FOREIGN FINANCIAL INFLOWS AND STOCK MARKET DEVELOPMENT AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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DECLARATION

I hereby confirm that this thesis is my original work and has not been submitted for a degree in any other university or presented to any other institution. No part of this thesis should be reproduced without prior authority of the author and/or Kenyatta University.

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DEDICATION

This thesis has been dedicated to my parents: Charles Osoro and Suzan Moraa. To my father: Charles Osoro who gave me immense moral and financial support throughout this course To my mother: Suzan Moraa, thank you for the love and having believed in me. To my wife Kemunto and Son Baraka thank for the sacrifice, constant moral support and encouragement throughout this period.

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OPERATIONAL DEFINITION OF TERMS

Diaspora Remittances	The monetary value of all personal cash transfers or transfers in kind made by the non-residents back to their home countries and captured by the Central Bank or any other regulatory authority.
Foreign Direct Investment	The monetary value of physical assets owned and managed by the foreign firms in a host country with the intention of long term operation. Foreign Direct Investment involves direct control over production and management of assets located in a foreign country.
Foreign financial inflows	Financial inflows into the domestic country from foreign countries that includes: Foreign Direct Investment, Foreign Equity Portfolio, Foreign Debt Portfolio and Diaspora Remittances.
Foreign Investor Participation	The proportion of foreign investor activity expressed as a percentage of the overall securities market activity. Value of stocks traded by foreign investors expressed as a percentage of the total value of stocks traded at the stock market.
Foreign Portfolio Investment	The acquisition of equity stocks and debt stocks in the form of bonds by foreign investors in the domestic capital market. It is the passive investment in securities by private Individuals or private entities in a foreign country.

Foreign Equity Portfolio	The combination of equity stocks held by foreign private Individuals or foreign private entities in the domestic capital market.
Foreign Debt Portfolio	The combination of bond instruments held by foreign private individuals or foreign private entities in the domestic capital market.
Market capitalization	The product of the outstanding number of shares and their respective price per share. Measures the overall value of listed companies in the stock market.
Market Concentration	Proportion of market capitalization held by the largest firms in the securities market.
Market Index	Statistical measure of stock market performance over a given duration.
Market liquidity	The markets ability to allow for the purchase and sell of securities within short notice with no significant loss in value.
Nairobi All Share Index	Stock market index calculated on the basis of the arithmetic mean performance of all listed firms at the Nairobi Securities Exchange market.
NSE 20 Share Index	Stock market index calculated on the basis of the average performance in the of the top 20 blue chip companies listed at the Nairobi Securities Exchange market.

Political Risk	The risk that the political decisions, such as change of fiscal policies, monetary policies, trade and investment policies, or events related to political instability, such as election violence, riots and civil disobedience, will adversely affect the performance, profitability or development of a business actor or economic sector.
Political Risk Index	Measures of the different dimensions of the political risk environment that face firms operating in a country. The index ranges from 0-1 with 1 being most risky and 0 being the least risky.
Portfolio	Group of financial assets, investments or securities held by an investor with the objective of maximizing return for a given level of risk
Stock Market Development	Stock market increase in value, liquidity and price stability over a relatively long term period.

ABBREVATIONS AND ACRONYMS

ADF	Augmented Dickey Fuller
AIC	Akaike Information Criterion
AIMS	Alternative Investment Market Segment
ARDL	Autoregressive Distributed Lag
ARIMA	Autoregressive Integrated Moving Average
ASEA	Africa Stock Exchange Association
BLUE	Best Linear Unbiased Estimators
BVRM	Bourse Reginale des Valeurs Mobiliers
CBK	Central Bank of Kenya
CLRM	Classical Linear Regression model
CMA	Capital Market Authority
CUSUM	Cumulative Sum of Recursive Residuals
CDS	Central Depository System
DR	Diaspora Remittances
ECM	Error Correction Model
ECT	Error Correction Term
FDI	Foreign Direct Investment
FEP	Foreign Equity Portfolio
FDP	Foreign Debt Portfolio
FIP	Foreign Investor Participation
FISMS	Fixed Investment Securities Market Segment
FPE	Final Prediction Error

GDP	Gross Domestic Product
GEMS	Growth Enterprise Market Segment
GMM	General Moment Method
HAC	Heteroscedasticity and Autocorrelation Consistent
HQ	Hannan Quinn Information Criterion
IMF	International Monetary Fund
MCAP	Market Capitalization
MEI	Marginal Efficiency of Investment
MNC	Multinational Company
MTNR	Market Turnover
MIMS	Main Investment Market Segment
NASDAQ	National Association of Security Dealers Automated Quotations
NASI	Nairobi All Share Index
NSE	Nairobi Securities Exchange
NYSE	New York Stock Exchange
ODAA	Official Development Assistance and Aid
PP	Phillip Peron
PRI	Political Risk Index
REM	Remittances
SIC	Schwarz Information Criterion
SME	Small and Medium Enterprises
UNCTAD	United Nations Conference on Trade and Development
USA	United States of America

USD	United States Dollars
VIF	Variance Inflation Factors
VAR	Vector Auto Regression
VECM	Vector Error Correction Model
WACC	Weighted Average Cost of Capital

ABSTRACT

Despite the stock markets' pivotal role towards economic growth, stock market development in Kenya and its contribution to economic growth is still an issue of great concern to policy makers and scholars. The Kenyan stock market is characterized by a small number of listing, lack of sophisticated infrastructure, narrow range of tradable instruments and very low liquidity. Moreover, the market is highly volatile as evidenced by high volatility in key market indicators during the period under study. Foreign investors play a significant role towards stock market development by enhancing the value of stocks and their liquidity. Hence, the study sought to establish the effect of foreign financial inflows on stock market development at the Nairobi Securities Exchange, Kenya. The Specific objectives of the study were to assess the effects of Foreign Direct Investment, Foreign Equity Portfolio, Foreign Debt Portfolio and Diaspora Remittances on stock market development at the Nairobi Securities Exchange, Kenya. The study further assessed the mediating effect of foreign investor participation on the relationship between foreign financial inflows and stock market development as well as the moderating effect of political risk on the relationship between foreign financial inflows and stock market development. The study was anchored on the Base Broadening theory, Foreign Direct Investment Dependence theory, Neoclassical Theory of Investment, Trade Off theory and the Pure Self Interest theory. The study adopted a positivism philosophy as well as causal research design methodology. The study adopted a census approach and time series data for the period 2008-2018 was obtained from Capital Markets Authority quarterly statistical bulletins, Central Bank of Kenya monthly reports, Nairobi Securities Exchange annual reports and the United Nations Conference on Trade and Development website, using a secondary data collection schedule. To ensure non-violation of the assumptions of classical linear regression, the following diagnostic tests were conducted; Normality, Heteroskedasticity, Autocorrelation, Stationarity and Multicollenearity and Model Stability test. The data was then analysed using correlation analysis, Modified Least Square Regression analysis and the Autoregressive Distributed Lag Model. The Modified Least Squares regression analysis was used in testing the direct effects of foreign financial inflows on stock market development while the autoregressive distributed lag model was used to test for existence of long run and short run cointergration with the aid of E- views 9.5 and SPSS 23 statistical software. The direct effect test indicates that diaspora remittances and foreign debt portfolio had positive and significant effect on stock market development whereas foreign direct investment had a negative and significant effect on stock market development. Foreign equity portfolio inflows however had negative but insignificant effect on stock market development at the Nairobi Securities Exchange, Kenya. The mediating effect of foreign investor participation on the relationship between foreign financial inflows and stock market development was not statistically significant. However, foreign investor participation was positive and significant as a predictor of stock market development. Political risk was not significant both as a predictor of stock market development and as a moderator in the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange. The autoregressive distributed lag test results support the existence a significant short run positive effects of all foreign financial inflows on stock market development as evidenced by the negative and significant coefficient of the Error Correction Term (ECT). However, in the long run only diaspora remittances and foreign debt portfolio had a significant positive effect on stock market development while foreign direct investment had a significant negative effect on stock market development. The effect of foreign equity portfolio on stock market development was equally negative but insignificant in the long run. In view of the foregoing findings, the study recommends that the Kenyan government needs to devise measures that would boost foreign investor confidence and thus attract increased diaspora remittances and foreign debt portfolio investment. Additionally, the Capital Markets Authority needs to implement policy measures that will attract active participation of the local investors to invest at the Nairobi Securities Exchange. This will give the bourse more stability, liquidity and subsequently lead to increased value of stocks listed at the market.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The stock market provides a framework upon which investors can diversify their investments and a platform upon which corporate institutions can raise additional funds. The stock market is therefore an important component of the capital market that mobilizes surplus liquidity and ensures that funds are channeled towards productive corporate users (Rahman & Mustafa, 2017). The stock market does not only spur economic growth but also aides in poverty reduction by providing a wide range of risk mitigation and investment products at reduced transaction cost (Oziengbe & Ovueffyen, 2013). Development of financial markets leads to improved quality and quantity of investments thus quicken the pace of economic growth and improves the living standards of the citizens (Nera & Eke, 2017). The Kenyan economic blue print of vision 2030 aims at transforming the country into a newly industrialized middle income country that provides high quality life to its citizens. Moreover, the vision 2030 envisions an efficient and transparent stock market. This huge milestone is to be achieved through the deepening of the financial markets by expanding the bond market, equity market and leveraging on remittances and other long term foreign capital inflows (Republic of Kenya, 2007).

Despite the stock markets' pivotal role towards economic growth, stock market development in Kenya and its contribution to economic growth is still an issue of great concern (Republic of Kenya, 2016). Emerging capital markets are typically characterized by a small number of listing, lack sophisticated infrastructure and have a narrow range of tradable instruments (Hearn & Pearse, 2006). Further, the emerging capital markets are characterized by small capitalization and low liquidity levels (Aduda *et al.*, 2012). The Kenyan stock market is not exceptional from

the other emerging African capital markets. According to Nyangoro (2013), the Nairobi Securities Exchange market is characterized by small size and very low liquidity. Further, the stock market demonstrates significant structural and regulatory weaknesses (Ngugi, Amanja & Amana, 2013).

In the period 2008-2018, the number of listed firms at the Nairobi Securities Exchange (NSE) increased by twelve firms from 55 listed firms in the January 2008 to 67 listed firms as at December 2018 giving an average annual increase of approximately one firm per year (CMA, 2018). The number of listed firms at the NSE is very low in comparison to other African Markets like the Nigeria Stock Market with 170 firms, Johannesburg Stock Exchange with 379 firms and the Egyptian Exchange Market with 221 firms as at December, 2018 (World Bank, 2018). The stock market is equally characterized by high volatility as evidenced by the frequent erratic shocks in key stock market performance indicators for the period 2008-2018. The worst decline however is experienced in the year 2018 with a loss in market capitalization of Kshs. 419 Billion. During this period, foreign investors' flight from the Nairobi Securities Exchange, attributed to the aftermath of the prolonged 2017-2018 general elections wiped out a significant portion of investor wealth pushing the stock market to the lowest point in over a decade (NSE, 2018).

Globally, the effect of excessive volatility on stock market development is demonstrated by Wall Street Crash of 1929, Black Monday of 1987 and the Global Financial Crisis of 2008 (Calson, 2006; Helleiner, 2011; Frankel & Saravelos, 2012). The Wall Street Crash also known as the "Black Tuesday" is regarded as the deepest and longest downtown in the history of financial market considering its duration and the aftermath effects (Wang & Huang, 2012). In 29th October, 1929 the stock prices collapsed completely with over 16 Million stocks disposed off by investors on a single day of trading at the New York Stock Exchange (Economic times, 2019).

So bad was the situation to the extent that trading machines could no longer handle huge volumes of stocks traded (Klein, 2001). A total of 30 Billion USA dollars was lost and thousands of investors completely wiped off. The aftermath of market crash saw the collapse of nearly half of all the American financial institutions and by 1932 all the stocks were worth only 20 percent of their value before 29th October, 1929 with the unemployment levels declining by 30 percent (Salsman & Richard, 2004).

1.1.1 Foreign Financial Inflows

Since the onset of financial markets liberalization in the early 1990s, the volume of foreign financial inflows to developing capital markets has grown to unprecedented levels (Arcabic *et al.,* 2012). However, the connection between foreign financial flows and the development of emerging stock markets remains largely unclear. Stock market development in emerging capital markets can largely be attributed to globalization that has enhanced better linkage with the developed foreign capital markets and ensured greater participation of foreign firms (Claessens & Schmukler, 2007). Since multinational companies hail from industrialized countries, where stock market financing is a tradition, they are likely to enlist in the domestic stock markets thus enhancing growth in market size and liquidity (Soumare & Tchana, 2011).

Foreign investors' participation in the stock market is an important source of stock market liquidity. This is attributed, but not entirely, to the fact that foreign investors, unlike the domestic investors who often buy and hold stocks, are likely to trade in the instruments thus improving the market liquidity and hence development of the stock market (Kumar & Devi, 2013). Moreover, the significant role of foreign financial inflows towards stock market development is attributed the fact that foreign capital inflows increases the depth and breadth of the stock market consequently enhancing stock market size and liquidity. Besides, increased foreign financial

flows eventually encourage the political elite to review regulations on foreign investors' protection further leading to stock market development. Such improved regulations include amendment of exchange control act that allowed foreign investor participation at the Nairobi Securities Exchange market (Ngugi, 2005).

Foreign financial flows from developed countries to the emerging African markets have not only grown since the early 1990s but its composition has also changed significantly. The increased foreign inflows to the African continent can be attributed to growth in Foreign Direct Investment (FDI) and diaspora remittances (Amoudou *et. al*., 2015). The composition of foreign inflows to Sub-Saharan Africa in 1990 was 62% Official Development Assistance and Aid (ODAA), 31% FDI and 7% Diaspora remittances. However by 2015 ODAA accounted for only 22% of the foreign inflow a share almost similar to the remittances that stood at 24%. The contribution of FDI had grown by 23% from 31% in 1990 to 54% by the end of 2015. This an indication that African countries were no longer dependent on foreign aid but were rather shifting towards attracting foreign direct investment (UNCTAD, 2016). The increase in foreign financial inflows to the emerging African capital markets can be attributed to reduced tariff barriers and non-tariff barriers to trade that have significantly reduced cost of doing business. Further, the improved licensing and regulatory framework has reduced the bureaucratic cost and inspired foreign investor confidence (Yartey, 2008).

Before the onset of liberalization in the mid-1990s, Kenya was characterized by very low foreign inflows due to the closed capital account operated during the period (World Bank, 2016). However, following the introduction of liberalization there has been increased foreign inflows into the country. The steady increase in foreign financial inflows is however disrupted in the years 1997 and 2008. The disruption is partly attributed to the uncertain political environment

due to the aftermath effects of the 1997 and 2007 general election and the global financial crisis of 2008 (Chui, 2016). However, the increase of foreign financial inflows in 2009 can be partly attributed to renewed investor confidence in the country's political stability. Subsequently, there has been increased volatility in foreign financial inflows hence forming the motivation for the selection of the period 2008-2018 for the purpose of this study. Worth noting, unlike other foreign financial inflows that fluctuate with uncertainty in the political environment, diaspora remittances demonstrate a consistent upward trend over the years. Diaspora remittances from developed economies have increased rapidly in recent years even exceeding the amount of foreign direct investment in most developing countries (Raza & Jawaid, 2012). Diaspora remittances have become such an important source of foreign capital inflows to the developing countries and its contribution towards stock market development cannot be under estimated. The quarterly trends in foreign financial inflows for the period 2008-2018 are exhibited by Fig. 1.1.

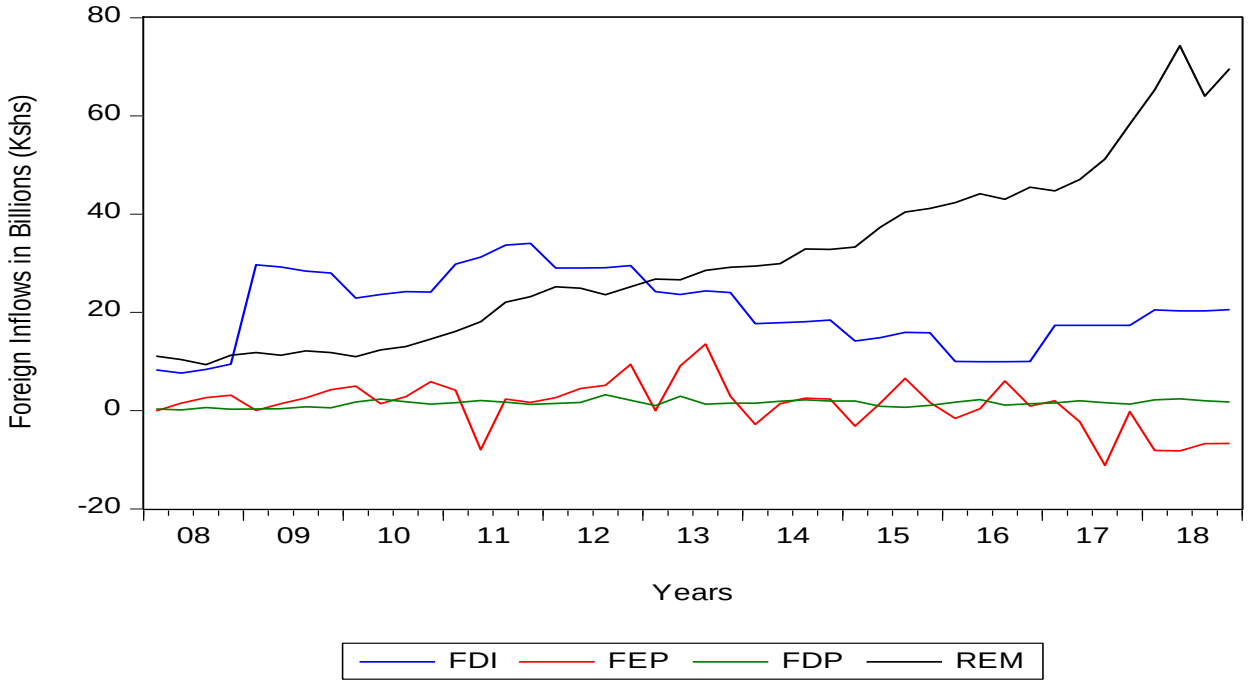

Figure 1.1: Trend in Foreign Financial Inflows

Source: CMA, CBK and UNCTAD Annual Reports (2008-2018)

Fig. 1.2 indicates that the years 2008, 2011, 2013, 2017 and 2018 are characterized by negative foreign equity portfolio flows. This implies foreign sales were higher than the foreign purchases during this period. This is an indication of a pull out of foreign investors from the domestic stock market. According to Nyangoro (2013) this is attributed to the fact that the foreign investors, who had no prior knowledge of the market, were able to get information of the market and started pulling out immediately they realized that they could not get the returns they earlier expected. The decline in foreign direct investment can be partly attributed to reduced investor confidence due to corruption, insecurity, poor infrastructure high utility cost, interest rates and poor legal framework (Mwega & Ngugi, 2009). Foreign Debt portfolio inflows demonstrate stable gradual increase throughout the period. The stability of foreign debt portfolio flows is attributed to the fixed returns associated with foreign debt portfolio (Arnold, 2008). The general increase in remittances can be attributed to the increased number of Kenyan population living and working in the diaspora, especially in the USA and Canada, investing in the country. About 3000 Kenyans win the Green card lottery every year thus increasing the number of emigrants that remit money annually into the country (Ocharo, 2013).

Foreign Direct Investment (FDI) is viewed as the value of physical assets such as factories or distribution plants that are controlled and managed by the foreign firms or individuals in a host country with the intension of a long term operation (UNCAD, 2016). FDI is associated with both direct and “spill over” effects on stock market development (Zafar, Quareshi & Abbas, 2013). Directly, foreign companies are more often likely to have their shares listed leading to an overall increase market size and liquidity (Kumar & Devi, 2013). Equally, FDI is attributed with a vast range of “spill over” benefits such as: employment creation, technological spill over, human capital development, quality productivity, creation of competitive business environment and the

enhancing of enterprise development (Mwega & Ngugi, 2006). Adams and Tweneboah (2009) observed a triangular causal relationship between increase in FDI, economic growth and stock market development. First, the increase in FDI will increase the availability of capital and therefore stimulate goods and services production leading to increased income in the domestic economy. Secondly, the growth in income leads to stock market development which would enhance further growth of FDI.

The difference between FDI and Foreign Equity Portfolio (FEP) is based on the fact that FDI deals with investment real or physical assets in foreign countries while FEP deals with financial assets of listed firms (UNCTAD, 2016). Consequently, FEP inflows are speculative in nature and more volatile as compared to FDI. This is attributable to the fact that FEP investors, unlike foreign direct investors, are able to sell off their securities easily with minimum transaction cost and pull out of the market immediately whenever they realize that they may not attain the high returns initially anticipated (Koskei, 2017). Moreover, FDI involve the control of production and operations by the foreign investor. This is not the case with foreign equity investment (Soumare & Tchana, 2011). They further contend that foreign portfolio investment into the stock market will increase the profitability as well as enhance the attractiveness of the recipient companies. This will elicit the active participation of the recipient company in the market resulting into stock market development (Oziegbe & Ovueffeyen, 2013). That notwithstanding, foreign capital flows such as private equity portfolio appears to be driven by short run speculative objective in a world of asymmetric information (Ghose, 2014). Foreign equity portfolio investors are mostly driven by the need to diversify their risk portfolio and hence take advantage of the high return in developing stock markets (Allen *et al.*, 2010).

Foreign Debt Portfolio investment involves the foreign investment in the debt instruments such as bonds in the domestic capital markets (IMF, 2003). The effect of foreign debt portfolio on stock market development remains elusive and perplexing to most scholars. Some of the scholars are of the opinion that external debt represents an additional source of capital inflow that engender growth especially in the stock markets, while other scholars endorse the opinion that increased external debt may lead to dependence thus negatively affecting stock market development (Nwiado & Deekor, 2013). Since interest on debt is a tax allowable expense the effective cost of equity is higher than the cost of debt (Arnold, 2008). Consequently, increased use of debt would lower firms overall cost of capital and enhance earnings and market value of the listed firms. However, debt is associated with increased financial risk of bankruptcy (Fama & French, 2002). Therefore increased use of debt may lead to increased risk perception of the firm leading to an increase in the cost of equity. Firms therefore achieve an optimum capital structure through a delicate balance between the interest tax shield benefits of debt and the increased risk of bankruptcy associated with the use of debt.

Diaspora Remittances include all the monetary transfers that are received by the residents from the non-residents and also include the compensation given to resident employees working abroad for short periods that are usually less than a year (IMF, 2005). Diaspora remittances are not only became important source of revenue to any country but are also a very important source of income to its residents and families for consumption (Bayar, 2016). However, not all the diaspora remittances are consumed; but rather part of the consumption of remittances is delayed through savings and investment. Unlike other sources of external finance, diaspora remittances tend to be more stable making remittances a reliable source of financing for developing countries (Ratha & Mohapatra, 2007). This is attributed to the fact remittances are directly sent to the

recipient from the sender and are therefore not subject to the government bureaucratic bottlenecks affecting other foreign financial inflows such as foreign direct investment and foreign debt portfolio.

The amount of diaspora remittances invested in the stock market largely depends on the returns generated from other money market instrument (Kalim & Shahbaz, 2013). Whenever the returns generated from other money market instrument is low relative to stock market returns, diaspora remittances can be directed to the stock market through the purchase of equity instruments in listed companies. According to Njoroge (2014), increased awareness by the Kenyans in the diaspora on the availability of investment opportunities and the high returns in the stocks market has led to increased amount of remittances investment in the Nairobi Securities Exchange market. This has the effect of increasing stock market size, liquidity and price stability hence leading to development of the market.

1.1.2 Foreign Investor Participation

Foreign investor participation measures the proportion of foreign investor activity at the stock market. At the NSE, foreign investor participation is measured using value of stock traded by foreign investors expressed as a percentage of the total stock traded in the market on a given period (CMA, 2017). The repeal of the Exchange Control Act in December 1995 saw complete liberalization of the Kenyan capital market. The amendment of the Exchange Control Act ensured complete removal of all exchange controls and allowed foreign investment in government securities thus effectively allowing for direct foreign investor participation in the Nairobi Securities Exchange (Ngugi & Nyangoro, 2005). This has seen tremendous upsurge in foreign investor participation at the Nairobi Securities Exchange market from a low value of 5.5% in the first quarter of 2008 to a maximum value of 75% in the fourth quarter of 2018.

According to the NSE (2017) foreign investor participation increased from 44.2% in the year 2013 to 48.42% in the year 2014, grew to 58% in the year 2015 grew further to 64% in the year 2016 and registered further growth to a maximum of 75% by the end of fourth quarter in 2018. Figure 1.2 demonstrates the quarterly trend of foreign investor participation for the period January 2008- December 2018.

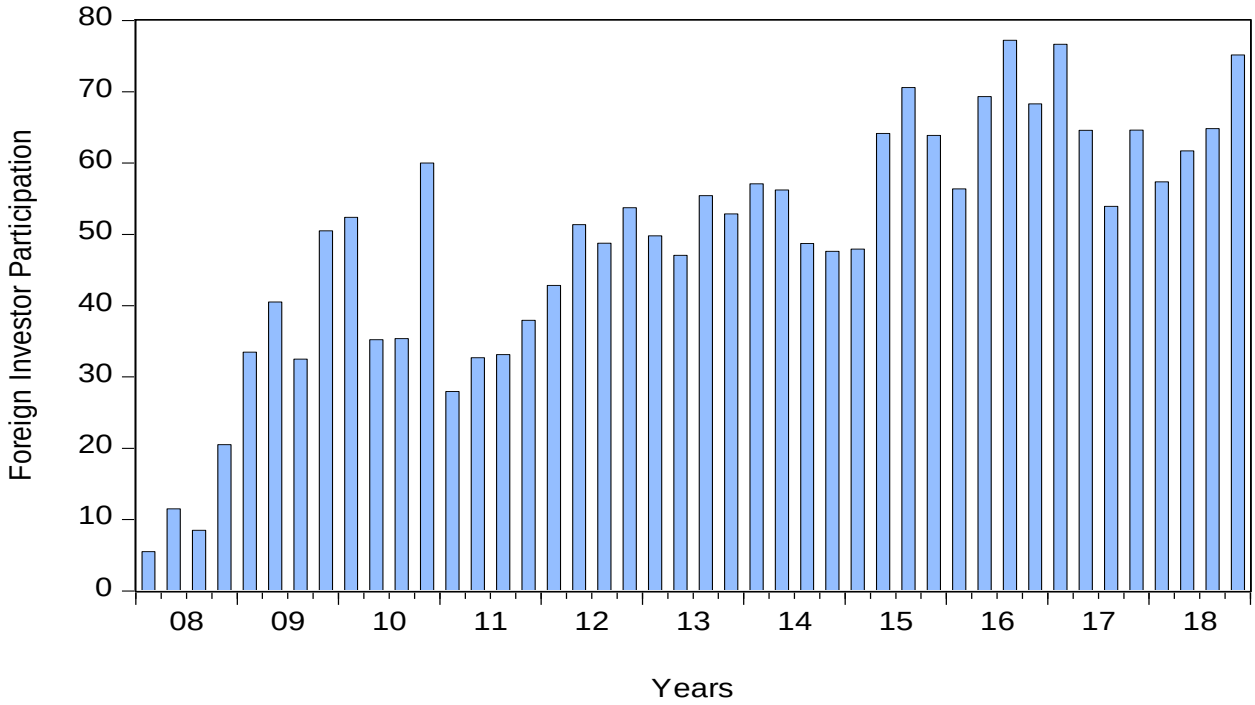

Figure 1.2 Quarterly Trend of Foreign Investor Participation
Source: CMA Quarterly Statistical Bulletins (2008-2018)

Figure 1.2 indicates a general increase in foreign investor participation throughout the period from a low of 5.5% in 2008 to a high of 75% in 2018. Yartey (2008) attributes the increased foreign investor participation in emerging capital markets to the improved capital markets regulatory reforms, fair trading practices, fair disclosure and listing requirements which has inspired foreign investor confidence in domestic capital markets. However, foreign investors are mostly driven by the need to diversify their risk portfolio and hence take advantage of the high return in emerging capital markets (Allen *et al.,* 2010). This may succeed in the short run

however; when the markets eventually stabilizes in the long run such investors often realize that they may not attain the high returns initially anticipated thus pull out of the market immediately leading to shocks. Such spontaneous reversals of foreign portfolio flows intensify developing markets susceptibility to global economic meltdown (Koskei, 2017). According to Rao *et al.*,(1999), advanced economies and markets are more resilient than developing markets. This is attributed to the fact that less developed markets depend more on global financial inflows as compared to the advanced markets.

1.1.3 Political Risk

This is the risk that political decisions or decisions by government agencies, such as change of fiscal policies, monetary policies, trade and investment policies, or events related to political instability, such as election violence, riots and civil disobedience, will adversely affect the performance, profitability or development of a business actor or economic sector. Political risk, bureaucratic quality, privatization laws and order are important to market development (Yartey, 2010). Further, political risk enhances the viability of external finance and therefore resolution of political risk can greatly influence the development of the emerging stock markets. According to Enrico and Oijen (2001) political risk and successful privatization of state owned firms is an important source of stock market development leading to increased returns in emerging markets. However, different economies are exposed to different aspects and levels of political risk with the developing markets being exposed to more political bothers as compared to the advanced economies (Waskiewics, 2017).

Following the wave of liberalization in capital markets globally, governments and political agents in developing countries have in the recent years put in place several measures to attract increased foreign capital inflows. Such interventions include reduced barriers on foreign capital

flows; strengthen macro-economic environment, privatization of state owned enterprises, capital markets reforms, corporate tax incentives and subsidies (Adams & Tweneboah, 2009). The Kenyan government through the treasury and the capital markets authority has adopted various policy measures aimed at enhancing the efficiency of the stock market and attracting increased foreign capital flows. The Capital Markets Authority was constituted in 1990 through the passing of the Capital Market Act Cap 495A to act as a regulator in monitoring the activities of the capital markets and ensure an efficient orderly capital market in Kenya (Ngugi, 2003).

The Capital Markets Authority has introduced various policy changes and reforms at the Nairobi Securities Exchange. Worth Noting, the Capital Markets Authority introduced the Central Depository System (CDS) in the year 2004. The introduction of the CDS has enhanced the efficiency of trading since transactions are conducted on an electronic platform (Nyangoro, 2013). Moreover, new trading regulations introduced in 2002 saw 25% minimum reserve of issued share capital being reserved for locals while the remaining 75% being left free for all classes in a case of an initial public offer or government privatization. However, the Cap was removed in the year 2015 effectively allowing 100% foreign investor participation in case of initial public offer and government privatization (Ngugi & Nyangoro, 2005).

The re-introduction of a 5 percent capital gains tax by the treasury in the 2014 budget statement led to massive capital outflow (Gachanja & Kosimbei, 2018). Consequently, the tax was repealed in the subsequent years' budget policy statement and replaced with a one off transaction fee of 0.3% on the value of the transaction (Republic of Kenya, 2015). Notably, there has an increased capital outflow, leading to a decline in key market performance indicators, in the years 2015-2016 as the market tries to adjust to the effects of the effect of the re- introduction of the capital gains tax. Additionally, the year 2016 saw the introduction of maximum interest rate capping

through the signing into law of the Banking Amendment Act Cap 488 laws of Kenya. Under the Act the maximum interest rate chargeable for any credit facility in Kenya was set at no more than four percent above the base set and published by the Central Bank of Kenya while the minimum interest rate granted on deposits held in an interest earning account to be at least 70% of the base set and published by the Central Bank of Kenya (Republic of Kenya, 2016). As a result there is a notable decline in market Capitalization, market turnover and the NSE 20 share index as evidenced by Table 1.1. According to Olaka (2017), the capping of interest rates on loans had sapped energy from the financial sector hence slowing down growth of business and investment in the economy.

Further, the introduction of the interest rate cap has led to reduced lending to the private sector such as the Small and Medium Enterprises (SME) and performance of listed financial institutions. According to Bruckner and Gradsteing (2012) increased ethnic polarization leads to increased political risk. Increased political risk leads to reduced income and reduced investment in different sectors of the economy. The Nairobi Securities Exchange has experienced periodic erratic declines like in the years 2008, 2014, and 2018 (Fig 1.1). Notably, these declines are in line with the aftermath of the Kenyan election cycle that is often characterized by election violence, riots and civil disobedience. According to Chui (2016), the effects of post-election chaos and the global economic meltdown led to erosion of investor confidence especially the foreign investors. The decline in key market performance indicators at the Nairobi Securities Exchange such market capitalization and market turnover are therefore indicators of investors pulling out of the market immediately they realize that they may not attain the high returns initially anticipated due to the politically risky environment.

1.1.4 Stock Market Development

Stock market development is the process through which the stock market increases in size, liquidity, price stability, linkage with other markets, and variety of instruments, improved technology and market concentration (Wassal, 2013). From the foregoing stock market development is therefore a multi-faceted, long-term and complex process that is measured by several factors. However, recent studies conducted globally and in the emerging markets of Sub-Saharan Africa indicate that a lot of emphasis has been placed on Market size, liquidity and volatility as the most appropriate indicators of stock market development (Oziengbe & Ovuefyen, 2013; Soumare & Tchana, 2011; Idenyi *et al.,* 2016; Mohanty, 2016; Raza & Jawaid, 2014 and Nyangoro,2013). This can be attributed to the fact that foreign financial flows into and out of the domestic market leads to increased volatility in the value of stocks and liquidity of the market. Market size is measured using the number of listed firms or the value of market capitalization (Nwiado & Deekor, 2013). Market capitalization is however preferred due to its direct relationship with the firms' ability to mobilize capital and its future growth prospects (Rajan & Zangles, 2003).

Market capitalization is less arbitrary as compared to other procedures and measures of stock market development (Adams & Tweneboah, 2009). Moreover, market capitalization, turnover and price volatility are able to capture the high frequency changes in the stock market. Liquidity of the market renders financial assets more attractive since it enables the investors to access their savings in the period of investment (Soumare & Tchana, 2011). Since investors are able to quickly and cheaply sell their stake in listed companies' larger amounts of savings will be channeled through the stock market. In view of the foregoing the study measured stock market development using market capitalization as a proxy of market size, market turnover as a proxy of

market liquidity and NSE All Share index as a measure of market volatility. This is due to the fact that these measures are objective, quantifiable and derived from existing literature.

The NSE 20 share index and the NSE All Share Index (NASI) are the main indexes quoted on daily basis at the Nairobi Securities Exchange. The NSE 20 share index represents a sample of the top 20 blue counters while the Nairobi All Share Index is a weighted average index of all the companies listed in the main market segment (NSE, 2010). The NSE All Share index is therefore preferred over the NSE 20 share index since it is a composite index that represents all the listed firms at the stock market. However important to note that the critics of composite indices argue that since majority of the counters are very illiquid and inactive their inclusion in the overall index will not improve the performance of the index (Brown, 2008). That notwithstanding the NSE All Share Index, Unlike NSE 20 Share Index, is able to capture the price changes in the entire market including the small counters that may not be included in the NSE 20 Share index.

1.1.4.1 Global Stock Market Development

Globally, the development of stock markets is traced to Belgium and Netherlands that hosted the first stock markets system in the 15th century. Before the 15th century investors conducted business transactions on coffee shops and could yell at each across the trading floors as they throw order forms on the air (Hur, 2019). However, it's the Dutch East India Company that officially became the world's first publicly traded company when it issued shares to the general public in 1602 at the Amsterdam Stock Exchange (Beattie & Andrew, 2017). The company issued both stocks and bonds with each investor entitled to a fixed percentage of 16 percent of the Dutch East India company profits. Today, virtually all countries have a stock market with trillions of dollars traded daily through the stock markets across the world. The New York Stock Exchange (NYSE) is the world largest stock market with over 2800 listed firms and a market

capitalization of over $.30.10 trillion dollars as at December 2018. The merger of the Amsterdam, Brussels and the Paris Bourses created the Euronext stock exchange which is the largest stock exchange in Europe with 1240 listed firms and a market capitalization of $.4.65 trillion dollars (Fabozzi & Frank, 2008). The Tokyo Stock Exchange is the leading stock Market in Asia and the third largest market globally after NYSE and the NASDAQ. The Tokyo bourse has a market capitalization of USD $. 4.5 trillion and 2300 listed firms as at December, 2018 (World Bank, 2018).

Regionally, there are 29 stock markets representing 38 countries of the 52 countries in Africa (ASEA, 2018). However, it is only 21 stock markets that are registered with the Africa Stock Exchange Association (ASEA). The integration of eight francophone west African stock markets in 1998 led to the establishment of "*Bourse Reginale des Valeurs Mobiliers"* (BVRM). The BVRM is the single largest unified and regionally integrated bourse globally with a market capitalization of 2.9 trillion French Francs. The Johannesburg Stock Exchange, founded in 1887, is the oldest and largest bourse with 379 listed firms and a market capitalization of $.987 Billion Dollars. The Egyptian Exchange Market is ranked second with 221 listed firms and a market capitalization of $. 46 Billion while the Nigeria Stock Market is ranked third with 170 listed firms and a market capitalization of $. 44 Billion, as at December, 2018 (World Bank, 2018).

The Nairobi Securities Exchange (NSE), founded in 1954, is the largest stock market in East and Central Africa with 67 out of the 93 listed firms in the region (NSE, 2018). Regionally, the Nairobi Securities Exchange is the fourth largest stock market in Africa, by market capitalization, after the Johannesburg Stock Exchange in South Africa, Egyptian Exchange Market and the Nigerian Stock Markets (NSE, 2016).

1.1.4.2 Stock Market Development in Kenya

Notably, the Nairobi Securities Exchange was characterized by very small size and high volatility throughout the period 2008-2018. The growth in the number of listed firms and the market liquidity is very low with the market turnover averaging at less than 10 percent of the overall market capitalization throughout the period. The annual trend in key equity market indicators at the Nairobi Securities Exchange market for the period 2008-2018 are summarized in Table. 1.1.

Table 1.1: Key Equity Market Indicators (2007-2018)

Market indicators	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Market capitalization (Bn	853.8	834.17	1167	868.2	1272	1920	2316	2054	1931	2521.8	2102
Equity Turnover (Bn)	97.52	38.16	110.3	78.06	86.79	115.8	215.7	209.4	147.2	171.6	175.6
NSE 20 Share Index	3521	3247	4432	3205	4133	4927	5113	4041	3186	3732	2834
NSE All Share Index	73.37	71.64	97.82	68.03	94.86	136.65	162.89	145.70	133.34	171.20	140.43
Listed Firms	55	55	55	58	61	61	64	64	66	67	67

Source: CMA quarterly statistical bulletins (2007-2018)

Table 1.1 indicates that Market capitalization declined from Kshs. 853.1 Billion in 2008 to Kshs. 834.1 Billion in the year 2009 representing a loss of Kshs. 20 Billion while market turnover declines sharply from Kshs. 97.52 Billion to Kshs. 38.16 Billion over the same period. This can be attributed to the lagged aftermath effects of the global financial crisis and the post-election violence as foreign investors moved away their investments from the domestic market (Kibaara, 2008). Further, the decline is an indication of shock waves of the global financial crisis biting the key drivers of stock market development as tight credit conditions and increased risk evasiveness reduced foreign investor appetite for domestic stocks (Massa, 2009). The opening up of the capital markets due to financial markets liberalization has exposed the emerging markets to instability leading to increased price volatility and transaction cost (Aduda *et al.*, 2012 and Abdulla 2016).

The market recovered from the effects of the global financial crisis and the post-election violence in the year 2010 experiencing a steady bullish run till 2015 when market capitalization decelerated from Kshs.2,316 Billion in the year 2014 to Kshs.2,054 Billion in the year 2015 representing a loss of Kshs. 262 Billion in a single financial year (CMA, 2016). The decline can be attributed to the re-introduction of the capital gains tax by the treasury that led to massive capital outflow and the subsequent replacement with a one off transaction fee of 0.3% on the value of the transaction (Gachanja & Kosimbei, 2018).

The market capitalization picked a growth momentum in the year 2016-2017. However the worst decline throughout the period is experienced in the year 2018 attributed to the aftermath effects of the prolonged election period of 2017-2018. During this period the market capitalization dropped by over Kshs.400 Billion from Kshs. 2521 Billion in 2017 to Kshs. 2102 Billion in 2018 (NSE, 2018). The Market liquidity is very low throughout the period with market turnover increasing marginally from Kshs. 97.52 Billion in 2007 to Kshs. 175 Billion in 2018 (CMA, 2018). Additionally, the stock market is characterized by frequent volatility with the NSE 20 share index often falling below the psychological mark of 4000. Figure 1.3 demonstrates the quarterly trend of the NSE 20 share index for the period January 2008- December 2018.

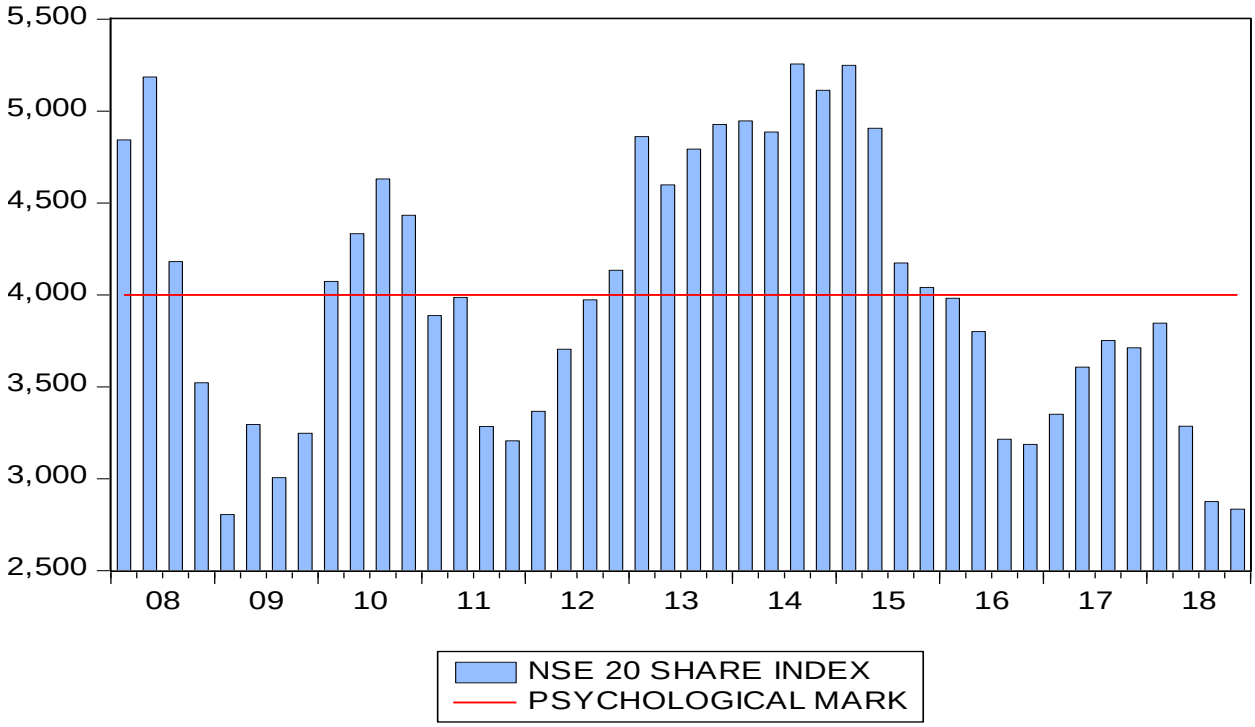

Figure 1.3: Trend of the NSE 20 Share Index

Source: CMA Quarterly Statistical Reports (2008-2018)

Figure 1.3 indicates that the NSE 20 share index moved from 4843 basis points in the first quarter of the year 2008 to 3521.18 points by the end of the fourth quarter of 2008 and further dropped to 3247.44 points by the end of 2009. This decline is far below the NSE 20 share index psychological mark of 4000 basis points. In 2010 the index registered steady increase to 4432.6 points but further declined to 3224.18 points in the year 2011.The index increased steadily to reach 5212.11 basis points in 2014 but further declined to 4040.75 in 2015. The index further registered an increase to 3186 points before increasing by 17% to close at 3712 points in 2017 (NSE, 2017). However the worst decline is registered in the year 2018 when the market index declined by 24% to close the year at 2834 points (NSE, 2018)

1.1.5 Nairobi Securities Exchange, Kenya

The Nairobi Stock Exchange (NSE) was formally established and registered under the society Act in 1954. The vision of the NSE is to "Be a leading securities exchange market in Africa with a global reach while its mission is to "provide a world class security trading facility". Before 1954 trading was done informally with no formal rules governing trade. At the time of its establishment the Nairobi Stock Exchange was largely dominated by European community. This is due to the fact that Asians and Africans were not allowed to trade in securities before independence. However upon attainment of independence in 1964, foreign dominance declined with the introduction of the Kenyanization policy (Nyangoro, 2013). Under this policy majority of the businesses formerly owned by foreigners were sold to Africans with government support. However, it was not until 1988 that the Nairobi Stock Exchange made the first successful privatization with the government sale of 20 percent stake in Kenya commercial Bank (Ngugi & Njiru, 2005). Subsequently, the Nairobi Securities Exchange market has seen several successful privatization deals including the reduction of Kenyan government stake in Kenya Airways.

The Capital Markets Authority was introduced in 1990 through the CMA Act (Cap 495A) to facilitate the creation of an efficient and orderly capital market in Kenya (NSE, 2010). Following the introduction of the Capital Markets Authority the NSE has seen numerous policy and operational reforms. Capital controls were relaxed for offshore borrowing in 1994 to encourage more foreign investment. Complete liberalization was later achieved in 1995 with the Exchange Control Act amendments of December 1995 (Ngugi & Nyangoro, 2005). Removal of all exchange controls was later achieved through the repeal of the Exchange Control Act in December 1995. The repeal of the Act allowed foreign investors to invest in government securities. These policies effectively allowed for direct foreign investor participation in the NSE

(Ngugi, 2003). New rules were however established in the year 2002 that saw 25% minimum reserve of issued share capital being reserved for locals while the remaining 75% being left free for all classes in a case of an initial public offer or government privatization. This policy was however reviewed in the year 2015 with the maximum cap on foreign investor holding removed effectively allowing for 100 percent foreign investors holding in listed companies.

The Bourse introduced the Alternative Investment Market Segment (AIMS) and the Fixed Income Securities Market Segment (FISMS) in 2001(NSE, 2001). The Alternative Investment Market Segment aimed at providing an opportunity to the firms that could not meet the stringent requirement of the Main Investment Market Segment (MIMS). The Fixed Income Securities Market Segment on the other hand aimed at providing a separate market segment for fixed income securities such as the corporate bonds, treasury bonds, preference shares and commercial papers. The Growth Enterprise Market Segment (GEMS) was introduced in 2013 to enable the Small and Medium Enterprises an opportunity to access growth financing from the capital markets with Home Africa Limited being the first company to be listed under this market segment (NSE, 2013a).

The Nairobi Stock Exchange was renamed as the Nairobi Securities Exchange Market in 2011 as part of the implementation of the 2010-2014 strategic plan (NSE, 2014). This was aimed at making the bourse a full service market that supports trading of equity securities, debt securities, derivative instruments and other related securities. The Nairobi Securities Exchange obtained Approval from the Capital Markets Authority in 2014 to operate as a fully demutualized entity having met all the requirements set out in section 5(3) of the CMA regulation of 2012. As at December 2016, the NSE was the largest stock market in East and Central Africa with 67 out of the 95 listed firms in the region (NSE, 2017).

1.2 Statement of the Problem

The main objective of the of the capital markets under vision 2030 is to mobilize savings so as to realize a savings to Gross Domestic Product (GDP) ratio of between 25-28 percent (Republic of Kenya, 2007). However, in the period 2008-2018, the listed firms at the NSE increased marginally by 12 firms from 55 firms listed firms as at January 2008 to 67 listed firms as at December 2018 giving an average increase of one firm per year (CMA, 2018). This number is very low in comparison to other African Markets such as the Nigeria Stock Market with 170 firms, Johannesburg Stock Exchange with 379 firms and the Egyptian Exchange Market with 221 firms as at December, 2018 (World Bank, 2018). The Kenyan stock market is equally characterized by extreme volatility with the NSE 20 share index often falling below the psychological mark of 4000 basis points as shown by Fig.1.3. The NSE 20 share index plummeted by almost 1000 points from 3750 points to 2755 while the market capitalization declined by over Kshs.400 Billion from Kshs. 2521 Billion in 2017 to Kshs. 2102 Billion in 2018 (NSE, 2018).

Such huge decline in a single period intensifies the market risk making the market unpredictable and hence unattractive to potential investors (Koskei, 2017). Moreover, the liquidity of the NSE was very low throughout the period 2008-2018 with market turnover increasing marginally from a minimum value of Kshs. 97.52 Billion in 2008 to a maximum value of Kshs. 175 Billion in 2018 (CMA, 2018). Despite the substantial returns generated in emerging markets, the cyclical nature of the market associated with excessive volatility makes it impossible for the existing and potential investors to accurately predict market returns (Barnor, 2014). Despite the wavering trends on the development of the NSE, there remains little empirical evidence on the effect of foreign financial inflows on stock market development in Kenya.

Foreign financial inflows represent additional capital investment in the stock market leading to increased market value and liquidity (Kumar & Devi, 2013). Despite the theoretical link between foreign financial inflows and development of stock markets, the nature of relationship in the context of NSE remains an issue of empirical investigation. Empirical studies conducted globally on the effect of foreign financial inflows on stock market development provide varied conclusions with some studies indicating significant effect while other studies indicating insignificant effect (Arcabic *et al.,* 2012; Adam & Tweneboah, 2009; Soumare & Tchana, 2011, Idenyi *et al.,* 2016). Previous studies have therefore failed to provide unambiguous conclusions on the question of the effect of the various components of foreign financial inflows on Stock Market development. Besides, a significant number of previous studies are conducted in developed capital markets (Malik, 2013; Raza and Jawaid, 2014; Kaleem & Shahbaz, 2008; Arcabic *et., al,*2012). Understandably, the context in these markets is different from the stock market context in the emerging African markets.

In Kenya, a few scholars' have attempted to study the effect of selected foreign financial flows on stock market development (Koskei *et al.,* 2016; Njoroge, 2014; Gachanja & Kosimbei, 2018; Githaiga & Kabiru, 2014; Nyangoro, 2013). Notably, previous studies have ignored the fact that stock market development is a multi-faceted, long-term process measured by several factors. Equally, previous empirical studies tend to emphasize the direct effect of foreign financial inflows on stock market development hence disregarding the moderating effect of political risk and the mediating effect of foreign investor participation on the relationship between foreign financial inflows and stock market development. This study therefore sought to fill the foregoing Knowledge gaps by establishing the effect of foreign financial inflows on stock market development at the Nairobi Securities Exchange, Kenya.

1.3 Objectives of the Study

The study was guided by both the general and specific objectives. The general and specific objectives that informed the study are highlighted below.

1.3.1 General Objective

The general objective of the study was to investigate the effect foreign financial inflows on stock market development at the Nairobi Securities Exchange, Kenya.

1.3.2 Specific Objectives

The specific objectives of the study were:

i. To establish the effect of foreign direct investment on stock market development at the Nairobi Securities Exchange, Kenya.
ii. To determine the effect foreign equity portfolio on stock market development at the Nairobi Securities Exchange, Kenya.
iii. To assess the effect of foreign debt portfolio on stock market development at the Nairobi Securities Exchange, Kenya.
iv. To establish the effect of diaspora remittance on stock market development at the Nairobi Securities Exchange, Kenya.
v. To determine the mediating effect of foreign investor participation on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange, Kenya.
vi. To establish the moderating effect of political risk on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange, Kenya.

1.4 Research Hypotheses

The study was guided by the following null hypotheses:

H_{01}: Foreign direct investment has no significant effect on stock market development at the Nairobi Securities Exchange, Kenya.

H_{02}: Foreign equity portfolio has no significant effect on stock market development at the Nairobi Securities Exchange, Kenya.

H_{03}: Foreign debt portfolio has no significant effect on stock market development at the Nairobi Securities Exchange, Kenya.

H_{04}: Diaspora remittances have no significant effect on stock market development at the Nairobi Securities Exchange, Kenya.

H_{05}: Foreign investor participation has no significant mediating effect on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange, Kenya.

H_{06}: Political risk has no significant moderating effect on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange, Kenya.

1.5 Significance of the Study

The outcome of the study is bound to be of great significance to the academic researchers, regulators, policy makers and market analysts. There has been a huge knowledge gap on the contribution made by foreign inflows to stock market development. The study makes significant contribution to the existing empirical literature on the long run and short run effect of foreign financial inflows on stock market development. Equally the study aids in filling the existing knowledge gap on the moderating effect of political risk and the mediating effect of foreign investor participation on the relationship between foreign financial inflow and stock market

development in Kenya. This forms the basis upon which further research would be conducted in related areas.

The findings of this study and the policy recommendations forms the basis upon which policy makers at the treasury and the national assembly to identify foreign financial inflows that will engender long term stock market development. Besides, the study findings will enable the treasury, the national assembly and other policy makers to enact policies that will attract productive foreign investments likely to enhance stock market development. Given the high volatility of foreign portfolio flows this study findings will aid in the formulation of structural policies that are likely to reduce the adverse effects of foreign financial inflow fluctuation on stock market development. Such policies should boost foreign investor confidence and enhance foreign investor participation in the Nairobi Stock exchange Market as well as hedge the stock market against the effects of adverse fluctuations. Further this study will form the basis upon which the Capital Markets Authority (CMA) will establish laws and regulations that match international best practices. Courtesy of this study finding, the CMA will enhance the value and liquidity of the stock market through the issuance of highly innovative market products that meet international standards.

The findings of this study also provide information to the investors, market analysts and fund managers on ways of growing the investment portfolio. Hence, the findings of this study are significant to the practice of fund portfolio management. Specifically, the findings of this study will aid the investors and the portfolio managers in the identification of the sectors likely to experience growth in the near future. Portfolio managers will therefore channel more resources towards high potential growth industries in order to grow their investment portfolios.

1.6 Scope of the Study

The study sought to evaluate the effect of foreign financial inflows on stock market development at the Nairobi Securities Exchange, Kenya. The study examined the effect of Foreign Direct Investment (FDI), Foreign Equity Portfolio (FEP), Foreign Debt Portfolio (FDP) and Diaspora Remittances on stock market development. These variables were selected on the basis of existing empirical literature that demonstrates their significant relationship with stock market development. This study was limited to the development of the Stock Markets in Kenya for the eleven years period of 2008-2018. This period was selected based on data availability on all study variables from the official sources at the CMA, NSE, CBK, World Bank and the United Nations Conference on trade and Development (UNCTAD). Secondly, this period was also appropriate due to increased volatility of the stock market during the period. This period represents the aftermath of the global financial crisis characterized by increased volatility in foreign financial inflows.

1.7 Organization of the Study

The thesis is organized into five chapters. The first chapter introduces the study. The chapter provides for the background of the study, problem statement, and objectives of the study, hypothesis, scope and limitations of the study. The second chapter provides a review of relevant literature. Both the theoretical and empirical literature is reviewed. Chapter three focuses on the research methodology. This includes the research design, targeted population, sampling data type, sources and analysis procedures. Chapter four is a presentation of the study findings and provides an interpretation of the research findings. Finally, chapter five provides a brief summary of study, conclusions made from the study findings and the recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter focused on three sections. First, the chapter gives an overview of theories that link the independent variables to the dependent variable. Secondly, the chapter explored the empirical studies conducted on the relationship between foreign financial inflows and stock markets development. The findings from the empirical studies are subsequently analyzed to identify the research gaps. Lastly, the conceptual framework demonstrates the relationship between foreign financial inflows and stock markets development at the Nairobi Securities Exchange, Kenya.

2.2 Theoretical Literature Review

These sections provide a review of relevant theories that support the relationship between foreign financial inflow and development of stock markets. Hence, the following theories were applied to explain the study relationship: Base Broadening Theory, FDI Dependency Theory, Neoclassical Theory of Portfolio flow, Trade off Theory and the Pure Self- Interest Theory. These theories are discussed in detail in this section. The Base Broadening theory is used to explain the development of stock markets and is the main theory upon which the study is anchored. The Monopolistic advantage theory, Neo classical theory of portfolio flow and Trade off theory have been applied to explain the effect of foreign direct investment, foreign equity portfolio and foreign debt portfolio on stock market development. Finally, the Pure Self Interest theory aids in explaining the effect of Diaspora remittances on stock market development.

2.2.1 Base Broadening Theory

The Base Broadening theory was proposed by Merton (1987). The theory contends that expanding the number of investors, through the liberalization of the financial markets, to include

investors from foreign countries would lead to increased diversification. Increased diversification leads to lower risk and consequently lowering the required risk premium. This has the effect of increasing capital availability in the stock market, liquidity and price stability hence leading to development of the stock market (Galindo *et al.,* 2007). The liberalization of the financial markets, leads to increased market efficiency and better allocation of resources to the most optimum users in the domestic capital markets (Yartey & Adjasi, 2008). According to the theory, the assumed factors barring foreigners' investments from holding fully diversified portfolios are informational in that; investors will fail to invest in stocks if they are not fully informed about the returns available in the capital markets.

Therefore according to Base Broadening theory, if both the domestic and foreign investors from the diaspora share the same information sets they will invest equivalently (Merton, 1987). The Kenyan government through the Kenya Foreign Policy and the Vision 2030 economic blue print recognizes the important role of played by foreign capital flows towards stock market development and the general economic growth. Harnessing of foreign capital flows, diverse skills and expertise from foreign development partners is one of the objectives of the economic pillar in the vision 2030 (Republic of Kenya, 2007). Moreover, increasing capital inflows through robust economic engagement with partner states is the main objective in the economic pillar of the Kenyan foreign investment policy. Further the policy aims at promoting the country as a favorable investment destination for foreign investors (Republic of Kenya, 2014).

According to Torre and Schmukler (2007), foreign financial inflows influence the stock market development in two ways; first it enhances availability of capital from the international financial markets. Since most developing markets suffer from severe scarcity of capital, this problem can be diverted through increased foreign investment (Kumar & Devi, 2012). Secondly, the

developing countries will try to emulate the developed stock markets by implementing several reforms and adopting better technology. This has seen the introduction of the central depository system to ease trading and derivatives market to increase the variety of instruments available for trade at the Nairobi Securities Exchange (NSE). According to Ghose (2014), the economic crisis of the 1990s highlighted the character of certain types of foreign capital flows such as private equity which appear to be driven by short run speculative objective in a world of asymmetric information. Therefore private equity flows intensify the recipient countries susceptibility to global shocks especially during periods of spontaneous reversal of portfolio flows.

Through well developed and regulated financial markets, businesses in low income developing countries can attract private capital flows directly from the developed and industrialized countries (UNCTAD, 2016). Thus businesses no longer have to depend on capital negotiated by government through political process that is often characterized by corruption and inefficiency of government structures (World Bank, 2000). Rather than rely on the slow domestic capital accumulation process, businesses can directly engage in foreign investment hence leading to capital market development. Notably, there had been increased foreign capital flows into developing markets attributed to the liberalization of capital markets, financial openness and favorable unrestricted trade policies adopted by most developing countries (Zafar, Quareshi & Abbas, 2013). The Base Broadening theory will be used to explain the overall relationship between foreign financial inflows and the development of the stock market in Kenya. Thus the theory is used to anchor the dependent variable (stock market development) of the study.

2.2.2 FDI Dependency Theory

The theory, formulated by Todaro & Smith (2003), contends that excessive reliance on foreign direct investment leads to FDI dependency. The theory is premised on the fact that foreign firms,

often from advanced markets, possess superior advantage over the domestic firms in developing markets. Multi-National Companies (MNCs) have a greater competitive advantage due to greater technological Knowledge, managerial skills, industrial organization and product knowledge. Equally, MNCs will enjoy greater economies of scale as compared to local firms (Idenyi *et al.*, 2016). Economies of scale enhance the reduction in the cost per unit of services such as financial services, marketing, and cost of technological research. Foreign plants often produce similar products to the domestic market. Thus multi-national companies can even out the effects of economic cycles in various markets by reorganizing the sales across the various destinations in foreign countries (Shenkar, 2007). Therefore foreign firms are able to operate more profitably than the domestic firms and hence have the ability to drive the out the small and medium local enterprises characterized with inferior technology.

FDI dependency makes the developing capital markets entirely depend on multinational enterprises from developed capital markets to meet their capital and liquidity needs. Hence, FDI dependency has negative spillover effects on the development of the recipient capital markets characterized by weak absorptive capacity. According to Narula and Potelli (2006) absorptive capacity is the ability of the host country to utilize and benefit from the superior knowledge and technology that is associated with FDI. Technologically advanced Multinational companies enter the developing markets with superior skills and technology. However, developing capital markets lack the absorptive capacity to utilize such technology. Moreover, the multinational Companies are characterized by labour saving technology. Such technology creates unemployment since developing countries lack the technological skills leading to reduced savings and investment by domestic investors and subsequently, leading to further dependence on foreign investment (Idenyi *et al.*, 2016).

The critics of FDI dependency theory however argue in favour the monopolistic advantage theory coined by Hymer (1979). Monopolistic advantage theory is based on the premise that there exist market imperfections in the developing markets. Such imperfections provide the MNCs with a competitive edge over the domestic firms. The benefits enjoyed by the MNC such greater technological Knowledge, managerial skills, industrial organization and product knowledge should be easily to transferable internationally at minimal cost to the domestic capital markets subsequently leading to stock market development. However, for the theory to hold the foreign firm must satisfy the condition of relatively easy international transferability of technology (Barney, 1991). The theory of FDI dependency is applied by the study to explain the relationship between foreign direct investment and stock market development.

2.2.3 Neo Classical Theory of Investment

The Neo classical theory of investment, also referred to as the Post Keynesian theory of investment, was originally introduced by Gordon (1992). The theory contends that portfolio flow in response to the rate of return differential between regions. Multi-national companies are thus arbitrageurs who take advantage of the locational differences in interest rates in various countries to move capital from low return to high return countries. This theory therefore contends that if the return on equity investment in the stock market is high, such a market is likely to attract more foreign investment as compared to a market with low return on investment. Foreign investors, who are mostly driven by the need to diversify their risk portfolio, take advantage of the high short run return in emerging markets (Allen *et al.*, 2010). However, market stability in the long run leads to spontaneous reversals of foreign portfolio flows. Such spontaneous reversal intensifies markets volatility susceptibility of the market to global economic crisis (Koskei, 2017).

Foreign equity portfolio investment is dependent on the internal rate of return (Soumare & Tchana, 2011). The internal rate of return refers to the rate that equates the initial amount invested with the present value of the periodic returns from investment also referred to as the Marginal Efficiency of Investment (MEI). The comparison between the Marginal Efficiency of Investment and the market rate of return on investment or the cost of capital provides a decision criterion on investment (Idenyi *et al.,* 2016). Such that if the MEI is greater than the cost of capital (k) then the investment is accepted but if the MEI is less than the cost of capital then the investment is rejected. Since investments are undertaken in the order return, starting with the highest return, as the quantity of investments increases the rate of return on investment declines. Hence, each additional investment comes with relatively lower return. However, additional investments will still be undertaken as long as the Marginal Efficiency of Investment is greater than the market rate of return or cost of capital.

Markets characterized by high marginal efficiency of capital are likely to attract foreign investors seeking high returns on investment while markets that are characterized by a low marginal efficiency of capital are not likely to attract foreign investment (Allen *et al.,* 2010). In the Kenyan contest, the Neo Classical theory is supported by Nyangoro (2013) who observed that increased foreign investment in the stock market drives up returns hence increasing stock market performance. Foreign equity portfolio flows lead to increased stock prices when they come in hence leading to increased value of stocks. The Neo Classical theory of Investment is therefore applied in explaining the effect of foreign equity portfolio on stock market development in Kenya.

2.2.4 Trade Off Theory

The classical version of the trade theory can be traced back to the works of Kraus and Litzenberger (1973) who considered the balance between the bankruptcy cost of debt and the tax saving benefit of debt. The benefit of debt is attributed to the tax shield benefit accrued from the use of debt while the cost of debt is the risk of financial distress or even bankruptcy due to failure to meet the fixed charges associated with debt. According to Bradley *et al.*,(1984) the bankruptcy cost include the legal and administrative costs and other indirect costs such as: loss of customers, staff and suppliers confidence due to uncertainty. Firms would therefore attain an optimum capital structure by balancing the tax shield benefits and the cost of financial distress (Fama and French, 2002). According to Arnold (2008), increased debt leads to decrease in weighted average cost of capital (WACC) and increase in the firms' value up to an optimum debt level. Beyond the optimum debt level the cost of debt is greater than the benefit of debt hence leading to an increase in WACC and decline in the value of the firm.

Myers (1977) contends that foreign debt and repayment of debt would affect capital markets growth by discouraging investment or altering the composition of public spending. The debt overhang occurs when the existing debt is so huge that an organization cannot borrow to finance additional projects even though such projects are profitable enough as to enable it reduce its debt over time. Thus projects with positive NPV cannot be undertaken due to the existing debt position. Equally the debt holders are reluctant to invest additional debt since the firm is unable to convince investors on the ability of the firm to pay its debt. According to Clement *et al.*, (2005) debt is only good up to a certain limit beyond which it may lead to an organization experiencing a "debt overhang" condition. The "debt overhang" is a condition where a high level of debt discourages investment and thus curtailing the growth of firms. The tradeoff theory is

therefore used in explaining the effect of foreign debt portfolio on stock market development in Kenya.

2.2.5 Pure Self-Interest Theory

The theory was triggered by Lukas and Stark (1985). According to the Pure Self Interest Theory an emigrant sends remittances with the aspiration to inherit or makes investments for the future with the intention to return home in future and derive benefits from such investments. Emigrants send money home because they expect to return home and can expect to receive family gratitude for having sent remittance (Vargas & Huang, 2006). The main goal of remitting income from the foreign country to the domestic country is for investments that are expected to earn returns in future when the remitter eventually come back at home. Thus remittances act as a strategy of investment for future returns (Docquier & Rappoport, 2005). Such investments are placed under the care of family members who serve as care takers or agents acting on behalf of the diaspora emigrant. The Kenyan government through the foreign investment policy takes note of the immense contribution and untapped potential of the Kenyan living in the diaspora (Republic of Kenya, 2014).

The diaspora diplomacy pillar aims at tapping into the skills, knowledge, expertise and resources of the Kenyans in the diaspora to facilitate their integration into the national development agenda (Republic of Kenya, 2014). However, contrary to the theory of Pure Self Interest other scholars are of the opinion that diaspora remittances are linked to the harsh economic times facing family members in the domestic country. Thus increased remittances are motivated by the daily needs of family members and relatives back at home and not for investment purpose (Chami *et al.,* 2003). This is the theory of Altruism. Altruism further contends that since diaspora remittances are aimed at supporting family members during harsh times, remittances are counter cyclical.

Thus remittances would increase during periods of recession in the domestic county and reduce during periods of a boom when the economy of the home country is performing well (Ratha & Monapta, 2007).

The theory of Pure Self Interest, unlike the theory of Altruism, argues that emigrants use remittances to acquire investments that are placed under the care of family members and relatives. Further, diaspora investors will shy away from making investment at home during periods of economic down turn or recession (Docquier & Rappoport, 2005). Hence there is a significant reduction in diaspora remittances during periods poor economic times leading to further reduction of market performance. The stock market provides a framework upon which investors can increase their wealth through investment. There is a direct link between increased diaspora remittances and stock market development (Njoroge, 2015). Thus if the remittances are invested in the securities market then there would be increased market capitalization leading to the development of the market. The theory of Pure Self Interest aids in explaining the effect of Diaspora remittances on stock market development in Kenya. Table 2.1 displayed below is a summary of the theoretical literature indicating the relevance of each of the theories highlighted to the current study.

Table 2.1: Summary of Theoretical Literature

Theory	Relevant Variable	Relevance of theory to the study
Base Broadening Theory	Stock market Development	-Expansion of the investor base leads to increased diversification. -Hence increased stock market size, liquidity and increased market development.
FDI Dependency Theory	Foreign Direct Investment	-MNCs have greater technological Knowledge, managerial skills, industrial organization and product knowledge. -Thus foreign firms are able to operate more profitably than the domestic firms and subsequently drive out the domestic firms from the market.
Neo Classical Theory of Investment	Foreign Equity Portfolio Investment	-MNCs are arbitrageurs who take advantage of the interest rate differentials. -Market with high return is likely to attract more foreign investment as compared to a market with low return on investment
Trade off theory	Foreign debt Portfolio Investment	Optimal capital structure is achieved when the marginal benefit of debt is equal to the marginal cost of debt. Beyond the optimum debt level the cost of debt is greater than the benefit of debt hence leading to decline in the value of the firm.
Pure Self Interest theory	Diaspora Remittances	-Emigrant sends remittances with the aspiration to inherit or makes investments for the future. -Remittances are invested in the securities market then there would be increased market capitalization leading to the development of the market

Source: Theoretical Literature Reviewed (2018)

2.3 Empirical Review

This section entails a review, critique and identification of research gaps from existing empirical literature. It involves review of empirical literature on foreign direct investment, foreign equity portfolio investment, foreign debt portfolio investment personal remittances, political risk and foreign investor participation.

2.3.1 Foreign Direct Investment and Stock Market Development

Idenyi *et al.*,(2016) examined the impact of foreign direct investment on the growth of the Nigeria stock market. The study covered the period of 1984 to 2015. The study used Vector Error Correction Model (VECM) and granger causality in determining the relationship between variables specified in the regression model. The regression results indicated the existence a significant relationship between the FDI and growth of the Nigeria Stock market in the long run as supported by the existence of four (4) co integration vectors. The findings of the study therefore concluded that foreign direct investment had significant effect on the Nigeria stock market growth in the period of this study. The study however laid emphasis on the short run relationship and fall short of addressing the long run linkage between the study variables. Hence creates the need to consider the relationship between foreign financial inflows and stock market development using more variables in a different market context.

Arcabic, Globan and Raguz (2012) used the two variable co integration approaches to determine the long-term relationship between FDI and stock market development. The findings of the study indicated the absence of a long-term relationship among observed variables. Hence, lack of connection between FDI and stock market development in Croatia. To determine the short-run relationship between variables the study used the VAR model. The findings indicated consistency with theoretical assumptions, since FDI proved to be an important short-term determinant of stock market development in Croatia. The study employed cointergration and Vector Auto Regressive (VAR) model and therefore there is need to test the same relationship in a different market context using ARDL bound testing for long run relationship between foreign financial inflows and stock market development.

Adam and Tweneboah (2009) used the multivariate cointegration and innovative accounting methods to study the impact of FDI on stock market development in Ghana. Impulse responses and variance decomposition in VECM were applied in the study. Their findings indicated a significant relationship between the FDI and stock market development in Ghana. This study only considered the impact of FDI thus creating the need to consider more variables that may influence stock market development. Equally, the study only considered the short term relationship thus creating the need to consider the long term relationship between foreign financial inflows and stock market development in the using the autoregressive distributed lag model.

Notably, the three studies are conducted beyond the Kenyan market context. The foreign investment regulations, financial markets regulations and the other factors influencing foreign financial inflows in this markets is obviously different from the Kenyan market context. Secondly the three studies have either focused on either long term or short term effects of FDI on stock market development in isolation. This creates the need to test both the long run and short run dynamics simultaneous using an appropriate model such as the autoregressive distributed lag model. Thirdly the three studies have taken a narrow view that stock market development is measured using a single indicator. However, it is important to consider stock market development holistically as a multi-faceted complex process that is measured using various indicators. Finally, the studies have assumed a direct relationship between FDI and stock market development therefore failed to address the moderating effect of political risk and the mediating effect of foreign investor participation on the relationship between foreign financial inflows and stock market development.

2.3.2 Foreign Equity Portfolio and Stock Market Development

Gachanja and Kosimbei (2018) sought to investigate the dynamic linkage between foreign net equity portfolio flows and stock market returns at the Nairobi Securities Exchange. The study used monthly time series data for the period 2007-2015 collected form the capital markets authority quarterly statistical bulletins to examine the strength and direction of the relationship foreign equity portfolio flows and stock market returns. The data was analysed for both long term and short term relationship using the VAR model, Granger causality, vector decomposition and impulse response function. The findings from the study supported the existence of both short term and long term relationship between foreign portfolio flows and stock market returns. This study however assumes a direct relationship and falls short of addressing the effect of other foreign investment inflows such as foreign direct investment, foreign debt investment and diaspora remittances. Equally, the study only covers the period 2007-2015. The period was characterized by the existence of maximum Cap of 75% on foreign investor participation. However, the Cap was removed in the year 2015 effectively allowing 100% foreign investor participation. This effectively increased foreign investor participation at the Nairobi Securities Exchange. Therefore, there is need to examine the effect of foreign equity portfolio flows on stock market development at The Nairobi Securities Exchange following the removal of the Cap.

Adebisi, Adesola and Arikpo (2017) examined the relationship between foreign portfolio investment and financial market performance in Nigeria. The study specifically assessed whether there is long run and short run causal relationship running from financial market performance to foreign portfolio investment in Nigeria. Financial market performance was measured using stock market performance, stock market liquidity and total new issues. Findings from the analyses showed that financial market performance has no long run causal relationship with foreign

portfolio investment in Nigeria. Equally, stock market performance and stock market liquidity had no short run causal relationship with foreign portfolio investment in Nigeria. Lastly, total new issue had a short run causal relationship with foreign portfolio investment in Nigeria. Current study applied the ARDL model to test long run relationship and will consider effect of other variables like Foreign Direct Investment, Foreign Debt Portfolio and personal remittances.

Boboye, Oluwakemi and Alamu (2017) examined the impact of foreign private investment on the Nigerian capital market using time series data from 1986 to 2014. Johansen co integration test and Error Correction Mechanism (ECM) were used for the purpose of analyses. ECM results showed that, both types of private investment have positive impact on market capitalization but only the foreign direct investment was significant ($0.0015<0.05$) in determining market capitalization. While the study used ECM to test the short run relationship, the current study applies the use ARDL model to test long run relationship and takes into consideration the effect of other variables like FDP and diaspora remittances.

Worth noting, the studies have equally taken a narrow view point that stock market development is a simplistic process only measured using either market returns or market capitalization in isolation of other factors. However, there is need to consider stock market development holistically as a multi-faceted complex process that is measured using various indicators. Moreover, the studies have equally assumed a direct cause effect relationship between foreign equity portfolio inflows and stock market development. The studies therefore failed to address the moderating effect of political risk and the mediating effect of foreign investor participation on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange.

2.3.3 Foreign Debt Portfolio and Stock Market Development

Nwiado and Deekor (2013) investigated the relationship between foreign investments in the domestic bond market and development of the Nigerian capital market. Annual time series data for the period 1981-2007 was analyzed using multiple linear regressions. The findings from the study indicated that foreign participation in the domestic bond market contributes nothing to liquidity of the market and therefore contradicting existing theoretical assertion that foreign participation increases market liquidity. This study equally employed multiple linear regressions. However financial relationships are dynamic in nature. Therefore, creating the need to test the same relation in a different context using ARDL bound testing to explore both the long run dynamic linkage between foreign financial inflows and stock market development at the Nairobi Securities Exchange.

Oziegbe and Ovueffeyen (2013) used time series data for the period of between 1988- 2011 for Nigeria, and the period of 1991-2011 for Ghana to assess the effects foreign financial resources inflow into Nigeria's and Ghana's security exchanges markets. The study adopted market capitalization, as a proxy for security market development, and employed multiple linear regression technique. Study findings indicated that with the exception of foreign debt portfolio, the inflows of other foreign financial resources were positively related to market capitalization. The study employed multiple linear regressions to test for simple linear relationship between foreign financial flows and stock market development. The study therefore fails to take cognizance of the fact that financial relations are often not contemporaneous but are rather lagged over time. Therefore there is need to test the same relation in a different context using ARDL bound testing.

Mandaci *et. al.*,(2013) sought to analyze the factors that determine stock market development the period 1960-2007 in the long span with evidence drawn from both the emerging and developed capital markets. The explanatory variables were foreign Bank credits to private sector and remittance. The study finding indicated that all variables had significant effect on market capitalization. Therefore there is need to test the same relationship in a different context using ARDL bound testing for long run relationship among variables and equally consider other variables likely to influence stock market development. The study mainly focused on the period before the global financial crisis of 2008. Evidently, there has been increased volatility of both foreign financial flows and performance of financial markets following the aftermath of the global financial crisis. Hence, this creates the need to explore the effect of foreign debt on stock market development especially following the shock waves of the global financial crisis.

Notably, the above studies have employed multiple linear regressions to test for simple linear relationship between foreign debt portfolio and stock market development. The studies therefore fail to take cognizance of the fact that financial relations are often not contemporaneous but are rather lagged over time. Therefore there is need to test the same relation in a different context using ARDL bound testing. Secondly, three studies above focus on the period before the 2008 global financial crisis. The period post global financial crisis is characterized with increased volatility of both foreign capital flows and performance of financial markets. Hence, this creates the need to explore the effect of foreign debt on stock market development especially following the 2008 global financial crisis using a lagged model such as the autoregressive distributed lag model.

2.3.4 Diaspora Remittance and Stock Market Development

Njoroge (2014), sought to determine the effect of Diaspora remittances on stock market performance using evidence from the Nairobi Securities Exchange. Stock market performance was measured by The Nairobi Securities Exchange All Share Price Index (NASI). Inflation, interest rates and exchange rates were used as control variables. Time series monthly data for seven years from February 2008-May 2015 was obtained from the Nairobi Securities Exchange and the Kenya Central Bank was used for the purpose of meeting the study objectives. Descriptive analysis and multiple regression analysis were applied by the study. The study findings indicate that Diaspora remittance had strong and significant positive effect on stock market performance. The current study analyses the relationship between foreign financial inflows and stock market development using autoregressive distributed lag model.

Raza and Jawaid (2014) studied the effect of FDI, remittances and stock market development in 18 Asian countries. The study covered the period 2000-2010 and time series data was analyzed using ARDL cointergration and Toda and Yamamota causality tests. The findings indicated remittances had significant effect on stock market development. Toda Yamamoto causality test indicated a bi-directional causal relationship. The study is conducted beyond the context of the emerging African stock markets. Therefore the markets regulations and the other factors influencing foreign financial inflows in these markets are obviously different from the Kenyan market context. This creates the need to test the relationship in the context of the emerging African markets such as Kenyan stock market.

Githaiga and Kabiru (2014) sought to examine the impact of remittances on financial sector development. The study covered 31 countries in the period 1980 - 2012. The data was analyzed using the General Moment Method (GMM). The findings from the study indicated that

remittances had a negative adverse effect on domestic private sector credit while remittances effect on bank deposit was statistically insignificant. The study considered effect of remittance on the stock market development. Equally data was analyzed using GMM therefore there is need to consider both the long term and short term effects of remittances on the stock market using a lagged model such as the ARDL model.

The three studies discussed above have either focused on either long term or short term effects of remittances on stock market development in isolation. This creates the need to test both the long run and short run dynamics simultaneous using an appropriate model such as the autoregressive distributed lag model. Secondly, the studies have equally taken a restricted view that stock market development is measured using a single indicator. However of important to note stock market development is a multi-faceted complex process that is measured using various indicators. Moreover, the studies have assumed a direct relationship between diaspora remittances and stock market development therefore failed to address the moderating effect of political risk and the mediating effect of foreign investor participation on the relationship between diaspora remittances and stock market development.

2.3.5 Foreign Investor Participation and Stock Market Development

Using a multifactor pricing model, Nyangoro (2013) sought to establish the effect of foreign investor participation on the performance of the NSE. The study covered the period between April 1996 - December 2011 and applied the ARIMA model framework. The study findings confirmed stock market returns were affected not by its contemporaneous value but by lagged unexpected flows. The study was a based on a short run relationship between the variables using quarterly data for the period 1996-2011 with the aid of the ARIMA model framework. Equally the study measures the stock market performance using the stock market index. Thus creating the

need to investigate long term relationship using ARDL bound testing to test for both long run and short run dynamics among the study variables

Koskei (2017) sought to establish the relationship between foreign portfolio equity purchases and sale and stock returns of listed financial institutions in Kenya. The study used a sample of fourteen financial institutions for the purpose of the study. Panel data was analyzed using the Ordinary Least Squares (OLS) method. The Panel estimation findings indicated that foreign portfolio equity outflows had insignificant effect on stock returns of listed firms at the NSE in Kenya. However most financial relationships have a lagged relationships and therefore simple OLS may not be an appropriate measure. Thus, the current study will use ARDL to test long run relationship and will consider effect of other variables like FDI, FDP and diaspora remittances. Equally, the study investigated the effect of foreign portfolio flows on stock market using simple linear regression and a purposive sample of only 14 listed financial institutions. Thus, disregarding effect of portfolio flows to other sectors of the economy. However, financial relationships often lag over several periods and require the use the Lagged model such us the Auto Regressive Distributed Lag model (ARDL).

The two studies are conducted in the Kenyan market context and focus on direct effects and short term effects of foreign investor participation on stock market development in isolation. This creates the need to test both the long run dynamics using an appropriate model such as the autoregressive distributed lag model. Secondly, the studies have equally taken a restricted view that stock market development is measured using a stock market returns. However of important to note stock market development is a multi-faceted complex process that is measured using various indicators. Further, the studies have assumed a direct relationship between foreign investor remittances and stock market development therefore failed to address the moderating

effect of political on the relationship between foreign investor participation and stock market development.

2.3.6 Political Risk and Stock Market Development

Enrico and Oijen (2001) investigated the effect of political risk on stock market development in emerging economies. The findings of the study provided evidence that increased political risk and privatization of public companies had a strong effect on domestic stock markets development. Thus resolving of political risk was an important source of development in emerging stock markets. However, it should be noted that political risk is not the main factor that affects stock market development but rather it moderates the effect of other factors on stock market development. The current study therefore takes into consideration the effect of other variables such as FDI, FDP and diaspora remittances with political risk as a moderating variable.

Yartey (2008) sought to examine the effect of institutional and macro-economic factors on the development of stock markets in emerging economies. The study covered the period between 1990-2004. The findings of the study indicated that political risk , bureaucratic quality, law, order and are important factors that determine stock market development in emerging markets since they enhance they enhance the viability of the foreign financial flows. Thus political risk resolution of is an important determinant in the stock markets development of emerging markets. However, political risk is not the main factor that affects stock market development but rather moderates the effect of other factors on stock market development. The current study therefore takes into consideration the effect of other variables such as FDI, FDP and diaspora remittances with political risk as a moderating variable.

The two studies above have focused on the period before the 2008 post-election violence and global financial crisis. However, important to note, the post global financial crisis period is characterized with increased volatility of both foreign capital flows and performance of financial markets. Hence, this creates the need to explore the effect of political risk on stock market development especially following the 2008 global financial crisis and post-election violence. Further, the studies are conducted beyond the Kenyan market context. The foreign investment regulations, financial markets regulations and the other factors influencing political risk in these markets are obviously different from the Kenyan market context.

2.4 Summary of Literature and Research Gaps

The foregoing empirical studies indicate that the relationship between foreign financial inflows and stock market development has elicited the attention of several authors globally. Notably, most authors have placed emphasis on market capitalization as the only indicator of stock market development. Previous studies have therefore ignored the fact that stock market development is a multi-faceted, long-term process measured using a wide variety of market indicators. This study therefore measured stock market development using market capitalization as a proxy of market size, equity turnover as a proxy of market liquidity and NSE All Share Index as a measure of market volatility.

The above empirical studies tend to provide varied conclusions on the effect of foreign financial flows on stock markets development. While most studies indicate that foreign financial inflows have a significant positive effect on stock market development, some indicate a negative or insignificant relationship. Thus previous studies have failed to provide unambiguous conclusions on the question of the effect of the various components of foreign financial inflows on the development of the Stock Market. It should be equally noted that the context of the foreign stock

markets and financial flows is different from the Kenyan stock market thus creating a contextual gap. However, there is little evidence to confirm this relationship in the context of the Nairobi Securities Exchange. Due the unique characteristics of the Kenyan market, there is need to conduct similar studies in the Kenya stock market.

The foregoing empirical literature indicates scarcity of documented studies on the effect of foreign financial inflows on the development of the Nairobi Securities Exchange. The few studies conducted locally tend to focus on the direct effect of foreign financial inflows on stock market development ignoring the mechanism through the effect occurs. Hence the available empirical studies have sidelined the moderating effect of political risk and mediating effect foreign investor participation on the relationship between foreign financial inflows and stock market development. Therefore, in view of the above studies there exists a huge conceptual gap in the available empirical literature on stock market development especially in context of the Nairobi Securities Exchange Market. To fill the existing gaps there is need to incorporate more factors that may have influence on the development of the stock market. Equally, since financial relations are often not contemporaneous but are rather dynamic in nature there is need to investigate long term and short run effect of foreign financial inflows and stock market development at the Nairobi Securities Exchange, Kenya using a lagged model such as the Autoregressive Distributed lag Model. Table 2.2 below is a summary of the empirical literature highlighting the study objectives, findings, research gaps and the focus of the current study.

Table 2.2: Summary of empirical literature

Author and Year of Study	Objective	Findings	Research Gaps	Focus of current study
Adam and Tweneboah (2009)	To determine Impact of FDI on stock market development in Ghana.	Significant short term relationship.	Research only measured short run relationship using VECM. Study did not consider Mediating and Moderating Effects	This study considered both long term and short relationship using ARDL. This study included the mediating and moderating effect.
Boboye *et al.*,.(2017)	To establish Impact of FEP on the Nigerian capital market.	Positive significant effect on market capitalization	Research only considered FEP and did not consider Mediating and Moderating Effects	This study included foreign equity portfolio, foreign debt portfolio and diaspora remittances This study included the mediating effect and moderating effect
Chauhan(2013)	To determine Impact of Foreign Capital flows on stock market development in Bombay.	FDI had greatest effect FEP had low impact on stock market development.	Research is based on a different context. Research used the OLS and Karl Peterson correlation	This study was based on the Kenyan stock market context. This study used ARDL
Idenyi *et al.*,.(2016)	To establish Impact of FDI on Development of the Nigeria Stock Market	Significant positive effect in the longrun and shortrun	Research based on FDI and did not consider Mediating and Moderating Effects	This study considered Foreign Equity portfolio, Foreign Debt portfolio and Diaspora remittances This study included mediating effect and moderating effects.
Koskei *et al.*, (2016)	To Compare the effect of FPE flows on the stock returns of	Portfolio investment has significant effect on stock returns.	Research considered a sample of only 14 listed financial firms.	This study considered all the listed firms in the market.

	listed banking and non-banking institution in Kenya		No Mediating and Moderating Effects. Research used simple OLS	This study included the mediating effect and moderating effect This study used ARDL
Malik (2013)	To determine the Role of FDI, FPI and remittance on stock market development in three major south Asian countries of India, Pakistan and Bangladesh.	Except for Bangladesh where FPI was insignificant, all other variables were significant.	Research ignored effect of foreign debt and used Granger Causality Study based on a different context.	This study considered the effect of foreign debt portfolio and will Use ARDL. This study is based on the Kenyan stock market context.
Raza and Jawaid(2014)	To study the Impact of FDI, remittances, stock market development	FDI had negative impact on market development. Remittances had positive effect	Research based on short run relationship using the Toda and Yamamota causality test.	This study examined both the long run and short run relationship using ARDL.
Nyangoro (2013)	To investigate the effect of Foreign portfolio flows and stock market performance.	Positive and significant relationship	Research is based on the effects of FEP ignoring other foreign financial flows. Study used the ARIMA model	This study included FDI, foreign debt portfolio and diaspora remittances. This study used ARDL.
Oziegbe and Ovueffeyen (2013)	To establish the effect of foreign financial resource inflow and development of securities	All the variables except Foreign debt have a significant effect in Nigeria. All variables	Research did not consider Mediating and Moderating Effects. Research used simple OLS.	This study applied the use of ARDL. This study included the mediating effect and moderating effect. This study used ARDL

	market in Nigeria and Ghana.	except ODA were insignificant in Ghana.		
Njoroge (2014),	To determine effect of Diaspora remittances on stock market performance: Evidence from the NSE.	Remittances had positive and significant relations with stock market development.	Research only focused Remittances did not consider Mediating and Moderating Effects	This study included mediating effects and moderating effects.
Mandaci *et al.* ,(2014).	To establish the determinants of stock market development.	Foreign debt had significant Long relationship with stock market development.	Research based on a different context. Study considered only the long run relationship	This study was based on the Kenyan stock market context. This study equally tested both the long term and short term relationship.

Source: Empirical Literature Reviewed (2018)

2.5 Conceptual Framework

The conceptual framework enables the researcher explain the nature of the relationship between the independent and the dependent variable. The conceptual framework is thus a representation of the researchers' conceptualization of the relationship between the independent and the dependent variable. Fig 2.1 shows the researchers'' conceptualization of the effect of foreign financial inflows on stock market development.

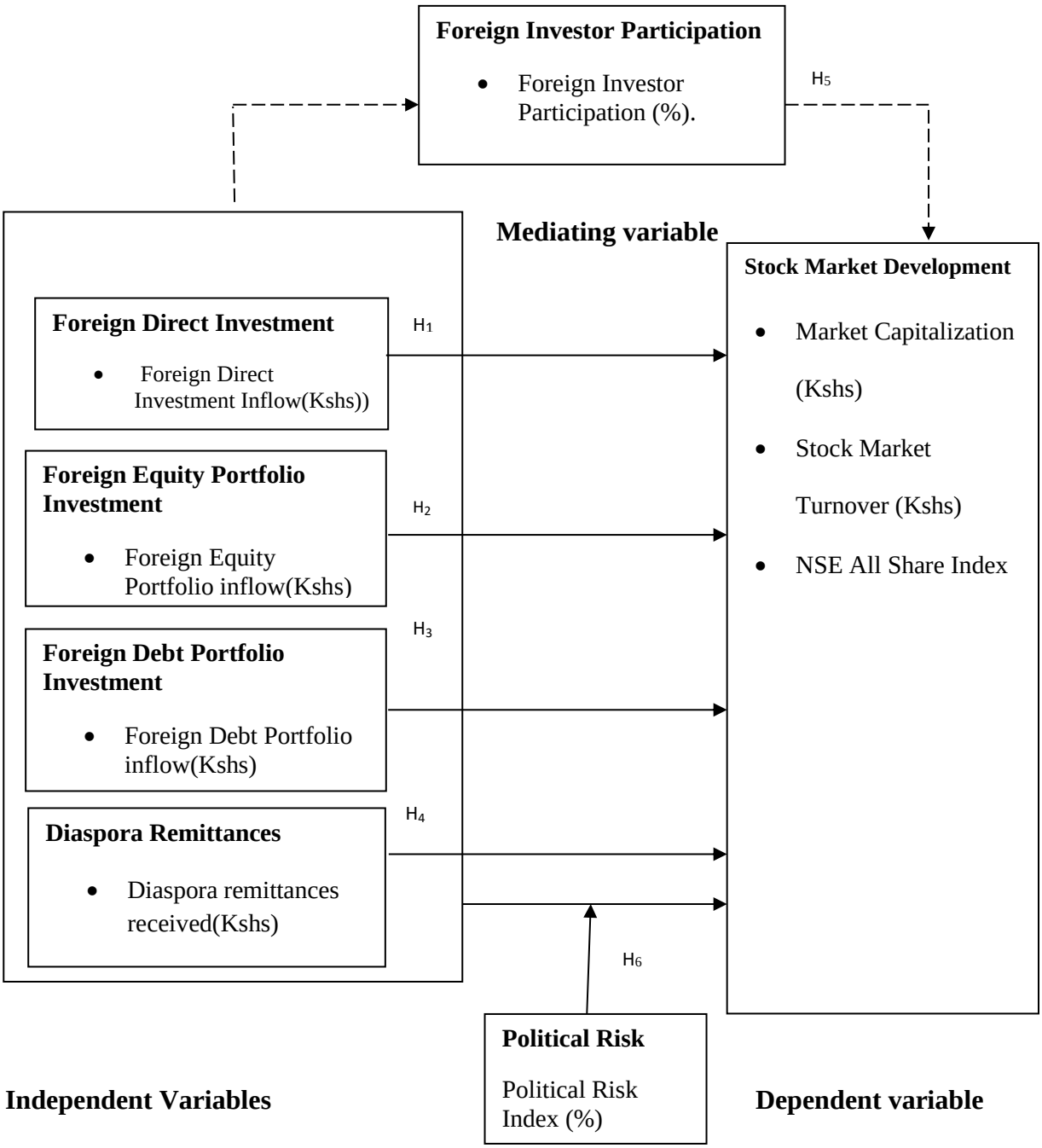

Figure 2.1: Conceptual framework

Source: Researcher (2018)

Fig. 2.1 indicates that foreign financial inflows were measured using four independent variables: Foreign Direct Investment, Foreign Portfolio Equity Investment, Foreign Debt Portfolio Investment and Diaspora Remittances. Foreign Investor Participation and Political Risk are the mediating and moderating variables respectively. These variables were selected on the basis of existing empirical literature review that demonstrated their significant relationship with stock market development. The dependent variable was measured using market capitalization as a proxy of market size, market turnover as a proxy of market liquidity and the NSE All Share Index as a proxy of market volatility. Unlike other measures of market development, market capitalization, market turnover and the NSE All Share index are able to capture the high frequency changes in the Nairobi Securities Exchange market.

Further, market capitalization has a direct relationship with the firms' ability to mobilize capital and its future growth prospects (Rajan & Zangles, 2003). Market liquidity is equally important since it enables the investors to access their savings in the period of investment thus making financial assets more attractive (Wassal, 2013). The choice of the NSE All Share index (NASI) as a proxy of market volatility is informed by the fact that, unlike the NSE 20 Share index that measures market performance on the basis of a sample of 20 blue chip counters, the NASI is a composite index composed of all firms listed at the bourse. The NASI is therefore able to capture even the small changes in small counters that would otherwise been over looked by the NSE All Share index.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that includes the research design, data collection tools and method that are used by the researcher to analyze the data collected. The chapter starts with a brief discussion of the research philosophy and the research design that was adopted by the study. The chapter equally provides a justification for the philosophy and design adopted by the study. The chapter then explores the empirical model adopted by the study. The chapter further considered the methods used in data collection and analysis of the data collected. The chapter winds up with a consideration of the ethical issues affecting the research and the method adopted by the study to deal with the ethical issues.

3.2 Research Philosophy

Research philosophy is the generally accepted belief on the way of gathering and analyzing a phenomenon (Saunders, Lewis, & Thornhill, 2009). The study adopted the positivism research philosophy. Positivism philosophy is a structured scientific approach where findings are independent of the researchers view point (Carson *et al.,* 2001). According to Kothari (2004) the approach is more objective and deals with the use of quantitative tools and techniques that deal with measuring and counting. This approach assumes that reality is fixed and directly measurable using standard instruments and procedures. The positivist philosophy is therefore a controlled and structural approach of conducting research that involve identification of a clear research topic, construction of hypotheses and adoption of an appropriate research methodology (Carson *et al*., 2001).

The adoption of Positivism philosophy was appropriate since this study sought to test the hypothesis that foreign inflows have a significant effect on stock market development at the Nairobi Securities Exchange. Positivism philosophy adopts a structured scientific approach that involves identification of a researchable area of study, construction of hypothesis and testing of the hypothesis using suitable methodology. Moreover the positivism philosophy leaves very little room for subjectivity as the findings of the study are independent of the researchers' personal opinion (Brymanes & Bell, 2011).

3.3 Research Design

The study adopted an explanatory design to identify the nature and extent of the causality relationship between foreign financial inflows and stock market development in Kenya. Specifically the research adopted a Causal research approach. Causal research is conducted in order to assess the effect of specific changes on existing processes and norms (Trochim, 2006). The causal research design assumes the existence of a statistically significant cause effect relationship between the independent variables and the dependent variable (Saunders, Lewis, & Thornhill, 2009). This design was appropriate for this study since the study assumes the existence of a statistically significant causal relationship between foreign financial inflows and stock market development at The Nairobi Securities Exchange, Kenya.

3.4 Empirical Model

The general empirical relationship between foreign financial inflows and stock market development is expressed in the form of a time series as linear model as indicated by model 3.1 below.

$$Y_t=\beta_0+\beta_1 X_t+\mu_t \quad \ldots\ldots 3.1$$

Where

Y_t =Stock Market Development at time t

X_t : =The vector of independent variables (Foreign Financial Inflows) at time t

β_1 = coefficients

β_0 = intercept

μ_t = error term in time t

The models were then estimated using the hierarchical regression analysis procedure (Mogaka, 2016). According to the hierarchical regression analysis procedure, the direct effects were first estimated using the Modified least Squares model (Newey & West, 1987). This is then followed by the estimation of the mediation effects using Barron and Kenny (1986) regression model. Subsequently, the study adopted the Whisman and McClelland (2005) regression model in estimating the moderation effects. Finally, the short run and long run cointergation effects are estimated using the autoregressive distributed lag model (Pesaran & Shin, 1995; Pesaran *et al.*,. 2001).

3.4.1 Direct Effect Model

The direct effect of foreign financial inflows on stock market development was estimated using the Modified Least Squares model in line with Newey & West (1987). The choice of the Modified Least Squares Model was informed by the fact that the study data exhibited serial correlation. The Newey and West Modified Least Squares presents Heteroscedasticity and Autocorrelation Consistent (HAC) estimates that correct for the existence of both heteroscedasticity and autocorrelation simultaneously (Donald, 1991). Subsequently, Hence, the econometric model in equation 3.1 was expanded and transformed into log-linear form as indicated by equations 3.2a, 3.2b and 3.2c respectively.

$$lnMCAP_t=\beta_0+\beta_1 lnFDI_t+\beta_2 lnFEP_t+\beta_3 lnFDP_t+\beta_4 lnREM_t+\mu_t \quad \text{3.2a}$$

$$lnMTNR_t=\beta_0+\beta_1 lnFDI_t+\beta_2 lnFEP_t+\beta_3 lnFDP_t+\beta_4 lnREM_t+\mu_t \quad \text{3.2b}$$

$$lnNASI_t=\beta_0+\beta_1 lnFDI_t+\beta_2 lnFEP_t+\beta_3 lnFDP_t+\beta_4 lnREM_t+\mu_t \quad \text{3.2c}$$

Where

$\beta 0$ = The intercept

$\beta 1\text{-}4$ = Coefficients of the Explanatory Variables.

$lnMCAP_t$ = Natural Log of Market Capitalization at time t

$lnMTNR_t$ = Natural Log of Market Turnover at time t

$lnNASI_t$ = Natural Log of NSE All Share Index at time t

$lnFDI_t$ = Natural log of Foreign Direct Investment at time t

$lnFEP_t$ = Natural Log of Foreign Equity Portfolio at time t

$lnFDP_t$ = Natural Log of Foreign Debt Portfolio at time t

$lnREM_t$ = Natural Log of Diaspora Remittances at time t

μ_t = Error term.

Log- transformation reduces sharpness in the data; provide elasticity and more reliable results (Shahbaz *et al.*, 2015). Moreover, it makes interpretation of results easier since the findings are interpreted as elasticity. According to Mukras (1986), elasticity measures the responsiveness of the dependent variable to a change in the independent variable. Transformed data gives better results compared Non-transformed data series (Shahbaz *et al.*, 2013). Equally, log transformation ensures normality in data distribution and eliminates heteroskedasticity (Koskei *et al.*, 2016).

3.4.2 Mediation Effect Model

The study applied the Barron and Kenny (1986) regression model criteria in testing the mediating effect of foreign investor participation on the relationship between foreign financial flows and the Stock Market development. According to Munene (2016) the model is appropriate for both large and small sample sizes. The test involves four steps: first, regress the dependent variable on the independent variables (Nkuru, 2017). Thus market capitalization, turnover ratio and the NSE All Share Index are regressed on the foreign financial inflows while controlling the effects of political risk as shown in equation 3.2a, 3.2b and 3.2c respectively. This is to test

whether indeed the foreign financial flows are significant predictors of the stock market development. Secondly, the mediator variable is regressed on the independent variable. Hence, foreign investor participation was regressed on foreign financial inflows to determine whether the foreign financial flows are significant predictors of foreign investor participation as indicated in Model 3.3.

$$LnFIPt = \beta_0 + \beta_1 lnFDI_t + \beta_2 lnFEP_t + \beta_3 lnFDP_t + \beta_4 lnREM_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.3$$

Where:

β0 = The intercept

β1-4 = Coefficients of the Explanatory Variables.

$lnFIP_t$ = Natural Log of Foreign Investor participation at time t

$lnFDI_t$ = Natural log of Foreign Direct Investment at time t

$lnFEP_t$ = Natural Log of Foreign Equity Portfolio at time t

$lnFDP_t$ = Natural Log of Foreign Debt Portfolio at time t

$lnREM_t$ = Natural Log of Diaspora Remittances at time t

μ_t = Error term.

Thirdly, dependent variables were regressed on the mediator variable. Hence, market capitalization, market turnover and NSE all share index were regressed on foreign investor participation to determine if indeed foreign investor participation is a significant predictor of stock market development as indicated in Model 3.4a, Model 3.4b and Model 3.4c.

$$lnMCAP_t = \beta_0 + \beta_1 lnFIP_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.4a$$

$$lnMTNR_t = \beta_0 + \beta_1 lnFIP_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.4b$$

$$lnNASI_t = \beta_0 + \beta_1 lnFIP_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.4c$$

Where

β0 = The intercept

β1-4 = Coefficients of the Explanatory Variables.

$lnMCAP_t$ = Natural Log of Market Capitalization at time t

$lnMTNR_t$ = Natural Log of Market Turnover at time t

$lnNASI_t$ = Natural Log of NSE All Share Index at time t

lnFIPt = Natural log of Foreign Investor Participation at time t

μ_t = Error term.

The fourth step, involved estimating the effect of the independent variables (Foreign financial inflows) including the mediating variable (foreign investor participation) as one of the explanatory variables on the dependent variable (stock market development). This is was to determine whether foreign investor participation had complete, partial or no mediation on stock market development as demonstrated by Model 3.5a, Model 3.5b and 3.5c

$$lnMCAP_t=\beta_0+\beta_1 lnFDI_t+\beta_2 lnFEP_t+\beta_3 lnFDP_t+\beta_4 lnREM_t+\beta_5 lnFIP_t \quad \text{3.5a}$$

$$lnMTNR_t=\beta_0+\beta_1 lnFDI_t+\beta_2 lnFEP_t+\beta_3 lnFDP_t+\beta_4 lnREM_t+\beta_5 lnFIP_t \quad \text{3.5b}$$

$$lnNASI_t=\beta_0+\beta_1 lnFDI_t+\beta_2 lnFEP_t+\beta_3 lnFDP_t+\beta_4 lnREM_t+\beta_5 lnFIP_t \quad \text{3.5c}$$

Where

β0 = The intercept

β1-4 = Coefficients of the Explanatory Variables.

$lnMCAP_t$ = Natural Log of Market Capitalization at time t

$lnMTNR_t$ = Natural Log of Market Turnover at time t

$lnNASI_t$ = Natural Log of NSE All Share Index at time t

$lnFDI_t$ = Natural log of Foreign Direct Investment at time t

$lnFEP_t$ = Natural Log of Foreign Equity Portfolio at time t

$lnFDP_t$ = Natural Log of Foreign Debt Portfolio at time t

$lnREM_t$ = Natural Log of Diaspora Remittances at time t

lnFIPt = Natural log of Foreign Investor Participation at time t

μ_t = Error term.

Finally, a decision is made on whether Foreign Investor Participation has a complete, partial or no mediation effect on the relationship between foreign financial inflows and stock market development as measured using market capitalization, market turnover and NSE all share index.

Table 3.1 demonstrates the decision making criteria applied in addressing the hypothesis on whether foreign investor participation has a significant mediating effect on the relationship between foreign financial inflows and stock market development in Kenya.

Table 3.1: Mediation Decision Making Criteria

Analysis	**Outcome**	**Decision**
1.	If coefficients β1 – β4 are significant in models 3.2a,3.2b and 3.2c	Complete Mediation
	If coefficients β1 – β4 are significant in the model 3.3	
	If coefficients β1 – β4 are not significant and β_5 is significant in the models 3.5a, 3.5b and 3.5c	
2.	If coefficients β1 – β4 are significant in the models 3.2a,3.2b and 3.2c	Partial Mediation
	If coefficients β1 – β4 are significant in the model 3.3	
	If coefficients β1 – β4 in 3.2a, 3.2b and 3.2c are significant but more significant than β1 – β4 in the model 3.5a, 3.5b and 3.4c and β5 is significant in models 3.5a,3.5b and 3.5c.	
3.	If coefficients β1 – β4 are not significant in the models 3.2a,3.2b and 3.2c	No Mediation
	If coefficients β1 – β4 are not significant in the model 3.3	
	If coefficients β1 – β4 are significant in the models 3.2a,3.2b and 3.2c are equal β1 – β4 in 3.5a,3.5b and 3.5c and β_5 is not significant in model 3.5a,3.5b and 3.5c	

Source: Barron and Kenny (1986)

3.4.3 Moderating Effect Model

The study sought to assess the moderation effect of political risk on the relationship between the foreign financial inflows and the stock market development in Kenya by adopting the Whisman and McClelland (2005) two step moderation tests. According to Kraemer *et al.,* (2001) this test is applicable when establishing the moderating effect of a variable on the relationship between the

independent variables and dependent variable. To determine the moderation effect of political risk on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange: first, political risk is introduced as an explanatory variable as shown in Models 3.6a, 3.6b and 3.6c. Secondly, political risk is introduced as a moderating variable as shown in Models 3.7a, 3.7b and 3.7c.

STEP 1:

MCAP $= \alpha + \beta_1$ Foreign financial inflows $+ \beta_2$ Political risk$+ \varepsilon_t$ …….....3.6a

MTNR$= \alpha + \beta_1$ Foreign financial inflows $+ \beta_2$ Political risk$+ \varepsilon_t$ …….....3.6b

NASI $= \alpha + \beta_1$ Foreign financial inflows $+ \beta_2$ Political risk$+ \varepsilon_t$ …… ….....3.6c

STEP 2 :

MCAP $= \alpha + \beta_1$ Foreign financial inflows $+ \beta_2$ Foreign financial inflows * Political risk $+ \varepsilon_t$ ……..…….……...……..…….....3.7a

MTNR $= \alpha + \beta_1$ Foreign financial inflows $+ \beta_2$ Foreign financial inflows * Political risk $+ \varepsilon_t$……...……...……...……...…..……....3.7b

NASI $= \alpha + \beta_1$ Foreign financial inflows $+ \beta_2$ Foreign financial inflows * Political risk $+ \varepsilon_t$……...……...……...……...…..……....3.7c

Where:

Foreign financial inflows = FDI, FEP, FDP and DR

Stock Market development=MCAP and MTNR and NASI

Table 3.2 provides a summary of the criteria applied in making a decision on whether political risk moderates the relationship between foreign financial inflows and stock markets development in Kenya.

Table 3.2: Moderation Decision Making Criteria

Analysis	Outcome	Decision
Step one: Equation 3.5a, 3.5b and 3.5c Political risk as an independent variable	Significant F Statistics	Model is significant
	Insignificant F Statistics	Model not Significant
	Significant coefficient of political risk	Political risk is an explanatory variable
	Insignificant coefficient of political risk.	Political risk can moderate relationship between foreign financial flows and stock market development in Kenya
Step two: Equation 3.6a, 3.6b and 3.6c Political risk as a moderator variable	Significant F Statistics	Model is significant
	Insignificant F Statistics	Model not Significant
	Significant coefficient of political risk	Political risk variables moderates the relationship between foreign financial inflows and stock market development in Kenya
	Insignificant coefficient of Political risk	Political risk variables does not moderate the relationship between foreign financial inflows and stock market development in Kenya

Source: Whisman and McClelland (2005)

3.4.4 Cointergration Effect Model

Study variables are said to be cointergrated when they move in the same direction or demonstrate some linear relationship in the long run. Thus variable may trend upwards or downwards in the short run but have a long run equilibrium relationship. For variables to be cointegrated the value of the F-statistics must exceed the upper critical bound (Pesaran & Shin, 1995). Financial relations are often not contemporaneous but are rather dynamic in nature. The stock market returns for instance are affected not by the contemporaneous value but rather by the lagged unexpected flows and (Nyangoro, 2013). This is due to the fact that financial agents do not immediately comprehend the effect of an announcement or may not believe the news and even if this was not the case technological and institutional factors may influence response (Brooks, 2008). Besides, financial markets often over react to new information whether bad or good news.

For instance, the issuance of a profit warning by a firm will initially make its stock prices decline beyond the appropriate level before subsequently stabilizing at a new level.

From the foregoing, a change in the independent variables will not have an immediate effect on the dependent variable but rather lag over several periods. The ARDL bound testing developed by (Pesaran and Shin, 1995; Pesaran *et al.*,2001) was used to establish the long run and short run effect of foreign financial flows on stock market development (Raza & Jawaid, 2013). The ARDL is appropriate since its applied irrespective of the underlying variables being integrated of order I(0), I(1) but not I(2). ARDL is more robust and performs better in small samples and large than other cointergration techniques (Kalim & Shahbaz, 2008). Further, ARDL adjusted with an Error Correction Model (ECM) is applied in testing for both long run and short run dynamics simultaneously (Abubakar & Danladi, 2018). The ARDL model for the study is given in model 3.8a, 3.8b and 3.8c.

$$\Delta lnMCAP_t=\beta_0+\Delta lnMCAP_{t-p}+\beta_1\sum^{n}_{t=1}\Delta lnFDI_{t-p}+\beta_2\sum^{n}_{t=1}\Delta lnFEP_{t-p}+\beta_3\sum^{n}_{t=1}\Delta lnFDP_{t-p}+\beta_4\sum^{n}_{t=1}\Delta lnREM_{t-p}+\mu_t \quad 3.8a$$

$$\Delta lnMTNR_t=\beta_0+\Delta lnMTNR_{t-p}+\beta_1\sum^{n}_{t=1}\Delta lnFDI_{t-p}+\beta_2\sum^{n}_{t=1}\Delta lnFEP_{t-p}+\beta_3\sum^{n}_{t=1}\Delta lnFDP_{t-p}+\beta_4\sum^{n}_{t=1}\Delta lnREM_{t-p}+\mu_t \quad 3.8b$$

$$\Delta lnNASI_t=\beta_0+\Delta lnNASI_{t-p}+\beta_1\sum^{n}_{t=1}\Delta lnFDI_{t-p}+\beta_2\sum^{n}_{t=1}\Delta lnFEP_{t-p}+\beta_3\sum^{n}_{t=1}\Delta lnFDP_{t-p}+\beta_4\sum^{n}_{t=1}\Delta lnREM_{t-p}+\mu_t \quad 3.8c$$

Where:

$_{p=}$ The maximum lag period

Δ is the difference operator.

$lnMCAP_t$ = Natural Log of Market Capitalization at time t

$lnMTNR_t$ = Natural Log of Market Turnover at time t

$lnNASI_t$ = Natural Log of NSE All Share Index at time t

$lnFDI_t$ = Natural log of Foreign Direct Investment at time t

$lnFEP_t$ = Natural Log of Foreign Equity Portfolio at time t

$lnFDP_t$ = Natural Log of Foreign Debt Portfolio at time t

$\ln REM_t$ = Natural Log of Diaspora Remittances at time t

μ_t = Error term.

However, to test for short run effect of foreign financial inflows on stock market development the Autoregressive Distributed Lag (ARDL) model is adjusted with an Error Correction Model (ECM) as demonstrated in models 3.9a, 3.9b and 3.9c.

$$\Delta MCAP_t=\beta_0+\Delta MCAP_{t-p}+\beta_1\sum^{n}_{t=1}\Delta FDI_{t-p}+\beta_2\sum^{n}_{t=1}\Delta FEP_{t-p}+\beta_3\sum^{n}_{t=1}\Delta FDP_{t-p}+\beta_4\sum^{n}_{t=1}\Delta REM_{t-pt-p}+\alpha_1\Delta FDI_{t-p}+\alpha_2\Delta FEP_{t-p}+\alpha_3\Delta FDP_{t-p}+\alpha_4\Delta REM_{t-p}+\mu_{it} \quad \text{3.9a}$$

$$\Delta MTNR_t=\beta_0+\Delta TR_{t-p}+\beta_1\sum^{n}_{t=1}\Delta FDI_{t-p}+\beta_2\sum^{n}_{t=1}\Delta FEP_{t-p}+\beta_3\sum^{n}_{t=1}\Delta FDP_{t-p}+\beta_4\sum^{n}_{t=1}\Delta REM_{t-p}+\alpha_1\Delta FDI_{t-p}+\alpha_2\Delta FEP_{t-p}+\alpha_3\Delta FDP_{t-p}+\alpha_4\Delta REM_{t-p}+\mu_{it} \quad \text{3.9b}$$

$$\Delta NASI_t=\beta_0+\Delta TR_{t-p}+\beta_1\sum^{n}_{t=1}\Delta FDI_{t-p}+\beta_2\sum^{n}_{t=1}\Delta FEP_{t-p}+\beta_3\sum^{n}_{t=1}\Delta FDP_{t-p}+\beta_4\sum^{n}_{t=1}\Delta REM_{t-p}+\alpha_1\Delta FDI_{t-p}+\alpha_2\Delta FEP_{t-p}+\alpha_3\Delta FDP_{t-p}+\alpha_4\Delta REM_{t-p}+\mu_{it} \quad \text{3.9c}$$

Where:

Δ is the difference operator.

$\beta 1 \ldots\ldots \beta 5$ are the long run coefficients.

$\alpha_1 \ldots\ldots\ldots \alpha_4$ are the short run coefficients.

$\ln MCAP_t$ = Natural Log of Market Capitalization at time t

$\ln MTNR_t$ = Natural Log of Market Turnover at time t

$\ln NASI_t$ = Natural Log of NSE All Share Index at time t

$\ln FDI_t$ = Natural log of Foreign Direct Investment at time t

$\ln FEP_t$ = Natural Log of Foreign Equity Portfolio at time t

$\ln FDP_t$ = Natural Log of Foreign Debt Portfolio at time t

$\ln REM_t$ = Natural Log of Diaspora Remittances at time t

μ_t = Error term.

ARDL model is thus divided into two parts; the first part of the equation with $\beta 0$ to $\beta 4$ denotes the long run coefficients of the model, while the coefficients $\alpha 1$ to $\alpha 4$ signifies the short run

coefficients of the model. Before conducting any conducting any cointergration test on the data collected the researcher determined the optimal number of lags. This is performed whenever the ARDL bound testing is used (Kalim and Shahbaz, 2008). Subsequently, the study conducted diagnostic tests before testing for the existence of long run and short run relationship between the study variables. The study adopted the Wald F- statistic to interpret the relationship between the foreign financial flows and stock market development. The null hypothesis of no cointergration is rejected if the F statistic exceeds the upper critical value of the F statistic. If F statics fall within the upper and lower critical limit then the research will be inconclusive. However if the F statistic falls below the lower limit the researcher will fail to reject the null hypothesis.

3.5 Operationalization and Measurement of Variables

Table 3.3 contains a list of the independent variables, mediating variable, moderating variable, and the dependent variable of the study. The table also provides the operational definition of the variables and measurements applied in estimating the variables. The measurements applied to estimate the various variables were validated using similar studies from literature.

Table 3.3: Operationalization and Measurement of Variables

Category	Variable	Operationalization	Measurement	Scale
Independent Variables	Foreign Direct Investment	Foreign investment in physical assets and distribution plants of domestic firms.	% change in quarterly FDI inflow	Ratio scale
	Foreign Equity Portfolio	Foreign investment in equity securities of the domestic market.	% change in quarterly Portfolio equity inflow	Ratio scale
	Foreign Debt Portfolio	Foreign investment in debt instruments of the domestic market.	% change in Quarterly debt portfolio inflow	Ratio scale
	Diaspora Remittances	Sum of all personal cash transfers made to residents by Non-residents.	% change quarterly Diaspora remittances received	Ratio Scale
Mediating variable	Foreign investor participation	Foreign investor activity expressed as a percentage of overall market activity.	% change in foreign investor participation.	Ratio scale
Moderating Variable	Political Risk	Risk of political decisions or events negatively affecting the stock market.	Political Risk index	Ratio scale
Dependent Variable	Market Capitalization	Overall value of stocks listed at the domestic market.	% change in quarterly market capitalization	Ratio scale
	Market Turnover	Value of securities traded in the market over a given period.	% change in quarterly market turnover	Ratio scale
	Nairobi All Share Index	Average quarterly value of the NSE All Share index.	% change in quarterly NSE 20 share index.	Ratio scale

Source: Researcher, 2018

3.6 Target Population

A targeted population is the group of objects or items which a researcher is interested in when conducting a particular study (Saunders, Lewis, & Thornhill, 2009). The target population of the study was The Nairobi Securities Exchange market. As at December 2018 sixty seven firms were listed at the Nairobi Securities Exchange (NSE, 2018). The choice of targeting the Nairobi Securities Exchange was informed by two reasons: first, the easy availability and access of information since market information is open to the general public. Secondly, given the high standards and regulations set by the capital markets on the accuracy of information disseminated to the public by all the listed firms, the data was assumed to be accurate and reliable (Mogaka, 2017). Moreover, the competitive nature of the Nairobi Securities Exchange market implies that firms have to display accurate information consistently over time in order to win the confidence of potential investors.

3.7 Sampling Design

In view of the foregoing discussion the study adopted a census design including all firms listed in the Nairobi securities exchange and involved in the computation of the overall market capitalization, market turnover and NSE All Share index. A census design involves a complete enumeration all the units in a given population during data collection (Saunders *et al.,* 2009). A census design helps to enhance data quality and minimize sampling error since every unit is studied before drawing conclusions (Nkuru, 2017). Therefore the census approach ensures more accurate and complete information. The choice of the census approach was further informed by the heterogeneous nature of firms listed at the Nairobi Securities Exchange market. The firms are drawn from different sectors and are characterized by differences in size, market value and liquidity. Therefore a sample obtained from a population that is characterized by heterogeneous

units such as the stock market may not be a fair representative of the population or may exaggerate some particular finding from the study (Sharma, 2017).

3.8 Data Type and Data Sources

Secondary time series data for the period of January 2008 – December 2018 was used for the purpose of meeting the objectives of this study. Time series data is associated with a sequence of observations collected at regular frequency of time intervals (Brooks, 2008). Most financial models generally require that data observations in all the study variables should have the same frequency. The choice of time series data was therefore informed by the following reasons: first time series data enables the analysis of past trends as well as forecasting of the future trends based on historical trends and patterns (Mills, 1999). Secondly, time series data aids in dealing with temporal effects between two data series and the dependency of one series on another (Tsay, 2000). Temporal effects are associated with the passage of time from one period to another. Finally, the choice of time series was informed by the availability of time series market data for the entire duration of the study from the Nairobi Securities Exchange and the Capital Markets Authority.

Quarterly time series data relating to foreign direct investment, equity portfolio investment, foreign debt portfolio and Diaspora remittances, foreign investor participation and political risk were obtained from the United Nations Conference on Trade and Development (UNCTAD) website on the African development indicators, Nairobi Securities Exchange, Capital Markets Authority, Kenyan Central Bank and the political risk international website. Market capitalization, market turnover and NSE All Share Index are used as proxies of the stock market development. Quarterly data on market capitalization, market turnover and the NSE All Share

Index was obtained from the Capital Markets Authority quarterly statistical Bulletins and the Nairobi Securities Exchange quarterly market reports.

3.9 Data Collection Instrument

The research should examine critically the data extraction tool to confirm whether it is likely to yield expected results (Godfred, 2016). The study used a secondary data collection schedule to collect and compile the data required for analysis. The secondary data collection schedule is shown in Appendix III. As indicated by the data collection schedule quarterly data on market capitalization, market turnover and NSE All Share index for the period January 2008- December 2018 was obtained from the CMA quarterly statistical Bulletins and the Nairobi Securities Exchange Market quarterly reports. Equally, quarterly data for the same period relating to foreign direct investment, equity portfolio investment, foreign debt portfolio and diaspora remittances was obtained from the United Nations Conference on Trade and Development (UNCTAD website) Nairobi Securities Exchange, Capital Markets Authority, Central Bank of Kenya respectively.

3.10 Validity Test

Validity implies that a research instrument measures what it is intended to measure with accuracy. Thus a measure may be reliable but not valid but for a measure to be valid it must be reliable (Shofer *et, al.,* 2005). Thus to ensure validity the researcher the study used similar significant variables from several past studies that have applied similar measures being applied by the current study (Munene, 2016). Equally, only those variables derived from a thorough review of literature were included in the data review guide.

3.11 Data Collection Procedure

The researcher first requested and obtained a research authorization letter from Kenyatta University Graduate School. This letter was then forwarded to the National commission for science, technology and innovation (NACOSTI) to authorize the researcher to collect data from the Quarterly published reports of the Central Bank of Kenya (CBK), Capital market Authority (CMA), Nairobi Securities Exchange (NSE), United Nations Conference on Trade and development (UNCTAD), World Bank and the Political Risk Service International websites for the period 2008-2018. Data on one variable was sourced from a single source. However, more than one source was used where data from one source was not complete.

The data on market capitalization, market turnover, NSE All Share Index and foreign investor participation was sourced from the CMA quarterly statistical bulletins. FDI data was sourced from the UNCTAD was only available on annual basis and therefore the study assumed that FDI is made evenly throughout the period. Equally the FDI data was available in USA dollars (USD) and was therefore translated into Kenyan shillings using the prevailing quarterly exchange rates obtained from the CBK website. The data on Foreign Equity Portfolio (FEP) and Foreign Debt Portfolio (FDP) was obtained from the NSE daily price lists. The data was therefore averaged to obtain the three month average data. The data on diaspora remittances was sourced from the CBK quarterly reports while the data on political risk was obtained from the political risk service international group website and the World Bank website.

3.12 Data Analysis

The data collected was analyzed using both descriptive and inferential statistics. The study used correlation analysis, time series multiple regression analysis and Auto regressive Distributed Lag

(ARDL) cointergration analysis with the aid of E-views version 9.5 statistical software using the following procedure. The secondary data was first summarized and relevant changes made using Excel software. The data was then exported to E-views version 9.5 where by various diagnostic tests were run to ensure that the assumptions of linear regression are not violated. The Karl Pearson correlation matrix was used in testing the correlation between the independent variables and the dependent variables of the study. The Autoregressive Distributed Lag Model was run to establish the relationship between foreign financial inflows and stock market development in Kenya in the long run. The Autoregressive Distributed Lag Model was appropriate since its applicable irrespective of the underlying variables being integrated of order I(0) and I(1) but not mutually cointergrated (Pesaran *et al.,* 2001). Autoregressive Distributed Lag model is more robust and performs better in small samples than other cointergration techniques (Kalim & Shahbaz, 2008).

Equally, Autoregressive Distributed Lag model was used to estimate the Error Correction Model (ECM) and thus test for both long term relationship and short term relationship simultaneously. There is need to estimate the effect of one time shocks to each of the independent variable and the market capitalization (Ocharo *et.al*, 2014). Thus in addition to the use of the Autoregressive Distributed Lag Model estimation for long run relationship, the study used the Error Correction Model estimated from the Autoregressive Distributed Lag model to analyze short run dynamic relationship between foreign financial inflows and the development of the stock market (Adams and Tweneboah, 2008). The data analyzed was then presented in form of Figures, graphs and tables.

3.13 Diagnostic Tests

Violation of the assumptions of Classical Linear Regression Model (CLRM) will not only produce parameter estimates that are not Best Linear and Unbiased Estimates (BLUE) but also inefficient and inconsistent parameter estimates. The study conducted the following tests to ensure non-violation of the assumption of the Classical Linear Regression Model: normality test, stationarity test, heteroscedasticity test, multicollinearity test and autocorrelation test.

3.13.1 Normality Test

The study applied the Jarque Bera test statistic to test for normality. Unlike other normality tests, the Jarque –Bera test also incorporates the skewness and kurtosis in determining the normality of the study variables. The test involves testing the null hypothesis that the population is not different from a normally distributed population. If the P-value is less than 0.05, then reject the null hypothesis and the population is considered non-normal. However, if the P-value is greater than 0.05, then fail to reject the null hypothesis and the population considered normal (Field, 2009). In the case of non-normal population a method that effectively removes observations or outliers causing the non- normality is adopted (Brooks, 2008).

3.13.2 Stationarity Test

Time series data is said to be stationary if the mean, variance and the covariance remain the same no matter the time of measurement. This implies that the data is not affected by time factor. Using non- stationery data may yield spurious results that look good under standard measure with significant estimates and with a high R^2 but valueless (Gujarati,2003). The augmented Dick Fuller (ADF) test and the Phillip Peron (PP) unit root tests are commonly used to conduct stationary tests. In both cases of ADF and PP tests the null hypothesis of non-stationary (unit root) is tested against the alternative hypothesis of stationary data. (Paramati & Gupta, 2013). If

the P-value is greater than 0.05, then fail to reject the null hypothesis (Dickey & Fuller, 1979). However, if P-value is less than 0.05, the study rejects the null hypothesis and concludes that the data is stationary. The PP test incorporates automatic correction and allows for correlated residuals. Hence, unlike ADF, the PP test corrects the statistic for auto correlation and existence of heteroscedasticity. The study therefore applied the PP test to check for the existence of stationarity.

3.13.3 Heteroscedasticity Test

Heteroscedasticity implies that the error terms do not have a constant variance or are not homoscedastic. According to Cooper and Schindler (2008), heteroscedasiticity makes the Ordinary Least Squares (OLS) to give unbiased coefficient estimates that are not Best Linear Unbiased Estimate (BLUE). Since the standard errors are wrong, the inferences made may be misleading. The existence of heteroscedasticity was tested using the white test of heteroscedasticity (White, 1980). The White test is preferred over the Breusch Pagan Godfrey test since it is a more general test with the ability to test non-linear forms of heteroscedasticity (Greene, 2000). Besides, the white test is applicable even when the error terms are not normally distributed. The test involved testing the null hypothesis that the error terms have a constant variance or the error terms are homoscedastic against the alternative hypothesis that the error terms are heteroscedastic. If the P-value is greater than 0.05, fail to reject the null hypothesis. However if P-value is less than 0.05, reject the null hypothesis and conclude that the error terms are heteroscedastic. In case of existence of heteroscedasticity, the study transforms the variables into logs and the regression is then run upon natural logarithm or the already transformed data.

3.13.4 Multicollinearity Test

The existence Multicollinerity among the explanatory variables makes the regression estimates to have large variances and covariance. Therefore the coefficients cannot be estimated with great precision. Equally, the t-ratios tend to be statistically insignificant even though the R^2 is very high (William *et al.,* 2013). The study tested for multicollinearity using the variance inflation factors (VIF) and the pearsons correlation matrix. According to Field (2009), VIF values in excess of 10 or a tolerance statistic less than 0.1 are indicators of the presence of multicollinearity. Equally a pearsons correlation coefficient greater than 0.8 is an indication of severe multicollinearity. Since the existence of multicollinearity may not influence the BLUE properties of the model, the researcher may ignore insignificant multicolleniarity. According to Gujarati (2003) it's the severity and not presence of multicollinearity that will cause a dilemma to the researcher. Under such circumstances of severe multicollinearity researchers often drop one of the collinear variables or transform the variables into ratios to avoid the use of absolute values.

3.13.5 Autocorrelation Test

Linear Regression assumes a zero covariance between the error terms (Brooks, 2008). Thus error terms are not serially correlated or are auto correlated. In situations where data entails both cross-section and time-series, there is existence of a likelihood of serial correlation (Anderson *et al.,* 2007). Auto correlation makes the regression coefficients unbiased but not BLUE. In case of positive serial correlation standard errors have a downwards biased relative to their true standard errors thus leading to type one error. The R^2 is also likely to be inflated. To test for auto correlation the researcher used the Breusch-Godfrey LM test. According to Brooks (2008) unlike the Breusch-Godfrey test, the Durbin Watson Test that requires several assumptions to be

fulfilled before it can be applied. Equally the Durbin Watson test is not able to test for different forms of auto correlation and is not applicable if their exist lags in the dependent variable. The Breusch Godfrey test is a general of serial correlation that involves testing the null hypothesis that the data has no serial correlation. The alternative hypothesis is the existence of serial correlation. If the P-value is greater than 0.05, fail to reject the null hypothesis. However, if P-value is less than 0.05, then reject the null hypothesis and conclude that the residuals are serially correlated. Consequently, the existence of serial correlation in the study was dealt with using the modified standard error estimates (Newey & West, 1987)

3.13.6 CUSUM Model Stability Test

The Classical Linear Regression Models (CLRM) are assumed to have stability of coefficients (β) over time. Therefore to assess the stability of model coefficients the study used Cumulative Sum of Recursive Residuals (CUSUM) model stability test. The CUSUM test involves testing the null hypothesis that all the model coefficients are significant. Thus if the plot of CUSUM statistic is within the critical bounds at the level of significance then fail to reject the null hypothesis and study finds that model coefficients are stable (Adjasi & Biekle, 2005). However, if the plot of the CUSUM statistic lies outside the critical bounds at the level of significance then reject the null hypothesis.

3.14 Ethical Consideration

Ethics involves the determination ways of being ideal or the ideal human behavior (Rich, 2006). Ethical considerations in research involve evaluating the right and wrong research practices. It is the responsibility of the researchers to adhere to high standards to ensure that information obtained in the research process is not brought to disrepute (Saunders *et al.,* 2008). Thus a

researcher should adhere to ethical practices at every stage when conducting research. To ensure that ethical standards are met the researcher obtained the required permits and approvals from Kenyatta University and National Commission of Science on Technology and Innovation (NACOSTI). Additionally, the researcher ensured that all relevant sources and referred to in the study are acknowledged.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter provides a detailed discussion of the research findings and subsequently gives a detailed interpretation of the findings in line with the study objectives. Both descriptive and inferential statistics have been applied in analyzing the data and the findings are presented using tables and figures. The findings from preliminary diagnostic tests such as normality, stationarity, heteroskedasiticity, muilticollinearity and model stability tests are also presented. The chapter equally provides a detailed presentation of the findings from correlation analysis, direct effect test and cointergration test. The findings are subsequently interpreted in line with the objectives and interacted with the relevant theoretical and empirical literature.

4.2 Descriptive Statistics

The findings of a study depend on the nature of the data and the methods applied in analyzing such data. Measure of central tendency such as the mean, maximum, minimum and standard deviation are used to describe the nature of the data used in the study. The use of the mean and standard deviation in the description of the study data was informed by the fact that in comparison to other statistical measures the mean is the most robust statistic while the standard deviation is the most stable statistical measure of dispersion (Mungami, 2013). The study obtained quarterly data for the period January 2008- December 2018 for all the variables except for Foreign Direct Investment (FDI) where the data available from official sources was on an annual basis. The study therefore assumed that FDI was made evenly on quarterly basis throughout the year. Table 4.1 presents results from the analysis of the description statistics of the study data.

Table 4.1: Descriptive Statistics Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Market Capitalization (MCAP)	44	689.05	2817.36	1612.002	624.25575
Market Turnover (MTNR)	44	6.68	65.00	33.6141	15.48421
NSE All Share Index (NASI)	44	59.49	175.11	118.4795	35.69024
Foreign Direct Investment (FDI)	44	7.64	34.04	20.6792	7.52942
Foreign Equity Portfolio (FEP)	44	-11.12	13.53	1.2017	4.89884
Foreign Debt Portfolio (FDP)	44	.15	3.25	1.5054	.70601
Diaspora Remittances (REM)	44	9.36	74.26	30.8351	17.63124
Foreign investor Participation(FIP)	44	5.50	77.21	49.2255	17.50099
Political Risk Index (PRI)	44	0.25	0.77	0.5459	0.14550

Source: Study Data 2019

Table 4.1 indicates that the mean quarterly market capitalization (MCAP) for the period under the study was Ksh.1612.002 Billion with a standard deviation of Ksh. 624.256 Billion. The standard deviation indicates a high variation of market capitalization in the period under review as evidenced by a maximum market capitalization of Ksh. 2817.36 Billion and minimum value of Ksh. 689.05 Billion. The market liquidity as measured using the quarterly market turnover (MTNR) had a mean of Kshs. 33.614 Billion with a standard deviation of Kshs. 15.484 Billion. The average market turnover was less than 3% of the average market capitalization during the period. This is an indication of very low liquidity at the NSE supporting the findings of Nyangoro (2013) that the Kenyan stock market is characterized by small size and extreme volatility. Further, the stock market is narrow, shallow and thin with the equity market and private bond market raising less than 1% of growth financing (Ngugi, Amanja & Maana, 2013). The extreme volatility of the stock market is further evidenced by the NSE 20 All Share index (NASI). During the period the NASI had a minimum of 59.49 points and maximum of 175.11

points with a standard deviation of 35.69. The high standard deviation is an indication of the high volatility of stock market returns at the Nairobi Securities Exchange market.

Foreign Direct Investment (FDI) inflow during the period had a mean Kshs. 20.68 Billion with a standard deviation of Kshs.7.529 Billion. The maximum FDI during the period was Kshs. 34.04 Billion and minimum FDI during the period was Kshs. 7.64 Billion. The huge difference between the maximum and minimum FDI is an indication of the increased fluctuation of FDI during the period under study. The net Foreign Equity Portfolio (FEP) inflows into the NSE had a mean of Kshs. 1.202 Billion with a standard deviation of Kshs. 4.899 Billion. The high standard deviation, greater than the mean, is indication of a very high volatility of the foreign equity inflows as evidenced by the maximum value of Kshs. 13.53 Billion and a minimum of Kshs. (11.12) Billion. The negative value is an indication of periods when the foreign equity outflows where greater than foreign equity inflows implying that foreign sales were greater than foreign purchases (Koskei *et al.,* 2016). Foreign Debt Portfolio (FDP) inflows measured using foreign bond portfolio inflows had a mean a Kshs. 1.505 Billion with a maximum of Kshs. 3.25 Billion and minimum of Kshs. 0.15 Billion respectively. The relatively low standard deviation of Kshs. 0.706 Billion is an indication of stability of foreign debt portfolio inflows. Foreign debt portfolio inflows, unlike foreign equity inflows and foreign direct investment, are associated with fixed returns on investment. This makes foreign debt portfolio inflows relatively stable in comparison to other foreign inflows.

Diaspora remittances had a mean of Kshs. 30.835 Billion with a standard deviation of kshs. 17.631 Billion. During the period under study, the maximum remittance of Kshs. 74.26 Billion is received in the second quarter of 2018 while minimum remittance of Kshs. 9.36 Billion is received in the third quarter of the year 2008. Diaspora remittances show a consistent increase

from one period to another throughout the study period. Foreign investor participation had a mean of 46.226% with a maximum of 77.21%, minimum of 5.5% and standard deviation of 17.5%. This is an indicator of increased growth in foreign investor participation throughout the period under study. According to Nyangoro (2013), since the inception of the liberalization of the capital markets foreign investor participation at the Nairobi Securities Exchange (NSE) market has seen tremendous growth. The political risk index had a mean of 0.55 with a maximum index 0.77 and a minimum index of 0.25. The high difference between the maximum and minimum political risk index is an indication of a highly volatile political environment throughout the study period.

4.3 Inferential Analysis

This section presents the findings from the analysis of inferential statistics. The findings include results from both bivariate and multivariate analysis. The bivariate analysis results includes the findings from the correlation analysis while the findings from multivariate analysis includes the findings from direct effect test, mediation effect test , moderation effect test and test of cointergration effects.

4.3.1 Correlation Analysis

The Karl Pearson correlation matrix is applied to test the relationship between the independent variables and the dependent variables of the study. Table 4.2 below is a presentation of the findings from correlation analysis.

Table 4.2: Karl Pearson Correlation Analysis Results

	lnMCAP	lnMTNR	lnNASI	lnFDI	lnFEP	lnFDP	lnREM	lnFIP	lnPRI
lnMCAP	1								
lnMTNR	0.875* (0.000)	1							
lnNASI	0.974* (0.000)	0.886* (0.000)	1						
lnFDI	-0.455* (0.002)	-0.465* (0.001)	-0.550* (0.000)	1					
lnFEP	-0.412* (0.005)	-0.204 (0.183)	-0.378* (0.011)	0.160 (0.301)	1				
lnFDP	0.380* (0.011)	0.305* (0.044)	0.319* (0.035)	0.225 (0.142)	-0.129 (0.404)	1			
lnREM	0.851* (0.000)	0.593* (0.000)	0.774* (0.000)	-0.277 (0.068)	-0.529* (0.000)	0.385* (0.010)	1		
lnFIP	0.674* (0.000)	0.484* (0.001)	0.608* (0.000)	-0.094 (0.544)	-.0085 (0.582)	0.359* (0.017)	0.733* (0.000)	1	
lnPRI	-0.099 (0.523)	-0.120 (0.436)	-0.049 (0.750)	0.047 (0.761)	-0.174 (0.259)	-0.098 (0.527)	0.004 (0.982)	-0.074 (0.635)	1

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

Source: Study Data (2019)

From the findings illustrated in Table 4.2 Foreign Direct Investment (FDI) has a negative significant correlation stock market development as measured using market capitalization, market turnover and the NSE All Share Index (NASI). Equally, Foreign Direct Investment has the highest negative significant correlation with market capitalization, market turnover and NASI. This can be attributed to the fact that foreign investors are often driven by the need to diversify their risk portfolio and hence take advantage of the high short run returns in emerging markets (Allen *et al.,* 2010). Consequently, as the markets eventually stabilize in the long run such investors often realize that they may not attain the high returns initially anticipated thus pull

out of the market immediately leading to shocks (Koskei, 2017). Further, Foreign Equity Portfolio (FEP) has a negative but significant relationship with market capitalization and the NSE All Share index. However, the relationship with market turnover is negative but insignificant. The negative relationship between foreign equity portfolio and market capitalization can be attributed to the high volatility associate with foreign equity portfolio flows. Such increased volatility affects the market operations and hence reduced market returns (Barnor, 2014).

Table 4.2 further indicates that Foreign Debt Portfolio (FDP) has a positive significant relationship with market capitalization, market turnover and the NASI. Notably, foreign debt portfolio is associated with fixed return on investment (Arnold, 2008). These makes foreign debt portfolio relatively more stable in comparison to foreign equity inflows. The highest positive significant correlation however, is between Diaspora Remittances (REM) and stock market development as measured using market capitalization, market turnover and the NSE All Share index. According to Njoroge (2014), the increased awareness about the returns in the market, has led to increased amounts of remittances investment in the stock market. Unlike other sources of external finance, diaspora remittances are directly sent to the recipient from the sender. Thus tend to be more stable making them a reliable source of financing for developing countries (Ratha & Mohapatra, 2007).

The findings further reveal that foreign Investor Participation (FIP) has a positive significant relationship with market capitalization, market turnover and the NSE All Share index.. The significant positive relationship between foreign investor participation and stock market development indicators can be explained by the fact that increased foreign investors'

participation leads to enhanced market liquidity and value of stocks (Kumar & Devi, 2013). Political risk index had negative but insignificant correlation with stock market development as measured using market capitalization, market turnover and the NSE All Share index. This implies that despite the negative effects associated with increased political risk its relationship with stock market development is insignificant.

4.3.2 Diagnostic Test Results

Diagnostic tests are conducted to ensure that the assumptions of the classical linear regression model are not violated and to ensure that the appropriate model is selected in case the assumptions are violated. Contravention of the classical linear regression model postulates will produce estimates that are not Best Linear and Unbiased Estimates (BLUE). Hence, before determining the appropriate model the study conducted both the pre-estimation (non-residual tests) and post estimation tests (residual tests). The pre-estimation diagnostic tests conducted by the study are: stationarity test and multicollinearity test while the post estimation tests conducted by the study are: normality test, autocorrelation tests and heteroskedasticity test.

4.3.2.1 Stationarity Test Results

Stationarity of the study data is tested using the Phillip Peron (PP) test of stationarity. Data is said to be stationary if the mean, variance and the covariance remain the same no matter the time of measurement. The use of non- stationery data may yield spurious results that look good under standard measure with significant estimates and with a high R^2 but valueless (Gujarati, 2003). The PP test is preferred over other tests of stationarity due to the automatic adjustment of the test statistic for auto correlation and heteroskedasticity (Munene, 2016). The Philip Peron tests the

null hypothesis of non-stationary (unit root) against the alternative hypothesis of stationary data. Table 4.3 presents the Philip Peron stationarity test results.

Table 4.3: Philip Peron Stationarity Test Results

Variable	At Level I(0)		At 1st Difference I(1)	
	T-Statistic	Probability	T-Statistic	Probability
lnFDI			-6.362237	0.0010
lnFEP	-4.022790	0.0029		
lnFDP	-3.399612	0.0159		
lnREM			-7.431897	0.0000
lnPRI	-10.16626	0.0000		
lnFIP	-9.213952	0.0000		
lnMCAP			-5.708079	0.0000
lnMTNR			-9.355529	0.0000
lnNASI			-5.929513	0.0000
Test critical values: 1% level		-3.581152		
5% level		-2.926622		
10% level		-2.601424		

Source: Study data (2019)

From the findings demonstrated on table 4.3 five variables: Foreign Equity Portfolio (FEP), Foreign Debt Portfolio (FDP), Political Risk Index (PRI) and Foreign Investor Participation (FIP) are integrated of order I(0) because they are stationary at their levels and did not require further differencing to became stationary. The variables Foreign Direct Investment (FDI), Diaspora Remittances (REM), Market Capitalization (MCAP), Market Turnover (MTNR) and NSE All Share index (NASI) are integrated of order I(1) because they are not stationary at level and need to be differenced once to become stationary. The findings further indicate that each of the test statistics is greater than critical value of (2.926622) at 0.05 level of significance. Since the test statistics are greater than the critical value, the null hypotheses are rejected and the study finds that the all the variables have no unit root and are therefore stationary at level I(0) and at 1st

difference I(1). All the test statistics have a probability value less than 0.05 and therefore significant at 0.05 level of significance.

4.3.2.2 Multicollinearity Test Results

The study used the variance inflation factors (VIF) and the correlation matrix to test for the existence of multicollinearity among the explanatory variables. The study adopted the following explanatory variables: Foreign Direct Investment (FDI), Foreign Equity Portfolio (FEP), Foreign Debt Portfolio (FDP), Diaspora Remittances (REM), Political Risk Index (PRI) and Foreign Investor participation (FIP). Table 4.4 presents the tolerance and variance inflation factors from the explanatory variables.

Table 4.4: Multicollenearity Test Results

Variable	Collinearity Statistics	
	Tolerance	**VIF**
lnFDI	0.592	1.690
lnFEP	0.847	1.181
lnFDP	0.437	2.291
lnREM	0.237	4.226
lnPRI	0.300	3.328
lnFIP	0.952	1.050
Mean	**0.5608**	**2.2943**

Source: Study Data (2019)

Table 4.4 indicates that all the explanatory variables have a VIF statistic less than 10 and tolerance statistic greater than 0.1. According to Field (2009), a VIF statistic greater than 10 and tolerance statistic of less than 0.1 is an indication of severe multicollinearity. Equally, the mean VIF of 2.41 is less than 10 while the mean tolerance thus the study finds that there is no evidence of severe multicollinearity among the study explanatory variables. This is further demonstrated by the Correlation Matrix on Table A1 on appendix IV. Explanatory variables with coefficients greater than 0.8 is an indication of the existence of severe multicollinearity that should be dealt

with by the researcher before conducting any regression test (Cooper & Schindler, 2008). Further, the findings in Table A1 Indicate that all the variables have coefficients less than 0.8 thus no evidence of severe multicollinearity.

4.3.2.3 Normality Test Results

The study has applied the Bera-Jarque test in estimating the normality of the research data. Unlike other normality tests, the Bera-Jarque test also incorporates the skewness and kurtosis in determining the normality of the study variables (Munene, 2016). Skewness estimates the tilt of the distribution while Kurtosis measures the degree of peakedness of the data. The Bera-Jarque test involves testing the null hypothesis that the residuals have an approximately normal distribution. For normally distributed residuals, the skewness should be within –2 and +2 while the kurtosis should be between -3 and +3 (Brooks, 2008). Moreover, the probability Bera-Jarque statistic should be insignificant and the normality histogram should be bell shaped. The Bera-Jarque test results, Skewness and Kurtosis of all the study are presented on Table 4.5.

Table 4.5: Normality Test Results

Variable	Skewness	Kurtosis	Jarque-Bera	Probability
lnMCAP	0.072345	1.577074	3.750365	0.153327
lnMTNR	0.128937	2.148333	1.451700	0.483913
lnNASI	-0.058915	1.595428	3.642294	0.161840
lnFDI	-0.094121	1.989820	1.935815	0.379877
lnFEP	-0.387492	2.636372	1.843543	0.397814
lnFDP	-0.032535	2.781813	0.095040	0.953592
lnREM	0.739510	2.753617	4.121709	0.127345
lnFIP	-0.681694	2.083529	3.420640	0.180808
lnPRI	-0.390982	2.389643	1.804007	0.405756

Source: Study Data (2019)

Table 4.5 indicates that the probabilities of the Bera-Jarque test statistic in all the study variables had a P-value greater than 0.05. Hence, the test statistic was statistically insignificant at 0.05

level of significance. Therefore, the study fails to reject the null hypothesis and finds that the data is approximately normally distributed. Equally, all the values of skewness and kurtosis lie within normal bounds. This is further confirmed by the bell shaped normality distribution histogram displayed on Figure. A1, Figure. A2 and Figure. A3 in Appendix VI.

4.3.2.4 Heteroscedasticity Test Results

The existence of heteroscedasticity is tested using White (1980) test of heteroscedasticity. The choice of the white test over the Breusch Pagan Godfrey test is informed by the fact that the White test is a more general test with the ability to test non-linear forms of heteroscedasticity (Green, 2000). Moreover, the white test is applicable even when the error terms are not normally distributed. The test involves testing the null hypothesis that the error terms have a constant variance or the error terms are homoscedastic against the alternative hypothesis that the error terms are heteroscedastic. Table 4.6 exhibits the White heteroscedasticity test results.

Table 4.6: White Heteroscedasticity Test Results

Dependent Variable: Market Capitalization (Residuals)			
F-statistic	1.838954	Prob. F(14,33)	0.0745
Obs*R-squared	21.03617	Prob. Chi-Square(14)	0.1007
Dependent Variable: Market Turnover (Residuals)			
F-statistic	1.092819	Prob. F(14,33)	0.3986
Obs*R-squared	15.20460	Prob. Chi-Square(14)	0.3643
Dependent Variable: Market Index (Residuals)			
F-statistic	1.487804	Prob. F(14,33)	0.1703
Obs*R-squared	18.57363	Prob. Chi-Square(14)	0.1819

Source: Study data (2019)

From the findings captured in Table 4.6 above, the Prob. Chi-Square has values greater than the significance level of 0.05. Hence the Chi-square P-value was insignificant at 0.05 level of significance. The study therefore fails to reject null hypothesis and finds that the error terms are homoscedastic or simply the error terms have a constant variance.

4.3.2.4 Autocorrelation Test Results

The existence of serial correlation is tested using Breusch-Godfrey serial correlation LM test. Unlike the Durbin Watson Test that requires several assumptions to be fulfilled before it can be applied, the Breusch-Godfrey LM test is able to test several forms of auto correlation and is applicable even with lags in the dependent variable (Brooks, 2008). Further, the Breusch Godfrey LM test is applicable with autoregressive distributed lag models which are not the case with Durbin Watson test. The test involves testing the null hypothesis that there is no auto correlation or the residuals are not serially correlated. Table 4.7 below presents the Breusch-Godfrey serial correlation LM test results.

Table 4.7: Breusch-Godfrey Serial Correlation LM Test Results

Dependent Variable: Market Capitalization (Residuals)			
F-statistic	10.47410	Prob. F(2,41)	0.0002
Obs*R-squared	16.23152	Prob. Chi-Square(14)	0.0003
Dependent Variable: Market Turnover (Residuals)			
F-statistic	20.36336	Prob. F(2,41)	0.0000
Obs*R-squared	15.20460	Prob. Chi-Square(14)	0.0000
Dependent Variable: Market Index (Residuals)			
F-statistic	48.68439	Prob. F(2,41)	0.0000
Obs*R-squared	33.77714	Prob. Chi-Square(14)	0.0000

Source: Study data (2019)

Table 4.7 above indicates that the P-value of the F-statistic, with two and fourty one degrees of freedom, is greater than the significance level of 0.05. Hence, the P-value is significant at 0.05 level of significance. The study therefore rejects the null hypothesis and finds that the residuals exhibited serial correlation. Consequently, the study subsequently adopted the modified standard error estimates to deal with serial correlation (Newey & West, 1987). The Newey- West procedure presents Heteroscedasticity and Autocorrelation Consistent (HAC) estimates that correct for the existence of both heteroscedasticity and autocorrelation simultaneously.

4.3.2.5 CUSUM Model Stability Test Results

The CUSUM Model Stability Test has been used by the study to assess the stability of the model coefficients. The CUSUM test involves testing the null hypothesis that all the model coefficients are significant. Therefore if the plot of CUSUM statistic is within the critical bounds at the level of significance then the study fails to reject the null hypothesis and the study finds that model coefficients are stable (Adjasi & Biekle, 2005). However, if the plot of the CUSUM statistic lies outside the critical bounds at the level of significance then reject the null hypothesis. Figure 4.1 presents the CUSUM test results with Market capitalization as the dependent variable (Model 3.2a).

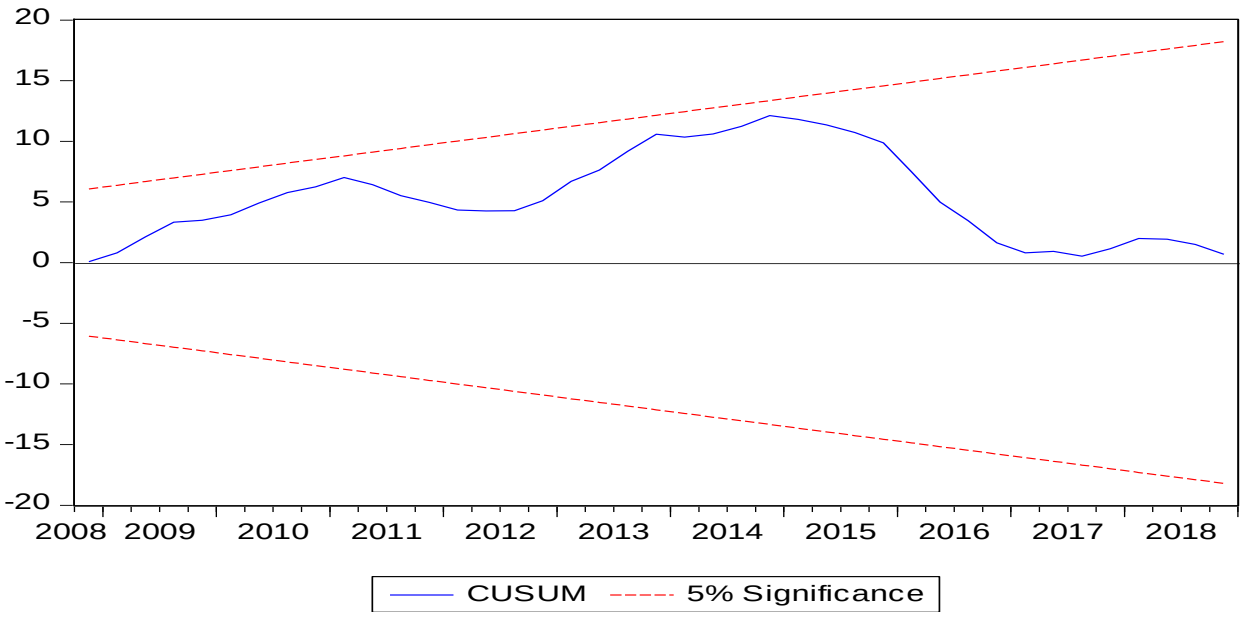

Figure 4.1: CUSUM Test Results with Market Capitalization as the Dependent Variable
Source: Study Data (2019)

Figure 4.1 indicates that the plot of CUSUM statistic is within the critical bounds at 0.05 level of significance. Hence the study fails to reject the null hypothesis and study finds that Model 3.2a coefficients are stable at 0.05 level of significance. Fig 4.2 Presents the CUSUM test results with Market Turnover as the dependent variable (Model 3.2b).

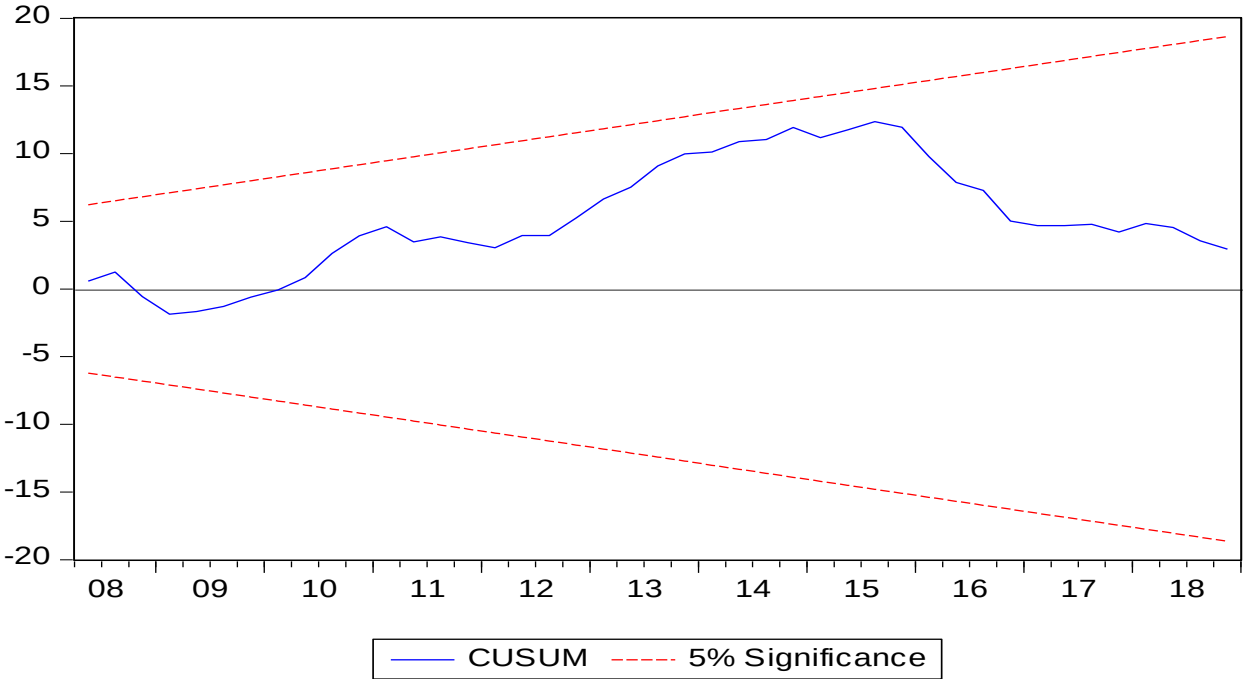

Figure 4.2: CUSUM test results with Market Turnover as the dependent variable

Source: Study Data (2019)

Figure 4.2 indicates that the plot of CUSUM statistic is within the critical bounds at 0.05 level of significance. Hence the study fails to reject the null hypothesis and study finds that Model 3.2b coefficients are stable at 0.05 level of significance. Fig 4.3 is a presentation of the CUSUM test results with Market Index as the dependent variable (Model 3.2c).

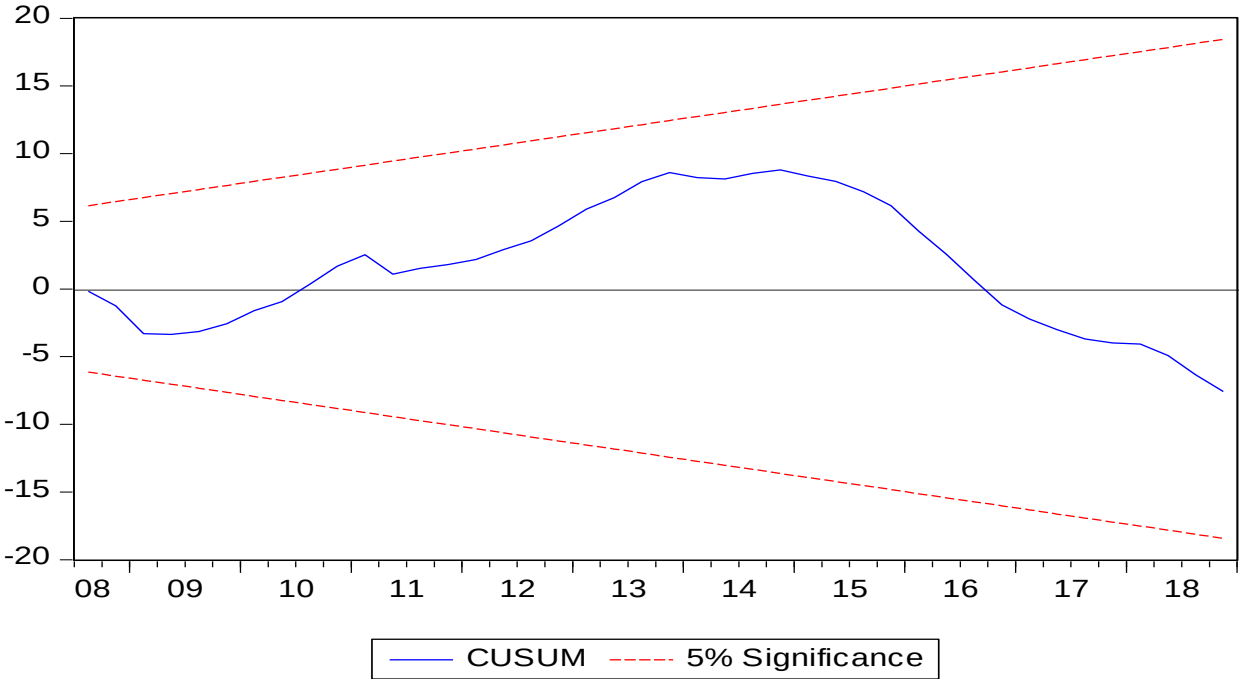

Figure 4.3: CUSUM test results with NSE All Share Index as the dependent variable

Figure 4.3 indicates that the plot of CUSUM statistic is within the critical bounds at 0.05 level of significance. Hence the study fails to reject the null hypothesis and study finds that Model 3.2c coefficients are stable at 0.05 level of significance.

4.3.4 Modified Least Square Regression Results

The study is based on the assumption that foreign financial inflows have no significant effect on stock market development at the NSE, Kenya. The study tested and interpreted the null hypothesis at 0.05 level of significance. The first four objectives involve testing the direct effect of foreign direct investment, foreign equity portfolio investment, foreign debt portfolio investment and diaspora remittances on stock market development at the Nairobi Securities Exchange market. The dependent variable (stock market development) is measured using three indicators: Market capitalization (Model 3.2a), Market turnover (Model 3.2b) and Market Index (Model 3.2c). Hence the study findings are based on the effect of foreign financial inflows on

each of the three indicators of stock market development (Nwiado & Deekor, 2013; Mogaka, 2017; Mwangi, 2014). In view of the foregoing findings the study exhibited serial correlation and consequently the study adopts the Newey-West Modified Least Square regression model for estimation of parameters. Table 4.8 is a summary of the regression results with market capitalization as the dependent variable (Model 3.2a).

Table 4.8: Foreign Financial inflows and Market Capitalization

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.296437	0.113890	-2.602836	0.0130
lnFEP	-0.005886	0.010249	-0.574299	0.5691
lnFDP	0.112379	0.053818	2.088142	0.0434
lnREM	0.507893	0.055682	9.121334	0.0000
C	2.826830	0.178169	15.86603	0.0000
R-squared	0.825119			
Prob(F-statistic)	46.00234			0.0000

Source: Study Data (2019)

Table 4.8 above indicates an overall P-value of 0.000 with an R-squared of 0.85. The P-value of 0.000 which is less than 0.05 implies that the model is significant at 0.05 level of significance and the study finds that foreign financial inflows have a significant effect on market capitalization as a measure of stock market development. Further, the variables in the model accounts for up to 82.5 percentage of the changes in market capitalization with the remaining 17.5 percentage being accounted for by other factors outside the model. Foreign Direct Investment **(**FDI) has a coefficient of -0.296437. This implies that all other factors held constant a one percent increase in Foreign Direct Investment leads to 29.64 percent decline in market capitalization. While one percent increase in Foreign Debt Portfolio (FDP) leads to 11.24 percent increase in Market capitalization all factors held constant. Finally, a one percent increase in diaspora remittances leads to 50.79 percent increase in market capitalization with all other

factors held constant. The effect of foreign equity portfolio inflows on market capitalization is however statistically insignificant at 0.05 level of significance. Table 4.9 presents a summary of the Newey-West Modified Least Square regression results with market turnover as the dependent variable (Model 3.2b).

Table 4.9: Foreign Financial Inflows and Market Turnover

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.619638	0.223767	-2.769118	0.0086
lnFEP	-0.012108	0.025954	-0.466528	0.6434
lnFDP	0.320907	0.158493	2.024740	0.0498
lnREM	0.359319	0.127728	2.813155	0.0076
C	1.732881	0.357889	4.841948	0.0000
R-squared	0.605041			
F-statistic	14.93611			0.0000

Source: Study Data (2019)

The findings on Table 4.9 above equally indicates a P-value of 0.000 which is less than 0.05 with an R-squared of 0.605041. Hence, the model is significant at 0.05 level of significance. The study therefore finds that foreign financial inflows have a significant effect on market turnover as a measure of stock market development. Further, the model explains up to 60.50 percent of the changes in market turnover with the remaining 39.50 percent being accounted for by other factors outside the model. The specific coefficients indicate that Foreign Direct Investment (FDI) had a coefficient of -0.619638. This implies that all other factors held constant one percent increase in Foreign Direct Investment leads to 61.96 percent decline in market turnover.

While one percent increase in Foreign Debt Portfolio (FDP) leads to 32.09 percent increase in Market turnover all factors held constant. Finally, a one percent increase in diaspora remittances leads to 35.93 percent increase in market turnover with all other factors held constant. The effect

of foreign equity portfolio inflows on market turnover was however insignificant at 0.05 level of significance. Table 4.10 presents a summary of the Newey-West Modified Least Square regression results with the market index (NASI) as the dependent variable (Model 3.2c).

Table 4.10: Foreign Financial Inflows and the NSE All Share Index

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-2.051018	0.617232	-3.322931	0.0019
lnFEP	0.226139	0.511635	0.441992	0.6609
lnFDP	9.634737	5.631297	1.710927	0.0450
lnREM	1.208843	0.236352	5.114581	0.0000
C	108.8426	17.78743	6.119075	0.0000
R-squared	0.749482			
F-statistic	29.16933			0.0000

Source: Study Data (2019)

The findings on Table 4.10 indicate a P-value of 0.000 which is less than 0.05 with an R-squared of 0.749482. Hence, the model 3.2c is significant at 0.05 level of significance. The study therefore finds that foreign financial inflows have a significant effect on the NSE All Share Index (NASI) as a measure of stock market development. Further, the model explains up to 74.95 percent of the changes in market turnover with the remaining 25.05 percent being accounted for by other factors outside the model. The specific coefficients indicate that Foreign Direct Investment (FDI) had a coefficient of -2.051018. This implies that all other factors held constant one unit increase in Foreign Direct Investment leads to 2.05 units decline in the NASI. Equally, Foreign Debt Portfolio (FDP) had a coefficient of 9.634737 therefore a unit increase in FDP leads to a 9.63 units increase in the NASI all factors held constant. Finally, a one unit increase in diaspora remittances leads to a 1.2 units increase in the NASI with all other factors held constant. The effect of foreign equity portfolio inflows on the NSE All Share Index was

however insignificant at 0.05 level of significance. Below is a detailed discussion of the study findings and a detailed interpretation of the findings in line with the study objectives.

4.3.4.1 Effect of Foreign Direct Investment on Stock Market Development

The study first sought to establish the direct effect of foreign direct investment inflow and stock market development at the Nairobi Securities Exchange, Kenya. The hypothesis seeks to determine whether foreign direct investment has a statistically significant effect on stock market development at the Nairobi Securities Exchange. The Null hypothesis is given as:

H_{01}: Foreign direct investment has no significant effect on stock market development at the Nairobi Securities Exchange, Kenya

The findings on Table 4.8 demonstrate the effect of foreign direct investment on market capitalization as an indicator of stock market development at the Nairobi Securities Exchange. Table 4.08 indicates that foreign direct investment a P-value of 0.0130. Since the P-value of 0.0130 is less than 0.05, the effect of foreign direct investment on market capitalization is statistically significant at 0.05 level of significance. The null hypothesis is hereby rejected and the study finds that foreign direct investment has a statistically significant effect on stock market development at the Nairobi Securities Exchange as indicated by market capitalization. The findings on Table 4.9 demonstrate the effect of foreign direct investment on market turnover as an indicator of stock market development at the Nairobi Securities Exchange.

The findings on Table 4.9 further indicate that foreign direct investment had a P-value of 0.0086. Since the P-value of 0.0086 is less than 0.05, the effect of foreign direct investment on market turnover is statistically significant at 0.05 level of significance. This further provides evidence to reject the null hypothesis and therefore the study finds that foreign direct investment has a significant effect on stock market development as measured using market turnover. Table 4.10

indicates the effect of foreign direct investment on the NSE All Share index as a measure of stock market development at the Nairobi Securities Exchange. Foreign direct investment has a P-value of 0.0019 which is less than 0.05. Hence, the effect of foreign direct investment on the NSE All Share index is statistically significant at 0.05 level of significance. The study therefore rejects the null hypothesis and finds that foreign direct investment has a significant effect on Stock Market development as measured using the NSE All Share Index.

These findings imply that increased foreign direct investment in Kenya leads to a significant decline in stock market development at the Nairobi Securities Exchange. The findings therefore support the assertion made by Shahbaz *et al.,* (2015) and Munene (2016) who found a significant negative effect of FDI on stock market development in Pakistan and Kenya respectively. The Kenyan Vision 2030 aims at increasing foreign direct investment in order to attain and sustain a private sector investment to GDP ratio of 24 percent by 2030 (Republic of Kenya, 2007). However, increased foreign direct investment leads to exposure of domestic markets to global volatility and therefore destabilize stock market development in emerging capital markets (Ang, 2008; Law,2008).

In view of these finding therefore the Kenyan government, the national assembly and other policy maker need to reconsider the negative effects of foreign direct investment especially on stock market development. However, the findings are a contradiction to the findings made by Adams & Tweneboah (2009) and Idenyi *et al.*,(2016) who found the existence of significant relationship between FDI and stock market development in Ghana and Nigeria respectively. They assert that increased foreign direct investment leads to increased capital availability leading to increased investment in the capital markets and consequently leading to stock market development.

This finding further supports the theory of FDI dependence (Todaro & Smith, 2003). However, the findings are a contradiction to the theory of monopolistic advantage (Hymer,1979). The proponents of the FDI dependence theory however contend that since the MNC from developed economies are endowed with superior and sophisticated technology they are often likely to out compete the domestic micro businesses through application of sophisticated production technology (Idenyi *et al,* 2016). This eventually leads to destruction of the domestic industries and capital markets. The earnings and dividends from this multinationals are repatriated back to their home countries with very little being reinvested in the host countries.

Further, the superior labour saving equipment applied by the MNC has led to low demand for labour leading to increased unemployment, low income, reduced savings and investment in capital markets. However, according to the monopolistic advantage theory foreign firms, often from advanced markets, possess monopolistic advantage over the domestic firms in developing markets. Multi-National Companies (MNCs) have a greater competitive advantage due to greater technological Knowledge, managerial skills, industrial organization and product knowledge (Shenkar, 2007). Thus foreign firms are able to operate more profitably than the domestic firms and hence leading to stock market development.

4.3.4.2 Effect of Foreign Equity Portfolio on Stock Market Development

Secondly, the study sought to determine the effect of foreign equity portfolio investment on stock market development. The hypothesis seeks to establish the effect foreign equity portfolio on stock market development at the Nairobi Securities Exchange. The Null hypothesis is given below:

H_{02}: Foreign Equity Portfolio Investment has no significant effect on Stock Market Development at The Nairobi Securities Exchange, Kenya

The findings on Table 4.08 demonstrate the effect of foreign equity portfolio inflows on market capitalization as an indicator of stock market development at the Nairobi Securities Exchange. Table 4.08 indicate that foreign equity portfolio has a P-value of 0.5691. The P-value of 0.5691 is greater than 0.05 and therefore the effect of foreign equity portfolio investment on stock market development is not statistically significant at 0.05 level of significance. The study therefore fails to reject the null hypothesis and finds that foreign equity portfolio has no significant effect on stock market development at the Nairobi Securities Exchange as measured using market capitalization. The findings on table 4.09 equally demonstrate the effect of foreign equity portfolio on market turnover as a measure of stock market development. The findings indicate that foreign equity portfolio has a P-value of 0.6434. The P-value of 0.6434 is greater than 0.05 and therefore the study finds that foreign equity portfolio has no significant effect on market turnover as a measure of stock market development at the Nairobi securities exchange.. Table 4.10 further indicates the effect of foreign equity portfolio on market turnover as an indicator of stock market development at the Nairobi Securities Exchange. The findings indicate that foreign equity portfolio has a P-value of 0.6609 which is greater than 0.05 and therefore the study finds that foreign equity portfolio has no significant effect on stock market development at the Nairobi Securities Exchange as measured by the NSE All Share Index.

This findings are in tandem with the findings of Adebebisi *et al.*,(2017) and Boboye *et al*.,(2017) who found that foreign equity portfolio flows had no significant effect on development of the Nigerian Capital Market. However, these findings are not in line with the findings of Gachanja and Kosimbei (2018) who found a significant positive relationship between foreign equity portfolio flows and stock market returns as measured using the NSE 20 share index. Notably the NSE 20 share index, unlike the NSE All Share index which is a composite index of all firms, is a

sample consisting of 20 blue chip companies. The use of a biased sample of 20 firms in a market consisting of 67 firms will obviously yield biased results (Osoro and Jagongo, 2014).

Further, the findings support of Neo Classical Theory of investment (Gordon, 2015). The theory contends that multi- national companies are arbitrageurs aiming at taking advantage of the locational differences in rates of returns in various countries to move capital from low return to high return countries. Thus foreign investors are mostly driven by the need to diversify their risk portfolio and hence take advantage of the high return in emerging markets (Allen *et al.*, 2010). Unlike Foreign Debt Portfolio that is associated with fixed return, Foreign Equity Portfolio returns vary depending on market conditions. Thus the bullish market run may succeed in the short run however; when the markets eventually stabilize in the long run such investors often realize that they may not attain the high returns initially anticipated thus pull out of the market immediately leading to shocks (Nyangoro, 2013). Selling of securities in the form of Foreign Equity Portfolio and pulling out of the market when the market does not yield expected returns or during harsh economic times is easier than disposing off Foreign Direct Investment. Hence, making Foreign Equity Portfolio more volatile and less significant effect on development of the stock market. The insignificance of Foreign Equity Portfolio effect on stock market development can equally be attributed to the foreigners' lack of confidence on locally managed companies (Boboye *et al.*, 2013).

4.3.4.3 Effect of Foreign Debt Portfolio on Stock Market Development

Thirdly, the study sought to establish the effect of foreign debt portfolio investment on stock market development at the NSE, Kenya. The hypothesis seeks to assess the effect of foreign debt portfolio investment on stock market development at the Nairobi Securities Exchange. The Null hypothesis is given as:

H_{03}: Foreign Debt Portfolio Investment has no Significant Effect on Stock Market Development at the Nairobi Securities Exchange, Kenya

Table 4.8 shows the effect of foreign debt portfolio on market capitalization as a measure of stock market development at the Nairobi Securities Exchange market. The findings indicate that foreign debt portfolio has a P-value of 0.0434. This demonstrates that foreign debt portfolio has a significant effect on market capitalization since the P-value of 0.0434 is less than 0.05. The study therefore rejects the null hypothesis and finds that foreign debt portfolio has a significant effect on Market Capitalization as an indicator of stock market development. Equally, foreign debt portfolio has a significant effect on market turnover as exhibited by Table 4.9 with a P-value of 0.0498. Since of 0.0498 is less than 0.05 the study rejects the null hypothesis and finds that foreign debt portfolio has a significant effect on stock market development as measured using market turnover. The effect of foreign debt portfolio on stock market development as measured using the NSE All Share index is equally significant with a P-value of 0.0450 less than 0.05 level of significance as demonstrated by Table 4.10. This finding compliment the findings made by Mandaci *et al.*,(2014) and that of Nwiado and Deekor (2013) who identified a positive significant effect of foreign debt portfolio on stock market development in selected Asian countries and Nigeria respectively.

According to Existing theory the participation of foreign investors in the domestic bond market increases liquidity and lowers the national yield (Clement *et al.,* 2005). However excessive participation may result into excess volatility of the local bond market especially during periods of global financial crisis such as during the period of the Russian and Asian financial crisis (Nwiado & Deekor, 2013). Hence the findings further collaborates the tradeoff theory that contends that firms attain an optimum capital structure by balancing the tax shield benefits and

the cost of financial distress (Fama & French, 2002). Increase of debt leads to decrease in weighted average cost of capital (WACC) and increase in the firms' value up to an optimum debt level (Arnold, 2008). However, beyond the optimum debt level the cost of debt is greater than the benefit of debt hence leading to decline in the value of the firms.

4.3.4.4 Effect of Diaspora Remittances on Stock Market Development

The fourth objective of the study sought to investigate the effect of diaspora remittance and stock market development at the NSE, Kenya. The hypothesis seeks to establish whether diaspora remittances have a statistically significant effect on stock market development at the Nairobi Securities Exchange. The Null hypothesis is given as:

H_{04}: Diaspora Remittances have no Significant Effect on Stock Market Development at The Nairobi Securities Exchange, Kenya

The findings on Table 4.8 exhibit the effect of diaspora remittances on market capitalization as an indicator of stock market development at the Nairobi Securities Exchange. The findings support the existence of a significant relationship between diaspora remittance and market capitalization as a measure of stock market development. Diaspora remittance has a P-value of 0.0000. Since 0.0000 is less than 0.05 the null hypothesis is rejected at 0.05 level of significance. Equally, Table 4.9 indicates the effect of diaspora remittances on market turnover as an indicator of stock market development at the Nairobi Securities Exchange. The findings indicate that diaspora remittance has a P-value of 0.0076 less than 0.05 level of significance. Hence, the null hypothesis is hereby rejected and the study finds that diaspora remittances have a significant effect on stock market development as measured using market turnover.

Table 4.10 further indicates the effect of diaspora remittances on stock market development as measured using the NSE All Share index. The findings indicate that diaspora remittance has a P-

value of 0.0000 less than 0.05 level of significance. This further providing evidence to reject the null hypothesis and find that diaspora remittances have a statistically significant effect on stock market development as measured using the NSE All Share Index. These findings are supported by Njoroge (2014) and Gitagia & Kabiru (2014) who found significant positive effect of diaspora remittances on stock market development in Kenya.

The findings imply that increased diaspora remittances have a significant positive effect on stock market development. Therefore in line with the Kenyan foreign policy, the Kenyan government and the Capital Markets Authority should harness the wealth, knowledge and expertise of the Kenyans in the diaspora (Republic of Kenya, 2014). The findings equally support existing theory of pure self-interest (Lukas and Stark, 1985). According to this theory an emigrant sends remittances with the aspiration to inherit or makes investments for the future with the intention to return home in future and derive benefits from such investments.

According to the World Bank (2010) Diaspora remittances have become such an important source of the external finance to the developing countries and its contribution towards development cannot be ignored. The value of diaspora remittances has increased rapidly in recent years even exceeding the amount of foreign direct investment in most developing countries (Raza & Jawaid, 2012). This explains the significant contribution of diaspora remittances towards the growth in the size and liquidity of the stock market. Remittances are person to person and are therefore targeted to the individual needs of the recipients. Equally, diaspora remittances are less susceptible to bureaucratic bottlenecks and corruption (Ratha and Mohapata, 2007).

4.3.5 Mediation Effect Test Results

The fifth hypothesis involved assessing the mediation effect of foreign investor participation on the relationship between foreign financial inflows and stock market development at the NSE, Kenya. The study uses the Barron and Kenny (1986) regression model in testing the mediating effect of foreign investor participation. The Null hypothesis is given as:

H_{05}: Foreign Investor Participation has no significant mediating effect on the relationship between Foreign Financial Inflows and Stock Market Development at The Nairobi Securities Exchange, Kenya

The test involves four steps: first, the dependent variables were regressed on the independent variables as shown in model 3.02a, 3.02b and 3.02c. This is to test whether indeed the foreign financial flows are significant predictors of the stock market development. The findings on Table 4.08, Table 4.09 and Table 4.10 indicate that indeed foreign financial inflows are significant predictors of stock market development. Thus meeting the first criteria of mediation that requires the effect of the independent variable on the dependent variable should be statically significant.

The Second criterion of mediation demands that the effect of the independent variables on the mediator should be statically significant. Hence, foreign investor participation was regressed on foreign financial investment inflows to determine whether the foreign financial flows are significant predictors of foreign investor participation (Model 3.03). The findings of foreign investor participation regressed on foreign financial investment inflows are summarized on Table 4.11below.

Table 4.11: Foreign Investor Participation Regressed on Foreign Financial Inflows

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	0.457216	0.265177	1.724191	0.0926
lnFEP	0.051289	0.027965	1.834045	0.0743
lnFDP	0.052180	0.102891	0.507134	0.6149
lnREM	0.687043	0.186125	3.691308	0.0007
C	0.032466	0.529475	0.061318	0.9514
R-squared	0.656942			
F-statistic	18.67085			0.0000

Source: Study Data (2019)

The findings on Table 4.11 above indicate an overall P-value of 0.0000. The P-value of 0.0000 is less than 0.05 level of significance. Therefore, the P-value is statistically significant at 0.05 level of significance. The R-squared of 65.69 percent implies that foreign financial inflows explain up to 69.69 percent of the changes in foreign investor participation. Thus foreign financial inflows are a significant predictor of foreign investor participation. Model 3.03 therefore meets the requirement of the second criteria of mediation that requires the independent variables to be significant predictors of the mediator variable. The third step involved estimating the effect of the mediator variable (Foreign investor participation) on the dependent variable (stock market development) as shown in models 3.04a, 3.04b and 3.04c. This was to test whether the mediator was a significant predictor of the dependent variable. The findings are summarized on tables 4.12, Table 4.13 and Table 4.14. Table 4.12 is a summary of market capitalization regressed on the mediator variable (foreign investor participation).

Table 4.12: Market Capitalization Regressed on Foreign Investor Participation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFIP	0.454617	0.127239	3.572929	0.0009
C	2.423587	0.214912	11.27712	0.0000
R-squared	0.359298			
F-statistic	23.55314			0.0017

Source: Study Data (2019)

Table 4.12 displayed above indicate that Foreign Investor Participation (FIP) has a P-value of 0.0009 with an R-squared of 35.93 percent. The P-value of 0.0009 is less than 0.05 level of significance. Further, foreign investor participation explains up to 35.93 percent of changes in market capitalization. Hence, foreign investor participation is statistically significant at 0.05 level of significance. The study therefore finds that Foreign Investor Participation is a statistically significant predictor of Market Capitalization as a measure of stock market development. Table 4.13 below presents a summary from the results of Market Turnover regressed on mediating variable (Foreign Investor Participation).

Table 4.13: Market Turnover Regressed on Foreign Investor Participation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFIP	0.358184	0.188686	1.898313	0.0445
C	0.879799	0.325817	2.700287	0.0099
R-squared	0.224594			
F-statistic	5.977733			0.0187

Source: Study Data (2019)

Table 4.13 displayed above indicate that Foreign Investor Participation (FIP) has a P-value of 0.0445 with an R-squared of 22.46 percent. The P-value of 0.0009 is less than 0.05 level of significance. Further, foreign investor participation explains up to 22.46 percent of changes in market capitalization. Hence, foreign investor participation is statistically significant at 0.05 level of significance. The study therefore finds that Foreign Investor Participation is a statistically significant predictor of market turnover as a measure of stock market development. Table 4.14 below presents a summary from the results of NSE all share index regressed on mediating variable (Foreign Investor Participation).

Table 4.14: NSE All Share Index Regressed on Foreign Investor Participation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFIP	0.274566	0.118263	2.321660	0.0252
C	1.600533	0.201367	7.948340	0.0000
R-squared	0.220905			
F-statistic	11.90867			0.0012

Source: Study Data (2019)

Table 4.14 indicates that Foreign Investor Participation (FIP) has a P-value of 0.0252 with an R-squared of 22.09 percent. The P-value of 0.0252 is less than 0.05 level of significance. Further, foreign investor participation explains up to 22.09 percent of changes in NSE all share index. Hence, foreign investor participation is statistically significant at 0.05 level of significance. The study therefore finds that Foreign Investor Participation is a statistically significant predictor of the NSE all-share index as a measure of stock market development.

The fourth step involved estimating the effect of the independent variables (Foreign financial inflows) including the mediating variable (foreign investor participation) as one of the explanatory variables on the dependent variable (stock market development) as shown in models 3.05a, 3.05b and 3.05c. This was to test whether foreign investor participation was significant as a mediator in the relationship between foreign financial inflow and stock market development in Kenya. The findings are summarized on tables 4.15, Table 4.16 and Table 4.17. Table 4.15 is a summary of the findings from market capitalization regressed on foreign financial inflows with the introduction of foreign investor participation as the mediator variable.

Table 4.15: Market Capitalization Regressed on Foreign Financial Inflows Including Mediating Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.359600	0.153291	-2.345868	0.0243
lnFEP	-0.012972	0.010656	-1.217356	0.2310
lnFDP	0.105171	0.052904	1.987958	0.0541
lnREM	0.412980	0.077144	5.353397	0.0000
lnFIP	0.138147	0.096773	1.427540	0.1616
C	2.822345	0.157102	17.96509	0.0000
R-squared	0.836501			
F-statistic	38.88357			0.0000

Source: Study Data (2019)

The findings on table 4.15 above indicate that Foreign Investor Participation (FIP) has a P-value of 0.1616. The P-value of 0.1616 is greater than 0.05 level of significance. Hence, foreign investor participation is statistically not significant at 0.05 level of significance. The study therefore finds that Foreign Investor Participation is not a statistically significant a mediator in the between foreign financial inflows and Market Capitalization as a measure of stock market development in Kenya. Table 4.16 below presents a summary from the results of Market turnover regressed on foreign financial inflows with the inclusion of foreign investor participation as a mediating variable.

Table 4.16: Market Turnover Regressed on Foreign Financial Inflows Including Mediating Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.603712	0.266864	-2.262249	0.0295
lnFEP	-0.010322	0.025414	-0.406146	0.6869
lnFDP	0.322725	0.159980	2.017283	0.0508
lnREM	0.383249	0.165982	2.308982	0.0265
lnFIP	0.034831	0.162429	0.214436	0.8314
C	1.734011	0.360143	4.814781	0.0000
R-squared	0.605445			
F-statistic	11.66222			0.0001

Source: Study Data (2019)

Equally, Foreign Investor Participation (FIP) in Table 4.16 has a P-value of 0.8314. The P-value of 0.8314 is greater than 0.05. Therefore foreign investor participation is not a significant mediator in the relationship between foreign financial inflows and Market Turnover (MTNR) as a measure of stock market development. Model 3.05b therefore fails to meet the forth requirement of mediation that requires that foreign investor participation to be a significant as a mediator in the relationship between foreign financial inflows and stock market development. Table 4.17 presents a summary of the result from the NSE All Share index regressed on foreign financial inflows including the foreign financial inflows as the mediating variable.

Table 4.17: NSE All Share Index Regressed on Foreign Financial Inflows Including Mediating Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.363470	0.144784	-2.510427	0.0164
lnFEP	-0.011785	0.009843	-1.197294	0.2386
lnFDP	0.092052	0.052111	1.766464	0.0854
lnREM	0.283058	0.074601	3.794300	0.0005
lnFIP	0.068776	0.087675	0.784443	0.4376
C	2.006203	0.152949	13.11684	0.0000
R-squared	0.767779			
F-statistic	25.12746			0.0000

Source: Study Data (2019)

Foreign Investor Participation (FIP) in Table 4.17 has a P-value of 0.4376. The P-value of 0.4376 is greater than 0.05. Hence Foreign Investor Participation was not a significant predictor of NSE All Share index as a measure of stock market development. Model 3.05c therefore fails to meet the fourth requirement of mediation that requires the mediator variable to have a significant mediation effect in the relationship between the independent variable and the dependent variable.

The fourth step, equally involved making a decision on whether FIP has a complete, partial or no mediation effect on the relationship between foreign financial investment inflows and stock market development. The decision criteria set out on table 3.1 was applied in making the decision on whether Foreign Investor Participation has a significant mediation effect on the relationship between foreign financial inflows and stock market development. Since the third mediation criteria was not met by model 3.05a, 3.05b and 3.05c the study fails to reject the null hypothesis and finds that Foreign Investor Participation does not have a significant mediation effect on the relationship between foreign financial inflows and stock market development. However the findings indicate that foreign investor participation is significant as a predictor variable in stock market development in Kenya. These findings are consistent with the findings of Nyangoro (2013) but contradict the findings of Koskei (2017).

4.3.6 Moderation Effect Test Results

The sixth hypothesis sought to assess the moderation effect of political risk on the relationship between the foreign financial inflows and the stock market development in Kenya by adopting the Whisman and McClelland (2005) two step moderation tests. According to Kraemer *et al.,* (2001) this test is applicable when establishing the moderating effect of a variable on the relationship between the independent variables and dependent variable. The null hypothesis is given as:

H_{06}: Political Risk has no significant moderating effect on the relationship between Foreign Financial Inflows and Stock Market Development at The Nairobi Securities Exchange, Kenya.

To determine the moderation effect of political risk on the relationship between foreign financial inflows and stock market development: first, political risk is introduced as an explanatory

variable as shown in Model 3.06a, Model 3.06b and Model 3.06c. Table 4.18, Table 4.19 and Table 4.20 shows the results of stock market development regressed on foreign financial inflows including political risk as an explanatory variable. Table 4.18 is a summary of the results from Market capitalization regressed on foreign financial inflows including political risk as a dependent variable.

Table 4.18: Market Capitalization Regressed on Foreign Financial Inflows Including Political Risk as an Explanatory Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.294383	0.116018	-2.537384	0.0154
lnFEP	-0.007598	0.009297	-0.817293	0.4189
lnFDP	0.111169	0.054182	2.051769	0.0471
lnREM	0.505733	0.055094	9.179403	0.0000
lnPRI	-0.040413	0.065228	-0.619561	0.5392
C	2.817698	0.180640	15.59841	0.0000
R-squared	0.825934			
F-statistic	36.06156			0.0000

Source: Study Data (2019)

Table 4.18 above indicates that model 3.06a is significant with a P-value of 0.0000 and an R-squared of 82.59 percent whereas political risk has a P-value of 0.5392 which is greater than 0.05 level of significance. Hence political risk was insignificant as an explanatory variable in Model 3.06a. Hence political risk meets the first criteria of moderation that requires that a variable should not be significant as an explanatory variable. Table 4.19 presents the results of Market Turnover regressed on foreign financial inflows including political risk as an explanatory variable.

Table 4.19: Market Turnover regressed on Foreign Financial Inflows including Political Risk as an Explanatory Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.618232	0.224253	-2.756848	0.0089
lnFEP	-0.013280	0.024019	-0.552894	0.5836
lnFDP	0.320079	0.160149	1.998641	0.0528
lnREM	0.357841	0.127356	2.809776	0.0078
lnPRI	-0.027646	0.193081	-0.143185	0.8869
C	1.726633	0.359008	4.809463	0.0000
R-squared	0.605254			
F-statistic	11.65288			0.0000

Source: Study Data (2019)

Table 4.19 above indicates that model 3.05b is significant with a P-value of 0.0000 while political risk has a P-value of 0.8869 which is greater than 0.05 level of significance. Hence political risk is insignificant as an explanatory variable and can therefore moderate the relationship between foreign financial inflows and stock market development. Hence meets the first criteria of moderation that requires that a variable should not be significant as an explanatory variable. Table 4.20 presents the results of the NSE All Share index regressed on foreign financial inflows including political risk as an explanatory variable.

Table 4.20: NSE All Share Index Regressed on Foreign Financial Inflows including Political Risk as an Explanatory Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.333174	0.107148	-3.109487	0.0035
lnFEP	-0.007299	0.008797	-0.829678	0.4119
lnFDP	0.096317	0.053893	1.787209	0.0819
lnREM	0.331519	0.051378	6.452533	0.0000
lnPRI	0.022616	0.057994	0.389965	0.6987
C	2.013546	0.163867	12.28766	0.0000
R-squared	0.763454			
F-statistic	24.52906			0.0000

Source: Study Data (2019)

Table 4.20 above indicates that model 3.06c is significant with a P-value of 0.0000 while political risk has a P-value of 0.6987 which is greater than 0.05 level of significance. Thus political risk is insignificant as an explanatory variable. Hence meets the first criteria of moderation that requires that a variable should not be significant as an explanatory variable. The second step involved introduction of political risk as a moderator as demonstrated by models 3.07a, 3.07b and 3.07c. Table 4.21, Table 4.22 and Table 4.23 is a summary of stock market development regressed on foreign financial inflows including political risk as a moderating variable. Table 4.21 is a summary of the results of market capitalization regressed on foreign financial inflows introducing political risk as a moderating variable.

Table 4.21: Market Capitalization regressed on Foreign Financial Inflows including Political Risk as a Moderating Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.500154	0.122199	-4.092962	0.0002
lnFEP	0.022351	0.023886	0.935727	0.3560
lnFDP	0.139777	0.067902	2.058513	0.0473
lnREM	0.414957	0.068835	6.028298	0.0000
lnPRI	1.518339	0.637934	2.380089	0.0631
lnFDI*lnPRI	-0.609078	0.482903	-1.261283	0.2158
lnFEP*lnPRI	0.236136	0.202331	1.167079	0.2513
lnFDP*lnPRI	0.267118	0.384246	0.695175	0.4917
lnREM*lnPRI	-0.625759	0.338383	-1.849263	0.0731
C	3.181892	0.215461	14.76782	0.0000
R-squared	0.841648			
F-statistic	20.07899			0.0000

Source: Study Data (2019)

Table 4.21 above indicates that model 3.06a is significant with a P-value of 0.0000 and an R-squared of 84.16 percent while political risk has a P-value of 0.0631 hence insignificant at 0.05 level of significance. Equally, all the coefficients of the interactive terms are greater than 0.05 and therefore insignificant. Comparing this scenario with the decision criteria set out on Table

3.2 the study fails to reject the null hypothesis and finds that political risk is not significant as a moderating variable in the relationship between foreign financial inflows and market capitalization as a measure of stock market development. Table 4.22 presents the findings of market turnover regressed on foreign financial inflows including political risk a Moderating variable.

Table 4.22: Market Turnover Regressed on Foreign Financial Inflows including Political Risk A Moderating Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-1.200325	0.264914	-4.531004	0.0001
lnFEP	0.012217	0.054189	0.225448	0.8230
lnFDP	0.310158	0.217362	1.426920	0.1627
lnREM	0.325793	0.172245	1.891444	0.0671
lnPRI	3.054522	1.620990	1.884356	0.0681
lnFDI*lnPRI	-2.084653	1.313407	-1.587210	0.1217
lnFEP*lnPRI	0.175618	0.435733	0.403040	0.6894
lnFDP*lnPRI	0.227336	0.830086	0.273870	0.7858
lnREM*lnPRI	-0.383106	0.630427	-0.607694	0.5474
C	2.491278	0.372792	6.682760	0.0000
R-squared	0.642540			
F-statistic	6.790610			0.0016

Source: Study Data (2019)

Table 4.22 above indicates that model 3.07b is significant with a P-value of 0.0016 and an R-squared of 64.25 percent However, political risk has a P-value of 0.0681 hence insignificant at 0.05 level of significance. Moreover, all the coefficients of the interactive terms are greater than 0.05 and therefore insignificant. Consequently, in accordance with the decision criteria set out on Table 3.2 political risk is not significant as a moderating variable in the relationship between foreign financial inflows and market turnover as a measure of stock market development. 4.23 is a summary of the NSE All Share index regressed on foreign financial inflows including political risk as a moderating variable.

Table 4.23: NSE All Share Index Regressed On Foreign Financial Inflows Including Political Risk As A Moderating Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.417853	0.106631	-3.918664	0.0004
lnFEP	-0.014684	0.032472	-0.452193	0.6540
lnFDP	0.018185	0.168653	0.107823	0.9148
lnREM	0.380211	0.158408	2.400192	0.0220
lnPRI	0.182207	1.785911	0.102025	0.9193
lnFDI*lnPRI	-0.265470	0.675487	-0.393006	0.6968
lnFEP*lnPRI	-0.049730	0.233216	-0.213234	0.8324
lnFDP*lnPRI	-0.272131	0.758537	-0.358757	0.7220
lnREM*lnPRI	0.175586	0.649960	0.270149	0.7887
C	2.065408	0.318161	6.491715	0.0000
R-squared	0.770130			
F-statistic	12.65664			0.0016

Source: Study Data (2019)

Table 4.23 above indicates that model 3.07c is significant with a P-value of 0.0016 less than 0.05 level of significance while political risk has a P-value of 0.9193 greater than 0.05 significance level. Hence political risk has an insignificant moderating effect on the relationship between Foreign Financial Inflows and Market Turnover. Equally, all the coefficients of the interactive terms are greater than 0.05 hence insignificant. Applying the criteria set out on table 3.2 the study finds that political risk has an insignificant moderating effect on the relationship between foreign financial inflows and the NSE all-share index as a measure of stock markets development in Kenya.

The findings demonstrated above therefore indicate that political risk is insignificant both a predictor of stock market development and as a moderating variable in the relationship between foreign financial inflows and stock market development in Kenya. These findings contradict the findings of Yartey (2008) and Enrico & Oijen (2001). Both studies had investigated the effect of political risk on stock market development in emerging economies. The findings of these studies

had provided evidence of a strong link between political risk and stock market development in emerging capital markets.

4.3.7 Cointergration Test Results

The Autoregressive Distributed Lag (ARDL) bound test proposed by Pesaran and Shin (1999) and Pesaran *et al*.,(2001) was applied by the study to test for the existence long run cointergration. Unlike other methods of cointergration such as Engle and Granger (1987) and the Johansen test (1991), ARDL is appropriate when the variables are intergrated of order I(0) or intergrated of order I(I) but not intergrated of order I(2). Information about the appropriate number of lags is important since the criteria applied in selection of the appropriate lag length will affect the value of the F-statistic obtained from the model (Shahbaz, 2015). Hence, before estimating the long run coefficients the study determined the optimum number of lags. Table 4.24 presents the lag length selection criteria applied by the study.

Table 4.24: Lag Order Selection Criteria

Endogenous variable:lnMCAP lnFDI lnFEP lnFDP lnREM
Exogenous variables: C
Sample: 2008Q1 2018Q4
Included observations: 41

Lag	LogL	LR	FPE	AIC	SC	HQ
0	40.46720	NA	1.22e-07	-1.730107	-1.521135	-1.654011
1	194.0311	262.1823	2.33e-10	-8.001517	-6.747684*	-7.544940
2	221.8177	40.66336	2.15e-10	-8.137450	-5.838756	-7.300393
3	267.0738	55.19036*	9.32e-11*	-9.125552*	-5.781997	-7.908014*

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Endogenous variable: lnTNVR lnFDI lnFEP
lnFDP lnREM
Exogenous variables: C
Sample: 2008Q1 2018Q4
Included observations: 41

Lag	LogL	LR	FPE	AIC	SC	HQ
0	11.57061	NA	4.99e-07	-0.320517	-0.111545	-0.244421
1	150.3407	236.9245	1.96e-09	-5.870277	3.049310	-5.413700*
2	169.1936	27.58969	2.80e-09	-5.570422	-3.271727	-4.733364
3	211.0537	51.04890*	1.43e-09*	-6.392865*	-4.616444*-	-5.175327

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Endogenous variables: lnNASI lnFDI lnFEP
lnFDP lnREM
Exogenous variables: C
Sample: 2008Q1 2018Q4
Included observations: 41

Lag	LogL	LR	FPE	AIC	SC	HQ
0	43.54888	NA	1.05e-07	-1.880433	-1.671461	-1.804337
1	193.7387	256.4217	2.36e-10	-7.987255	-5.451091	-7.530678
2	217.8511	35.28648	2.61e-10	-7.943959	-5.645264	-7.106901
3	260.2903	51.75501*	1.30e-10*	-8.794647*	-6.733422*	-7.577108*

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Study Data (2019)

The optimum number of lags is selected on the basis of the lowest values of Akaike information criterion (AIC), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HC). From the findings demonstrated in Table 4.24 the optimal lag length selected was three lags based on the minimum value of AIC, SC and HC. Selection of three lags is equally appropriate since it aids in the reduction of the loss in degrees of freedom through exclusion of several observations. Upon selecting the appropriate number of lags, the ARDL bound test was conducted. The Autoregressive Distributed Lag (ARDL) cointergration test results are presented on Table 4.25, Table 4.26 and Table 4.27. Table 4.25 is a presentation of the cointergration test results with stock market development measured with market capitalization as the dependent variable.

Table 4.25: Cointergration Test Results (Dependent Variable: Market Capitalization)

ARDL Bounds Test

Sample: 2008Q1 2018Q4

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	4.575600	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Study Data (2019)

The study adopted the Wald F- statistic to interpret the long term cointergration relationship between the foreign financial investment inflows and stock market development. The null hypothesis of no long term cointegration is rejected if the F statistic lies outside the bounds or exceeds the upper critical value of the F statistic. If F statics falls within the upper and lower critical limit then the research will be inconclusive. However if the F statistic falls below the lower limit the study fails to reject the null hypothesis. From the findings demonstrated on table 4.25 the F-statistic is 4.575600. While the upper bound F-critical value at 0.05 level of significance is 4.01. Thus, F-static is greater than the upper bound F-critical value at 0.05 level of significance and therefore the null hypothesis is hereby rejected and the study finds that foreign financial inflow have a significant long run effect on stock market development as measured using Market Capitalization. Table 4.26 below demonstrates the cointergration results obtained when using the market turnover as the dependent variable.

Table 4.26: Cointergration Test Results (Dependent Variable: Market Turnover)

ARDL Bounds Test
Sample: 2008Q1 2018Q4
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	5.920444	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Study Data (2019)

Table 4.26 indicates the F-statistic is 5.920444 while the upper bound F-critical value at 0.05 level of significance is 4.01. Hence, F-statistic is greater than the upper bound F-critical at 0.05 level of significance and therefore the null hypothesis is rejected and study finds that foreign financial inflows have a significant long run effect on stock market development at the Nairobi Securities Exchange (NSE) as measured using Market Turnover. The long term relationship is supported by the existence of four cointergration vectors. Table 4.27 represents the cointergration test results with the NSE All Share index as the dependent variable.

Table 4.27: Cointergration Test Results (Dependent Variable: NASI)

ARDL Bounds Test
Sample: 2008Q1 2018Q4
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	6.119672	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Study Data (2019)

Table 4.27 indicates the F-statistic is 6.119672 while the upper bound F-critical value at 0.05 level of significance is 4.01. Hence, F-statistic is greater than the upper bound F-critical at 0.05 level of significance and therefore the null hypothesis is rejected and study finds that foreign financial inflows have a significant long run effect on stock market development at the Nairobi Securities Exchange (NSE) as measured using the NSE All Share index. Further, the long term relationship is supported by the existence of four cointergration vectors.

The findings compliment the Base Broadening theory. The theory contends that expanding the number of investors to include foreign investors countries would lead to increased diversification (Merton, 1987). Increased diversification leads to lower risk and consequently lowering the required risk premium. This has the effect of increasing stock market liquidity and price stability hence leading to development of the market. Foreign financial inflows influence the stock market development in two ways; first through the availability of capital from the international financial markets (Torre & Schmukler, 2006). Secondly, the developing countries will try to emulate the developed stock markets by implementing several reforms and adopting better technology. Such improved technology leads to the development of the stock market. Since most developing markets suffer from severe scarcity of capital, this problem can be diverted through increased foreign investment (Kumar & Devi, 2012).

4.3.7.1 ARDL Long Run Coefficients

The ARDL bound test was based on the assumption that there is no long run significant relationship between the foreign financial inflows and stock market development at the Nairobi Securities Exchange (NSE), Kenya. The study testes and interprets the long run coefficients at 0.05 level of significance. The dependent variable (stock market development) is measured using three indicators: Market capitalization (Model 3.08a), Market turnover (Model 3.08b) and, NSE all share index (Model 3.08c) with the findings demonstrated on Appendix X. Hence, an independent variable has a significant long run relationship with stock market development if it has a significant long run effect on Market Capitalization, Market Turnover and the NSE All Share index. Table 4.28 below presents a summary of the estimated ARDL long run coefficients with market capitalization, market turnover and the NSE all-share index as the dependent variable.

Table 4.28: Estimated ARDL long run coefficients.

Table 4.28a: Estimated ARDL long run coefficients (Dependent Variable: Market Capitalization)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
lnFDI	-0.118585	0.078743	-1.505990	0.0470
lnFEP	-0.016006	0.013221	-1.210587	0.2395
lnFDP	0.096959	0.037656	2.574879	0.0177
lnREM	0.732624	0.237486	3.084918	0.0056
C	1.182345	0.533227	2.217340	0.0378
Table 4.28b: Estimated ARDL long run coefficients (Dependent Variable: Market Turnover)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
lnFDI	-0.435933	0.209103	-2.084773	0.0479
lnFEP	-0.025634	0.018883	-1.357490	0.1873
lnFDP	0.314564	0.098912	3.180232	0.0040
lnREM	3.769768	0.845547	4.458378	0.0002
C	0.462016	0.441176	1.047237	0.0054
Table 4.28c: Estimated ARDL long run coefficients (Dependent Variable: NSE All Share Index)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
lnFDI	-0.100447	0.047977	-2.093641	0.0462
lnFEP	-0.017050	0.006745	-2.527741	0.0579
lnFDP	0.043753	0.039487	1.108026	0.0280
lnREM	0.707659	0.278705	2.539095	0.0174
C	0.098273	0.221564	0.443541	0.6610

Source: Study Data (2019)

The findings on Table 4.28a indicate that the Foreign Direct Investment has a negative and significant long run effect on market capitalization as evidenced by the coefficient of -0.1185 with a P-value of 0.0000. Since the P-value of 0.000 less than 0.05, the coefficient is significant at 0.05 level of significance. Hence, the null hypothesis is therefore rejected and the study finds that Foreign Direct Investment has a significant long run negative effect on market capitalization as an indicator of stock market development. Considering the effect of FDI on market turnover, the findings further on Table 4.28b indicate that Foreign Direct Investment has a coefficient of -0.4359 with a P-value of 0.0479. Hence the P-value is less than 0.05 and therefore significant at 0.05 level of significance. Additionally, Table 4.28c on the effect of FDI on the NSE All Share index indicates that Foreign Direct Investment has a coefficient of -0.1005 with a P-value of 0.0462. Hence the P-value is less than 0.05 therefore significant at 0.05 level of significance.

This further provides evidence to reject the null hypothesis. The study therefore finds that Foreign Direct Investment had a significant long run negative effect on stock market development as measured using the NSE All Share index. This findings support the findings by Raza and Jawaid (2014) that identified that FDI had a positive and significant effect on stock market development in Pakistan. The findings however contradicts the findings of Arcabic *et al*.,(2012) who used two variable co integration approaches to determine the long-term relationship between the variables foreign direct investment and stock market development in Croatia. The findings of the study indicated the absence of a long-term relationship among the observed variables. Hence, lack of connection between FDI and stock market development in Croatia.

Table 4.28a further indicates that foreign equity portfolio has negative but insignificant long run effect on market capitalization evidenced by a coefficient of -0.016006 with a P-value of 0.2395. The P-value of 0.2395 is greater than 0.05 and therefore the coefficient is insignificant at 0.05 level of significance. The study therefore fails to reject the null hypothesis and finds that foreign equity portfolio has no significant long run effect of stock market development at the Nairobi Securities Exchange, Kenya as measured using market capitalization. Moreover the findings on table 4.28b indicate that foreign equity portfolio has a negative but insignificant effect on market turnover with a coefficient of -0.025634 with a P-value of 0.1873. The P-value of 0.1873 is greater than 0.05 and therefore the coefficient is insignificant at 0.05 level of significance. The study therefore fails to reject the null hypothesis and finds that Foreign Equity Portfolio has no significant long run effect market turnover as a measure of stock market development at the NSE, Kenya. Equally, the findings on table 4.28c indicate that foreign equity portfolio has a negative but insignificant effect on the NSE All Share index with a coefficient of -0.017050 with

a P-value of 0.0579. The P-value of 0.0579 is greater than 0.05 and therefore the coefficient is insignificant at 0.05 level of significance. The study therefore fails to reject the null hypothesis and finds that Foreign Equity Portfolio has no significant long run effect the NSE All Share index as a measure of stock market development at the NSE, Kenya. This findings are in tandem with the findings of Adebebisi *et al.*,(2017) and Boboye *et al*.,(2017) who examined the relationship between foreign portfolio investment and financial market development in Nigerian capital markets. The studies confirmed the lack of significant causal relationship between foreign equity inflows and stock market development in emerging capital markets.

Additionally, Table 4.28a indicates that foreign debt portfolio has a positive significant effect on market capitalization with a coefficient of 0.096959 with a P-value of 0.0177. This demonstrates foreign debt portfolio have significant long run effect on stock market development as measured using market capitalization. The study therefore rejects the null hypothesis and finds that Foreign Debt Portfolio has a positive and significant effect on market capitalization as an indicator of stock market development in the long run. Equally, table 4.28b foreign debt portfolio has a significant positive effect on turnover as exhibited by the coefficient of 0.314562 and P-value of 0.0040. Since the P-value of 0.0040 is less than 0.05 the study rejects the null hypothesis and finds that foreign debt portfolio has positive significant long run effect on stock market development as measured using market turnover. Further, foreign debt portfolio has a significant positive effect on the NSE All Share index as demonstrated by table 4.28c with a coefficient of 0.043753 and P-value of 0.0280. Since the P-value of 0.0280 is less than 0.05 the study rejects the null hypothesis and finds that foreign debt portfolio has positive significant long run effect on stock market development as measured using the NSE All Share index. These results support the findings made by Mandaci *et al.,* (2014) who established significant long run relationship

between foreign debt portfolio stock market development in selected emerging and developed capital markets.

Finally, the findings on Table 4.28a support the existence of a significant positive long run relationship between diaspora remittance and market capitalization as a measure of stock market development. Diaspora remittance had a coefficient 0.732624 with a P-value of 0.0056. Since 0.0056 is less than 0.05 the study rejects the null hypothesis and finds that diaspora remittances have a significant long run effect on stock market development as measured using market capitalization. Equally, Table 4.28b further indicates that diaspora remittances had a coefficient of 3.769768 with a P-value of 0.0002 less than 0.05 with market turnover. Hence the null hypothesis is rejected and the study finds that diaspora remittances have a significant positive long run effect on stock market development as measured using market turnover. Moreover, the findings on table 4.28c support the existence of a significant positive long run relationship between diaspora remittance and the NSE All Share index as a measure of stock market development. Diaspora remittance had a coefficient 0.707659 with a P-value of 0.0174. Since 0.0174 is less than 0.05 the study rejects the null hypothesis and finds that diaspora remittances have a significant long run effect on stock market development as measured using the NSE All Share index. These findings are support the findings by Njoroge (2014) indicating that diaspora remittance had strong and significant positive effect on stock market performance in Kenya.

4.3.7.2 ARDL-ECM Short Run Coefficients

The ARDL model is adjusted with an Error Correction Model (ECM) derived from the ARDL model residuals to test for the existence short run relationship between foreign financial inflows and stock market development (Pesaran *et al*., 2001). The ARDL-ECM test is based on the assumption that there is no short run significant relationship between the foreign financial

inflows and stock market development at the Nairobi Securities Exchange (NSE), Kenya. The study tested and interpreted the short run coefficients at 0.05 level of significance. The dependent variable (stock market development) is measured using three indicators: Market capitalization (Model 3.09a), Market turnover (Model 3.09b) and NSE All Share index (Model 3.09c) with the findings presented on Appendix X. Hence, foreign financial inflows (explanatory variables) have a significant short run effect on stock market development (dependent variable) if it has significant effect on market capitalization, market turnover and the NSE All Share index. Table 4.29 below presents a summary of the ARDL-ECM estimated short-run coefficients.

Table 4.29: Estimated Short Run ARDL-ECM Coefficients

Table 4.29a Short Run ARDL-ECM Coefficients (Dependent Variable: Market Capitalization)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	0.078145	0.273162	0.286075	0.0476
lnFEP	0.018459	0.039100	0.472108	0.0417
lnFDP	0.323410	0.132978	2.432066	0.0240
lnREM	3.985797	1.197117	3.329497	0.0032
ECT	-0.720378	0.208046	-1.059276	0.0001
Table 4.29b Short Run ARDL-ECM Coefficients (Dependent Variable: Market Turnover)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
lnFDI	0.181986	0.067825	2.683177	0.0139
lnFEP	0.044445	0.016330	0.272187	0.0481
lnFDP	0.051089	0.054369	0.939668	0.0381
lnREM	0.895597	0.506559	1.768000	0.0416
ECT	-0.616875	0.063877	-1.829672	0.0005
Table 4.29c Short Run ARDL-ECM Coefficients(Dependent Variable: NSE All Share Index)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
lnFDI	0.100447	0.047977	2.093641	0.0462
lnFEP	0.040407	0.010147	3.982080	0.0007
lnFDP	0.094769	0.036942	2.565362	0.0185
lnREM	0.930169	0.215501	4.316308	0.0003
ECT	-0.603007	0.119099	-0.864879	0.0006

Source: Study Data (2019)

The coefficient of the Error Correction Term (ECT) indicates the speed at which the model adjusts to long run equilibrium while the sign of the ECT indicates the direction of adjustment to

equilibrium (Pesaran *et al.,* 2001). According to Shahbaz *et al*., (2013) the coefficient of the error correction term should be negative and significant. A highly significant negative coefficient of the error correction term is an indication of stable long run equilibrium of the model (Bannerjee, Dolado & Mestre,1998). The findings presented on table 4.29a above indicates that foreign financial inflows have a significant short run effect on market capitalization as a measure of stock market development as evidenced by the negative and significant coefficient of the error correction term. The error correction term has a coefficient of -0.720378 with a 0.0001 probability value less than 0.05. This implies that model adjusts back to long run equilibrium quarterly at a speed of 72.04 percent. This further demonstrates a long run equilibrium running causality running from foreign financial inflows to market capitalization as a measure of stock market development.

Further, Table 4.29b indicates that foreign financial inflows have a significant effect on market turnover as evidenced by the negative and significant coefficient of the error correction term. The error correction term has a coefficient of -0.616875 with a 0.0005 probability value less than 0.05. This implies that the system corrects itself back to equilibrium quarterly after a market shock a speed of 61.69 percent. This further demonstrates a long run equilibrium running causality running from foreign financial inflows to market turnover as a measure of stock market development. Equally, table 4.29c indicate that foreign financial inflows have a significant short run effect on the NSE All Share index as a measure of stock market development as evidenced by the negative and significant coefficient of the error correction term. The error correction term has a coefficient of -0.603007 with a 0.0006 probability value less than 0.05. This implies that model adjusts back to long run equilibrium quarterly at a speed of 60.30 percent. Further, confirming that all the variables are cointergrated.

Table 4.29a indicates that foreign direct investment has a significant short run effect on market capitalization as an indicator of stock market development as evidenced by the P-value of 0.0476. The P-value of 0.0476 is less than 0.05. Hence, study rejects the null hypothesis at 0.05 level of significance. Considering market turnover as an indicator of stock market development, the findings in table 4.29b further indicate that foreign direct investment has a P-value of 0.0139. Hence the P-value of 0.0139 is less than 0.05 and therefore significant at 0.05 level of significance. This further provides evidence to reject the null hypothesis and study finds that foreign direct investment has a significant short run positive effect on stock market development as measured using market turnover. Equally, table 4.29c indicate that foreign direct investment has a significant short run effect on the NSE All Share index as evidenced by the P-value of 0.0462. Since the P-value is less than 0.05, the study finds that foreign direct investment has a significant short run positive effect on the NSE All Share index as a measure of stock market development.

The findings displayed on table 4.29a indicate that foreign equity portfolio has a coefficient of 0.018459 with a P-value of 0.0.0417. The P-value of 0.0417 is greater than 0.05. Therefore the coefficient is positive and significant at 0.05 level of significance. The study therefore rejects the null hypothesis and finds that foreign equity portfolio has a positive significant short run effect on stock market development at the Nairobi Securities Exchange, Kenya as measured using market capitalization. Moreover the findings on table 4.29b indicate that foreign equity portfolio has a coefficient of 0.044445 with a P-value of 0.0481. The P-value of 0.0481 is less than 0.05 and therefore the coefficient is positive and significant at 0.05 level of significance. The study therefore rejects the null hypothesis and finds that foreign equity portfolio has a significant short

run effect on market turnover as a measure of stock market development at the NSE, Kenya. Equally, table 4.29c demonstrates that foreign equity portfolio has a coefficient of 0.040407with a P-value of 0.0.007. The P-value of 0.0007 is less than 0.05. Therefore the coefficient is positive and significant at 0.05 level of significance. The study therefore rejects the null hypothesis and finds that foreign equity portfolio has significant short run positive effect on stock market development at the Nairobi Securities Exchange, Kenya as measured using the NSE All Share index.

Table 4.29a indicates that foreign debt portfolio has a coefficient of 0.323410 with a P-value of 0.0240. This demonstrates that foreign debt portfolio has a positive significant short run relationship since the P-value of 0.0240 is less than 0.05. The study therefore rejects the null hypothesis and finds that foreign debt portfolio has a positive and significant short run effect on Market Capitalization as an indicator of stock market development. Equally, table 4.29b indicates that foreign debt portfolio has a positive significant effect on market turnover as exhibited by the coefficient of 0.051089 and P-value of 0.0381. Since the P-value of 0.0381 is less than 0.05 the study rejects the null hypothesis and finds that Foreign Debt Portfolio has positive significant short run effect stock market development as measured using market turnover. Moreover table 4.29c indicates that foreign debt portfolio has a positive significant effect on the NSE All Share index as exhibited by the coefficient of 0.051089 and P-value of 0.0381. Since the P-value of 0.0381 is less than 0.05 the study rejects the null hypothesis and finds that Foreign Debt Portfolio has positive significant short run effect stock market development as measured using the NSE All Share index.

The findings on Table 4.29a support the existence of a significant positive causal effect running from diaspora remittance to market capitalization as a measure of stock market development.

Diaspora remittance has a coefficient 3.98797 with a P-value of 0.0032. Since 0.00032 is less than 0.05 the study rejects the null hypothesis at 0.05 level of significance and finds that diaspora remittances have a significant short run effect on market capitalization as a measure of stock market development. Equally, Table 4.29b further indicate that diaspora remittances has a coefficient of 0.895597 with a P-value of 0.0416 less than 0.05. Hence the null hypothesis is rejected and the study finds that diaspora remittances have a significant positive short run effect on market turnover as a measure of stock market development. Lastly, table 4.29c indicate that diaspora remittances has a coefficient of 0.930160 with a P-value of 0.0003 less than 0.05. Hence the null hypothesis is rejected and the study finds that diaspora remittances have a significant positive short run effect on the NSE All Share index as a measure of stock market development. Table 4.30 presents a summary of the ARDL cointergration test results.

Table 4.30: Summary of ARDL Cointergration Test Results

Table 4.30a ARDL-ECM Coefficients (Dependent Variable: Market Capitalization)				
	Short Run Coefficients		Long Run Coefficients	
Variable	Coefficient	Prob	Coefficient	Prob.
lnFDI	Positive	0.0476<0.05(significant)	Negative	0.0470<0.05(significant)
lnFEP	Positive	0.0417<0.05(significant)	Negative	0.2395>0.05(Insignificant)
lnFDP	Positive	0.0240<0.05(significant)	Positive	0.0177<0.05(significant)
lnREM	Positive	0.0032<0.05(significant)	Positive	0.0056<0.05(significant)
Table 4.30b ARDL-ECM Coefficients (Dependent Variable: Market Turnover)				
Variable	Coefficient	Prob	Coefficient	Prob.*
lnFDI	Positive	0.0139<0.05(significant)	Negative	0.0479<0.05(significant)
lnFEP	Positive	0.0481<0.05(significant)	Negative	0.1873>0.05(Insignificant)
lnFDP	Positive	0.0381<0.05(significant)	Positive	0.0040<0.05(significant
lnREM	Positive	0.0416<0.05(significant)	Positive	0.0002<0.05(significant
Table 4.30c ARDL-ECM Coefficients(Dependent Variable: NSE All Share Index)				
Variable	Coefficient	Std. Error	Coefficient	Prob.*
lnFDI	Positive	0.0462<0.05(significant)	Negative	0.0462<0.05(significant)
lnFEP	Positive	0.0007<0.05(significant)	Negative	0.0579>0.05(Insignificant)
lnFDP	Positive	0.0185<0.05(significant)	Positive	0.0280<0.05(significant)
lnREM	Positive	0.0003<0.05(significant)	Positive	0.0174<0.05(significant)

Source: Study Data (2019)

Table 4.30 above indicate that all the study variables have a significant positive short run effect on market capitalization, market turnover and the NSE All Share index as indicators of stock market development. However, in the long run only foreign debt portfolio and diaspora remittances have a significant long run effect. Foreign direct investment has a significant long run effect on stock market development while foreign equity portfolio has no significant effect on stock market development.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter provides a summary of the entire study specifically focusing on the study objectives, methodology and the study finding. The chapter will then provide conclusions made from the findings of the study. The chapter equally enumerates the policy implications and recommendations from the findings made by the study. Finally, the chapter ends with the limitations of the study, study contribution to knowledge and the areas suggested for further research arising from areas not covered or areas not conclusively covered by this study.

5.2 Summary of The Study

The economic pillar of Kenyan vision 2030 economic blue print aims at mobilizing savings so as to realize a savings to GDP ratio of between 25-28% by the year 2030. This great milestone can only be achieved if the stock market is efficient and well developed providing a wide variety of investment products. Notwithstanding the significant contribution made by the stock market in the economy, stock market development in Kenya is still an issue of great concern to policy makers. The stock market is characterized by small size, low liquidity and extreme volatility with the NSE 20 share index often falling below the psychological minimum of 4000 basis points. Stock market development in developing markets has largely been attributed to globalization that has enhanced better linkage with the foreign capital markets and ensured greater participation of foreign firms. Increased foreign investors' participation in the stock market is an important source of stock market liquidity due to the fact that foreign investors are likely to trade in the instruments thus enhancing market liquidity. This study therefore sought to establish whether

foreign financial inflows have a significant effect stock market development at The Nairobi Securities Exchange, Kenya.

The study targeted the Nairobi Securities Exchange market in the period January 2008-December 2018 and was anchored on the Base Broadening Theory, Monopolistic Advantage Theory, Neo Classical Theory of Portfolio Flow, Trade off Theory and Pure Self-Interest Theory. The study adopted a positivism philosophy as well as causal research design methodology. Time series data was obtained from Capital Markets Authority quarterly statistical bulletins, Central Bank of Kenya monthly reports, Nairobi Securities Exchange annual reports and the United Nations Conference on Trade and Development website, using a secondary data collection schedule. The data was then analyzed for long run and short run relationship using ARDL-ECM Model with the aid of SPSS version 23 and E- views version 9.5 statistical software. Below is a summary of the findings on specific objectives of the study.

First, the study sought to establish the effect of foreign direct investment inflow on stock market development at the Nairobi Securities Exchange, Kenya. The study found that Foreign Direct Investment had a negative but significant long run effect on market capitalization, market turnover and the NSE All Share index as indicators of stock market development. Equally, Foreign Direct Investment had a positive short run effect on market capitalization, market turnover and the NSE All Share index as indicators of stock market development at the Nairobi Securities Exchange market. The null hypothesis was therefore rejected at 0.05 level of significance. These findings supported the Foreign Direct Investment (FDI) dependency theory but contradicted the monopolistic advantage theory.

Secondly, the study sought to determine the effect of foreign equity portfolio investment on stock market development. The study found that Foreign Equity portfolio Investment had no significant long run effect on market capitalization, market turnover and the NSE All Share index as measures of stock market development at the Nairobi Securities Exchange market. The study therefore failed to reject the null hypothesis at 0.05 level of significance. However, foreign equity portfolio had a significant short run positive effect on market capitalization, market turnover and NSE All share index as indicators of stock market development. These findings supported the Neo Classical Theory of investment that contends that multi- national companies are arbitrageurs seeking to take advantage of the short run differences in rates of returns in various countries.

Thirdly, the study sought to establish the effect of foreign debt portfolio investment on stock market development at the NSE, Kenya. The study found that Foreign Debt portfolio had a significant long run and short run positive effect on market capitalization as an indicator of stock market development. Considering market turnover, the findings further indicated foreign debt portfolio inflows had a significant long run and short run positive effect on stock market development as measured using market turnover. Moreover the foreign debt portfolio had a significant long run and short run positive effect on the NSE All Share index. The null hypothesis was rejected at 0.05 level of significance. These findings are further collaborated by the tradeoff theory which contends that firms attain an optimum capital structure through a balance of the tax shield benefits and the cost of financial distress associated with the use of debt.

Fourthly, the study sought to investigate the effect of diaspora remittances on stock market development at the NSE, Kenya. The study found that diaspora remittances had significant long run and short run positive effect on market capitalization as an indicator of stock market

development. Using market turnover, the findings further indicated diaspora remittances had a significant long run and short run positive effect on stock market development as measured using market turnover. Equally diaspora remittances had a positive significant effect on the NSE All Share index as a measure of stock market development. The null hypothesis was therefore rejected at 0.05 level of significance. These findings are further collaborated by the theory of pure self-interest which contends that emigrants send remittances back home with the intention of making investments and eventually return home in future to derive benefits from such investments.

The fifth hypothesis sought to assess the mediation effect of foreign investor participation on the relationship between foreign financial inflows and stock market development at the NSE, Kenya. The study used the Barron and Kenny mediation model criteria in testing the mediating effect. Since the fourth mediation criterion was not met the study, the study found that Foreign Investor Participation does not have a significant mediation effect on the relationship between foreign financial inflows and stock market development indicators: Market capitalization, market turnover and NSE All Share index. The study therefore failed to reject the null hypothesis at 0.05 level of significance. Foreign investor participation however was significant as a predictor of stock market development. Foreign investor participation had a significant positive effect on market capitalization, market turnover and the NSE All Share index.

The sixth hypothesis sought to assess the moderation effect of political risk on the relationship between the foreign financial inflows and the stock market development in Kenya by adopting the Whisman and McClelland two step moderation tests. The test involved introducing political risk as an explanatory variable of stock market development and subsequently as a moderating variable in the relationship between foreign financial and stock market development at the

Nairobi Securities Exchange. The study found that political risk was insignificant as an explanatory variable of stock market development. Equally, political risk had an insignificant moderating effect on the relationship between foreign financial inflows and stock market development as measured using market capitalization, markets turnover and the NSE All Share index.

5.3 Conclusions

The study makes the following conclusions on the basis of the foregoing findings from the correlation analysis, direct effect test, and cointergration effect tests conducted on each of the study objectives. The independent variable (Foreign financial inflows) was measured using foreign direct investment, foreign equity portfolio, and foreign debt portfolio and diaspora remittances. The dependent variable (stock market development) was proxied using Market capitalization, Market turnover and the NSE All share index. Consequently, the conclusions are made on the basis of the significant effect of foreign financial inflows on each the three indicators of stock market development.

The study first sought to establish the effect of foreign direct investment inflow and stock market development at the Nairobi Securities Exchange, Kenya. Foreign Direct Investment had a significant negative effect on market value, liquidity and price stability in the long run. However, Foreign Direct Investment has a positive effect in the short run. Notably, stock market development is a long term phenomena and consequently the study concludes that increase in foreign direct investments leads to a decline in stock market development at the Nairobi Securities Exchange. This implies that foreign direct investors from developed economies, endowed with superior and sophisticated technology, are likely to out compete the domestic micro businesses leading to destruction of the domestic industries and capital markets in the long

run. Further, the earnings and dividends from this multinationals are often repatriated back to their home countries with very little being reinvested in the host countries capital markets like the Nairobi Securities Exchange.

Secondly, the study sought to determine the effect of foreign equity portfolio investment on stock market development. Foreign Equity Portfolio had an insignificant long run effect and a significant short run positive effect on market capitalization, market turnover and NSE All Share index as indicators of stock market development. Since Foreign Equity Portfolio had a significant positive short run effect on market capitalization, Market turnover and the NSE All Share the study therefore concludes that an increase in foreign equity portfolio leads to an increase in the market value, liquidity and price stability at the Nairobi Securities Exchange in the short run. However, in the long run, increased foreign equity portfolio inflows does not have a noticeable effect on market value, liquidity and price stability at the Nairobi Securities Exchange market. Notably, multinational companies will move capital from low return to high return countries to take advantage of the short run differences in returns. However, when the markets eventually stabilize in the long run such investors often realize that they may not attain the high returns initially anticipated thus pull out of the market immediately leading to market shocks. Consequently, foreign equity portfolio has a significant effect on stock market development in the immediate but has insignificant effect on stock market development in the long run.

Thirdly, the study sought to establish the effect foreign debt portfolio has significant effect and stock market development at the NSE, Kenya. Foreign Debt portfolio has a significant effect on market capitalization as an indicator of stock market development both in the short and in the long run. Moreover, Foreign Debt Portfolio had a significant long run and short run positive

effect on stock market development as measured using market turnover. Equally the effect foreign debt portfolio on the NSE All Share index was positive and significant in both the short run and the long run. Since foreign debt portfolio has significant positive effect on market capitalization, market turnover and the NSE All Share index the study concludes that an increase in foreign debt portfolio will lead to enhanced market value, liquidity and price stability. Noteworthy, foreign debt portfolio inflows, unlike foreign equity inflows and foreign direct investment, are associated with fixed returns on investment. This makes foreign debt portfolio inflows relatively stable in comparison to other foreign inflows.

The Fourth hypothesis sought to investigate the effect of diaspora remittances on stock market development at the NSE, Kenya. Diaspora remittances had a positive and significant long run effect on market capitalization, market turnover and the NSE All Share index as indicators of stock market development. Equally, diaspora remittances had a positive and significant short run effect on market capitalization, market turnover and the NSE All Share index as indicators of stock market development. Since diaspora remittances had a significant positive effect on market capitalization, market turnover and the NSE All Share index the study concludes that an increase in diaspora remittances will result in enhanced market value, liquidity and price stability. This implies that increase in diaspora remittances leads to enhanced stock market development at the Nairobi Securities Exchange both in the immediate and in the long run. The increased awareness about the returns in the market, has led to increased amounts of remittances investment in the stock market. Unlike other sources of external finance, diaspora remittances are directly sent to the recipient from the sender. Thus tend to be more stable making diaspora remittance reliable source of financing for developing countries. This explains the significant contribution of

diaspora remittances towards the development in the market value, liquidity and stability of the Nairobi Securities Exchange Market.

The fifth hypothesis sought to assess the mediation effect of foreign investor participation on the relationship between foreign financial inflows and stock market development at the NSE, Kenya. Foreign investor participation had no significant mediation effect on the relationship between foreign financial inflows and Market Capitalization. Equally, foreign investor participation had no significant mediation effect on the relationship between foreign financial inflows and market turnover. Additionally, the mediation effect on the relationship between foreign financial inflows and the NSE All Share index was statistically insignificant. The findings however indicate that foreign investor participation had a significant positive direct effect on market capitalization, market turnover, and the NSE All Share index. The study therefore concludes that foreign investor participation is not a mediator in the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange but rather it's a predictor of stock market development. The study further concludes that an increase in foreign investor participation leads to enhanced market value, liquidity and price stability at the Nairobi Securities Exchange market.

The sixth hypothesis sought to assess the moderation effect of political risk on the relationship between the foreign financial inflows and the stock market development ant the Nairobi securities, Exchange, Kenya. Political risk had no significant moderating effect on the relationship between foreign financial inflows and market capitalization. Moreover, political risk had no significant is moderating effect on the relationship between foreign financial inflows and stock markets turnover. Equally, political risk had no significant moderating effect on the relationship between foreign financial inflows and NSE All Share index. The study therefore

concludes that political risk is neither a predictor nor a moderator in the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange, Kenya. This implies that increased political risk does not have a noticeable effect on market value, liquidity and price stability at the Nairobi Securities Exchange market. Equally, the study concludes that changes in political risk will not influence the development of the stock market at the Nairobi Securities Exchange market.

5.4 Policy Implications and Recommendations of the Study

Despite the common believe that foreign financial inflows have the effect of increasing the availability of capital and enhancing the liquidity of the stock market, the study findings have demonstrated that not all the foreign financial inflows have a positive and significant effect on stock market development. In the Kenyan context Diaspora Remittances and Foreign Debt Portfolio have a positive significant long run effect on stock market development while Foreign Direct Investment and Foreign equity Portfolio have negative significant effect and insignificant effects on stock market development respectively. It is on this basis that the study makes the following policy recommendations to the Kenyan government, National Assembly, Capital Markets Authority and other policy makers.

First, the Kenyan government thorough the ministry of foreign affairs and other government agencies need to reconsider the Kenya foreign investment policy and the effectiveness of each foreign inflow with the sole objective being to attract productive foreign financial inflows. The foreign investment policy should only target those inflows that have a productive effect on the stock market and other sectors of the economy. More emphasis should be placed on foreign inflows such as diaspora remittances that have a high significant positive effect on stock market development. Secondly, the government needs to devise measures that would boost investor

confidence and thus attract increased Diaspora remittances. The government should institute aggressive campaigns targeting the Kenyans living in the diaspora to educate them on the importance of investing back at home. The Kenya government should create a department of economic relations to be located at all Kenyan foreign embassies abroad. The department will be charged with the role of sensitizing the Kenyans in the diaspora on the available investment opportunities at the Nairobi Securities Exchange.

Thirdly, the Kenyan Constitution 2010 gives the national assembly exclusive powers to the national assembly to consider, debate and amend laws relating to national government functions. The national assembly therefore needs to provide a conducive environment for diaspora investors through formulation of favorable investment policies, ensuring political stability, minimizing bureaucracy and managing corruption. To begin with, the national assembly needs to consider the removal of the capital gains tax reintroduced in the year 2014. The reintroduction of the capital gains tax that was subsequently replaced with a one off transaction fee of 0.3% on the value of the transaction has an increased capital outflow, leading to a decline in key market performance indicators as the market tries to adjust to the effects the re- introduction of the tax. Additionally, the introduction of maximum interest rate capping through the signing into law of the Banking Amendment Act Cap 488 laws of Kenya has slowed down growth of business and investment in the economy hence leading to a notable decline in Market value, liquidity and price stability. The national assembly therefore needs to operationalize the proposal made by the national treasury to amend the Banking Amendment Act Cap 488 and lift the cap on maximum interest rates.

Fourth, the foregoing findings indicate that Foreign Direct Investment and Foreign Equity portfolio are highly volatile and have negative and insignificant effects on stock market

development. Thus Capital Markets Authority (CMA) needs to devise measures of encouraging the local investors to invest and access funds through the stock market. The CMA needs to implement policy measures that would attract the local small and medium enterprises to have their stocks listed at the stock market. Equally the government should support the domestic firms to expand their operations so as to meet the minimum requirements for enlisting at the stock market. Active participation of the local investors at the Nairobi Securities Exchange will give the bourse more stability and liquidity hence the value of stock will increase. Finally, the Kenyan Central Bank needs to consider building up sufficient foreign currency reserves that can cushion economy and the stock markets against the negative effects of spontaneous reversal of foreign financial inflows.

5.5 Limitations of the Study

The study faced some limitations which are noteworthy. First, stock market development at the Nairobi Securities Exchange market consists of both qualitative and quantitative aspects. However, this study was limited to the relationship between foreign financial inflows and selected quantifiable aspects of development of the NSE market. The effects of unquantifiable factors have not been considered for the purpose of this study due to challenges in their measurability in the context of the NSE bearing in mind that thesis is empirical in nature. Secondly, the data collected from the various organizations may have contained errors that the study was unable to pick out. However, to ensure that the study is free of material errors the data was cleaned through validity tests. Equally, the researcher obtained data from credible sources to ensure its reliability. Thirdly, the study obtained quarterly data for the period 2008-2018 for all the variables except for foreign direct investment where the data available from official sources is only annual. Therefore, foreign direct investment was assumed to have been made evenly

throughout the year. Finally, the study is equally limited to eleven year period due to the availability of data from the official credible sources.

5.6 Contributions to Knowledge

This study unlike most empirical studies, that have placed emphasis on market capitalization as the only indicator of stock market development, has taken cognizance of the fact that stock market development is a multi-faceted, long-term process measured using a wide variety of market indicators. To this end the current study measured stock market development using market capitalization as a proxy of market value, market turnover as a proxy of market liquidity and the NSE All Share index as a proxy of price stability.

Secondly, unlike the existing empirical studies that focus on the direct effect of foreign financial inflows on stock market development, the current study has also considered the mechanism through which the foreign financial inflows influence stock market development. Consequently, the study assessed the mediation effect of foreign investor participation on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange market. Equally, the current study also examines the moderating effect of political risk on the relationship between foreign financial inflows and stock market development at the Nairobi Securities Exchange market.

Thirdly, existing literature has associated foreign direct investment with long term stability and a vast range of “spill over” benefits including: employment creation, technological spill over, human capital development, quality productivity, creation of competitive business environment and the enhancing of enterprise development. Further, existing literature suggests that increased foreign direct investment would increase capital availability thus stimulate goods and services

production leading to increased income in the domestic economy. However, contrary to existing literature the findings in the current study confirm that foreign direct investment has a negative long run effect on stock market development at the Nairobi Securities Exchange market.

5.7 Areas for Further Research

The following areas have been identified for further studies from the main gaps of this study. First, the findings of this study indicate that despite the increased volume and volatility of foreign equity portfolio inflows at its effect on stock market development at the Nairobi Securities Exchange in the long run was insignificant. Future studies therefore need to further interrogate the relationship between foreign equity flows and stock market development especially in context of the Nairobi Securities Exchange market. Moreover, there is need to establish the reasons leading to the insignificant contribution foreign equity portfolio inflows to stock market development at the Nairobi Securities Exchange market. Future studies should therefore separate the net foreign equity portfolio flows into foreign equity portfolio inflow and foreign equity portfolio outflow and separately analyse the effect of each portfolio flows on market value, liquidity and price stability at the Nairobi Securities Exchange market.

This study is limited to eleven years period of January 2008-December 2018 and the data was analysed on quarterly basis. This period relates to the post-global financial crisis of 2008. The post global financial crisis period is characterized by increased volume and volatility of foreign financial inflows in comparison to the pre-global financial crisis period. Therefore, future studies can be conducted on the period before the global financial crisis so as to make a comparison between the effect of foreign financial inflows on stock market development before the global credit crunch and the effect of foreign financial inflows on stock market development after the global financial crisis. Equally, with the advancement of technology in data collection and

storage future studies can be conducted based on data analysed on more frequent observations such as monthly, weekly and even on daily basis. This would capture the short run dynamics of the Nairobi Securities Exchange market better and provide more precise findings.

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APPENDICES

APPENDIX I: RESEARCH AUTHORIZATION LETTER

NATIONAL COMMISSION FORSCIENCE, TECHNOLOGY ANDINNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/19/59129/28356**

Date: **26th February, 2019**

Cliff Oirere Osoro
Kenyatta University,
P.O. Box 43844-00100,
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Foreign Financial Inflows and stock market development at Nairobi Securities Exchange, Kenya."*** I am pleased to inform you that you have been authorized to undertake research in **All Counties** for the period ending **26th February, 2020.**

You are advised to report to **the County Commissioners and the County Directors of Education, All Counties** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioners
All Counties

The County Directors of Education
All Counties

APPENDIX II: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MR. CLIFF OIRERE OSORO
of KENYATTA UNIVERSITY, 0-200
NAIROBI,has been permitted to conduct
research in *All Counties*

on the topic: *FOREIGN FINANCIAL INFLOWS AND STOCK MARKET DEVELOPMENT AT NAIROBI SECURITIES EXCHANGE, KENYA*

for the period ending:
26th February,2020

.....
Applicant's Signature

Permit No : NACOSTI/P/19/59129/28356
Date Of Issue : 26th February,2019
Fee Recieved :Ksh 2000

.....
Director General
National Commission for Science, Technology & Innovation

APPENDIX III: COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE

SECURITIES	TRADING SYMBOL
AGRICULTURAL	
Eaagads Ltd Ord 1.25 AIM	EGAD
Kakuzi Plc Ord.5.00	KUKZ
Kapchorua Tea Co. Ltd Ord Ord 5.00 AIM	KAPC
The Limuru Tea Co. Plc Ord 20.00AIMS	LIMT
Sasini Plc Ord 1.00	SASN
Williamson Tea Kenya Ltd Ord 5.00 AIM	WTK
AUTOMOBILES & ACCESSORIES	
Car & General (K) Ltd Ord 5.00	C&G
BANKING	
Barclays Bank of Kenya Ltd Ord 0.50	BBK
BK Group Plc Ord 0.80	BKG
Diamond Trust Bank Kenya Ltd Ord 4.00	DTK
Equity Group Holdings Plc Ord 0.50	EQTY
HF Group Plc Ord 5.00	HFCK
I&M Holdings Plc Ord 1.00	I&M
KCB Group Plc Ord 1.00	KCB
National Bank of Kenya Ltd Ord 5.00	NBK
NIC Group Plc Ord 5.00	NIC
Stanbic Holdings Plc ord.5.00	CFC
Standard Chartered Bank Kenya Ltd Ord 5.00	SCBK
The Co-operative Bank of Kenya Ltd Ord 1.00	COOP
COMMERCIAL AND SERVICES	
Atlas African Industries Ltd GEMS	ADSS
Deacons (East Africa) Plc Ord 2.50AIMS	DCON
Eveready East Africa Ltd Ord.1.00	EVRD
Express Kenya Ltd Ord 5.00 AIMS	XPRS
Kenya Airways Ltd Ord 5.00	KQ
Longhorn Publishers Plc Ord 1.00AIMS	LKL
Nairobi Business Ventures Ltd Ord. 1.00 GEMS	NBV
Nation Media Group Ltd Ord. 2.50	NMG
Sameer Africa Plc Ord 5.00	FIRE
Standard Group Plc Ord 5.00	SGL
TPS Eastern Africa Ltd Ord 1.00	TPSE
Uchumi Supermarket Plc Ord 5.00	UCHM
WPP Scangroup Plc Ord 1.00	SCAN
CONSTRUCTION & ALLIED	
ARM Cement Plc Ord 1.00	ARM
Bamburi Cement Ltd Ord 5.00	BAMB

Crown Paints Kenya Plc Ord 5.00	BERG
E.A.Cables Ltd Ord 0.50	CABL
E.A.Portland Cement Co. Ltd Ord 5.00	PORT
ENERGY & PETROLEUM	
KenGen Co. Plc Ord. 2.50	KEGN
KenolKobil Ltd Ord 0.05	KENO
Kenya Power & Lighting Co Ltd Ord 2.50	KPLC
Kenya Power & Lighting Co Ltd 4%	KPLC.P0004
Kenya Power & Lighting Co Ltd 7%	KPLC.P0007
Total Kenya Ltd Ord 5.00	TOTL
Umeme Ltd Ord 0.50	UMME
INSURANCE	
Britam Holdings Plc Ord 0.10	BRIT
CIC Insurance Group Ltd ord.1.00	CIC
Jubilee Holdings Ltd Ord 5.00	JUB
Kenya Re Insurance Corporation Ltd Ord 2.50	KNRE
Liberty Kenya Holdings Ltd Ord.1.00	CFCI
Sanlam Kenya Plc Ord 5.00	PAFR
INVESTMENT	
Centum Investment Co Plc Ord 0.50	ICDC
Home Afrika Ltd Ord 1.00	HAFR
Kurwitu Ventures Ltd Ord 100.00	KURV
Olympia Capital Holdings ltd Ord 5.00	OCH
Trans-Century Plc Ord 0.50AIMS	TCL
INVESTMENT SERVICES	
Nairobi Securities Exchange Plc Ord 4.00	NSE
MANUFACTURING & ALLIED	
B.O.C Kenya Plc Ord 5.00	BOC
British American Tobacco Kenya Plc Ord 10.00	BAT
Carbacid Investments Ltd Ord 1.00	CARB
East African Breweries Ltd Ord 2.00	EABL
Flame Tree Group Holdings Ltd Ord 0.825	FTGH
Kenya Orchards Ltd Ord 5.00 AIM	ORCH
Mumias Sugar Co. Ltd Ord 2.00	MSC
Unga Group Ltd Ord 5.00	UNGA
TELECOMMUNICATION	
Safaricom Plc Ord 0.05	SCOM
REAL ESTATE INVESTMENT TRUST	
STANLIB FAHARI I-REIT	FAHR
EXCHANGE TRADED FUNDS	
NEW GOLD ETF	GLD

APPENDIX IV: STUDY DATA

Years	Quarter	Quarterly lnFDI	Quarterly lnFEP	Quarterly lnFDP	Quarterly lnREM	Quarterly lnFIP	Quarterly lnPRI
2008	I	0.918078	1.044187	-0.45469	1.045637	0.740363	-0.23657
	II	0.883253	1.102137	-0.81107	1.01674	1.060698	-0.30103
	III	0.922667	1.139	-0.18542	0.97137	0.929419	-0.11351
	IV	0.976358	1.153987	-0.56575	1.052	1.311754	-0.48149
2009	I	1.472316	1.048248	-0.48745	1.071803	1.525045	-0.12494
	II	1.466076	1.098678	-0.43652	1.051858	1.607455	-0.19382
	III	1.453703	1.137069	-0.12088	1.085411	1.511883	-0.30103
	IV	1.447365	1.186815	-0.23958	1.073408	1.703291	-0.11351
2010	I	1.359843	1.207446	0.251857	1.041498	1.719331	-0.25181
	II	1.373536	1.098609	0.368324	1.091499	1.546913	-0.30103
	III	1.38434	1.144823	0.257367	1.115459	1.549003	-0.11351
	IV	1.382483	1.229963	0.11576	1.162708	1.778151	-0.48149
2011	I	1.47452	1.184209	0.213717	1.208369	1.446382	-0.22915
	II	1.494582	0.500648	0.309151	1.257515	1.514415	-0.30103
	III	1.528005	1.128755	0.233072	1.343687	1.520221	-0.11351
	IV	1.531983	1.107447	0.112303	1.365849	1.578983	-0.48149
2012	I	1.462878	1.138492	0.173478	1.402005	1.631951	-0.25181
	II	1.462783	1.193987	0.221805	1.396351	1.71054	-0.30103
	III	1.463586	1.211761	0.512351	1.372977	1.688064	-0.25964
	IV	1.470246	1.312833	0.319106	1.401872	1.730298	-0.48149
2013	I	1.384818	1.046807	0.001712	1.427712	1.697229	-0.25964
	II	1.374102	1.305889	0.465769	1.425654	1.672744	-0.30103
	III	1.387483	1.391799	0.120376	1.455783	1.743902	-0.25964
	IV	1.380723	1.147336	0.187577	1.46494	1.723045	-0.48149
2014	I	1.248377	0.92127	0.187196	1.468869	1.756484	-0.22915
	II	1.252979	1.098263	0.275392	1.476208	1.749814	-0.30103
	III	1.257888	1.135832	0.341425	1.517746	1.687886	-0.22915
	IV	1.265884	1.129368	0.295446	1.516007	1.677789	-0.48149
2015	I	1.15166	0.901186	0.287925	1.522804	1.680698	-0.20761
	II	1.171686	1.101678	-0.04655	1.572115	1.807332	-0.30103
	III	1.202821	1.247433	-0.17545	1.606537	1.84862	-0.22915
	IV	1.200339	1.106599	0.029303	1.614302	1.805229	-0.48149
2016	I	1.000991	0.979366	0.230743	1.626871	1.751048	-0.22915
	II	0.997246	1.060622	0.351603	1.644898	1.840984	-0.30103
	III	0.998545	1.234061	0.057875	1.633744	1.887674	-0.19382
	IV	1.000242	1.081743	0.150879	1.657956	1.834294	-0.60206
2017	I	1.239568	1.117603	0.193083	1.650668	1.884682	-0.18709
	II	1.239336	0.94714	0.306393	1.672343	1.810098	-0.18709
	III	1.24	-3	0.210158	1.709461	1.731991	-0.14267
	IV	1.239302	1.039017	0.126018	1.765988	1.810367	-0.19382
2018	I	1.312164	0.482588	0.344471	1.815089	1.758685	-0.60206
	II	1.307559	0.469233	0.376175	1.870764	1.790426	-0.18709
	III	1.307331	0.645127	0.30219	1.806486	1.811843	-0.18709
	IV	1.312483	0.648458	0.248598	1.842613	1.876045	-0.14267

Source: Study Data (2019)

APPENDIX V: DIAGNOSTIC TEST RESULTS

Table A1. Correlation Matrix

	lnFDI	LnFEP	lnFDP	lnREM	lnPRI	lnFIP
lnFDI	1.000000	0.041340	0.307167	-0.093266	0.279040	0.049741
lnFEP	0.041340	1.000000	-0.100856	-0.273455	-0.077635	-0.152645
lnFDP	0.307167	-0.100856	1.000000	0.647815	0.646350	-0.074791
lnREM	-0.093266	-0.273455	0.647815	1.000000	0.747485	-0.090477
lnPRI	0.279040	-0.077635	0.646350	0.747485	1.000000	-0.107499
lnFIP	0.049741	-0.152645	-0.074791	-0.090477	-0.107499	1.000000

Source: Study Data (2019)

Table A3. White Test Results

Heteroskedasticity Test: Dependent variable (lnMCAP)

F-statistic	1.838954	Prob. F(14,33)	0.0745
Obs*R-squared	21.03617	Prob. Chi-Square(14)	0.1007
Scaled explained SS	10.58873	Prob. Chi-Square(14)	0.7180

Heteroskedasticity Test: Dependent variable (lnMTNR)

F-statistic	1.092819	Prob. F(14,33)	0.3986
Obs*R-squared	15.20460	Prob. Chi-Square(14)	0.3643
Scaled explained SS	7.461051	Prob. Chi-Square(14)	0.9155

Heteroskedasticity Test: Dependent variable (lnNASI)

F-statistic	1.487804	Prob. F(14,33)	0.1703
Obs*R-squared	18.57363	Prob. Chi-Square(14)	0.1819
Scaled explained SS	7.225433	Prob. Chi-Square(14)	0.9257

Source: Study Data (2019)

Table A4.Breusch-Godfrey Serial Correlation LM Test:

Serial Correlation LM Test: Dependent variable (lnMCAP)

F-statistic	10.47410	Prob. F(2,41)	0.0002
Obs*R-squared	16.23152	Prob. Chi-Square(2)	0.0003

Serial Correlation LM Test: Dependent variable (lnMTNR)

F-statistic	20.36336	Prob. F(2,41)	0.0000
Obs*R-squared	23.91975	Prob. Chi-Square(2)	0.0000

Serial Correlation LM Test: Dependent variable (lnNASI)

F-statistic	48.68439	Prob. F(2,41)	0.0000
Obs*R-squared	33.77714	Prob. Chi-Square(2)	0.0000

Source: Study Data (2019)

Table A5: Phillip Peron Stationarity Test Results

Null Hypothesis: D(lnMCAP) has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-5.708079	0.0000
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(lnTNVR) has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-9.355529	0.0000
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(lnNASI) has a unit root
Exogenous: Constant
Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.524483	0.0000
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: lnFDI has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.362237	0.0010
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: lnFEP has a unit root
Exogenous: Constant
Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-4.022790	0.0029
Test critical values:	1% level	-3.577723	
	5% level	-2.925169	
	10% level	-2.600658	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: lnFDP has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.399612	0.0159
Test critical values:	1% level	-3.577723	
	5% level	-2.925169	
	10% level	-2.600658	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(lnREM) has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-7.431897	0.0000
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: lnPRI has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-10.16626	0.0000
Test critical values:	1% level	-3.577723	
	5% level	-2.925169	
	10% level	-2.600658	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(lnFIP) has a unit root
Exogenous: Constant
Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-9.213952	0.0000
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

*MacKinnon (1996) one-sided p-values.

APPENDIX VI: NORMALITY HISTOGRAMS

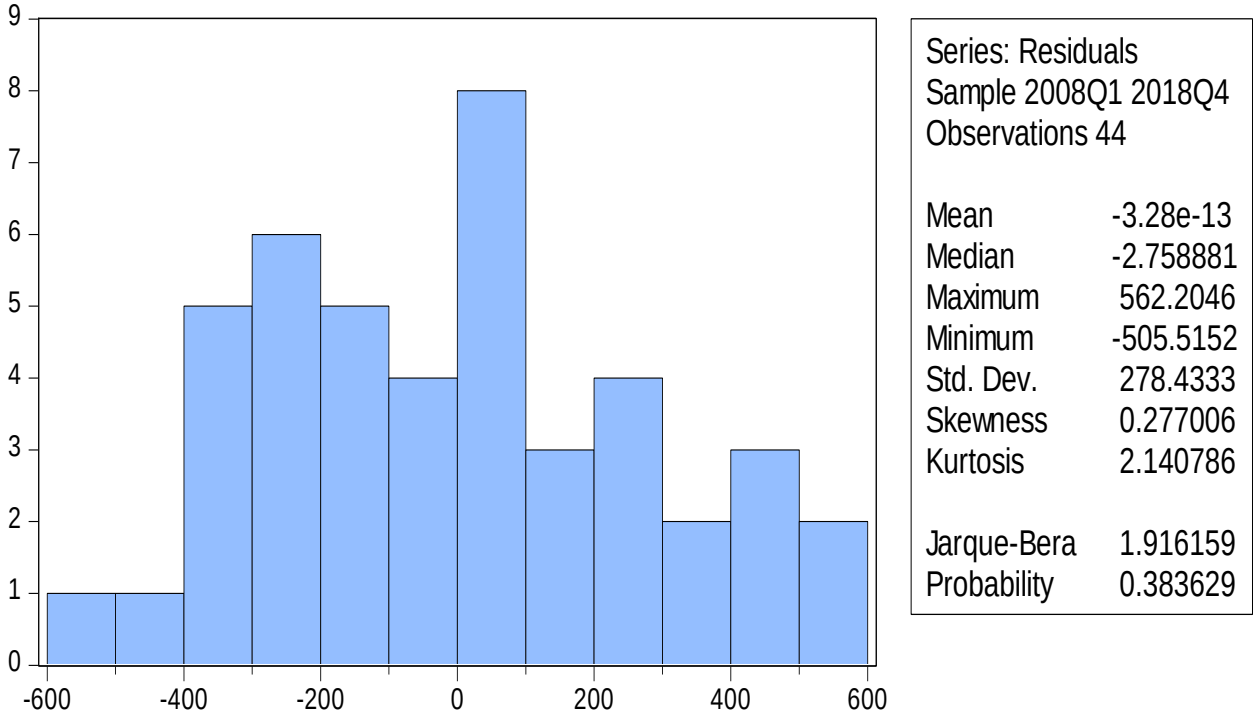

Figure A1. Normality Test Results (Dependent Variable: MCAP)
Source: Study Data (2019)

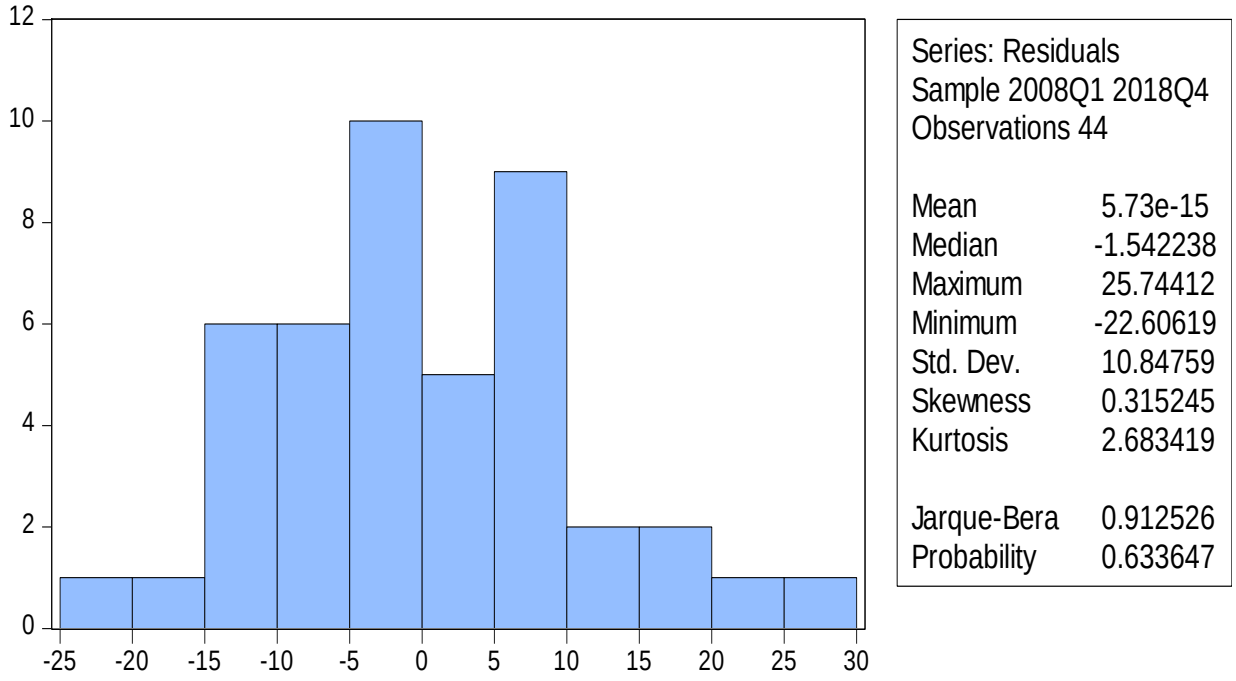

Figure A1. Normality Test Results (Dependent Variable: MTNR)
Source: Study Data (2019)

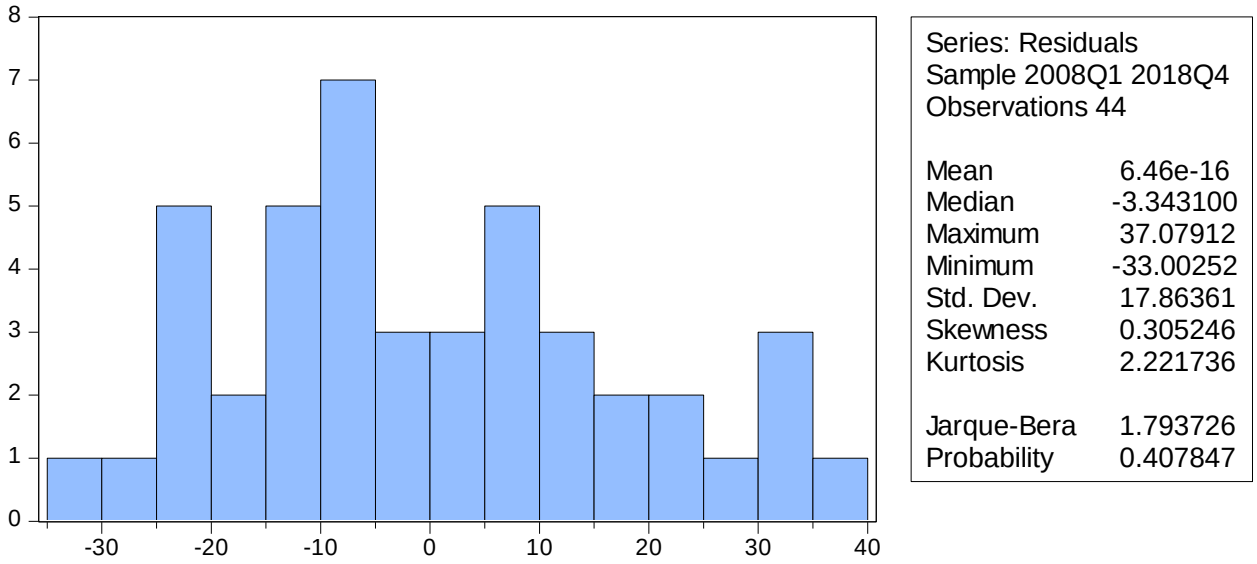

Figure A1. Normality Test Results (Dependent Variable: NASI)
Source: Study Data (2019)

APPENDIX VII: DIRECT EFFECT TEST RESULTS

Dependent Variable: lnMCAP
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.296437	0.113890	-2.602836	0.0130
lnFEP	-0.005886	0.010249	-0.574299	0.5691
lnFDP	0.112379	0.053818	2.088142	0.0434
lnREM	0.507893	0.055682	9.121334	0.0000
C	2.826830	0.178169	15.86603	0.0000

R-squared	0.825119	Mean dependent var	3.172084
Adjusted R-squared	0.807183	S.D. dependent var	0.181832
S.E. of regression	0.079844	Akaike info criterion	-2.110834
Sum squared resid	0.248629	Schwarz criterion	-1.908085
Log likelihood	51.43835	Hannan-Quinn criter.	-2.035645
F-statistic	46.00234	Durbin-Watson stat	0.647778
Prob(F-statistic)	0.000000	Wald F-statistic	100.2489
Prob(Wald F-statistic)	0.000000		

Source: Study Data (2019)

Dependent Variable: lnMTVR
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.619638	0.223767	-2.769118	0.0086
lnFEP	-0.012108	0.025954	-0.466528	0.6434
lnFDP	0.320907	0.158493	2.024740	0.0498
lnREM	0.359319	0.127728	2.813155	0.0076
C	1.732881	0.357889	4.841948	0.0000

R-squared	0.605041	Mean dependent var	1.469526
Adjusted R-squared	0.564532	S.D. dependent var	0.243283
S.E. of regression	0.160542	Akaike info criterion	-0.713876
Sum squared resid	1.005177	Schwarz criterion	-0.511127
Log likelihood	20.70527	Hannan-Quinn criter.	-0.638687
F-statistic	14.93611	Durbin-Watson stat	1.043036
Prob(F-statistic)	0.000000	Wald F-statistic	12.11015
Prob(Wald F-statistic)	0.000002		

Source: Study Data (2019)

Dependent Variable: lnNASI
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-2.051018	0.617232	-3.322931	0.0019
lnFEP	0.226139	0.511635	0.441992	0.6609
lnFDP	9.634737	5.631297	1.710927	0.0450
lnREM	1.208843	0.236352	5.114581	0.0000
C	108.8426	17.78743	6.119075	0.0000

R-squared	0.749482	Mean dependent var	118.4795
Adjusted R-squared	0.723788	S.D. dependent var	35.69024
S.E. of regression	18.75733	Akaike info criterion	8.807691
Sum squared resid	13721.66	Schwarz criterion	9.010440
Log likelihood	-188.7692	Hannan-Quinn criter.	8.882880
F-statistic	29.16933	Durbin-Watson stat	0.571088
Prob(F-statistic)	0.000000	Wald F-statistic	22.99841
Prob(Wald F-statistic)	0.000000		

Source: Study Data (2019)

APPENDIX VIII: MEDIATION EFFECT TEST RESULTS

Dependent Variable: lnFIP
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	0.457216	0.265177	1.724191	0.0926
lnFEP	0.051289	0.027965	1.834045	0.0743
lnFDP	0.052180	0.102891	0.507134	0.6149
lnREM	0.687043	0.186125	3.691308	0.0007
C	0.032466	0.529475	0.061318	0.9514

R-squared	0.656942	Mean dependent var	1.646433
Adjusted R-squared	0.621757	S.D. dependent var	0.239747
S.E. of regression	0.147448	Akaike info criterion	-0.884039
Sum squared resid	0.847895	Schwarz criterion	-0.681290
Log likelihood	24.44885	Hannan-Quinn criter.	-0.808850
F-statistic	18.67085	Durbin-Watson stat	0.865967
Prob(F-statistic)	0.000000	Wald F-statistic	5.088647
Prob(Wald F-statistic)	0.002134		

Source: Study Data (2019)

Dependent Variable: lnMCAP
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.359600	0.153291	-2.345868	0.0243
lnFEP	-0.012972	0.010656	-1.217356	0.2310
lnFDP	0.105171	0.052904	1.987958	0.0541
lnREM	0.412980	0.077144	5.353397	0.0000
lnFIP	0.138147	0.096773	1.427540	0.1616
C	2.822345	0.157102	17.96509	0.0000

R-squared	0.836501	Mean dependent var	3.172084
Adjusted R-squared	0.814988	S.D. dependent var	0.181832
S.E. of regression	0.078211	Akaike info criterion	-2.132678
Sum squared resid	0.232447	Schwarz criterion	-1.889380
Log likelihood	52.91892	Hannan-Quinn criter.	-2.042451
F-statistic	38.88357	Durbin-Watson stat	0.593738
Prob(F-statistic)	0.000000	Wald F-statistic	102.7032
Prob(Wald F-statistic)	0.000000		

Source: Study Data (2019)

Dependent Variable: lnMTNR
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.603712	0.266864	-2.262249	0.0295
lnFEP	-0.010322	0.025414	-0.406146	0.6869
lnFDP	0.322725	0.159980	2.017283	0.0508
lnREM	0.383249	0.165982	2.308982	0.0265
lnFIP	-0.034831	0.162429	-0.214436	0.8314
C	1.734011	0.360143	4.814781	0.0000

R-squared	0.605445	Mean dependent var	1.469526
Adjusted R-squared	0.553530	S.D. dependent var	0.243283
S.E. of regression	0.162558	Akaike info criterion	-0.669445
Sum squared resid	1.004148	Schwarz criterion	-0.426147
Log likelihood	20.72780	Hannan-Quinn criter.	-0.579219
F-statistic	11.66222	Durbin-Watson stat	1.053940
Prob(F-statistic)	0.000001	Wald F-statistic	9.368003
Prob(Wald F-statistic)	0.000007		

Source: Study Data (2019)

Dependent Variable: lnNASI
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.363470	0.144784	-2.510427	0.0164
lnFEP	-0.011785	0.009843	-1.197294	0.2386
lnFDP	0.092052	0.052111	1.766464	0.0854
lnREM	0.283058	0.074601	3.794300	0.0005
lnFIP	0.068776	0.087675	0.784443	0.4376
C	2.006203	0.152949	13.11684	0.0000

R-squared	0.767779	Mean dependent var	2.052588
Adjusted R-squared	0.737224	S.D. dependent var	0.140055
S.E. of regression	0.071794	Akaike info criterion	-2.303897
Sum squared resid	0.195869	Schwarz criterion	-2.060598
Log likelihood	56.68573	Hannan-Quinn criter.	-2.213670
F-statistic	25.12746	Durbin-Watson stat	0.573241
Prob(F-statistic)	0.000000	Wald F-statistic	50.38810
Prob(Wald F-statistic)	0.000000		

Source: Study Data (2019)

Dependent Variable: lnMCAP
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFIP	0.454617	0.127239	3.572929	0.0009
C	2.423587	0.214912	11.27712	0.0000

R-squared	0.359298	Mean dependent var	3.172084
Adjusted R-squared	0.344044	S.D. dependent var	0.181832
S.E. of regression	0.147268	Akaike info criterion	-0.948737
Sum squared resid	0.910889	Schwarz criterion	-0.867638
Log likelihood	22.87222	Hannan-Quinn criter.	-0.918662
F-statistic	23.55314	Durbin-Watson stat	0.259051
Prob(F-statistic)	0.000017	Wald F-statistic	12.76582
Prob(Wald F-statistic)	0.000902		

Source: Study Data (2019)

Dependent Variable: lnMTNR
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFIP	0.358184	0.188686	1.898313	0.0445
C	0.879799	0.325817	2.700287	0.0099

R-squared	0.224594	Mean dependent var	1.469526
Adjusted R-squared	0.103751	S.D. dependent var	0.243283
S.E. of regression	0.230317	Akaike info criterion	-0.054334
Sum squared resid	2.227923	Schwarz criterion	0.026766
Log likelihood	3.195344	Hannan-Quinn criter.	-0.024258
F-statistic	5.977733	Durbin-Watson stat	0.450551
Prob(F-statistic)	0.018763	Wald F-statistic	3.603592
Prob(Wald F-statistic)	0.064541		

Source: Study Data (2019)

Dependent Variable: lnNASI
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFIP	0.274566	0.118263	2.321660	0.0252
C	1.600533	0.201367	7.948340	0.0000

R-squared	0.220905	Mean dependent var	2.052588
Adjusted R-squared	0.202355	S.D. dependent var	0.140055
S.E. of regression	0.125084	Akaike info criterion	-1.275270
Sum squared resid	0.657134	Schwarz criterion	-1.194171
Log likelihood	30.05595	Hannan-Quinn criter.	-1.245195
F-statistic	11.90867	Durbin-Watson stat	0.230797
Prob(F-statistic)	0.001286	Wald F-statistic	5.390105
Prob(Wald F-statistic)	0.025175		

Source: Study Data (2019)

APPENDIX IX: MODERATION EFFECT TEST RESULTS

Dependent Variable: lnMCAP
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.294383	0.116018	-2.537384	0.0154
lnFEP	-0.007598	0.009297	-0.817293	0.4189
lnFDP	0.111169	0.054182	2.051769	0.0471
lnREM	0.505733	0.055094	9.179403	0.0000
lnPRI	-0.040413	0.065228	-0.619561	0.5392
C	2.817698	0.180640	15.59841	0.0000

R-squared	0.825934	Mean dependent var	3.172084
Adjusted R-squared	0.803030	S.D. dependent var	0.181832
S.E. of regression	0.080699	Akaike info criterion	-2.070047
Sum squared resid	0.247471	Schwarz criterion	-1.826749
Log likelihood	51.54104	Hannan-Quinn criter.	-1.979821
F-statistic	36.06156	Durbin-Watson stat	0.648294
Prob(F-statistic)	0.000000	Wald F-statistic	94.60528
Prob(Wald F-statistic)	0.000000		

Source: Study Data (2019)

Dependent Variable: lnMTNR
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.618232	0.224253	-2.756848	0.0089
lnFEP	-0.013280	0.024019	-0.552894	0.5836
lnFDP	0.320079	0.160149	1.998641	0.0528
lnREM	0.357841	0.127356	2.809776	0.0078
lnPRI	-0.027646	0.193081	-0.143185	0.8869
C	1.726633	0.359008	4.809463	0.0000

R-squared	0.605254	Mean dependent var	1.469526
Adjusted R-squared	0.553314	S.D. dependent var	0.243283
S.E. of regression	0.162597	Akaike info criterion	-0.668961
Sum squared resid	1.004635	Schwarz criterion	-0.425662
Log likelihood	20.71714	Hannan-Quinn criter.	-0.578734
F-statistic	11.65288	Durbin-Watson stat	1.049635
Prob(F-statistic)	0.000001	Wald F-statistic	9.618083
Prob(Wald F-statistic)	0.000005		

Source: Study Data (2019)

Dependent Variable: lnNASI
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.333174	0.107148	-3.109487	0.0035
lnFEP	-0.007299	0.008797	-0.829678	0.4119
lnFDP	0.096317	0.053893	1.787209	0.0819
lnREM	0.331519	0.051378	6.452533	0.0000
lnPRI	0.022616	0.057994	0.389965	0.6987
C	2.013546	0.163867	12.28766	0.0000

R-squared	0.763454	Mean dependent var	2.052588
Adjusted R-squared	0.732330	S.D. dependent var	0.140055
S.E. of regression	0.072460	Akaike info criterion	-2.285443
Sum squared resid	0.199517	Schwarz criterion	-2.042144
Log likelihood	56.27974	Hannan-Quinn criter.	-2.195216
F-statistic	24.52906	Durbin-Watson stat	0.590408
Prob(F-statistic)	0.000000	Wald F-statistic	53.34887
Prob(Wald F-statistic)	0.000000		

Source: Study Data (2019)

Dependent Variable: lnMCAP
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.500154	0.122199	-4.092962	0.0002
lnFEP	0.022351	0.023886	0.935727	0.3560
lnFDP	0.139777	0.067902	2.058513	0.0473
lnREM	0.414957	0.068835	6.028298	0.0000
lnPRI	1.518339	0.637934	2.380089	0.0231
lnFDI*lnPRI	-0.609078	0.482903	-1.261283	0.2158
lnFEP*lnPRI	0.236136	0.202331	1.167079	0.2513
lnFDP*lnPRI	0.267118	0.384246	0.695175	0.4917
lnREM*lnPRI	-0.625759	0.338383	-1.849263	0.0731
C	3.181892	0.215461	14.76782	0.0000

R-squared	0.841648	Mean dependent var	3.172084
Adjusted R-squared	0.799731	S.D. dependent var	0.181832
S.E. of regression	0.081373	Akaike info criterion	-1.982841
Sum squared resid	0.225131	Schwarz criterion	-1.577344
Log likelihood	53.62251	Hannan-Quinn criter.	-1.832463
F-statistic	20.07899	Durbin-Watson stat	0.658982
Prob(F-statistic)	0.000000	Wald F-statistic	92.24192

Dependent Variable: lnMTNR
Method: Least Squares
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-1.200325	0.264914	-4.531004	0.0001
lnFEP	0.012217	0.054189	0.225448	0.8230
lnFDP	0.310158	0.217362	1.426920	0.1627
lnREM	0.325793	0.172245	1.891444	0.0671
lnPRI	3.054522	1.620990	1.884356	0.0681
lnFDI*lnPRI	-2.084653	1.313407	-1.587210	0.1217
lnFEP*lnPRI	0.175618	0.435733	0.403040	0.6894
lnFDP*lnPRI	0.227336	0.830086	0.273870	0.7858
lnREM*lnPRI	-0.383106	0.630427	-0.607694	0.5474
C	2.491278	0.372792	6.682760	0.0000

R-squared	0.642540	Mean dependent var	1.469526
Adjusted R-squared	0.547918	S.D. dependent var	0.243283
S.E. of regression	0.163576	Akaike info criterion	-0.586361
Sum squared resid	0.909742	Schwarz criterion	-0.180864
Log likelihood	22.89995	Hannan-Quinn criter.	-0.435983
F-statistic	6.790610	Durbin-Watson stat	1.091914
Prob(F-statistic)	0.000016	Wald F-statistic	6.911469
Prob(Wald F-statistic)	0.000014		

Dependent Variable: lnNASI
Sample: 2008Q1 2018Q4
Included observations: 44
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnFDI	-0.417853	0.106631	-3.918664	0.0004
lnFEP	-0.014684	0.032472	-0.452193	0.6540
lnFDP	0.018185	0.168653	0.107823	0.9148
lnREM	0.380211	0.158408	2.400192	0.0220
lnPRI	0.182207	1.785911	0.102025	0.9193
lnFDI*lnPRI	-0.265470	0.675487	-0.393006	0.6968
lnFEP*lnPRI	-0.049730	0.233216	-0.213234	0.8324
lnFDP*lnPRI	-0.272131	0.758537	-0.358757	0.7220
lnREM*lnPRI	0.175586	0.649960	0.270149	0.7887
C	2.065408	0.318161	6.491715	0.0000

R-squared	0.770130	Mean dependent var	2.052588
Adjusted R-squared	0.709282	S.D. dependent var	0.140055
S.E. of regression	0.075515	Akaike info criterion	-2.132254
Sum squared resid	0.193886	Schwarz criterion	-1.726756
Log likelihood	56.90959	Hannan-Quinn criter.	-1.981876
F-statistic	12.65664	Durbin-Watson stat	0.626413
Prob(F-statistic)	0.000000	Wald F-statistic	87.17254

APPENDIX X: COINTERGRATION TEST RESULTS

ARDL Cointegrating And Long Run Form
Dependent Variable: LNMCAP
Selected Model: ARDL(3, 3, 3, 3, 3)
Sample: 2008Q1 2018Q4
Included observations: 41

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNMCAP(-1))	0.546739	0.213999	2.554874	0.0184
D(LNMCAP(-2))	-0.241956	0.246148	-0.982968	0.3368
D(LNMCAP(-3))	0.474839	0.222980	2.129516	0.0452
D(LNFDI)	-0.331354	0.325387	-1.018337	0.3201
D(LNFDI(-1))	0.501205	0.414040	1.210524	0.2395
D(LNFDI(-2))	-0.094303	0.327268	-0.288153	0.7761
D(LNFDI(-3))	0.078145	0.273162	0.286075	0.0476
D(LNFEP)	0.031714	0.036058	0.879523	0.3891
D(LNFEP(-1))	-0.016511	0.035962	-0.459129	0.6509
D(LNFEP(-2))	-0.075497	0.037840	-1.995171	0.0592
D(LNFEP(-3))	0.018459	0.039100	0.472108	0.0417
D(LNFDP)	0.231009	0.137296	1.682555	0.1073
D(LNFDP(-1))	0.059598	0.152377	0.391123	0.6996
D(LNFDP(-2))	-0.105242	0.126261	-0.833526	0.4139
D(LNFDP(-3))	0.323410	0.132978	2.432066	0.0240
D(LNREM)	-1.853767	1.128282	-1.643000	0.0153
D(LNREM(-1))	1.196870	1.052045	1.137661	0.2681
D(LNREM(-2))	-3.471316	1.397343	-2.484225	0.0215
D(LNREM(-3))	3.985797	1.197117	3.329497	0.0032
CointEq(-1)	-0.720378	0.208046	-1.059276	0.0001

Cointeq = MCAP - (0.1186*FDI -0.0160*FEP + 0.0970*FDP -0.7326*REM + 1.1823)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.118585	0.078743	-1.505990	0.0470
FEP	-0.016006	0.013221	-1.210587	0.2395
FDP	0.096959	0.037656	2.574879	0.0177
REM	0.732624	0.237486	3.084918	0.0056
C	1.182345	0.533227	2.217340	0.0378

Source: Study Data (2019)

ARDL Cointegrating And Long Run Form
Dependent Variable: LNMTNR
Selected Model: ARDL(3, 3, 3, 3, 3)
Sample: 2008Q1 2018Q4
Included observations: 41

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNMTNR(-1))	1.144759	0.232644	4.920647	0.0001
D(LNMTNR(-2))	-0.447482	0.240561	-1.860165	0.0769
D(LNMTNR(-3))	0.185849	0.172354	1.078297	0.2931
D(LNFDI)	-0.223639	0.122863	-1.820222	0.0830
D(LNFDI(-1))	0.472419	0.120510	3.920153	0.0008
D(LNFDI(-2))	-0.380975	0.100685	-3.783831	0.0011
D(LNFDI(-3))	0.181986	0.067825	2.683177	0.0139
D(LNFEP)	-0.008923	0.005818	-1.533710	0.1400
D(LNFEP(-1))	-0.010229	0.011824	-0.865077	0.3968
D(LNFEP(-2))	-0.022014	0.011834	-1.860289	0.0769
D(LNFEP(-3))	0.004445	0.016330	0.272187	0.0481
D(LNFDP)	0.024707	0.054875	0.450250	0.0471
D(LNFDP(-1))	-0.018373	0.045378	-0.404888	0.6897
D(LNFDP(-2))	-0.016918	0.023367	-0.724006	0.4771
D(LNFDP(-3))	0.051089	0.054369	0.939668	0.0381
D(LNREM)	-0.317533	0.451940	-0.702600	0.0049
D(LNREM(-1))	-0.000799	0.297783	-0.002682	0.9979
D(LNREM(-2))	-0.552530	0.543676	-1.016286	0.3211
D(LNREM(-3))	0.895597	0.506559	1.768000	0.0416
CointEq(-1)	-0.616875	0.063877	-1.829672	0.0005

Cointeq = MTNR - (0.4359*FDI -0.0256*FEP + 0.3146*FDP + 3.7698*REM + 0.4620)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.435933	0.209103	-2.084773	0.0479
FEP	-0.025634	0.018883	-1.357490	0.1873
FDP	0.314564	0.098912	3.180232	0.0040
REM	3.769768	0.845547	4.458378	0.0002
C	0.462016	0.441176	1.047237	0.0054

Source: Study Data(2019)

ARDL Cointegrating And Long Run Form
Dependent Variable: LNNASI
Selected Model: ARDL(3, 3, 3, 3, 3)
Sample: 2008Q1 2018Q4
Included observations: 41

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNNASI(-1))	0.463079	0.166712	2.777719	0.0116
D(LNNASI(-2))	-0.025809	0.179203	-0.144023	0.8869
D(LNNASI(-3))	0.371386	0.194604	1.908415	0.0708
D(LNFDI)	-0.172188	0.095911	-1.795301	0.0442
D(LNFDI(-1))	0.409139	0.099056	4.130376	0.0003
D(LNFDI(-2))	-0.261196	0.058937	-4.431782	0.0002
D(LNFDI(-3))	0.100447	0.047977	2.093641	0.0462
D(LNFEP)	0.008345	0.005453	1.530469	0.1380
D(LNFEP(-1))	-0.026637	0.010627	-2.506650	0.0209
D(LNFEP(-2))	-0.023725	0.011593	-2.046395	0.0541
D(LNFEP(-3))	0.040407	0.010147	3.982080	0.0007
D(LNFDP)	0.067356	0.038815	1.735290	0.0981
D(LNFDP(-1))	-0.062212	0.030834	-2.017628	0.0572
D(LNFDP(-2))	0.088945	0.034587	2.571673	0.0182
D(LNFDP(-3))	0.094769	0.036942	2.565362	0.0185
D(LNREM)	-0.879316	0.289088	-3.041685	0.0064
D(LNREM(-1))	-0.577980	0.364687	-1.584864	0.1287
D(LNREM(-2))	0.447637	0.415087	1.078417	0.2937
D(LNREM(-3))	0.930169	0.215501	4.316308	0.0003
CointEq(-1)	-0.603007	0.119099	-0.864879	0.0006

Cointeq = NASI - (0.1005*FDI -0.0171*FEP + 0.0438*FDP +0.7077*REM + 0.0983)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.100447	0.047977	-2.093641	0.0462
FEP	-0.017050	0.006745	-2.527741	0.0579
FDP	0.043753	0.039487	1.108026	0.0280
REM	0.707659	0.278705	2.539095	0.0174
C	0.098273	0.221564	0.443541	0.6610

Source: Study Data (2019)