# Moderating Effect of Capital Inflows on the Relationship Between Systematic Risks and Stock Market Return Volatility Among Firms Listed at the Nairobi Securities Exchange, Kenya

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## Abstract

The study assessed the moderating effects of capital inflows on the relationship between systematic risks and stock market return volatility among firms listed at the NSE, Kenya. Volatility in the stock market in Kenya has been on the rise in the recent years. Capital inflows can impact stock market volatility by affecting overall market liquidity and investor sentiment. Sudden changes in capital flows, such as large-scale foreign selling or buying, can exacerbate market volatility as prices adjust to accommodate the influx or outflow of funds. Empirical studies found conflicting findings and displayed research gaps that this study sought to fill. The study was anchored on positivism philosophy and correlational research design. The target population was all 62 NSE listed firms listed between 2014 and 2024. Secondary data was collected from NSE, KNBS, CMA and world bank reports using data collection sheet. The data was analyzed through descriptive statistics and multiple regression. The study found that individual interaction terms were insignificant, including inflation ($\beta$ = -0.0172, p = 0.428), exchange rate ($\beta$ = 0.0368, p = 0.306), and interest rate ($\beta$ = -0.0215, p = 0.389). Hence, capital inflows had no significant moderating effect on the relationship between systematic risks and stock market return volatility. The study concludes that capital inflows have no significant moderating effect on the relationship between systematic risks and stock market return volatility of firms listed at the NSE Kenya. The study recommends that regulatory bodies such as the CMA and CBK develop policies that encourage productive and long-term capital inflows. The CMA and CBK should establish early warning mechanisms that monitor capital flow volatility and its potential spillover effects on equity market stability. Market regulators should also enhance investor education initiatives so that market participants are better equipped to respond rationally to changes in capital flow patterns, thereby reducing sentiment-driven volatility in the Kenyan stock market.

**Keywords:** *Capital inflows, systematic risks, stock market return volatility, Nairobi Securities Exchange, Kenya*

## 1.0 Introduction

Capital inflows relate to transfer of capital into a nation from foreign sources. The capital inflow includes foreign portfolios investments, foreign direct investments, as well as other types of investments such as deposits and loans. These inflows are driven by diverse factors, including attractive investment opportunities, favourable interest rate differentials, and overall economic stability within the host country (Igan, Kutan & Mirzaei, 2020). To measure capital inflows, several key indicators are used. Foreign direct investment represents long term investments in the real economy, such as establishing new businesses or acquiring existing ones (Gurova, 2020). Key indicators for FDI include net inflow of FDI and FDI as a proportion of GDP. Foreign portfolio investment entails investing in financial assets like stocks and bonds. important indicators for FPI includes net portfolio investment inflows, equity inflows, and bond inflows (Marozva & Makoni, 2021). Other investments cover various forms of cross-border financial transactions, including lending, deposits, and trade credits, measured by net other investment inflows and changes in foreign liabilities (Ahmed, Jawaid and Khalil, 2021). Remittances, which are transfers of monies by people working in foreign land to a country, are measured by total remittances received.

In this study, capital inflows were measured through FDIs. This is preferred due to the availability of data. It played a moderating role in this study. Capital inflows moderated the link around systematic risks and stock markets volatilities. Capital inflows often lead to reduced domestic interest rates because they boost the demand for the local currency (Xu & Li, 2023). Lesser interest rates lessen borrowing expenses, drive economic activity, and potentially decrease systematic risks associated with economic slowdowns. In addition, inflows of foreign capital can stabilize the exchange rate by ensuring a steady supply of foreign currency. Stable exchange rates reduce uncertainty and volatility in financial markets (Ali et al., 2024). Further, capital inflows contribute to macroeconomic stability by providing funding for investments and development projects. Improved economic performance and reduced systematic risk can lead to lower stock market volatility (Igan, Kutan & Mirzaei, 2020). The capital inflows have been on the decline in Kenya. This has affected the operations of stock markets.

## 1.1 Problem Statement

Listed companies experience challenges with stock price volatility, impacting their market valuation and investor confidence, while regulatory bodies like the Capital Markets Authority work to maintain market integrity and protect investors. Addressing this volatility requires collaborative efforts to enhance market stability, improve transparency, and strengthen risk management practices, ensuring a resilient and sustainable investment environment at the NSE (CMA, 2023). Capital inflows can impact stock market volatility by affecting overall market liquidity and investor sentiment. Sudden changes in capital flows, such as large-scale foreign selling or buying, can exacerbate market volatility as prices adjust to accommodate the influx or outflow of funds (Mohamed Sghaier, 2022). Recently, Kenyan stock marketplace has shown a high stock volatility. The stock market volatility in Kenya was reported at 17.09 percent in 2021 (World Bank, 2023). This was an increase by 5.72 percent from 11.4 percent in 2014. Further, as of December 2022 Nasi decreased by 11.7percent compared to the previous year, NSE 20 reduced by 23.4percent similar to a decline in market capitalization by 23.4percent. In 2023, the Nairobi's all-share index slumped 32percent in 2023 indicating a drop in market volatility from the previous year (World Bank, 2023). Traders becomes less confident and avoid trading in a marketplace that is extremely volatile. This can result in stock exchange closing, which would have a detrimental effect on country's economy. Empirical studies found conflicting findings and displayed research gaps that this study sought to fill.

**1.2 Research Objective**

To assess the moderating effect of capital inflows on the relationship between systematic risks and stock market return volatility among firms listed at the NSE Kenya

**2.0 Literature Review**

The literature review was done in sections.

**2.1 Theoretical Literature**

The study was anchored on the international fisher effect theory. Fisher in 1930 came up with the international fisher effect (IFE) theory. The theory proposes a connection of nominal interest rates, inflation rates, and exchange rate movements. For the theory, differences in nominal interest rates across nations ought to be offset by corresponding changes in exchanges rate over time to ensure parity in real returns for investors. In essence, where nominal interests rate in a nation exceeds that of another, exchange rate should adjust in such a way that prevents arbitrage opportunities based solely on interest rate differentials. The theory is supported by economists who argue that investors, seeking to maximize returns adjusted for inflation, adjust their investments across countries based on relative interest rates. Assumptions include perfect capital mobility, where investors could easily make money transfers and cost-free across international borders, and rational expectations, implying that investors have all necessary information and make decisions based on maximizing their utility.

The IFE theory posits that exchange rate fluctuations ought to be proportionate to the nominal interest rates differences across nations to maintain parity in real returns for investors. However, criticisms of the theory highlight its limitations in real-world scenarios. These include imperfect capital mobility due to transaction costs and regulatory barriers (Uribe, 2022), behavioural factors such as speculative activities and government interventions in currency markets, and the presence of information asymmetry among market participants (Zhong, 2022). These factors can prevent exchange rates from adjusting as predicted by the theory, undermining its applicability in explaining international capital flows and their impact on stock markets volatility.

The IFE is important to systematic risks and stock market return volatility as it underscores how worldwide factors, like interest rate differentials and exchanges rate movements, could impact investor behaviour and capital flows across borders. Changes in systematic risks, such as shifts in inflation expectations or global economic conditions, can lead to adjustments in interest rate differentials between countries. These adjustments, in turn, can impact exchange rates and international capital flows, potentially affecting stock market volatility as investors react to changes in risk perceptions and economic fundamentals. Understanding these dynamics is crucial for analyzing the interplay between global economic factors and domestic market volatility at exchanges like the Nairobi Securities Exchange. This theory anchored capital inflows variable. International fisher effect hypothesis is directly connected to capital inflows in explaining the way differences in nominal interest rates between countries lead to adjustments in exchange rates to equalize real returns for investors. Capital inflows are influenced by interest rate differentials as investors seek higher returns adjusted for inflation. IFE helps to understand how variation in interest rates and exchanging rates affect capital flows between countries, crucial for stock markets and broader economic conditions.

## 2.2 Empirical Literature

Igan, Kutan and Mirzaei (2020) investigated influence of capital inflows on growth of 22 emerging markets. Their research focused on timeframe around 1998 and 2010. They anticipated that sectors reliant on external financing in countries with greater capital inflows would experience faster growth. This was indeed observed in timespan between 1998 and 2007. Their panel regression model, which utilized yearly fluctuations, indicated that debt inflows were responsible for this relationship, while long-term effects assessed through panel cointegration tests revealed that equity inflows fuelled growth. Additionally, they noted a decrease in output volatility, which was more significant for equity inflows compared to debt inflows. This suggests that capital inflows negatively impacted the link of systematic risks and markets volatilities.

Ali et al. (2024) examined correlation of capital flows volatilities and systemic risks in emerging markets, focusing on Turkiye. The study developed a partially integrated System Dynamics Model to assess how capital flows influence the dynamics of Turkiye's nominal exchange rate. Findings indicate that several recent instances of extreme depreciations of Turkish Liras, along with 2018 currency crisis, can be attributed to reversals in short-term foreign exchange liabilities. Additionally, the model incorporates a policy rate sub-module that enables the central bank's responses to inflation and exchange rates as a feedback mechanism. The results suggest that external factors may compel the central bank to lose monetary independence to maintain financial stability. Xu and Li (2023) explored foreign capitals in China's stocks market and other stocks markets, interest rates, and financial products. The study utilised Diebold - Yilmaz frameworks (VAR - QVAR) alongside a complexed networks approach. The study revealed significant connections between inflows in China's stocks market and global markets. Furthermore, the capital flows were influenced by global instabilities and stock volatilities. Further, capital flows exhibited the characteristics of "Smart Money". The study highlighted that foreign capital inflows moderated link of systematic risks and stocks market returns.

Anyamaobi (2022) conducted a study examining how systemic risk influences foreign portfolio investment in Nigeria Capital Market. The time series data was obtained from Central Bank of Nigeria and exchange reports covering a period between 1988 and 2021. Foreign portfolio investment was modelled as a function of interest rate risks, equity price risks, exchange rate risks and commodity price risks. Investigations and analysis were conducted using methods such as OLS. The study found that 55.8 percent of the changes in portfolio investment were explained by variation in the formulated models. There were four cointegrating equation while the further findings validate unidirectional causality. Consumer prices risks and equity prices risks had positive and significant influences, while exchange rates and interest rates risks had positive but no significant effect on inflow of foreign investment. However, the foreign capital flows had no significant effects on the relationships between systematic risks and markets volatilities.

## 2.3 Conceptual Framework

Independent Variables
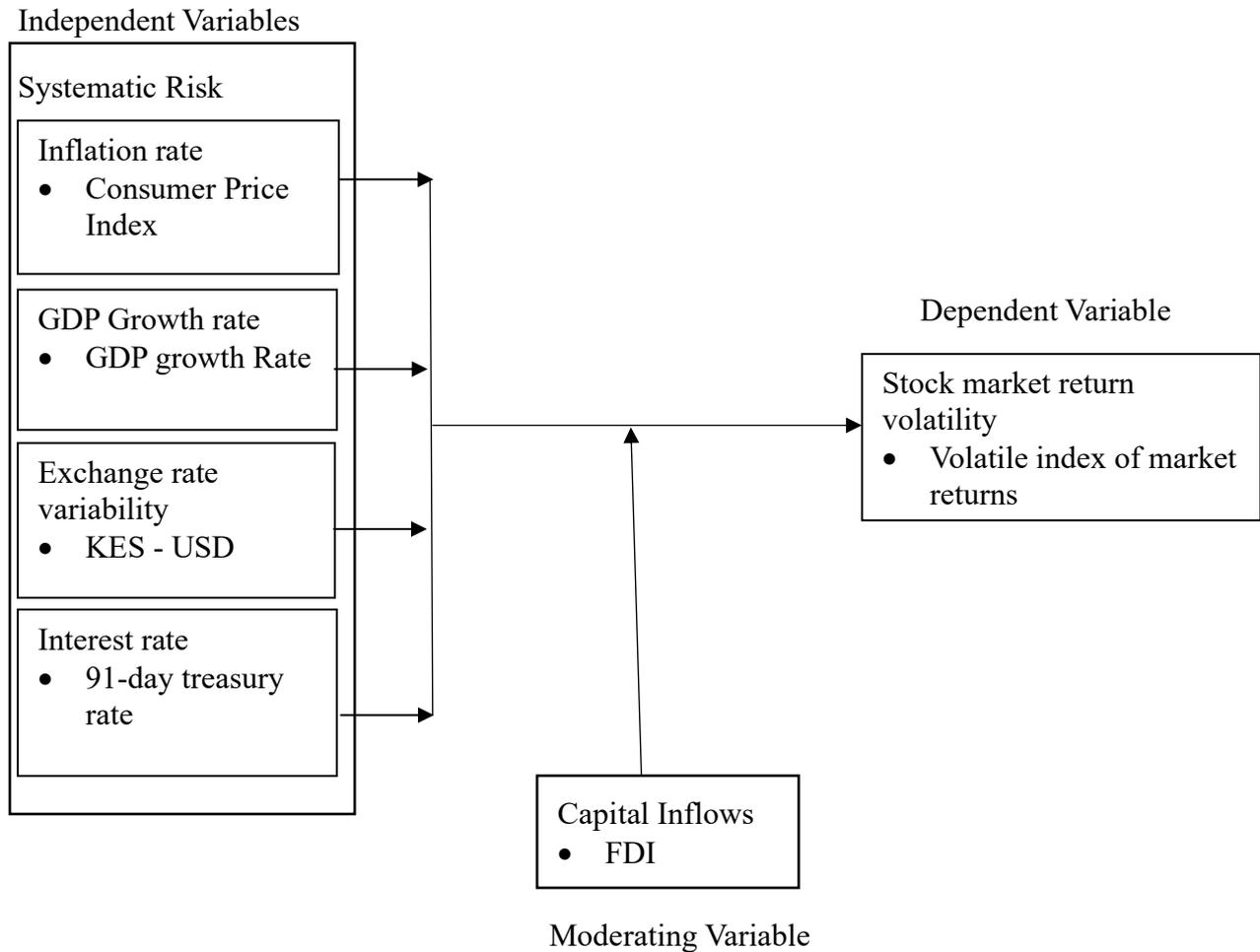


Source: Ngugi et al. (2026)

## 3.0 Research Methodology

The research methodology is presented in sections.

## 3.1 Research Philosophy and Design

Researching philosophies represents opinions about how information about a phenomenon ought to be collected, examined, and used (Tamminen & Poucher, 2020). There are two primary philosophies that includes positivism and interpretivism. Positivism is an approach that employs the principles of natural science to examine human behaviour. It assumes that knowledge can be gained through objective observations and measurements derived from quantitative data (Saliya, 2023). According to this hypothesis, utilization of numerical data give answers to enquiries. Its focus is on understanding relationships, specifically how certain variables influence others, and to what degree. In contrast, interpretivism highlights the significance and context of social phenomena (Mauthner, 2020). The interpretivist paradigm usually serves as the foundation for researches seeking to realize explanations persons attribute to their experience. This philosophy often results in the use of a qualitative methodology. This study adopted positivism philosophy which allowed for adoption of empirical data and scientific analysis methods. This philosophy enabled the study to adopt descriptive and

regression statistics for analysis. This study utilized a correlational research design. Correlational research design assists researchers in determining the relationship between two variables without manipulating either. In explanatory research design, a researcher employs their insights and ideas on a topic to delve deeper into their theories (Hunziker & Blankenagel, 2021). This design is used to investigate a phenomenon when there is insufficient information available. The design was used to identify the relationship between systematic risks, capital inflows and stock market volatility.

## 3.2 Population and Data

The population was firms listed at the NSE from 2014 to 2024. There were 62 listed firms as at December 2024 (NSE, 2024). The study used a census survey whereby all the 62 NSE listed firms listed between 2014 and 2024 were involved. Investigation involved all the firms based on the years of listing. Secondary data was collected using data collection sheet. The data was gathered from NSE, KNBS and CMA. Additional sources of data were CBK and World Bank. The data was annual and based on the 10-year period to ensure access to the most recent information. The data was analyzed through STATA 15. The statistics were descriptive in nature. Further, timeseries regression statistics were used.

## 3.3 Empirical Model

According to Jak and Cheung (2020), moderating variable is intended to show how strongly main variables correlate. To determine occurrence of moderation, moderating effect was represented in three steps. Initially, independent variables that were being studied and had a moderating function interact to form the moderating variable. Second, as moderating variables, the independent variables underwent comprehensive testing. Finally, no link around moderating and other independent variables (Kristaung & Pratomo, 2020). Model (1) described a situation where the moderator variable (capital inflows) influenced the dependent variable, aligning with moderator referred to as homologizer. The connection utilized to establish data is expressed as follows:

$$y = \beta_0 + \beta X + Ze \dots\dots\dots\dots\dots\dots\dots\dots\dots 1$$

where Y was stock market volatility, $\varepsilon$ is the error term, Z is moderator while X is systematic risk.

The proposed moderator functions as a predictor variable in model (2) and was incorporated into the equation through an interaction term. It was expressed as follows and denotes a quasi-moderator variable:

$$y = \beta_0 + \beta X + \beta Z + \beta XZ + e \dots\dots\dots\dots\dots\dots\dots 2$$

According to Model (4), which represented the pure moderator form, the moderator variable is thought to affect the dependent variable by interacting with the predictor variable. The following was an expression of the relationship that was used to generate the data:

$$y = \beta_0 + \beta X + \beta XZ + e$$

Investigation implemented model (3) considering moderating variable (capital inflows) as pure moderator that impacts strength of stock market volatility, and predictors, including inflations, exchange, GDP, in addition to interest risks. To separate effects of capital inflows on stock

markets volatility, researcher adopted MMR model. The MMR was done in 2 stages. First, we estimated influences of predictors on moderating variable (Z):

$$MVt = \alpha + \beta 1Xt + \beta 2Zt + e \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \ (3)$$

With

$\alpha$ = constant,

$\beta_1, \beta_2$ = regressing coefficients of X and Z in each case

e = error term

In the 2$^{nd}$ stage, we added the interacting term to 3:

$$Yt = \alpha + \beta 1Xt + \beta 2Zt + \beta 3X*Zt + e \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \ (4)$$

Where;

Y = stock market return volatility as measured by volatile index

X = systematic risk

Z = moderating (capital inflows)

B3 = regression coefficient for X*Z

Similar modelling was adopted by Oyaa (2022) for research. Another investigation that employed a similar model was conducted by Nderitu, Njeru and Waiganjo (2022) which focused on impacts of capital structure on wealth growth of investment groups.

## 4.0 Results and Findings

The results and findings of the study are presented and analyzed in the sections that follow. Each section provides a structured summary of the empirical outcomes, highlighting the key statistical relationships and their implications in relation to the study objectives.

## 4.1 Descriptive Analysis

Table 1 presents the descriptive statistics

**Table 1: Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Stock market volatility | 44 | -1.4050 | 7.9306 | 4.805734 | 2.3186076 |
| Systematic risks | 44 | -66.75 | 306.40 | 5.6707 | 64.24314 |
| Capital inflows | 44 | -19.9600 | 15.0600 | 2.852273 | 6.6774403 |

The stock market volatility (MV), as measured by a volatility index, recorded a mean of approximately 4.81 over the 44 observations. The standard deviation of 2.32 indicated that the volatility values clustered fairly close to the mean, though with some variability across time. The minimum value of -1.40 indicate extreme downward movements in stock prices during

market shocks, while the maximum value of 7.93 points to episodes of intense market turbulence. On the other hand, systematic risk had a mean of 5.67% for the period between 2014 and 2024. The standard deviation of 64.24% indicated that there was high variation in the systematic risks within the NSE market. The minimum value of -66.75 indicate very low risks, while the maximum value of 306.40 shows that the market sometimes experienced very high levels of systematic risk.

Capital inflows, used here as a moderating variable, recorded a mean of 2.85, suggesting that on average, Kenya experienced net positive foreign capital inflows during the period. However, deviations of 6.68 showed unstable inflows, with significant shifts likely responding to global risk appetite, domestic macroeconomic conditions, and monetary policy differentials. The minimum value of -19.96 signals episodes of capital flight or disinvestment, possibly due to political instability, weakening fundamentals, or tightening global financial conditions. Conversely, the maximum value of 15.06 reflects periods of strong capital attraction, potentially driven by favorable returns, improved credit ratings, or donor support. Such volatility in capital flows has direct implications for exchange rate dynamics, foreign reserve management, and domestic credit availability. It also heightens the need for macroprudential regulation to mitigate the destabilizing effects of sudden stops and reversals.

## 4.2 Regression Analysis

Table 2 presents the moderating effect of capital inflows on the relationship between systematic risk and stock market return volatility. The table reports the interaction results, indicating whether capital inflows strengthen, weaken, or do not significantly influence the relationship between the key study variables.

**Table 2: Moderating effect of Capital Inflows**

| d _MV | Coeff. | Std. Err. | T | P>|t| | [95% Conf. Interval] |
|---|---|---|---|---|---|
| L.Z | 0.0072750 | 0.0546611 | 0.13 | 0.895 | [-0.1039339, 0.1184838] |
| CPI _Z | 0.0016626 | 0.0032257 | 0.52 | 0.610 | [-0.0049000, 0.0082253] |
| GDP_Z | -0.0025431 | 0.0011903 | -2.14 | 0.040 | [-0.0049647, -0.0001214] |
| FX _Z | 0.0023907 | 0.0146990 | 0.16 | 0.872 | [-0.0275147, 0.0322960] |
| IR _Z | -0.0049867 | 0.0066707 | -0.75 | 0.460 | [-0.0185582, 0.0085849] |

To test moderation, researcher examined whether the interaction between your independent variable(s) and the moderator (Z) significantly affects the dependent variable (MV). In the time series model, this means testing if Z moderates the relationship between CPI, GDP, FX, IR, and MV. The OLS regression aimed to model the short-run changes in MV (denoted as d_MV), with several lagged independent variables, a lagged moderator Z, and interaction terms between the independent variables and Z. The results provide insights into how Z influences the relationships between the independent variables and d_MV. Upon examining the individual coefficients, the lagged value of the moderator, L.Z, was found to be statistically insignificant, with a p-value of 0.895. This indicates that, when controlling for the other predictors and their

interactions, Z itself does not exert a direct, significant short-run effect on the change in MV. Its influence, if any, is primarily through its interaction with other variables.

The interaction term CPI_Z, representing the moderating effect of capital inflows on the inflation vs stock market volatility relationship, yielded a positive but non-significant coefficient of 0.0017 (p = 0.610). This result suggests that capital inflows did not significantly alter the effect of inflation on market volatility. However, the interaction term GDP_Z had a statistically significant negative coefficient of –0.0025 (p = 0.040). This suggests that capital inflows moderated the effect of GDP on stock market volatility. In practical terms, during periods of strong capital inflows, the volatility-enhancing effect of GDP growth was dampened. This could reflect stabilizing investor behaviour, where external capital provides liquidity, buffers risk, or reflects confidence in the economy's capacity to absorb growth without inducing excessive market shocks.

The interaction term for exchange rate FX_Z had a coefficient of 0.0024 (p = 0.872), which was also statistically insignificant. This result implies that capital inflows did not significantly moderate the effect of exchange rate movements on volatility. Exchange rate fluctuations did not meaningfully affect volatility in this model, either directly or through the presence of capital inflows. One explanation could be that currency risks were already priced into equities, or that Kenya's exchange rate regime and regulatory measures insulated the stock market from short-term currency shocks. Further, the interaction term for interest rate (IR_Z) yielded an insignificant coefficient of –0.0050 (p=0.460), suggesting that capital inflows did not significantly moderate the interest rate–volatility relationship. This implies a lack of synergy between interest rate movements and foreign capital flows in influencing short-term market dynamics. Interest rates did not exhibit a significant effect on market volatility, and capital inflows did not alter this dynamic. This finding may point to structural characteristics of Kenya's capital market, such as shallow bond-equity transmission channels or investor desensitization to short-term interest rate fluctuations.

## 4.3 Summary of the Findings

In the assessment on the moderating effects of capital inflows on stock market return volatility companies listed at the NSE Kenya, outcomes showed that no statistically significant joint moderation effect existed. The moderated regression yielded an F-statistic of 1.6241 with a p-value of 0.1867, indicating that the overall model was not statistically significant at the 5% level. Most individual interaction terms were also found to be insignificant, including inflation ($\beta$ = -0.0172, p = 0.428), exchange rate ($\beta$ = 0.0368, p = 0.306), and interest rate ($\beta$ = -0.0215, p = 0.389). However, the interaction between GDP risk and capital inflows showed marginal significance ($\beta$ = 0.0423, p = 0.038), suggesting a weak moderating effect where capital inflows might slightly enhance the influence of GDP growth on stock market volatility. Nonetheless, insignificance of the interaction terms confirmed that capital inflows did not exert a consistent or robust moderating effect on the relationship between systematic risks and market volatility in the Kenyan stock market context.

## 5.0 Conclusion

The study concludes that capital inflows do not exert a consistent or statistically significant moderating effect on the relationship between systematic risks and stock market return volatility of firms listed at the NSE, Kenya. The individual interaction terms for inflation, exchange rate, and interest rate were all found to be insignificant, confirming that capital

inflows did not play a meaningful moderating role across the key systematic risk variables examined. This outcome suggests that foreign capital movements into Kenya during the study period were insufficient in magnitude or consistency to alter the sensitivity of stock market volatility to macroeconomic risk factors. These findings point to the structural limitations of Kenya's capital market in translating capital inflow dynamics into measurable changes in market risk transmission.

Although a marginal moderating effect was detected through the interaction between GDP risk and capital inflows, this isolated finding was insufficient to establish a robust or consistent moderating role for capital inflows in the Kenyan stock market context. During the study period spanning 2014 to 2024, capital inflows neither systematically strengthened nor weakened the link between macroeconomic risks and stock market return volatility among listed companies at the NSE, Kenya. This implies that other market-specific factors beyond capital inflows may be more influential in shaping the relationship between systematic risks and equity market volatility. The broader macroeconomic environment, investor behavior, and institutional frameworks appear to play a more dominant role in driving stock market dynamics in Kenya.

## 6.0 Recommendations

The study recommends that regulatory bodies such as the Capital Markets Authority and the Central Bank of Kenya should develop and implement policies that actively encourage productive, long-term, and diversified capital inflows into the Kenyan economy. These inflows should be deliberately directed toward high-impact sectors such as infrastructure development, green finance, and small and medium enterprise growth. Capital inflows should be subjected to rigorous transparency and regulatory oversight frameworks to minimize the risk of speculative surges that could destabilize the stock market and undermine investor confidence at the NSE. Furthermore, incentive frameworks should be designed to attract patient capital that aligns with Kenya's long-term economic development agenda rather than short-term speculative flows.

Policymakers should strengthen the macroprudential regulatory environment to better manage the interaction between foreign capital flows and domestic macroeconomic variables, particularly GDP growth dynamics. The CMA and CBK should establish early warning mechanisms that monitor capital flow volatility and its potential spillover effects on equity market stability. Market regulators should also enhance investor education initiatives so that market participants are better equipped to respond rationally to changes in capital flow patterns, thereby reducing sentiment-driven volatility in the Kenyan stock market. Additionally, collaborative engagements between government institutions, capital market operators, and private sector stakeholders should be strengthened to foster a resilient and stable investment environment at the NSE.

## REFERENCES

Ahmed, R., Jawaid, S. T., & Khalil, S. (2021). Foreign capital inflows and housing market in Pakistan. *International Journal of Housing Markets and Analysis*, 14(5), 936-952. https://doi.org/10.1108/IJHMA-07-2020-0089

Ali, S. A., Mahmud, S. F., Yulek, M. A., & Akosman, F. F. (2024). Capital flows volatility and systemic risk in emerging markets: a case of turkiye. *The Singapore Economic Review*. https://doi.org/10.1142/S0217590824500127

Anyamaobi, C. (2022). Systemic risk and foreign portfolio investment: Evidence from Nigeria capital market. *International Journal of Social Science and Management Studies*, *1*(3).

Fisher, I. (1930). *The theory of interest.* New York: JSTOR

Hunziker, S., & Blankenagel, M. (2021). Research design in business and management. *Wiesbaden: SpringerGabler*, *1*. https://doi.org/10.1007/978-3-658-34357-6

Igan, D., Kutan, A. M., and Mirzaei, A. (2020). The real effects of capital inflows in emerging markets. *Journal of Banking and Finance*, *119*, 105933. https://doi.org/10.1016/j.jbankfin.2020.105933

Jak, S., & Cheung, M. W. L. (2020). Meta-analytic structural equation modeling with moderating effects on SEM parameters. *Psychological methods*, *25*(4), 430. https://doi.org/10.1037/met0000245

Kristaung, R., & Pratomo, L. A. (2020). The green hotel knowledge towards consumer behavior intention: empirical model testing. In *international conference on management, accounting, and economy* (pp. 38-40). Atlantis Press. https://doi.org/10.2991/aebmr.k.200915.010

Marozva, G., & Makoni, P. L. (2021). The nexus between bond liquidity, stock liquidity and foreign portfolio investment. *International Journal of Finance and Banking Studies* (2147-4486), 10(3), 92-103. https://doi.org/10.20525/ijfbs.v10i3.1348

Mauthner, N. S. (2020). Research philosophies and why they matter. In *How to keep your doctorate on track* (pp. 76-86). Edward Elgar Publishing. https://doi.org/10.4337/9781788975636.00018

Mohamed Sghaier, I. (2022). Foreign capital inflows and economic growth in North African countries: The role of human capital. *Journal of the Knowledge Economy*, 13(4), 2804-2821. https://doi.org/10.1007/s13132-021-00843-5

Saliya, C. A. (2022). *Doing social research and publishing results*. Springer. https://link. springer. com/book/10.1007/978-981-19-3780-4. https://doi.org/10.1007/978-981-19-3780-4

Tamminen, K. A., & Poucher, Z. A. (2020). Research philosophies. In *The Routledge international encyclopedia of sport and exercise psychology* (pp. 535-549). London: Routledge. https://doi.org/10.4324/9781315187259-39

Uribe, M. (2022). The neo-Fisher effect: Econometric evidence from empirical and optimizing models. *American Economic Journal: Macroeconomics*, 14(3), 133-162. https://doi.org/10.1257/mac.20200060

Xu, H., & Li, S. (2023). What impacts foreign capital flows to China's stock markets? Evidence from financial risk spillover networks. International Review of Economics and Finance, 85, 559-577. https://doi.org/10.1016/j.iref.2023.02.010

Zhong, Y. (2022). Analysis of Fisher effects between nominal interests and inflation. Atlantis Press. https://doi.org/10.2991/aebmr.k.220603.055