INTERNATIONAL JOURNAL OF BANKING AND FINANCE

https://e-journal.uum.edu.my/index.php/ijbf

MACRO-ECONOMETRIC ANALYSIS OF INWARD CAPITAL FLOWS: A CASE OF NIGERIA IN TIMES OF SECURITY CHALLENGES

[1]Kingsley Onyekachi Onyele, [2]Eberechi Bernadine Ikwuagwu & [3]Happy Chukwudike Ibe

[1]Department of Banking and Finance, Rhema University Aba, Abia State, Nigeria
[2&3]Department of Banking and Finance, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

[1]*Corresponding author: kingsleyonyele@gmail.com*

ABSTRACT

This study used quarterly data for the period of 2014Q1–2021Q2 to investigate the macro-econometric implications of capital flows to Nigeria in the face of security challenges. The ARDL bounds test technique identified the long-run relationships between macroeconomic dynamics, insecurity, and total capital inflows to Nigeria, while the error correction mechanism (ECM) identified the short-run relationships. The Toda-Yamamoto test was used to determine whether the model variables were causally related or not. The findings pointed to a short-term negative relationship between insecurity, exchange rates, lending rates, and inflows of capital, while a positive relationship was found between industrial production capacity, the consumer price index, and the total inflows of capital to Nigeria, with insecurity, exchange rates, the consumer price index, and lending rates being the most significant variables. In the long run, insecurity, lending rate, and consumer price index had no significant impact on inward capital inflows, while exchange rate and industrial production capacity exerted significant impacts on capital inflows. The lending rate had a negative impact on overall inflows of capital, whereas the exchange rate, industrial production capacity, and consumer price index had positive impacts. The exchange rate and industrial production capacity were the most important variables that affected capital inflows. Based on the ECM, it was realized that aggregate inward capital flows were stabilized by a factor of roughly 47.2% per quarter in order to reach long-run equilibrium. The Toda-Yamamoto causality tests indicated that the interactions between macroeconomic variables and insecurity strongly influenced capital flows to Nigeria. The overall findings suggested that promoting macroeconomic stability and combating insecurity could improve the investment climate, encouraging foreign capital flows into Nigeria.

INTRODUCTION

Nigeria is listed as one of the most terrorized countries in the world, ranking 143 out of 163 countries in global peacefulness based on data from the Global Peace Index (GPI) released in 2022 (GPI, 2022). As a result, net capital inflows to Nigeria has down trending due to heightened insecurity and exchange rate depreciation that led to macroeconomic instability (Oji, 2021). The net capital inflows as reported by the National Bureau of Statistics (NBS, 2021) depicts that capital inflows into Nigeria has depleted in recent years (refer Figure 1). Financial experts predict that if the security constraints limiting the nation's macroeconomic environment remain unaddressed, the risky state of the financial market could intensify significantly (Ozoigbo, 2019). Experts have also stated that until the government develops fresh plans to strengthen Nigeria's security and macroeconomic institutions, increased insecurity will continue to hurt the naira and industrial output, causing inflationary pressure, and resulting in low capital inflows. Due to these economic menaces, the World Bank has suddenly revised its economic growth projection for Nigeria from 3.2 percent to 2.9 percent in June 2022 (World Bank, 2022).

Figure 1

Trend of Inward Capital Flow and Insecurity in Nigeria
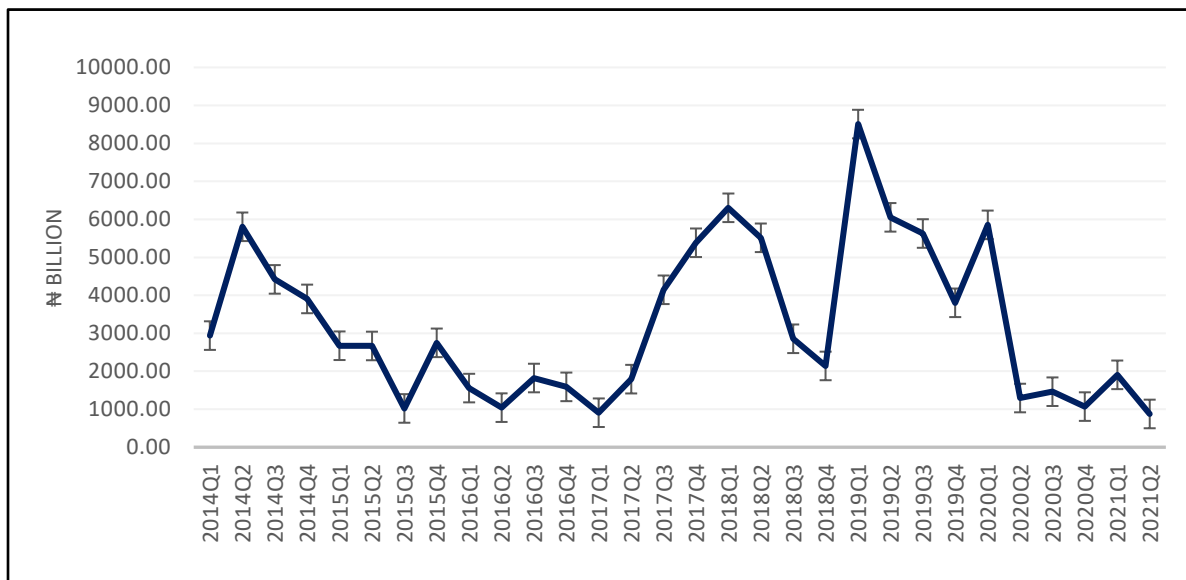
Sources: National Bureau of Statistics, 2021.

\

Inward capital flows deals with inflows from abroad in the form of direct investments, portfolio investments and other investments such as trade credits. These inflows, no doubt, help in ensuring financial stability in any economy. Apart from being a major source of foreign exchange, it provides the needed liquidity and jobs in the recipient economy. It also determines the level of economic growth that would be achieved over period of time (Lee & Sami, 2019). A decrease in inward capital flows is an indication that an economy is passing through tough times or losing investor confidence. The more capital inflows a country receives, the more it has access to foreign exchange for international trade

(Cayir, 2021). According to Onyele et al. (2017), Nigeria experiences a consistent decline in its inward capital flows because its foreign exchange policies have not been favourable to foreign investors coupled with the persistent volatility of the naira - US dollar exchange rate, leading to excessive capital flight. For most foreign investors, as long as the exchange rate remains unstable, they are not likely to bring in investible financial resources. Hence, the macroeconomic instability discussed in this study is a foreign exchange leadership problem.

Nigeria's macroeconomic environment, the sociopolitical climate and investments are seriously threatened by security issues (Awa, 2020). The heightened security challenges in Nigeria comes with a cost. Rather than investing in Nigeria, investors now divest to economies where a return on investment is assured. Many of the states in Nigeria have such high levels of insecurity that doing business is financially disadvantageous and deters potential investors from making decisions in an environment of uncertainty and turmoil. As a result, the aim of this study is to investigate the collective effect of macroeconomic aggregates and insecurity on Nigeria's inward capital flows. This study is significant to investment practitioners and the government as it explores the extent to which the macroeconomic environment and insecurity influences the much needed capital inflows, which has important implications for risk management and economic policy advancement. More specifically, knowledge of capital flows is important because it is directly associated with the level of growth in the domestic economy (Adebayo et al., 2021; Amire, 2021; Ayoola, 2022). As such, establishing the amount of investments to make should be based on knowledge of the extent of macroeconomic stability and security in the domestic economy.

This study aims to achieve three main objectives. The first is to capture comprehensively, the impact of insecurity on capital inflows into Nigeria. The second objective seeks to examine the impacts of macroeconomic dynamics on capital inflows into Nigeria and the third is to identify the direction of causality between insecurity, macroeconomic dynamics, and capital inflows into Nigeria. This study further divides into four sections, in addition to the introductory section. In Section 2 extant conceptual, theoretical and empirical literature were reviewed while the methodological framework upon which the empirical investigation would be conducted was provided in Section 3. In Section 4, estimations of empirical model were undertaken and findings were discussed while conclusions were reached and policy suggestions were proffered in Section 5.

LITERATURE REVIEW

Insecurity in Nigeria: Stylized Facts

The various dimensions of security threats in Nigeria pose diverse risks to investments. Cases of kidnapping have gained prominence in Nigeria (see Figure 2). People have been kidnapped all over the country recently (Ikezue, 2023). The most celebrated kidnapping was the 276 Chibok girls that were abducted from their school in Borno State, Nigeria in 2014 by the Boko Baram terrorist group. Since then, there have been a number of other significant kidnappings. The same terrorist organisation abducted 110 Dapchi girls in March 2018. After that, criminal groups began kidnapping people at random to extract ransom from the victims or their families.

According to the United Nations Development Programme (UNDP), Northeast Nigeria's insurgencies had taken the lives of nearly 350,000 people as of the end of 2020 (UNDP, 2021). Tanko (2021) reported that Boko Haram (a terrorist group in Nigeria) had seized several territories and levied taxes on

agricultural products, they now control the once, booming international fish market in the Chad Basin. The challenge is made more difficult by Nigeria's ungoverned spaces--remote areas that are largely ignored, where various militant groups have seized to torment rural communities without fear of reprisal (Awa, 2020; Ebipre & Wilson, 2020). In the Southeast, the Indigenous People of Biafra (IPOP) gave a sit-at-home order (every Monday) to demand the release of its leader, Nnamdi Kanu, from prison, resulting in the loss of lives, properties of residents and businesses (Odeniyi, 2023). The violent agitators for resource control in the Niger Delta include the activities of various militia groups such as the Movement for Emancipation of the Niger Delta (MEND), the Ijaw Youth Council (IYC), Mgbonyenbi and Emeni (2020) likened these struggles to the 'resource curse', the tendency of natural resource reliance to hinder growth, increase inequality and poverty for a larger majority of the populace. Figure 3 depicts the number of casualties from the various security challenges between 2014 and 2021 in Nigeria.

Figure 2

Number of Kidnapping Cases and Victims
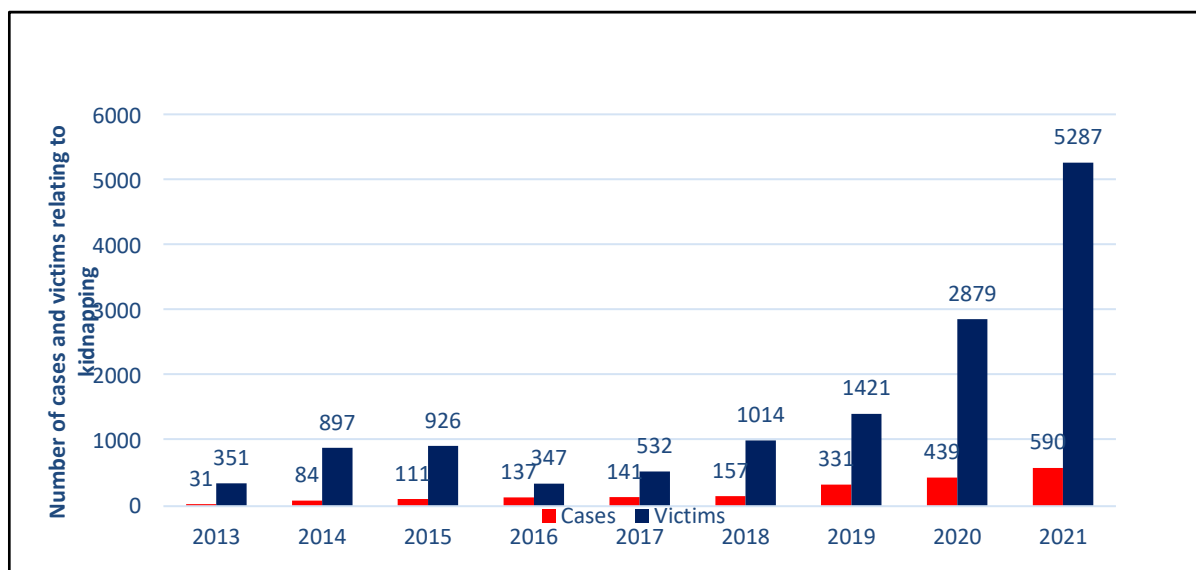
Source: International Centre for Investigative Reporting (ICIR) https://www.icirnigeria.org

In response to the rising state of insecurity in Nigeria, the government has been allocating much of its resources to defence and security-related expenditure (refer Figure 4). These allocations represent large sums of money that should have been invested in key economic sectors like education and health (Onyele & Ariwa, 2020). The exorbitant defence expenditure, which primarily relies on foreign procurement, has a negative economic impact and further devalues the Naira (Ayodele & Tomisin, 2021). The country has also witnessed how agricultural produce in Benue (the food basket of the nation) and a number of other states has been badly depleted by the incessant herdsmen-farmers clashes. This protracted security challenge has affected businesses who that, due to the uncertainty created by insecurity, put off investment decisions in Nigeria. Under such an economic climate, creativity is discouraged as innovation takes a back seat despite being a driving force for economic advancement, leading to a high rate of brain drain through mass emigration to western countries for safety (Aderemi, 2019). As such, the government's inability to put an end to the security challenges has created a feeling of hopelessness and helplessness, especially in the areas that are vulnerable (Omole, 2020).

Figure 3

Annual Number of Fatalities Arising from Security Challenges

Source: https://www.cfr.org/nigeria/nigeria-security-tracker/p29483
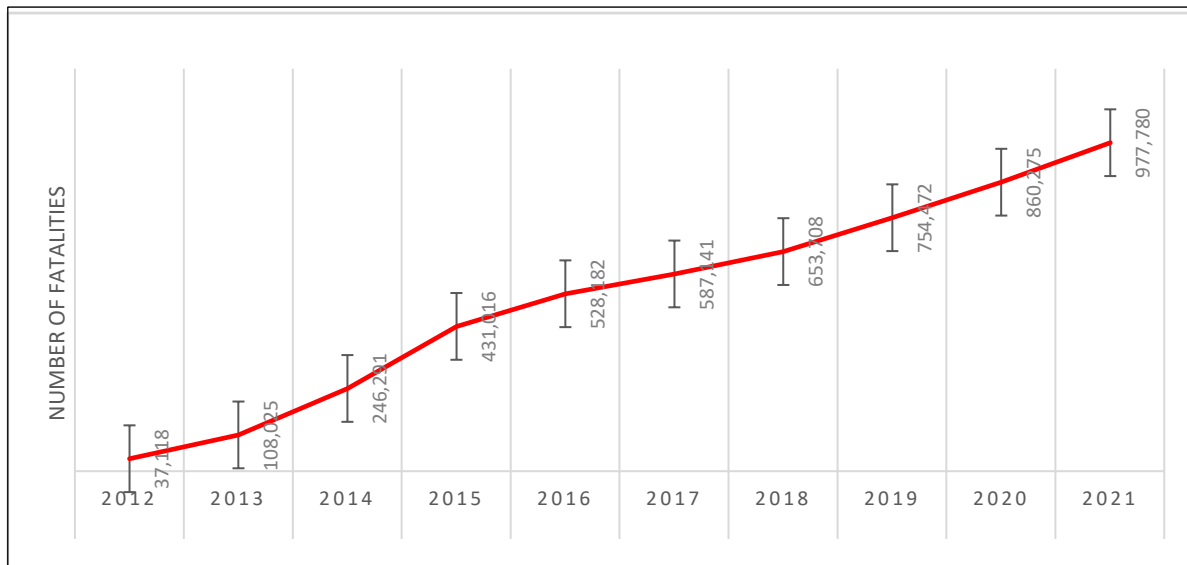
Figure 4

Annual Government Expenditure on Internal Security
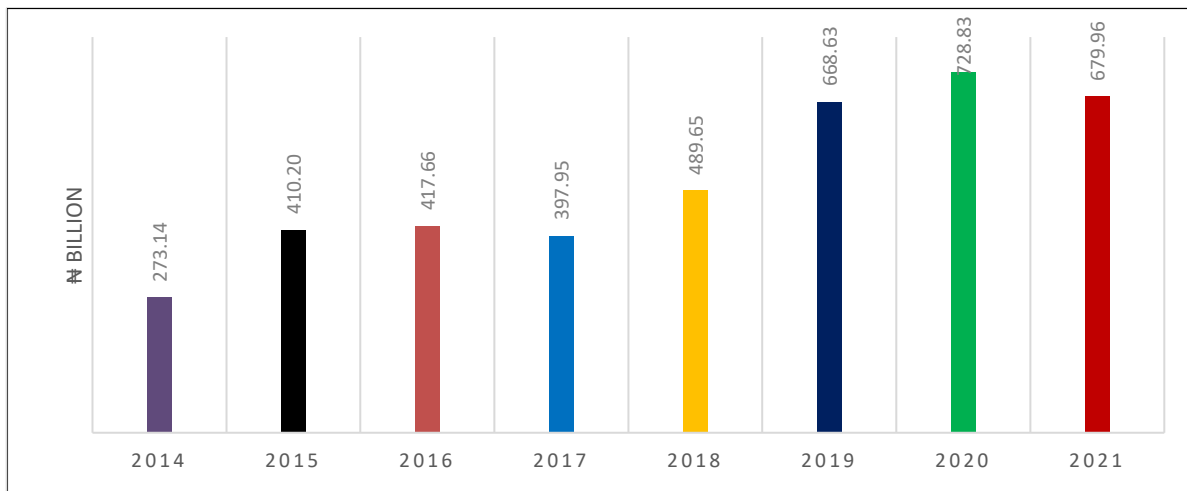
Source: CBN statistical bulletin, Vol. 32, 2021

Theoretical Underpinning: The Neoclassical Theory vs. Lucas Paradox

The neoclassical theory holds that a liberalised financial market improves efficiency of capital allocation and implies that capital should flow from wealthy to poor countries. Assume, for the purposes of discussing economic growth, that the economy is small and open, with explicit production factors for labour and capital (K and L), and that production follows a constant return to scale function of the following form:

$$y_t = A_t f(k_t l_t) \tag{1}$$

Where,

A_t = technology parameter
y_t = output per worker
k_t = capital per worker; and
l_t = Labour

Each factor must be compensated at the value of its marginal product in a production of homogeneous commodities under perfect competition. Because of this, the requirement for the capital market equilibrium must also be met at steady state:

$$A_t f'(k_t) = r_t^{neo} \tag{2}$$

Where,

r_t^{neo} = is the domestic interest rate associated with capital per worker ratio

$A_t f'(k_t)$ = is the net depreciation of marginal product of capital per worker.

Imagine that capital is completely movable across national boundaries, allowing enterprises to tap into international savings without home savings restricting investments. Here, the scenario of a small open economy dealing with an indefinitely elastic supply of capital at the global interest rate (rw) is considered. Foreign capital would flow into a nation if the initial level of the capital stock to labour ratio's related rate of return on capital was higher than the world interest rate. Neoclassical theory, which is based on liberal capital movements, states that significant capital transfers from industrialised to developing countries should be seen as a result of the capital's diminishing returns (Solow, 1956).

Contrarily, Lucas (1990) noted that capital moved from developing to developed nations, refuting the neoclassical postulation. The literature argues that the neoclassical assumptions do not apply in practice because market failure and distortions may prevent efficient capital allocation, which explains the paradoxical behaviour of capital flows. As a result, the capital influx to poor and developing economies is less than the neoclassical model can account for. In the words of Alfaro et al. (2008), theoretical explanations for the Lucas paradox are divided into those that emphasise flaws in the capital market and those that focus on basic production issues. Numerous academics have focused on Lucas' claims, and an extensive empirical study on the capital flow allocation conundrum has been conducted. Lucas (1990) outlined his justification using the following one-sector model. Let equation 3 represent the production function, with the variables labor (L) and capital (K) standing for the output:

$$y = f(L; K) \tag{3}$$

Also, let p represent the price of goods, and r and w denote returns on capital and labour, respectively. Then, firms profit maximisation gives:

$$r = p \partial f(L,K)/\partial K \ = \ p \partial f(1, K/L)/\partial\ K \tag{4}$$

The domestic price is equalised between nations with unrestricted trade flow. According to the theory of diminishing marginal products, countries with lower capital intensity should have higher returns (r). Lucas gave the example that the return on capital in developing nations needs to be larger than that in developed nations. Lucas argued for significant capital transfers from rich (developed) to poor

(developing) countries with a return difference in favour of the latter. The Lucas paradox refers to the fact that this claim is false in practice. Several approaches, such as seeing human capital as a novel production element and taking sovereign risk into account, include thinking of a worker in a rich country as effectively equivalent to many workers in a poor country (Ju & Wei, 2006). The dynamics of macroeconomic elements and security threats, however, may be important aspects that support the Lucas paradox, according to further studies.

Conceptual Framework

Conceptual framework shows the association between the independent and dependent. Insecurity (measured by the number of fatalities), exchange rate, industrial production capacity, consumer price index and lending rate are the independent variables, while the dependent variable is the total inward capital flows. Figure 5 provides a diagrammatical illustration of the conceptual framework of macroeconomic dynamics, insecurity and the inward capital nexus.

The fact that inward capital flows may dramatically decrease in a capital-scarce economy like Nigeria for a number of obvious reasons is of importance to this study. When domestic investors move their investments abroad, the economy experience low inward capital flow or capital flight (Onyele et al., 2017). Macroeconomic instability accounts for this abrupt change in the direction of capital flows, which causes low rates of return as investors move their money away from such an economy in pursuit of higher yields (Al-Smadi, 2018). This will result in a loss of domestic investment capital, low industrial productivity, high domestic prices, little foreign exchange activity, and a decline in the value of the currency (IMF, 2016).

Figure 5

Conceptual Framework
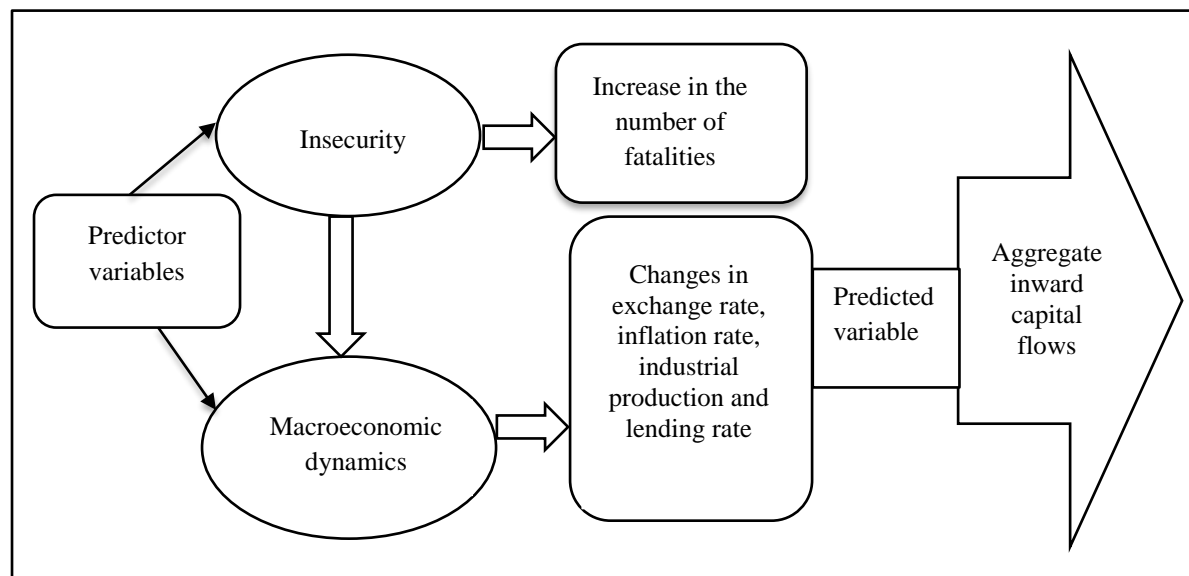
In this scenario, due to the declining money supply and rising loan rate, there would be fewer investments and a higher unemployment rate (Adekunle et al., 2020). If this scenario is allowed to persist, the local economy would collapse, resulting in a high incidence of poverty, and people would start to engage in all kinds of social vices like kidnapping, armed robbery, oil theft and pipeline

destruction, thuggery, and other violent behaviours that would cripple the security apparatus and further degenerate to serious security challenges over time, which is not good for a country like Nigeria seeking inward capital (Obiekwe, 2018). Spending by the government on arms and ammunition to address the issue of insecurity will instead cause capital outflows rather than inflows.

If a country is labelled as insecure, foreign investment would decline as a result of the loss of foreign investors' confidence brought on by acts of insecurity that result in the loss of human life and injuries. In addition to the immediate effects of insecurity, security issues generate economic disruptions that may manifest days, weeks, or months after the loss of lives and property. Economic behaviour is altered by insecurity, mostly by modifying patterns of consumption and investment as well as by diverting domestic resources away from economically beneficial endeavours (Bardwell & Igbal, 2021). Therefore, this study combines both macroeconomic factors and insecurity (number of fatalities) in a single model.

Review of Related Empirical Literature

There are several empirical works on the subject discussed in this paper. Many of these studies provide evidence as to why sufficient capital is not flowing from rich countries to poor countries, as predicted by Lucas's (1990) paradox. The review contains studies that show how macroeconomic conditions affect capital inflows, while the others show how insecurity affects capital inflows. The major gap found in the empirical review is the fact that most of the Nigerian studies reviewed did not consider the effect of insecurity, and the few studies like Ayoola (2022); Essien et al. (2015) and Igbadoo et al. (2023) that looked at the effect of insecurity did not consider the macroeconomic perspective in their analysis. Hence, the present study considered the collective effect of insecurity and macroeconomic variables on capital flows to Nigeria. Also, most of the studies for Nigeria largely considered FDI, which is only an aspect of inward capital flows[1]: hence, the current study focused on the aggregate figure of inward capital flows to Nigeria. A summary of these studies highlighted in Table 1.

Table 1

Empirical Evidence of the Effects of Insecurity and Macroeconomic Aggregates

	Model	Period	Country	Findings
Igbadoo et al. (2023)	Systematic review	-	Nigeria	Insecurity and laws significantly affect FDI.
Le et al. (2023)	GMM	1990 -2020	Asia-Pacific nations	Political stability had a negative effect on FDI.
Feng et al. (2023)	Panel least squares	2010 - 2020	45 economies	FDI showed a flight to safety phenomenon.
Nwagu (2023)	ARDL	1986 - 2020	Nigeria	GDP, exchange rate and MPR determined FDI.
Magoane et al. (2023)	NARDL	1995-2020	South Africa	Political risk rating and exchange rate affected FDI.
Ayoola (2022)	Descriptive	1999 - 2014	Nigeria	Insecurity discouraged FDI inflows.
Hassan (2022)	Panel least squares	1991-2020	Visegrád countries	Country risk mattes for FDI inflows.
Adebayo et al. (2021)	ARDL	1981 - 2018	Nigeria	Exports and trade openness enhanced FDI.
Hogetoorn & Gerritse (2021)	Panel least squares	1995 - 2019	116 countries	Firms divest from countries marred by terrorism.

(continued)

	Model	Period	Country	Findings
Odili & Onyele (2019)	ARDL	1986 - 2019	Nigeria	Banking sector and stock market development discouraged capital flows.
Bardwell & Igbal (2021)	Cost accounting method	-	163 countries	Increase in terrorism decreased investments.
Wijaya et al. (2020)	VECM	1981 - 2018	Gulf Cooperation Council (GCC)	GDP, inflation rate, interest rate, debt and exchange rate influenced largely FDI.
Ukachukwu & Odionye (2020)	ARDL	1981 - 2017	Nigeria	Volatilities of exchange rate and crude oil price significantly influenced FDI.
Nassour et al. (2020)	Panel least squares	1984-2017	MENA countries	There was a significant negative relationship between politics and FDI.
Artantaş & Sipahi (2020)	OLS	1994 - 2018	Turkey	Government deficit and exchange rate were the major determinants of FDI.
Kambou & Khariss (2020)	OLS	2015 - 2018	Burkina Faso	Terrorism did not explain the changes in FDI inflows
Akhtaruzzaman (2019)	Panel least squares	2000 -2017	Developing countries	The risk of expropriation reduced FDI.
Aderemi (2019)	OLS	1990 -2016	Nigeria	Exchange rate volatility had a marginal effect on capital flows.
Mistura & Roulet (2019)	Gravity model	1997 -2016	Sample of 60 countries	Reforms liberalizing FDI had varying effects.
Tellez-Leon & Ibarra (2019)	VAR	1995 -2018	Mexico	Increase in US interest rate, higher global risk aversion and liquidity shocks decreased FPI.
Lipovina-Božović & Ivanovic (2018)	SVAR	2005 - 2017	Montenegro	Foreign output, interest rate differentials and Euro area risk sentiment significantly influenced FDI and FPI.
David & Ampah (2018)	ARDL	1990 - 2012	SSA countries	Investors' perception of government policies and macroeconomic swings caused capital outflows.
Al-Smadi, 2018	OLS	2000 - 2016	Jordan	Unstable macroeconomic environment and risk diversification reduced FPI.
Jehan & Hamid (2017)	GMM	1980 - 2013	Developing countries	Exchange rate volatility caused a diminishing impact on physical and financial inflows.
Nwokoye & Oniore (2017)	ARDL	1994 - 2015	Nigeria	Capital flows was majorly determined by money supply, nominal exchange rate, inflation rate and interest rates spread.
Nwosa & Adeleke (2017)	E-GARCH	1986 - 2016	Nigeria	GDP and trade openness determined FDI while interest rate and stock market capitalization explained FPI.
Kisto (2017)	VECM	1975 - 2015	Mauritius	Exchange rate diminished FDI inflows while interest rate increased it.

(continued)

	Model	Period	Country	Findings
Dembo & Nyambe (2016)	ARDL	1984 - 2014	Namibia	Exchange rate volatility diminished FDI in the short-run.
Erkekoglu & Kilicarslan (2016)	Panel least squares	2002 -2012	91 countries	Heightened political risks reduced FDI.
Waqas et al. (2015)	GARCH (1,1)	2000 – 2012	China, India, Pakistan and Sri Lanka	Inflation and GDP significantly influenced portfolio volatility.
Essien et al. (2015)	Descriptive	1999 -2013	Nigeria	Insecurity hindered FDI inflows.
Iida (2015)	Descriptive	2000 -2013	East Asian countries	Protests against Japanese firms in China increased divestments to Southeast Asia.
Mokhele (2015)	Indigenous method	2000 -2012	South Africa	Political risks did not significantly influence FDI
Kinyanjui (2014)	OLS	2010 -2012	Kenya	Terrorism reduced FDI

METHODOLOGY

Sources and Description of Data

This study used quarterly data spanning from 2014Q1 to 2021Q2 to assess the relationship between macroeconomic dynamics and inward capital flows to Nigeria in the face of security challenges. The justification for using quarterly data was hinged on the fact that the incessant Nigerian security challenges were more pronounced in 2014 with the adoption of the Chibok girls in Borno State. Therefore, we used quarterly data to ensure sufficient observations between 2014 and 2021, which aligned with the dynamics of time series analysis.

Table 2

Sources and Description of Data

Data	Sources	Description
Inward capital flows (CPF)	NBS quarterly publication on Nigerian capital importation	Measured as the logarithm of aggregate foreign capital flows to Nigeria.
Insecurity (INS)	Nigeria Security Tracker	This is gauged by the number of deaths as a result of security caused by Boko Haram and other terrorist groups in Nigeria. The number of deaths is a conservative estimate, based on numbers reported by the press. High level of fatality scares away investors.
Exchange rate (EXR)	CBN quarterly economic report:	The value of a domestic currency (the Nigerian Naira) in relation to the U.S. dollar.
Industrial production capacity (IPC)	CBN quarterly economic report:	IPC is determined by comparing the industrial sector's actual production to its potential production.

(continued)

Data	Sources	Description
Consumer price index (CPI)	CBN quarterly economic report:	High domestic prices actively reduce the real worth of domestic assets, encouraging citizens to invest abroad.
Lending rate (LDR)	CBN statistical bulletin (2020)	This refers to the cost of borrowing money from financial institutions.

The predictor variables were insecurity and macroeconomic variables such as the exchange rate, industrial production capacity, consumer price index, and loan rate. The predicted variable (the dependent variable) was the total inflow of capital. Data for inward capital flows was extracted from the National Bureau of Statistics' (NBS, 2021) Quarterly Capital Importation Report (various issues), the data for insecurity (number of deaths) was sourced from the Armed Conflicts Locations and Events database, and data for exchange rate, industrial production capacity, consumer price index, and lending rate were sourced from the Quarterly Economic Report (2021) and CBN Statistical Bulletin (2021). Table 2 contains the list of data sources and their descriptions.

Technique of Data Analysis

To ensure reliable and consistent empirical results, the data were transformed into a natural logarithm (LN) which was applied to solve the potential problems of time and growth. The functional relationship of the models was specified thus:

$$LNCPF = f(LNINS, LNEXR, LNIPC, LNCPI, LNLDR)$$

Before the model execution, it was mandatory to scrutinise the time-series properties of the data. As a result, the stationarity condition of the data set was ascertained using the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP) and Kwiatkowski-Phillips-Schmidt- Shin (KPSS) approaches for unit root testing (Zhong, 2015). As some variables were stationary at I(0) and others are I(1), the study was directed to the application of the Autoregressive Distributed Lag (ARDL) bounds test (Pesaran et al., 2001). The ARDL model was preferred over other traditional estimation methods of for testing cointegration for some reasons. Firstly, this estimation approach technique can be applied when variables are mixed between I(0) and I(1) levels of integration. Secondly, the ARDL method allows for simultaneous estimation of the model's short-run and long-run linkages. Additionally, the ARDL model considers endogeneity problems by adding lags of predicted as well as predictor variables to the model. The ARDL model was specified as:

$$LNCPF_t = \sum_{i=1}^{n_1} \gamma LNCPF_{t-i} + \sum_{i=0}^{n_2} \beta_1 LNINS_{t-i} + \sum_{i=0}^{n_3} \beta_2 LNEXR_{t-i} + \sum_{i=0}^{n_4} \beta_3 LNIPC_{t-i} + \sum_{i=0}^{n_5} \beta_4 LNCPI_{t-i} \sum_{i=0}^{n_6} \beta_5 LNLDR_{t-i} + \varepsilon_t \qquad (5)$$

Where, ε_t stands for the white noise term and LNCPF (natural log of capital inflows), LNINS (natural log of insecurity), LNEXR (natural log of exchange rate), LNIPC (natural log of industrial production capacity), LNCPI (natural log of consumer price index), and LNLDR (natural log of lending rate) are the model's explanatory (predictor) variables. The bounds test technique for cointegration requires the ARDL model to undergo an F-test with appropriate lag lengths. The Akaike Information Criterion limited the model to a maximum lag duration of three (3) days. (AIC). To confirm the existence of cointegration, the conventional F-test was performed, which displayed two sets of crucial values, i.e., lower and upper bound values (Pesaran et al., 2001). The lower and upper critical values capture the

assumption that all variables are either I(0) or I(1) and none is I(2) which makes the ARDL estimation technique most appropriate. Hence, the critical values provided a restricted bound that incorporates all possible categories of the variables. The null hypothesis of no cointegration (i.e., no long-run relationship) was rejected if the upper bound critical value lies below the F-statistic generated from the bounds test, and *vice versa*, the test fails to reject the null hypothesis. On the other hand, the test is deemed inconclusive if the F-statistic value falls in between the lower and upper bounds. Once a long-run relationship (cointegration) is ascertained, the short-run dynamics are captured by transforming Equation (6) into an error correction model (ECM) as follows:

$$\Delta LNCPF_i = \sum_{i=1}^{n_1} \gamma \Delta LNCPF_{t-i} + \sum_{i=0}^{n_2} \beta_1 \Delta LNINS_{t-i} + \sum_{i=0}^{n_3} \beta_2 \Delta LNEXR_{t-i}$$
$$+ \sum_{i=0}^{n_4} \beta_3 \Delta LNIPC_{t-i} + \sum_{i=0}^{n_5} \beta_4 \Delta LNCPI_{t-i} \sum_{i=0}^{n_6} \beta_5 \Delta LNLDR_{t-i}$$
$$+ \delta ECM_{t-1} + \varepsilon_t \qquad (6)$$

ECM_{t-1} indicates the speed of adjustment, which measures how quickly a model returns to long-run equilibrium following the occurrence of short-run shocks that cause disequilibrium (Shrestha & Bhatta, 2018). The ECM's sign must be negative, statistically significant, and have a coefficient between -1 and 0, signifying rapid and flawless convergence following a shock to the mechanism, to guarantee long-run convergence.

Model diagnostic tests need to verify the validity of some important ARDL assumptions, such as serial independence, homoscedasticity, and normal distribution. Therefore, the Jarque-Bera test was used to test for normality, the Breusch-Godfrey serial correlation LM test was used to check for serial independence, and the ARCH test was used to check for heteroskedasticity in the model. To determine whether there was model misspecification, the Ramsey reset test was used. To determine whether the model parameters are stable, the recursive CUSUM and CUSUM of squares are applied (Turner, 2010). In the analysis, the outcome of the diagnostic tests showed that the ARDL model was free from problems associated with serial correlation, heteroskedasticity, abnormal distribution of the residuals, and model misspecification. The ARDL technique encapsulates the dynamics of the short-term connection between variables, and the distributed lag component represents the lagged values of the explanatory variables. The ARDL model captures the lagged effects of the explanatory variables on the dependent variable. This paper also applied the Modified Wald test (MWALD), as recommended by Toda and Yamamoto (1995), to give an understanding of the direction of causation among the variables, with regard to the relationships between macroeconomic dynamics, insecurity, and inward capital flows. The Toda and Yamamoto (1995) approach uses a standard vector autoregression (VAR) model and level series, implying that there is minimal risk of wrongly identifying the order of integration of the quarterly time series data under consideration.

RESULTS AND DISCUSSIONS

Descriptive Statistic

To show the statistical properties of the data, the descriptive statistic presented in Table 3 was deemed necessary. The series, especially NINS, IPC and LDR showed moderate variation from their mean values as seen by the standard deviation, suggesting characteristics of an abnormal distribution.

Table 3

Descriptive Statistic

	CPF	NINS	EXR	IPC	CPI	LDR
Mean	3255.866	1058.867	276.4577	113.2230	243.6143	15.22867
Maximum	8508.480	3456.000	381.0000	139.4500	355.7200	17.80000
Minimum	875.6200	293.0000	157.2900	97.60000	155.2000	8.200000
Std. Dev.	2060.371	683.5489	73.94426	12.98421	63.59783	2.817171
Skewness	0.697965	1.822484	-0.362293	1.138144	0.150688	-1.456906
Kurtosis	2.507433	6.649677	1.873477	3.064050	1.758777	3.899693
Jarque-Bera	2.739053	33.25742	2.242600	6.481983	2.039329	11.62469
Probability	0.254227	0.000000	0.325856	0.039125	0.360716	0.002990
Observations	30	30	30	30	30	30

Source. EViews Output

The skewness results confirmed this, revealing that the aforementioned variables' skewness values significantly exceeded the threshold (0) average. This is an indication that the distribution of the series was highly skewed, either negatively or positively, and nearly abnormal, with the exception of CPF, EXR and CPI, which were only slightly skewed. The Jarque-Bera test revealed that while INS, IPC, and LDR were not normally distributed, CPF, EXR, and CPI all support the null hypothesis of normal distribution. The fact that the variables were not normally distributed led to a natural logarithmic transformation of the data to make the moderately skewed data more normally distributed (to achieve constant variance).

Lag Selection Criteria and Bounds Test Results

A system of Vector Autoregression (VAR) was formed to generate the optimum lag. The ideal lag was three (3), which was in line with all the selection criteria such as AIC (Akaike Information Criteria), SC (Schwarz Information Criteria) and HQ (Hanna-Quinn Information Criteria). As a result, the optimal lag length of three was suggested by all the information criteria.

The ARDL bounds test for cointegration was also carried out. At the 1 percent (5.230000) level, the reported F-statistic (5.998478) was greater than the upper bound, or I(1). As a result, the cointegration precondition was established, and the null hypothesis of no cointegration (i.e., no long-run link) was rejected. It was then ascertained that there was a long-term connection between inward capital flows, macroeconomic dynamics, and insecurity in Nigeria. The implication of cointegration was the presence of an equilibrium correction representation of the variables. The existence of cointegration also clarified the problem of spurious regression, in which intrinsically unrelated time series data are highly correlated. The number(s) of lag(s) chosen for LNCPF, LNINS, LNEXR, LNIPC, LNCPI, and LNLDR, respectively, were implied by the ARDL specification of (1, 1, 2, 1, 2, 1).

Error Correction Model (ECM) and Short-run Estimates

The ECM confirmed that capital inflows, macroeconomic dynamics, and insecurity were linked in a long-run equilibrium path. The results of the ECM and short-run estimates were captured in Table 4. The ECM coefficient of the ARDL equation turned out to be -0.471775, meaning that the speed of adjustment of lags from previous period's errors was approximately 47 percent before the long term

variables converged to the long-term equilibrium path. This suggests that the current quarter has remedied approximately 47 percent of the inward capital flows (CPF) disequilibria from the previous quarter. Thus, further indicated that it took approximately two (2) quarters $\left(that\ is\ {}^1/_{ECM}\right)$ for inward capital flows to re-adjust to long-run equilibrium after short-run shocks arising from macroeconomic dynamics and insecurity issues.

Table 4

ECM and Short-run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-46.22349	6.568614	-7.003318	0.000000***
D(LNINS)	-0.798342	0.121000	-6.597851	0.000000***
D(LNEXR)	1.778956	1.942582	0.915769	0.376500
D(LNEXR(-1))	-7.429909	1.979080	-3.754223	0.002400***
D(LNIPC)	0.022777	0.880888	0.025857	0.979800
D(LNCPI)	0.389270	0.263136	1.479348	0.162900
D(LNCPI(-1))	0.858079	0.146814	5.844653	0.000100***
D(LNLDR)	-1.701142	0.509469	-3.339051	0.005300***
ECM(-1)	-0.471775	0.066830	-7.059285	0.000000***
R-squared	0.833526			
Adjusted R-squared	0.750289			
F-statistic	10.01387			
Prob(F-statistic)	0.000023	***		
Durbin-Watson stat	2.470739			

Source. EViews Output.
Note. *** denote 1% significant level

The ECM results also indicated that in the short run, LNCPF was negatively and significantly affected by LNINS, implying that an increase in the number of deaths arising from insecurity had an immediate diminishing effect on inward capital flows. Also, a period lag of exchange rate, denoted as D(LNEXR(-1), had a negative and significant effect on LNCPF, meaning that a rise in the naira – dollar exchange rate in the previous period caused a decreasing effect on the current period's inward capital to Nigeria. Again, the short-run coefficient of LNIPC was found to be positive and non-significant, indicating that an increase in industrial production capacity had a marginal short-term effect on inward capital flows. LNCPI was seen to have had a positive and statistically significant lag effect on LNCPF, implying that the previous period's increases in industrial production capacity attracted inward capital to Nigeria in the current period. The negative and statistical significance of LNLDR suggested that an increase in the lending rate discouraged the inflows of capital in the short run.

The adjusted R-squared value for the model's overall goodness of fit was 0.750289, which meant that the predictor variables (LNINS, LNEXR, LNIPC, LNCPI and LNLDR) collectively accounted for around 75 percent of the variation in the predicted variable (LNCPF). Based on the probability, the adjusted R-squared value was 0.750289 at a 5 percent significance level. (F-statistic) of 0.000023, it was implied that the collective effect of the independent variables (LNINS, LNEXR, LNIPC, LNCPI and LNLDR) on the dependent variable (LNCPF) was statistically significant. This indicated that the interactions between macroeconomic variables and insecurity had a significant influence on Nigeria's inward capital flows.

Long-run Estimates and Residual Diagnostic Tests

The long-run estimated coefficients of the model and residual diagnostic tests are shown in Panel A of Table 5. The LNCPF was found to have a lag effect on itself, implying that the inflow of capital into Nigeria during the previous quarter had a significant impact on capital inflows in the current quarter. The long-run coefficient of LNINS was found to be negative and insignificant, implying that a 1 percent increase in insecurity caused inward capital to decrease marginally by 5.3 percent. Also, the long-run coefficient of LNEXR turned out positive and statistically significant, implying that a percentage increase in the naira-dollar rate led to a considerable change of approximately 5.5 percent in inward capital. The estimated coefficient of LNIPC in the long-run was positive and significant, implying a percentage increase in the industrial production capacity caused a considerable increase of approximately 5.7 percent in inward capital flows. The long run coefficient of LNDR was found to be negative and statistically non-significant, implying that a percentage increase in lending rate caused inward capital flows to decrease marginally.
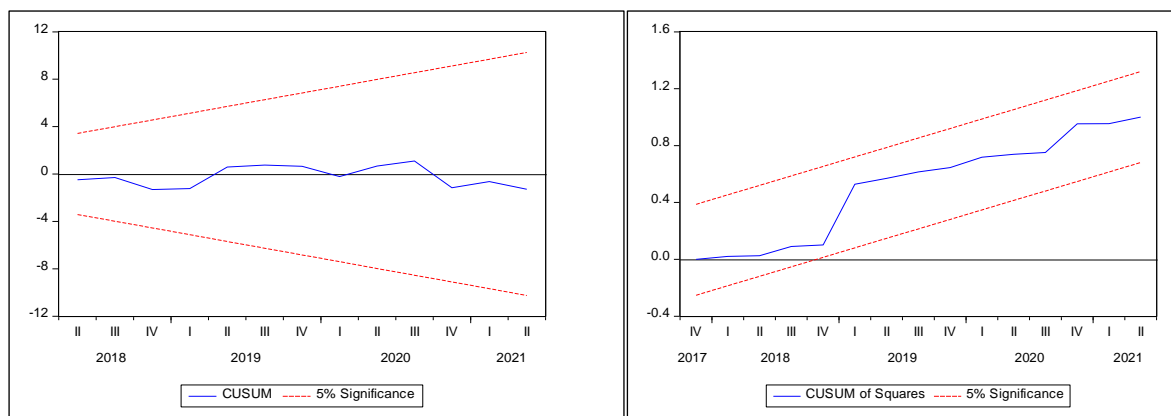
Table 5

Long-run Estimates

Panel A: Long-run Estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCPF	-0.471775	0.137350	-3.434825	0.004400***
LNINS	-0.533520	0.363459	-1.467895	0.165900
LNEXR	5.507285	1.691080	3.256667	0.006200***
LNIPC	5.699687	1.710190	3.332779	0.005400***
LNCPI	0.130207	0.615616	0.211507	0.835800
LNLDR	-0.795325	0.608674	-1.306651	0.214000
Panel B: Diagnostic test				
Test	Statistic	Prob.	Remark	
Serial Correlation	0.600848	0.565400	No significant serial correlation	
Heteroskedasticity	0.658169	0.776300	residuals are homoscedastic	
Jarque-Bera	0.674980	0.713500	residuals are normally distributed model is well	
Ramsey RESET	0.131682	0.723000	specified	
CUSUM			Stable	
CUSUMSQ			Stable	

Source. EViews Output. *Note.* *** denote 1% significant level

Figure 6

Plots of CUSUM and CUSUMSQ

The results of the diagnostic tests in Panel "B" of Table 5 suggest that the ARDL model's residuals were uncorrelated and homoscedastic. Also, since the model passed the Ramsey RESET test, the null hypothesis was accepted, and the long-run ARDL coefficients had little or no misspecification error. The Jarque-Bera test confirmed the normal distribution of the residuals in the ARDL model.

Discussion of Findings from the ARDL Estimation

In the long-run and short-run, insecurity exhibited a diminishing effect on inward capital flows to Nigeria. This was in consonance with the earlier established fact that heightened security challenges causes investors to divest to other countries that are more secure. However, the effect of insecurity was significant in the short run but non-significant in the long run. This implies that a sudden rise in insecurity had a considerable instantaneous impact on capital flows to Nigeria, but its non-significance in the long run could mean that foreign capital flows to Nigeria could be influenced by other factors such as macroeconomic dynamics over time. A plausible reason for this discrepancy could be that foreign capital flows to Nigeria were targeted at Nigerian states where insecurity was minimal. Also, this could imply that investors had a short memory of the security challenges, which explains the long-run insignificance of insecurity. The observed negative effect of insecurity on inward capital flows aligned with prior studies such as Le et al. (2023); Ayoola (2022); Bardwell and Igbal (2021); Hogetoorn and Gerritse (2021); Essien et al. (2015) who had affirmed that a rise in insecurity hindered capital inflows.

Exchange rate in the short run did not have an instantaneous significant effect on inward capital flows, but its lagged effect was found to be negative and statistically significant, which varied with the long-run outcome of positive and statistical significance. The lagged effect implied that the effect of the exchange rate in determining the direction of capital flows was largely based on investors' perceptions of previous period changes in the naira-dollar rate. This could also mean that foreign investors were at some point motivated to invest in Nigeria for other reasons, such as opportunities to make huge profits or for resource exploitation. This finding is in consonance with Dembo and Nyambe (2016), who found that the effect of the exchange rate on capital inflows varied with time.

With regards to industrial production capacity, it was realised that the variable maintained a positive coefficient in both the short-run and long-run but its significance was recorded only in the long run. This could imply that consistent improvement in industrial production capacity (which implies higher domestic productivity) could attract foreign inflows of investible funds in the long run, meaning that improvements in the production capacity of domestic industries could pull foreign investments. The findings of Nwagu (2023); Wijaya et al. (2020); Nwosa and Adeleke (2017) lend credence to this study.

Although the short-run coefficient of the consumer price index yielded a positive and non-significant effect on inward capital flows. However, its one-period lagged effect was negative and statistically significant, implying that investors' perception of the previous quarter's rise in domestic prices continued to diminish the potentials of attracting inward capital in the current quarter. This could also imply that the loss of purchasing power previously experienced by investors does not encourage them to invest more in the future. Studies such as Wijaya et al. (2020); Nwokoye and Oniore (2017); Waqas et al. (2015) have come up with findings that are in consonance with this study.

There was a negative and significant effect of the lending rate on inward capital flows in the short run but it turned out to be negative and non-significant in the long run. This indicated that a high lending rate generally causes a decline in inward capital flows, especially in the short run. The marginal effect

of the lending rate in the long run could be attributed to monetary adjustments (like a downward review of the monetary policy rate) aimed at stabilising the macroeconomic to attract investors (Al-Smadi, 2018). The negative effect of the lending rate found in this study aligned with the studies of Nwagu (2023); Wijaya et al. (2020); Tellez-Leon and Ibarra (2019); Nwokoye and Oniore (2017) that an increase in the lending rate could lead to macroeconomic instability and reduce inward capital flows.

Toda-Yamamoto (T-Y) Causality Test

Compared to previous tests of causality, the Toda Yamamoto test is better since it may be applied in situations where the variables are cointegrated in a random order, the same order, or not at all. The ARDL co-integration bounds test, which illustrates the short- and long-term relationships between the variables, does not reveal the direction of the causal relationships. The estimated results are therefore not complete. This improves the estimation's results since it verifies the causal influence between the variables. The findings of the T-Y causality test confirmed the association between macroeconomic factors, inward capital, and insecurity, as indicated in Table 6.

Table 6

Toda-Yamamoto Approach to Granger Causality (Modified Wald) Test

VAR Granger causality/block Exogeneity Wald tests			
Dependent variable: LNCPF		Dependent variable: LNINS	
Cause - Effect	Prob.	Cause - Effect	Prob.
LNINS → LNCPF	0.048400**	LNCPF → LNINS	0.557700
LNEXR → LNCPF	0.628200	LNEXR → LNINS	0.047800**
LNIPC → LNCPF	0.020900**	LNIPC → LNINS	0.120700
LNCPI → LNCPF	0.173400	LNCPI → LNINS	0.113500
LNLDR → LNCPF	0.039000**	LNLDR → LNINS	0.324700
All	0.002000***	All	0.204300
Dependent variable: LNIPC		Dependent variable: LNCPI	
Cause - Effect	Prob.	Cause - Effect	Prob.
LNCPF → LNIPC	0.273300	LNCPF → LNCPI	0.369200
LNINS → LNIPC	0.944400	LNINS → LNCPI	0.030700**
LNEXR → LNIPC	0.804800	LNEXR → LNCPI	0.006500***
LNCPI → LNIPC	0.832000	LNIPC → LNCPI	0.876900
LNLDR → LNIPC	0.500600	LNLDR → LNCPI	0.360300
All	0.356000	All	0.112600
Dependent variable: LNEXR		Dependent variable: LNLDR	
Cause - Effect	Prob.	Cause - Effect	Prob.
LNCPF → LNEXR	0.118100	LNCPF → LNLDR	0.042200**
LNINS → LNEXR	0.010800**	LNINS → LNLDR	0.275800
LNIPC → LNEXR	0.335400	LNEXR → LNLDR	0.173300
LNCPI → LNEXR	0.017300**	LNIPC → LNLDR	0.007200**
LNLDR→ LNEXR	0.286000	LNCPI → LNLDR	0.105900
All	0.000100***	All	0.100300

Source. EViews Output.

Note. *** and ** denote 1% and 5% significant levels respectively

CONCLUSIONS

During the quarterly period from 2014Q1 to 2021Q2, the current study conducted a macro-econometric assessment of inward capital flows to Nigeria in the face of ongoing security issues. Nigeria was chosen for this study because of its issues with internal security, openness to global investments, and intense internal macroeconomic fluctuations. In order to take into account, the potential diverse stimuli of

inward capital flows to macroeconomic dynamics and insecurity in the short-run and long-run, the ARDL approach to econometric estimation was used. The findings supported the earlier established claim that foreign investors respond negatively to an unstable macroeconomic environment as well as a lack of security of lives and properties, which results in insufficient inward capital. The general deduction from the findings indicated that the collective effect of macroeconomic factors and insecurity on inward capital flows was highly significant. However, the results notably demonstrated that, as evidenced by the short-term estimates, both insecurity and the currency rate instantly hindered the inflow of capital. Long-term fluctuations in the exchange rate and industrial production capacity were clear indicators of how macroeconomic dynamics greatly influenced capital flows.

To effectively manage the domestic macroeconomic environment and build a more secure nation, it is necessary to attract foreign capital. According to these findings, it is necessary to improve the ease of doing business through proactive measures to attract enough foreign capital, which would create jobs, eradicate poverty, prevent future insecurity issues, and create a stable economic system that would attract more inward capital from abroad. This will improve the reliable macroeconomic conditions for productive firms. Additionally, all governmental levels and significant policymakers should adopt firm policy measures by developing more comprehensive strategies to reduce the level of insecurity and encouraging a culture of transparency to ensure that funds intended for managing security challenges are used properly and only for that purpose. Additionally, governments should request security aid from developed nations for technological support and information to tackle insecurity.

Due to the lack of funding to access data from other geographical areas, this analysis was based on Nigeria hence, it was recommended that future studies use cross country data to make a comparative analysis with other countries that are having security challenges. Also, due to the lack of data on different perspectives of on insecurity in Nigeria, this study focused on the number of casualties and it was recommended that future studies consider regime change and recent occurrences of security threats in the country. Also, this study was able to garner quarterly data for 2014 and 2021, and it was recommended that upcoming studies use high-frequency data, such as monthly data. Again, since this study used the linear ARDL model, it is advised that upcoming studies apply a nonlinear ARDL model in future research.

ACKNOWLEDGEMENT

ENDNOTES

[1] Other types of capital flows are foreign portfolio investment (FPI) and debt.

REFERENCES

Adebayo, T. S., Onyibor, K., & Akinsola, G. D. (2021). The impact of major macroeconomic variables on foreign direct investment in Nigeria: Evidence from a wavelet coherence technique. *SN Business and Economics*, *1*(11), 1-24. https://doi.org/10.1007/s43546-020-00018-5

Adekunle, I. A., Ogunade, A. O., Kalejaiye, T. G., & Balogun, A. M. (2020). *Capital inflow and industrial performance in Nigeria: Including the excluded*. AGDI Working Paper, No. WP/20/021, African Governance and Development Institute (AGDI), Yaoundé.

Aderemi, T. A. (2019). Exchange rate volatility and foreign capital inflows in Nigeria (1990-2016): Cointegration, DOLS and Granger causality approach. *Management Studies and Economic Systems, 4*(2), 161-170. https://www.msaes.org/article_85826_71fad1b94810a906e063ee 1bcfc7fda4.pdf

Akhtaruzzaman, M. (2019). *The effects of political risk on capital inflows*. In international capital flows and the Lucas Paradox. Springer, Singapore. https://doi.org/10.1007/ 978-981-13-9069-2_6

Alfaro, L., Kalemli-Ozcan, S., & Volosovych, V. (2008*). Capital flows in a globalized world: the role of policies and institutions.* Harvard Business School and University of Houston. NBER Conference on International Capital Flows, December, 17-18. https://www.nber.org/system/ files/chapters/c0148/c0148.pdf

Al-Smadi, A. (2018). Determinants of foreign portfolio investment: The case of Jordan. *Investment Management and Financial Innovations, 15*(1), 328-336. http://dx.doi.org/10.21511/ imfi.15(1).2018.27

Amire, C. M. (2021). Impact of industrial sector and foreign direct investment in economic development of Nigeria. *Crawford Journal of Postgraduate Studies, 1*(1), 109-126.

Armed conflicts locations and events website. https://www. cfr.org/nigeria/nigeria-security-tracker/p29483

Artantaş, E., & Sipahi, E., (2020). Selected macroeconomic variables and investment inflow in Turkey. *The Massachusetts Institute of Technology Press, 67*(2), 297-308.

Awa, P. M. (2020). The prevalence and nature of terrorist attacks in Nigeria during the Presidency of Goodluck Jonathan. *International Journal of Law and Public Administration, 3*(2), 50-63. https://doi.org/10.11114/ijlpa.v3i2.5090

Ayodele, A., & Tomisin, C. (2021). *Modelling disaggregated government expenditure and manufacturing sector performance nexus and their influence on economic performance.* Paper No. 109245. https://mpra.ub.uni-muenchen.de/109245/MPRA

Ayoola, A.O. (2022). Insecurity and patterns of foreign direct investment in Nigeria (1999-2014). *Open Journal of Political Science,* 12, 28-45. https://doi.org/10.4236/ ojps.2022.121003

Bardwell, H., & Igbal, M. (2021). The economic impact of terrorism from 2000 to 2018. *Peace Economics, Peace Science and Public Policy, 27*(2), 227–261. https://doi.org/10.1515/peps-2020-0031

Cayir, B. (2021). The impacts of international capital flows on household credits. *Central Bank Review, 21*(4), 131–140. https://doi.org/10.1016/j.cbrev.2021.12.001

Central Bank of Nigeria. (CBN, 2021). *Quarterly economic report*. Abuja, Nigeria. https://www.cbn.gov.ng/documents/ QuarterlyStatbulletin.asp

Central Bank of Nigeria (CBN, 2021). *Statistical Bulletin, 32.* https://www.cbn.gov.ng/ documents/statbulletin.asp

David, K. G., & Ampah, I. K. (2018). Macroeconomic volatility and capital flights in Sub-Saharan Africa: A dynamic panel estimation of some selected HIPC Countries. *Mediterranean Journal of Social Sciences, 9*(5), 165-176. https://doi.org/10.2478/mjss-2018-0148

Dembo, J. S., & Nyambe, J. M. (2016). Investigating the determinants of foreign direct investments in Namibia. *European Journal of Business, Economics and Accountancy, 4*(5), 93-104. http://hdl.handle.net/ 11070/2896

Ebipre, P., & Wilson, G. (2020). National insecurity and economic growth: The case of Nigeria. *International Journal of Innovative Legal & Political Studies, 8*(2), 13-21. https://ojs.unm.ac.id/jorein/article/view/50726

Erkekoglu, H., & Kilicarslan, C. (2016). Do political risks affect the foreign direct investment inflows to host countries? *Journal of Business, Economics and Finance, 5*(2), 218-232. https://doi.org/10.17261/Pressacademia.2016219263

Essien, E., Tordee, T., Abuba, A., & Igbara, I. (2015). The impact of national security on foreign direct investment in Nigeria. *IOSR Journal of Business and Management, 17*(5), 69-74. https://doi.org/10.9790/487X-17516974

Feng, C., Han, L., Vigne, S., & Xu, Y. (2023). Geopolitical risk and the dynamics of international capital flows. *Journal of International Financial Markets, Institutions and Money, 82*. https://doi.org/10.1016/j.intfin.2022.101693

Global Peace Index (GPI, 2022). *Measuring peace in a complex world.* Institute for Economics & Peace. https://www.economicsandpeace.org/wp-content/uploads /2023/06/GPI-2023-Web.pdf

Hassan, A. S. (2022). Does country risk influence foreign direct investment inflows? A case of the Visegrád four. *Economies*, *10*(9), 1-22. https://doi.org/10.3390/ economies10090221

Hogetoorn, B., & Gerritse, M. (2021). The impact of terrorism on international mergers and acquisitions: Evidence from firm-level decisions. *Journal of Peace Research, 58*(3), 523-538. https://doi.org/10.1177/0022343319900207

Iida, K. (2015). Political risks and Japanese foreign direct investment in East Asia: A case study of China-Plus-One. *The Korean Journal of International Studies, 13*(2), 384-410. https://doi.org/10.14731/kjis.2015.08.13.2.383

Igbadoo, C. I.., Chukwu, N. C., & Igwe, A. (2023). Ease of doing business and foreign direct investment in Nigeria: A recipe for economic growth and development. *International Journal of Public Administration and Management Research*, *8*(4), 7-18. https://journals.rcmss.com/ index. php/ijpamr/article/view/742

Ikezue, C. E. (2023). The past, present and future of kidnapping in Nigeria: A historical analysis. ZIK *Journal of Multidisciplinary Research, 6,* 14-35. https://journals. aphriapub.com/index.php/ ZJMR/article/view/2065

IMF (2016). *Understanding the slowdown in capital flows in emerging markets*. World Economic Outlook, Chapter 2, Washington, DC. https://www.elibrary.imf.org/display/book/ 9781498398589/ch002.xml

*International Centre for Investigative Reporting (*ICIR). https://www.icirnigeria.org/the-cost-of-getting-kidnapped-in-nigeria/#:~:text=It%20increased%20from%2031%20incidents,2021%20 with%205%2C287%20victims%2C%20515

Jehan, Z., & Hamid, A. (2017). Exchange rate volatility and capital inflows: Role of financial development. *Portuguese Journal of Economics, 16*(3), 189-203. https://doi.org/10.1007/ s10258-017-0136-y

Ju, J., & Wei, S. (2006). A solution to two paradoxes of international capital flows. *Paper presented at the 7th Jacques Polak Annual Research Conference Hosted by the International Monetary Fund,* Washington, D.C., Nov., 9-10. https://www.imf.org/external/np/res/seminars/2006/arc/pdf/ Shangjinwei.pdf

Kambou, P., & Khariss, M. (2020). Effect of terrorism on foreign direct investment in Burkina Faso. *International Accounting, Finance, Auditing, Management and Economics, 1*(3), 200-211. https://doi.org/10.5281/ zenodo. 4282161

Kinyanjui, S. (2014). The impact of terrorism on foreign direct investment in Kenya. *International Journal of Business Administration, 5*(3), 148-157. https://ideas.repec.org/a/jfr/ijba11/ v5y2014i3p148-157.html

Kisto, M. (2017). Determinants of foreign direct investment in Mauritius: Evidence from time series data. *International Journal of Scientific & Technology Research*, *6*(8), 367-377. https://www.ijstr.org/final-print/aug2017/Determinants-Of-Foreign-Direct-Investment-In-Mauritius-Evidence-From-Time-Series-Data.pdf

Le, N. N. A., Pham, H., Pham, D. T. N., & Duong, K. D. (2023). Political stability and foreign direct investment inflows in 25 Asia-Pacific countries: The moderating role of trade openness. *Humanities and Social Sciences Communications, 10*, 1-9. https://doi.org/10.1057/s41599-023-02075-1

Lee, N., & Sami, A. (2019). Trends in private capital flows to low-income countries: Good and not-so-good news. *Center for Global Development Policy Paper,* 151. https://www.cgdev.org/sites/default/files/trends-private-capital-flows-low-income-countries-good-and-not-so-good-news.pdf

Lipovina-Božović, M., & Ivanovic, M. (2018). Capital flows in Montenegro: SVAR model. *Journal of International Economies, 36*(2), 647-675. https://ideas.repec.org /a/rfe/zbefri/v36y2018i2p647-675.html

Lucas, R. E. (1990). Why capital doesn't flow from rich to poor countries? *American Economic Review, 80*, 92-96. http://www.jstor.org/stable/2006549

Magoane, R. M., Meyer, D. F., & Muzindutsi, P. (2023). The asymmetric effect of political risk and exchange rate fluctuations on foreign direct investment inflows in South Africa. *The Journal of Developing Areas, 57*(2), 253-268. https://doi.org/10.1353/jda.2023.0032

Mgbonyenbi, V. C., & Emeni, F. C. A. (2020). Militancy and sustainable development in the Niger Delta: Excerpts from the Fourth Republic. *UniZik Journal of Arts and Humanities, 21*(4), 81-99. http://dx.doi./org/10.4314/ ujah.v21i4.5

Mistura, F., & Roulet, C. (2019). *The determinants of foreign direct investment: Do statutory restrictions matter?* OECD Working Papers on International Investment, 1-57. https://doi.org/10.1787/641507ce-en

Mokhele, K. (2015). *Political risk and foreign direct investment in South Africa: Using indigenous methods for analysis*. (Unpublished master's thesis – University of Johannesburg. https://hdl.handle.net/10210/66654

Nassour, A., Meftah, S., & Mirani, S. H. (2020). Does political risk affect foreign direct investment inflows? Empirical evidence from selected MENA economies. *Estudios Economia Aplicada, 38*(3), 1-13. http://dx.doi.org/10.25115/eea.v38i3.3674

National Bureau of Statistics - NBS (2021). *Nigerian capital importation. https://nigerianstat.gov.ng/* elibrary/read/1241154#:~:text=The%20total%20value%20of%20capital,by%20109.28%25%20from%20%241%2C045.32%20million

Nigeria Security Tracker. (n. d). https://www.cfr.org/nigeria/ nigeria-security-tracker/p29483

Nwagu, K. (2023). The impact of macroeconomic variables on foreign direct investment in Nigeria. *Journal of Accounting, Business and Finance Research, 16*(1), 30-35. RePEc:spi:joabfr:v:16:y:2023:i:1:p:30-35:id:615

Nwokoye, E. S., & Oniore, J. O. (2017). Impact of monetary policy on capital inflows in Nigeria. *Business, Management and Economic Research, 3*(10), 192-200. https://ideas.repec.org/ a/arp/bmerar/2017p192-200.html

Nwosa, P. I., & Adeleke, O. (2017). Determinants of FDI and FPI volatility: An E-GARCH approach. *CBN Journal of Applied Statistics, 8*(2), 47-67. https://dc.cbn.gov.ng/jas/vol8/iss2/3/

Obiekwe, O. (2018). Impact of insurgency on foreign direct investment in Nigeria. *International Journal of Operational Research in Management, Social Sciences and Education, 4*(1), 1-12. https://internationalpolicybrief.org/wp-content/uploads/2023/10/ARTICLE1-61.pdf

Odeniyi, S. (2023). *Sit-at-home has ended in South-East, says COAS.* https://punchng.com/sit-at-home-has-ended-in-south-east-says-coas/

Odili, O., & Onyele, K. O. (2019). Financial development and cross-border financial flows to Nigeria. *Journal of Banking, 9*(1), 1-40. https://www.ajol.info/index.php/ jb/article/view/227164

Oji, H. (2021). Foreign investors pull out ₦1.64 trillion from stock market over insecurity. *The Guardian Newspaper.* https://guardian.ng/news/foreign-investors-pull-out-n1-64tr-from-stock-market-over-insecurity/

Omole, C. (2020). *Ten economic consequences of growing insecurity in Nigeria.* https://www.financialnigeria.com/ten-economic-consequences-of-growing-insecurity-in nigeria-blog-512.html

Onyele, K. O., Okpara, C. C., & Ikwuagwu, E. B. (2017). Does stock market performance influence capital flight from Nigeria? *IIARD International Journal of Economics and Business Management, 3*(7), 22-37.

Onyele, K. O., & Ariwa, F. O. (2020). Flattening unemployment curve in Nigeria: The role of human capital financing. *World Academics Journal of Management, 8*(4), 6-13. https://www.isroset.org/pdf_paper_view.php?paper_id=2229&2-ISROSET-WAJM-04944.pdf

Ozoigbo, B. I. (2019). Insecurity in Nigeria: Genesis, consequences and panacea. *European Journal of Social Sciences Studies, 4*(4), 270-281. https://doi.org/10.5281/ zenodo.3531844

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics, 16,* 289-326. http://dx.doi.org/10.1002/jae.616

Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science, 4*(2), 1-19. https://doi.org/10.1016/j.jfds.2017.11.001

Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics, 70*(1), 65-94. https://doi.org/10.2307/1884513

Tanko, A. (2021). *Nigeria's security crises - five different threats.* https://www.bbc.com/news/world-africa-57860993

Tellez-Leon, I., & Ibarra, R. (2019). Are all types of capital flows driven by the same factors? Evidence from Mexico. *Empirical Economics*, https://doi.org/10.1007/s00181-019-01624-5

Toda, H. Y., & Yamamoto, T. (1995) Statistical inference in vector autoregressions with possibly integrated processes. *Journal of Econometrics, 66,* 225-250. http://dx.doi.org/10.1016/0304-4076(94)01616-8

Turner, P. (2010). Power properties of the CUSUM and CUSUMSQ tests for parameter instability. *Applied Economics Letters, 17*(11), 1049-1053. https://doi.org/10.1016/j.jfds.2017.11.001

UNDP (2021). *Assessing the impact of conflict on development in North-East Nigeria.* https://www.undp.org/nigeria/publications/assessing-impact-conflict-development-north-east-nigeria

Ukachukwu, O. E., & Odionye, J. C. (2020). Impact of selected macroeconomic variables on foreign direct investment in Nigeria: Auto-regressive distributed lag (ARDL) model. *International Journal of Economics, Commerce and Management, 8*(12), 41-55. https://doi.org/10.55217/102.v16i1.615

Wijaya, A., Astuti, D., Tarigan, Z., & Edyanto, N. (2020). *Determinants of foreign direct investment in Indonesia "evidence from co-integration and error correction modeling.* SHS Web of Conferences 76, 01002. https://doi.org/10.1051/shsconf/2020760100

Waqas, Y., Hasmi, S., & Nazir, M. (2015). Macroeconomic factors and foreign portfolio investment volatility: A case of South Asian countries. *Future Business Journal, 1,* 65-74. http://dx.doi.org/10.1016/j.fbj.2015.11.002

World Bank (2022). *Nigeria's choice: Nigeria development update.* https://documents1.worldbank.org/curated/en/099305012142215802/pdf/P179906004b7c803 40a74d0ee7862953b8f.pdf

Zhong, X. (2015). *Essays on unit root testing in time series. Missouri S&T Library and Learning Resource.* https://scholarsmine.mst.edu/cgi/viewcontent.cgi?article=3465&context=doctoral _dissertations