GPH-International Journal of Business Management
(E-ISSN 3027-0537 || P-ISSN 3027-0375)
Volume 09 | Issue 10 | October 2026
Published by: Global Publication House
DOI: https://doi.org/10.5281/zenodo.23614603
Available online at: www.gphjournal.org
Journal homepage: https://gphjournal.org/index.php/bm/index

Do Cross-Border Capital Inflows Help or Hurt Exports in Pre- and Post-Crisis Global Financial Crisis in Nigeria

Katherine Chinedu Andy-Onugbu[a]*, S. F. Udeorah[a], E. Nkoro[a]
[a] Institute of International Trade and Development,
Faculty of Social Sciences,
University of Port Harcourt,
Rivers State, Nigeria.
Corresponding Author: Katherine Chinedu Andy-Onugbu

Abstract

Whether cross-border capital inflows support or undermine the export sector in Nigeria accommodating global financial crisis: global financial crisis (GFC) of 2007–2009 and before the crisis (1986–2007) and after it (the full 1986–2025 sample) using panel Generalized Method of Moments estimation. The explanatory variables are cross-border capital flow, the real effective exchange rate (REER), a global financial conditions (contagion) index and an external vulnerability index; a crisis dummy is added for the post-crisis model. In the pre-crisis model, REER (−0.0009) and capital flow (−0.023) are reported as significant at the 1% level and both are negative. In the post-crisis model, REER remains negative (−0.0015) but the capital-flow coefficient reverses to +0.275. The global financial conditions and vulnerability indices are insignificant in both periods. Instrument validity is not rejected in either model, but the pre-crisis Arellano–Bond AR(2) probability of 0.081 is borderline, so the pre-crisis estimates are treated as indicative. The sign reversal is consistent with a shift from capital inflows that appreciated the currency and fed Dutch-disease pressures to inflows that supported exporters' finance and investment. Policy should therefore differentiate by type of capital inflow and keep the exchange rate competitive.

Keywords:

Capital flows, Dutch disease, real effective exchange rate, global financial crisis, export trade, panel GMM, Nigeria.

JEL classification: F21, F32, F41, O55, C23

Highlights

• Cross-Border Capital flow's link to exports reverses from negative before to positive after the GFC.
• Real exchange-rate appreciation hurts exports in both, more so after 2008.
• Global financial conditions and vulnerability indices are insignificant throughout.
• Pre-crisis estimates are indicative only as the AR(2) test is borderline.

© 2026 Author(s). Published by Global Publication House (GPH).
This is an Open Access article distributed under the terms of the CC BY 4.0 License.

1.0 Introduction

Cross-Border Capital inflows are often welcomed as a source of investment finance, but their effect on the tradable sector is contested. On one view, foreign capital relaxes financing constraints and raises export capacity. On another, large inflows appreciate the real exchange rate, raise domestic costs and shift resources from tradable to non-tradable activities, a pattern familiar from the Dutch-disease literature (Corden & Neary, 1982). The balance between these effects is likely to depend on the form that capital takes, the exchange-rate regime and the structure of the economy, and it may change when the global financial environment changes.

The global financial crisis of 2007–2009 is a plausible turning point. It reduced global risk appetite, interrupted trade credit, and led to a lasting reorganisation of international capital flows and of financial regulation (Rey, 2015; Cerutti, Claessens, & Rose, 2019). For a developing exporter such as Nigeria, whose export earnings are dominated by crude oil and whose exposure to portfolio flows has historically been high, one would expect any change in the way that capital flows relate to exports to be visible in a comparison of the pre-crisis and post-crisis periods.

This paper therefore does not ask only whether the crisis lowered exports. It asks whether the roles of capital flows, the exchange rate and two broad indices of global financial stress changed after the crisis. It uses annual data for 1986–2025 and estimates comparable panel GMM models for the two periods. The main finding is a reversal in the sign of the capital-flow coefficient, from negative before the crisis to positive afterwards, alongside a persistent negative effect of real exchange-rate appreciation. The paper contributes by documenting this shift for a single oil-dependent economy, by reporting diagnostics that show how far each period's estimates can be trusted, and by drawing out the policy implications of distinguishing between types of capital inflow.

1.1 Statement of the Problem

Nigeria has pursued capital-account and exchange-rate reforms since 1986 in the expectation that openness would attract finance and support export growth. Yet the export base has remained concentrated in oil, which provides about nine-tenths of export earnings (Central Bank of Nigeria [CBN], 2020), and manufacturing exports remain below one per cent of the total. Export earnings have swung widely with global shocks: they fell sharply in 2008–2009, in 2014–2016 and again in 2020, even though capital inflows and exchange-rate regimes changed considerably over the same period.

What is not known is whether the relationship between capital flows, the exchange rate and exports was stable across this history. If inflows during the pre-crisis boom mainly appreciated the currency and fed imports, they would have hindered exports; if post-crisis inflows were of a different character, the relationship could have reversed. Policy built on a single average relationship may then be misdirected. Existing work on Nigeria seldom compares sub-periods, rarely examines capital flows together with the exchange rate and global stress indices, and seldom reports the diagnostics required to judge dynamic panel estimates. The problem is the lack of evidence on whether, and how, the transmission of external financial variables to Nigerian exports changed around the global financial crisis.

1.2 Objectives

(1) estimate the effect of cross-border capital flow on export trade in the pre-crisis (1986–2007) and post-crisis (1986–2025) periods;

2.0 Literature Review

2.1 Conceptual Framework

The framework links three external financial variables to export performance. Capital flow is defined as the volatility of net financial inflows relative to GDP. It matters for exports because it affects the availability and cost of trade finance, the stability of the exchange rate and the willingness of firms to invest in export capacity. The real effective exchange rate is the trade-weighted exchange rate adjusted for relative prices, and measures price competitiveness; an increase is an appreciation. Global financial conditions and external vulnerability are represented by two composite indices, the first capturing the strength of cross-border financial spillovers and the second a country's fragility to external shocks, built from debt, reserves, current-account and exchange-rate misalignment components.

Two channels are central. In the finance channel, inflows ease credit constraints and raise exports. In the relative-price channel, inflows appreciate the currency and reduce export competitiveness. The net effect is an empirical matter and may differ across periods according to the maturity and destination of flows. The crisis dummy used in the post-crisis model represents the period after the break in 2008.

2.2 Theoretical Framework

Dutch disease. Corden and Neary (1982) show that a booming sector, or a surge in foreign exchange inflows, raises the real exchange rate and draws labour and capital away from other tradables. For an oil exporter, the theory predicts that increased inflows reduce non-oil exports and that real appreciation harms competitiveness. It supports a negative sign on both capital flow and REER in a period in which inflows are mainly consumed or spent on non-tradables.

Sudden stops and the financial accelerator. Calvo (1998) argues that abrupt reversals in capital inflows impose output costs and force real depreciation, while Bernanke, Gertler, and Gilchrist (1999) show how weakened balance sheets amplify the real effects of financial shocks. These theories imply that stable external finance supports production and that volatile finance harms it, which provides a rationale for a positive relation between financing availability and exports when flows are productive.

Capital account liberalisation and financial instability. Liberalisation can raise investment and efficiency, but it can also increase exposure to volatile flows, particularly where institutions and regulation are weak (Eichengreen, Gullapalli, & Panizza, 2011; Stiglitz, 2002). Minsky (1986) adds that long periods of stability encourage the build-up of fragile financing structures. Together, these accounts suggest that the effect of inflows depends on the composition of capital, the stage of the financial cycle and the policy framework, and so motivates a comparison across periods.

2.3 Empirical Review

Capital flows and the global cycle. Forbes and Warnock (2012) show that episodes of surges, stops, flight and retrenchment are driven largely by global factors, and Cerutti et al. (2019) find that the global financial cycle accounts for a notable share of variation in capital flows across countries. Bruno and Shin (2015) connect cross-border bank lending to global liquidity conditions. These studies indicate that flows to a country like Nigeria are shaped by external conditions that can change character after a major crisis.

Credit, finance and exports. Evidence from the crisis shows that finance matters for exports. Chor and Manova (2012) found that tighter credit conditions reduced exports more in sectors that depend heavily on external finance. Amiti and Weinstein (2011) and Paravisini, Rappoport, Schnabl, and Wolfenzon (2015) used matched firm–bank data to show that credit supply shocks transmit directly to exports. Auboin and Engemann (2014) reported that export credit insurance supported export volumes. By contrast, Eaton, Kortum, Neiman, and Romalis (2016) attributed most of the trade collapse to demand, and Levchenko, Lewis, and Tesar (2010) to the composition of trade.

Exchange rates and exports. Berman, Martin, and Mayer (2012) demonstrate that exporters respond to exchange-rate changes in different ways according to productivity. Frankel and Saravelos (2012) found that real exchange-rate appreciation, together with low reserves, was among the most consistent predictors of crisis incidence in 2008–2009, which links the exchange rate to vulnerability to external shocks.

Contagion, vulnerability and Africa. Forbes and Rigobon (2002) caution that measured increases in co-movement in crises can reflect interdependence rather than contagion, and Kaminsky and Reinhart (1999) document the links between balance-of-payments problems and banking crises. Lane and Milesi-Ferretti (2012) show that countries with larger pre-crisis external imbalances adjusted most, mainly via imports. For Sub-Saharan Africa, Allen and Giovannetti (2011) found that the crisis was transmitted largely through capital flows, remittances and commodity demand, and Iwayemi and Fowowe (2011) documented asymmetric effects of oil-price shocks on Nigerian macroeconomic variables.

2.4 Evaluation of the Literature Reviewed

The literature establishes that finance, demand and relative prices all matter for exports, but it leaves three issues open for an economy like Nigeria. First, studies of the crisis concentrate on the trade collapse of 2008–2009 and say little about how the underlying relationships changed afterwards. Second, work on capital flows seldom connects the form of flows to export outcomes in resource-dependent economies, where Dutch-disease pressures can reverse the expected sign. Third, the evidence on aggregate indices of global stress and vulnerability is inconclusive, with some work suggesting limited usefulness for commodity exporters. Much of the empirical work also reports little on diagnostic testing for GMM. This paper addresses these points by comparing two periods for a single oil-dependent economy and by reporting the diagnostics for each.

3.0 Methodology

3.1 Research Design

The study uses an ex post facto, quasi-experimental design in which the 2008 crisis is treated as a break point (Angrist & Pischke, 2009), and the pre-crisis and post-crisis periods are modelled separately for comparison. Annual secondary data for 1986–2025 are obtained from the Central Bank of Nigeria (exports, exchange rates), the National Bureau of Statistics (price deflators), the International Monetary Fund (indices of contagion and vulnerability) and the World Bank (capital flows). Preliminary analysis comprises descriptive statistics and Phillips–Perron unit root tests (Phillips & Perron, 1988), followed by Johansen (1991) cointegration tests and panel GMM estimation (Arellano & Bond, 1991; Blundell & Bond, 1998). The pre-crisis sample covers 1986–2007. The post-crisis sample as defined in this study runs over 1986–2025 and therefore includes the pre-crisis years; the two sets of estimates are accordingly not independent and are compared descriptively, not through a formal test of structural change.

3.2 Model Specification

The conceptual framework yields the following general function for export trade:

$$lnEXPit = f(lnCAPFLOWit, REERit, lnGFCIit, lnEVIit) \quad (1)$$

The pre-crisis model (1986–2007) is:

$$lnEXPit = \beta_0 + \beta_1 lnGFCIit + \beta_2 lnEVIit + \beta_3 lnCAPFLOWit + \beta_4 REERit + \mu it \quad (2)$$

and the post-crisis model adds a dummy for the crisis period:

$$lnEXPit = \beta_0 + \beta_1 GFCt + \beta_2 lnGFCIit + \beta_3 lnEVIit + \beta_4 lnCAPFLOWit + \beta_5 REERit + \mu it \quad (3)$$

Both models are estimated by GMM with a two-stage-least-squares instrument weighting matrix, using first lags of the regressors and of the dependent variable as instruments. The Hansen J-test assesses overidentifying restrictions and the Arellano–Bond test assesses serial correlation in first-differenced residuals. A well-specified model should not reject the J-test and should show no second-order serial correlation, with an AR(2) probability above 0.10 taken as acceptable (Arellano & Bond, 1991; Roodman, 2009).

3.3 Interpretation of the Variables in the Model

Ln EXP is the natural log of real total export value (CBN); coefficients on logged regressors are elasticities.

Ln CAPFLOW is the log of capital-flow volatility, measured as the rolling standard deviation of net financial inflows relative to GDP (Calvo, 1998; Forbes & Warnock, 2012). The sign is ambiguous: a positive sign points to the finance channel and a negative sign to relative-price (Dutch-disease) effects.

REER is the real effective exchange rate, entered in levels, with higher values denoting appreciation. A negative sign is expected.

Ln GFCI is the log of the global financial conditions or contagion index, constructed from cross-market correlations and volatility (Forbes & Rigobon, 2002). A negative sign is expected.

Ln EVI is the log of the external vulnerability index combining debt, current-account, reserve, misalignment and openness components (Frankel & Saravelos, 2012). A negative sign is expected.

GFC is a dummy equal to 1 from 2008 and 0 before, included only in the post-crisis model.

4.0 Result and Discussion

4.1 Preliminary Results

Export trade is highly volatile and skewed (mean ₦12.76 million; standard deviation ₦16.47 million; skewness 1.53; Jarque–Bera probability 0.000) and oil exports (mean ₦7.86 million) exceed non-oil exports (₦4.90 million). Capital-flow volatility has extreme kurtosis (42.0) and is consistent with infrequent but intense stress episodes. Phillips–Perron tests show that export trade, oil and non-oil exports, capital-flow volatility, the vulnerability index, the contagion index and the crisis dummy are I(1), while the exchange rate, food exports and manufacturing exports are I(0); not a single series is integrated of order two. The Johansen test rejects the null of no cointegration (trace statistic 339.34 against a 5% critical value of 143.67), with six cointegrating equations by the trace test and four by the maximum-eigenvalue test, which indicates a stable long-run relationship among the variables.

4.2 Panel GMM Estimates: Pre-Crisis and Post-Crisis

Table 1. Panel GMM estimates, dependent variable lnEXP

Variable	Pre-crisis (1986–2007) coef. (s.e.)	Prob.	Post-crisis (1986–2025) coef. (s.e.)	Prob.
GFC dummy	–	–	0.3704 (0.2909)	0.0047
lnGFCI	0.0890 (0.6077)	0.8839	−0.2087 (0.3574)	0.5600
lnEVI	−2.0696 (2.5372)	0.4170	−0.6392 (1.1204)	0.5691
lnCAPFLOW	−0.0229 (0.5685)	0.0080	0.2755 (0.3086)	0.0032
REER	−0.0009 (0.0144)	0.0016	−0.0015 (0.0077)	0.0062
Constant	3.7355 (5.4650)	0.4961	1.6860 (2.5292)	0.5059
R-squared	0.6458		0.7072	
Adjusted R-squared	0.5637		0.6844	
Durbin–Watson	1.715		1.640	
J-statistic (Prob.)	1.1194 (0.2900)		1.4213 (0.2332)	
Cross-sections × periods	18 × 5		36 × 5	
Observations / instrument rank	90 / 6		180 / 7	

Source: Authors' computation using EViews 13. 2SLS instrument weighting matrix; instruments are first lags of the regressors and dependent variable. Prob. values as reported by the software output.

Both models account for a large proportion of the variation in exports (R^2 of 0.65 and 0.71), have Durbin–Watson statistics close to 2, and do not reject the Hansen J-test ($p = 0.290$ and 0.233). On the reported probabilities, REER and capital flow are significant at the 1% level in both periods, the crisis dummy is significant in the post-crisis model, and the two indices are insignificant throughout.

The reversal of the capital-flow coefficient

The central result is the change in the capital-flow coefficient from −0.023 before the crisis to +0.275 afterwards. In the pre-crisis period the negative sign is consistent with Dutch-disease pressures: during the oil-boom years, foreign-exchange inflows and portfolio capital appreciated the real exchange rate, raised imports and drew resources toward non-tradables, which depressed the competitiveness of other exports (Corden & Neary, 1982). It is also consistent with the possibility that the inflows were short-term and speculative and not channelled to export capacity. In the post-crisis period the positive coefficient is consistent with the finance channel, in which inflows ease credit constraints and fund working capital and investment (Chor & Manova, 2012; Paravisini et al., 2015). The post-crisis reorganisation of capital flows and regulation (Cerutti et al., 2019) and more attention to long-term investment may have shifted the composition of inflows. This interpretation is, however, an inference. The data do not identify the composition of flows, the capital-flow variable is a volatility measure whose coefficient may reflect coincident movements, and the pre-crisis coefficient is very small relative to its standard error. The reversal is therefore best taken as suggestive evidence that the relationship is not stable, not as proof of a specific mechanism.

The exchange rate

REER has a negative coefficient in both periods and its magnitude is larger after the crisis (−0.0015 against −0.0009). In semi-elasticity terms, a one-unit appreciation is associated with roughly a 0.09% fall in exports before the crisis and a 0.15% fall afterwards. The result confirms the competitiveness effect that standard trade theory predicts, and it is consistent with the finding of Frankel and Saravelos (2012) that real appreciation was a leading indicator of vulnerability in 2008–2009. The larger post-crisis magnitude may indicate that the export sector became more sensitive to price competitiveness, but the standard errors are wide enough that the difference between the two coefficients should not be over-interpreted.

Global financial conditions and external vulnerability

Neither index is significant in either period. The vulnerability coefficient is negative in both periods and much larger before the crisis (−2.07 against −0.64), but the standard errors are large and the estimates are imprecise. The conditions index changes sign from +0.089 to −0.209, again without statistical significance. These results suggest that aggregate indices do not capture the channel through which global shocks reach a crude-oil exporter, whose export value is determined primarily by oil prices and volumes rather than by generalised financial stress. This is consistent with doubts about the usefulness of composite vulnerability indicators for commodity exporters (Frankel & Saravelos, 2012).

The crisis dummy

The post-crisis dummy is positive (0.370), implying that exports were about 0.37 log points (roughly 45%) higher after 2008 than before, other things equal. Because the dummy spans the whole post-2008 period, it captures recovery in oil prices, exchange-rate depreciation and other developments, and should not be read as the effect of the acute crisis alone.

4.3 Reliability of the estimates: Serial-Correlation Tests

Table 2. Arellano–Bond serial-correlation tests

Test	Pre-crisis m-statistic	Pre-crisis Prob.	Post-crisis Prob.
AR(1)	−1.0912	0.2752	0.4752
AR(2)	−1.7454	0.0809	0.4809

Source: Authors' computation using EViews 13.

For the post-crisis model, the AR(2) probability of 0.481 shows no second-order serial correlation, which supports the validity of the instruments. For the pre-crisis model, the AR(2) probability of 0.081 is above the 5% level but below the 10% level, so the result is borderline and gives limited assurance that the instruments are valid. In both periods the AR(1) test is insignificant, which is unusual for first-differenced residuals and may be a consequence of the short time dimension of the panel. The pre-crisis estimates, and hence the sign reversal, should therefore be treated as indicative; the post-crisis estimates are the more reliable of the two.

4.4 Hypothesis Testing Summary

Table 3. Decisions on the null hypotheses of no significant effect (5% level)

Variable	Pre-crisis decision	Post-crisis decision
Capital flow	Reject (negative)	Reject (positive)
REER	Reject (negative)	Reject (negative)
Global financial conditions index	Fail to reject	Fail to reject
External vulnerability index	Fail to reject	Fail to reject
GFC dummy	Not applicable	Reject (positive)

Source: Authors' computation using EViews 13, based on reported probabilities.

5.0 Conclusion and Recommendations

5.1 Conclusion

The study aimed to determine if the determinants of Nigeria's export trade changed around the global financial crisis. Appreciation of the real exchange rate was associated with lower exports in both periods, and the global financial conditions and vulnerability indices were insignificant in both. The distinctive finding is that the capital-flow coefficient switched from negative (inflows feeding Dutch-disease pressures) to positive (inflows supporting export financing), although the data cannot distinguish between flows. Diagnostics support the post-crisis estimates but only weakly the pre-crisis. Overall, the relationship between external finance and

exports for Nigeria is not constant over time, and policymakers should refrain from assuming that increased capital inflow automatically boosts exporters. The CBN should use exchange-rate and reserve management to prevent persistent real appreciation, especially when inflows are strong or oil prices high. Sterilising and saving windfalls via fiscal rules and sovereign savings can offset the Dutch-disease effects of foreign-exchange windfalls. Export credit guarantees and insurance can ensure that inflows reach exporters, and better indicators (sector-specific, commodity-sensitive) of external risk should be developed and published regularly.

5.2 Recommendations

- Differentiate by inflow type. Policymakers should promote long-term, productive flows (foreign direct investment in export-oriented industries) and discourage speculative short-term flows which appreciate the currency.
- Manage real appreciation. The CBN should use exchange-rate and reserve policy to prevent persistent real appreciation, especially in periods of strong inflows or high oil prices.
- Sterilise and save windfalls. Fiscal rules and sovereign savings can offset the Dutch-disease effect of foreign-exchange windfalls.
- Build trade-finance capacity. Export credit guarantees and insurance can ensure that inflows reach exporters.
- Develop better indicators. Because the broad indices were uninformative, the CBN and the NBS should develop sector-specific and commodity-sensitive indicators of external risk and publish them regularly.

5.3 Limitations and Further Research

The two samples overlap, so no formal test of structural change is possible. The pre-crisis AR(2) result is borderline, and the capital-flow variable measures volatility and not the composition of flows. Future research should use non-overlapping sub-samples or interaction terms with formal break tests, disaggregate capital flows into FDI, portfolio and other flows, split exports into oil and non-oil components, and extend the comparison to the COVID-19 period.

References

Allen, F., & Giovannetti, G. (2011). The effects of the financial crisis on Sub-Saharan Africa. *Review of Development Finance, 1*(1), 1–27.

Amiti, M., & Weinstein, D. E. (2011). Exports and financial shocks. *Quarterly Journal of Economics, 126*(4), 1841–1877.

Angrist, J. D., & Pischke, J.-S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies, 58*(2), 277–297.

Auboin, M., & Engemann, M. (2014). Testing the trade credit and trade link: Evidence from data on export credit insurance. *Review of World Economics, 150*(4), 715–743.

Berman, N., Martin, P., & Mayer, T. (2012). How do different exporters react to exchange rate changes? *Quarterly Journal of Economics, 127*(1), 437–492.

Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). The financial accelerator in a quantitative business cycle framework. In J. B. Taylor & M. Woodford (Eds.), *Handbook of macroeconomics* (Vol. 1C, pp. 1341–1393). Elsevier.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115–143.

Bruno, V., & Shin, H. S. (2015). Cross-border banking and global liquidity. *Review of Economic Studies, 82*(2), 535–564.

Calvo, G. A. (1998). Capital flows and capital-market crises: The simple economics of sudden stops. *Journal of Applied Economics, 1*(1), 35–54.

Central Bank of Nigeria. (2020). *Statistical bulletin 2020*. CBN.

Cerutti, E., Claessens, S., & Rose, A. K. (2019). How important is the global financial cycle? Evidence from capital flows. *IMF Economic Review, 67*(1), 24–60.

Chor, D., & Manova, K. (2012). Off the cliff and back? Credit conditions and international trade during the global financial crisis. *Journal of International Economics, 87*(1), 117–133.

Corden, W. M., & Neary, J. P. (1982). Booming sector and de-industrialisation in a small open economy. *Economic Journal, 92*(368), 825–848.

Eaton, J., Kortum, S., Neiman, B., & Romalis, J. (2016). Trade and the global recession. *American Economic Review, 106*(11), 3401–3438.

Eichengreen, B., Gullapalli, R., & Panizza, U. (2011). Capital account liberalization, financial development and industry growth: A synthetic view. *Journal of International Money and Finance, 30*(6), 1090–1106.

Forbes, K. J., & Rigobon, R. (2002). No contagion, only interdependence: Measuring stock market comovements. *Journal of Finance, 57*(5), 2223–2261.

Forbes, K. J., & Warnock, F. E. (2012). Capital flow waves: Surges, stops, flight, and retrenchment. *Journal of International Economics, 88*(2), 235–251.

Frankel, J., & Saravelos, G. (2012). Can leading indicators assess country vulnerability? Evidence from the 2008–09 global financial crisis. *Journal of International Economics, 87*(2), 216–231.

Iwayemi, A., & Fowowe, B. (2011). Impact of oil price shocks on selected macroeconomic variables in Nigeria. *Energy Policy, 39*(2), 603–612.

Johansen, S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models. *Econometrica, 59*(6), 1551–1580.

Kaminsky, G. L., & Reinhart, C. M. (1999). The twin crises: The causes of banking and balance-of-payments problems. *American Economic Review, 89*(3), 473–500.

Lane, P. R., & Milesi-Ferretti, G. M. (2012). External adjustment and the global crisis. *Journal of International Economics, 88*(2), 252–265.

Levchenko, A. A., Lewis, L. T., & Tesar, L. L. (2010). The collapse of international trade during the 2008–09 crisis: In search of the smoking gun. *IMF Economic Review, 58*(2), 214–253.

Minsky, H. P. (1986). *Stabilizing an unstable economy*. Yale University Press.

Paravisini, D., Rappoport, V., Schnabl, P., & Wolfenzon, D. (2015). Dissecting the effect of credit supply on trade: Evidence from matched credit-export data. *Review of Economic Studies, 82*(1), 333–359.

Phillips, P. C. B., & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika, 75*(2), 335–346.

Rey, H. (2015). *Dilemma not trilemma: The global financial cycle and monetary policy independence* (NBER Working Paper No. 21162). National Bureau of Economic Research.

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *Stata Journal, 9*(1), 86–136.

Stiglitz, J. E. (2002). *Globalization and its discontents*. W. W. Norton.