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Effect of Short-Term Capital Flows on Real Exchange Rate in Kenya

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ABSTRACT

Short-term capital flows that are continuous have two disadvantages. Although they are attractive to investors, their tendency toward volatility and reversals increases the possibility of causing instability in the macroeconomy. There's little question that Kenya's open account policy and Vision 2030 goals will attract more short- and long-term investment. The research investigated how Kenya's macroeconomic indicators were impacted by short-term capital flows. The explicit goal was to ascertain how net short-term capital flows affected Kenya's actual exchange rates. In the study, series data spanning the years 1980–2018 were used. At that time, market liberalization was underway, and Kenya had begun to implement structural adjustment programs. The study used a correlational research approach utilizing e-views, ox-metrics, and STATA software to assess the model at a 5% significant level. The procedure of assessing the hypothesis included the use of t-ratios and P-values. To ascertain if the time series data were stationary, a unit root test utilizing the Augmented Dickey-Fuller test was performed. To ascertain if there was a long-term link between the variables, co-integration and error correction techniques were applied. To ascertain the nature of the link that existed between the variables, the Granger causality test was used. In order to evaluate the multicollinearity, autocorrelation, and heteroscedasticity assumptions, the Variance Inflation Factor, Durbin-Watson statistic, and Breusch-Pagan tests were applied. The results showed that short-term capital flows significantly and unfavorably affected real exchange rates (t-prob 0.000–0.05). The study suggested preventing the detrimental impacts of net short-term capital flows before they affect the whole economy.

Keywords: Short-term capital flows, volatility, reversal, exchange rate, macroeconomic, liberalization

1.0 Introduction

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Concerns over the impact of net short-term capital flows on Kenya's real exchange rates have grown, particularly in the wake of the 2008 global financial crisis. Because capital laws have been loosened to allow for capital mobility, financial integration has become the norm in many developing countries, including Kenya (Mwega, 2010). However, because of this integration, there have been moments of capital surges and reversals in which the short-term capital flow has been crucial. Less than a year is the period of a short-term capital flow. It mostly comprises portfolio flows that aim to profit from anticipated changes in exchange rates or short-term interest rate differentials. Kenya and other emerging and developing countries saw a rise in net short-term capital flows from industrialized nations during the 2008 global financial crisis (Dolphin & Chappell, 2010). While these capital movements may have favorable impacts at first, such as expanding the money supply and contributing to GDP, they may have disruptive economic repercussions.

One of the primary problems is the short-term capital flows' instability and reversibility. These fluctuations might come to an abrupt stop, which would cause financial instability and alter Kenya's real exchange rate. Policymakers must make difficult decisions regarding handling unplanned halts since they have little direct influence over short-term capital (Dolphin & Chappell, 2010). These days, almost half of all capital transfers in Kenya are short-term, a growing tendency. Risks accompany the financial inflow, but it also has the potential to boost the economy. Elevated inflation rates have been associated with high capital flows, perhaps leading to higher operational expenses and deterring potential investors. It also affects Kenya's currency rate, which begs the issue of how competitive local goods are in international markets.

In an effort to attract foreign investment, the Kenyan government has opened the capital account and lifted restrictions on portfolio investments. There is constant debate about how effective these tactics are in promoting long-term, steady economic development. In the end, a number of things affect and confuse the effect of net short-term capital flows on real exchange rates in Kenya (Combes et al., 2011). Capital flows might initially spur economic development, but they can also reveal macroeconomic weaknesses and provide challenges for policymakers due to their cyclicality and reversibility. Achieving balance between promoting capital inflows and reducing associated risks is crucial for Kenya's long-term financial stability and development. More empirical evidence and study are required to properly understand the special implications of short-term capital flows on Kenya's economy.

Over the years, a number of studies have been conducted on the impact of net short-term capital flows on Kenya's real exchange rates. Macroeconomic variables including interest rates and currency rates, as well as short-term capital movements, are greatly impacted. These adjustments might alter the actual exchange rate since stock fluctuations are reversible. The impact of short-term capital movements on Kenya's currency rates has been studied. Ndung'u (2001) examined

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how the real exchange rate fluctuated between 1990 and 1997 as a result of the growth rate of the money supply, inflation, short-term private capital flows, and budget deficit. Additionally, the relationship between changes in exchange rates and actual disparities in interest rates was examined. The article's major argument is that increasing exchange rates, which increased interest rate spreads, were to blame for the capital flight. According to Magud (2023), fluctuations in the real exchange rate and real interest rate differential, which come from both the inside and the outside, are what trigger short-term capital flows. The central thesis of the research is that exchange rates would fluctuate if trading on the foreign exchange market were restricted. Short-term capital flows would become steadier as a result.

Ryou (2001) studied the budgetary plans of nations with emerging markets as well as the function of capital flows in the stock market. Due to the expansion of the economy and the stock market, earnings in local currency and current account increased. It was emphasized that the most crucial factor in maintaining the stability of the economy as a whole was an open exchange rate. Mutua (2000) examined the connection between Kenya's domestic debt, short-term private capital flows, and the currency rate. According to the research, local debt-induced differences in interest rates harm short-term capital flows. It has been shown that the nominal exchange rate is influenced by short-term capital flows and variations in interest rates. The research demonstrated that because municipal debt had a significant impact on interest rates, the structure of interest rates needed to be altered by enacting the appropriate legislative measures.

The relationship between short-term private capital flows and Turkey's real exchange rate was examined by Cevis and Kadilar (2001). They used the Vector Autoregressive (VAR) approach to accomplish this. The research discovered that the impact of short-term capital movements on bank funds and exchange deposit accounts varied. Interest rate spreads and the exchange rate altered as a consequence. According to the report, in order to ensure the stability of the economy, rigorous economic regulations and restrictions on short-term capital flows should be put in place. According to the study, Kenya's actual exchange rates may be significantly impacted by short-term capital movements. The actual exchange rate is significantly influenced by changes in interest rates, trading activity on the foreign currency market, and the level of domestic debt. A nation's financial stability and economic development may benefit from well-crafted policies that strive to limit short-term capital flows and exchange rates.

2.0 Results and Discussion

2.1 Descriptive Statistics

Descriptive statistics include mean, standard deviation, maximum, and minimum values. The results are presented in Table 1

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Table 1: Descriptive Statistics

Statistics	SCF	REXR
Mean	5.11	55.33
Maximum	31.47	101.55
Minimum	-22.72	7.42
Std.Dev	12.81	30.04
Probability	0.53	0.16
Observation	38	38

The yearly mean of the real exchange rate, which is measured, was 55.33. This figure represents the average values derived from World Bank and KNBS figures. At 30.04, there was a significant departure from the mean. The SCF expressed as an annual rate has a massive departure from the mean of 12.81 and a mean of 5.11.

2.2 Normality Test

The error term in classical linear regression is assumed to be regularly distributed. The data was examined using Jarque-Bera statistics, skewness, and Kurtosis to determine whether or not it was regularly distributed. Skewness statistics should fall within an acceptable range of ±3, and Jarque-Bera values should be less than 5.9, in order to ensure data normalcy. The results are presented in Table 2

Table 2: Normality Test

Statistics	SCF	REXR
Skewness	-0.44	-0.33
Kurtosis	2.84	1.63
Jarque-Bera	1.27	3.68

From Table 2, since the data results show that the skewness coefficient for all variables was within the range of ±3, it implies that the variable data was normally distributed.

2.3 Tests for Stationarity

A time series is called "stationary" if there is no unit root. When data are steady, the correlation, fixed variance, and constant mean don't change over time. This test looks for a uniform trend in a

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set of time series data so that it is less likely that wrong conclusions and inferences will be made. Using the ADF test, it was shown that the study's factors were stable. If the ADF figure at the 5% significance level is higher than the MacKinnon critical value, then a unit root exists. The first tests on the variables in their level forms (first difference, second difference) are shown in Table 3.

Table 3: Unit Root Test in Level Form

Variable	Estimation Level	ADF test	Critical value at 5% sig level.	Status
LnREXR	0	-1.53	-3.54	Not Stationary
LnSCF	0	-2.36	-3.83	Not stationary

As Table 3 shows, the ADF test verified that the, LnREXR, and LnSCF variables were not stationary in their level forms. Nevertheless, since the ADF values of the LnGDP (ADF= -3.98< -3.55) and LnINF (ADF= -4.04 < -3.54) variables were below the Mackinnon critical values at the 5% significance level, showing that the values lie inside the null hypothesis's rejection zone, it was determined that the variables were stable. The variables fall into the null hypothesis's acceptance zone, as shown by the ADF values of the variables at the 5% significance level being more significant than the Mackinnon crucial values. Consequently, in order to stabilize the data, the initial difference between the variables had to be created.

Table 4: Unit Root Test in First Difference

Variable	Estimation Level	ADF test	Critical value at 5% sig level.	Status
DLnIR	1	-4.22	-3.6027	Stationary
DLnNEXR	1	-4.50	-4.2412	Stationary
DLnSCF	1	-4.00	-3.9948	Stationary

In other words, the variables DLNIR (ADF = -4.22 < -3.60), DLNREXR (ADF = -4.50 < -4.24), and DLNSCF (ADF = -4.00 < -3.9948) were determined to be statistically stationary upon taking the first difference. ADF statistics were smaller than the Mackinnon critical value at the 5% level of significance. Table 6 presents the results of these analyses. Therefore, important statistical inferences may be made from the data.

2.4 Test for Co-integration

A co-integration test was done to find out if combining two or more non-stationary time series of the same order would lead to a long-term stability and if a linear mixture of these series would be

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stationary. If the time series is not stable, tests are done to see if there are long-term relationships. Long-run balance is when each variable that doesn't stay the same affects the other variables. Ordinary Least Square (OLS) is used to predict the model if the factors are added in the same order. The maximum probability method of Johansen and Juselius is used to find the co-integrated vectors when the parameters are combined with different requests. The co-integration test will use the Engle-Granger (E.G.) method and the Johansen-Juselius method. At a 5% level of significance, the ADF figure for residuals was compared to the key value. For co-integration to be true and the null hypothesis to be thrown out, ADF must be less than the threshold number of 0.05. When co-integration is present, the error correction model is worked out. In Tables 5 and 6, you can see what was found.

Table5: Unit Root Test for Model 3 Residuals

D- lag	AIC	t-ADF	Status
0	-4.38	-6.65**	Stationary
1	-4.27	-4.37**	Stationary
2	-4.26	-2.77	Stationary

*(Residuals: ADF tests (T=35, Constant +Trend; 5%= -2.95)

Table 5's findings (ADF= -6.65< -2.95) demonstrated that, at the 5% significance level for the model, the ADF statistic was less than the MacKinnon critical value. The dependent and independent variables in the models were estimated using a lag length of 1. The unit root null hypothesis is rejected when the lag reduces the Akaike information criterion (AIC) value. The findings showed that the residuals were stationary, proving that the model's parameters co-integrate.

Table 1: Unit Root Test for Model 4

D- lag	AIC	t-ADF	Status
0	-0.26	-5.47**	Stationary
1	-0.21	-3.78**	Stationary
2	-0.15	-3.00*	Stationary

*(Residuals: ADF tests (T=35, Constant +Trend; 5%= -2.95)

The results in Table 6 (ADF=-5.47-2.95), which showed that the ADF statistic for Model 4 was less than the MacKinnon critical value at the 5% significance level, showed that the model was not significant. A lag length of 0 was used to figure out the dependent and independent factors in the models. When the lag makes the Akaike information criterion (AIC) number go down, the

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unit root null hypothesis is not true. The results showed that the residuals were stable, which shows that the model's parameters co-integrate.

2.5 Lag Order Selection

The appropriate lag duration was determined using the Schwartz Bayesian information criterion (SBIC) and the Akaike information criterion (AIC). AIC and SBIC were used to determine the rule, which required selecting the lag length with the lowest AIC and SBIC value. If the results showed different lag lengths under the two criteria, the lag length for AIC was decided. The results are shown in Table 7

Table 7: Lag Order Selection Results

	Model 1		Model 2		Model 3		Model 4	
Lag	AIC	SBIC	AIC	SBIC	AIC	SBIC	AIC	SBIC
0	3.49	3.73	3.80	3.80	3.41	3.00	0.78	1.90
1	3.79	3.59	3.70	3.90	3.80	3.75	0.53	1.89
2	3.40*	3.00*	3.10*	3.21*	3.94	3.73	0.22*	1.10*
3	3.90	3.08	3.75	3.71	3.09*	3.08*	0.90	1.91
4	3.76	3.73	3.69	3.75	3.97	3.91	0.49	1.91

* Denotes the smallest value

The link between short-term capital flows and the real exchange rate is shown by the lag time of 3 in Model 3 (AIC = 3.10, SBIC = 3.08). Model 4 shows the relationship between short-term capital flows and interest rates, with AIC and SBIC values of 0.23 and 1.10, respectively. Lag 2 is the lag time that makes the AIC and SBIC values as small as possible.

2.6 Granger Causality Tests

Granger causality seeks to ascertain the kind of relationship, if any, between net short-term capital flows and macroeconomic indicators. A causal relationship could exist in more than one direction or not at all. To test the null hypothesis, the p-value was compared to the critical value at a significance level of 5%. If the p-value is less than 0.05, there may be a relationship between the variables. There is no relationship between the variables when the p-value is greater than 0.05. There is bidirectional causality if variable X causes Y and Y causes variable X. Unidirectional causality is used to describe situations where X causes Y but Y does not cause X. Neutral causality is the situation in which neither X nor Y causes the other. How the testing went is shown in Table 8.

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Table 8: Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Probability
DLNREXR does not Granger Cause DLNSCF	38	1.66	0.21
DLNSCF does not Granger Cause DLNNEXR		2.28	0.12

Both DLNREXR and DLNSCF were uncorrelated (F=1.66, P=0.21 > 0.05). This indicates that net short-term capital has not had a major effect on Kenya's real exchange rate. Parameter estimates are heavily influenced by the variables, thus they were nevertheless included into the model.

2.7 Diagnostic Tests

The researcher calculated four models. To ensure that the OLS assumptions had been followed and that the models calculated were trustworthy for concluding diagnostic tests had to be performed before disclosing the error correction models' findings. Pre-estimation diagnostics were performed to determine if autocorrelation, heteroscedasticity, and multicollinearity were present.

2.7.1 Test for Multicollinearity

A multicollinearity test was performed to determine if there was a correlation between the explanatory factors. The multicollinearity test was also performed using the Variance Inflation Factor (VIF) test. If the value of VIF is more than 5, multicollinearity is evident. Table 13 presents the VIF findings for the models.

Table 9: Variance Inflation Factor Results

Model	Tolerance	VIF	Status
Model 3	0.72	1.38	Absence of Multicollinearity

As presented in Table 9, the results suggest that the VIF values for all the variables in each model were less than 5. This indicated the absence of multicollinearity among the explanatory variables in the regression models.

2.7.2 Test for Autocorrelation

If there is sequential interdependence between the variances of the residuals, autocorrelation is said to exist; according to (Bera & Kim, 2002 the assumptions of Classical Linear Regression, CLRM, maintain that a link should not exist between a disturbance happening at one point of

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observation and any other disturbance occurring at another point in the set of observations. This is because a given regression will have biased and inconsistent parameter estimations if it is present. The Durbin Watson (D.W.) test was used in the research to identify autocorrelation. A DW number between 2 and 2.5 indicates no correlation, whereas a D.W. value of four shows a significant negative correlation. Positive autocorrelation is implied when the D.W. is zero. The research used an accurate definition of the model's functional form to remove the existence of autocorrelation. Table 10 displays the autocorrelation test findings.

Table 2: Autocorrelation Results

Model	Durbin Watson	Status
Model 3	2.21	No autocorrelation

Durbin Watson values for models 3 was 2.21 This value fall between 2 and 2.5, indicating that the models do not exhibit autocorrelation. This finding suggests that the study's data were trustworthy and appropriate for estimating.

2.7.3 Test for Heteroscedasticity

This is heteroscedasticity when one or more dependent variables have uneven variances over the range of independent variables. It checks the residuals' variances within the used model. Homoscedasticity is the reverse of heteroscedasticity. The estimators' standard errors become skewed as a result. An unbiased estimate of the link between the predictor variable and the result may be obtained using a regression analysis employing heteroscedasticity data. Still, the standard errors will be skewed, leading to a biased conclusion. Heteroscedasticity may also happen if some significant variables are omitted from the model. Heteroscedasticity causes a broad confidence interval, which in turn causes the t-test and F-test to provide unreliable findings and deceptive statistical inference. To determine if the residuals in this research had a constant variance, the heteroscedasticity was examined using the Breusch-Pagan test. The presence of heteroscedasticity is shown by a p-value less than 0.05.

The results are presented in Table 15.

Table 3: Breusch-pagan test for heteroscedasticity

Model	Chi-square	Prob > Chi-square
Model 3	5. 17	0.23

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The results of Table 11 indicate that in all the models, p-values are more significant than 0.05, thus leading to the acceptance of the null hypothesis of a constant variance of the stochastic term, implying the absence of heteroscedasticity.

2.8 VAR Diagnostics

A diagnostic L-M test was performed, and the vector autoregressive model was calculated.

2.8.1 L-M Test

To determine if the error terms in the models were serially auto-correlated, the Breusch-Godfrey LM test was applied. In comparison to the 5% threshold of significance, the chi-square statistic's probability were examined. The null hypothesis, which states that there is no serial connection, is accepted if the chi-square statistic's p-value is greater than 0.05. The results of the test are shown in Table 12

Table 12: Lagrange-Multiplier Tests Results

	Model1		Model2		Model3		Model4	
Lag	Chi-square	P-value	Chi-square	P-value	Chi-square	P-value	Chi-square	P-value
2	1.09	0.27	1.72	0.48	1.70	0.38	2.91	0.59
3	1.06	0.20	0.93	0.93	2.92	0.91	1.93	0.30

The results of the L-M test in Table 12 indicate that the p-value of the chi-square is more significant than *0.05* in all models for all the lag lengths, hence leading to acceptance of the null hypothesis of no autocorrelation of residuals in the models.

2.8.2 Error Correction Model

The error correction model was used to estimate the economic variables. (Guajarati, 2003) claims that the model estimates variables whose relationships are in long-run equilibrium. The results of co-integration tests show that all the variables have a sustained relationship. As a consequence, it was feasible to estimate the error correction model. Throughout the analysis, the models and hypotheses developed to describe how the variables relate to one another were used. The significance level of the independent variables at the 5% significance level was examined using T-ratios. The R-square approach was used to determine the proportion of the dependent variable that was explained by the independent variables at a significance level of 5%.

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2.8.3 Model 3: Effect of Short-term capital flows on Real exchange rates in Kenya

The research aimed to ascertain how net short-term capital movement impacted Kenya's real exchange rate. The real exchange rate was the explained variable, while net short-term capital flow was the explanatory variable. The structural fractures in the economy that resulted from political causes and tribal conflicts in 1992, 1997, 2007, and 2017, and the economy's lack of openness, were represented by dummy variables. T-ratios were used to examine the explanatory variable's significance level at the 5% significance level. If a variable's t-prob value for the t-ratios is less than 0.05, it is considered statistically significant.

Table 13 Coefficient Estimates of Model 3

	Coefficient	Std. Error	t-value	t-prob
Constant	0.05	2.05(e^{-017})	2.59(e^{015})	0.0000
DLNSCF_1	-0.005	7.188(e^{-018})	-6.69(e^{014})	0.0000
Dummy_1	5.18(e^{-017})	6.43(e^{-017})	0.88	0.0000
Dummy_2	1.59(e^{-017})	3.55(e^{-017})	0.45	0.0000
Dummy_3	-7.26(e^{-018})	3.24(e^{-017})	-0.22	0.0000
Dummy 4	-3.07(e^{-017})	6.47(e^{-017})	-0.48	0.0000
Dummy5	-4.63(e^{-01})	3.02(e^{-016})	-1.53	0.0042
Residual	-3.13(e^{-01})	5.72(e^{-016})	-4.23	0.1398
R-square	0.957			
Durbin Watson statistic	2.21			
F-statistic	3.91($e^{+015)}$			[0.000]**

Results in Table 13 are presented in the following equation.

Model 3- Kenyan real exchange rates are affected by net short-term capital flows, according to a regression model.

$$\Delta LOG\ RERt = 0.05 - 0.005\Delta LOG\ SCFt + 5.18e^{-017}\ DP_1 + 1.59e^{-017}DP_2 - 7.26e^{-018}DP_3 - 3.07e^{-017}\ DP_4 - 4.63e^{-01}DU \ldots\ldots\ldots\ldots\ldots\ldots\ldots (8)$$

Table 13 shows that at the 5% level of significance, both the explanatory variable coefficients (net short-term capital flow) and the dummy variables (structural cracks in the economy) are significant (t-ratios 0.05, t-prob 0.00005). The null hypothesis, which asserted that net short-term capital movement had no observable influence on real exchange rates, is rejected, leading to the adoption of the alternative hypothesis. Approximately 95.7% of the variation in real exchange

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rates can be attributed to the explanatory variable net short-term capital flow, according to the R-squared goodness-of-fit score of 0.957. Real exchange rates were shown to be negatively impacted by dummy variables to account for the shocks in 2007 and 2017 and the economy's lack of openness (β = -7.26e^{-018}), -3.07e^{-017}), and -4.63e^{-01}). This suggested that, while other parameters were held constant, the post-election violence in 2007 and 2017 and the closed economy negatively impacted economic growth by 7.26, 3.07, and 4.63, respectively.

The results were interpreted using the lag one coefficient. According to the findings, a yearly rise of one unit in Kenya's net short-term capital flow would cause the real exchange rates to depreciate by -0.005 units, leaving all other variables constant. This means that for every one percentage point change in net short-term capital flows every year, Kenya's real exchange rate goes down by a factor of 0.005. When the exchange rate goes down, products become cheaper and the country's savings grow. This makes the country's economy more competitive on the world stage, which helps the economy grow. When central banks try to stop an exchange rate from going up, it causes funds to build up, velocity to go up, and monetary control to get less tight. When open market operations are used to try to stop foreign currency deals from happening, nominal and real interest rates go up. This makes it easier for short-term capital to flow into the economy. Wang (2004) looked at what caused changes in China's real exchange rate. These results agree with what he found. To figure out a VAR, the Mundell-Fleming model was used on yearly data from 1980 to 2002. The co-integration test shows that the factors are not related to each other. Even though nominal shock temporarily made the real exchange rate go down, studies on the effects of macroeconomic shocks on the currency market showed that both positive supply shocks and real demand shocks made the real exchange rate go up for a while.

3.0. Conclusion and Recommendation

The null hypothesis was thrown out because Model 3 showed that net short-term capital flow had a significant negative effect on the real exchange rate at the 5% significance level. This led to the conclusion that a net rise in short-term capital flows would cause the real exchange rate of a country to fall. When the exchange rate goes down, the cost of exports goes down. This increases savings and spurs growth because the country is more competitive on the international market. Gains in the real exchange rate hurt a country's reliance on imports, its trade balance, and its ability to compete in the world. It was suggested that changes to the bank rate should take into account changes in the exchange rate to lessen the effect of short-term capital flows on the economy. On the other hand, a devalued shilling causes the debts interest rate to go up increasing the costs of the debt. It was suggested that policy makers to take put measures in place to ensure a stable exchange rate is maintained to lessen the effects of short term outflows on the economy.

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REFERENCES

Adomaviciute, U., & Seskas, S. (2012). Management of short-term capital flows in China.

Agosin, M. R., & Huaita, F. (2010). Capital flows to emerging economies: Minsky in the tropics. *Cambridge Journal of Economics*, *35*(4), 663-683.

Aizenman, J., Pinto, B., & Radziwill, A. (2007). Sources for financing domestic capital–Is foreign saving a viable option for developing countries? *Journal of International Money and Finance*, *26*(5), 682-702.

Alfaro, L., Kalemli-Ozcan, S., & Volosovych, V. (2007). Capital flows in a globalized world: The role of policies and institutions. In *Capital controls and capital flows in emerging economies: Policies, practices and consequences* (pp. 19-72). University of Chicago Press.

Alin, A. (2010). Multicollinearity. Wiley Interdisciplinary Reviews: Computational Statistics, 2(3), 370-374.

Aydemir, O., & Demirhan, E. (2009). The relationship between stock prices and exchange rates: Evidence from Turkey. *International Research Journal of Finance and Economics*, *23*(2), 207-215.

Bekaert, G., Harvey, C. R., & Lumsdaine, R. L. (2002). The dynamics of emerging market equity flows. *Journal of International money and Finance*, *21*(3), 295-350.

Bercuson, K.B., & Koenig, L.M. (1993). The Recent Surge in capital Inflows to Three ASEAN Countries: Causes and Macroeconomic Impact. *Occasional Papers*. Buchanan, J. M. 1985. "The Moral Dimension of Debt Financing." Economic Inquiry23: 1-6

Branson, W. H., Krause, L., Kareken, J., & Salant W. (1990). Monetary policy and the new view of international capital movements. *Brookings Papers on Economic Activity*, *2*(1970), 235-270.

Brooks, R., Edison, H., Kumar, M. S., & Sløk, T. (2004). Exchange rates and capital flows. *European Financial Management*, *10*(3), 511-533.

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Calvo, G., & Reinhart, C.M. (2000). When Capital Flows Come to a Sudden Stop: Consequences and Policy Options.) *Reforming the International Monetary and Financial System*, International Monetary Fund, 175–201.

Calvo, G. A., Leiderman, L., & Reinhart, C. M. (1994). Inflows of Capital to Developing Countries in the 1990s. *Journal of economic perspectives*, *10*(2), 123-139.

Cardarelli, R., Elekdag, S., & Kose, A. (2007). Managing Large Capital Inflows, Chapter 3 World Economic Outlook: Globalization and Inequality. International Monetary Fund, Washington DC.

Carlson, M.S., & Hernandez, L. (2002). *Determinants and Repercussions of the Composition of Capital Flows* (No. 2002-2086). International Monetary Fund.

Çeviş, İ., & Kadilar, C. (2001). The Analysis of the Short-term Capital Movements by Using the VAR Model: The Case of Turkey. *The Pakistan Development Review*, 187-201.

Chakraborty, D., & Guha, A. (2001). Should India opt for full capital account convertibility? Some exploratory results. *Foreign Trade Review*, *42*(1), 3-27.

Chakraborty, I. (2003). Liberalization of capital inflows and the real exchange rate in India: A VAR analysis.

Ciccarelli, M., & Mojon, B. (2010*). Global inflation. The Review of Economics and Statistics*, 92(3), 524-535.

Claessens, S., Dooley, M. P., & Warner, A. (1995). Portfolio capital flows: hot or cold? *The World Bank Economic Review*, *9*(1), 153-174.

Cooper, D.R., & Schindler, P.S. (2011). *Business Research Methods.* McGraw Hill International Edition, Statistics and Probability Series. 11th Edition. ISBN

Combes, J. L., Kinda, T., & Plane, P. (2011). Capital flows, exchange rate flexibility, and the real exchange rate. *Journal of Macroeconomics*, *34*(4), 1034-1043.

Commonwealth Secretariat, (1988). Mobilising Capital for Development: The Role of Private Flows London: Economic Affairs Division. *Commonwealth Secretariat (August)*.

Contessi, S., De Pace, P., & Francis, J.L. (2013). The Cyclical Properties of disaggregated capital flows. *Journal of International Money and Finance*, *32*,528-555.

ISSN: 2455-8834

Volume:09, Issue:08 "August 2024"

Cuddington, J. T. (1986). *Capital flight: Estimates, issues, and explanations* (Vol. 58). Princeton, NJ: International Finance Section, Department of Economics, Princeton University.

Dooley, M. P., Mathieson, D. J., & Rojas-Suarez, L. (1997). *Capital mobility and exchange market intervention in developing countries* (No. w6247). National Bureau of Economic Research.

Dua, P., & Sen, P. (2017). Capital flows and exchange rates: The Indian experience. In *Perspectives on economic development and policy in India* (pp. 193-216). Springer, Singapore.

Durham, J. B. (2004). Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth. *European economic review*, *48*(2), 285-306.

Errunza, V. (2001). Foreign Portfolio Equity Investments, Financial Liberalization, and Economic Development. *Review of International* Economics, *9*(4), 703-726.

Essien, E. A., & Onwioduokit, E. A. (1999). Capital flows to Nigeria: *Issues and determinants.*

Feldstein, M.S., & Horioka, C.Y. (1979). *Domestic Savings and International* Capital flows. Vol. 90, pp. 314-29.

Fernandez-Arias, E., & Montiel, P.J. (1995). *The Surge in Capital Flows to Developing Countries: Prospects and Policy Response*. World Bank Publications.

FitzGerald, E.V.K. (2001). Short-term capital flows, the Real Economy and Income Distribution in Developing Countries. *Short-term Capital Flows and Economic Crisis*, 29-51.

Forbes, K.J., & Warnock, F.E. (2012). Capital flow Waves: Surges, Stops, Flight, and Retrenchment. *Journal of International Economics*, *88*(2), 235-251.

Fostel, A., & Kaminsky, G.L. (2007). Latin America's Access to International Capital Markets: Good Behavior or Global Liquidity?

Fratzscher, M. (2012). Capital flows, push versus pull factors and the global financial Crisis. *Journal of International Economics*, *88*(2), 341-356.

Grenville, S. (2010). Central banks and capital flows. *Managing Capital Flows: The Search for a Framework*, 75.

Gujarati, N.D. & Porter. D.C (2010). *Essentials of Econometrics.* McGraw Hill; New York

ISSN: 2455-8834

Volume:09, Issue:08 "August 2024"

Gujarati, D. N. (2004). *Basic econometrics* (Fourth Edition). New York, The MacGraw-Hill

Hau, H., & Rey, H. (2004). Can portfolio rebalancing explain the dynamics of equity returns, equity flows, and exchange rates? *American Economic Review, 94*(2), 126-133.

Helmers, F. L. C., & Dornbusch, R. (Eds.). (1988). *The Open Economy: Tools for Policymakers in Developing Countries*. (pp 10-33) New York: Oxford University Press.

Ibrahim, B. M. (2017). *Effects of Capital Flows on Macroeconomic performance in the East African Countries* (Doctoral dissertation, School of Business, University of Nairobi, Kenya).

Jorgenson, D. W. (1963). Capital theory and investment behavior. *The American Economic Review, 53*(2), 247-259.

Kahn, R.B., Bennett, A., & Schadler, S.M. (1993) *Recent Experiences with Surges in Capital Inflows* (No. 108). International Monetary Fund.

Kawai, M., & Takagi, S. (2011). Why was Japan hit so hard by the global financial crisis? *The Impact of the Economic Crisis on East Asia: Policy Responses from Four Economies*, 131-48.

Kohli, R. (2003). Capital flows and domestic financial sector in India. *Economic and Political Weekly*, 761-768.

Kothari, C.R. (2004). Research Methodology; *Methods and Techniques.* New Age International Publishers, New Delhi.

Kurihara, Y. (2006). The relationship between exchange rate and stock prices during the quantitative easing policy in Japan. *International Journal of Business, 11*(4), 375.

Lucas, R.E. (1990). Why doesn't capital flow from rich to poor countries? *The American Economic Review, 80*(2), 92-96.

Macias, B.J. & Massa, I. (2009). "The Global Financial Crisis and Sub Saharan Africa: The Effects of Slowing Down Private Capital Inflows", *Working Paper* 304, Overseas Development Institute.

McKinnon, R. I. (1973). *The order of economic liberalization: Financial control in the transition to a market economy*. JHU Press.

ISSN: 2455-8834

Volume:09, Issue:08 "August 2024"

Mohan, R., & Kapur, M. (2010). 6. Liberalization and regulation of capital flows: lessons for emerging market economies. *Implications of the Global Financial Crisis for Financial Reform and Regulation in Asia*, 115.

Montiel, P. J. (2003). *Macroeconomics in Emerging Markets.* London: Cambridge University Press.

Mutua, J.M. (2000). *The domestic debt, exchange rate and capital flows problem in Kenya:* An empirical analysis. M.A. Thesis, Department of Economics, University of Nairobi.

Murshid, A. P., & Mody, M. A. (2011). *Growth from international capital flows: the role of volatility regimes* (No. 11-90). International Monetary Fund.

Mwega, F.M. (2014). Financial Regulation in Kenya: Balancing inclusive growth with financial stability. *Working Paper* 407

Ndung'u, N. (2001). *Liberalization of the Foreign Exchange Market in Kenya and the short-term capital flows problem* (Vol. 109). African Economic Research Consortium.

Nguyen, T.Q., Clements, M.B.J., & Bhattacharya, M.R. (2003). *External debt, public investment, and growth in low-income countries* (No. 3-249). International Monetary Fund.

O'Connell, S. A., Maturu, B. O., Mwega, F. M., Ndung'u, N. S., & Ngugi, R. W. (2010). Capital mobility, monetary policy, and exchange rate management in Kenya. *Kenya: Policies for Prosperity*, 172-208.

Osinubi, T. S., & Amaghionyeodiwe, L. A. (2009). Foreign direct investment and exchange rate volatility in Nigeria. *International Journal of Applied Econometrics and Quantitative Studies*, *6*(2), 83-116.

Ostry, J.D., Ghosh, A.R., Habermeier, K., Chamon, M., Qureshi, M.S., & Reinhardt, D. (2010). Capital inflows: The role of controls. *Revista de Economia Institutional*, *12*(23), 135-164.

