

Capital Flight and Exchange Rate Stability in Selected West African Countries

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Abstract

The study investigates the effect of capital flight on exchange rate stability in selected West African countries (Nigeria, Ghana, the Gambia, Liberia and Sierra Leone) from 1990 to 2022. The panel datasets, which include both time series and cross-sectional dimensions, were sourced from the financial statistics of the World Bank and IMF. The data analysis included descriptive statistics, the Im, Pesaran, and Shin (IPS) panel unit root test, a fixed effects model, and the Hausman test, among others. The IPS panel unit root test findings indicated that all variables are $I(0)$, hence mandating the acceptance of the null hypothesis of no unit root in the series. The calculated fixed effects model indicated that foreign direct investment negatively impacted exchange rate stability. This indicates that a rise in capital flight via FDI outflows jeopardises exchange rate stability in the Anglophone West African sub-region. The findings indicated that multilateral debt servicing adversely impacted exchange and price stability. This indicates that the expenses associated with multilateral debt, including interest payments and principle repayment, are harmful to the West African sub-region. This analysis shows that capital flight adversely affects exchange rate stability in Anglophone West African nations. Consequently, it is advisable for policymakers to limit FDI outflows by establishing a stable economic and political climate to enhance investor trust and provide more chances for exchange rate stability in the West African sub-region.

Keywords: Capital Flight, Exchange Rate, FDI, Debt Service, West Africa

Introduction

Inflows and outflows are the two main categories of capital flows. When money leaves the country, it is known as an outflow of capital. On the other hand, when money comes into the country, it is known as an influx of capital. Capital flight, the phenomenon of money leaving a country, has recently been the subject of a resurgence of interest in the field of international economics. The investment diversion theory put forth by Dunning and Robson (1988) state that, due to political and macroeconomic uncertainties in developing economies and the availability of better investment opportunities in developed economies, there is a rising outflow of capital from developing to developed nations. This goes against the grain of conventional neoclassical thinking, which holds that nations with plenty of capital send it to those with less, since the latter have a higher marginal productivity of capital.

Macroeconomic instability is a common occurrence in nations where money flows out at a faster rate, according to the existing research (Okerekeoti&Emeneka, 2022). The reasoning for this is that domestic activity and social welfare are not enhanced by the economic resources that leave a country due to capital flight. According to Leykun-Fisseha (2022), capital flight is not only a severe risk to Africa's macroeconomic stability, but it has also persisted in jeopardising social development, making it impossible for most African nations to achieve the sustainable development goals (SDGs). Consider Africa: it has the highest poverty rate in the world and ranks lower than other areas when it comes to healthcare access and basic social infrastructure (Ndikumana & Boyce, 2021).

There has been a great deal of capital flight from West African nations over the last 20 years, as has happened in other economic zones. Factors contributing to the high frequency and magnitude of capital outflows in the area include political unpredictability, economic uncertainty, and the growing degree of financial integration that facilitates international transfers of wealth among

West African nations. Nigeria was the continent's biggest beneficiary of capital flight, with an average value of \$41 billion, according to a UNCTAD study on African economic growth (2020). Net FDI outflows from Ghana as a proportion of GDP rose from 0.45% in 2015 to 0.79% in 2020, according to the International Monetary Fund's (IMF, 2021) Financial Statistics. All signs point to an increasing trend in the magnitude of capital flight in the nation during the last five years.

Illicit capital outflows have persisted in West Africa, impacting the region's economic prospects in different ways, despite various attempts by policymakers and monetary authorities to combat the problem. These efforts have focused on making doing business easier, developing the financial sector, and coordinating monetary policy. It is concerning that West African nations have very small capital and money markets. Another consequence of this is the outflow of wealth to nations with more advanced financial systems. The reason for this is that investors are expected to seek out alternative investments overseas that provide better yields. This will exacerbate the problem of capital flight in the nation, which in turn threatens economic development, job creation, and the value of the indigenous currency. Capital flight has been a major problem for the West African nations in recent years, despite the fact that their governments have continuously tried to entice international investment to their own countries. This research aims to analyse the effects of capital flight on exchange rate stability in the chosen West African nations, taking into consideration the information provided above.

Literature Review

Theoretical Literature

Capital will flow from nations with plenty of capital to those with few, according to the theory of capital flows, which is based on the work of Solow in 1956 and Swan in 1956. The high marginal productivity of capital in emerging nations with limited capital markets is the main reason for this capital outflow. Governments in developing nations have thus suggested loosening restrictions on capital transfers in order to attract more investment. For neoclassical economics, a number of reasons—poor savings, low income, and restricted growth—make it impossible to develop local resources and capital, hence the influx of capital is necessary.

Theoretically, developing countries might benefit in two main ways by removing or significantly lowering barriers to cross-border financial flows. The cost of capital across countries is often brought down first. The cost of capital often falls when the expense of transporting capital across borders reduces, which is especially beneficial for emerging countries because of their relative shortage of money. As for the second argument, it was suggested by Cole and Obstfeld (1991) that reducing the obstacles to international capital mobility may help local and foreign families better share risks. Kinda (2010) lays the groundwork for balancing marginal returns on capital by bringing attention to the neoclassical notion that capital should move from locations with much of capital to regions with less. In a capitalist free market system, when the returns to scale are declining, this is certainly doable.

The predictions of the neoclassical theory have, however, been met with scepticism in the literature. Janicka (2016) argues that the neoclassical hypothesis is founded on several illogical assumptions and depicts an ideal condition that cannot be realised in today's actual economy. By noting that capital mobility between India and the US did not follow the neoclassical assumption, Lukas (1990) argued against the empirical validity of the neoclassical expectations.

2.2 Empirical Literature

Using data from 23 different African nations, Mekongo, Ondoa, and Kenkouo (2023) studied how regional financial integration affected capital flight. This research examined the demand for

assets during a period of capital flight from 1996 to 2015 utilising panel data and a portfolio choice analysis using the system-generalized technique of moments. The results demonstrated that capital flight is mitigated by regional financial integration. When we include in the quality of leadership, this outcome takes on an even more intriguing character. Furthermore, the findings of the structural breakdowns analysis showed that regional financial integration had a mixed impact on capital flight throughout the research period.

Godagampala (2019) investigated the effects of capital flight on the currency rate and economic development in Sri Lanka from 1990 to 2017. Contrary to earlier research, this study found that capital flight actually boosted economic growth in a number of countries, including Sri Lanka. However, it had a negative and statistically significant effect on the exchange rate. Conclusions and suggestions for addressing the threat of capital flight were drawn from the research. Sri Lanka was singled out for particular attention.

Using panel secondary data, Shem, Naftaly, and John (2022) looked examined the impact of exchange rate disparity on capital flight in East African nations from 1988 to 2018. In order to examine the connection between the research variables, the study used ordinary least squares estimation. According to the study's calculations, capital outflow in East African nations was favourably impacted by exchange rate. Capital outflow was likely affected by currency depreciation because of the positive relationship between currency change and capital outflow. People would likely flee to foreign markets and assets to escape the negative effects of a rapidly depreciating currency, which erodes the trust of domestic investors to keep local currency. The use of both the linear and nonlinear autoregressive distributed lag (ARDL) cointegration approaches. They showed that capital flight was more affected by Egypt's real exchange rate undervaluation, and that, in the long term, the Arab Spring has led to more capital flight in both Egypt and Morocco. Factors impacting capital flight in Tunisia were institutional quality and lagged values of capital flight, but in Morocco it was the real GDP growth rate and inflation.

Bosupeng Dzator and Nadolny (2019) looked at how Botswana's capital fled the country due to exchange rate mismatch. For Cointegration, the researchers utilised the autoregressive distributed lag (ARDL) method, and for Granger causality, they followed the steps outlined by Toda and Yamamoto (1995) current account imbalances led to Botswana's currency becoming misaligned. Their key results demonstrated that, over the long term, when the currency was overvalued, trade misinvoicing reduced capital flight and that greater foreign reserves had little effect on this phenomenon. On the other hand, capital flight via trade misinvoicing increases when the currency is devalued, whereas capital flight through foreign reserves decreases. Botswana should only allow pula overvaluation of up to 5%, according to the report. Overvaluation of the pula exceeding 5% leads to a significant surge in capital flight. According to the research, the government should set trade laws and keep an eye on goods going in and out of the country. To prevent money laundering and keep its currency independent, Botswana should also impose capital restrictions.

In the same vein, Kolawale and Sabo (2016) conducted an empirical examination of the impact of capital flight on the currency rate in Nigeria. We used ADF and PP to check for stationarity in the time series data. The results of a cointegration test showed that the Nigerian exchange rate and capital flight are related over the long term. Capital flight was shown to have a short-run association with exchange rate, according to the Error Correction Mechanism. Foreign reserves and exchange rate are significantly and negatively correlated, according to the research. This suggests that a decline in foreign reserves occurs in tandem with a rise in capital flight. According to the study's conclusions, steps should be taken to ensure that Nigeria's foreign reserves do not run dry.

Capital flight and the influence of the currency rate were studied by Ellyne and Mbewe (2015) in Zambia, South Africa, and Nigeria. Capital flight and the exchange rate were examined using an ex-post facto research methodology using Granger's (1969) causality test. To assess whether a long-run link existed, the study used the Johansen (1988) Method of Cointegration. Using three case studies spanning 1970–2010, VECM was used to ascertain the short-run dynamics in Nigeria, South Africa, and Zambia. The findings of the granger causality test indicated that the relationship between capital flight and the real exchange rate was only valid within the time period that was analysed. Therefore, it should not be assumed that this relationship would persist in other time periods. Portfolio concerns prompted investors to flee South Africa and Zambia with their money, while investors in Nigeria and South Africa were anticipating currency depreciation and long-term currency appreciation, respectively. Other results demonstrated that capital flight from Zambia, South Africa, and Nigeria was exacerbated by other macroeconomic policy mistakes, such as inflation uncertainty and foreign direct investment.

Research by Uguru, Ozor, and Nkwagu (2014) investigated the connection between Nigeria's volatile currency rate and capital flight. The research strategy used in the study was an ex-post facto one. Given the quantitative character of the data (secondary data), the research used the parametric statistical methods of Ordinary Least Squares (OLS). We developed the empirical model that accounts for the nexus between capital flight and exchange rate in order to reflect the interaction between the two in Nigeria. The capital flight coefficient was positively signed and had a very high level of statistical significance at 1%. That meant the exchange rate in Nigeria went up by one unit for every unit rise in migration of capital. This proved that the amount of money leaving Nigeria had an effect on the currency rate.

Methodology

A research design known as ex-post facto was used in this study. This study's use of panel data—which integrates cross-sectional and time series units—is what makes the ex-post facto research method attractive. Panel data, which includes both time series and cross-sectional units, are used in this research. The sample population consists mostly of countries in West Africa that use English as a second language, such as Sierra Leone, Ghana, Nigeria, and the Gambia. There is data on the currency rate and capital flight in the time series as well. What follows is the model's functional specification:

$$EXR = f(FDIF, MDS, PIP, NFA) \quad (1)$$

Where: EXR = Exchange rate stability, FDIF = foreign direct investment flows, MDS = multilateral debt service, PIP = personal income payments to non-residents and NFA = net financial account flows. Following the nature of this study, the static panel models involving pooled, fixed effects and random effects are specified accordingly; Pooled regression models:

$$EXR_{it} = \beta_0 + \beta_1 FDIF_{it} + \beta_2 MDS_{it} + \beta_3 PIP_t + \beta_4 NFA_{it} + \epsilon_{it} \quad (2)$$

Where: β_0 = constant parameter to be estimated, β_1 – β_4 = slope parameters to be estimated and ϵ_{it} = error term, $i = 1, \dots, N$, $t = 1, \dots, T$, i = cross-sectional units including the selected countries in ECOWAS and t = time frame (1990 to 2022). Fixed effects models:

$$EXR_{it} = \beta_0 + \beta_1 FDIF_{it} + \beta_2 MDS_{it} + \beta_3 PIP_t + \beta_4 NFA_{it} + U_i + \epsilon_{it} \quad (3)$$

Where: U_i = fixed effects (individual effects), The null and alternative hypotheses tested under the fixed effects models are provided as follows:

$$H_0: U_1 = U_2 = U_3 = U_4 = U_5 = 0$$

$$H_1: U_1 \neq U_2 \neq U_3 \neq U_4 \neq U_5 \neq 0 \quad (4)$$

The Random effects model is:

$$EXR_{it} = \beta_0 + \beta_1 FDIF_{it} + \beta_2 MDS_{it} + \beta_3 PIP_t + \beta_4 NFA_{it} + U_i + v_{it} \quad (5)$$

Where: U_i = Random effects (individual effects) and v_{it} = Remainder disturbance term

This study employed the Im-Pesaran-Shin (IPS, 2003) panel unit root test to evaluate the alternative hypothesis of no unit root in the panel data against the null hypothesis of a unit root, assuming an individual unit root process. This study employed the Rao (1999) method of co-integration panel based on residuals for the co-integration root test. This method accommodates variations in individual effects, slope coefficients, and linear trends across nations. The least squares dummy variable (LSDV) estimator and the within regression estimator were utilised for estimating the fixed effects model. Mundlak (1961) and Wallace and Hussain (1986) proposed estimating fixed effects, particularly in the one-way error component model, where intercept coefficients vary across individual units while slope coefficients remain homogeneous. The random effects model was estimated using quasi-demeaning generalised least squares (GLS) and maximum likelihood (ML), as proposed by Balestra and Nerlove (1966). The analysis characterises the individual effect as random. The selection of the suitable model between the fixed effects and random effects models was determined by the outcomes of the Hausman (1978) test.

Data Analysis, Results, and Discussion

This study employed the IPS panel unit root test. Results are presented in Table 1.

Table 1: Summary of IPS Panel Unit Root Test Results

Variable	Levels Test Results	1 st Diff. Test	Number of Panels	Order of Integration
EXR	-1.7525** (0.0398)	-	5	I(0)
FDI	-6.0504*** (0.000)	-	5	I(0)
MDS	-1.6952** (0.0450)	-	5	I(0)
PIP	-1.9977** (0.0229)	-	5	I(0)
NFA	-5.438*** (0.0000)	-	5	I(0)

Source: STATA 17 output

Note: *** p<0.01, ** p<0.05, * p<0.1 denote significant at 1%, 5% and 10% level respectively

The IPS panel unit root test results indicate that the exchange rate is stationary at the 5% significance level. The evidence of stationarity within the series formed the foundation for rejecting the null hypothesis. The findings indicated that foreign direct investment and multilateral debt service exhibit stationarity at the 5% significance level. Also, at the 5% level of significance, there was proven evidence of stationarity for net financial account flows, personal income transfers to non-residents, and multilateral debt service. This finding requires the rejection of the null hypothesis of a unit root. As a whole, the variables were found to be integrated of order zero, I(0), according to the product root test. This finding may be ascribed to the use of short panels in the investigation.

Model Estimation

Table 2 presents the pooled regression, fixed effects, random effects, and the corresponding statistical test results for each model.

Table 2: Static Panel Regression Results

Dependent variable: EXR			
VARIABLES	POLS	FE	RE
FDI	-0.242*** (0.085)	-0.298 (0.425)	-0.242*** (0.085)
MDS	0.0272 (0.248)	-0.445** (0.170)	0.0272 (0.248)
PIP	0.0930 (0.0885)	0.0257 (0.0716)	0.0930 (0.0885)
NFA	-26.21** (11.85)	6.816 (10.34)	-26.21** (11.85)
Constant	55.35*** (13.77)	72.61*** (15.33)	55.35*** (13.77)
Observations	165	165	165
R-squared	0.5418	0.6243	0.6020
Number of crossid		5	5
F-test	11.74		
Prob.(F-stat.)	0.000		
F-test(u_i=0)		37.13	
Prob.>F-(u_i=0)		0.0000	
Chi-square(var(u_i=0))			6.97
Prob.> chi2(var(u_i=0))			0.1374

Source: STATA 17 output

Note: *** p<0.01, ** p<0.05, * p<0.1 denote significant at 1%, 5% and 10% level respectively

Table 3: Hausman Test Results

Variable	Fixed	Random	Difference	Std. err.
FDI	-.2982625	-.2419976	-.0562649	.07564
MDS	-.4447137	.0272077	-.4719214	.1068797
PIP	.0256696	.0930497	-.0673801	.05672
NFA	6.816138	-26.21047	33.02661	2.026797

Source: STATA 17 Output

$\chi^2(4) = (b-B)'[(V_b - V_B)^{-1}](b-B) = 39.93$

Prob > $\chi^2 = 0.000$

The findings of the Hausman test were used to determine whether model, the fixed effects or the random effects, was more suitable. While Hausman's test was used to validate the results, only the fixed effects model was found to be significant, making it the recommended model. The results of the Hausman test show that the chi-square statistic (39.93) has a probability value of 0.000, which is less than 0.05. This provides further evidence that the fixed effects model was the right decision and provides the foundation for the interpretation. Although the data demonstrated that FDI has a negative impact on the exchange rate, this effect is not statistically significant at the 5% level. The calculated parameters led to the conclusion that there is a 0.298 percent drop in

the currency rate for every one percent rise in FDI outflows. Because less foreign currency is needed to support the local currencies of the chosen nations, they devalue as foreign investment flows out of them. Results also showed that multilateral debt payment has a negative and statistically significant influence on the currency rate. As the percentage rise in multilateral debt payment increases, the currency rate depreciates by 0.445%, according to this result. This can be because the West African subregion continues to incur substantial debt service costs while receiving financial inflows. Over the course of the research period, however, net financial flows and personal income transfers to non-residents had a favourable effect on the exchange rate. The results do not have statistical significance at the 5% level. With an R-squared value of 0.624, we can see that shifts in the capital flight indicators—foreign direct investment, servicing of multilateral debt, personal income paid to non-residents, and net financial account flows—could account for around 62.4% of any given exchange rate fluctuation. Furthermore, at the 5% level of significance, the Chi-square statistic (37.13) is linked to a statistically significant probability value (0.0000). This confirms that the calculated fixed effects model is statistically reliable for making long-term predictions and formulating policies.

Conclusion and Recommendations

The research examined the impact of capital flight on the stability of currency rates in a number of West African nations, including Nigeria, Ghana, the Gambia, Liberia, and Sierra Leone. Academics, researchers, and politicians in the West African subregion have long recognised the effects of capital flight on macroeconomic targets, and this development followed in their footsteps. Results reveal that foreign direct investment has a negative effect on currency rate stability. Exchange rate stability in the anglophone West African sub-region is undermined by a rise in capital flight, namely in the form of FDI outflows. Exchange and price stability were also significantly impacted by multilateral debt servicing, according to the research. This clarifies how the West African subregion bears the brunt of the interest and principal payback expenses associated with multilateral debt. This study's results suggest that capital flight undermines the stability of West African nations whose official languages are English and French. To reduce the outflow of foreign direct investment (FDI), officials in the West African subregion should work to stabilise the economy and government so that investors feel safe investing there and so that there are greater chances for stable exchange rates.

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