



BANCO CENTRAL DE RESERVA DEL PERÚ



# FED POLICY, THE GLOBAL FINANCIAL CYCLE AND ITS IMPACT ON EMERGING MARKET ECONOMIES: THE CASE OF A PARTIALLY DOLLARIZED ECONOMY (PERU)

**Adrián Armas**  
**Central Reserve Bank of Peru (BCRP)**

Lima, Peru / February 20, 2019

“CEMLA-ECB-FRBNY-BCRP Conference on  
Financial Intermediation, Credit and Monetary Policy”

*DISCLAIMER: The views expressed are those of the author and do not necessarily  
reflect those of the BCRP.*



# Content

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1. **Monetary policy framework**
2. **Two recent episodes:**
  - i. **Quantitative easing and the Zero Lower Bound;**
  - ii. **After the Taper Tantrum**
3. **FX intervention and the use of reserve requirements**

# **1.1 What is an EM economy's optimal macroeconomic framework for facing external shocks?**

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**Traditional framework:**

- **Inflation targeting regime**
- **Free floating exchange rate**
- **Solid fiscal position**
- **Sound bank regulation and supervision (even beyond Basel III)**

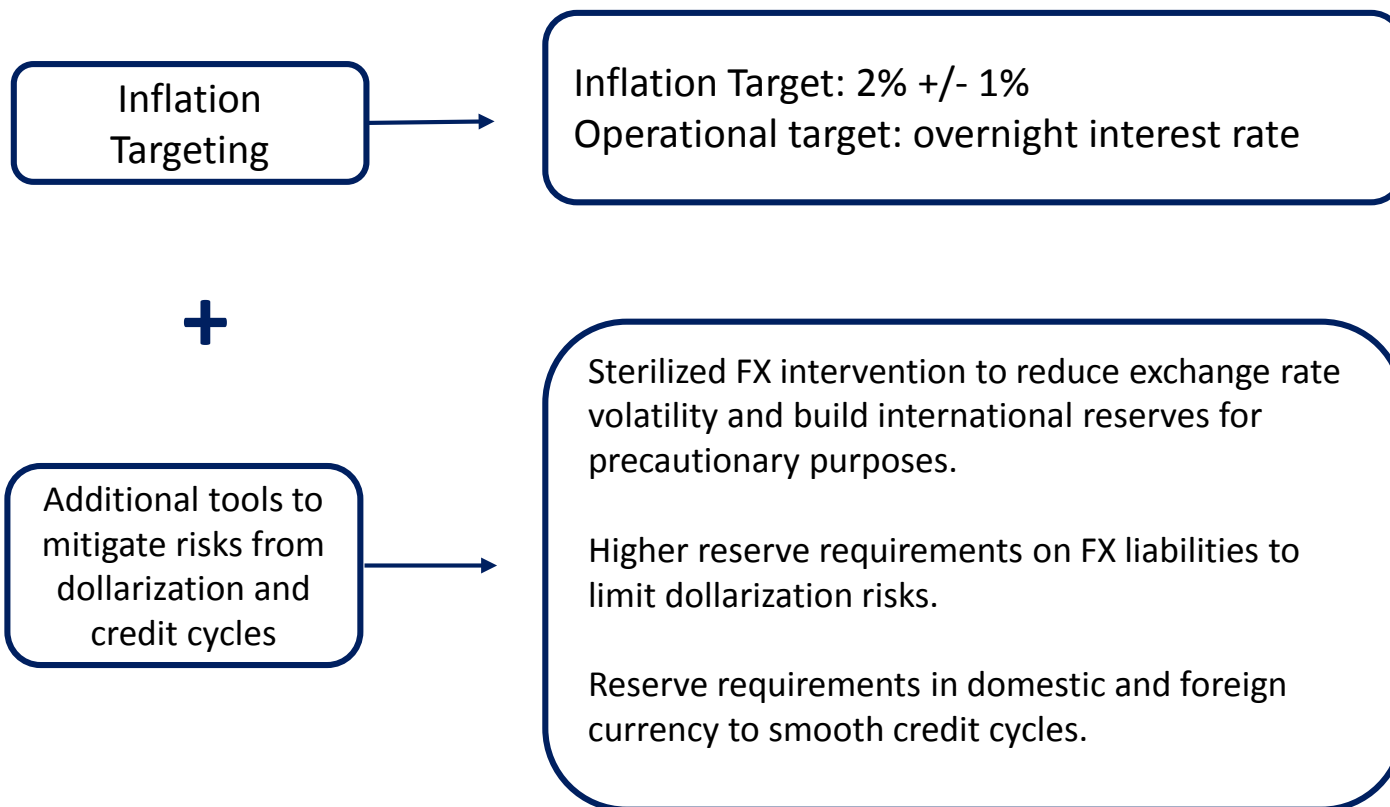
**However, this traditional framework might not suffice to deal with severe financial risks from:**

- **Significant currency mismatches created by unhedged local or external loans in foreign currency**
- **Exposure to foreign currency liquidity risks, particularly in partially dollarized financial systems**

**Therefore, non-conventional instruments must complement the conventional toolbox.**

## 1.2 The BCRP's monetary framework is an extended inflation targeting (IT) regime geared to mitigate financial risks associated with dollarization.

### Monetary Policy Framework in Peru



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## 2.1 Quantitative Easing vs Quantitative Tightening

2010-2013

### Developed Countries (U.S. as reference)

Low growth

Zero lower bound

Currency depreciation

Expansion of CB assets  
(purchases of local bonds)

Monetary base expansion  
(repos, QE)

### Emerging Economies (Peru as reference)

High growth: 6.7%

Policy rate hikes from 1.25% to 4.25%

Currency appreciation: 21% <sup>1/</sup>

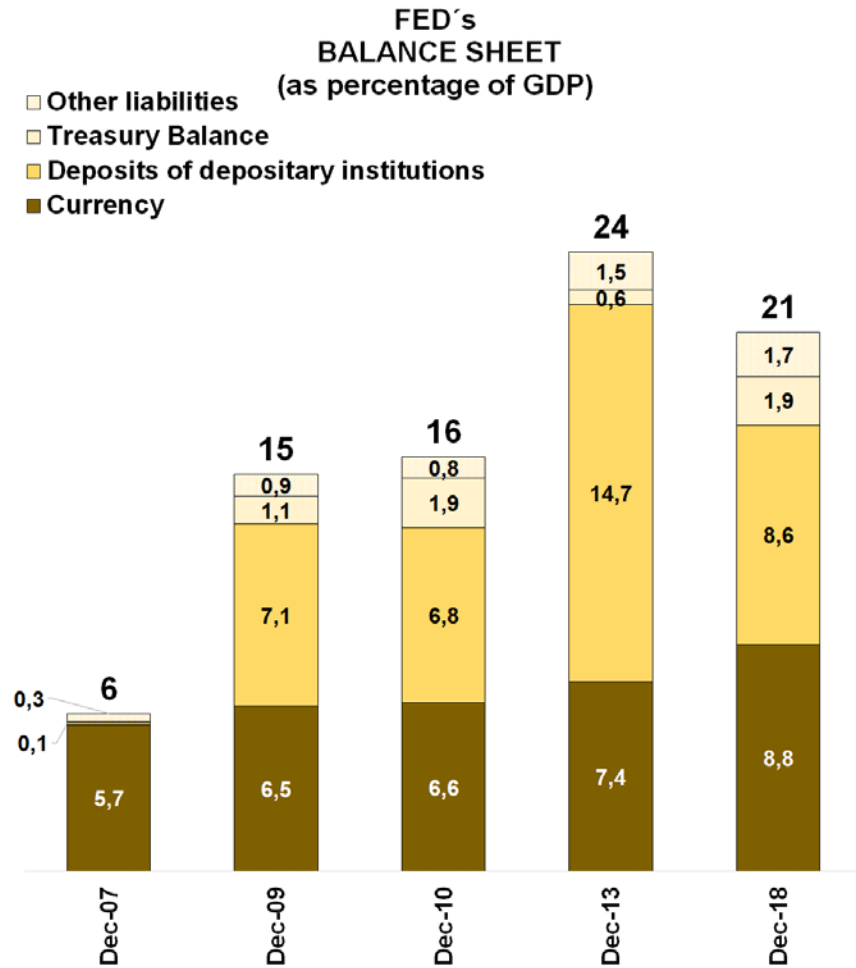
International reserve accumulation  
from 26% to 33% of GDP

Sterilized FX intervention with  
government deposits (fiscal surplus  
1.3% of GDP), RR and OMO

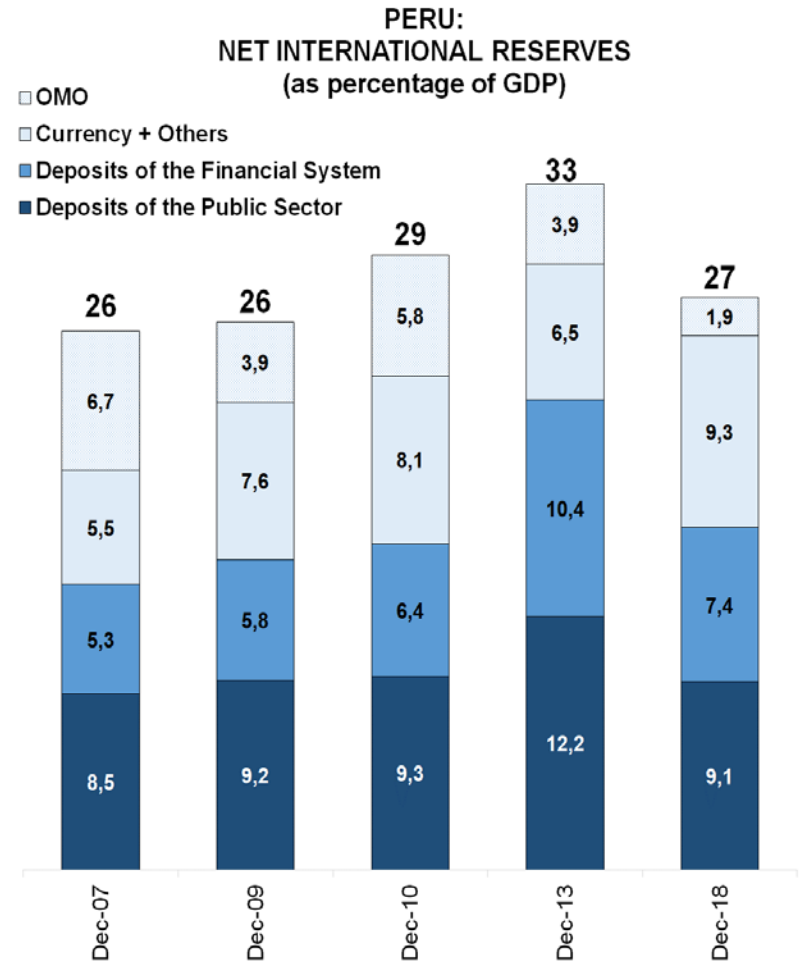
Active use of reserve requirements from  
5.5% to 9.4% of GDP

<sup>1/</sup> March 2009-December 2012

## 2.2 In response to quantitative easing, the BCRP implemented quantitative tightening using reserve requirements + fiscal savings



Source: FED



Source: BCRP

## 2.3 Taper tantrum, Quantitative Easing removal, and leaving ZLB

### Developed Countries (USA as a Reference)

2013-2018

### Emerging Economies (Peru as a Reference)

Growth recovery

Policy rate hikes

Currency appreciation

Reduction of CB assets

Monetary base slowdown

Growth slowdown: 3.7%

Policy rate cuts from 4.25% to 2.75%

Currency depreciation: 31%

Use of international reserves (33% to 27% of GDP)

Reduction in reserve requirements from 9.4% to 5.5 % of GDP



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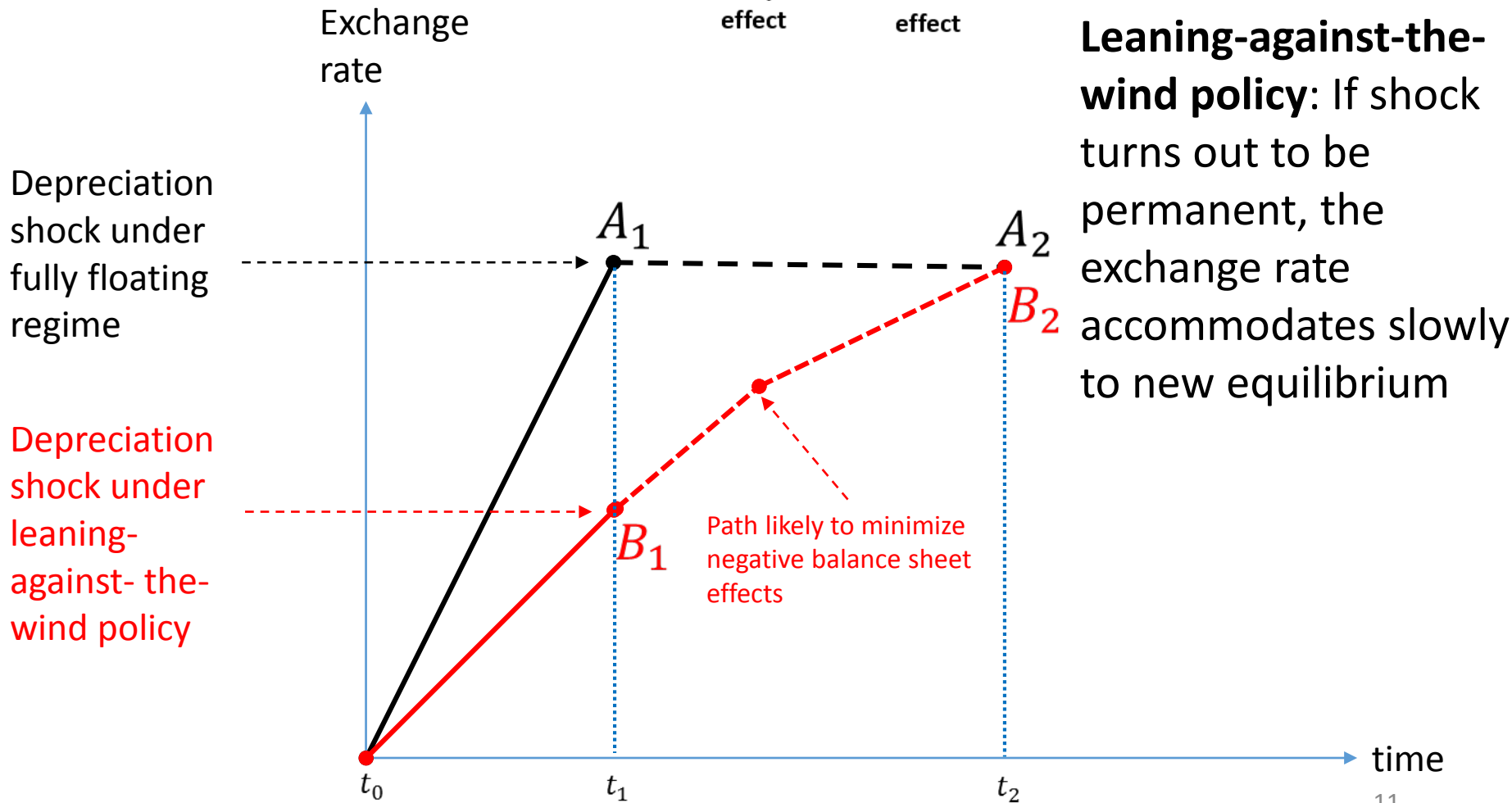
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## **3.1 Purposes of Intervention**

- **Financial dollarization risks: avoid triggering balance sheet effects and FX shortages.**
- **Main concerns: smoothing out exchange rate volatility and building adequate international reserves to carry out interventions as needed.**
- **High international reserves as self-insurance in an international financial system lacking a global LOLR.**
- **Significant REER misalignments associated with intervention observed only occasionally over the last 25 years (before the EM crisis of 1997-1998 and before the Taper Tantrum in 2013Q1).**

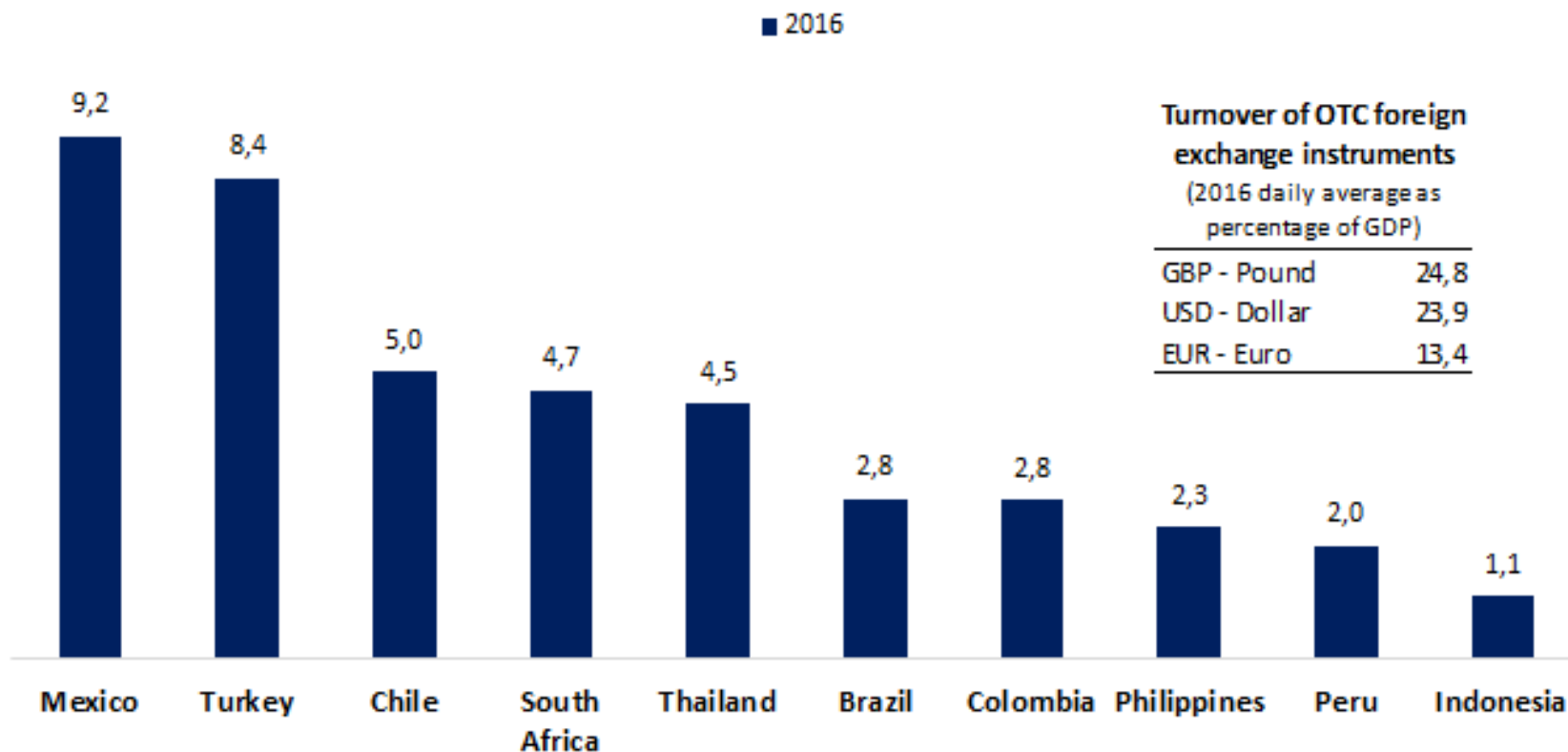
### 3.2 Example of FX intervention in the context of a negative external shock on a dollarized economy (e.g., falling terms of trade).

$$Y_t = \dots + \underbrace{\alpha_1 q^{mult}}_{\text{Net export effect}} - \underbrace{\alpha_2 \Delta q^{USA}}_{\text{Balance sheet effect}}$$



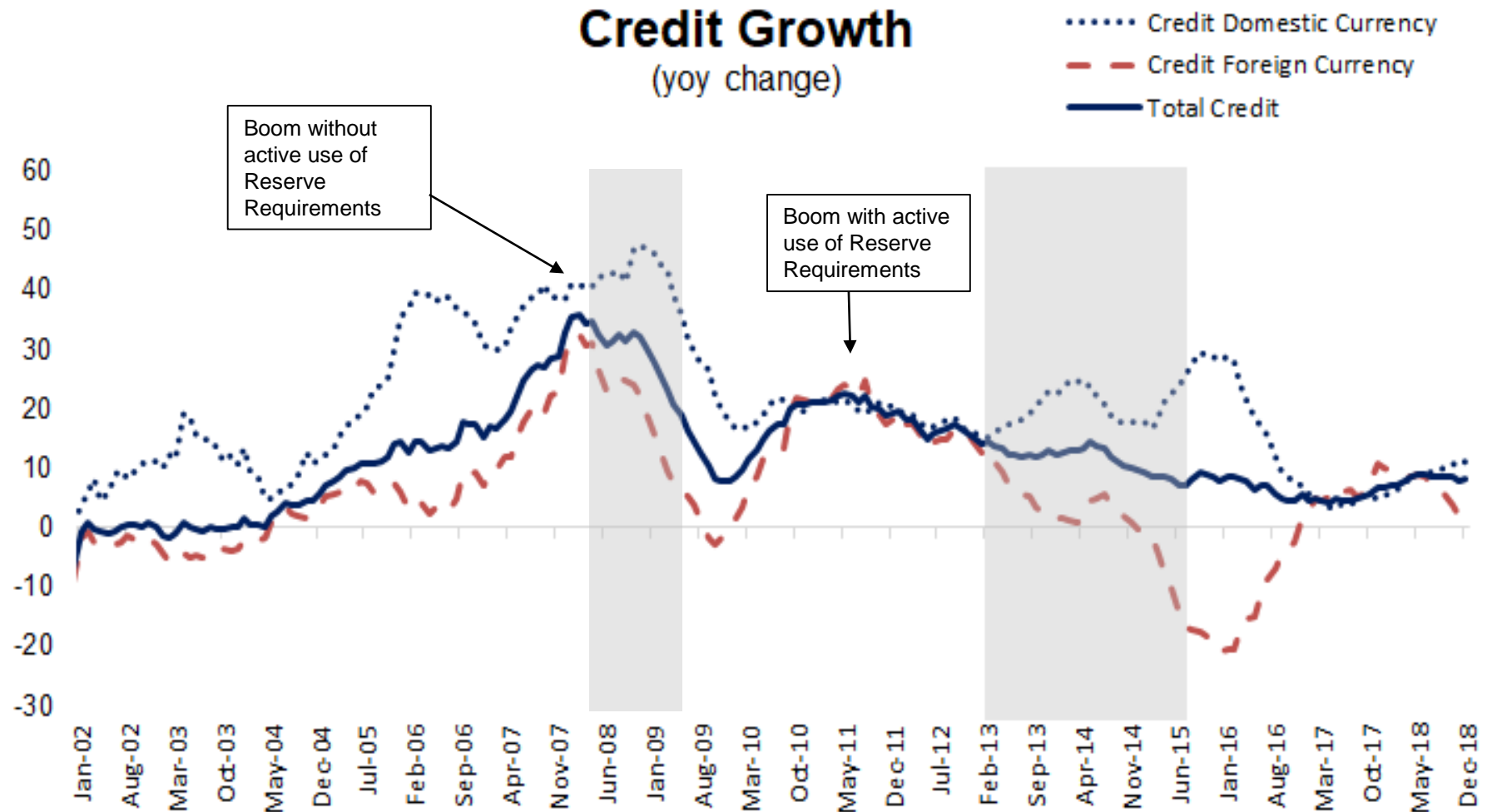
### 3.3 A key element in the effectiveness of FX instruments is the degree of international financial integration.

#### Turnover of OTC foreign exchange instruments (daily averages as percentage of GDP)



Source: BIS

### 3.4 In Peru the cyclical use of reserve requirements has contributed to reducing financial risks associated with credit cycles.





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# Balance sheet management by Central Banks is part of monetary policy tools.

## TWO GENERAL PRINCIPLES OF BALANCE SHEET MANAGEMENT

- First, **policymakers control its size.** If the Federal Reserve wishes, it can create liabilities to purchase additional assets. Open market operations work in this way: To purchase a security, the Fed creates a reserve liability, crediting the deposit account of a commercial bank. The central bank can expand its liabilities without limit-although an expansion of liabilities will reduce the price of those liabilities, which is the interest rate. In other words, a change in the quantity of liabilities and assets can affect the level of the risk-free interest rate by altering the quantity of reserves supplied to the banking system.
- Second, **the central bank controls the composition of the assets on its balance sheet.** Given the overall quantity of assets it wishes to hold, the Federal Reserve can decide whether it wants to hold Treasury securities, foreign exchange reserves, or other assets. **Changes in the composition of central bank assets will not affect the risk-free interest rate, but it has the potential to influence relative prices –one currency relative to another or one bond relative to another –by changing the relative supply or desirability of holding one specific asset over another.** Within certain legal limits, the Fed can adjust the composition of its assets along various dimensions like the maturity structure of its portfolio and the exact bonds that it owns. **Sterilized foreign exchange intervention, where a central bank sells a bond denominated in one currency and uses the proceeds to buy a bond denominated in another currency, is a classic example of a decision related to the composition, but not the quantity, of the assets that the central bank holds.....”**

**Under this framework Peru maintained price stability even in the context of highly volatile Terms of Trade and capital flows.**

### Annual Inflation Rate in % (2001-2018)

	<b>Mean</b>	<b>S.D.</b>
Brazil	6,4	2,5
Chile	3,2	2,1
Colombia	4,7	1,9
Ecuador	4,8	5,0
El Salvador	2,5	2,0
Guatemala	5,6	2,7
Mexico	4,3	1,1
Panama	2,7	2,3
Paraguay	6,2	3,5
Perú	2,6	1,7
Uruguay	8,6	4,6

Source: WEO Oct-2018 &BCRP



# International reserves accumulation is used as self insurance mechanism in the context of non existence of an international “lender of last resort”.

## Foreign Exchange Reserves

(billions of US dollars)

### Reserve-Related Indicators of External Vulnerability

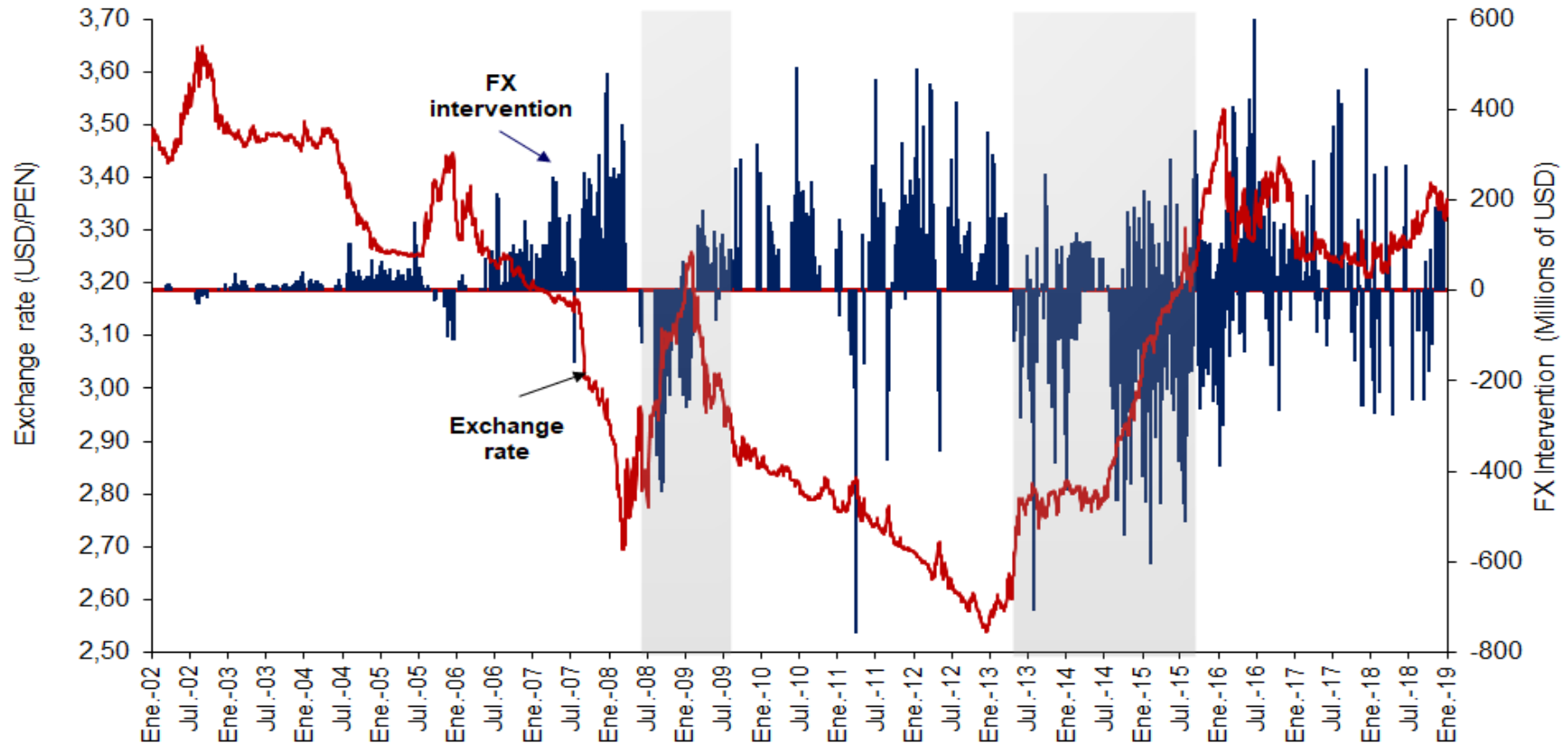
	2006	2011	2016	2017	2018*
<b><u>NIR as a percentage of:</u></b>					
a. GDP	19,6	28,9	31,6	29,6	26,7
b. Foreign short term debt, redemption of long term debt with less than 1 year to maturity and current account	230	360	349	378	321
c. "b" + broad money	81,2	83,7	79,6	72,8	65,3

\* Preliminary information

Source: BCRP

**Sterilized FX intervention of leaning against the wind has been effective in reducing the balance-sheet risks of balance without affecting the FX trend. There is no particular target level for the exchange rate, since trend is the result of macroeconomic fundamentals.**

**Exchange Rate and FX Intervention<sup>1/</sup> : 2002-2018**



<sup>1/</sup> Includes: Net purchase of dollars in the spot market and issuance of CDLD BCRP, CDRBCRP and net maturity of FX Swaps.

## The exchange rate volatility of Peru is close to the lowest in the region.

### Coefficient of variation of effective exchange rates

(2001-2018)

	Nominal	Real
Argentina	0,84	0,42
Brazil	0,17	0,20
Chile	0,07	0,06
Colombia	0,14	0,14
Mexico	0,22	0,13
Peru	0,08	0,06

Source: BIS

# Including reserve requirements in the output gap equation.

