



Interest Rates and Foreign Investor Activity in Kenya: Evidence from Nairobi Securities Exchange

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Interest rates play a key role in attracting foreign investor activity in the country. This study investigated the effect of interest rates on foreign investor activity at Nairobi Securities Exchange in Kenya. Monthly data was collected from Nairobi Securities Exchange, Central Bank of Kenya and Kenya National Bureau of Statistics. Time series data for eleven year period spanning from January 2009 to December 2019 was used. The multiple regression model results disclosed that interest rates as measured by lending rate had a positive and statistically significant effect on foreign investor. Inflation rate results had a negatively but statistically significant effect on foreign investor. The results for exchange rate had a negative but statistically insignificant effect on foreign investor activity. The deposit rate results indicated a negative and statistically significant effect on foreign investor activity implying that commercial banks deposit rate has an effect on foreign investor activity. The results for 91-day treasury bills specified a positive and non-statistically insignificant relationship with foreign investor activity pointing that for 91- day treasury bills do not affect the foreign investor activity at Nairobi securities exchange in Kenya.

Keywords: *Interest rates; foreign investor activity; foreign portfolio turnover; Kenya; Nairobi Securities Exchange.*

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1. INTRODUCTION

In the past three decades, the developing countries' securities markets grew remarkably while these markets played a prominent part in attracting international investments into the individual developing economies. It is largely understood that the security market of an economy reflects a nation's economic performance and particularly foreign investors often endeavour to leverage the possible benefits in quest of cross border investments in these markets. Reasonably, foreign investors look beyond the local investors when they are selecting their investment grounds in foreign countries. In addition to the securities market activities and other possible economic indicators, they are more alarmed about the host Country's political and governance mechanism or the institutional quality [1].

Foreign inflows form a significant part in the economy of the U.S. by bridging the gap between local supplies and demand for capital. The prominence of international flows was emphasized during the financial crisis of 2007 to 2009, when foreign capital markets principally closed for a period of time. Foreign flows and foreign capital markets investors the capability to lessen their risk by investing in different portfolios. Foreign portfolios maintained the U.S. interest rates below the minimum allowing the country to expend further than its existing output, including financing its trade deficit. However, foreign holdings in the U.S. tend to increase the total risks to the economy if foreign investors were to liquidate their positions from the U.S. financial markets for political or economic reasons [2].

Attracting foreign investors to emerging economies is critical in filling the gap between savings and investments and it acts as a fuel of economic growth in a globalized world economy perspective. Fundamentally, foreign investors are more apprehensive about economic fundamentals and firm explicit principles as well as the security market performance of the home country and host country before investing their funds in the host country's security markets. Significantly, international capital flows play an enormous role and have varied influence on the economic structure of the both developed and developing economies. Hence, foreign portfolio flows have become a key driver of the world economy and it majorly broadens the investment activities of both developed and developing

nations Chi-chi & Linus, [3]. The capital allocation decision of the foreign investors is based on the available information about the host economy. Thus, both foreign investor activity and foreign flows are extremely sensitive to the host nation's information availability for the investors [4].

International portfolio flows into African Countries have remained comparatively steady irrespective of pathetic financial situations in some areas of the world. Approximately 208.3 billion USD of external funding was attracted by African countries in 2015 in the form of foreign investment, trade, aid, remittances and other sources, this amount was 1.8% less than that of the previous year. International portfolio flows in addition to commercial bank credit flows were observed to have shrunked, indicating a risk averse market sentiment and a constricted world-wide liquidity. Nonetheless, African nations appreciate the need to ensure stability of financial inflows in the over a short period and utilize them for sustained economic diversification over a long period of time [5].

Over the past decade, foreign investor activity in Kenya has witnessed a tremendous growth leading to an enhanced overall performance in Nairobi Securities Exchange. The total net equity foreign portfolio inflow during the financial year 2012/2013 was Kshs.23.7 billion, the highest in the history of the Nairobi Securities Exchange. Financial year 2015/2016, witnessed a net portfolio inflow amounting to Kshs 5,407 Million compared to an outflow of Kshs 808 Million in FY 2014/15. The increase in foreign investor participation is an indication of foreign investor confidence in Kenya's securities markets. Conversely, the 2017/18 fiscal year witnessed a net portfolio outflow amounting to KShs.27, 563 million compared to a net inflow of KShs.6, 689 million, a 512.06% decrease. The foreign portfolio equity outflow was mainly as a result of profit-taking, uncertainty associated with electioneering in the first half of the financial year and an improved global investment return environment, specifically in the U.S, following an upward revision of the Benchmark rate. Average foreign investors involvement in the Nairobi Securities Exchange for the period January to March of 2020 was 61.14% in comparison to 62.96% recorded in between October to December of 2019 indicating a 1.82% decrease in foreign investor participation during the quarter [6].

1.1 Statement of the Problem

Foreign portfolio investments usually flow from capital rich developed Nations that have lower GDP growth rate and lower interest rates to capital scarce, less developed Nations whose GDP growth rate and interest rate are relatively higher. Hot money have the ability to increase the welfare by assisting countries to level out their consumption patterns over a period of time and attain a higher level of consumption. Hot money can further help developed countries realize an improved global diversification of their portfolios [7].

Foreign portfolio flow move from one economy to another in order to earn temporary returns on interest rate differentials or anticipated exchange rate shifts. These flows normally surge after a rise in the rate of interest of the host country. However, large and sudden inflows of capital with a short term investment horizon could result in negative macroeconomic effects, including rapid monetary expansion, inflationary pressures, and real exchange rate appreciation and widening current account deficits [8].

Foreign investors are fragile and they react to any macroeconomic disturbance or government regulation that tends to lower their returns, making them to offload their positions in the market. This study endeavours to find out the influence of interest rates on foreign investor activity at the Nairobi securities exchange in Kenya.

2. LITERATURE REVIEW

2.1 Empirical Review

2.1.1 Interest rates and foreign investor activity

A number of empirical studies asserted that foreign investor trading is affected by rates of return, economic growth, interest rates, political risk, foreign exchange rates and transaction costs. Roque V et al. [9] learned that the size of the market, technological efficiency and geographical distance were significant contributing factors of international equity movements.

Portes and Rey [8] assessed whether the determinants of international equity investment differed between institutional and non-institutional investors and found out that

familiarity, corporate governance, host country market size and level of development were paramount for foreign investor activity.

Haider MA et al. [10] studied the impact of stock market performance on foreign portfolio investment in China using ARDL on quarterly time series Chinese data between 2007 and 2015. Their results found that stock market performance had a significant positive impact on foreign investor activity.

Singhania and Saini [11] examined foreign investor activity determinants in Jordan for the period 2000 to 2016 in order to assess the level of financial market development. The author learned that cross-border investors are attracted to secondary markets which provide them with risk diversification and portfolio opportunities.

Al-Smadi MO [12] investigated the determinants of foreign portfolio investments in Developed and Developing Countries using GMM with panel data for 19 developed and developing countries between 2004 and 2013. Their results indicated that securities market performance, interest rate differential and trade openness were the main drivers of private foreign investor flows.

Garg and Dua [13] examined the effect of selected macroeconomic factors on foreign portfolio measured by net portfolio flows in India. They evaluated the selected variables according to the disaggregated component of foreign portfolio flows. They stated that foreign institutional investment flows and global depository receipts are the main components of foreign portfolio flows in India. They described a significant and negative relationship between currency risk and portfolio flows in India. The result suggested that fluctuation of currency rate of the host country increases uncertainty of expected returns of foreign investor. Further, they discovered that higher equity return in the competitive emerging markets affects foreign portfolio flows negatively. They also discovered that the differential interest rate between host and source country encourages foreign portfolio investment. The results are in agreement with the work of [14] that explored the determinants of capital flows in China and affirmed that external debts of China are the greatest influential factor on foreign flows.

In Turkey, [15] studied the effect of twenty three macroeconomic and financial variables on foreign portfolio flow from 1998 to 2012. They

used factor analysis method to appraise the most important variables. Three variables were selected, which included: deposit interest rate, current account balance, and gross national income. They found a significant and positive relationship between the three chosen variables and foreign portfolio flows.

Onuorah and Akujuobi [16] investigated the influence of macroeconomic variables on foreign portfolio flows in Nigeria. Regression results indicated that gross domestic product, money supply, interest rate, exchange rate and inflation are statistically significant to foreign portfolio flows. The first two variables have negative coefficients, while the last three variables have positive coefficients. In the same country, Idowu OO [17] looked at factors that encourage the inflows of foreign investment using four governance indicators. Idowu found a significant and negative influence of internal conflicts and corruption on foreign portfolio inflows.

At the cross country level, [18] examined the relationship between macroeconomic variables and foreign portfolio flow volatility in four South Asian countries, which are India, China, Pakistan and Sri Lanka. They established a significant and negative relationship between inflation and volatility of foreign portfolio flows in China and India. They further described a significant and negative impact of international capital flows on the variability of cross- border flows in India, Pakistan and China which demonstrated that a surge in international capital flow contributed to decreased fluctuations of foreign portfolio flows. They further established a significant and positive effect between exchange rate and foreign portfolio flows in china. They reasoned that China increases the value of its currency which in turn reduces returns and thus increases the volatility of foreign portfolio flows. A negative relationship was established between economic growth measured by the growth rate of gross domestic product and volatility of foreign portfolio flows in China, Pakistan, and Sri lanka. They resolved that good economic growth affects stocks' return positively, which decreases the volatility of foreign portfolio flows. Lastly, they discovered that real interest rate reflected a positive impact on the volatility of foreign portfolio flows in Pakistan and India. They also established that the higher inflation rate compared to higher rates of interest in the host country affects foreign investors negatively, forcing them to look for a higher return investment opportunity in a different country.

3. METHODOLOGY

The study used secondary data during for the period 2009 to 2018. Secondary data was collected from Central Bank of Kenya, Nairobi Securities Exchange and Kenya National Bureau of Statistics.

Multiple regression analysis with the help of SPSS statistical software was used to examine the effect of interest rates on foreign activity in Kenya. The following econometric model was employed:

$$FPA_t = \beta_0 + \beta_1 LR_t + \beta_2 DR_t + \beta_3 TBR_t + \beta_4 INF_t + \beta_5 EXR_t + \epsilon_t$$

Where:

FPA_t = foreign portfolio activity as measured by foreign portfolio turnover over time t

β_0 = intercept

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ = beta coefficients

LR_t = Lending rate over time t

DR_t = Deposit rate over time t

TBR_t = Treasury bills over time t

INF_t = Inflation rate over time t

EXR_t = Exchange rate over time t

ϵ_t = Error term

4. RESULTS

The results in Table 1 indicated a measure of multicollinearity as exhibited by Variance inflation factor (V.I.F). Variance inflation factor assesses how much the variance of an estimated regression coefficient increases if predictors are correlated. The V.I.F of less than 5 indicates absence of high correlation.

The correlation results presented in Table 2 indicated that lending rate, exchange rate and deposit rates had a statistically significant relationship with foreign investor activity with P- values of 0. 000 for lending rate and exchange rate while deposit rate had a P-value of 0.036 which are less than 0.05 with coefficients of 0.349, -0.337 and -0.157 respectively.

Inflation rate and 91-day treasury bills rate had P- value of 0.309 and 0.172 which are greater than 0.05 with coefficients of -0.44 and 0.083 respectively, indicating a statistically insignificant relationship with foreign investor activity.

Table 1. Collinearity statistics

Model		Correlations			Collinearity statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	Lending rate	.349	.226	.203	.447	2.238
	Deposit rate	-.157	-.216	-.193	.292	3.423
	91-day treasury bills rate	.083	.168	.149	.249	4.021
	Inflation rate	-.044	-.252	-.228	.446	2.241
	exchange rate	-.337	-.077	-.067	.410	2.439

Dependent Variable: Foreign

Table 2. Correlations

		Net foreign equity flows	Lending rate	Inflation rate	exchange rate	Deposit rate	91-day treasury bills rate
Pearson Correlation	Net foreign equity flows	1.000	.349	-.044	-.337	-.157	.083
	Lending rate	.349	1.000	.259	-.327	.202	.574
	Inflation rate	-.044	.259	1.000	-.097	-.132	.539
	exchange rate	-.337	-.327	-.097	1.000	.604	.169
	Deposit rate	-.157	.202	-.132	.604	1.000	.528
	91-day treasury bills rate	.083	.574	.539	.169	.528	1.000
Sig. (1-tailed)	Net foreign equity flows	.	.000	.309	.000	.036	.172
	Lending rate	.000	.	.001	.000	.010	.000
	Inflation rate	.309	.001	.	.134	.066	.000
	exchange rate	.000	.000	.134	.	.000	.027
	Deposit rate	.036	.010	.066	.000	.	.000
	91-day treasury bills rate	.172	.000	.000	.027	.000	.
N		132	132	132	132	132	132

Table 3 results showed that lending rate, inflation rate, exchange rate, deposit rate and 91-day treasury bills rate collectively explained net foreign equity flows as indicated by an R-squared of 23.7%. These findings demonstrate that other factors account for 76.7% of net foreign equity flows in Kenya.

The results in Table 4 of analysis of variance exhibited that there was a statistically significant difference between Interest rates and foreign investor activity in Kenya as indicated by (F (5, 126) = 7.836, with a P- value of 0.000 which is less than 0.05.

Table 3. Model summary^b

Model	R	R Square	Adjusted R square	Std. error of the estimate	Durbin-Watson
1	.487 ^a	.237	.207	1864.3097	1.498

a. Predictors: (Constant), 91-day treasury bills rate, exchange rate, Inflation rate, Lending rate, Deposit rate

b. Dependent Variable: Net foreign equity flows

Table 4. ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	136173251.602	5	27234650.320	7.836	.000 ^b
	Residual	437931960.459	126	3475650.480		
	Total	574105212.061	131			

a. Dependent Variable: Net foreign equity flows

b. Predictors: (Constant), 91-day treasury bills rate, exchange rate, Inflation rate, Lending rate, Deposit rate

The multiple regression model results in Table 5 showed that interest rates as measured by lending rate had a positive and statistically significant effect on foreign investor activity as measured by net foreign equity flows as indicated by a P- value of 0.01 at 5% level of significance. The results implied that lending rate affects foreign investor activity in Nairobi securities exchange.

Inflation rate results had a negatively but statistically significant effect on foreign investor activity as indicated by a P-value of 0.004 at 5% level of significance. A higher inflation decreases securities returns forcing foreign investors to liquidate their positions in the securities market.

The results for exchange rate had a negative but statistically insignificant effect on foreign investor activity depicted by a P- value of 0.389 at 5% level of significance. The results suggested that exchange rate does not affect foreign investor activity.

The deposit rate results indicated a negative and statistically significant effect on foreign investor activity as depicted by a P- value of 0.183 which is greater than 0.05 implying that commercial banks deposit rate has an effect on foreign investor activity.

The results for 91-day treasury bills specified a positive and non-statistically insignificant relationship with foreign investor activity as pointed out by a P- value of 0.057 which is greater than 0.05. The results implied that for 91-day treasury bills do not affect the foreign investor activity at Nairobi securities exchange in Kenya.

5. DISCUSSION

The multiple regression model results showed that interest rates as measured by lending rate

had a positive and statistically significant effect on foreign investor activity as measured by net foreign equity flows as indicated by a P- value of 0.01 at 5% level of significance. Inflation rate results had a negatively but statistically significant effect on foreign investor activity as indicated by a P-value of 0.004 at 5% level of significance. The results supported the work of [18] that examined the relationship between macroeconomic variables and foreign portfolio flow volatility in four South Asian countries, which are India, China, Pakistan and Sri Lanka and found out that real interest rate, had a positive effect on the volatility of foreign portfolio flows in Pakistan and India. They further discovered a significant and negative relationship between inflation and foreign portfolio flows in China and India.

The results for exchange rate had a negative but statistically insignificant effect on foreign investor activity depicted by a P- value of 0.389 at 5% level of significance. The findings of this study contradicted with the work of [16] who investigated the influence of macroeconomic variables on foreign portfolio flows in Nigeria. The author discovered that exchange rate results had positive coefficients and statistically significant to foreign portfolio flows.

The deposit rate results indicated a negative and statistically significant effect on foreign investor activity as depicted by a P- value of 0.183 which is greater than 0.05. The results are consistent with the work of [15] who studied the effect of twenty three macroeconomic and financial variables on foreign portfolio flows from 1998 to 2012. Using factor analysis method to appraise the most important variables, they discovered that deposit interest rate, current account balance, and gross national income had a significant and positive relationship with foreign portfolio flows.

Table 5. Coefficient of determination

Model	Unstandardized coefficients		Standardized coefficients Beta	t	Sig.	95.0% confidence interval for B	
	B	Std. error				Lower bound	Upper bound
1 (Constant)	1322.616	2950.089		.448	.655	-4515.523	7160.756
Lending rate	286.045	109.818	.303	2.605	.010	68.718	503.372
Inflation rate	-190.196	65.040	-.341	-2.924	.004	-318.908	-61.484
exchange rate	-22.845	26.406	-.105	-.865	.389	-75.102	29.412
Deposit rate	-538.302	216.531	-.358	-2.486	.014	-966.811	-109.793
91-day treasury bills rate	179.979	93.857	.299	1.918	.057	-5.762	365.720

a. Dependent Variable: Net foreign equity flows

b. Predictors: (Constant), 91-day treasury bills rate, exchange rate, Inflation rate, Lending rate, Deposit rate

6. CONCLUSION

Foreign portfolio equity flows are vital to the growth of a securities exchange whether in developed or developing financial markets. Changes in micro and macroeconomic environment of any given country influence the attractiveness of securities to foreign investors. The multiple regression model results disclosed that interest rates as measured by lending rate had a positive and statistically significant effect on foreign investor. Inflation rate results had a negatively but statistically significant effect on foreign investor. The results for exchange rate had a negative but statistically insignificant effect on foreign investor activity. The deposit rate results indicated a negative and statistically significant effect on foreign investor activity implying that commercial banks deposit rate has an effect on foreign investor activity. The results for 91-day treasury bills specified a positive and non-statistically insignificant relationship with foreign investor activity pointing that for 91-day treasury bills do not affect the foreign investor activity at Nairobi securities exchange in Kenya.

DISCLAIMER

The study agrees with the observed empirical views that it exist a nexus between the rates of interest and foreign investor activity in Kenya. The study focused on interest rates and foreign flows to Nairobi securities exchange using multiple regression model.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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