Dealing with Capital Flow Volatility: The Nigerian Experience

BY

Moses K. TULE

Director, Monetary Policy Department

CENTRAL BANK OF NIGERIA

Being a Paper Presented at the G-24 Technical Group Meeting (TGM), Colombo, Sri Lanka, February 27-28, 2018

Outline

- Introduction
- Stylized Facts on Capital Flows in Nigeria
- Macroeconomic Policy Responses
  - Fiscal and Monetary Policy Response
  - Response by Types of Flow
  - Unorthodox Policy Responses
- Summary and Conclusion

INTRODUCTION

- Foreign capital flow is central to the development efforts of emerging market economies, as it helps to bridge the savings-investment gap

- These type of capital are however, volatile and large, relative to the size of the country’s financial markets

- Major challenges confronting policymakers in recent time is to provide appropriate policy responses to tackle the impact of unexpected surge or reversal in capital flows on the financial markets and the macro-economy

- In Nigeria, capital importation is skewed in favour of FPI in equities, accounting for 68.40 per cent of total, as against 6.12 and 6.88 per cent, invested in the bonds and money markets, respectively.

INTRODUCTION

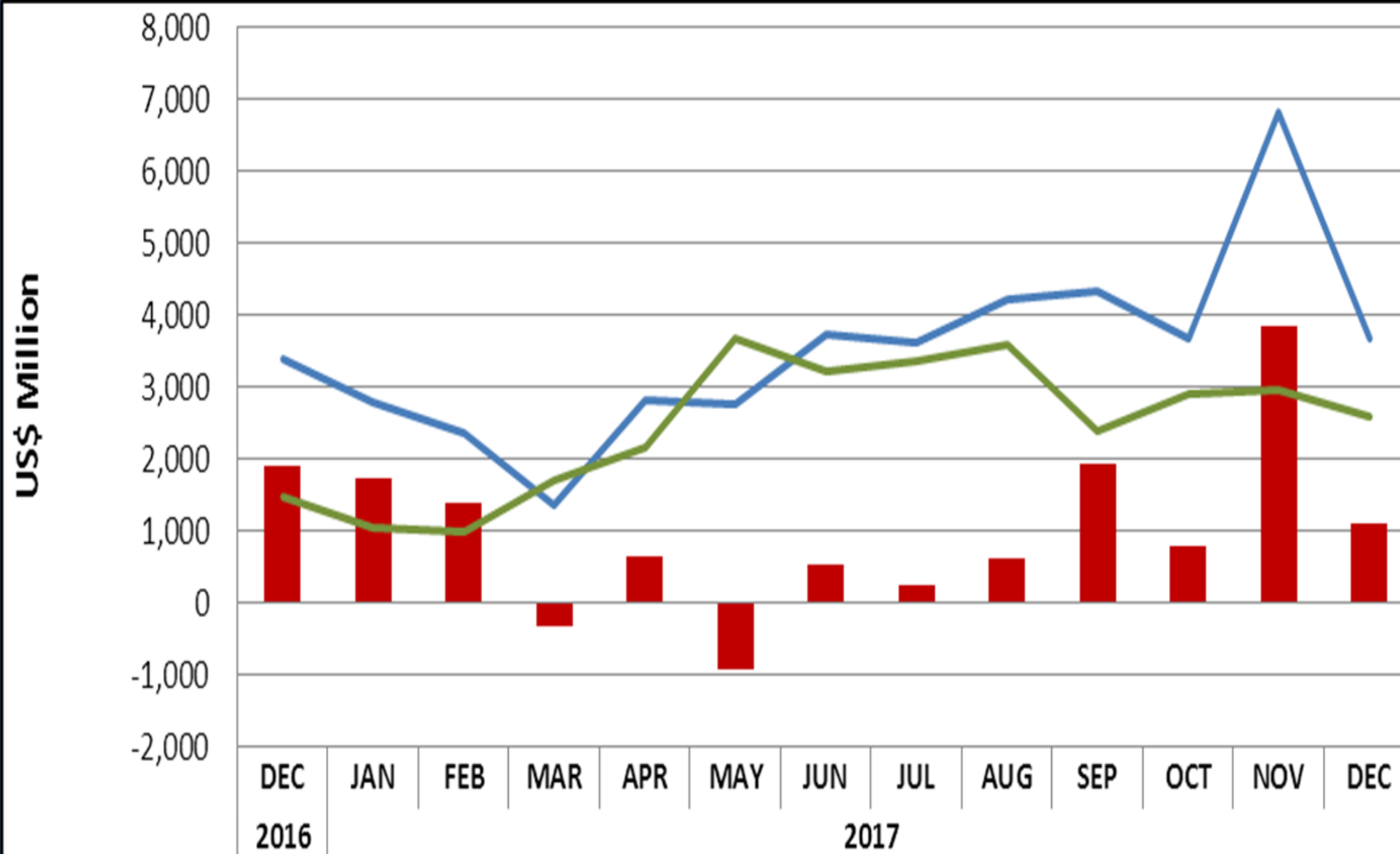
- Despite the benefits of openness, macroeconomic concerns exist with capital flows
  - **Capital flows tend to be pro-cyclical and could precipitate financial and macroeconomic instability**

- Some of the many risks of surge or reversal in capital flows are:
  - **the possibility of rapid changes in exchange rate, external reserves and monetary policy, amongst others (Tule, 2013)**

- The major challenge confronting policymakers therefore, is to provide appropriate policy responses to tackle the impact of unexpected surge in capital flows

STYLIZED FACTS

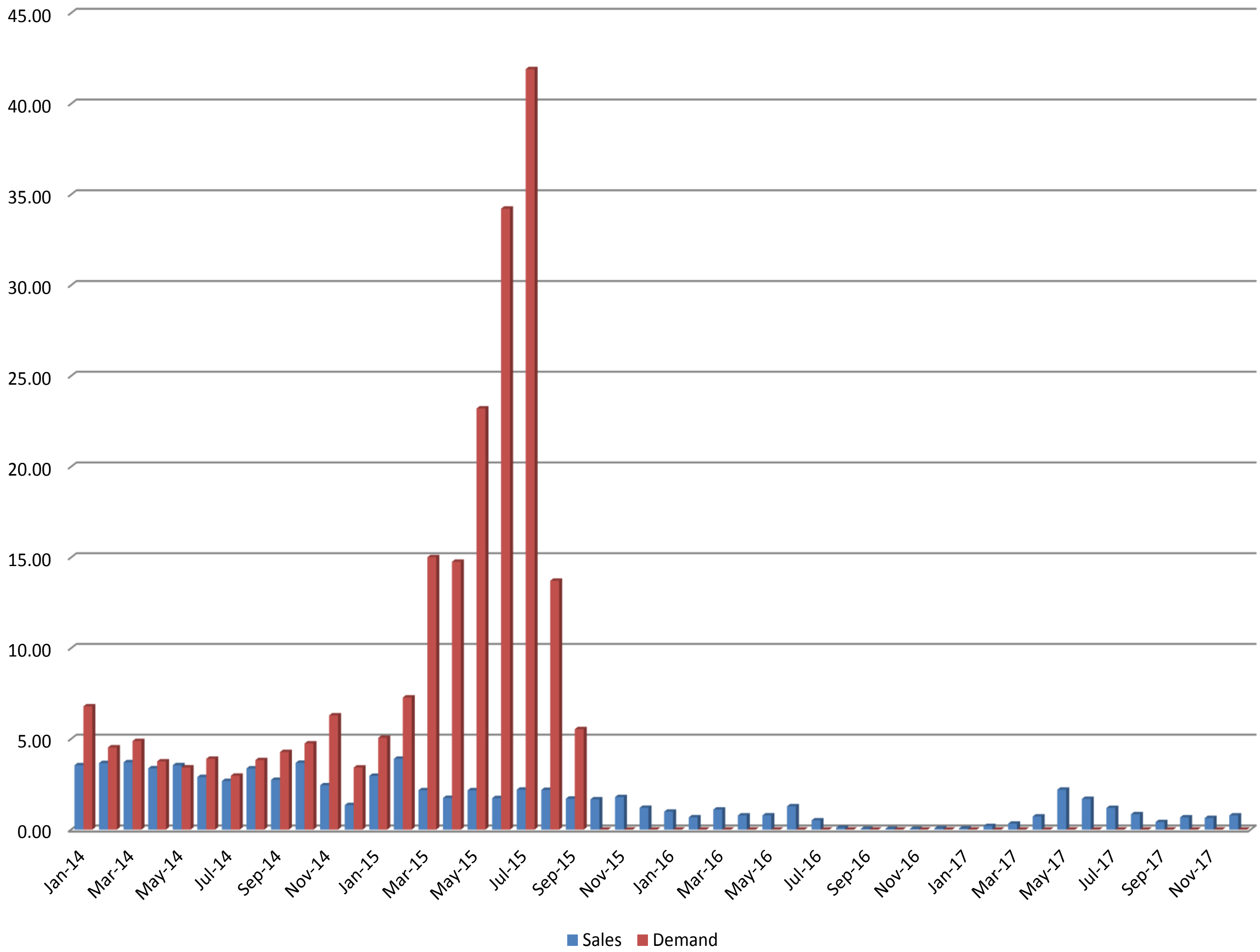
Nigeria: Trend in Capital Flows



	DEC 2016	JAN 2017	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NET FLOW	1,917	1,728	1,389	-328	647	-912	536	257	617	1,939	796	3,854	1,096
INFLOW	3,385	2,777	2,365	1,373	2,811	2,764	3,745	3,615	4,212	4,329	3,688	6,812	3,681
OUTFLOW	1,469	1,049	977	1,701	2,164	3,676	3,208	3,358	3,594	2,390	2,892	2,958	2,584

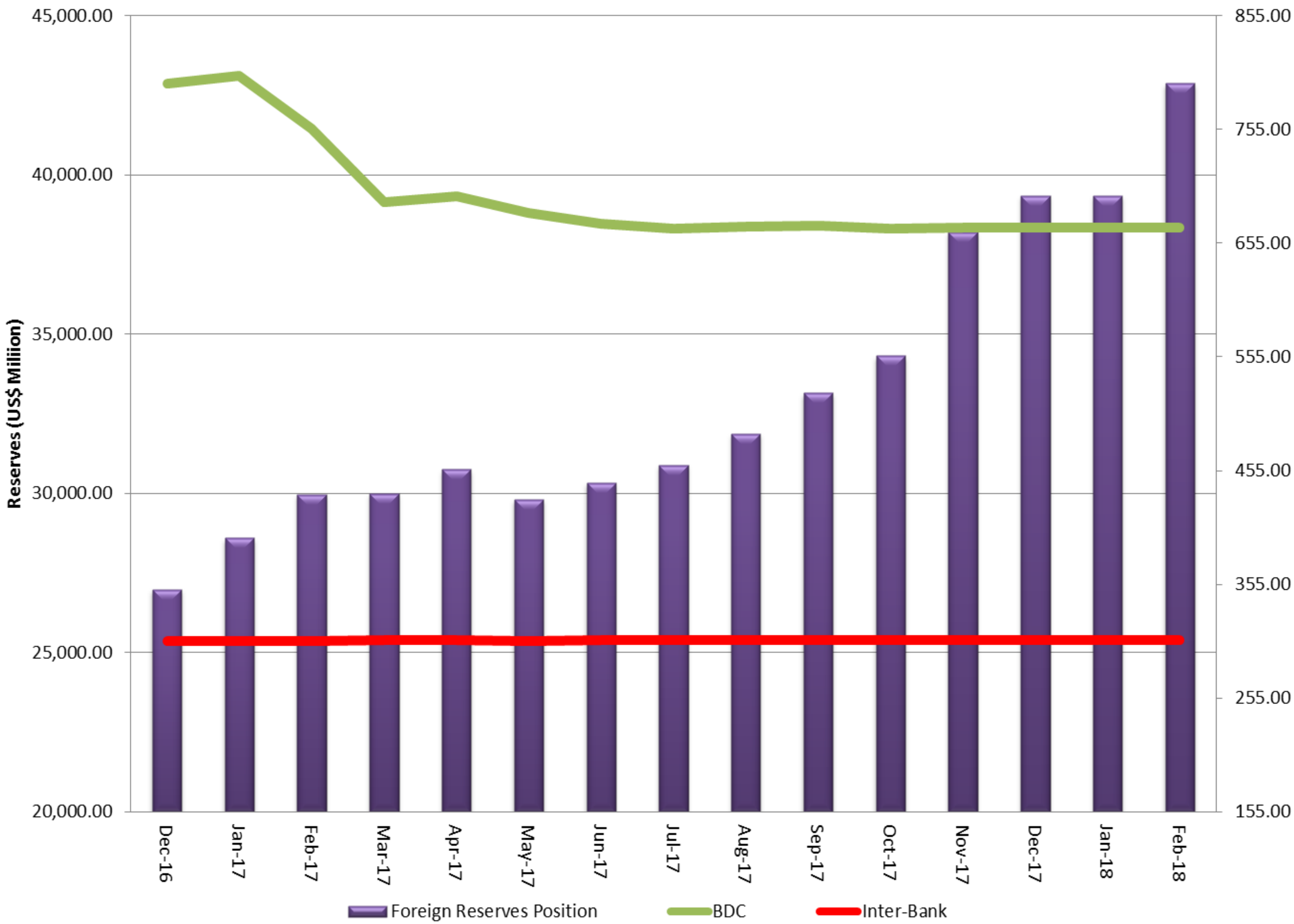
STYLIZED FACTS

Demand and Supply of Foreign Exchange (US$ Billion)



STYLIZED FACTS

External Reserves and Exchange rates Movements



STYLIZED FACTS

- Aggregate inflow to Nigeria has expanded phenomenally. Three important drivers are easily identified:
  - **Improvement in crude oil prices and domestic production**
    - Rise in Crude Oil Price by 22.01% to US$68.03pb (end-Dec 2017)
    - Oil production improved to 1.93 mbd in January 2018, from 1.86 mbd in December 2017
    - Relative calmness in the Niger Delta region
  - **Improved macroeconomic environment**
    - Foreign Reserve rose from US$26.99 billion (end-Dec., 2016) to US$41.14 billion (end-Jan., 2018)
    - Deceleration in Inflation Rate from 18.55% in 2016 and to 15.13% in January 2018
    - Recovery from Recession to Growth by 1.40% in Q3, 2017
    - BOP surplus of US$2.3 billion or 2.4 per cent of GDP in Q3, 2017
  - **Investment friendlier policy**
    - Expansionary Fiscal Policy
    - Implementation of Economic Recovery and Growth Plan (ERGP)
    - Expansionary Monetary Policy

STYLIZED FACTS

Transactions on the NSE

DATE	ALL SHARE INDEX	MARKET CAPITALIZATION	DEALS	VOLUME	VALUE
December-16	26,874.62	9,246,922,819,355.66	1,714	156,796,559	1,598,915,315.98
January-17	26,036.24	8,972,985,643,235.82	2,914	205,771,130	2,762,787,400.24
February-17	25,329.08	8,765,915,631,793.82	3,336	444,504,723	3,648,769,003.41
March-17	25,516.34	8,828,957,620,238.67	3,159	593,869,361	94,263,983,571.65
April-17	25,758.51	8,912,898,934,536.84	3,598	366,467,226	2,875,994,863.45
May-17	29,498.31	10,197,729,667,498.40	4,905	343,192,321	3,338,701,460.15
June-17	33,117.48	11,452,118,248,061.70	4,797	345,860,236	3,348,413,933.82
July-17	35,847.75	12,353,660,900,679.90	5,558	490,164,026	5,265,814,588.76
August-17	35,504.62	12,237,477,313,305.40	2,263	266,505,858	4,036,009,777.21
September-17	35,439.98	12,216,928,885,785.60	2,809	2,358,249,543	3,833,105,148.64
October-17	36,680.29	12,694,937,935,281.90	4,503	259,079,690	3,054,792,643.79
November-17	37,944.60	13,214,577,383,394.70	5,152	11,770,000,261	21,384,427,145.26
December-17	38,243.19	13,609,474,245,109.50	2,722	561,273,352	6,893,539,956.79
January-18	44,343.65	15,895,877,383,156.30	7,091	651,900,594	7,763,766,783.21

STYLIZED FACTS

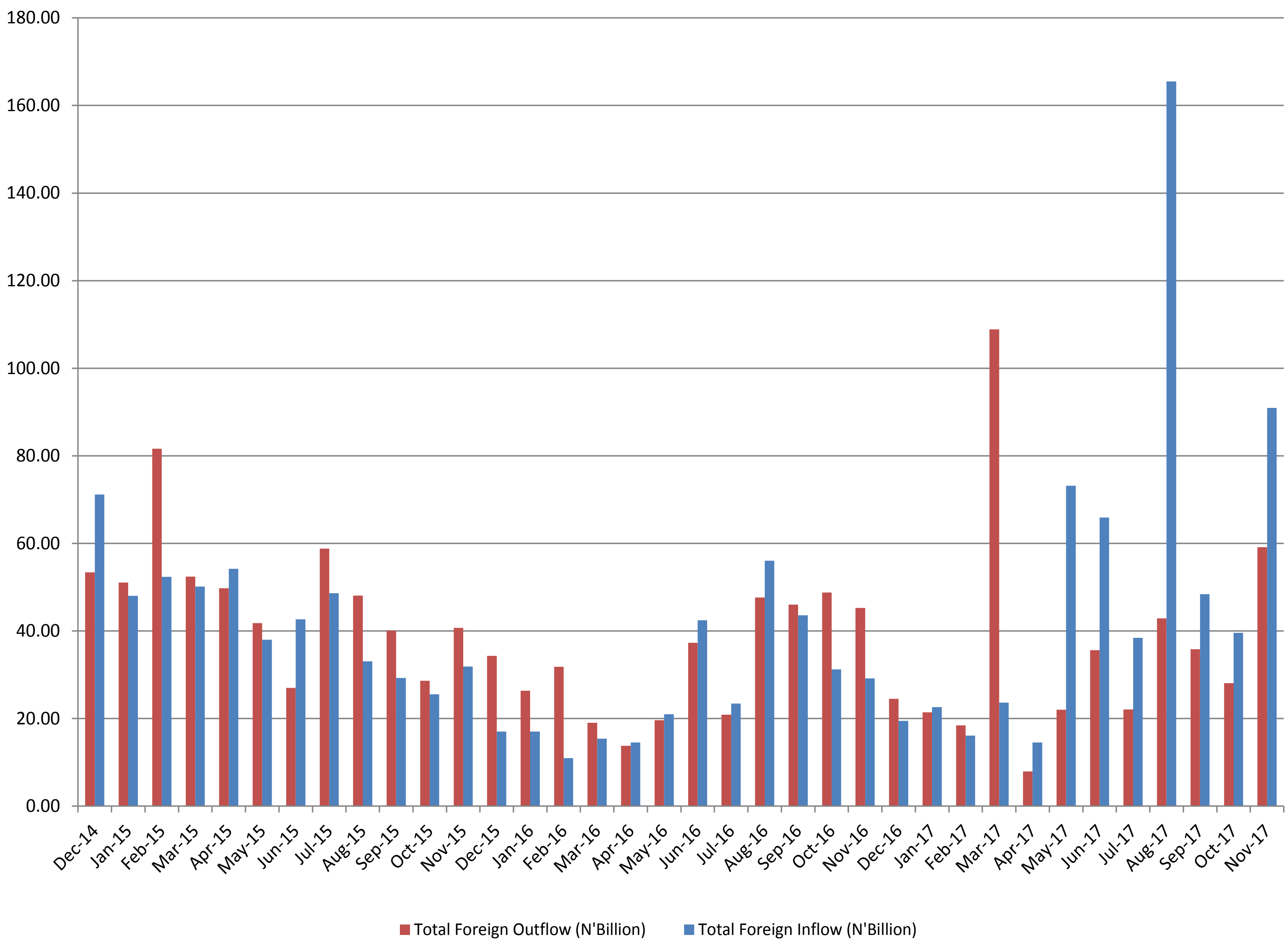
Domestic and Foreign Participation in Equities Trading on the NSE (2015 – 2017)

Domestic and Foreign Participation in Equity Trading in the NSE, Jan 2015 - November 2017							
Period	Total Transactions N' Billion	Total Foreign Inflow in N'Billion	Total Foreign Outflow in N'Billion	Total Foreign Transactions N'Billion	Total Domestic Transactions N'Billion	Total Foreign Transactions as a per centage of Total Transactions (%)	Total Domestic Transactions as a per centage of Total Transactions (%)
Jan-15	189.72	48.03	51.08	99.11	90.61	52.24	47.76
Feb-15	184.49	52.35	81.60	133.95	50.54	72.61	27.39
Mar-15	184.02	50.15	52.41	102.56	81.46	55.73	44.27
Apr-15	206.86	54.20	49.75	103.95	102.91	50.25	49.75
May-15	145.45	38.00	41.77	79.77	65.68	54.84	45.16
Jun-15	203.45	42.67	26.98	69.65	133.80	34.24	65.76
Jul-15	170.83	48.64	58.83	107.47	63.36	62.91	37.09
Aug-15	145.69	33.06	48.07	81.13	64.56	55.69	44.31
Sep-15	129.92	29.26	40.07	69.33	60.59	53.36	46.64
Oct-15	106.84	25.56	28.64	54.20	52.64	50.73	49.27
Nov-15	127.80	31.87	40.73	72.60	55.20	56.81	43.19
Dec-15	110.56	17.04	34.31	51.35	59.21	46.45	53.55
Jan-16	84.10	17.01	26.36	43.37	40.73	51.57	48.43
Feb-16	117.27	10.94	31.84	42.78	74.49	36.48	63.52
Mar-16	96.31	15.40	19.04	34.44	61.87	35.76	64.24
Apr-16	66.96	14.52	13.76	28.28	38.68	42.23	57.77
May-16	103.45	20.96	19.62	40.58	63.34	39.23	61.23
Jun-16	155.85	42.46	37.30	79.76	76.08	51.18	48.82
Jul-16	90.19	23.43	20.85	44.28	45.91	49.10	50.90
Aug-16	117.71	34.70	21.36	56.06	61.65	47.63	52.37
Sep-16	94.77	24.41	19.18	43.59	51.18	46.00	54.00
Oct-16	64.03	18.67	12.57	31.24	32.79	48.79	51.21
Nov-16	64.39	14.53	14.62	29.15	35.24	45.27	54.73
Dec-16	95.88	19.49	24.53	44.02	51.86	45.91	54.09
Jan-17	95.32	22.61	21.40	44.01	51.51	46.17	54.04
Feb-17	74.11	16.10	18.44	34.54	39.57	46.61	53.39
Mar-17	285.05	23.64	108.87	132.51	152.54	46.49	53.51
Apr-17	54.90	14.54	7.91	22.45	32.45	40.89	59.11
May-17	205.61	73.15	22.04	95.19	110.42	46.30	53.70
Jun-17	220.27	65.93	35.60	101.53	118.74	46.09	53.91
Jul-17	194.15	38.44	22.06	60.50	133.65	31.16	68.84
Aug-17	396.86	165.47	42.87	208.34	188.52	52.50	47.50
Sep-17	129.52	48.42	35.85	84.27	45.25	65.06	34.94
Oct-17	127.82	39.56	28.08	64.64	60.18	52.92	47.08
Nov-17	278.49	90.96	59.14	150.10	128.39	53.90	46.10
Jan 2015 - Dec 2015(Aggregate)	**1905.63**	**470.83**	**554.24**	**1025.07**	**880.56**	53.79	46.21
Jan 2016 -Dec 2016 (Aggregate)	**1150.91**	**256.52**	**261.03**	**517.55**	**633.82**	44.97	55.07
Jan 2017-November 2017(Aggregate)	**1655.79**	**468.30**	**315.04**	**783.34**	**872.65**	47.31	52.70

Source: Nigerian Stock Exchange

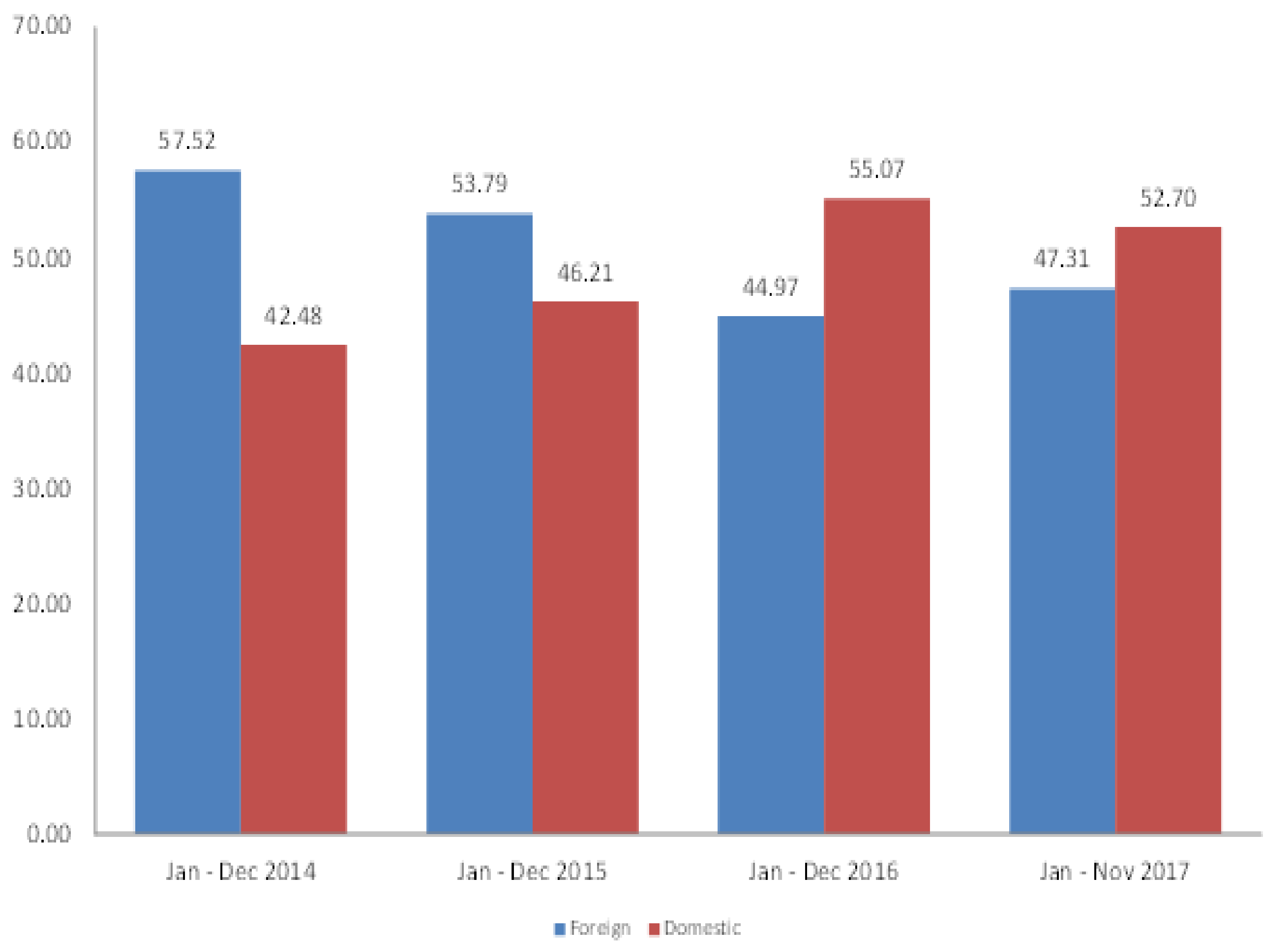
STYLIZED FACTS

Flow of Foreign Portfolio Investment (Equities) on the NSE)



STYLIZED FACTS

Market Structure: Foreign VS Domestic Transactions (Equities)

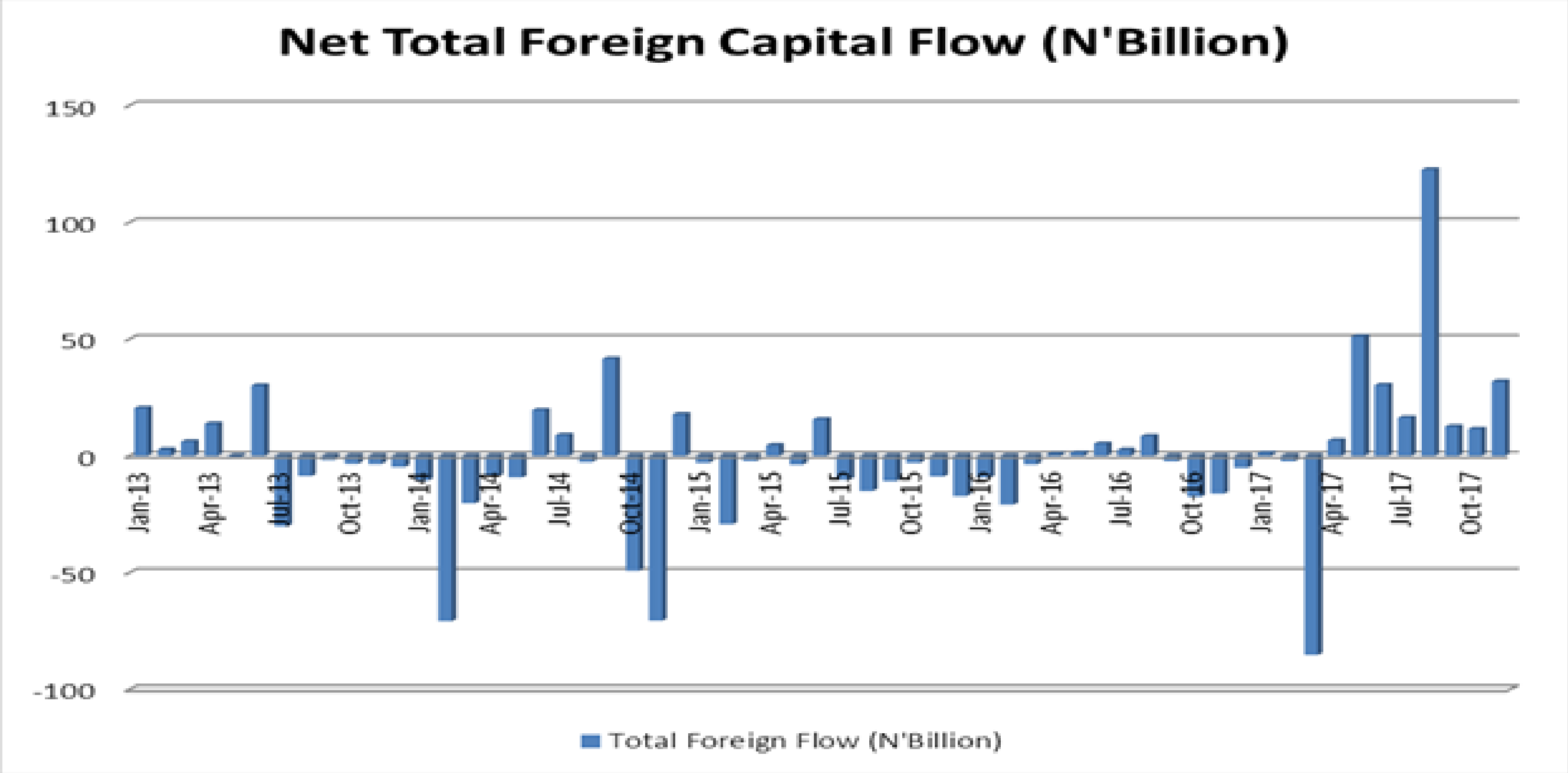


Macroeconomic Policy Responses to Capital Flow Volatility

The fluctuation in capital flows is quite obvious over the sample period, January 2013 to December 2017

- Net capital flows decreased substantially from N20.46 billion at end of January 2013, to negative N0.4 billion in May 2013 before reversing shortly in June 2013 to N30.06 billion. There were signs of temporary recovery between June and September 2014, but slumped further into negative net flow of N49.16 billion and N70.51 billion in October 2014 and November 2014.

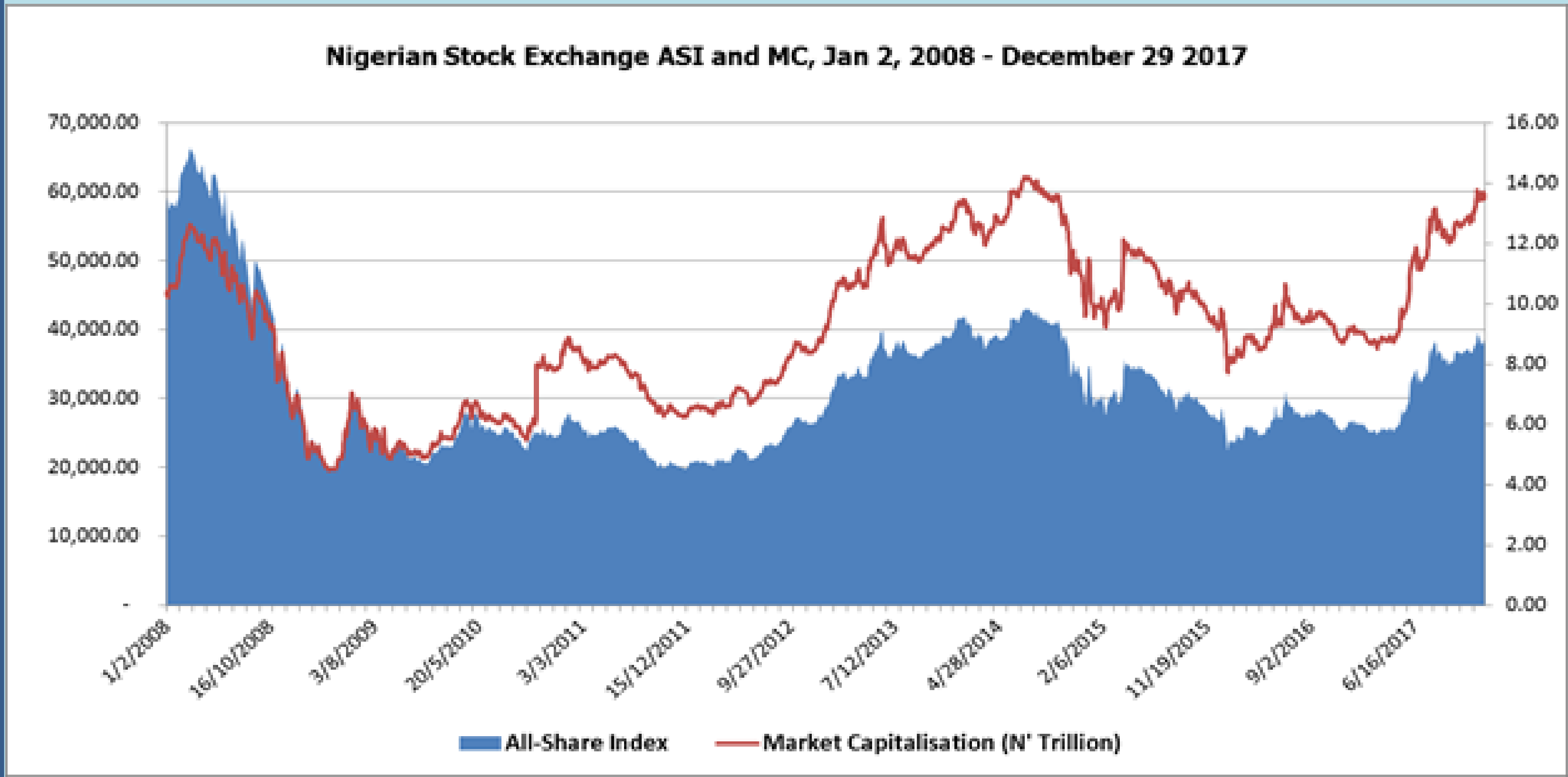
- It should be recalled that the year 2014 was quite turbulent, bearing in mind the pre-election uncertainties and the ravaging incursion of the terrorist group, 'Boko haram' in the country. Net capital flows retracted into negative region through 2015, with exception of April and June when positive net flows of N4.45 billion and N15.69 billion, respectively.



Macroeconomic Policy Responses to Capital Flow Volatility

- As the recession deepened, the negative outflow continued until June 2016 when net capital flow moderated following the policy intervention by the central bank and a shift into a more flexible exchange rate regime.

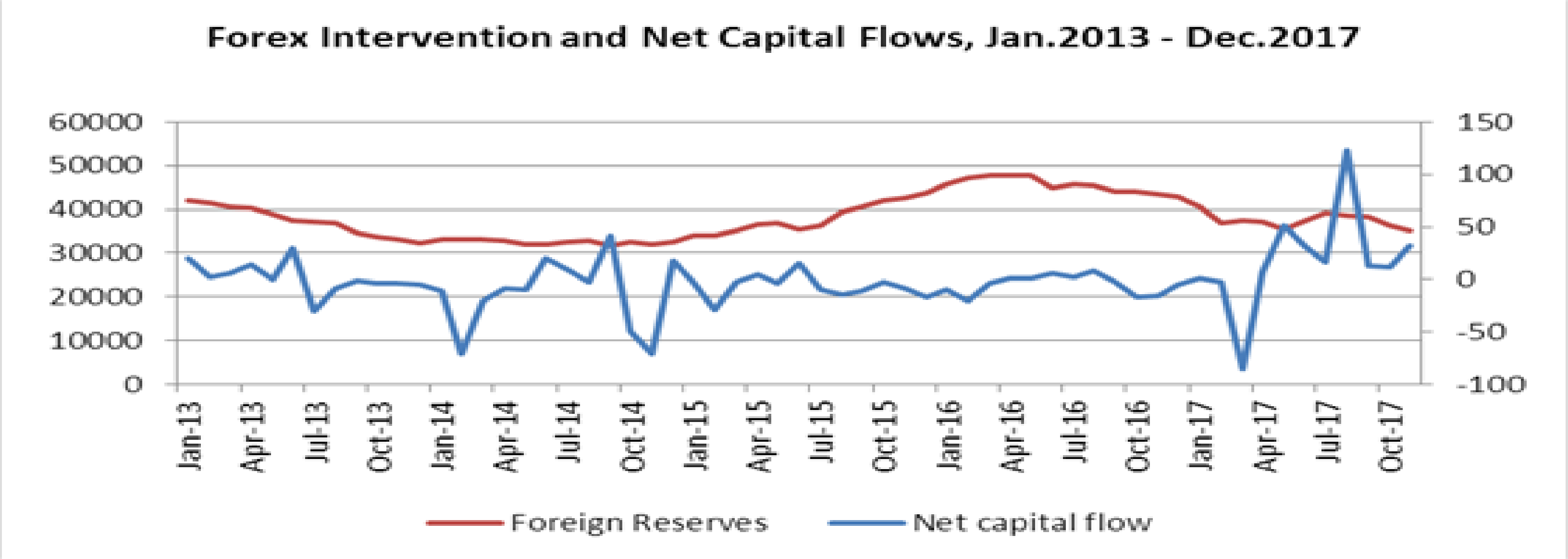
- The impact of the intervention waned towards August 2016; and negative net capital flow persisted until March 2017 when there were strong signs of economic recovery



Macroeconomic Policy Responses to Capital Flow Volatility

Foreign exchange intervention

- Foreign exchange intervention trailed the ebbs and tides of capital flows
- Positive net capital inflows are associated with reserve accumulation. On average, the central bank purchase about 5 percent of the inflows.
- The response is stronger when we segment capital flows into capital inflow and outflow. A large negative coefficient of (-0.51) in the correlation analysis was obtained for capital outflow, indicating that in the face of fleeing capital and to avoid the depreciation of the currency, the central bank sold foreign reserves.



MPC Decisions in 2017

	January	March	May	July	September	November
MPR	Retained MPR at 14%	No Change	No Change	No Change	No Change	No Change
MPR Corridor	Maintained the asymmetric corridor at +200 basis points and -500 basis points	No Change	No Change	No Change	No Change	No Change
CRR	Maintained the CRR at 22.5%	No Change	No Change	No Change	No Change	No Change
LR	Retained the LR at 30%	No Change	No Change	No Change	No Change	No Change

Macroeconomic Policy Responses to Capital Flow Volatility

Monetary policy

- The coefficient of correlation for the monetary policy rate shows that net capital flow tends to incite higher policy rates.

- An increase in net capital flows is associated with increase in the policy rate by almost 21 per cent.
  - **In other words, the decision to maintain high policy rate, or out-rightly raise the rate is often motivated by the desire to attract capital inflow into the economy**.

- In deciding on the policy rate, the Monetary Policy Committee's (MPC) considerations often revolve around the possible exit of portfolio investments (CBN, 2017: MPC Communique No.114, July, 2017).

Fiscal policy

- The coefficient of -0.01, obtained for the fiscal policy response, shows that fiscal policy is seldom deployed in dealing with capital flows.
  - This is not surprising bearing in mind the long time lag it takes to pull through with fiscal policy.

Macroeconomic Policy Responses to Capital Flow Volatility

Unorthodox Measures

- The cash reserve requirement (CRR) is the most prominent of the macroprudential measures.

- The correlation analysis indicates a positive coefficient of 0.08.
  - The positive association between this macroprudential measure and net capital flow implies that CRR reacts to capital flows.

- The increase in net flow elicited the likelihood of tightening macroprudential policy as hedge against financial vulnerability
  - The likelihood of adopting macroprudential policy was more associated with capital outflows as indicated by the correlation coefficient of 0.23.

- Intuitively, it is expected that policy makers would react more aggressively to portfolio inflows with macroprudential tools because of the financial stability risks often associated with portfolio investment.

Macroeconomic Policy Responses to Capital Flow Volatility

Capital Controls

Demand Side Capital flow management measures	*Supply Side Capital flow Management Measures*
• In June 2015, the Bank excluded importers of some goods and services (initially 41 items) from accessing the official window of foreign exchange market in order to encourage local production of these items. • The Bank's at the May 2016 MPC meeting introduced some flexibility in the foreign exchange market. • Over The Counter (OTC) FX futures were introduced. • In addition, non-oil exporters were allowed unfettered access to export proceeds and all these reduced pressure on the Bank to meet a predetermined rate and it also encourage a market-driven value for the Naira	• One covert measure taken by the government to stabilize and boost inward capital flow was the issuance of two executive orders in May, 2017. **1st: Promoting transparency and efficiency in Nigeria's business environment** • To improve ease of doing business • Boost investor confidence **2nd: Support for Local Content in public Procurement by MDAs.** • To moderate export demand and the capital outflow

Conclusion and Policy Implications

- The Bank, in the course of managing capital flow volatility, keeps its policy menu open and respond in a symmetrical manner.

- The Bank responds when there is need and effectively prepare buffers through reserves' accumulation as a means to have a firm grip on the boom and bust inherent in capital mobility.

- Complementary reforms in key sectors of the economy also provide long-term benefits in sustaining capital flows and the effective management of associated volatility.

- It should be noted, however, that the issue of capital outflow in Nigeria was exaggerated and there was no fundamental reason for a panic.

- Overall, the outflow witnessed was in sync with the seasonal pattern that had been observed in the past.

Conclusion and Policy Implications

Policy Implications

Re-introduction of the one year cap on capital inflow

- Investors are allowed to bring in funds and exit any time they wish

The issue of unremunerated reserve requirement

- The Cash Reserve Requirement (CRR) could be raised to manage short-term volatility in capital flow. Without banks having to increase their collateral in tight liquidity conditions, this could serve to insulate the banking sector from the large inflow and often outflow. The CRR could be reduced in periods of high liquidity needs. The flip side remains the liquidity implications of a CRR policy.

- Complement the CRR by introducing asymmetric interest rate corridor with a wider lower band to encourage banks to trade among themselves; overall, the option would help to guarantee banking system stability. The down side effect of this is that economic agent would direct their idle funds to the foreign exchange market.

Conclusion and Policy Implications

Create a Market Support Instrument

- Introduce a Market Support Instrument (MSI) as applied **in the case of India** that could serve as a stabilization instrument to smoothen the up- and down-swings in capital flow;
  - This can be achieved through the issuance of short-term instruments by the central bank – a buy back scheme, where the bank can issue, redeem or buy back government bonds to stem the impact of capital inflows and shore up its reserves.
  - The short-term nature offer opportunity for flexibility in managing short-term market liquidity conditions. Thus, by increasing the holdings of foreign currency assets, the Bank can manipulate these instruments to provide the desired market liquidity;
- Although, cost of issuance could be borne by government, it can be offset by the subsequent transfer of surplus income to government;
- Care must be taken not to overlap the maturity structure of these instruments with those arising from the domestic debt market; and to avoid possible market segmentation; and
- This option can enhance the Bank's potential to meet total demand for foreign exchange to assure investors that they will always get their money back. This will make some foreign investors to come back which will dampen foreign exchange demand pressure.

Thank you