

Inflation Targeting in a Partially Dollarized Economy: The case of Peru

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(BCRP)

“Inflation Targeting in Emerging Economies”

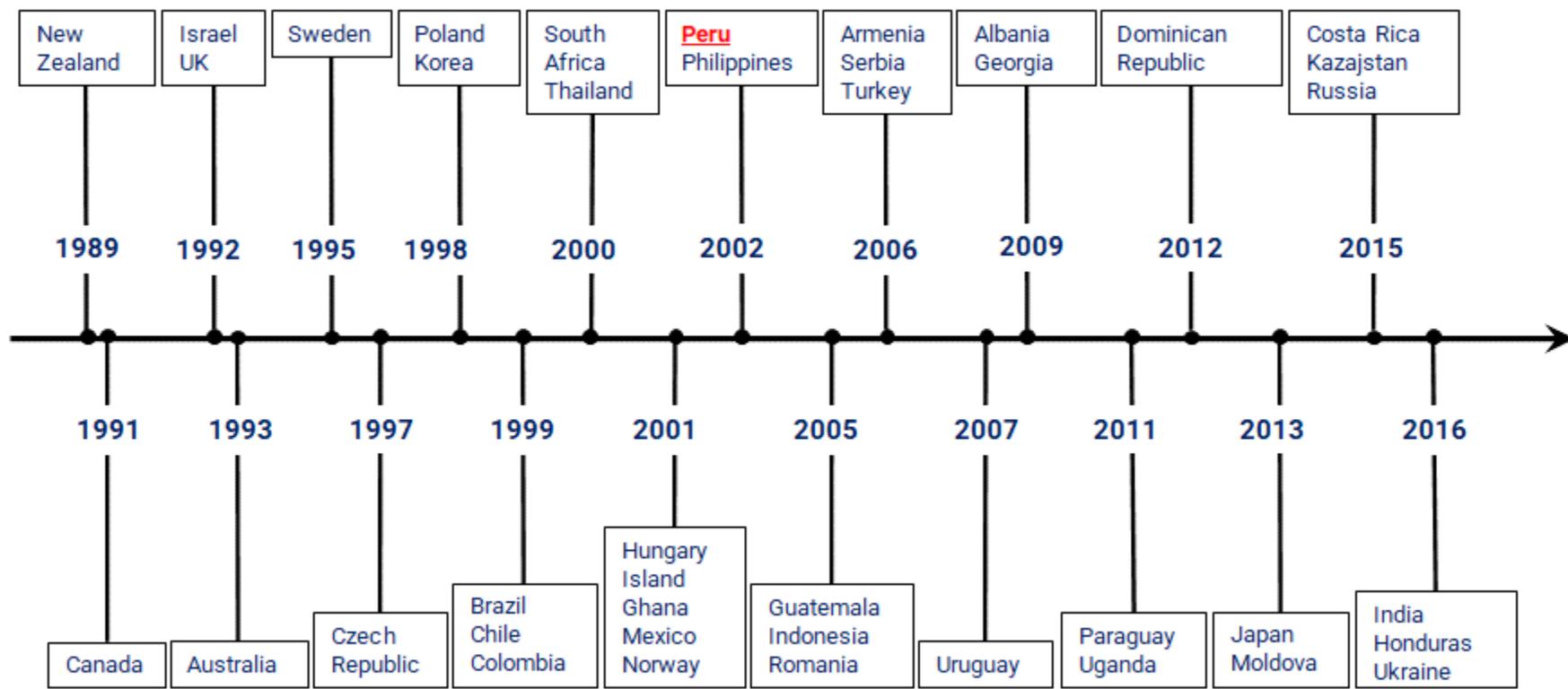
*Workshop, National Bank of Ukraine
November 26, 2021*

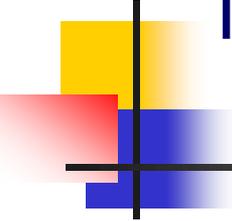


Agenda

1. **Inflation Targeting in a partially dollarized economy: The Peruvian case**
2. **Dealing with Dollarization risks**

IT became popular to anchor inflation expectations

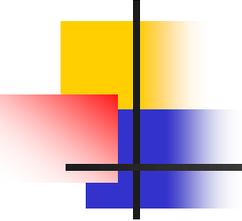




Monetary Policy responses to Dollarization

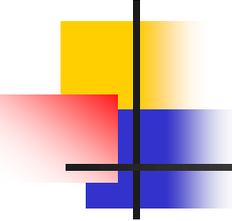
- Pasive one: To adopt the monetary policy of the FED through pegging the exchange rate to the dollar (Argentina during the 90s and currently Nicaragua).
- Active one without considering dollarization risks: To adopt an independent monetary policy with a full flexible exchange rate system (implemented only by countries with a low level of dollarization such as Israel in 1998).
- Active one but taking into account dollarization risks: To adopt an independent monetary policy plus others measures to curb dollarization risks (Peruvian case).

Considerations for the adoption of the inflation targeting framework in Peru



- Anchoring inflation expectations to the central bank's inflation target.
- Enhancing the effectiveness of monetary policy through stronger credibility.
- Provides sound structural macroeconomic foundations, with a stronger position to confront shocks.
- Low and stable inflation, at the steady state price stability level, allows full functionality of the domestic currency.

Peru was the first partially dollarized economy to adopt an IT framework. IT for Peru requires both conventional and non-conventional instruments to control dollarization risks



Inflation Targeting

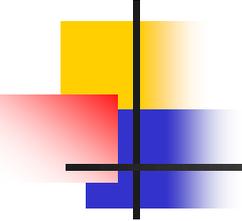
- **Inflation Target:** 1% - 3%
- **Operational Target:** overnight interest rate

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Control of Dollarization Risks

- High reserve requirements on FX liabilities.
- Sterilized FX intervention to reduce exchange rate volatility.
- Precautionary accumulation of international reserves.

Pre-conditions? For the adoption of the inflation targeting framework

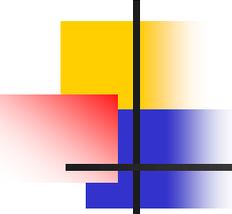


Standard pre-conditions favoring the IT implementation:

- Institutional Independence of the Central Bank.
- A sound financial system.
- Fiscal discipline.
- Technical infrastructure (availability of information and analytical tools to forecast the main macroeconomic variables such as inflation).

However, in practice, the adoption of the IT framework introduces a strong incentive to develop and enhance these conditions.

Inflation forecasting system with financial dollarization



Quarterly Forecasting Model (MPT)

1. Phillips Curve
2. Aggregate Demand
3. Exchange rate
4. Monetary Policy Rule

Partial dollarization implications for the Quarterly Forecasting Model (MPT)

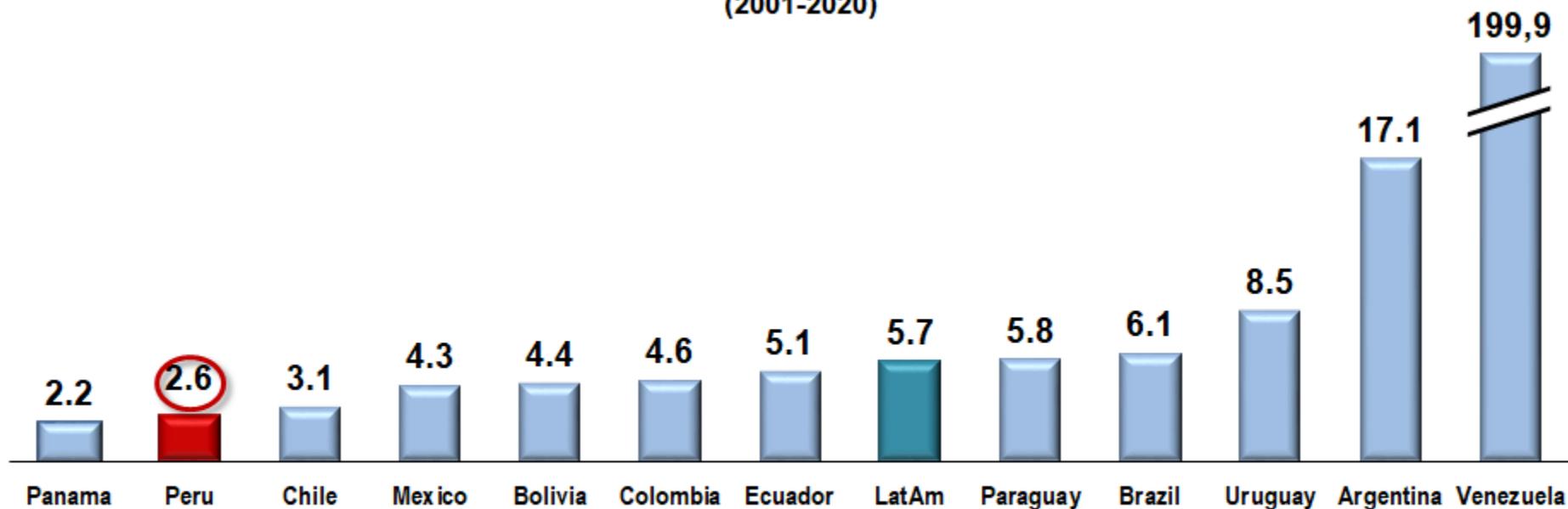
1. Phillips Curve
 - Low Exchange Rate Pass-through: 0.1 in the first year
2. Aggregate Demand
 - Real interest rate in US Dollars.
 - Balance sheet effect
3. Exchange rate equation:
 - Inertial term

Inflation target range: 1 – 3%

- It is the lowest level among emerging market economies.
- FD dollarization requires an inflation target level as close as possible to the currency which domestic currency must compete (US\$ in our case).
- Lower inflation targets allow lower price volatility

Low and stable inflation reinforces confidence in the domestic currency. Under inflation targeting, Peru has shown a better performance than fully dollarized economies in terms of inflation.

**Average Annual Inflation Rate
(2001-2020)**

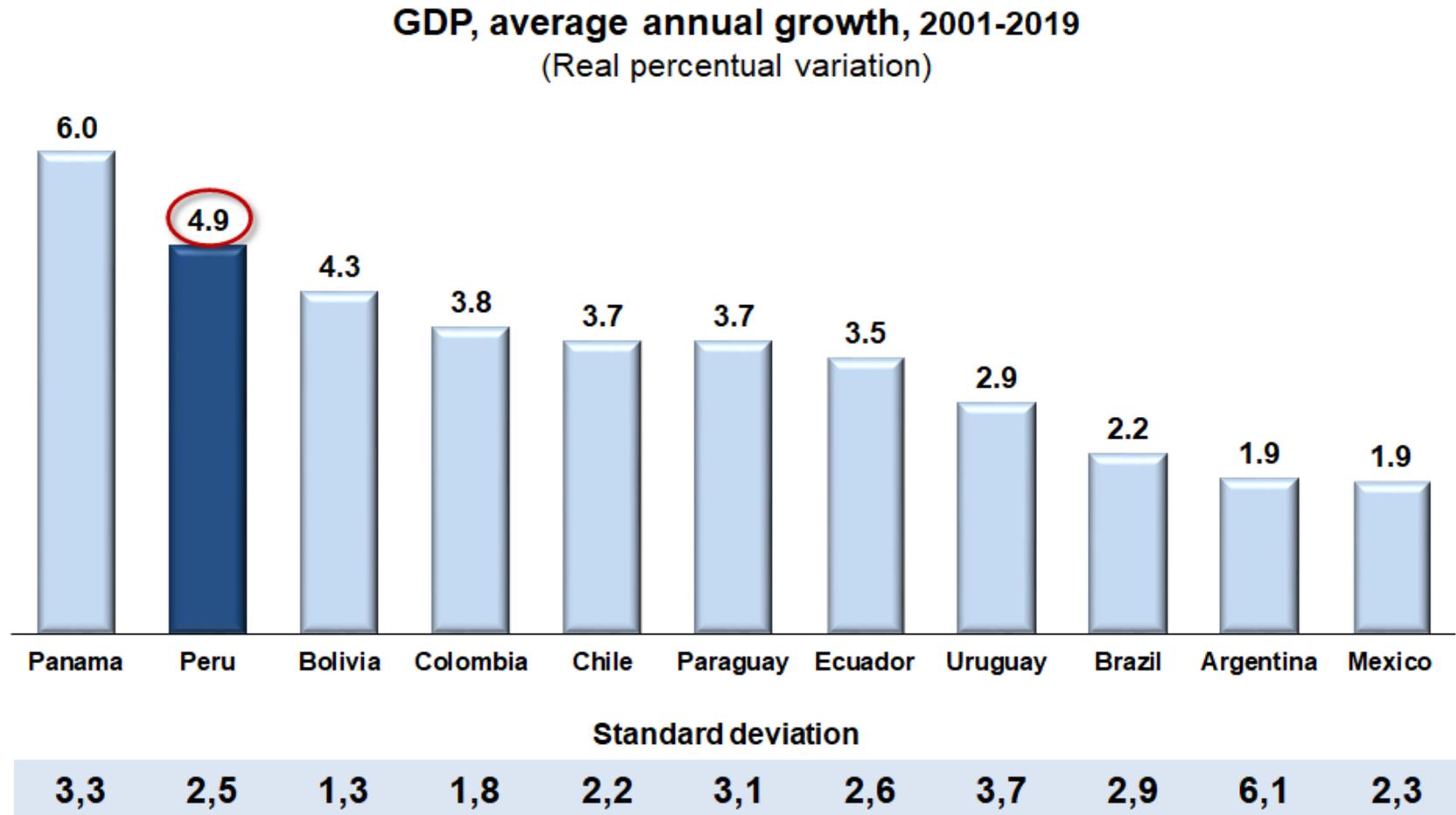


Standard Deviation

2.5	1.2	1.7	1.0	3.1	1.8	8.2	1.3	3.4	2.7	3.2	14.7	15 011
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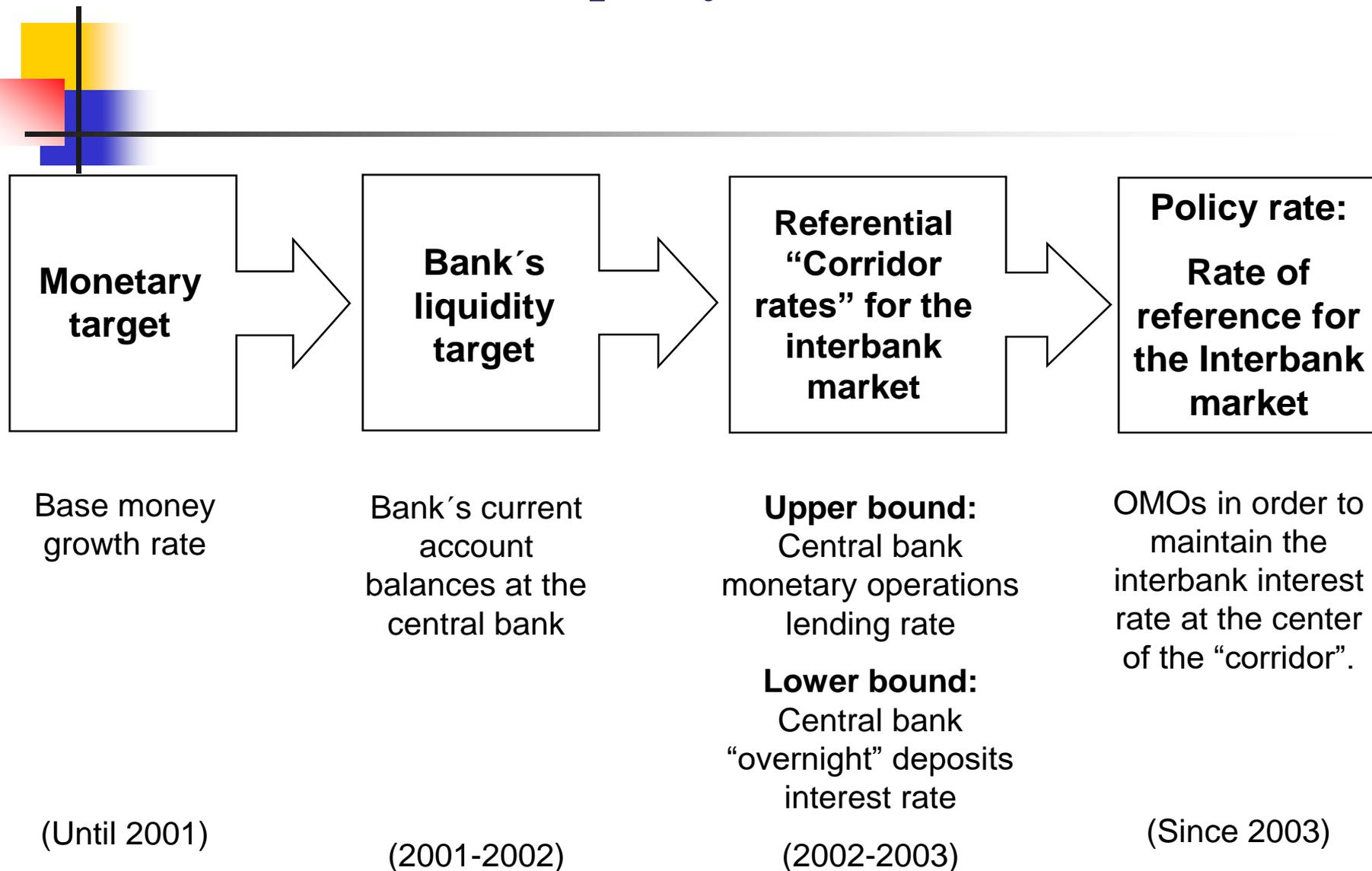
Note: Calculated with annual average CPI.
Source: IMF (World Economic Outlook Database, April 2021).

Low and stable inflation enhances sustained growth.

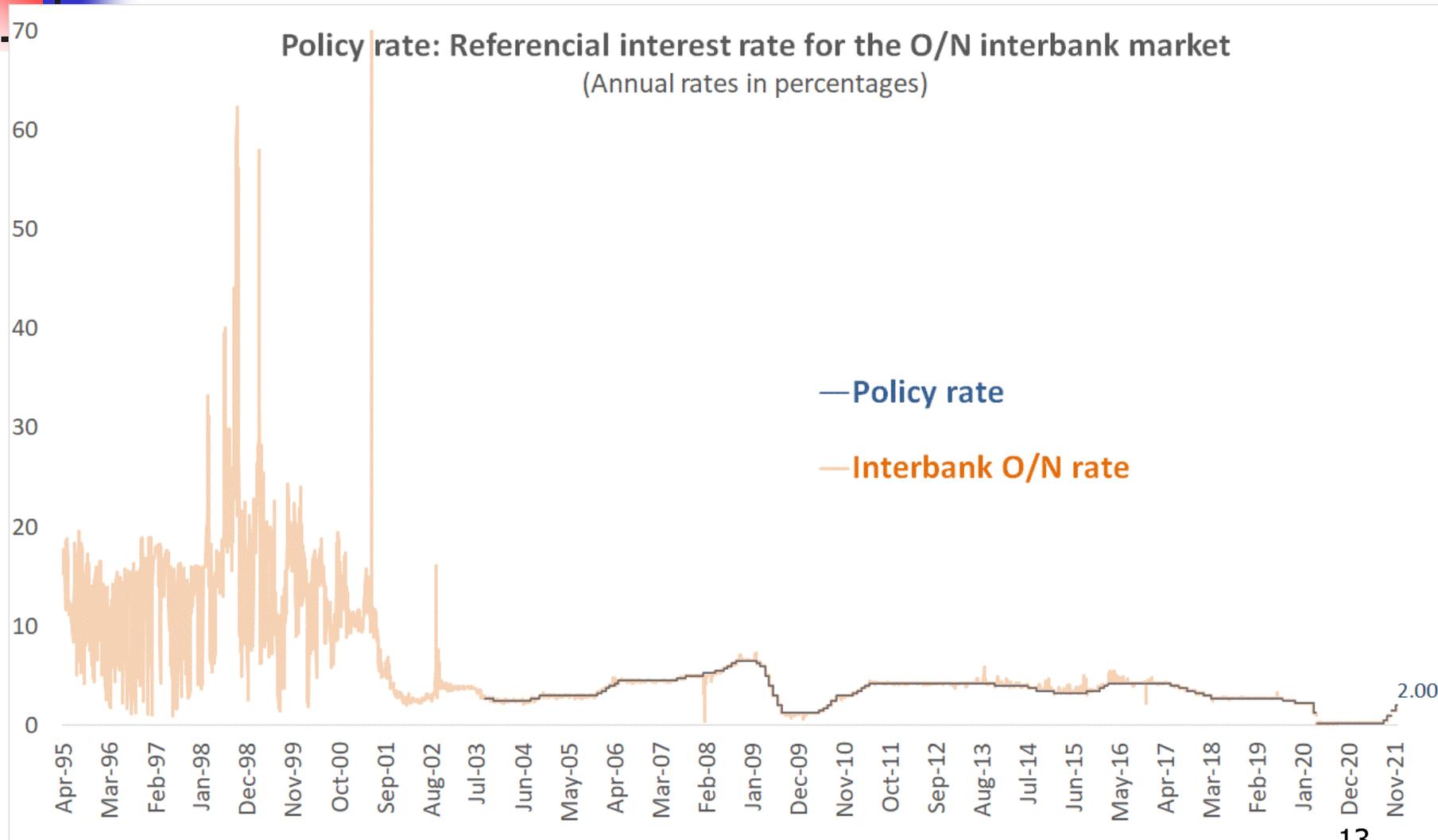


Source: World Economic Outlook (abril de 2020) – IMF.

Evolution of the operational target for monetary policy in Peru

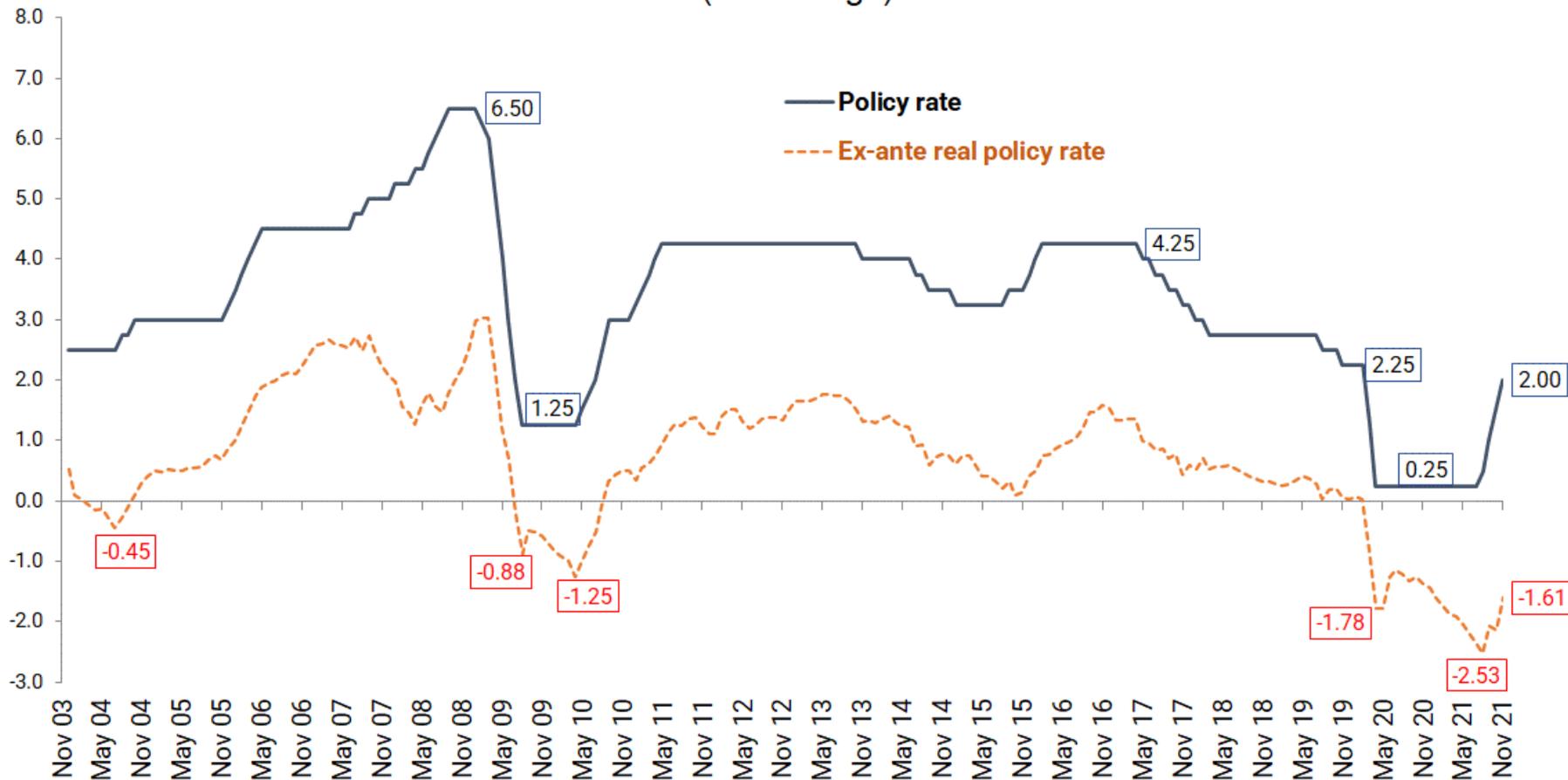


The use of a reference interest rate as the operational target has increased the stability and predictability of the short-term interest rate in domestic currency, which is crucial for monetary transmission and for developing the term structure of interest rates and inducing financial de-dollarization.



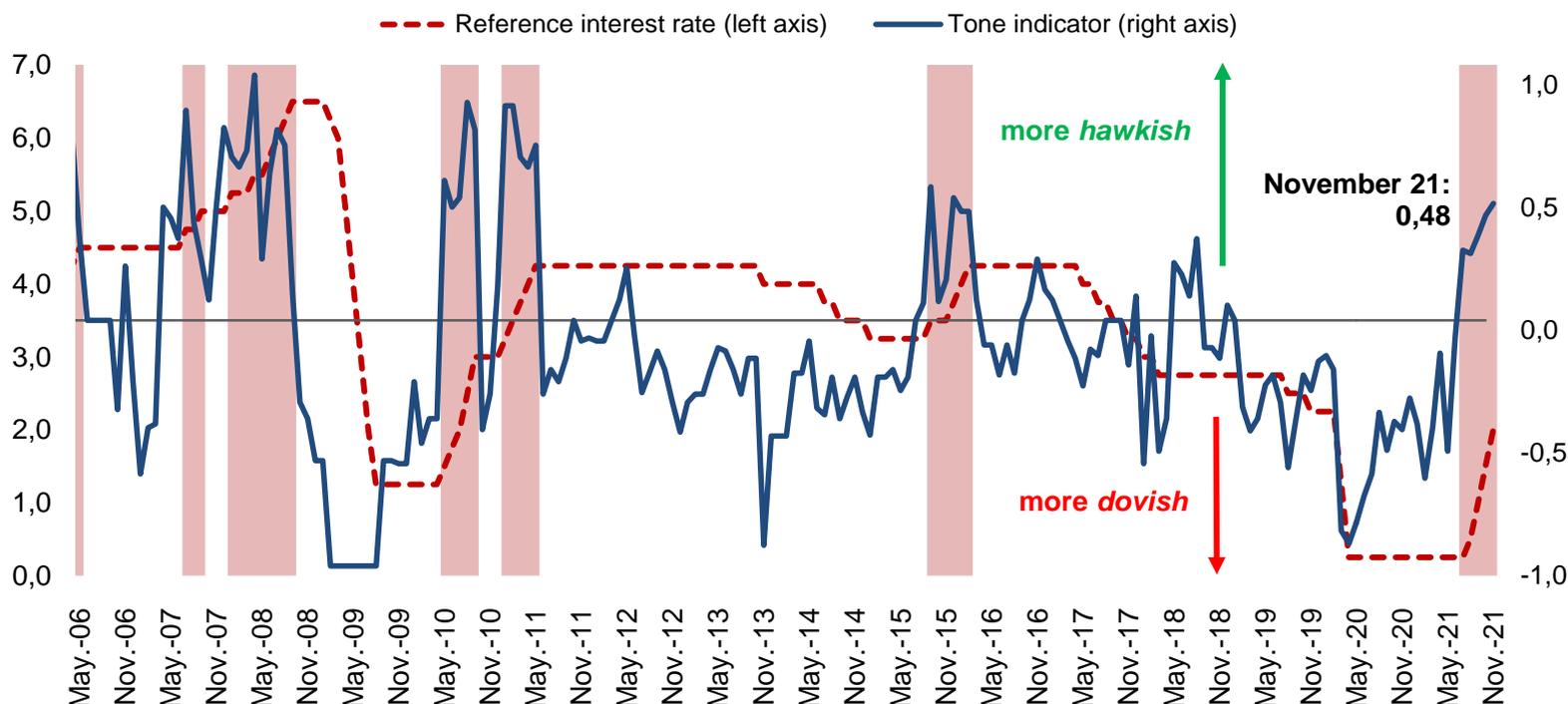
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Peru: Monetary Policy Rate
(Percentage)



Interest rate increases are usually accompanied and even preceded by changes in the communication of monetary policy, adopting a hawkish position months ahead of the increase event. An indicator that measures the tone of monetary policy communication suggests BCRP's communication is consistent with recent increases in the interest rate.

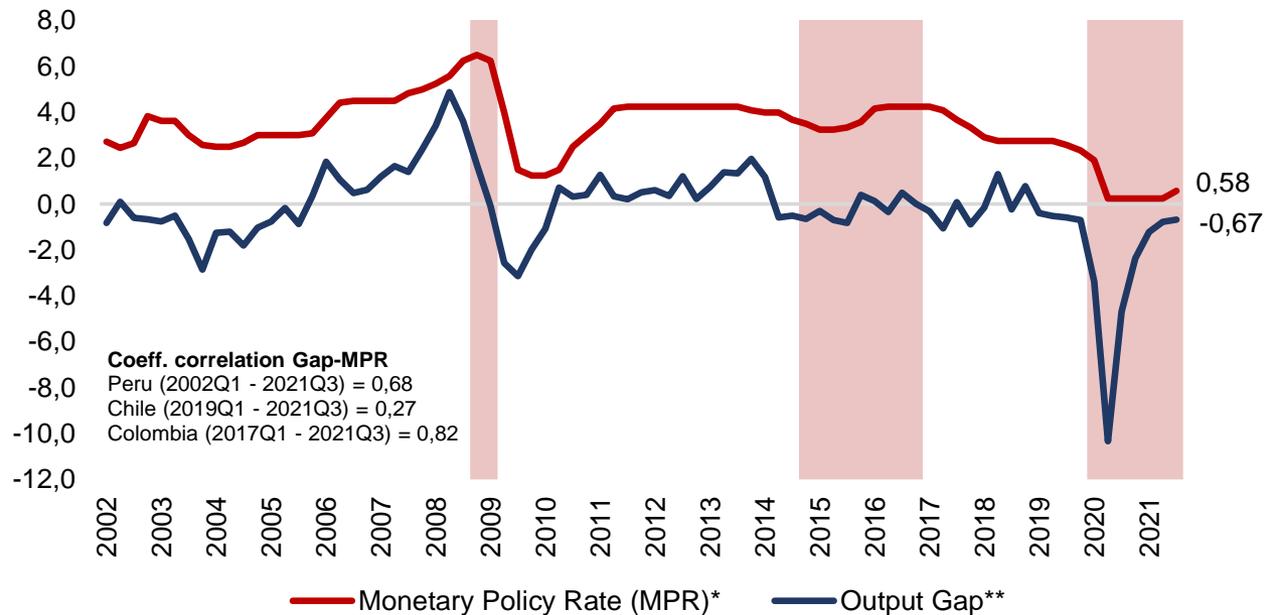
Reference interest rate and monetary policy tone indicator ^{1/}
 (Percentage points and index value)



^{1/} Monetary policy tone indicator described in “Assesing central bank communication through monetary policy statements: Results for Colombia, Chile and Peru”, by Marco Vega and Erick Lahura. The index is positive when the tone of monetary policy communication adopts a hawkish position, while negative values of the index imply communication favors a dovish stance. Highlighted areas represent periods when interest rate increases.

Monetary policy is countercyclical. An expansionary stance has been adopted in response to (i) the Global Financial Crisis (2008-2009), (ii) the end of the commodity boom period and the Taper Tantrum episode (2014-16) and (iii) the recent COVID-19 pandemic crisis (2020 onwards).

Trend output gap and monetary policy rate in Peru: 2002-2021
(Output gap as a % of trend GDP)



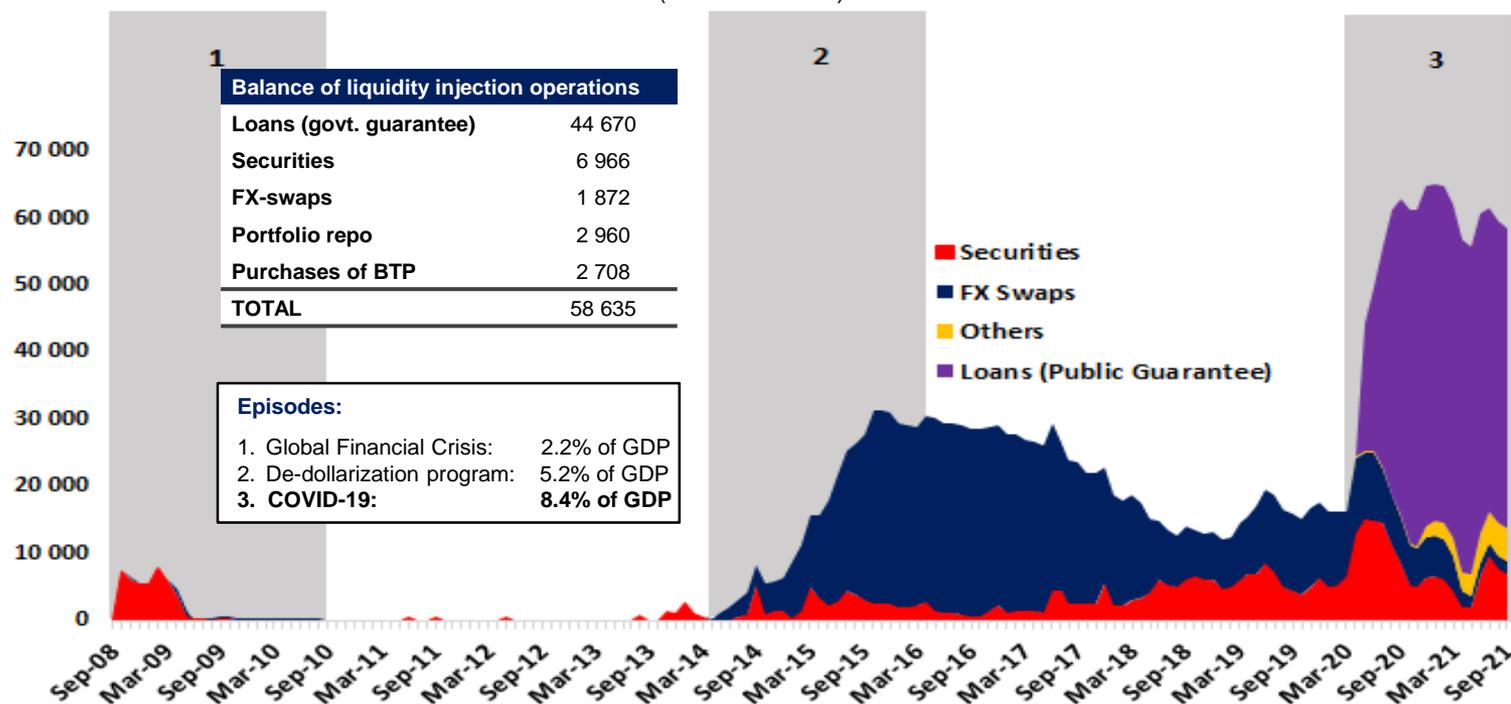
* End of period.

** BCRP.

Given the magnitude of the shock associated with the COVID-19 pandemic, monetary stimulus has been implemented via a range of instruments. The balance of liquidity operations is 7.6 and 1.9 times that under the 2008 crisis and the de-dollarization program, respectively.

BALANCE OF BCRP LIQUIDITY INJECTION OPERATIONS

(Millions of soles)



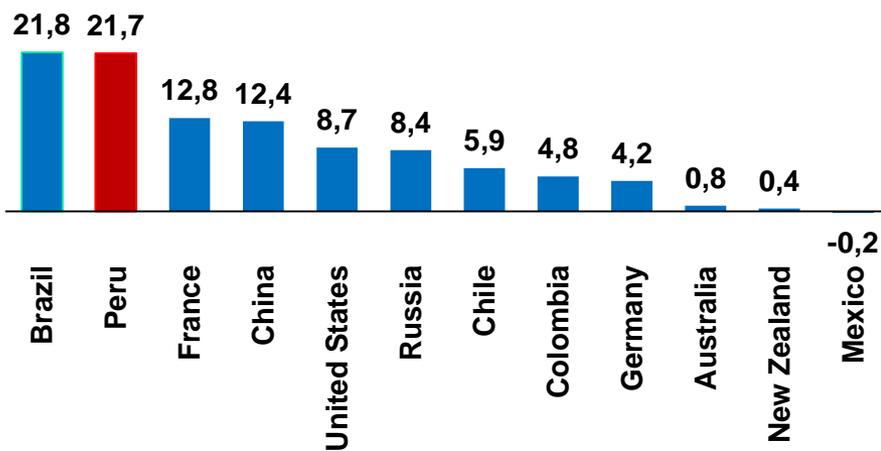
*As of September 10

The item "Others" includes the purchases of BTPs (article 61 of the BCRP Organic Law) and credit portfolio reporting operations.

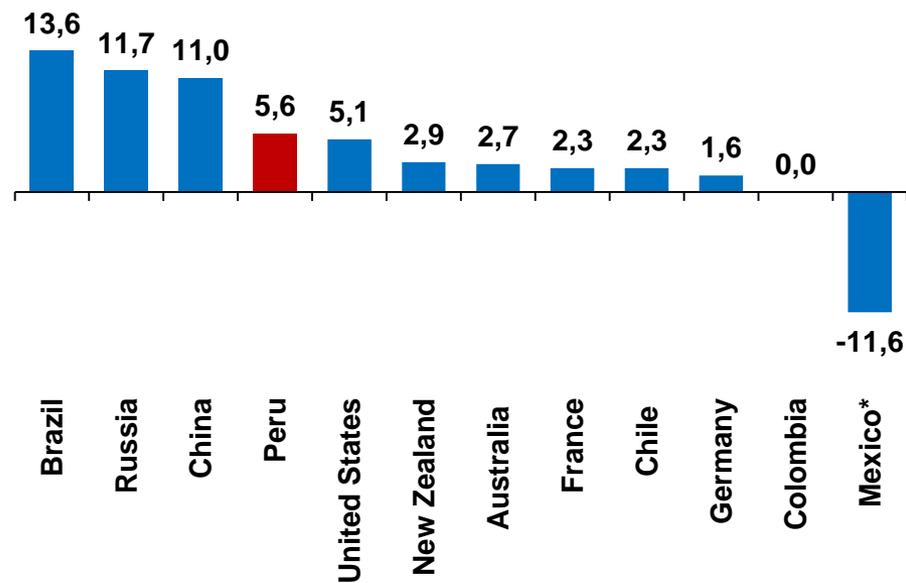
Source: BCRP.

Liquidity injection through BCRP operations including Reactiva Perú allowed for countercyclical credit growth. Annual growth rates of credit to firms in July 2021 are among the highest in the world.

Credit to firms: December 2020
(YoY % var.)

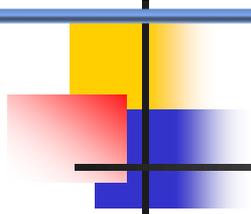


Credit to firms: July 2021
(YoY % var.)

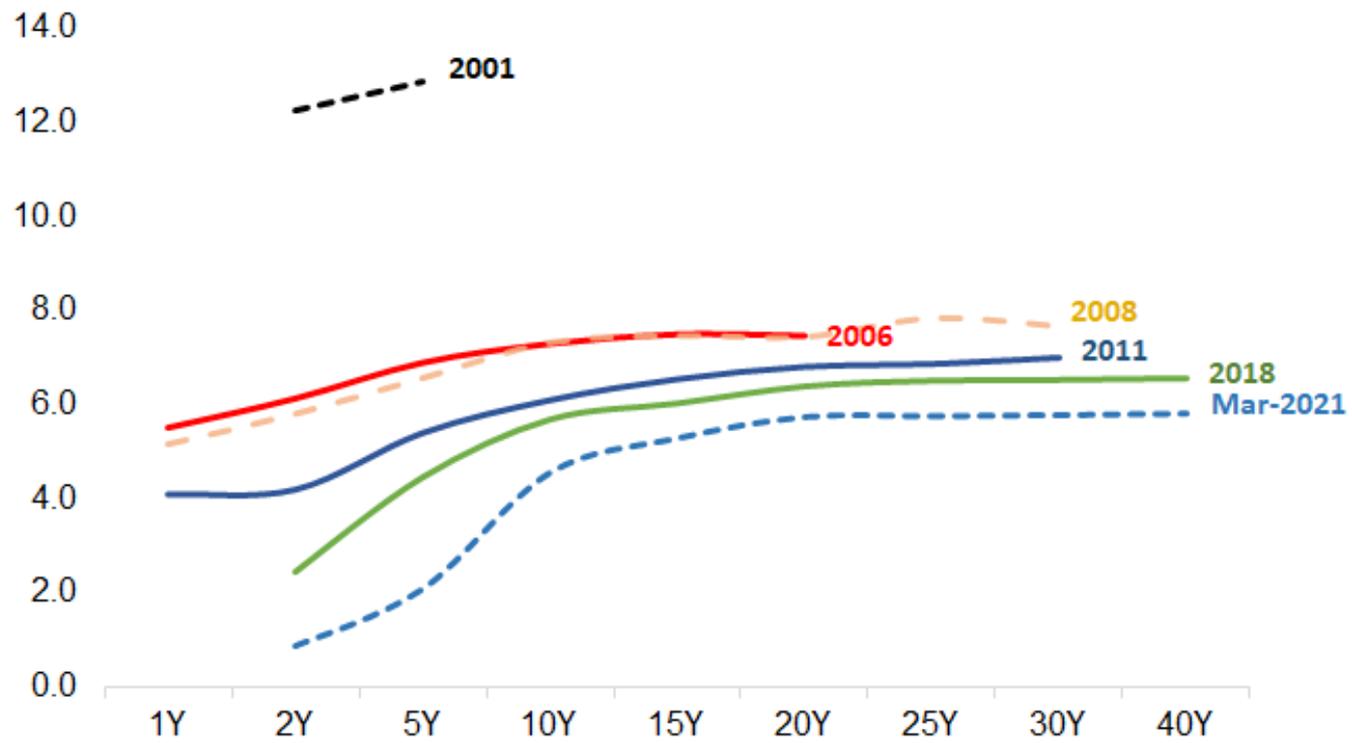


*As of June 2021.
Source: Central Banks.

The stability of short-term interest rates and the deepening of the public debt markets in PEN helps to de-dollarization

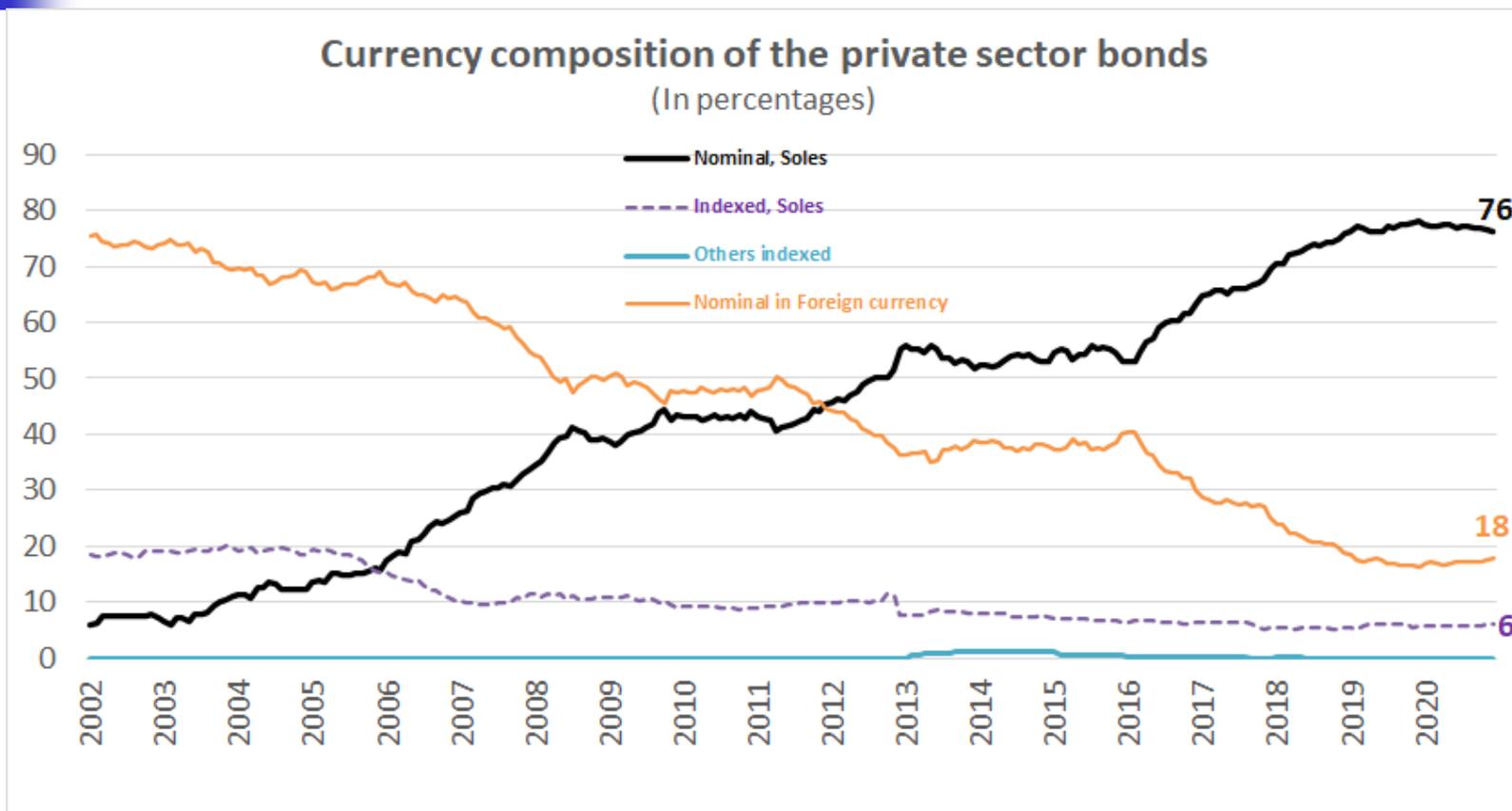


Sovereign Bonds Yield Curve



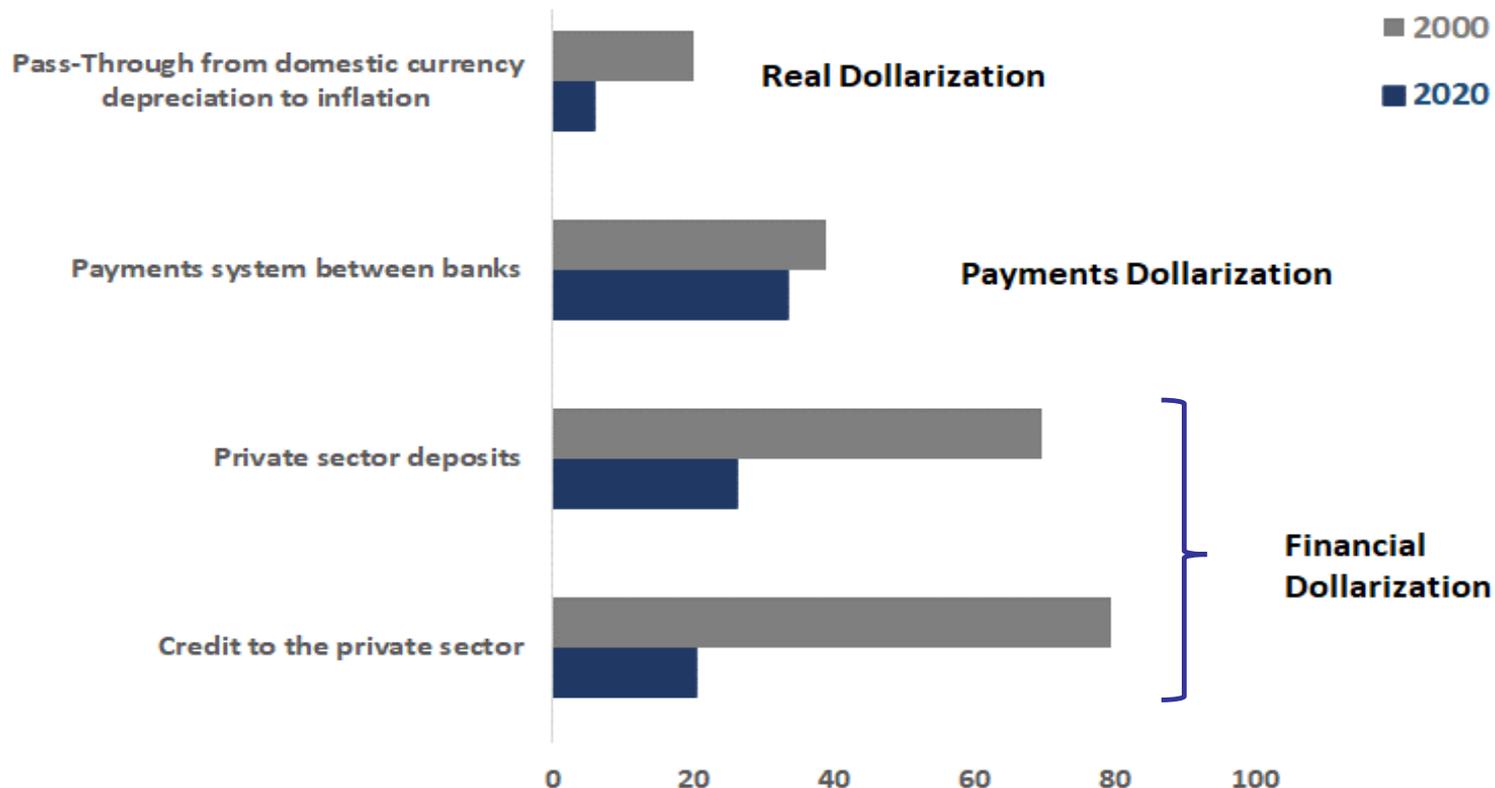
Source: MEF

Building financial instruments in domestic currency: An IT regime and the issuance of sovereign bonds in domestic currency as a benchmark for the maturity structure of interest rates increased the issuance of private sector bonds in domestic currency. Corrales and Imam (2019) found empirical evidence that the higher the development of the financial market, the lower the dollarization degree



The policies implemented by the Central Reserve Bank of Peru (BCRP) during the IT period were effective in reducing dollarization at many levels.

Monetary Policy Transmission Channels before/after IT





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An important event needs to take place for a country to change its currency in circulation. In the case of Latin American countries, persistent macroeconomic instability combined with financial repression during 1970s and 1980s, triggered the partial replacement of the domestic currency by the dollar.



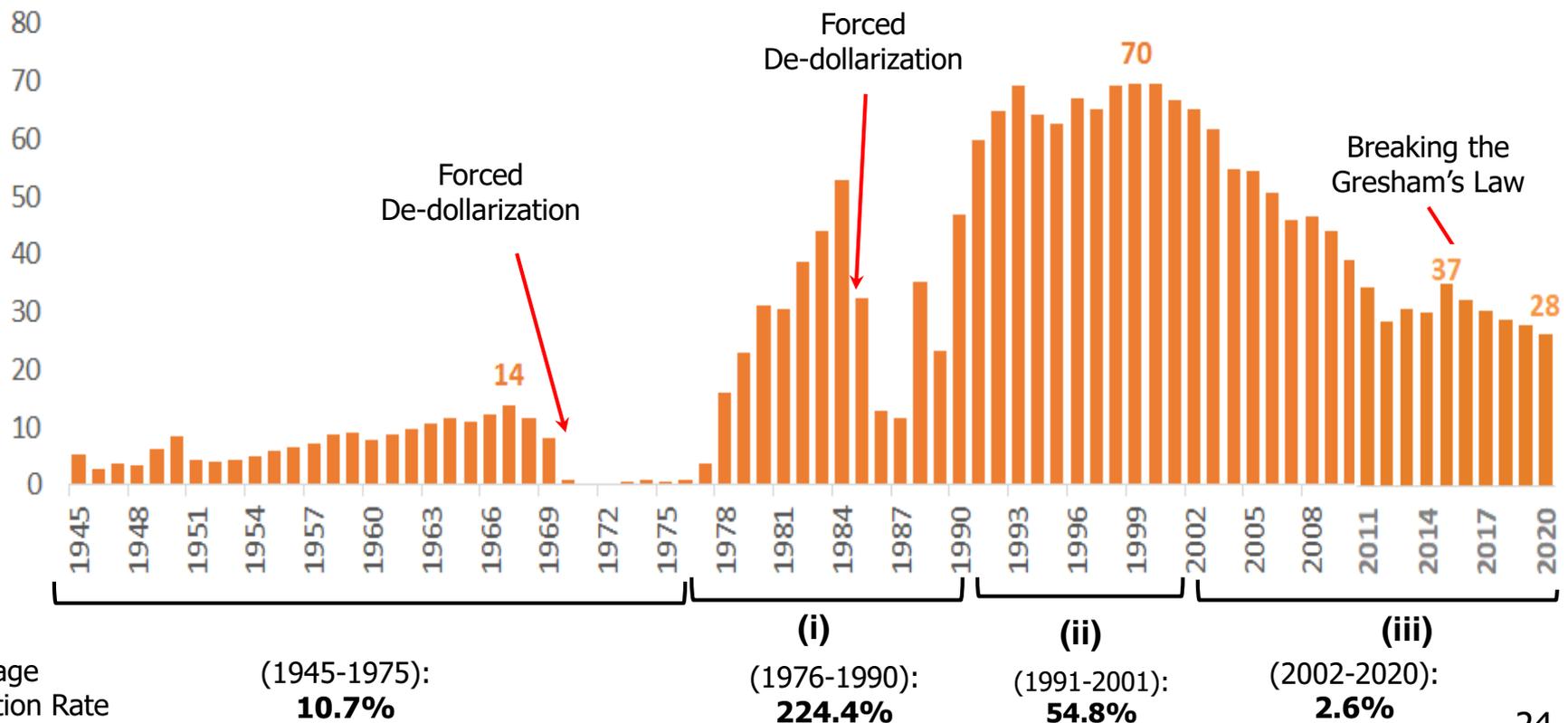
Selected Countries: Average Inflation Rates
(in percentages)

Country	1971-1980	1981-1990	1991-2000	2001-2010	2011-2020
Argentina	119.5	434.6	9.2	10.1	26.1
Bolivia	18.8	222.6	8.1	4.8	4.2
Brazil	38.6	795.7	180.6	6.6	5.6
Chile	130.3	20.4	8.5	3.1	3.1
Colombia	21.4	24.0	18.8	5.6	3.8
Costa Rica	10.8	26.2	15.0	10.3	2.6
Dominican Rep.	10.4	26.7	7.3	12.1	3.2
El Salvador	10.6	19.1	7.7	3.4	1.0
Guatemala	9.6	16.2	9.1	6.8	4.0
Honduras	8.1	9.1	16.9	7.6	4.5
Mexico	16.6	65.1	17.5	4.7	3.9
Nicaragua	14.4	618.1	56.6	8.1	5.4
Panama	7.0	1.4	1.1	2.6	1.9
Paraguay	13.1	29.9	12.1	7.8	3.9
Peru	30.2	369.5	24.6	2.4	2.8
Uruguay	62.7	64.0	30.8	8.7	8.3

Source: IMF and Central Bank Web sites

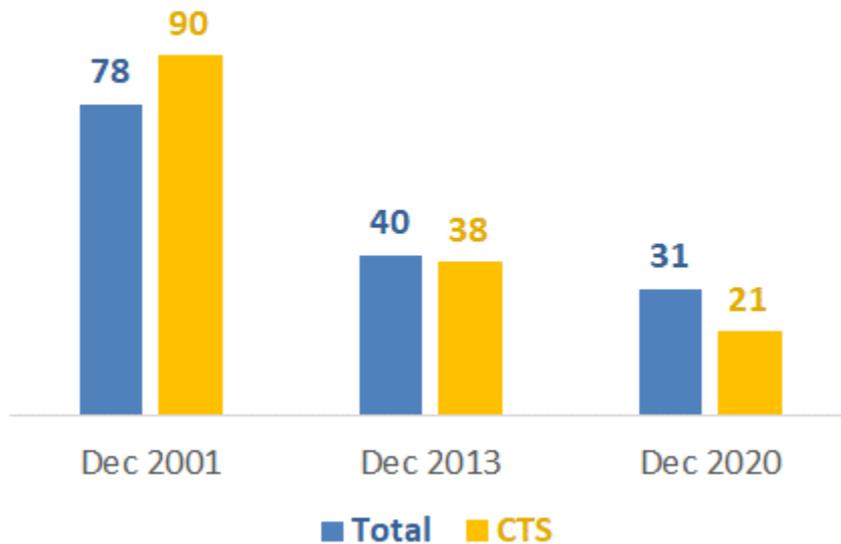
Three stages in Peru: (i) Dollarization of the economy (1976 – 1990); (ii) Hysteresis and a bi-monetary system following Gresham's law (1991 - 2001); and (iii) De-dollarization through low inflation, development of financial markets in domestic currency and the use of macro-prudential measures.

Dollarization of Broad Money

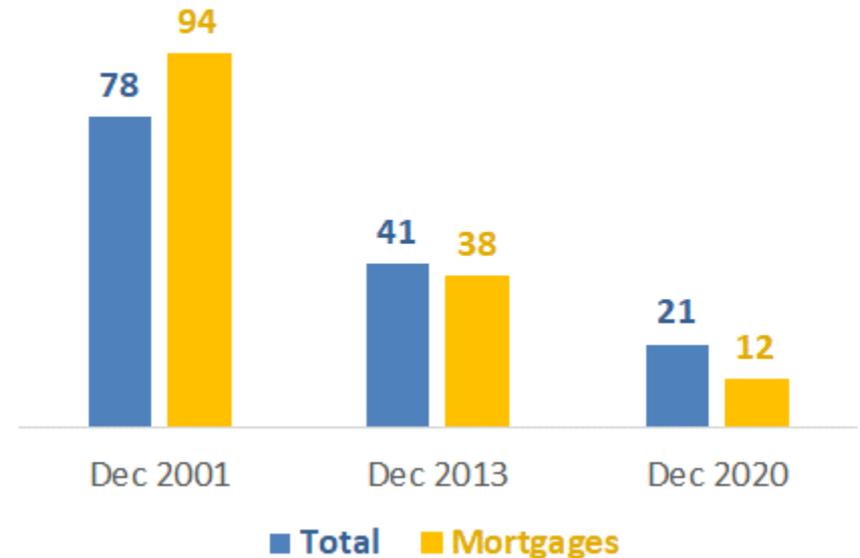


Breaking Gresham's Law

Dollarization of Deposits
(In percentages)



Dollarization of Credits
(In percentages)

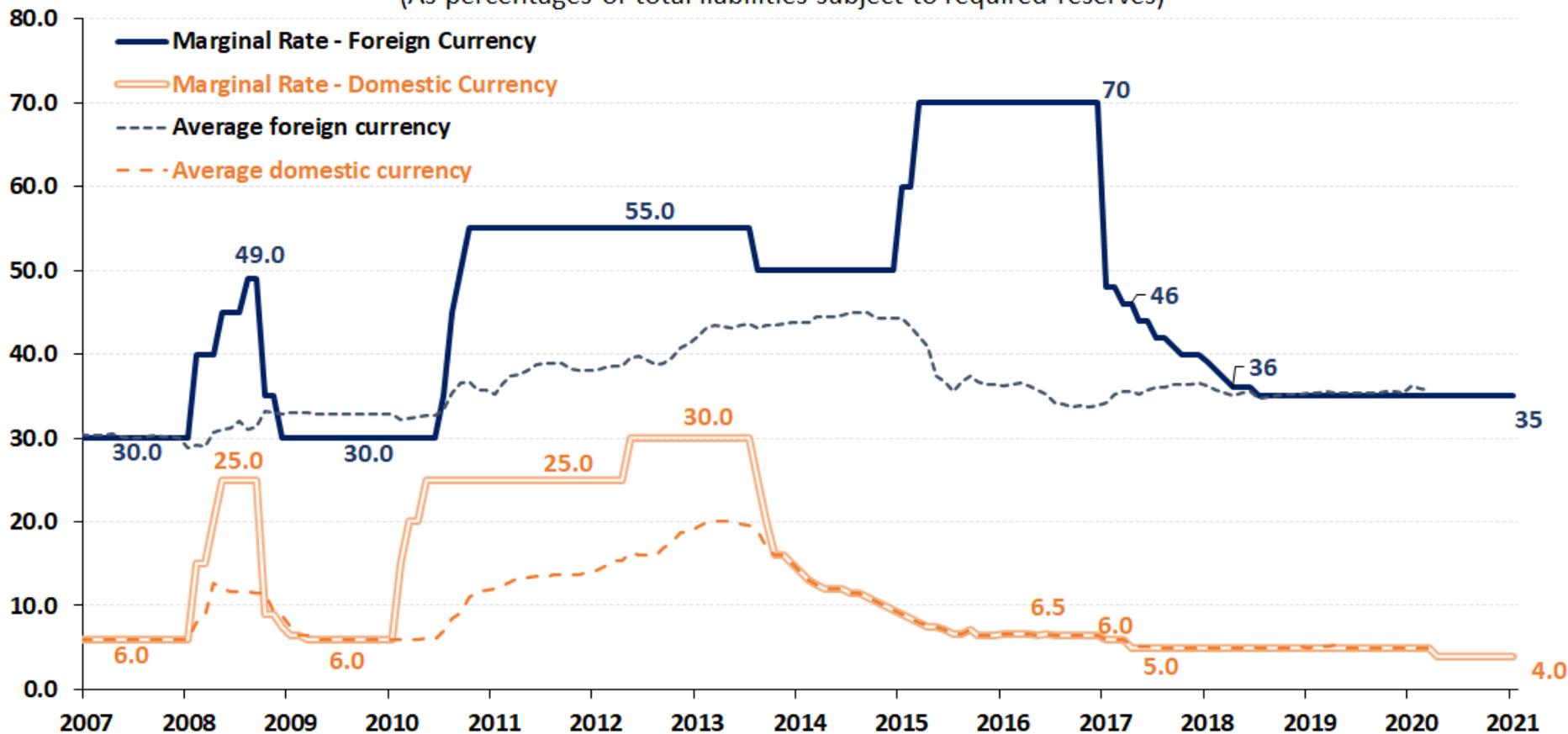


CTS: private deposits that become available during unemployment spells. These deposits had the largest reduction in dollarization.

Higher reserve requirements in dollars allow to face liquidity risk coming from financial dollarization.

Reserve Requirement Ratio in Domestic and Foreign Currencies

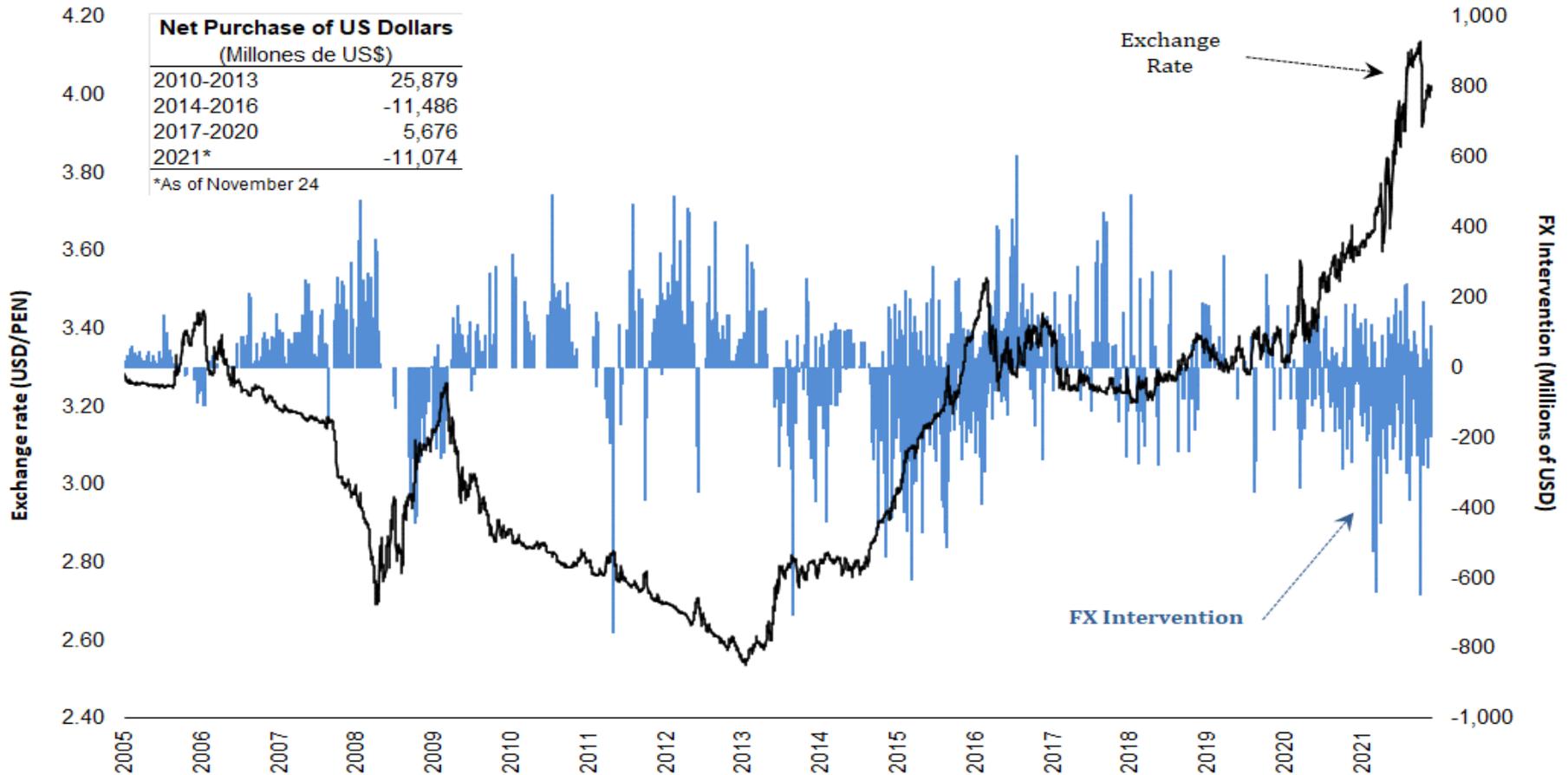
(As percentages of total liabilities subject to required reserves)



Peru introduced Latin America's first floating regime in 1990.

FX intervention does not target any given exchange rate level

Exchange Rate and FX Intervention^{1/}



1/ Includes: Net purchase of dollars, and net maturity of instruments: CDRBCRP, CDLDBCRP and FX Swaps.

As of November 24.

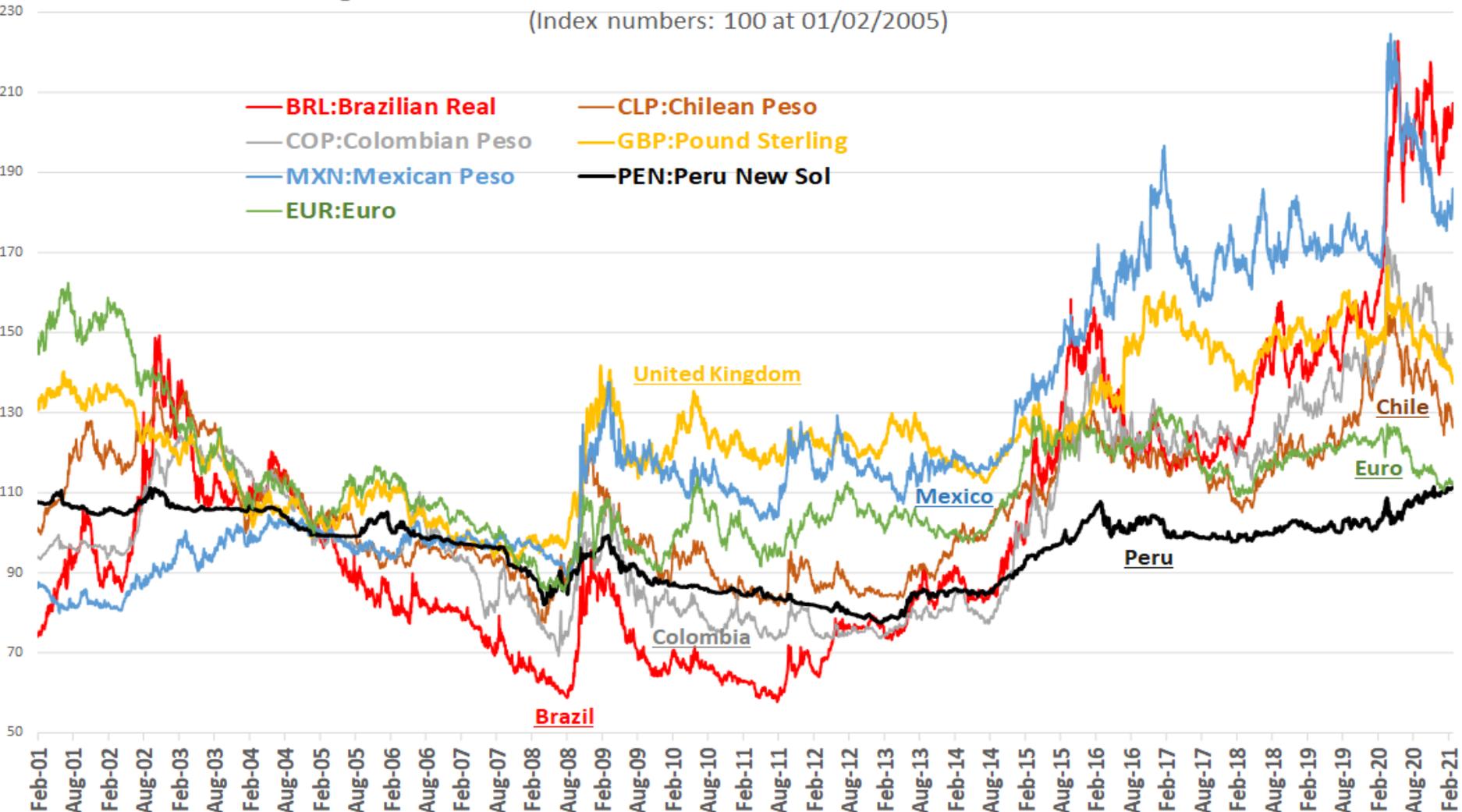
Source: BCRP

Exchange rate in Peru follows international trends but with low volatility

Exchange rate for LATAM countries, UK and the Eurozone 2001-2021

(Index numbers: 100 at 01/02/2005)

- BRL:Brazilian Real
- CLP:Chilean Peso
- COP:Colombian Peso
- GBP:Pound Sterling
- MXN:Mexican Peso
- PEN:Peru New Sol
- EUR:Euro

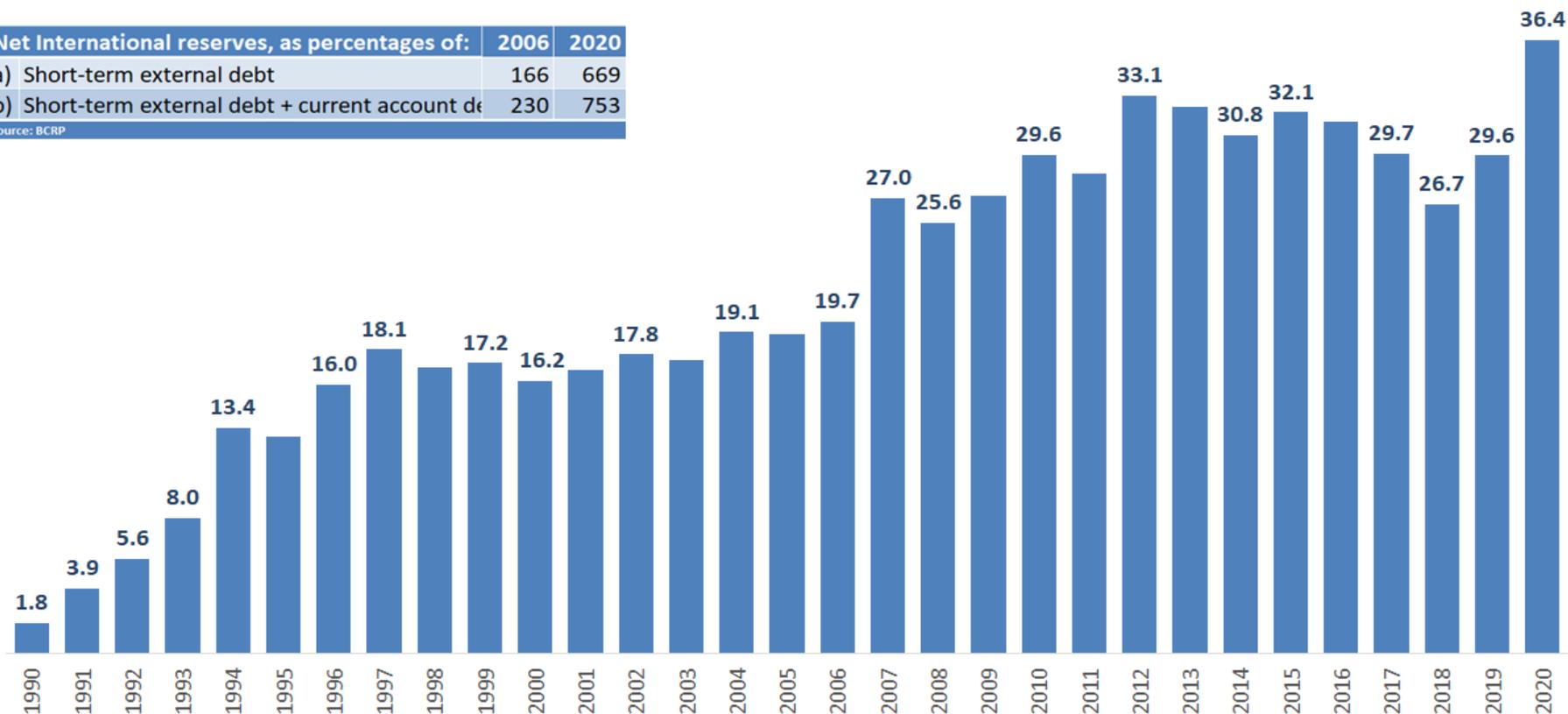


International reserve accumulation is used as a self-insurance mechanism in the absence of an international “lender of last resort”

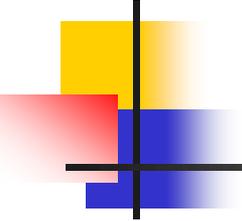
Net International Reserves (Percentages of GDP)

Net International reserves, as percentages of:	2006	2020
a) Short-term external debt	166	669
b) Short-term external debt + current account deficit	230	753

Source: BCRP



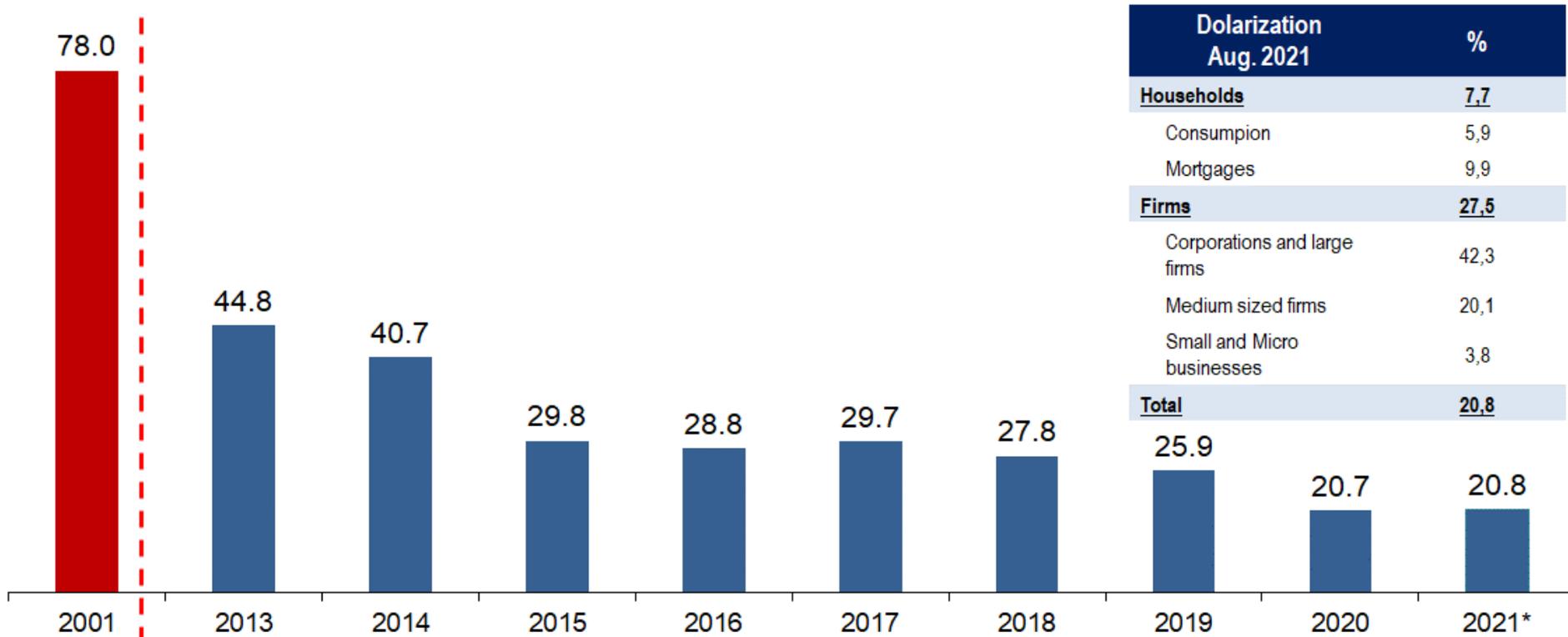
Policy responses to encourage dedollarization



- Low inflation rates
- Policy rate as a monetary instrument
- Sovereign bonds in domestic currency as a benchmark for interest rates with different maturities.
- Pricing in soles.

Considerable de-dollarization trend, but still high, especially if external debt and local capital market financing to private sector are considered (45 percent).

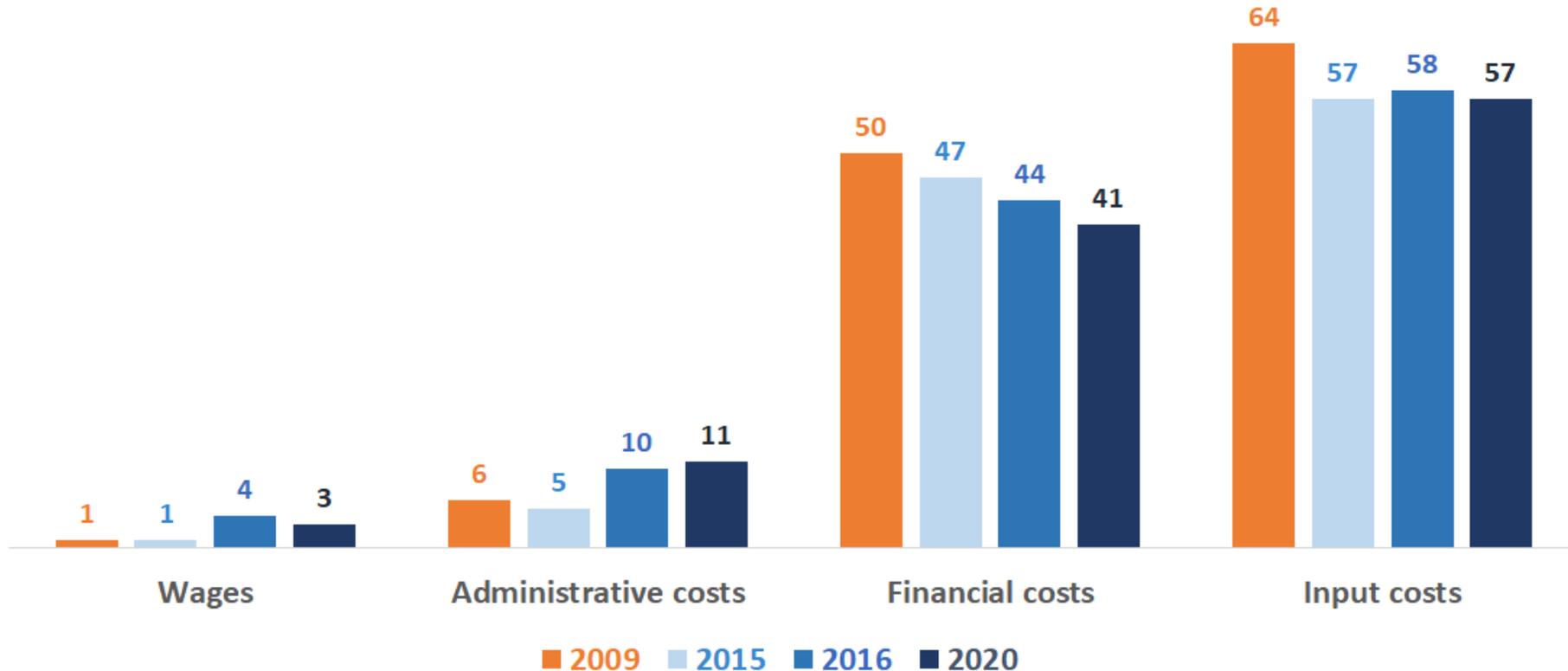
DOLLARIZATION RATIO
(Lending in US Dollars as percentages of total lending)



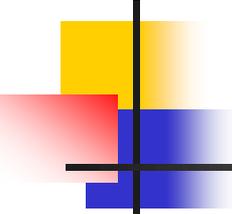
* As of August 2021.
Source: BCRP.

Despite important accomplishments in the goal of de-dollarization in all segments of expenditure of non-financial firms, the degree of dollarization of their input costs is still high; 57 percent of firms acknowledge that their input purchases are denominated in foreign currency.

Dolarization of costs¹
(In percentages)

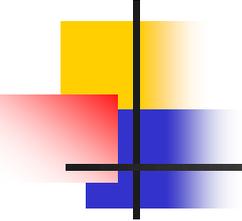


¹ The dollarization costs corresponds to surveyed firms acknowledging that most of their costs are denominated in foreign currency



Concluding Remarks

- Inflation targeting can be effectively implemented under a partially dollarized economy, controlling for the dollarization risks.
- The central bank needs to provide a sound monetary policy with low and stable inflation to encourage the population to use the domestic currency.
- Therefore, dollarization can be handled through a sound monetary policy; i.e., IT with a policy rate and a yield curve, together with policies and coordination efforts to mitigate dollarization risks.
- Under a Bi-monetary system people are free to choose between the domestic and foreign currency.
- Information gathered at the micro level shows that non-financial firms are still vulnerable to currency fluctuations due to currency mismatches at the level of the structure of their costs and at the level of their balance sheets. The persistency of the dollarization urges the Central Bank to maintain its efforts to de-dollarize the economy. The characteristics of non-financial firm's transactions and the structure of their costs may impose certain limits to the de-dollarization process. Further research is needed in order to measure the limits of the de-dollarization.



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