

Nigeria's Shift to a Floating Regime: Interest Rate and Exchange Rate Pass-Through and Policy Effectiveness

Cecilia Melo Fernandes, Chris Stumphius

SIP/2026/045

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on May 7, 2026. This paper is also published separately as IMF Country Report No 26/126.

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Prepared by Cecilia Melo Fernandes and Chris Stumphius*

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ABSTRACT: In June 2023, Nigeria transitioned from a multi-window, managed exchange rate system to a floating regime. This paper examines how the regime change altered the interest rate and exchange rate pass-through (ERPT) using econometrics cointegration methods and a Bayesian VAR estimated over 2007–2025. We show that ERPT is highly shock-dependent. Under the pre-unification regime, pass-through was muted or negative, reflecting policy insulation through reserve management and capital controls. Following unification, ERPT becomes positive and economically meaningful - particularly for external financial shocks such as US monetary tightening - indicating that the exchange rate channel has been reactivated. Interest rate transmission has also strengthened post-unification, although key market rates are not yet firmly anchored to the MPR. Overall, the unification marks a shift from a framework in which exchange rate rigidity suppressed the domestic price impact of external shocks that transmit through the exchange rate — at the cost of mounting misalignment and parallel market distortions — to one in which such shocks transmit more transparently to domestic prices through a market-determined rate. The effectiveness of the new framework depends critically not only on shock-specific ERPT dynamics and the completeness of interest rate transmission, but also on the timeliness and credibility of CBN policy responses.

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SELECTED ISSUES PAPERS

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Nigeria

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NIGERIA

SELECTED ISSUES

May 7, 2026

Approved By
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Prepared By Cecilia Melo Fernandes and Chris Stumphius

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NIGERIA'S SHIFT TO A FLOATING REGIME: INTEREST RATE AND EXCHANGE RATE PASS-THROUGH AND POLICY EFFECTIVENESS¹

A. Introduction

1. In June 2023, Nigeria unified the foreign exchange market, ending the multi-window, managed exchange rate system and marking a decisive shift toward a market-determined policy framework which culminated in a transition to a floating exchange rate regime in 2024.

Since late 2000s, Nigeria's exchange rate framework has been characterized by the coexistence of multiple exchange rates set and managed by the CBN and a parallel market rate. While the official rates served as the primary policy anchor for formal transactions, the parallel rate often captured the marginal cost of foreign exchange in the presence of restrictions and rationing. Within this dual structure, prolonged periods of administrative stabilization were followed by abrupt and costly adjustments once external and domestic pressures intensified. Consistent with the literature on regime-dependent exchange rate pass-through (ERPT), a shift away from an anchored arrangement toward greater flexibility is likely to increase both the speed and magnitude of price adjustment, as firms respond more frequently when exchange rate movements are persistent and observable.

2. In June 2016, faced with intensifying capital outflows and reserve depletion, the CBN announced a shift toward greater exchange rate flexibility; however, in practice, the framework continued to operate as a managed arrangement. From 2008 to 2014, the naira operated *de facto* as *other managed arrangement*²- in this case, a regime close to a conventional peg - exhibiting low volatility and sustained intervention. The 2014 oil price shock marked another turning point, triggering devaluations in 2014-15 and an announced shift in 2016 toward a more flexible framework. In practice, however, the regime continued to function with multiple windows³ and administrative controls, while the parallel rate adjusted more freely to underlying pressures, operating *de facto* as a *stabilized arrangement*.⁴ The premium between official and parallel markets

¹ Prepared By Cecilia Melo Fernandes and Chris Stumphius.

² This category refers to exchange rate arrangements that does not meet the criteria for any of the other categories and is characterized by frequent shifts in policies (see Annual Report on Exchange Arrangements and Exchanges Restrictions, 2023 (AREAR), IMF).

³ The multi-window framework comprised several coexisting segments: (i) the official/interbank window, where the CBN intervened directly and effectively set the reference rate; (ii) the Investors and Exporters (I&E) window, introduced in April 2017 to attract portfolio and direct investment and operating on a more market-determined basis; (iii) the Secondary Market Intervention Sales (SMIS) window, used to allocate foreign exchange to prioritized sectors; and (iv) the Bureau de Change (BDC) window for retail transactions, subject to administrative limits and periodic suspensions.

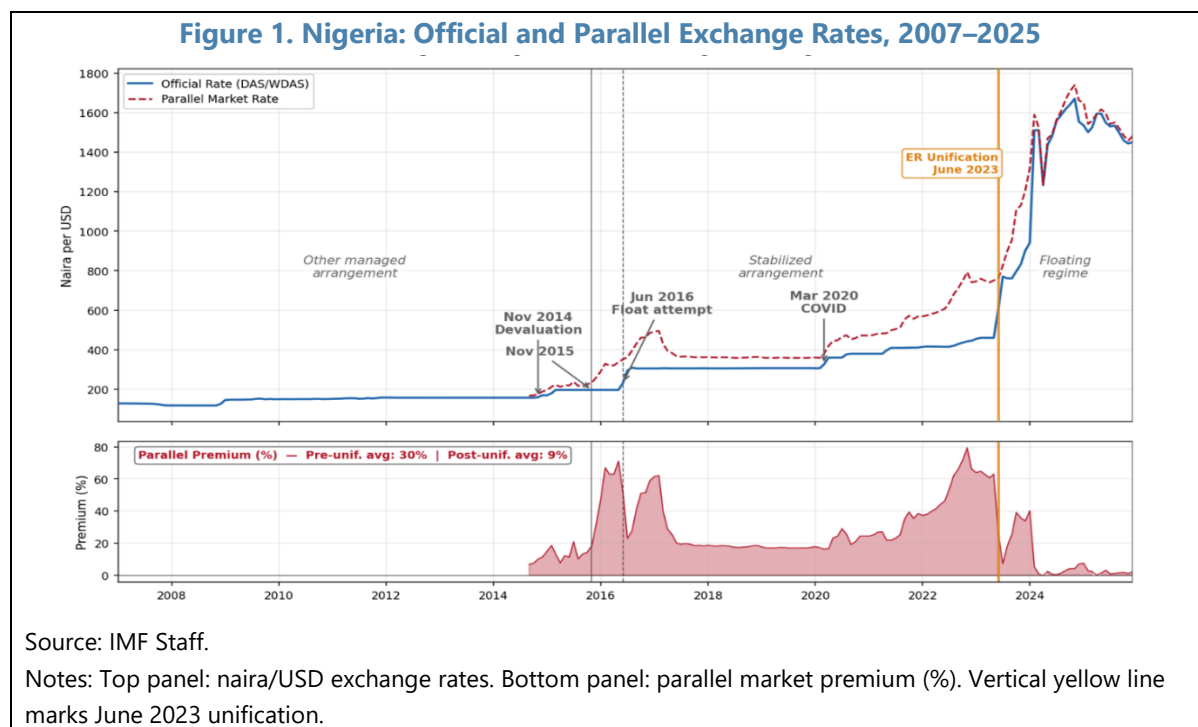
⁴ Classification as a stabilized arrangement entails a spot market exchange rate that remains within a margin of 2% for six months or more (with the exception of a specified number of outliers or step adjustments) and is not floating.

(continued)

averaged around 30 percent and surged above 70 percent during acute stress episodes (2016-17 and 2020-22), signaling sustained misalignment and foreign exchange scarcity (see Figure 1).

3. The June 2023 unification reform marked a fundamental shift in the exchange rate framework, culminating in the transition toward a floating arrangement by 2024. On June 16, 2023, the CBN unified the exchange rate windows, allowing the official rate to adjust toward market-clearing levels under a more flexible arrangement. The reform led to a sharp compression of the parallel market premium, which fell to an average of about 9 percent after unification. Since then, the exchange rate has adjusted continuously, with volatility rising to around 11.6 percent, reflecting the shift from infrequent, stepwise adjustments to more frequent two-sided fluctuations under a market-determined regime (Figure 2). Part of this higher volatility also reflects the transition phase of the new framework, as banks and market participants adapted to the more flexible regime while the authorities implemented reforms to improve FX market liquidity and worked through the settlement of overdue FX obligations.

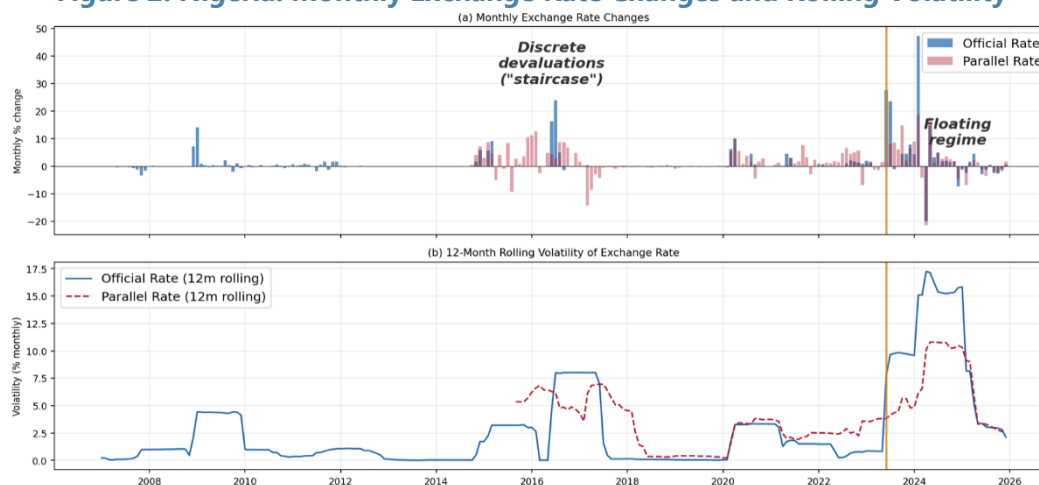
4. Before unification, the official exchange rate was a policy instrument rather than a price signal. The official exchange rate followed a staircase pattern - long periods of rigidity punctuated by discrete devaluations (e.g., November 2014, November 2015, June 2016, and March 2020) - resulting in extended intervals of near-zero monthly changes and low volatility, with a 12-month rolling standard deviation averaging about 2.7 percent. The parallel market rate moved



The liberalization of the foreign exchange market in 2016 followed a period of acute external pressures, such as sharp decline in global oil prices beginning in 2014—combined with weaker global growth, geopolitical tensions affecting trade routes, and U.S. monetary policy normalization. These factors contributed to a significant fall in Nigeria's external reserves, from US\$40.7 billion in January 2014 to US\$26.6 billion in May 2016.

continuously and reflected the marginal cost of foreign exchange for importers, although it remained affected by market frictions and liquidity constraints.

Figure 2. Nigeria: Monthly Exchange Rate Changes and Rolling Volatility

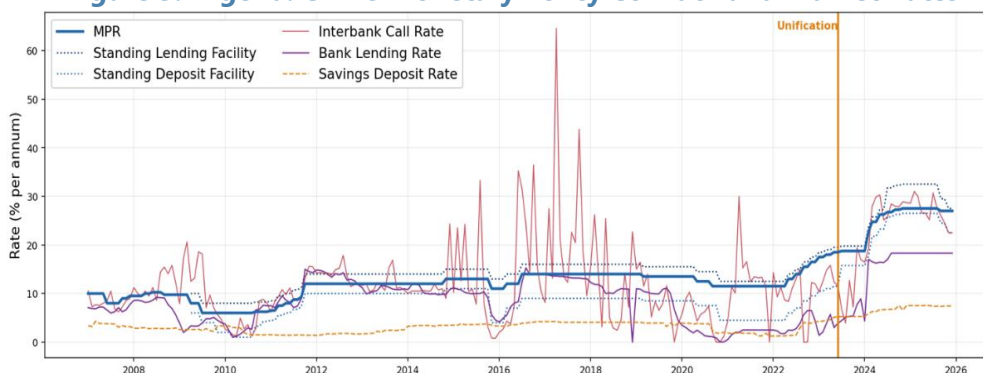


Source: IMF Staff.

Notes: Top: monthly % change in official DAS/WDAS rate. Bottom: 12-month rolling std dev. Pre-unification: 2.7%; post-unification: 11.6%.

5. The exchange rate reform did not occur in isolation — it was accompanied by a significant recalibration of monetary policy aimed at restoring price stability and anchoring expectations under the new regime. Post-unification, the MPR increased sharply to 27.5 percent, and money market rates adjusted visibly upward. The interbank call rate now shows considerably lower volatility than in earlier periods and remains largely within the standing facility corridor, although since August 2025 it has tracked the SDF more closely than MPR, reflecting persistent excess liquidity. Treasury bills and lending rates have also moved to significantly higher levels, reflecting tighter financial conditions. By contrast, savings deposit rates have risen only modestly, remaining in the 3–7 percent range despite the sharp increase in both the MPR and the deposit facility rate (Figure 3).

Figure 3. Nigeria: CBN's Monetary Policy Corridor and Market Rates



Source: IMF Staff.

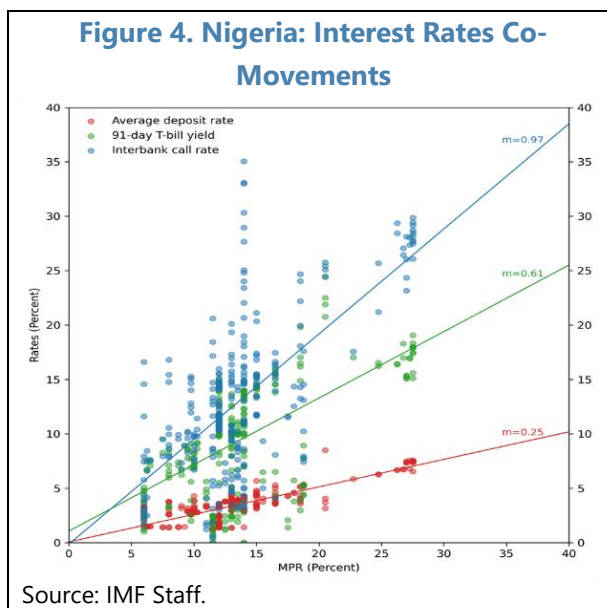
B. Interest Rate Pass-Through

Policy-rate transmission has improved since exchange rate unification, but it remains uneven across different rates, strongest in wholesale money markets and weakest for retail deposit rates.

6. The transition to a market-determined exchange rate regime has important

implications for both interest rate and exchange rate pass-through. Interest rate pass-through refers to the extent to which changes in the policy rate are reflected in market interest rates over time. As the exchange rate became more market-

determined, the MPR has become a more prominent policy signal, making the strength of interest rate pass-through an important indicator of the effectiveness of monetary policy. Figure 4 shows that, on average, the interbank call rate exhibits near one-for-one contemporaneous pass-through (slope ≈ 0.97), indicating that short-term wholesale funding conditions closely track policy decisions, despite considerable volatility given liquidity



fluctuations. However, the simple correlation is inflated by episodic liquidity spikes, visible in Figure 3 as sharp short-lived movements in the interbank rate unrelated to the policy rate, which bias the pooled slope upward. The 91-day Treasury bill yield responds more moderately (slope ≈ 0.61), reflecting partial transmission along the sovereign yield curve, while the average deposit rate displays weak responsiveness (slope ≈ 0.25), consistent with stickiness in retail bank funding costs.

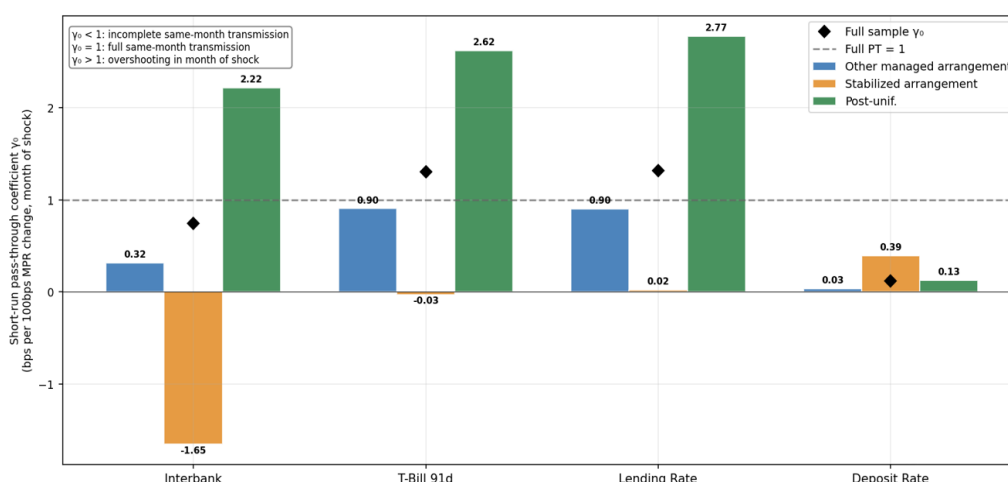
7. Interest rate pass-through in Nigeria is highly regime-dependent: it weakened markedly under the multiple exchange rate system but has begun to recover following exchange rate unification.

Figure 5 shows that the immediate transmission of monetary policy to market rates varies sharply across exchange rate regimes, collapsing during the distortionary period and overshooting following exchange rate unification. Specifically, the figure reports the contemporaneous pass-through coefficient (γ_0) - the same-month response of each market rate to a 100 basis point change in the MPR⁵ - estimated separately for each regime.

⁵ The regime-specific equilibrium pass-through coefficients from the Engle-Granger cointegration framework confirm the pattern documented in the short-run analysis. Under the other managed arrangement, T-bill and lending rates settled close to one-for-one with the MPR ($\beta \approx 1.1$), consistent with the near-complete same-month transmission documented above. During the stabilized arrangement, these coefficients fell below unity and the deposit rate essentially decoupled from the MPR ($\beta \approx 0.07$), reinforcing the breakdown visible in the contemporaneous response. Post-unification coefficients exceed unity across all wholesale rates, consistent with the overshooting observed in Figure X, though these estimates reflect an ongoing adjustment process rather than a settled relationship given the short post-unification sample."

8. These differences across regimes underscore how the effectiveness of transmission of rates depends on the broader exchange rate and liquidity framework. Under the other managed arrangement (2007–2016), the transmission was positive but incomplete for most rates. Interbank and T-bill rates moved by about 32 and 90 basis points, respectively, per 100 basis point change in the policy rate. During the stabilized arrangement (2016–2023), transmission broke down entirely: the interbank rate moved in the opposite direction, reflecting the CBN’s simultaneous use of liquidity injections to defend the exchange rate peg, which offset and reversed the policy rate signal in money markets.⁶ T-bill and lending rates were unresponsive ($\gamma_0 \approx 0$). Following the June 2023 unification, contemporaneous pass-through surged well above unity for all wholesale rates, while deposit rates remained muted across all three regimes.

Figure 5. Nigeria: Contemporaneous Engle-Granger Cointegration Interest Rates Relationships



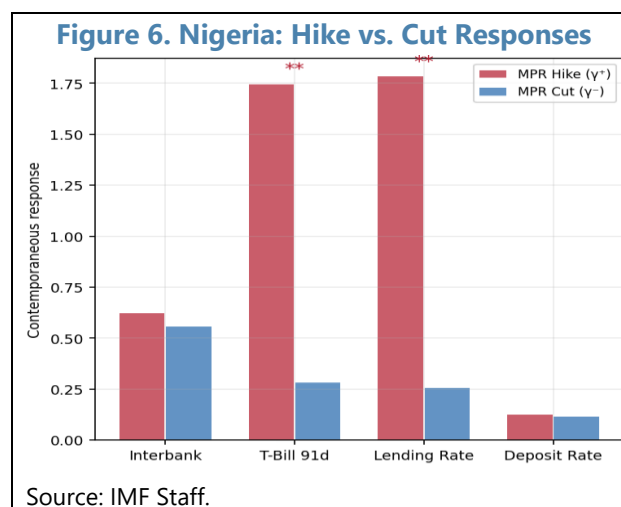
Source: IMF Staff.

Notes: The results were derived using an asymmetric error-correction model (ECM), which decomposes changes in the Monetary Policy Rate (MPR) into positive (tightening) and negative (easing) components within a cointegration framework. This approach allows for the estimation of separate short-run pass-through coefficients for policy rate changes.

9. Interest rate transmission displays a clear “rockets-and-feathers” pattern, with borrowing rates adjusting upward rapidly during tightening cycles but declining only gradually when policy is eased. When the CBN tightens, wholesale and lending rates respond strongly and more than proportionally: a 100 basis-point MPR hike raises T-bill and lending rates by

⁶ Although the IMF’s AREAER formally classifies Nigeria’s stabilized exchange rate arrangement as beginning in 2015, this paper defines the period empirically as starting in June 2016, coinciding with the CBN’s devaluation of the naira and the introduction of measures that marked a discrete shift in the operational exchange rate framework — from a defended peg to a de facto multi-tier system — and represent the moment at which transmission most plausibly changed.

roughly 175–180 basis points on impact, whereas a comparable cut lowers them by only about 25–30 basis points. This asymmetry – statistically significant – implies that banks transmit tightening rapidly and even amplify it but adjust much more slowly during easing cycles. By contrast, while the interbank rate responds symmetrically (around 0.6 in both directions) and deposit rates show little response either way (around 0.12), both are not significant.⁷ It is important to note that the patterns described suggest that the pass through operates more through changes in rates than through their levels, except for interbank rates, which in addition show relative volatility (see Annex II Figure A1).



10. While the transmission of the policy rate to market rates has improved since exchange rate unification, it remains incomplete. Strengthening the operational framework is therefore important to ensure that the MPR more effectively anchors the interbank rate and, through it, is transmitted to other key rates such as lending and deposit rates. Aligning liquidity management operations with the policy stance will be critical to reinforce this transmission channel. In addition, the very high cash reserve ratio (CRR), currently at 45 percent, should also be streamlined to support this process. As inflation declines over the medium term, the nominal MPR would also be expected to fall, reducing the cost of liquidity absorption. At the same time, stronger confidence in the domestic currency—supported by lower and more stable inflation—would help ease dollarization pressures and increase demand for naira, both in currency in circulation and bank deposits. Higher demand for local currency would in turn help reduce structural excess liquidity and create conditions for a gradual reduction in the CRR ratio.

C. Conditional Exchange Rate Pass-Through

Under the floating exchange rate regime, exchange rate movements have become an active channel of inflation dynamics. The inflationary consequences, however, depend on the nature of the underlying exchange rate shock, making a conditional approach to exchange rate pass-through essential for policy.

11. With the move to a flexible exchange rate regime, exchange rate pass-through becomes a central element of macroeconomic transmission, as currency movements now play a more direct and continuous role in shaping domestic prices and financial conditions.

⁷ The results were derived using an asymmetric error-correction model (ECM), which decomposes changes in the MPR into positive (tightening) and negative (easing) components within a cointegration framework. Statistical tests (e.g., Wald tests of coefficient equality) are used to assess whether the responses differ significantly across directions, thereby formally testing for asymmetry in transmission.

Consistent with the literature on exchange rate pass-through under alternative regimes, such a move away from an anchored regime toward greater flexibility is likely to raise pass-through, as firms adjust prices more frequently when exchange rate movements are persistent and observable. At the same time, experience under inflation-targeting regimes suggests that as policy credibility strengthens and inflation expectations become better anchored, exchange rate pass-through tends to decline, even under highly flexible exchange rate arrangements. Accordingly, progress in strengthening the monetary policy framework can help mitigate the inflationary impact of exchange rate movements over time. In the context of a transition toward inflation targeting, understanding these new dynamics is essential. We therefore examine how strongly and how quickly a set of external shocks transmit into domestic prices, and whether exchange rate pass-through has become sufficiently large to materially influence inflation under the floating regime. Ultimately, the answer depends jointly on the magnitude and persistence of exchange rate pass-through and on the effectiveness of the interest rate transmission chain. We turn to both questions in the sections that follow.

Methodology

12. As exchange rate movements in Nigeria are driven by heterogeneous structural shocks and evolving fundamentals, measuring pass-through requires a conditional rather than an unconditional framework. The standard approach to estimating exchange rate pass-through regresses domestic inflation on lagged exchange rate changes, producing an unconditional estimate that pools all sources of exchange rate variation. Yet, as Corsetti, Dedola, and Leduc (2008) as well as Forbes, Hjortsoe, and Nenova (2018) show, the estimated pass-through coefficient depends critically on the structural drivers of exchange rate volatility and on the covariance between exchange rates and marginal costs. When exchange rate movements reflect heterogeneous disturbances, unconditional estimates may therefore be biased or misleading.

13. Therefore, pass-through is not a structural constant but depends critically on the nature of the shock driving exchange rate movements. To address this, the analysis adopts the conditional framework of Forbes et al. (2018) and incorporates pre-identified oil market shocks from Baumeister and Hamilton (2019) into a Bayesian VAR. Our variable selection reflects the oil-dependent and fiscally intertwined structure of the Nigerian economy. The baseline specification includes six variables in the following Cholesky ordering: (1) oil supply shock, (2) global growth oil-demand shock⁸, (3) the federal funds rate, (4) Nigerian CPI inflation, (5) the official exchange rate⁹, and (6) the monetary policy rate. See Annex III for details.

⁸ Nigeria's external position is dominated by crude oil, which substantially contributes to foreign exchange earnings and a substantial share of government revenue. This dual dependence implies that oil market developments influence inflation through multiple channels simultaneously: via the exchange rate (through FX supply), via government spending (through oil revenue), and via domestic energy costs.

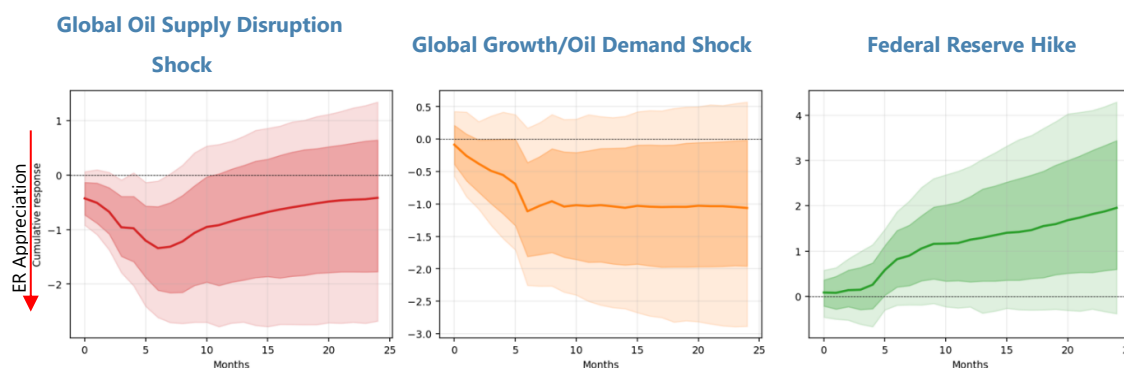
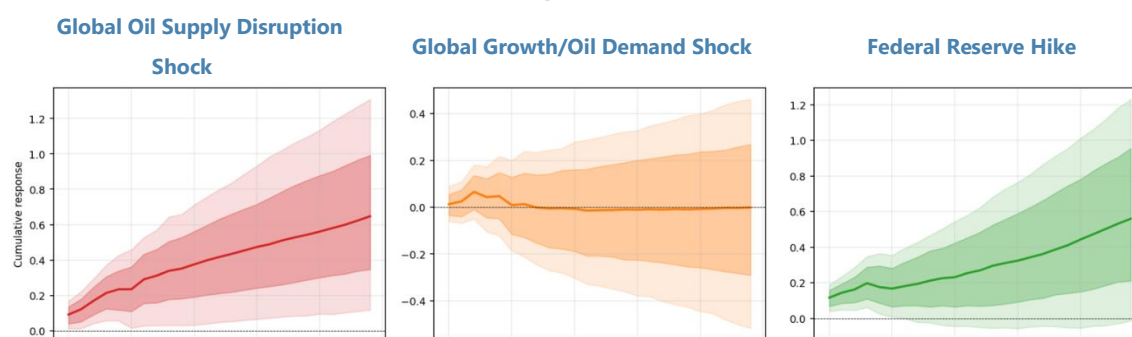
⁹ The estimation uses the bilateral nominal naira/USD exchange rate rather than the NEER, following Casas et al. (2017) who show that for economies where trade is predominantly invoiced in US dollars, the bilateral dollar rate is more informative for pass-through estimation than trade-weighted indices. Over 80% of Nigerian imports are dollar-invoiced, and the CBN's exchange rate policy was explicitly anchored to the dollar throughout the sample period.

14. Exchange rate pass-through is defined as the ratio between the cumulative response of CPI and the cumulative response of the exchange rate to a given structural shock at each horizon. Following Forbes et al. (2018), the ERPT measured as this ratio captures how much of a shock-induced exchange rate movement translates into changes in consumer prices over time. In particular, the exchange rate response forms the denominator of the ratio, so its magnitude play a crucial role in shaping the pass-through estimates. If the exchange rate reacts strongly and persistently to a shock, the resulting ERPT ratio provides a meaningful gauge of the price effects of currency movements.

Baseline Results

Exchange rate pass-through is highly shock-dependent: while external financial tightening generates conventional inflationary pass-through, oil-related shocks yield markedly different outcomes, reflecting the dominance of cost-push channels and structural rigidities.

15. Global oil supply disruption shocks lead to a naira appreciation driven by higher export revenues, but inflation nonetheless increases, reflecting the dominant impact of associated higher cost-push pressures. Following an adverse oil supply disruption — a contraction in global production that raises oil prices and strengthens Nigerian export revenues — the exchange rate responds first: the naira appreciates on impact, with the cumulative response reaching approximately –1.4 percentage points after six months before gradually moderating (Figure 7a, first column). By contrast, consumer prices move in the opposite direction to the expected disinflationary effects of appreciation. While the stronger naira reduces the domestic cost of imports, the direct impact of higher global oil prices on fuel, transport, and intermediate input costs is sufficiently large to dominate, raising CPI by approximately 0.65 percentage points cumulatively over 24 months (Figure 7b). Taken together, these responses point to a negative conditional pass-through: although the shock strengthens the currency through its effect on export earnings, the direct cost channel operates in the opposite direction and dominates. The implied conditional ERPT of –0.49 at $h = 12$ (Figure 8, red line) confirms the broader conclusion that oil supply disruptions generate inflation in Nigeria despite the associated appreciation.

Figure 7. Nigeria: Baseline NIW-BVAR Impulse Responses for CPI and Exchange Rate**7a. Exchange Rates Responses to Shocks****7b. CPI Responses to Shocks**

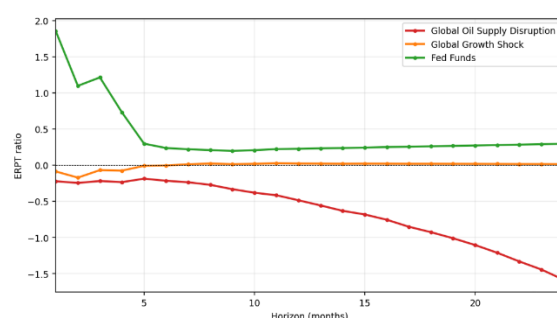
Source: IMF Staff.

Notes: i) The baseline six-variable NIW-BVAR was estimated over 2007M1–2025M9. The darker confidence band covers the 68% credible interval (16th–84th percentile) and the lighter band covers the 90% credible interval (5th–95th percentile).

ii) The exchange rate variable is measured as the naira per US dollar (naira/USD), expressed as a log-difference multiplied by 100. A positive cumulative impulse response therefore indicates a depreciation of the naira, while a negative cumulative response indicates an appreciation.

iii) All responses are to a one-standard-deviation structural shock identified via Cholesky decomposition.

16. Global growth- demand driven oil price shocks also lead to an appreciation of the naira but it has only a limited impact on domestic consumer prices. A positive global growth shock raises oil prices by boosting global crude demand and precautionary demand, independent of supply conditions. As in the case of the global oil disruption supply shock, higher oil prices raise export revenues and lead to an appreciation of the naira, although the cumulative appreciation - at about 1 percentage point after 24 months- is smaller than in the supply shock scenario. Yet CPI remains statistically indistinguishable from zero, with wide credible bands at all horizons (Figure 7b, second column). The near-zero ERPT of +0.02 at $h = 12$ suggests that the appreciation fails to

Figure 8. Nigeria: Conditional Exchange Rates Pass-Through by Shock Type

Source: IMF Staff.

translate into lower consumer prices, consistent with the well-documented prices rigidities in Nigeria (Figure 8, orange line), despite higher retail fuel prices.

17. This result suggests that under an oil supply disruption shock, the cost-push channel is stronger than under the global growth shock in Nigeria. Under an oil supply disruption, the cost-push channel operates through both price and quantity dimensions: higher fuel prices coincide with physical scarcity, elevating transport costs, creating input bottlenecks, and amplifying inflationary pressures across production stages. Under a global demand-oil boom, oil prices also rise, but supply remains available at those prices; cost pressures are therefore purely price-mediated and lack the scarcity amplifier, resulting in more contained pass-through to headline inflation.

18. External financial shocks transmit to Nigeria through a more conventional inflationary channel. A contractionary US monetary policy shock raises Nigerian CPI by about 0.2 percentage points on impact, increasing to roughly 0.6 percentage points after 24 months. The naira depreciates cumulatively by about 2 percentage points at the 12-month horizon, consistent with capital outflows triggered by higher US rates (Figure 7a, third column). This capital-flow mechanism — where tighter US policy weakens the currency and raises import prices — generates a conditional pass-through ratio of approximately 0.3 at the 12-month horizon (Figure 8, green line).

19. However, the pass-through ratio declines steadily over time as the exchange rate continues to depreciate faster than consumer prices respond — the Fed-driven depreciation overshoots the domestic price adjustment. Only a shrinking fraction of the cumulative Fed-induced currency weakness therefore passes through to CPI as the horizon extends. This pattern likely reflects two reinforcing factors: the tendency of importers to treat US tightening as transitory, and the dampening effect of administered prices — regulated fuel and electricity tariffs shielded a significant share of the CPI basket from exchange rate movements throughout much of the sample. The June 2023 subsidy removal and exchange rate unification represent a structural break that likely strengthened this transmission channel going forward, suggesting the full-sample estimate understates post-reform pass-through.

Fiscal Extension

Fiscal dynamics amplify inflation via monetization, with only transient exchange rate effects.

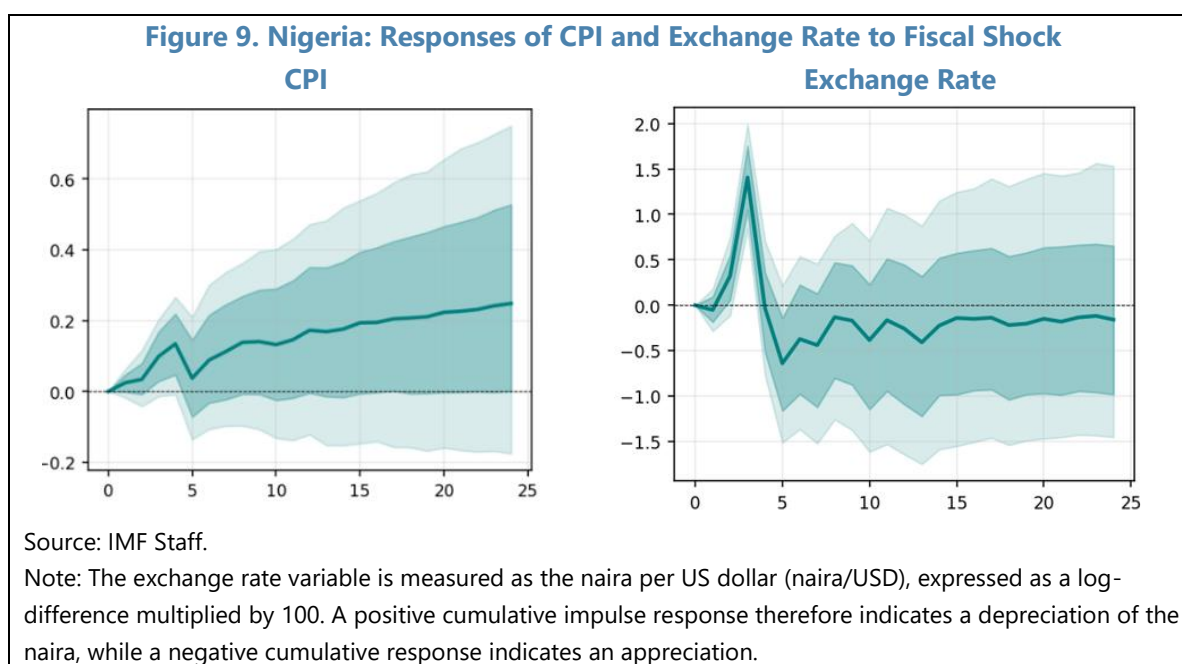
20. The fiscal extension reveals a transmission pattern driven primarily by monetization pressures rather than conventional demand channels. The fiscal shock is identified as a one-standard-deviation innovation to the monthly change in net claims on central government (ΔNCCG), which equals 2.2 trillion NGN over the 2007–2025 estimation sample, and comparable in magnitude to the financing injections observed during the 2020–2022 Ways and Means episode.¹⁰ A shock of

¹⁰ To provide perspective, the distribution is highly skewed: the median monthly change is near zero (0.04 trillion NGN), reflecting periods of relative fiscal restraint, while the maximum observation reaches 18.9 trillion NGN — corresponding to the peak of CBN Ways and Means financing in 2022. The mean of 0.12 trillion NGN confirms that

(continued)

this size produces a front-loaded rise in CPI that builds gradually, reaching about 0.17 percentage points at 12 months and 0.24 percentage points after 24 months.

21. The exchange rate response is more volatile and short-lived. The naira depreciates sharply on impact, peaking at approximately 1.5 percentage points within the first three months, before reversing and thereafter oscillating around zero with wide credible bands. This pattern — an immediate naira sell-off followed by mean reversion — is consistent with a confidence channel operating through monetization: an expansion in Ways and Means financing signals monetary accommodation, triggering an initial depreciation. The inflationary effect therefore operates primarily through the domestic money supply rather than through a sustained exchange rate depreciation, explaining why the fiscal contribution to CPI variance remains modest at 3.3–3.5% (see Figure 9).¹¹



Conditional Pass-Through Across Regimes

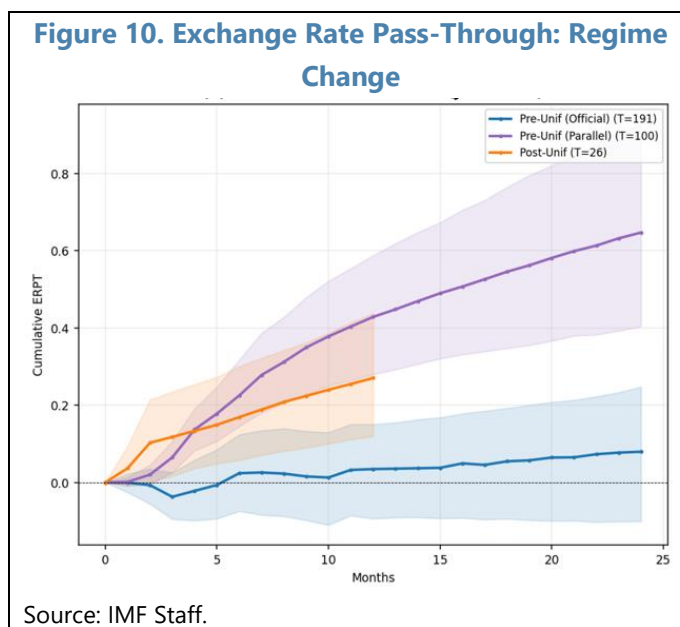
The regime comparison confirms a structural strengthening of exchange rate pass-through following unification.

large positive shocks are episodic rather than persistent. A one-standard-deviation shock of 2.2 trillion NGN therefore represents a meaningful fiscal impulse, economically comparable to the scale of financing injections observed during the 2020–2022 episode. The cumulative CPI response of 0.24 percentage points at 24 months should be interpreted relative to this shock size.

¹¹ As a robustness check, the seven-variable model is re-estimated with an alternative Cholesky ordering that places fiscal shocks before the exchange rate, assuming government borrowing decisions are predetermined relative to monthly exchange rate outcomes. The conditional ERPT for all external shocks is unchanged (oil supply –0.64, Fed funds 0.24), and the fiscal contribution to CPI variance remains at the same level (3.5% vs 3.3% in the baseline).

22. The regime comparison confirms a structural strengthening of the impact of exchange rate movements on inflation following unification. Figure 11 shows the responses of inflation to exchange rate changes, which were estimated using the baseline specification. Post-unification, a

one-standard-deviation exchange rate shock raises CPI by about 0.27 percentage points within 12 months. By contrast, the pre-unification response based on the official exchange rate is muted and imprecisely estimated, with CPI remaining close to zero and credible bands overlapping zero across most horizons—consistent with an administered rate that adjusted too infrequently and discontinuously to provide a reliable price signal. Using the parallel market rate for the pre-unification period yields a larger point estimate, with the cumulative CPI response reaching about 0.65 percentage points after 24 months, although the credible bands widen substantially at longer horizons as uncertainty increases. The post-unification estimates remain more tightly identified at short horizons, though the shorter post-reform sample (ending at 12 months) limits inference about the longer-run dynamics of pass-through.

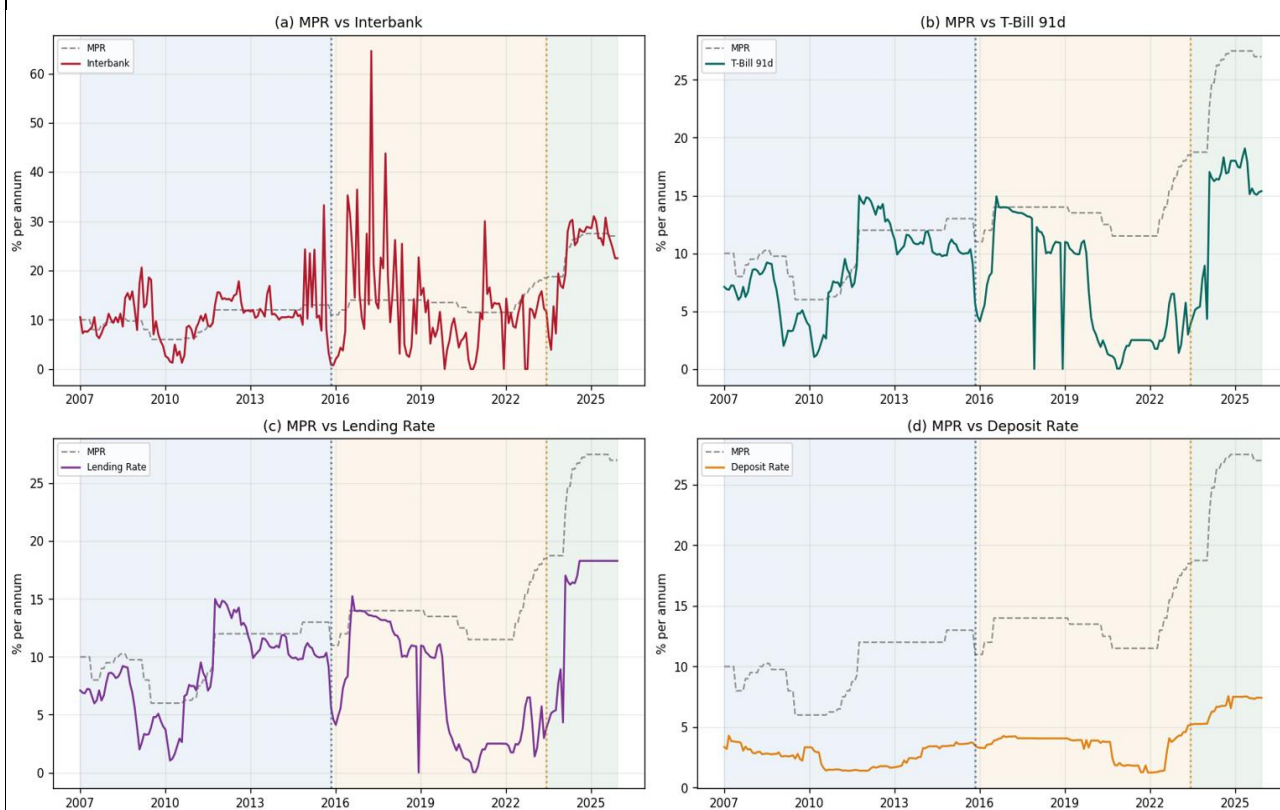


D. Conclusion

23. The analysis shows that Nigeria’s transition to a market-determined exchange rate regime has strengthened interest rate pass-through and altered the inflation dynamics associated with exchange rate movements. Interest rate pass through has strengthened following exchange rate unification, although transmission to retail deposit rates remains weak and operational frictions persist. Exchange rate pass through, in turn, is shown to be highly conditional on the nature of the underlying shock: oil supply disruptions generate inflation despite currency appreciation due to dominant cost push and scarcity effects, while demand driven oil price increases and global growth shocks produce limited inflationary responses, reflecting the absence of physical shortages and the offsetting role of exchange rate appreciation. External financial tightening, by contrast, transmits to inflation through more conventional capital flow and import price channels. These findings underscore that exchange rate pass through is not a structural constant but depends critically on shock composition, regime characteristics, and policy credibility, highlighting the importance of coherent liquidity management and a consistent monetary policy framework as Nigeria moves toward a more fully functioning inflation targeting regime.

Annex I. Monetary Policy Rate and Market Rates

Annex I. Figure 1. Nigeria: Interest Rates by Regime Period



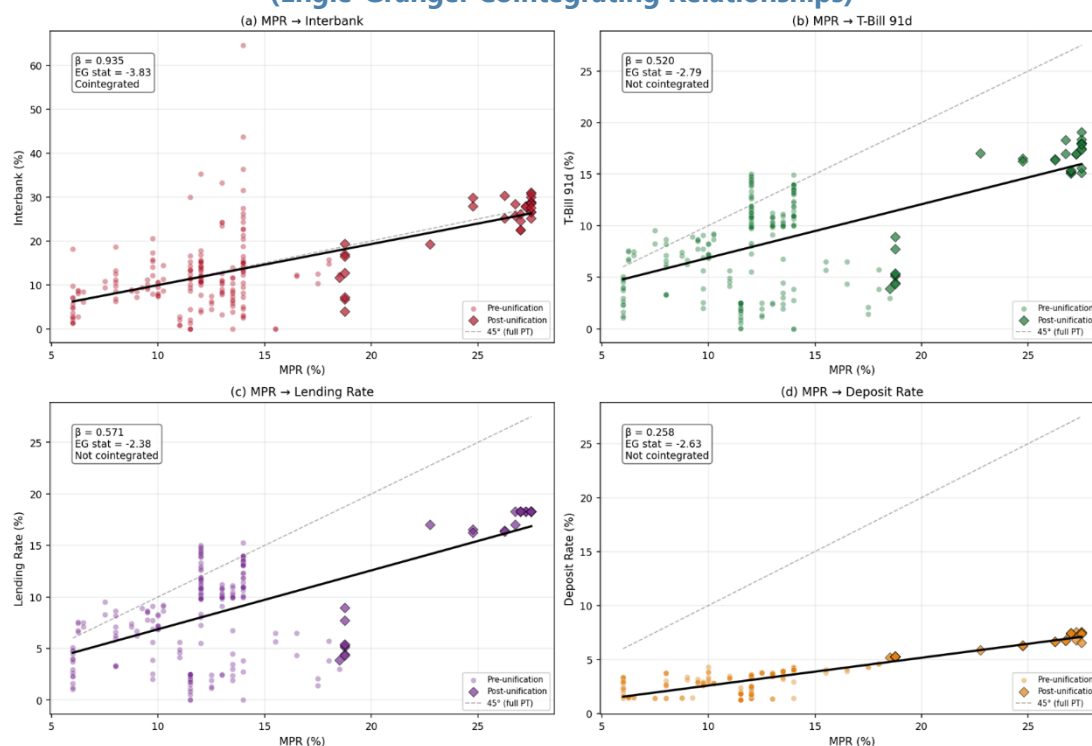
Source: IMF Staff.

Note: Blue area: Other managed arrangement; Orange area: Stabilized arrangement; Green area: Post-unification, floating regime.

Annex II. Interest Rate Pass-through

- The lack of cointegration across most market rates suggests a significant "decoupling" in Nigeria's monetary transmission mechanism.** A cointegrating relationship between two interest rates implies that, despite short-run fluctuations, they share a common long-run trend — meaning that whenever one deviates from the other, market forces or policy transmission eventually pull them back into alignment. The absence of such a relationship across most market rates therefore signals more than just slow adjustment: it indicates that the policy rate and the market rate have been drifting independently, with no systematic tendency to converge. This points to a significant decoupling in Nigeria's monetary transmission mechanism during the full sample period.
- For lending and deposit rates, this decoupling reflects structural rigidities that prevent the policy signal from anchoring bank pricing decisions.** High credit risk premiums, chronic liquidity imbalances, and administrative pressures on bank rates mean that lending rates respond to borrower creditworthiness and funding costs more than to MPR movements. The deposit rate presents the starkest case: with the lowest pass-through coefficient across all rates ($\beta = 0.258$), policy rate hikes do not translate into higher savings incentives for households — banks facing captive depositors with limited alternatives have little competitive pressure to raise deposit rates in response to CBN tightening.

Annex II. Figure 1. Nigeria: Long-run Interest Rates Pass-Through: MPR to Market and Bank Rates
(Engle-Granger Cointegrating Relationships)



Sources: IMF Staff.

Annex III. Bayesian VAR Framework and Identification Strategy

1. **Given the relatively large size of the system compared to the available sample, Bayesian shrinkage is essential to obtain stable and precise impulse responses.** We therefore estimate the baseline specification employing a Normal-Inverse-Wishart Bayesian VAR (NIW-BVAR) with sum-of-coefficients and dummy initial observation priors, following Giannone, Lenza, and Primiceri (2015), allowing the degree of shrinkage to be determined in a data-driven manner.
2. **This framework enables us to isolate the inflationary effects of exchange rate movements associated with distinct structural shocks, rather than treating pass-through as a single invariant parameter.** The estimation consists of six endogenous variables and six lags, and each equation contains 37 free parameters (43 in the seven-variable extension), estimated on only 225 observations.
3. **In this setting, classical OLS estimation produces imprecise coefficients and wide confidence intervals.** Bayesian shrinkage disciplines the estimation by pulling weakly identified coefficients toward economically sensible priors, thereby reducing estimation noise without imposing zero restrictions. A second advantage of the NIW framework is that it allows the degree of shrinkage to be chosen in a data-driven manner rather than fixed arbitrarily. This approach allows us to isolate the inflationary effects of exchange rate changes associated with distinct structural shocks, rather than treating pass-through as a single invariant parameter. Our variable selection reflects the oil-dependent and fiscally intertwined structure of the Nigerian economy. The baseline specification includes six variables in the following Cholesky ordering: (1) oil supply shock, (2) oil demand shock, (3) the federal funds rate, (4) Nigerian CPI inflation, (5) the official exchange rate, and (6) the monetary policy rate.
4. **The first three variables are ordered first as external conditions determined independently of Nigerian macroeconomic developments at the monthly frequency.** The Baumeister and Hamilton (2019) oil shocks¹ are pre-identified structural innovations extracted from the global oil market, and U.S. monetary policy does not respond to Nigerian variables within the month.
5. **The domestic block orders CPI before the exchange rate on the grounds that consumer prices are sticky and do not respond to contemporaneous exchange rate movements within a single month, whereas the exchange rate can react to inflation news.** The MPR is ordered last because the Central Bank of Nigeria observes both current inflation and the exchange rate before setting its policy rate at the MPC meeting and therefore responds contemporaneously to all other variables in the system.
6. **In the extended specification, the system includes the monthly change in net claims on the central government (ΔNCCG) as a fiscal channel extension.** The ΔNCCG captures the net

¹ The dataset was retrieved from <https://sites.google.com/site/cjsbaumeister/datasetshe>

flow of lending from the banking system to the federal government, including CBN Ways and Means Advances, banking system holdings of government securities, and government deposits.

7. The main monthly variation reflects the government's recourse to the CBN's Ways and Means facility to bridge short-term gaps between committed expenditure and available revenue rather than DMO bond issuance, which follows a pre-announced calendar.²

8. The identification strategy therefore treats recourse to CBN Ways and Means as a residual fiscal financing instrument that responds to contemporaneous exchange rate movements but precedes monetary policy decisions. Accordingly, the ΔNCCG variable is inserted between the exchange rate and the MPR in the Cholesky ordering, yielding: (1) oil supply, (2) oil demand, (3) Fed funds, (4) CPI, (5) exchange rate, (6) ΔNCCG , (7) MPR.³

9. The ordering reflects the role of Ways and Means as a residual financing instrument: spending is fixed within the month, while revenues—especially oil revenues—depend on the exchange rate, so a weaker naira can widen the financing gap and increase recourse to central bank financing. The fiscal shock therefore captures the component of government borrowing not explained by contemporaneous oil prices, external monetary conditions, inflation, or the exchange rate—i.e., the autonomous fiscal impulse. The MPR is ordered last, reflecting that the CBN sets the policy rate after observing both the exchange rate and the fiscal stance.

² The change in net claims on the central government to capture the fiscal–monetary nexus that has become central to Nigeria's inflation dynamics. For example, CBN's Ways and Means Advances — which reached ₦22.7 trillion before securitization in 2023 — constitute direct deficit monetization, expanding the monetary base independently of the policy rate.

³ As a robustness check, we re-estimate the seven-variable model with an alternative Cholesky ordering that places fiscal shocks before the exchange rate — assuming government borrowing decisions are predetermined relative to monthly exchange rate outcomes. The results are robust.

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