Foreign Equity Portfolio Investments and Market Returns at the NSE 20 Share Index; Kenya

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Crossref

Abstract

Purpose: Foreign portfolio investments have continued to play an important role in the world today because investors are more interested in investments that will give them higher returns for their investments. The purpose the study was to establish the effect of foreign portfolio investments and market returns in Kenya. The specific variables studied were foreign equity portfolios, foreign bond portfolios, foreign portfolio of treasury bills and foreign portfolio of exchange traded funds and how they affect the market returns at the NSE20 share index in Kenya.

Methodology: The research methodology applied panel regression for inferential findings and Langrage multiplier test done to determine the pooled effect with the aid of STATA 18 software. Secondary data was sourced from the NSE annual reports, CMA bulletins, CBK websites of the respective companies listed in the index for the period between 2013 to 2022.

Findings: The study findings indicated a positive and significant relationship of foreign equity portfolios, foreign portfolio of T Bills and foreign portfolio of ETFs with market returns at the NSE20 share index. Conversely, foreign bond portfolio exhibited a negative significant relationship with market returns at the NSE 20 share index.

Unique Contribution to Theory, Practice and Policy: The study supported Modern Portfolio Theory(MPT) that suggests that for an investor to maximize returns, an investor will choose from a wide array of portfolios that will suit his needs and risk profiles and Neoclassical Theory of Investment that suggests that investors will take advantage of location differences to profit from arbitrage opportunities and Total portfolio theory that suggests that combination of securities posits a higher performance due to significant diversification benefits linked to a basket of securities. The Modern portfolio theory measuring market return seemed to hold in that it will give an investor an understanding of the most efficient portfolio that will give the largest returns at a given level of risk. The theory was suggested for future related research because it will give an investor a strategy for successful portfolio investments.

Keywords: *Foreign Portfolio Investments, Foreign Equity Investment, Foreign Bond Investment, Foreign Treasury Bill Investment, Foreign Investment of Exchange Traded Funds*

INTRODUCTION

The question whether foreign investors play an important role in the domestic markets by making them more efficient and by extension spur better returns or whether these investors disrupt the domestic market prices is the reason why much research has been conducted to explore the linkage between foreign investments and market returns in Kenya and the rest of the world. Foreign portfolio investments are financial assets held by investors from foreign countries, (Parashar,2020). Equities, derivatives, real estate investment trusts, exchange traded funds and fixed income securities like bonds and preference shares are some of these assets. Additionally, they include of items from the money market, such as Treasury Bills, Commercial Papers, Certificates of Deposit, etc.

Ezeanyeji & Maureen (2019) identify foreign portfolio investments (FPI) as a component of capital flows that includes the cross-border transfer of financial assets like stocks, bonds, or cash in search of returns. Foreign portfolio investment (FPI), according to Baghebo & Apere (2014), is a component of global capital flows that involves the transfer of financial assets like bonds, stocks, or cash across international boundaries to make a profit. The various sector investors invest their funds in foreign portfolios that include bond investments, mutual funds' investments, equity investments, derivatives, and real estate investments (Norsiman, Yakob & McGowan, 2019; Myskova & Hajek, 2017) to earn returns. The FPI's are important aspect of financial markets used as a tool by investors to mobilize funds and ensuring the funds are channeled to corporate users who are profitable (Rahman & Mustafa, 2017).

Markowitz (1959) defines a good portfolio as that with a long list of balanced stocks and bonds that provides investors with protection and opportunities for a wide array of contingencies. Additionally, Markowitz (1959) contends that an investor should have a wide array of portfolios that suits his needs and risk profile. Onuorah, & Akujuobi,(2013) while examining how macroeconomic indicators affect Nigeria's foreign portfolio investment performance stated that individuals and countries who seek to exploit their comparative advantage to get maximum returns move accumulated assets to wherever they are likely to be most productive.

FPI flows has generally been accepted to benefit the host country. (Ndong 2015, and Tsaurai, 2017). Foreign portfolio investments enhance liquidity and development of domestic capital markets (Tsaurai, 2017, Iriobe et al 2018,). Foreign portfolio investments alleviate the degree of information asymmetry, expansion of employment, complement domestic investment and increase the tax revenue to the government of the host country (Tsaurai 2017). Foreign portfolio investment between developed and developing stock market enhances domestic firms' access to capital and facilitates their growth and improves returns of the domestic markets, (Oloko, 2018).

An inflow of foreign investments into a given country leads to increased liquidity in the domestic markets, resulting in deeper and more liquid markets. Koskei (2017) in her study on foreign portfolio flows concluded that FPI is important in the development of international financial markets over the last decade and acts as a channel for international capital flows in developing countries. Most countries have opted for foreign financial inflows into their countries to achieve better returns in their security markets and spur economic growth (Ustarz & Fanta, 2021). Therefore, conclusions can be made that FPI's can bring positive benefits to the host country by establishing an effective capital market.

The capital market and money markets are important aspect of financial markets used in helping investors to mobilize funds and ensuring the funds are channeled to corporate users who are proficient (Rahman & Mustafa, 2017). These markets promote economic expansion by offering a variety of investment products at low transaction costs. (Aigheyisi & Ovuefeyen, 2013) and thereby reducing the county's poverty levels. The Kenya Vision 2030 envisages an efficient and more transparent security market that will put forward an achievement through financial deepening of markets by expanding the bond markets, equity market, and money market instruments to achieve its Vision 2030 goals (Republic of Kenya Vision 2030 Report 2007). Foreign investors contribute to the development of a stable and efficient market in the host country.

Investors have a choice on how to allocate their portfolios between real assets and financial assets. Ben-Rephael, (2017) is of the view that given the uncertainty of the environment, investors would prefer to invest in more liquid assets in the financial sectors that offer comparable or higher rates of returns on their investments than the physical assets that are illiquid and irreversible in nature. In regional emerging markets, foreign portfolio investments have different characteristics in that they supplement foreign exchange availability and domestic savings compared to FDI that are project specific (Gathenya, 2015). Due to an increase in globally integrated financial markets investors from wealthy nations are diversifying their holdings further into emerging economies and African nations. The main factors influencing the influx of foreign capital investors and emerging developing countries are the design of economic reforms and trade liberalization. (Hussaini & Kabuga, 2018).

Statement of the Problem

Foreign investor participation it the domestic market is an important avenue to getting higher returns for the domestic country. The returns of a security market are an important element in any financial market as it plays an important role in providing alternative investments opportunities for both local and international participants in an economy, (Kitati, Zablon, & Maithya, (2015). The security market plays a significant intermediation role between borrowers and lenders and uncertainties in the market prices greatly impact the economy negatively, (Kirui, Wawire & Onono, 2014). In the year 2022, stock market returns in Kenya were adversely affected by the dollar scarcity that negatively affected the foreign traders who control more than 50% of trading activities in the Kenyan security market, (CMA, 2022). Dollar shortages compromised the ability of foreign investors to repatriate funds in their local markets. This was further aggravated by the weakening in the Kenyan shilling thus reducing the Kenya's attractiveness to foreign investors coupled with difficult investment conditions placed by the Kenyan government to limit the export of foreign capital by requiring a certificate of foreign currency inflow before allowing overseas investors to transfer their earnings home hampering foreign investments in Kenya, (MSCI, 2022 report). The inclusion of the NSE20 share index made several firms perform extremely well in the market (Osoro & Jagongo, 2013).

Despite the results, the NSE 20 share index returns decreased which leading to major selloffs by foreign investors and sought for investment opportunities from other African and emerging markets. NSE 20 share index fell to a low of 1681.8 in 2022, only compared to the year 2002 when the index hit a low of below 1700 points indicating muted activity and free fall on prices on the market index, (CMA, 2022). The decline led to capital flight by foreign investors and a blow to the Kenyan security market that was seeking to boost its foreign capital flows for higher market returns, (CMA, 2022). Additionally, NSE20 share index has seen a downward

trajectory in the last ten years thus increasing the year-to-date losses, (Kenya Economic Update: 2023). The number of transactions at the NSE in September 2012 was 67,891 and dropped to 23,100 in December 2013 thus representing a 66% drop in returns, (source: NSE,2015, KNBS, 2015, Leading Economic Indicators 2015). In 2016, investors at the NSE 20 share lost over Sh100 billion after most stocks across all counters declined, this happened after a period of prolonged price decline that was witnessed in 2015.Market capitalisation stood at Sh1.93 trillion at the close of 2016 compared to Sh2.05 trillion at the end of 2015. The NSE (2016) report also noted that equity turnover declined by 30% to Sh147 billion from Sh209 billion posted in 2015. Annual trading volumes decreased to 5.8 billion shares, down from 7.3 billion shares posted the previous year. In 2018, the market capitalization decreased by more than Ksh. 400 billion from Ksh. 2521 billion in 2017 to Ksh. 2102 billion in 2018, (NSE, 2018).

The NSE 20 share index experienced a 22% decline in returns in January 2018 and investors continued to incur losses as the market saw a decline in trading activity. The Kenyan stock market was on a downward trend in 2020 with the NSE 20 share index leading the decline of all indexes down by 16.6 %. During the year, 11 companies issued profit warnings, as compared to 4 companies in 2018.In response to the COVID -19 pandemic that emerged in the early 2020, significant efforts were made to mitigate the adverse effects of the pandemic and facilitate economic recovery throughout 2020-2021 fiscal year. The NSE 20 share index experienced a decrease of 0.75% in returns in the year 2021 compared to of 16.6% the previous year. (CMA2021). During the year 2022, the security market was on a downward trajectory with all indices declining with NASI, NSE 20 and NSE 25 down by 23.7%, 12.4% and 16.6% respectively. The equities market performance was driven by losses recorded by large cap stocks such as Safaricom,36.7%, Bamburi ,17.5%, as well as banking stocks such as KCB Group, Diamond Trust Bank Kenya, Equity Group and Co-operative Bank Kenya ,16.4%, 16.0%, 15.6%, and 5.4% respectively. (CMA market review 2022)

This study did not limit itself to the previous empirical literature or contributions from various studies only that indicated varying conclusions;Oluwafolakemi,2014;Makon,2021: Haider, Khan, Saddique, & Hashmi., 2017,Idenyi et al. 2016;Bayrakdaroglu, Ege & Yacizi 2013, Obamuyi 2013, Malik, 2013; Raza and Jawaid, 2014; Rodrik,2014 Bayrakdaroglu, Ege & Yacizi 2013,Malik, 2013; Raza and Jawaid, 2014; Rodrik,2014 Bayrakdaroglu, Ege & Yacizi 2013) etc, it extended its application to more recent data and statistics that showed the downward trend of NSE 20 share index in Kenya, thus a problem with market returns. The study sought to develop new findings regarding the relationship between foreign portfolio investments and market returns in Kenya and laid down the causes of discrepancies and concludes by finding out whether the index is the best benchmark for investors to use when measuring the market returns.

Objectives of the Study

i. To determine the effect of foreign equity portfolio on market returns at the NSE 20 share index in Kenya.

Research Question

i. Does foreign equity portfolio have an effect on market returns at the NSE20 share index in Kenya

LITERATURE REVIEW

Theoretical Review

Modern Portfolio Theory (MPT)

Harry Markowitz, (1952) in his path-breaking research paper, titled "Portfolio Selection" transformed the world of finance and economics. MPT is a financial framework developed by Markowitz in 1952 which is widely applied today in both finance and economic field. Markowitz, (1952) is considered the father of MPT laid the foundation for balancing risks and returns, in his seminal paper, detailed the importance of portfolio selection and diversification. According to (Markowirtz,1952), investor can select several portfolios that suit his need, and the combination of these portfolios would give the best possible return with a given level of risk or the lowest possible risk at a given level of return. Markowitz, (1952) derived the measure of calculating expected risks and returns of a portfolio by presenting the mean-variance as a measure of risk and devised a measure of calculating the overall risk by considering the correlation of price movements between assets.

Markowitz further suggests that, for an investor to maximize their risk-adjusted return, then he must select an efficient portfolio. According to Markowitz, (1952), an efficient portfolio is a set of portfolios in an efficient frontier (curve) that gives the largest returns at a given level of risk. Understanding the relationship between risks and returns gives an investor a strategy for a successful investment. Markowitz suggests that to minimize risks, an investor ought to choose investment portfolios that do not positively correlate. This is because, in a case where one investment underperforms, the other will not necessarily behave the same. Markowitz makes several assumptions, Reilly & Brown, (2011): investors are risk averse, i.e., they are reluctant to take risks. Investors are single-period wealth maximizers. Investors base their investment decisions based on risks and returns. Investors can estimate their returns based on risk variability. Markowitz (1959) theory is important in analyzing the returns of the market since it defines a good portfolio as that with a long array of portfolios that provides investors with protection and opportunities for a wide array of contingencies. Additionally, Markowitz (1959) contends that an investor should have a wide array of portfolios that suits his needs and risk profile.

Neoclassical Theory of Investment

The Neoclassical theory of investment, which was created by Gordon in 1992 and is sometimes known as the Post Keynesian theory of investment, contends that the rate of return of a portfolio flow is different between regions. The neoclassical theory argues that investors will take advantage of locational differences between countries in terms of their interest rates and move their investments from low-return countries to nations with high returns in order to profit on arbitrage possibilities. As a result, the theory suggests that if the return on equity on investment in a security market is high, it will attract more investments from foreign investors compared to countries that have low-return markets. The strong short-term return in emerging countries attracts foreign investors, who are primarily motivated by the need to diversify their risk portfolio (Allen et al., 2010).

Foreign investors seeking high returns on investment are more inclined to invest in markets with high marginal efficiency of capital than in markets with low marginal efficiency of capital are not likely to attract foreign investment (Zafaranloo,& Sapian,2013).However, according to (Koskei,2017), the stability of markets leads to spontaneous reversals of portfolio flows over

time, which increases market volatility and makes the market more susceptible to changes in global economic conditions and financial crises. Nyangoro (2013), supports the Neo-Classical theory in Kenya as he observes that a rise foreign investment portfolio raises market returns. Furthermore, a foreign equity portfolio increases stock prices, which raises the value of stocks, according to Nyangoro (2013). Therefore, the Kenyan environment can make use of neoclassical theory to understand the impact of foreign stock portfolio investment and market returns in Kenya.

Conceptual Framework

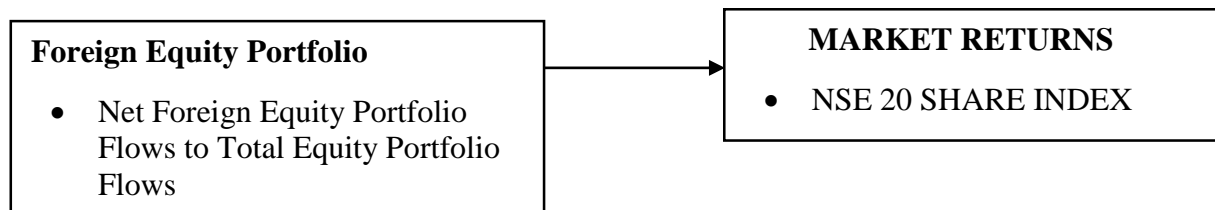Independent Variables   Dependent Variable

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┌─────────────────────────────────┐                    ┌─────────────────────────────────┐
│  Foreign Equity Portfolio       │                    │      MARKET RETURNS             │
│                                 │───────────────────▶│                                 │
│   • Net Foreign Equity Portfolio│                    │   • NSE 20 SHARE INDEX          │
│     Flows to Total Equity       │                    │                                 │
│     Portfolio Flows             │                    │                                 │
└─────────────────────────────────┘                    └─────────────────────────────────┘
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Figure 1: Conceptual Framework

Empirical Review

Foreign Equity Portfolio and Market Return

Chiad & Hadj, (2021) conducted research on the effects of equity on market returns in Arab countries using panel data analysis. The study findings concluded that trade openness, market liquidity, money supply, and economic growth have positive impacts on stock market returns, whereas the global financial crisis has a negative impact. The limitation of the research was that the Arab security markets are completely immature, their economies witness a dominance of the banking sector over financial activity and limited trading volume due to the relatively, low number of listed companies, and these characteristics were widely shared in Arab countries. This became a hindrance to conclusive research finding. Sapien & Auzairy (2015) examined the relationship between international equity flows and returns on the Bursa Malaysia stock exchange. The study examined the relationship between foreign equity flows and stock market returns over the short term. The results show a causal relationship between domestic equity returns that is positive.

Aigheyisi & Ovuefeyen (2013), sought to establish the effect of foreign financial inflow and the development of the security market in Nigeria and Ghana. The study applied return on asset to measure market development in the security market of Nigeria and Ghana and the ordinary least square method for data analysis. The findings showed that all the variables except foreign debt have a significant effect in Nigeria.Harelimana (2017), conducted a study to investigate the effects of equity portfolios and the performance of the Rwanda Social Security Board. The study collected data from both primary and secondary data source.84 out of 124 respondents were questioned using Slovin questionnaire formula to respond to structured questionnaires and interviews. The conclusion made was that there is a significance relationship between equity portfolio investment and financial performance on securities of the Rwanda Social Security Board. The study however conducted research only on local companies and recommended equity security diversification from international equity security to maximize the financial return on the portfolio.

Cliff (2020) sought to study foreign financial inflows and market development at the NSE in Kenya. The specific objectives were to study the impact of foreign equity, foreign debt, foreign direct investment, and foreign diaspora remittances for the period 2008–2018. Cliff (2020) applied the Autoregressive Distributed Lag (ADL) Model, modified least squares regression for data analysis. The conclusions showed that foreign equity portfolio at the NSE had a strong short-term effect on market development. However, the researcher was unable to identify the factor that contributed insignificant growth at the market in terms of inflows of foreign equity portfolios. Additionally, the researcher did not distinguish between foreign equity portfolio inflows and outflows when calculating the net foreign equity portfolio flows.

Gachanja & Kosimbei (2018) studied the dynamic linkage between foreign net equity portfolios and market returns in Kenya's NSE, the data analyzed was for both long- and short-term analysis. The findings of the study showed a positive relationship for both long-term and short-term between foreign equity portfolios and market returns. This study however investigated foreign equity portfolios and their effect on market returns and fell short of addressing other variables like foreign debt portfolios, foreign T- Bills, and foreign balanced funds and market returns. Nyang'oro, (2013) studied the link between portfolio flows and macroeconomic variables in Kenya. The multi-factor pricing model, which is a development of the arbitrage pricing model, was used in the study. The study used the predictive causality methodology and monthly time series data from April 1996 to December 2011. The study's findings showed a favorable correlation between foreign equity flows and market returns.

MATERIAL AND METHODS

The study applied the use of causal quantitative design to establish the existence of cause-and-effect relationships among variables (Cooper &Schindler,2004). The researcher sought to establish the effect of foreign portfolio investments on market returns in Kenya taking the NSE20 share index as the case study. Twenty companies listed in Kenya's NSE 20 Share Index made up the study's target population, which is fairly a small population, (Osoro, & Jagongo, 2013). The choice of the NSE 20 share index was informed by the fact that NSE 20 share index signifies the best performing blue chip companies in Kenya in terms of returns and market capitalization and that informed the need for foreign investment in this companies for better returns. Census study was conducted for all the 20 firms listed at the NSE20 share index. Census was conducted to increase the level of accuracy and reliability of the study. Secondary data from the past financial reports of the institutional companies was used in the study. The analysis considered information from 2013 to 2022. To maintain process uniformity, data was entered on a data collection sheet (Saunders et al, 2007). Additionally, a secondary data report was obtained from the financial institution's published sources, CMA, CBK, NSE and other government records to aid in the accomplishment of the specific study objectives. STATA18 statistical software was to generate tables, graphs, regression, statistical analysis, and other statistical parameter and the data was entered on the data collection sheets. The choice of Stata software for data analysis was because Stata allows for normal analysis procedure and is preferable for research and analysis. The study employed panel regression model.Panel regression model is a combination of cross section and time series data,(Zulfikar, 2018) in which the data including time series and cross-sectional data was pooled into a panel data set and estimated using a panel data regression.

DISCUSSIONS AND FINDINGS

Descriptive statistics

The study has applied the use of measures of central tendency like the mean, standard deviation, maximum and minimum to describe the nature of the data used in the study. The study sought the use of mean and standard deviation in data description because it was informed by the fact that the mean is the most robust statistic compared to other statistical measures while standard deviation is the most stable statistical measure of dispersion (Mungami, 2013). Table 1 below presents the variable descriptions used in this analysis and the descriptive statistics

Table 1: Descriptive statistics

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
NSE20	NSE 20 SHARE INDEX	120	0.434	4.224	-12.3	9.3
EQUITY	Foreign Equity Portfolio	120	4.904	17.565	-47.31	52.41

From the Table 1 above, the descriptive statistics indicates that the NSE 20 Share Index, representing the market's returns, exhibited an average value of 0.434 with a standard deviation of 4.224. The high standard deviation compared to the mean is an indication of the high volatility of the stock market returns at the NSE20 share index. The low mean compared to standard deviation is an indication that foreign investors are able to make 0.434% of returns from their investments .This depicts a low investments return of 0.434% out of 100%.The minimum of -12.3% is an indication that some foreign investors are struggling to attain return from their investments since the ratio is below 1% out of a possible 100%.However,the maximum of 9.3% is an indication that some foreign investors are able to get good return from their portfolio investments since the ratio is above the desired 5% rate of return. The index ranged from a minimum of -12.3 to a maximum of 9.3, showcasing the volatility and potential for growth or decline for the period under review.

Foreign equity portfolio reported a mean of 4.904 and a standard deviation of 17.565, with a minimum value of -47.31 and a maximum value of 52.41.The high standard deviation greater than the mean is an indication of a high volatility of FEP inflows as evidenced by the maximum values of 52.41 and a minimum value of -47.3.The negative value is an indication of periods where foreign equity outflows were greater than the foreign equity inflows implying that foreign sales were greater than foreign purchases (Koskei et al., 2016),while the maximum of 52.41% is an indication that foreign equity investments at the NSE 20 share index was 5241% of the total equity investments.

Inferential Statistics

Correlation Matrix

The study conducted a correlation analysis of the variables to examine the nature of the statistical relationships between the variables. The correlation matrix result below shows the correlations between different variables that is NSE20 (the stock index) as the dependent variable, equity (equity investments).

Table 2: Correlation matrix

Variables	(1) NSE20	(2) EQUITY
(1) NSE20	1.000	
(2) EQUITY	0.175	1.000

The correlation coefficient of 0.175 between NSE20 and EQUITY is a clear indication that there is a weak positive correlation between the two variables. This suggests that as the NSE20 index records growth, there is a slight inclination towards increased equity investments.

Regression Analysis

Lagrange Multiplier (LM) Test

The test statistic, chibar2(01), was calculated as 0.00, and the associated probability (Prob > chibar2/P-value) was 1.0000. The results of the test statistic and P- values favored pooled effect model in the study with P-values greater than 0.05 accepting the null hypothesis indicating no evidence of existence of random/fixed effects in the model hence the use of pooled effects model. In other words, the test results suggest that the variance of the unobserved individual-specific effects is indeed close to zero, indicating that the random effects might not play a significant role in the model. Therefore, conclusions based on the Breusch, and Pagan Lagrange multiplier test results is evident that the variance of the unobserved individual-specific effects is minimal, favoring a pooled effects (OLS) model for the panel data regression. The results were presented in table 6 below with model 1 and model 2.

Table 3: Pooled Effects Models

Variables	Model (1) Pooled Effects (OLS) Coefficients (P-value)	Model (2) Pooled Effects (OLS) with Robust Standard Errors Coefficients (P- value)
Equity	0.0548** (0.018)	0.0548*** (0.000)
Observations	120	120
Number of Period	12	12

*Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1*

In Model (1), it was observed that foreign equity portfolio (Equity) has a statistically significant and positive effect on market returns in Kenya, as evidenced by a coefficient of 0.0548 with a p-value of less than 0.05. This suggests that an increase in foreign equity portfolio investments contributes positively to market returns.

The results in model 2 were conducted to improve the results of model 1 and comprised of robust standard errors as one way to address heteroscedasticity .From the result it's evident that both foreign equity portfolio (Equity) portfolio demonstrated positive relationship with the dependent variable and a statistically significant at 5% level of significance, foreign bond portfolio demonstrated a negative relationship with the dependent variable and the P-value greater than 0.05 did not show a statistically significant impact with market returns.

Model Summary

The study sought to identify the extent to which the by the independent variables explain the changes in the dependent variable. The coefficient of determination (r^2) was applied to explain the extent of these changes. Table 4.9 explains the summary.

Table 4: Model Summary

Number of Obs	**120**		
Number of groups	**12**		
R-squared:		**Obs per group:**	
Within = 0.2604		min =	10
Between = 0.4890		avg =	10.0
Overall =0.2729		max =	10
		Wald chi2(4) =	44.49
corr(u_i, X) = 0 (assumed)		Prob > chi2 =	0.0001

(Std. err. adjusted for 12 clusters in Period)

The coefficient of determination (R-squared) presented in the table indicated within values of 0.2604 (6%). This was an indication of how much the variation in the dependent variable within the observation units was captured by my model, i.e, how much the predictor variables accounted for changes in the dependent variable within each observation over time. Values between was 0.4890 (28.9%) indicated how much the variation in the dependent variable between the observation was captured by the model i.e, how well the predictor variables accounted for the differences in the dependent variables. The overall r^2 of 0.2729 indicated that 27.29% of foreign portfolio investments affect the returns of the NSE 20 share index.

According to Atif, (2017), R square is not very informative in panel data analysis and individual significance and overall significance of the model should be relied upon instead of R square or adjusted R square. Atif, (2017), argues that due to heterogeneity of cross sections R square is low in cross sectional data as compared to time series data, R square can only be higher in the case when panel data is more time series dominant as compared to the case when panel data is more cross section dominant. Khan, (2021) shares a similar opinion that in panel models with financial data, R-square is always low as financial data is not normally distributed in most cases and is highly volatile. Hence, R-square is of no significant in explaining the fitness of the model.

Osarumwense, (2020) also indicates that R-square is a measure of explanatory power, and not a model fit indicator and that a low R-square might be due to a lot of reasons like small sample. Osarumwense, (2020) further states that low R- squared does not invalidate the results as it is still significantly different from 0, indicating that your regression model has statistically significant explanatory power. Osarumwense, (2020) advises to conduct diagnostic analysis to ascertain the model fit and explanatory power using robust standard errors to correct heteroscedasticity (Eicker-White).

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Table 5: Panel Regression with Robust Standard Errors

NSE20 interval	Coefficient	Robust std. err.	z	P>z	95% conf.	
EQUITY .0828036	5 .0548339	0 .0142705	2.84	0.000	0 .0268641	0
_cons 10.88989	1.801623	4.636955	0.39	0.698	-7.286642	

$$Y= 1.801623 + 5.0548339X_{1it} -0.0898125X_{2it} + 0.291198X_{3it} + 1.0175876X_{4it}$$

The findings on table 5 indicate that foreign equity portfolio investment with a P-value of 0.000 which is less than the selected 0.05 level of significance is statistically significant at 0.05 level. The null hypothesis is therefore rejected, and the study findings conclude that foreign equity investment portfolio has a statistically significant effect on market returns at the NSE 20 share index Kenya. These findings are in line with the findings of Gachanja and Kosimbei (2018) and Nyan'goro (2013) who found a positive relationship between foreign equity portfolios and market returns at the NSE 20 share index. The findings further support the Neoclassical Theory of Investment (Gordon,2015) which states that multinational companies are arbitrageurs aiming to take advantage of high returns from emerging markets, (Allen.2010). The findings however reject Adebeisi et al., (2017) and Boboye et al., (2017) who in their study made conclusions that foreign equity portfolios have a negative effect on market returns at the Nigerian capital markets.

CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH

On foreign equity portfolio investment, the study found out that foreign equity portfolios have a positive and insignificant effect on market returns at the NSE 20 share index in Kenya. The positive coefficient implies that an increase in foreign equity investment will lead to a positive and insignificant increase in returns at the NSE 20 share index. The study concludes that foreign equity investment should be encouraged through proper policies that will instill more confidence to foreign investors to increase their equity investments in Kenya.

Both foreign and local investors should be able to look at the macroeconomic factors when they are considering their investments decisions. Policies that will stabilize macroeconomic factors such as interest rates and exchange rates that will reduce volatilities of portfolio inflows thus promoting stable portfolio inflows should be adopted. Improving local environment as well as ensuring macroeconomic stability will increase the confidence of foreign investors by reducing uncertainties and help drive the security markets. Policies relating to strengthening of institutions, development of the security markets, improving local investors participation investor education and awareness campaigns for local investors will drive liquidity of the market and bring confidence to the market and this will help in attracting foreign investments. A stable economic environment will provide a robust environment for investment and sustained economic growth driving foreign investors into the country. More strategies and regulations that will create an enabling environment for foreign investors to invest in the security markets should be put in place. Favorable legal and taxation rules should be adopted to ensure increased flow of foreign portfolio investments into the security markets. Kenyan government by placing limits on the export of foreign capital by requiring a certificate of foreign currency inflow

before allowing overseas investors to transfer their money home, should be looked into as it hampers foreign investment conditions in Kenya.

The study focused only listed companies at NSE 20 share index, future studies can look at other sectors of the economy like the infrastructure, commercial and services, industrial sectors etc.,.and assess the effects of foreign investments on returns in these alternative investment market segments. The study scope was for a period of 10 years narrowing down to monthly data. Future studies can focus more on frequent observations like weekly or daily data to assess whether the data captured will yield better results. Further studies can be carried out using different variables and with a larger sample to determine whether effects of foreign portfolio investments will yield the same results.

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