspiring responses from the other variables, while shocks emanating from foreign direct investments are the most significant in terms of their ability to induce volatility in the other variables.

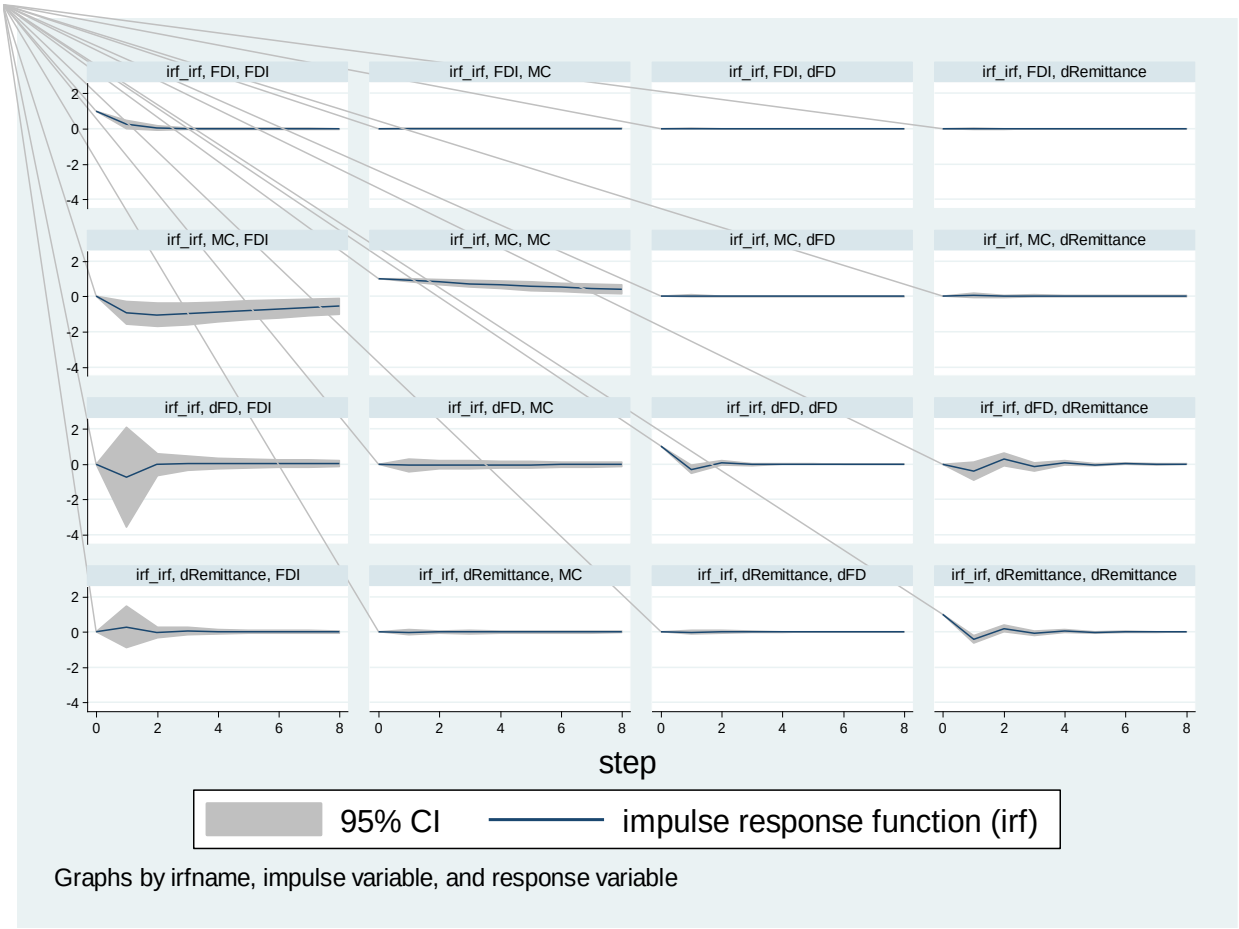

Figure 3: Impulse Response Analysis

Source: Author (2020)

4.6.3 Forecast Error Variance Decomposition

Forecast error variance decomposition (FEVD) determines proportions of movements in the dependent variable that are attributable to their own shocks and shocks from the other variables. A shock onto a variable will affect its on course and will also be passed on to other variables in

the model. Hossain (2008), stated that FEVD breaks down variance in the model for each variable into constituents such that each variable will therefore be explained as a linear combination of its own current innovations value and lagged innovation values of all the other variables is the system.

From figure 4 below it is evident that for all variables in the series, own shocks have a higher explanatory power of forecast variance than cross shocks emanating from other variables. From the graphs it is apparent that shocks to remittance are the most influential in terms of their explanatory power of other sectors' forecast variances.

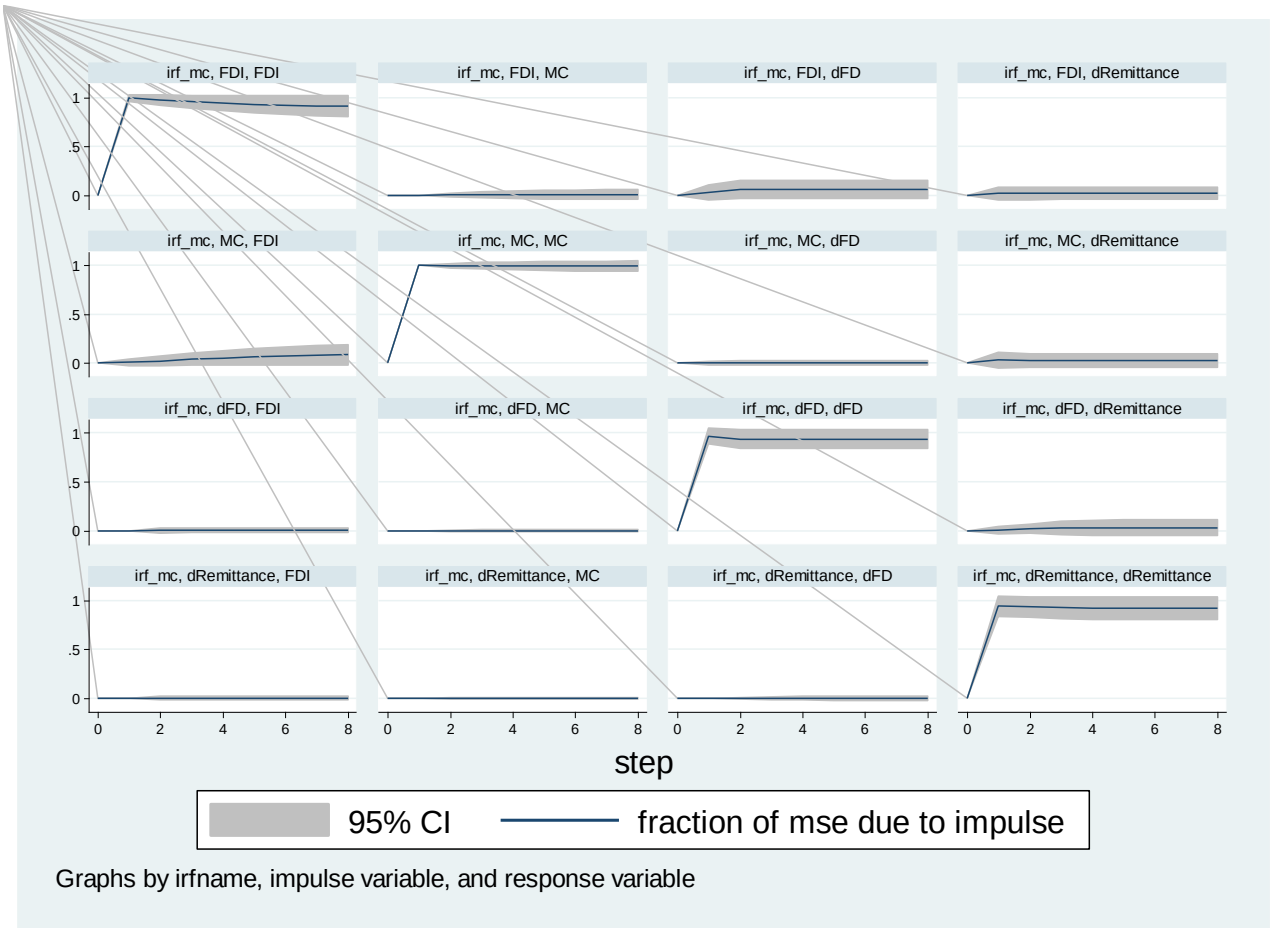

Figure 4: Forecast Error Variance Decomposition

Source: Author (2020)

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarises findings, conclusions, and recommendations. The study strived to determine the effect of foreign inflows on the stock market performance in the Nairobi Securities Exchange. The chapter provides a summary of the study findings and conclusions derived in order to inform recommendations prescribed for suggestions of further studies highlighted to assist in advancing the knowledge area of this study.

5.2 Summary of Findings

This study sought to determine the relationship between the foreign inflows and the stock market performance in Kenya proxy by market capitalization for the period 2013 January to 2018 December. The predictor variables were Foreign Direct Investment, foreign debt, and remittance. The study employed descriptive a research design on secondary data obtained from the NSE and the Capital Market Authorities.

Foreign inflows are an important factor for any developing economy as they form a bridge for the gap that exists between domestic savings and domestic investments; they help in facilitating technological growth, transfer of knowledge from regions that are highly developed to regions that are developing. Nevertheless, the impact of foreign direct investment, foreign debt, and remittance on the stock market performance in Kenya has yielded mixed results due to the use of the individual variables only and not as a unit. In light of the above, the specific objectives of the study were to determine the relationship between FDI and the stock market

performance, to evaluate the relationship between foreign debt and stock market performance and to ascertain the relationship between remittance and stock market performance.

Tests on stationarity showed that not all variables were stationary at level, two variables achieved stationarity after the first difference. FDI and Market capitalization were stationary at level while FD and remittance attained stationarity after the first difference.

The first objective of the study was to determine the relationship between FDI and stock market performance. Granger causality shows existences of unidirectional causality between FDI and market performance emanating from the latter towards FDI. VECM results show that FDI exhibits a low adjustment back to long run equilibrium therefore short run effects on the stock market performance are felt.

The second objective was to evaluate the relationship between foreign debt and the stock market performance. The results indicated that there exists a negative long run relationship between FD and stock market performance. VECM results show that FD exhibits a low speed of adjustment back to long run equilibrium therefore its short run effects on the stock market performance are felt for a number of periods. There is no presence of causality between foreign debt and market capitalization.

The third objective was to ascertain the relationship between remittance and stock market performance in Kenya. The results showed that there is a negative long run relationship between remittance and stock market performance. VECM results established the existence of short run relationships between the remittance and stock market performance in Kenya.

5.3 Conclusions

The general objective of this study was to determine the relationship between foreign inflows and the stock market performance in Kenya. The study analysed the general objective by use of three variables: foreign direct investments, foreign debt and remittance. From the empirical results the study concluded that there exists a long run relationship between the variables and stock market performance. FDI has a positive albeit insignificant impact on stock market performance therefore its results were inconclusive whereas foreign debt and remittance exhibit a negative impact on the stock market performance.

5.4 Recommendations

From the study, the following recommendations are put forth:

Kenyan policy makers should formulate macroeconomic policies to ensure that efforts are made towards ensuring that Kenya is always shielded from shocks caused by fluctuating foreign debt and remittance inflows into the country. Stability of the two variables will translate into a more stable environment in the stock market leading to reduced negative impact on the performance of the stock market.

Potential investors to the NSE should take into consideration the flow of foreign debts and remittance since the two significantly and negatively affect the stock market performance. Through diligent monitoring, this will translate into sound investment decisions and increase their returns on investments by investing when the two variables are significantly low to avoid losses.

5.6 Limitations of the Study

In the course of the study, several limitations were encountered. The results of this study were limited to the Kenyan economy and as such may prove a challenge in generalization to East African countries or Africa as a whole. This is due to the fact that Kenya's economic environment is unique and may therefore not be relevant in other countries.

The study was modelled around four variables- market capitalization, foreign direct investment, foreign debt, and remittance. The use of only four variables constrained the results and therefore the results achieved are only applicable to variables in this study.

The government of Kenya has several entities charged with analysing and storing of the data, this, therefore, creates the problem of lack of centralization. Values for the Nairobi Securities Exchange performance proxy market capitalization were sourced from the NSE however; the data relating to the other variables were sourced from different sources such as the World Bank.

5.7 Suggestions for Future Research

In the nexus between stock market performance and foreign inflows, there are a number of areas that require further research. Further research can be conducted in the following areas:

Though there are various studies that have been advanced to investigate the performance of the stock market there is still a need to conduct a comprehensive investigation of other forms of foreign inflows apart from the three investigated in the study and their influence on the Nairobi Securities Exchange.

The effectiveness of foreign inflows in Kenya. Studies should be conducted to establish that all foreign inflows into Kenya are effectively utilized and investigate whether the utilization has an effect on the Kenyan economy.

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APPENDICES

Appendix I: Data Collection Sheet

YEAR	MONTH	MC	FDI	FD	Remittance
2013	1	7.235482244	19.5441647	13.6335203	11.54218684
	2	7.280028928	19.87686045	13.62467407	11.53636549
	3	7.3776339	19.49589383	13.60811753	11.54628916
	4	7.378964431	19.72587773	13.61314533	11.56164496
	5	7.450329539	20.02767969	13.6318739	11.60959409
	6	7.389112956	20.12793747	13.645389	11.51100863
	7	7.454361089	19.89273978	13.68224199	11.6336714
	8	7.430493663	19.97821812	13.6962314	11.58104354
	9	7.490445646	19.66574648	13.69820511	11.58479644
	10	7.535649016	20.18021896	13.69671715	11.63442186
	11	7.588323677	19.54053603	13.72365215	11.63885681
	12	7.560455395	19.35830774	13.7347008	11.63705684
2014	1	7.548555979	19.50644626	13.73267305	11.61700517
	2	7.580980325	19.22500031	13.75078893	11.61205679
	3	7.601137432	19.22580613	13.75406378	11.69178069
	4	7.652583679	19.81265776	13.76524952	11.63875559
	5	7.645713288	19.99138672	13.7724916	11.69238083
	6	7.652873274	19.89233103	13.897946	11.66190023
	7	7.661672953	19.54105631	13.9013724	11.67079183
	8	7.703716235	19.52342727	13.90259089	11.76621677
	9	7.73890198	19.5849213	13.8996933	11.75507964
	10	7.717898519	19.09749962	13.90061626	11.70277999
	11	7.743828955	19.80352395	13.9007259	11.64370791
	12	7.740686141	19.63938217	13.97310924	11.77661193
2015	1	7.758871554	18.77761527	13.96681501	11.64957265
	2	7.80510781	19.28728436	14.0753705	11.72185812
	3	7.80173087	19.1741788	14.06089132	11.74609372
	4	7.792753467	19.21529755	14.09830711	11.73184595
	5	7.726525791	19.63818812	14.1384321	11.76835365
	6	7.741481459	19.94099896	14.15811651	11.82013785
	7	7.639050482	20.02406607	14.20290925	11.78337045
	8	7.603698547	20.12755672	14.24122173	11.79772343
	9	7.632226693	19.56283395	14.25391563	11.76355842
	10	7.565694883	19.71972283	14.2147656	11.82879841
	11	7.609926619	19.40160233	14.26180762	11.78079952

	12	7.627310673	19.31962513	14.29495956	11.80563112
2016	1	7.559517807	19.19690458	14.31915717	11.83133309
	2	7.595191181	19.0927348	14.31419591	11.82758276
	3	7.639295908	19.63060897	14.32568279	11.85727311
	4	7.62754439	19.23127387	14.33743585	11.874268
	5	7.598900457	19.21666615	14.33468037	11.89655333
	6	7.599901959	19.93663306	14.40510464	11.89586108
	7	7.625107148	19.86702578	14.40201661	11.81051868
	8	7.560080465	20.09559138	14.40510696	11.89644676
	9	7.585281079	20.1977501	14.43016626	11.87191597
	10	7.594708315	19.08765494	14.42770522	11.8674798
	11	7.590478316	19.43392487	14.42250835	11.87541793
	12	7.581678865	19.10523366	14.45549061	11.98879094
2017	1	7.478904303	19.94545433	14.50504881	11.86641705
	2	7.501297571	19.95518874	14.5052388	11.86826025
	3	7.546625772	19.98082231	14.58518764	11.90178506
	4	7.568007298	19.59710464	14.58897187	11.83937774
	5	7.675713042	19.71241958	14.59814387	11.99226531
	6	7.705843387	19.76760163	14.64612831	11.95038046
	7	7.765865899	19.58695834	14.65082476	11.9336684
	8	7.815449164	19.42205741	14.65266084	12.02222024
	9	7.77346825	19.12390362	14.65284422	12.0787969
	10	7.772091445	19.11014998	14.67125476	12.13083102
	11	7.848703501	19.29898811	14.67299627	12.07357609
	12	7.832716315	19.41595499	14.66962135	12.2249917
2018	1	7.886258078	20.24163745	14.68156952	12.24971415
	2	7.892754575	18.97352992	14.7567179	12.25658314
	3	7.943555555	19.33417079	14.73676134	12.31143464
	4	7.880309135	19.29976899	14.75636844	12.28812013
	5	7.843507403	19.37577595	14.76063215	12.44404191
	6	7.854082369	19.31434469	14.75559572	12.49195277
	7	7.83169667	18.80325897	14.7714339	12.27964127
	8	7.814722683	18.76498962	14.77539822	12.28097778
	9	7.701335857	18.99832569	14.77307166	12.2314226
	10	7.665097172	20.08494485	14.79183823	12.29777624
	11	7.688908758	19.43261116	14.81209322	12.30236116
	12	7.650654066	18.9459715	14.81751439	12.40308423

Appendix II: Nairobi Securities Exchange Listed Companies as at 31st December 2018

	AGRICULTURAL
1	Eaagads Ltd
2	Kakuzi Plc
3	Kapchorua Tea Kenya Plc
4	The Limuru Tea Co.
5	Sasini Plc
6	Williamson Tea Kenya Plc
	AUTOMOBILES & ACCESSORIES
7	Car & General (K) Ltd
	BANKING
8	Barclays Bank of Kenya Ltd
9	BK Group Plc
10	Diamond Trust Bank Kenya Ltd
11	Equity Group Holdings Plc
12	HF Group Plc
13	I&M Holdings Plc
14	KCB Group Plc
15	National Bank of Kenya Ltd
16	NIC Group Plc
17	Stanbic Holdings
18	Standard Chartered Bank Kenya Ltd
19	The Co-operative Bank of Kenya Ltd
	COMMERCIAL AND SERVICES
20	Atlas African Industries Ltd
21	Deacons (East Africa) Plc
22	Eveready East Africa Ltd
23	Express Kenya Ltd
24	Kenya Airways Ltd
25	Longhorn Publishers Plc
26	Nairobi Business Ventures Ltd
27	Nation Media Group
28	Sameer Africa Plc
29	Standard Group Plc
30	TPS Eastern Africa Ltd
31	Uchumi Supermarket Plc
32	WPP Scangroup Plc
	CONSTRUCTION & ALLIED
33	ARM Cement Plc
34	Bamburi Cement Ltd
35	Crown Paints Kenya Plc
36	E.A.Cables Ltd

37	E.A.Portland Cement Co. Lt
	ENERGY & PETROLEUM
38	KenGen Co. Plc
39	KenolKobil Ltd
40	Kenya Power & Lighting Co Ltd Ord 2.50
41	Kenya Power & Lighting Ltd 4% Pref 20.00
42	Kenya Power & Lighting Ltd 7% Pref 20.00
43	Total Kenya Ltd
44	Umeme Ltd
	INSURANCE
45	Britam Holdings Plc
46	CIC Insurance Group Ltd
47	Jubilee Holdings Ltd
48	Kenya Re Insurance Corporation Ltd
49	Liberty Kenya Holdings Ltd
50	Sanlam Kenya Plc
	INVESTMENT
51	Centum Investment Co Plc
52	Home Afrika Ltd
53	Kurwitu Ventures Ltd
54	Olympia Capital Holdings Ltd
55	Trans-Century Plc
	INVESTMENT SERVICES
56	Nairobi Securities Exchange Plc
	MANUFACTURING & ALLIED
57	B.O.C Kenya Plc
58	British American Tobacco Kenya Plc
59	Carbacid Investments Plc
60	East African Breweries Ltd
61	Flame Tree Group Holdings Ltd
62	Kenya Orchards Ltd
63	Mumias Sugar Co. Ltd
64	Unga Group Ltd
	TELECOMMUNICATION
65	Safaricom Plc
	REAL ESTATE INVESTMENT TRUST
66	STANLIB FAHARI I-REIT
	EXCHANGE TRADED FUNDS
67	Barclays New Gold ETF