



Monetary policy framework: current challenges and the way forward

9th High-Level Conference on the International Monetary System

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May 2019



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Monetary policy and the exchange rate

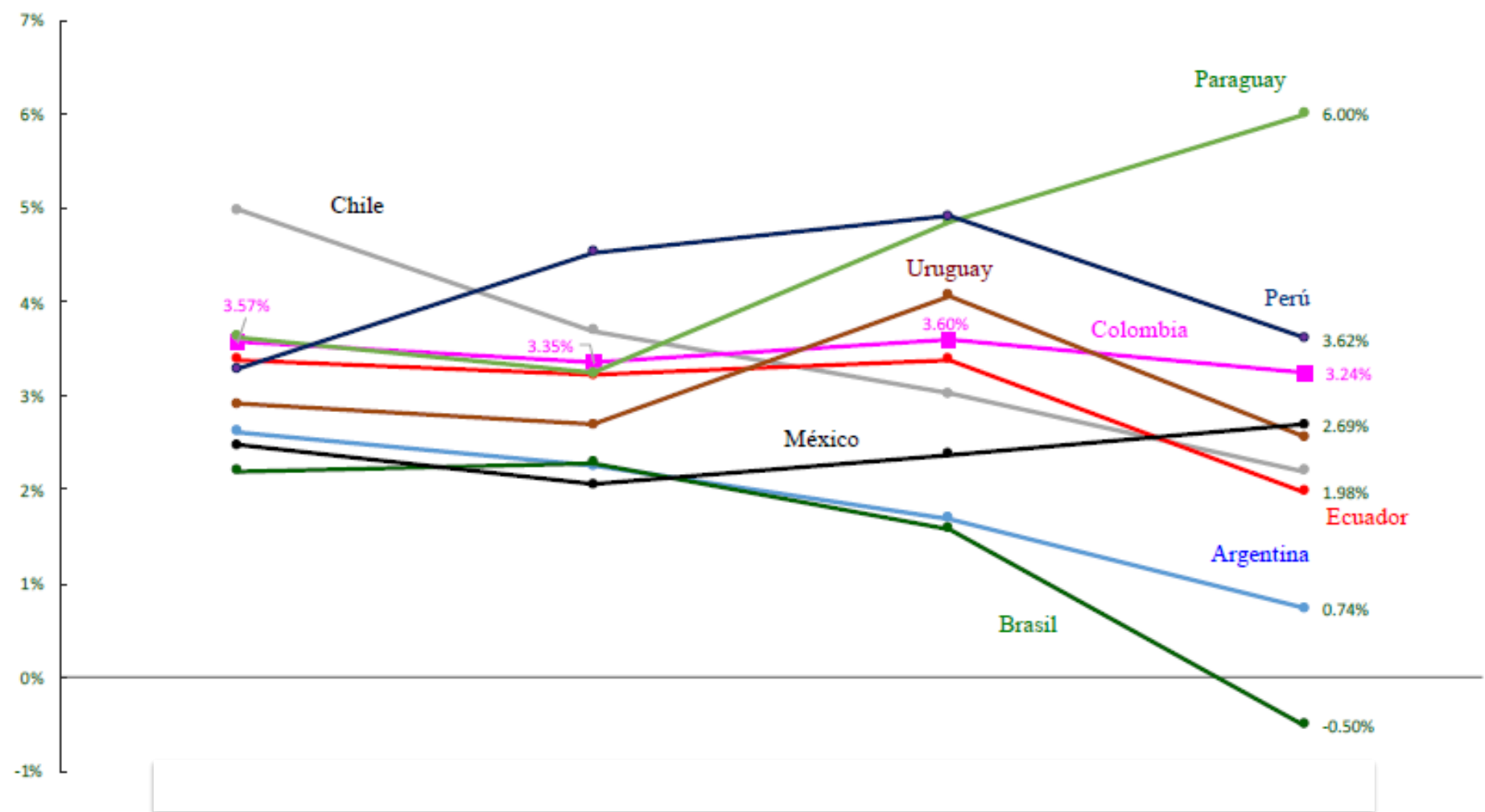
Monetary policy, credit and financial stability

Monetary policy, capital flows and the current account

Issues for Discussion

- Why are there **notable differences** across countries and regions in their reaction to capital account shocks?
- Can foreign exchange intervention (FXI), macroprudential policy measures, and/or capital flow management measures (CFMs) **strengthen**?
- Macroeconomic and financial **resilience** in the face of large capital flow volatility?
- What is the **impact** of FXI and CFMs on **financial market development** and the **credibility** of **inflation targeting frameworks**?
- What is the **desirable combination** of policy tools to respond to capital flow swings?
- How does this **depend** on country **characteristics**, **initial conditions**, and **policy priorities**?

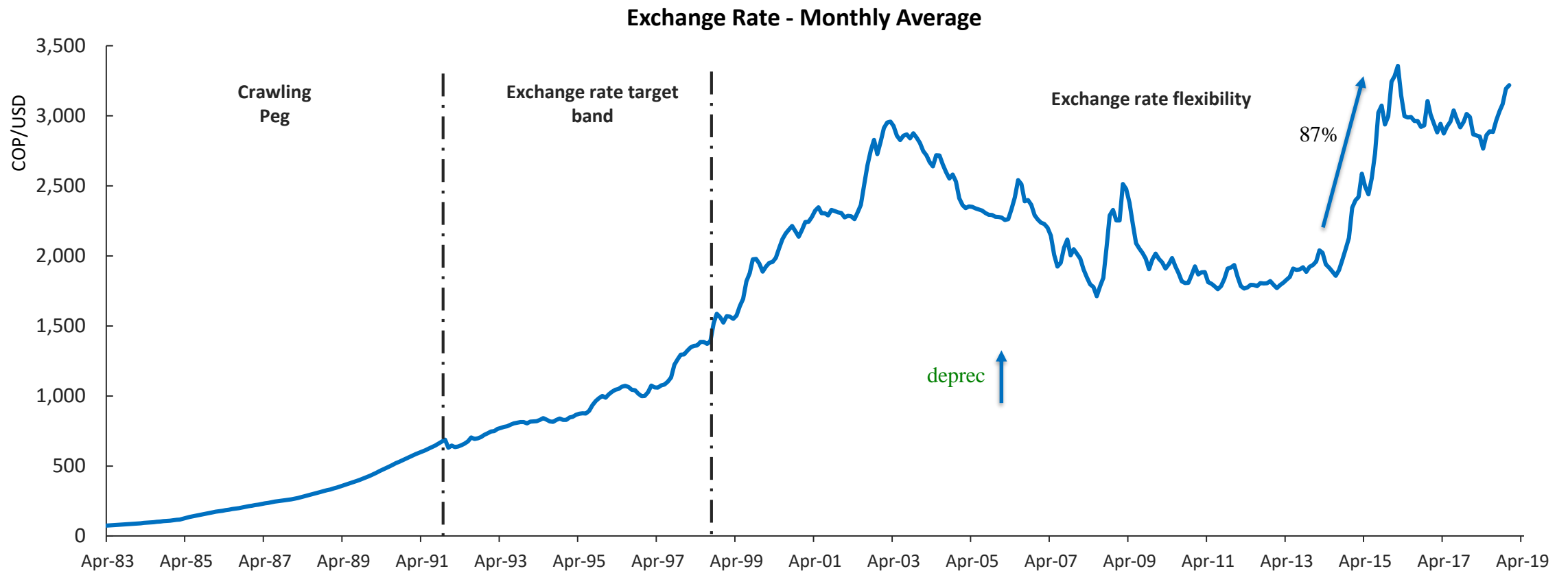
Annual growth (last 5, 10...30 years)



last 30 last 20 last 10 last 5

- Since 1999, the *Banco de la República* (Central Bank of Colombia) follows an **inflation targeting regime** with two main objectives:
 - Maintaining a low and stable inflation rate
 - Reducing the gap between GDP growth and its “potential” level.
- **Exchange rate flexibility** is a fundamental pillar for the general policy framework in Colombia
 - as it ensures independence of monetary policy
 - and mitigates the response of economic activity to external shocks.
- The successful implementation of exchange rate flexibility has some **preconditions**:
 - Limited currency mismatches
 - A credible monetary regime
 - Sufficient external buffers

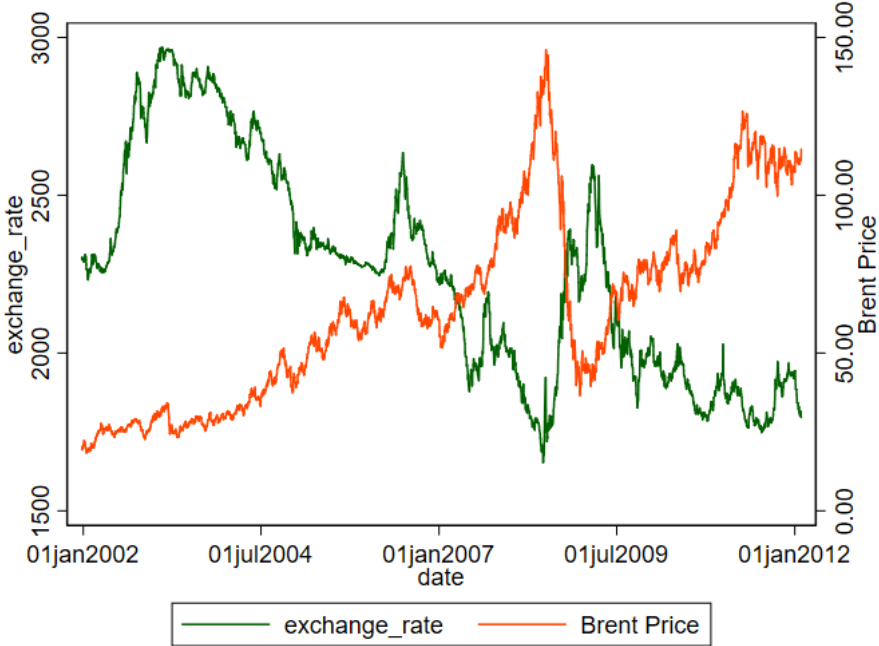
- After operating with other exchange rate regimes, **FX flexibility was adopted in 1999** in line with the full implementation of the inflation targeting regime.
- Exchange rate flexibility **allows the interest rate** to be used independently as an instrument to bring inflation and output close to their desired values.
- In this framework, the exchange rate **enters** into BR's policy response through its effect on GDP, inflation and inflation expectations.



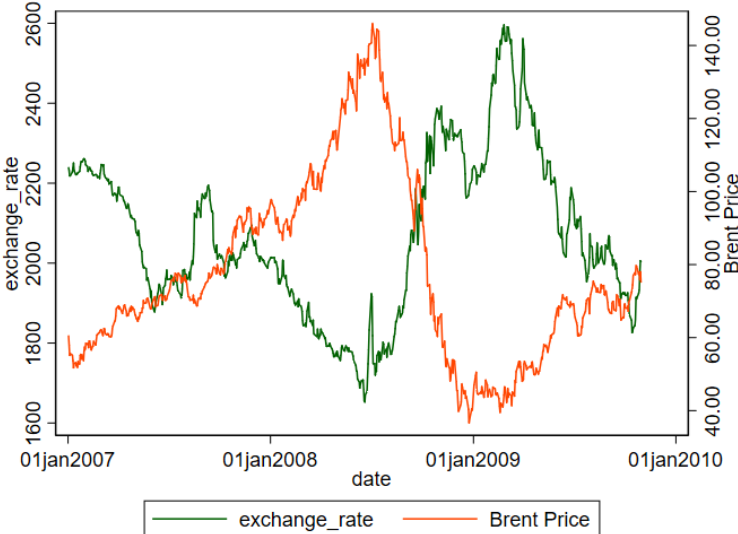
Source: Banco de la República

Exchange rate and oil prices

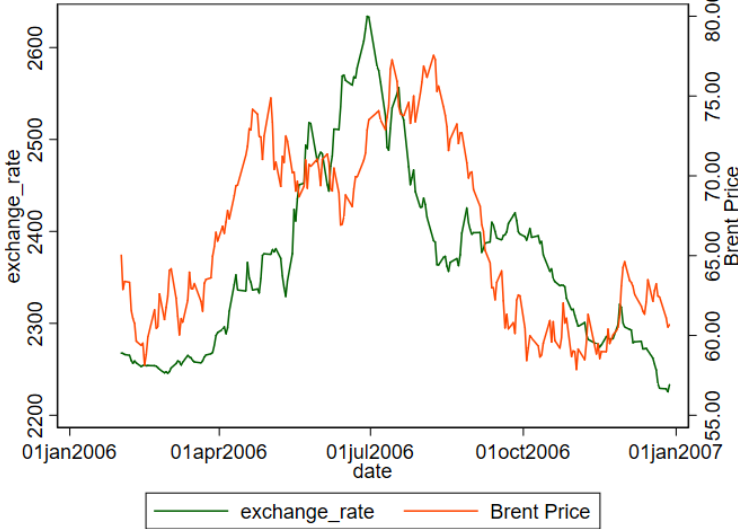
2002-12



deprec



2007-10

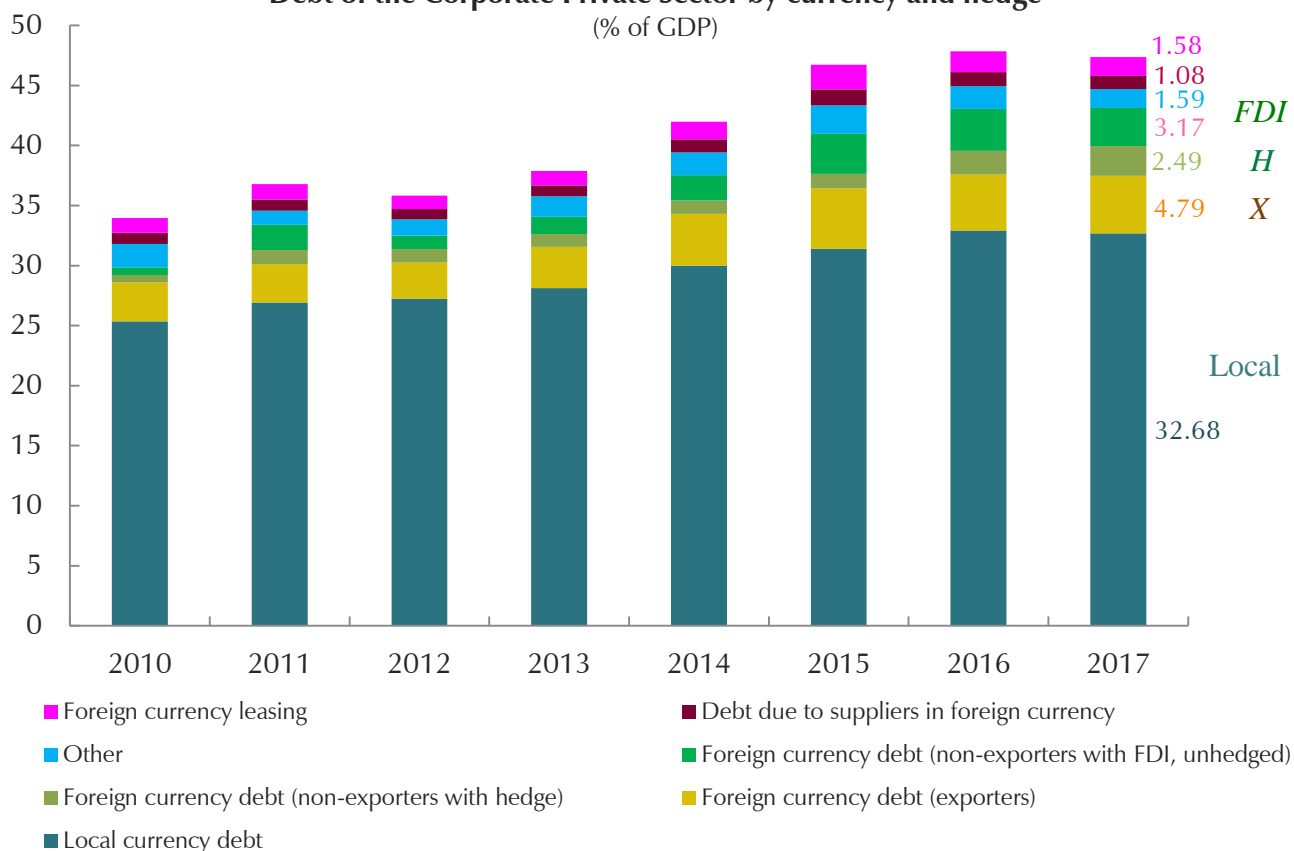


2006-07

First precondition: Limited currency mismatches

- There are limits to the Net FX position of banks. It must be within -5% and 20% of the institution's Tier 1 capital. More than 95% of the debt of the private sector is either denominated in local currency or it is hedged when denominated in foreign currency.
- The financial and real sectors can withstand a significant depreciation of the currency.

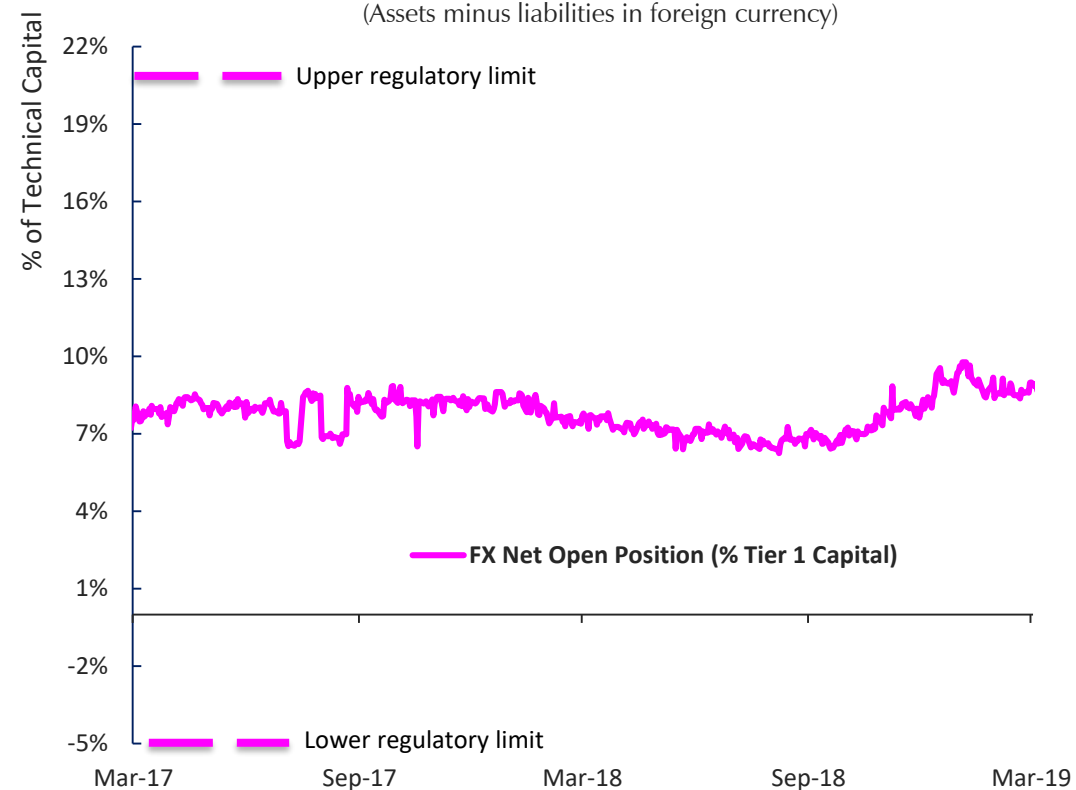
Debt of the Corporate Private Sector by currency and hedge (% of GDP)



*For the categories: debt due to suppliers in foreign currency, foreign currency leasing and "other", the information is insufficient to determine if firms hedge these debts.

Source: Banco de la República, Financial Superintendency and DANE

FX Net Open Position of the Financial Sector (Assets minus liabilities in foreign currency)

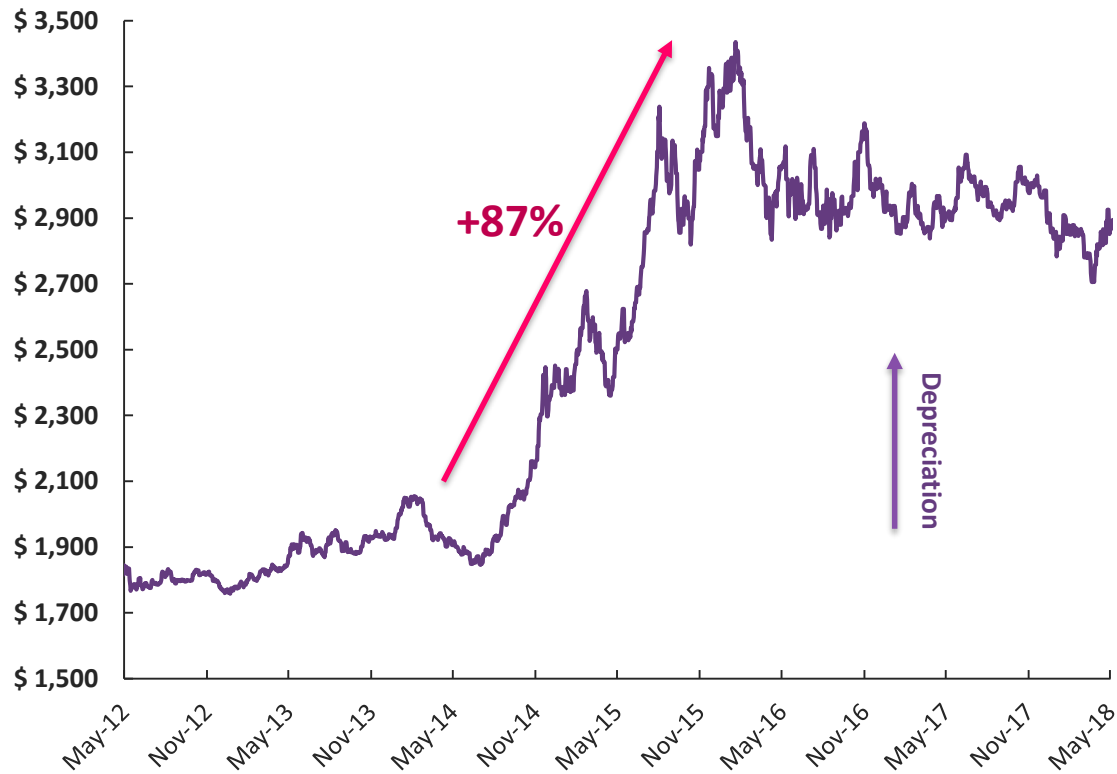


Source: Banco de la República

Second precondition: a highly credible monetary policy framework

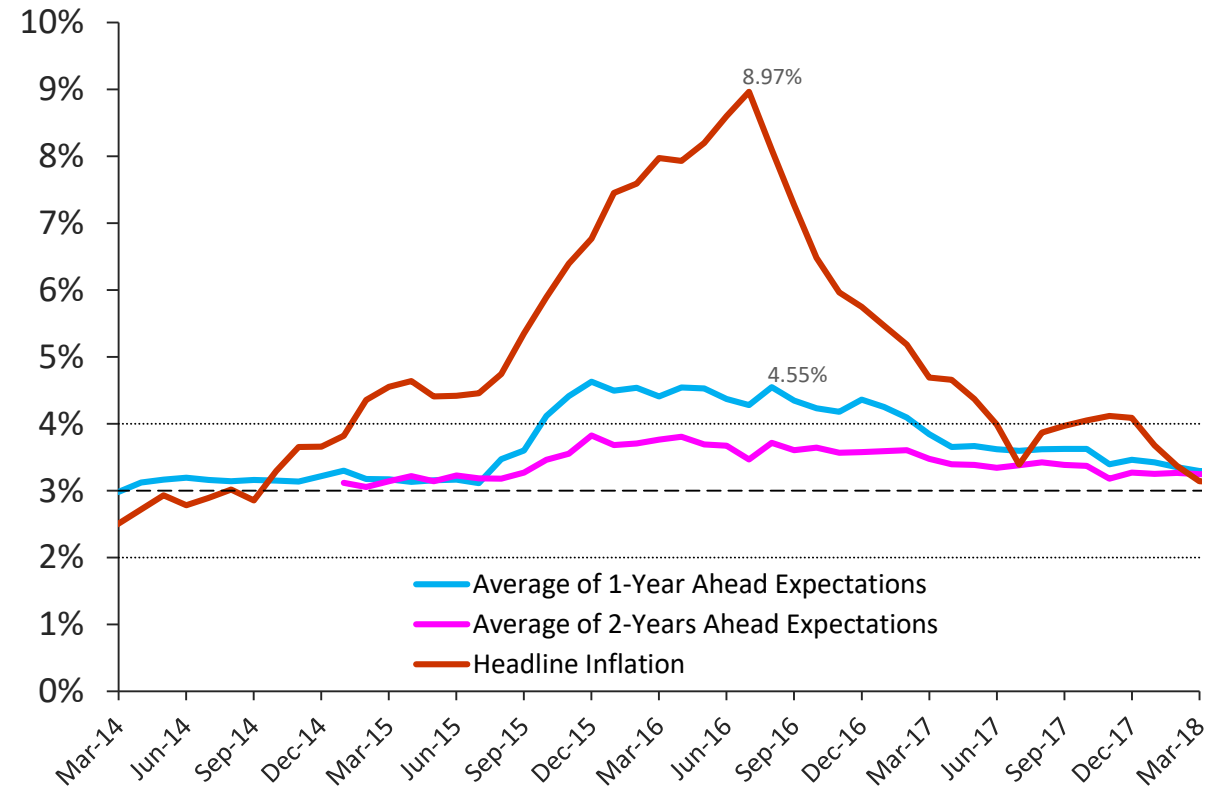
- The credibility of the inflation targeting regime limited the rise in inflation expectations, despite the large depreciation of the currency in 2014-2015.
- A credible monetary policy framework contributes to having low pass-through from the exchange rate to local prices...

Exchange Rate - USD/COP



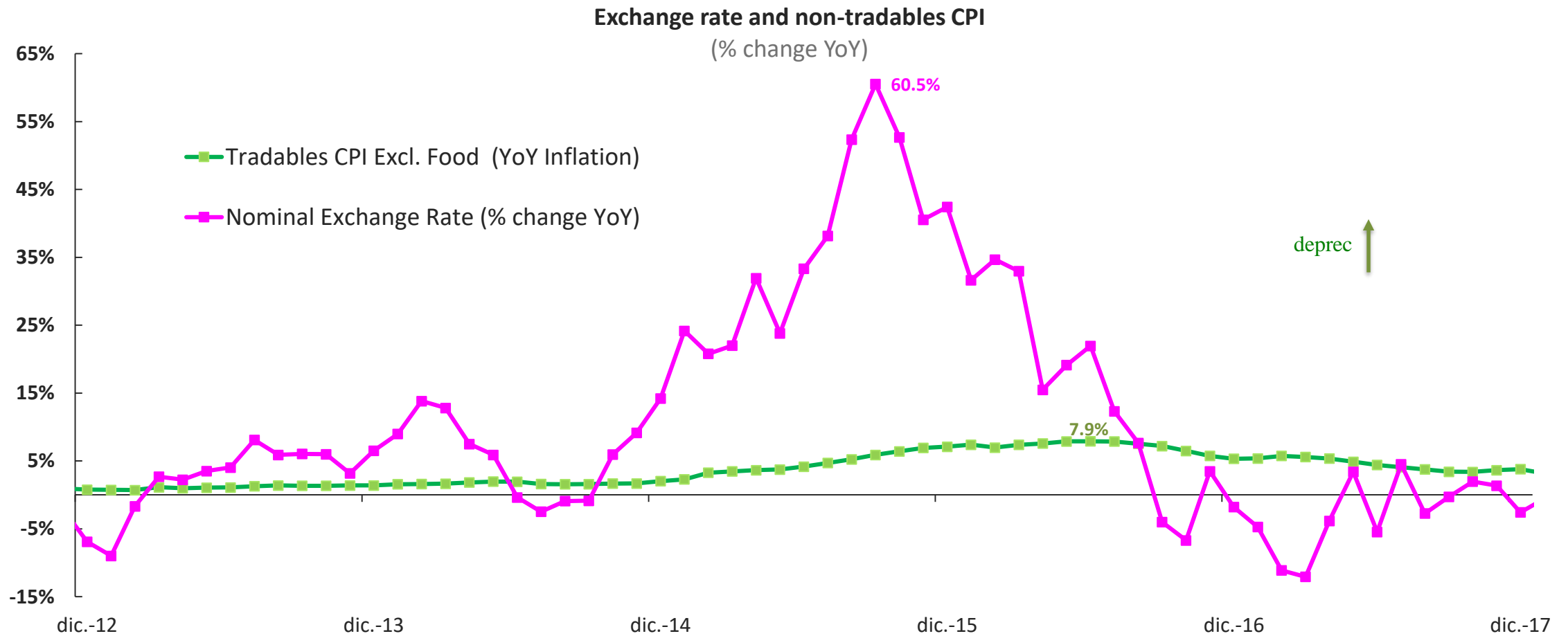
Source: Financial Superintendence

Inflation and Inflation Expectations



Source: DANE and Banco de la República.

- ... In turn, the low pass through facilitates FX flexibility.
- The 2015 depreciation episode highlights the low pass-through in the Colombian economy.

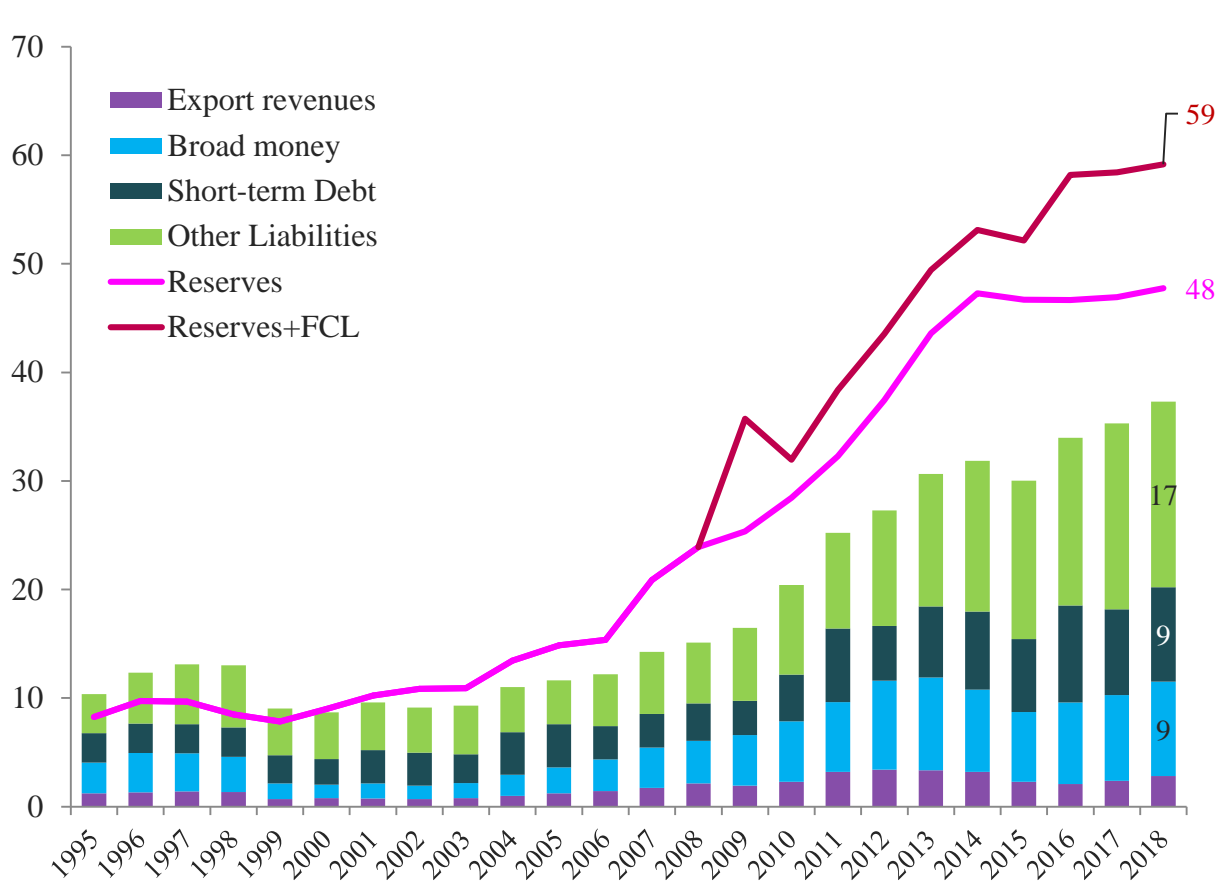


Source: Calculations by Banco de la República

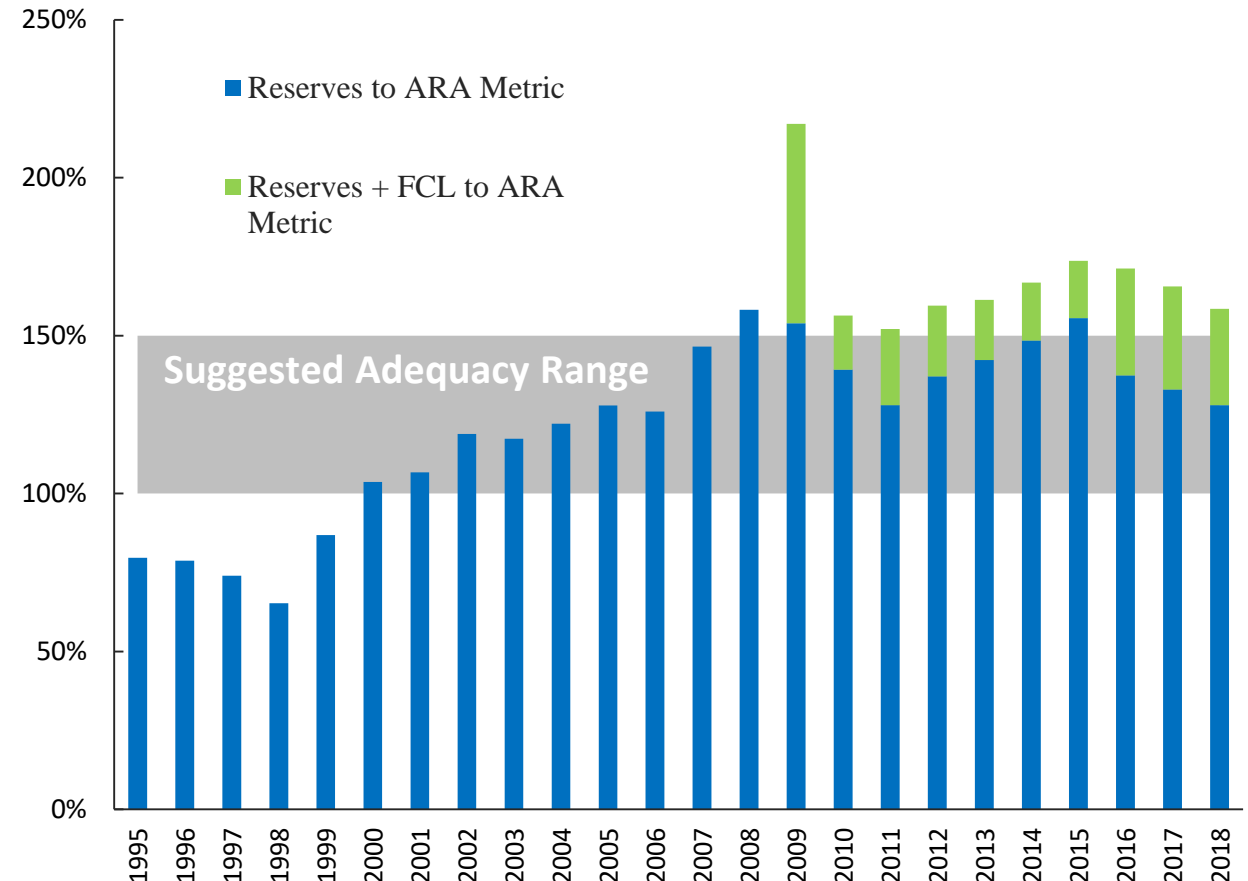
Third precondition: A sufficient level of external buffers. This provides another safeguard against external shocks.

- The Flexible Credit Line has complemented the international reserves as a line of defense against external shocks.

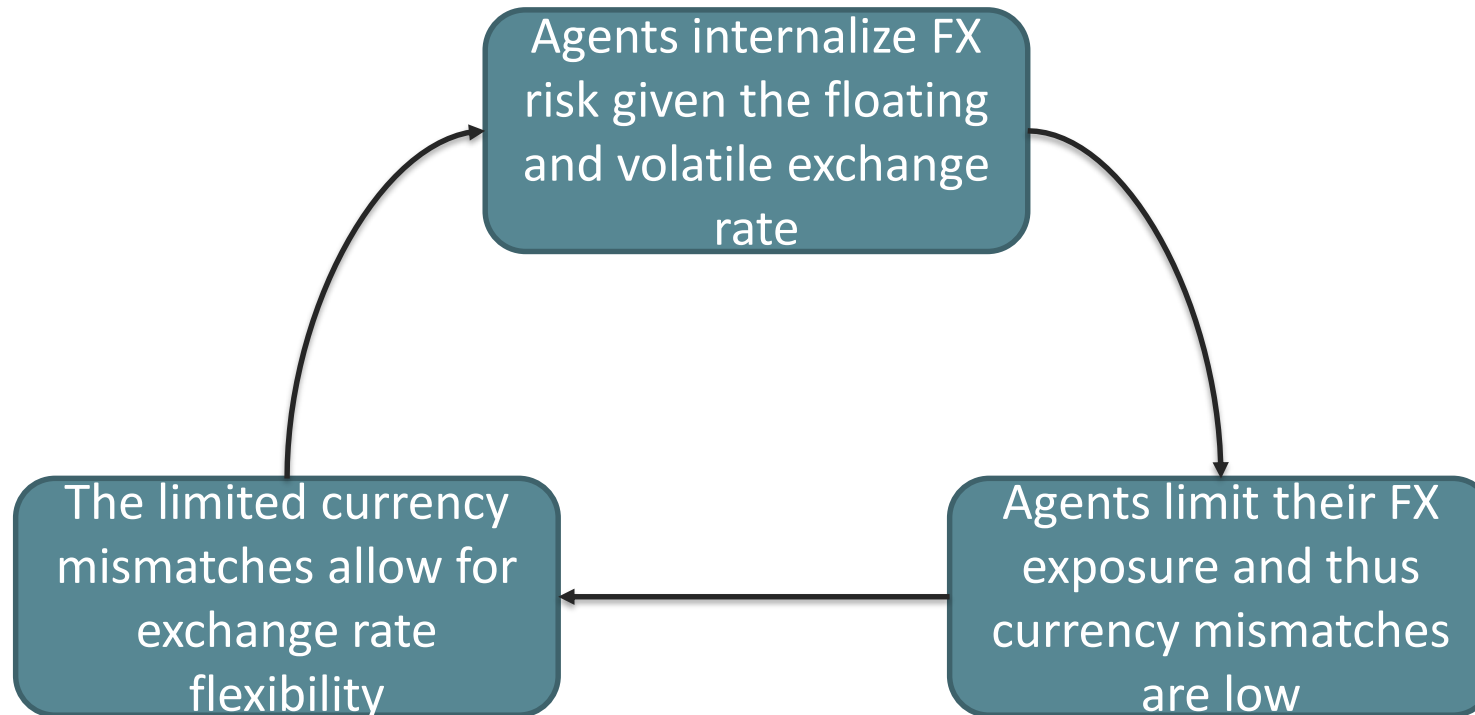
ARA Metric Decomposition for Colombia
(USD billion)



Reserves as percent of ARA Metric for Colombia



- Exchange rate flexibility creates a positive feedback loop in which agents, aware of the central bank's FX policy, **limit their exposure** to the exchange rate





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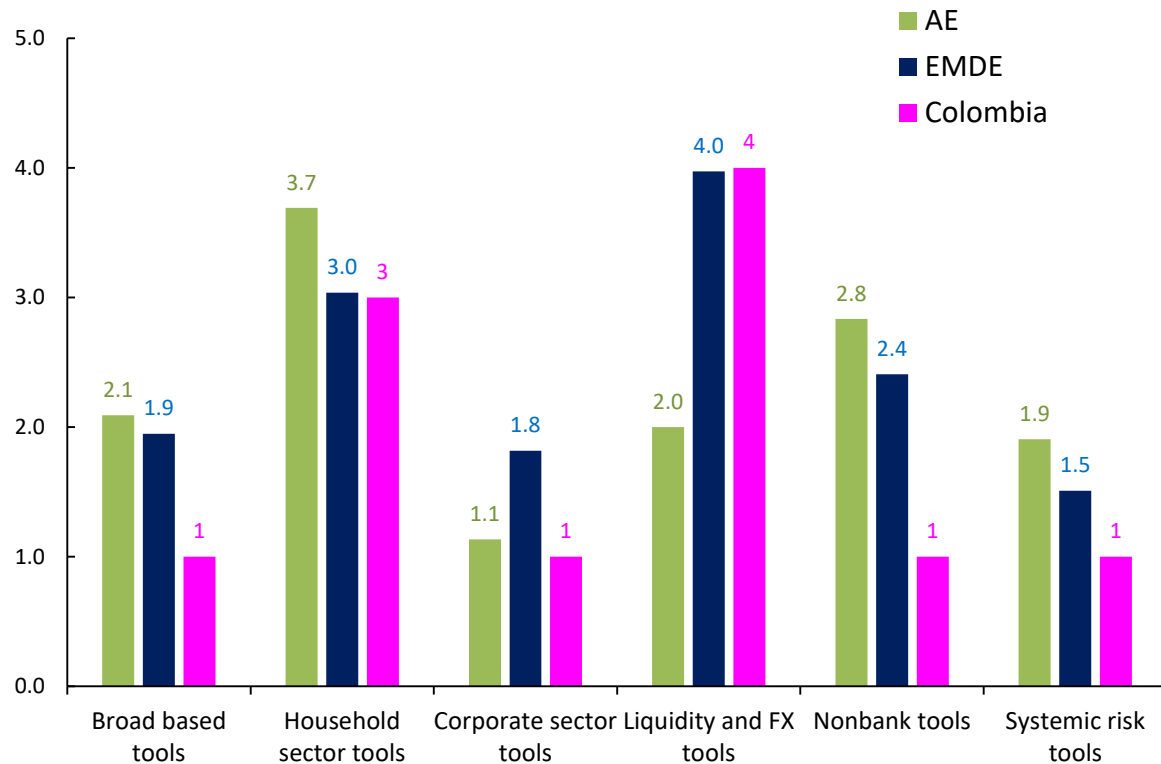
Monetary policy, credit and financial stability

Monetary policy, capital flows and the current account

- Given that financial stability is a prerequisite for macroeconomic stability
 - the presence of a **sound financial sector** is a key element for the implementation of countercyclical policies
 - and for allowing the exchange rate flexibility to work as a shock absorber
- An adequate policy framework must differentiate clearly **structural** and **cyclical objectives**
- After the Global Financial Crisis most part of the attention has been directed to cyclical policies, however structural policies could be more relevant...

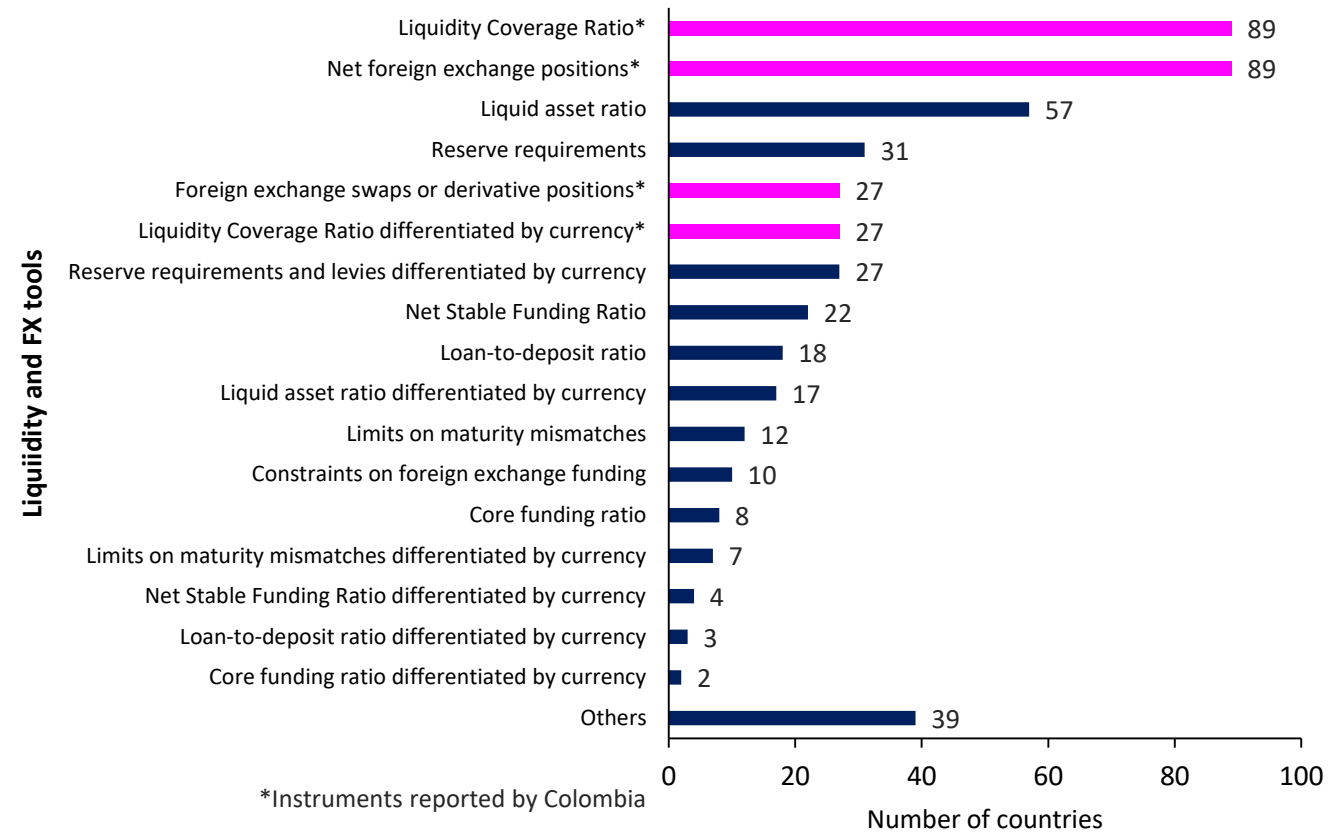
- Colombia actively uses macroprudential policies, especially those aimed at managing liquidity and FX risks.

Number of instrument reported by Country and type of instrument (2017)



Source: IMF Macprudential Policy Survey

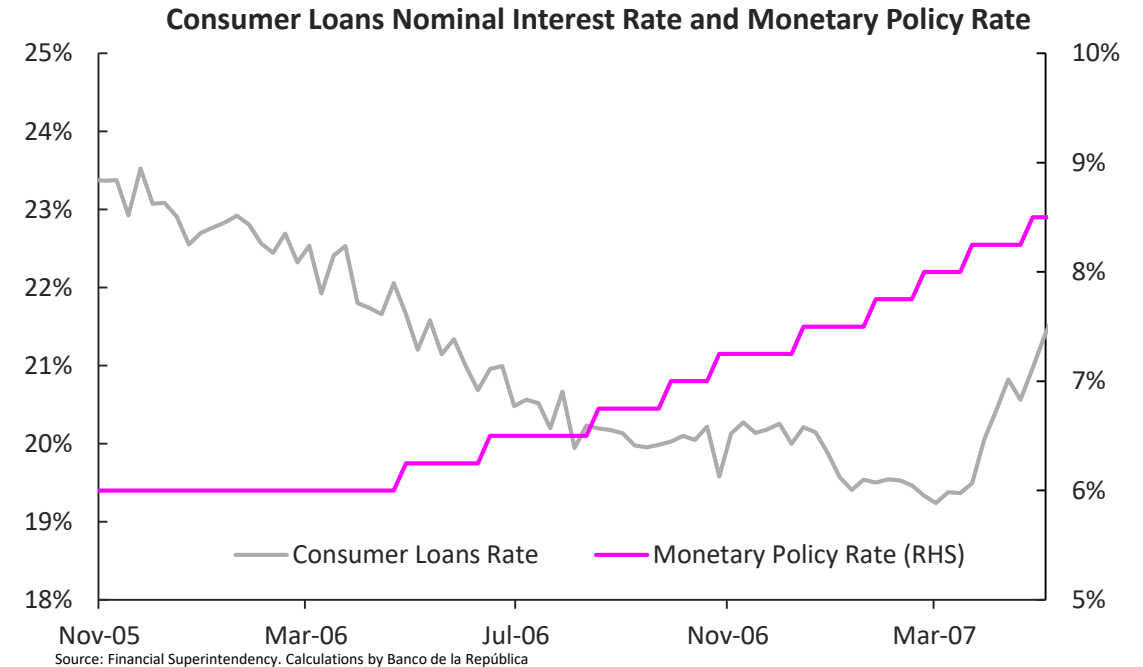
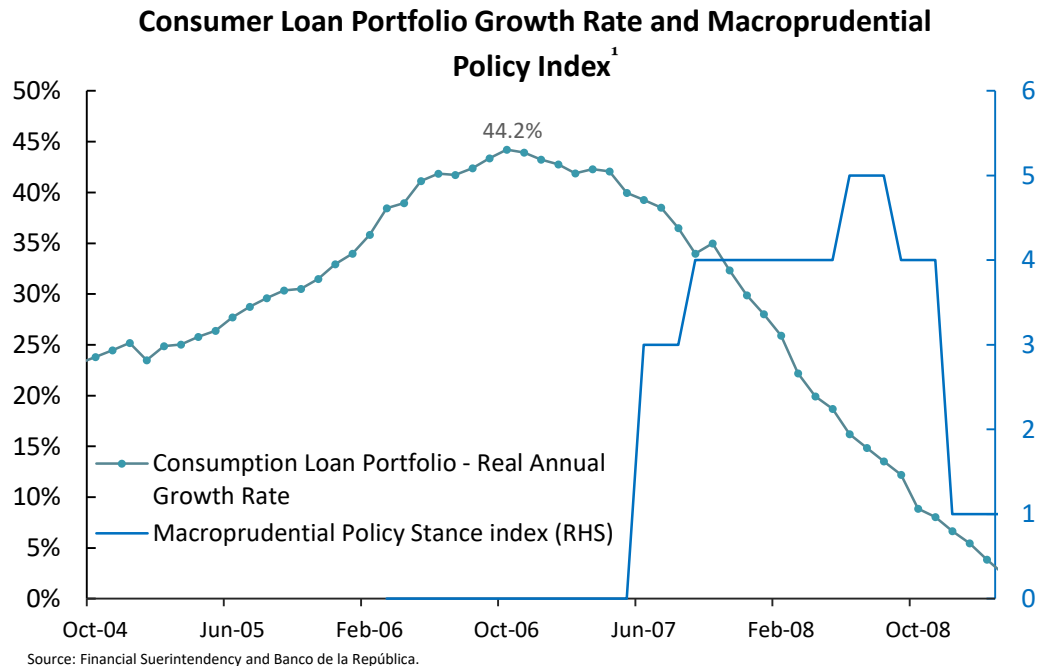
Number of countries that reported the use of the following tools in 2017 (153 countries)



Source: IMF Macprudential Policy Survey

An interesting episode (2006-2007):

- **Macroprudential measures have been effectively used to target vulnerabilities in the financial sector.**
 - In 2006-2007 BR used higher **domestic reserve requirements** temporarily
 - to **curb excessive credit growth** at a time when the central bank was **tightening its MP** but the **consumer loan rate kept falling**.
- **Aware of the substitution of external for local credit**
 - BR imposed an **Unremunerated Reserve Requirement** on external debt (URR) and the Minister of Finance introduced **capital controls on foreign portfolio flows**.
- These measures, together with the introduction of **provisioning requirements** for commercial and consumer loans by the Financial Superintendency, caused a **slowdown in credit growth** by the end of 2007.



¹This index captures the macroprudential policy stance of the country, and is defined as the sum of the individual policies' dummy variables (dummies that take the value of 1 if the policy is in place and 0 otherwise. In constructing the index, the following macroprudential policies are considered: i) countercyclical reserve requirements, ii) dynamic provisions, iii) external borrowing requirement, iv) deposit on portfolio investment and v) minimum holding period for FDI. Gómez, E., Lizarazo, A., Mendoza, J.C., Murcia, A., (2017) *Evaluating the impact of macroprudential policies on credit growth in Colombia*. BIS Working Papers No 634.

- The 2006-2007 **episode** highlights how macroprudential policies can **reinforce each other** and successfully **complement monetary policy**.
- However, future success cannot be taken for granted and the country could face challenges in this respect.
 - The exposure of the domestic financial system to international factors has increased and risks are continuously changing (Vargas et al 2017*):
 - 1) The presence of **foreign portfolio investors** in local markets has increased significantly
 - 2) Colombian **banks have expanded abroad**
 - 3) **Variants of financial intermediation** have emerged, posing challenges to the various authorities entrusted with financial stability objectives.
- A more open economy increases the probability of policy trade-offs
 - and may reduce the effectiveness of some macroprudential policy tools used successfully in the past

* Vargas, H., Cardozo, P., Murcia, A., (2017) *The macroprudential policy framework in Colombia* Bank for International Settlements (ed.), *Macroprudential policy frameworks, implementation and relationships with other policies*, volume 94, pages 103-128 Bank for International Settlements.

The expansion of the Colombian financial system abroad has entailed new risks that have required macroprudential policy responses:

1. FX net position that considers risks by currency
2. The liquidity coverage ratio (LCR) takes into account currency mismatches
3. Foreigners' deposits have a withdrawal assumption of 100% in the LCR

There is an open debate on the consistency of different macroprudential measures

Consistency? (an example): Limits on currency mismatches vs. solvency requirements

- In case of a large depreciation of the local currency, Net FX open position limits could enter into conflict with the solvency ratio.
- This conflict could encourage financial institutions to leave their FX positions unhedged, in order to keep their solvency ratio relatively stable:

Institution **A** hedges its assets denominated in foreign currency

If local currency depreciates

Balance Sheet of **A**

Assets	Liabilities
	Equity =

Given that the foreign exchange exposure is hedged, the balance sheet **adjustment is achieved through a change in the value of liabilities.**

The **solvency ratio would decrease** because the capital remains constant:

$$\frac{\text{Capital (=)}}{\text{Risk weighted assets } (\uparrow)}$$

Institution **B** doesn't hedge its assets in foreign currency

Balance Sheet of **B**

Assets	Liabilities
	Equity

When assets in foreign currency are not completely hedged against FX risk, **part of the adjustment after a depreciation is achieved through a change in equity.**

In this case, the solvency ratio is more likely to remain unchanged:

$$\frac{\text{Capital } (\uparrow)}{\text{Risk weighted assets } (\uparrow)}$$



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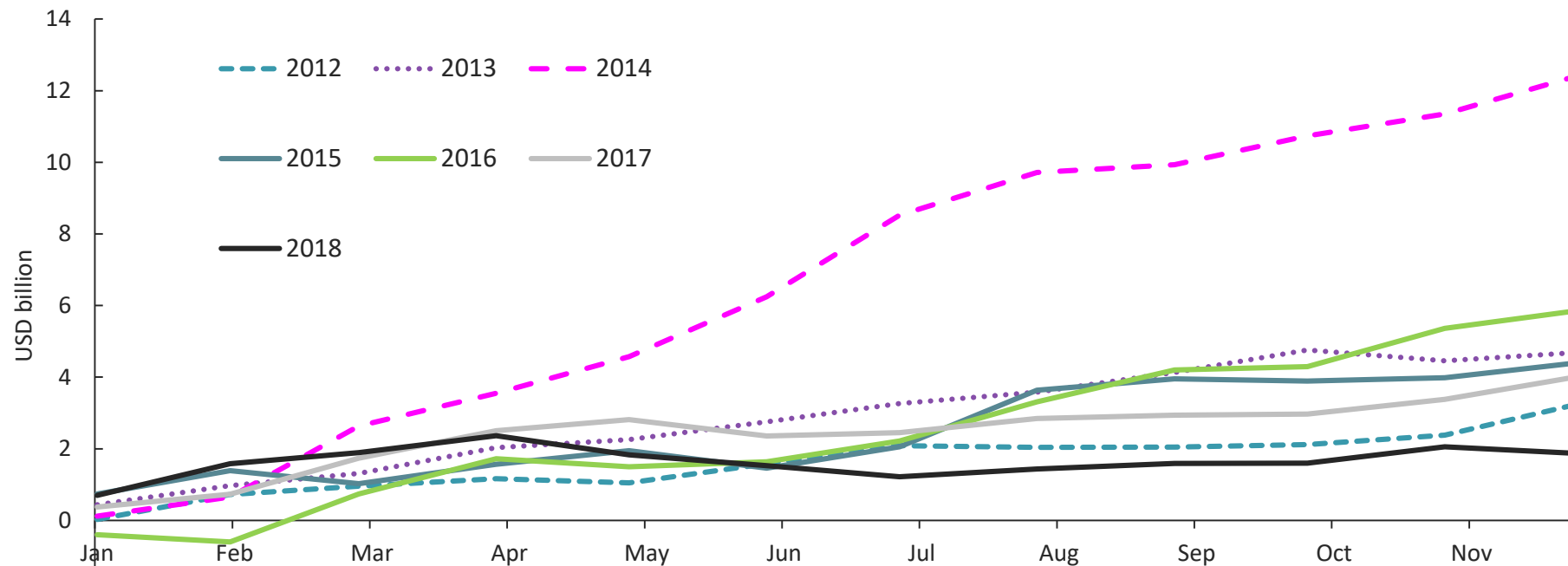
Monetary policy, credit and financial stability

Monetary policy, capital flows and the current account

Capital flows might affect the effectiveness of macroprudential policies and the transmission of monetary policy.

- For example, in 2014 after J.P. Morgan announced an increase in the weights of Colombian government bonds in its indices, Colombia received an important amount of foreign portfolio investment.
- Consequently, banks sold their bond holdings and increased local loan growth, causing an almost muted transmission of monetary policy to loan rates.

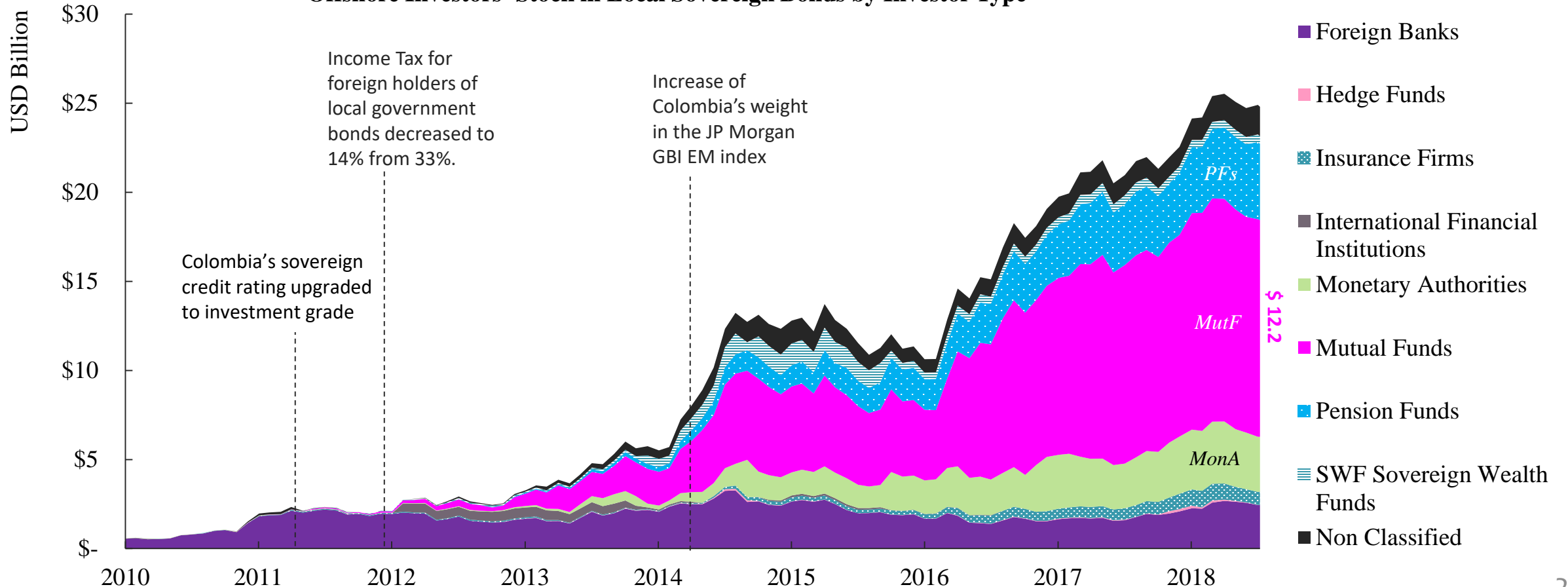
Yearly Accumulated Non-Resident Portfolio Inflows in Colombia



Source: Banco de la República

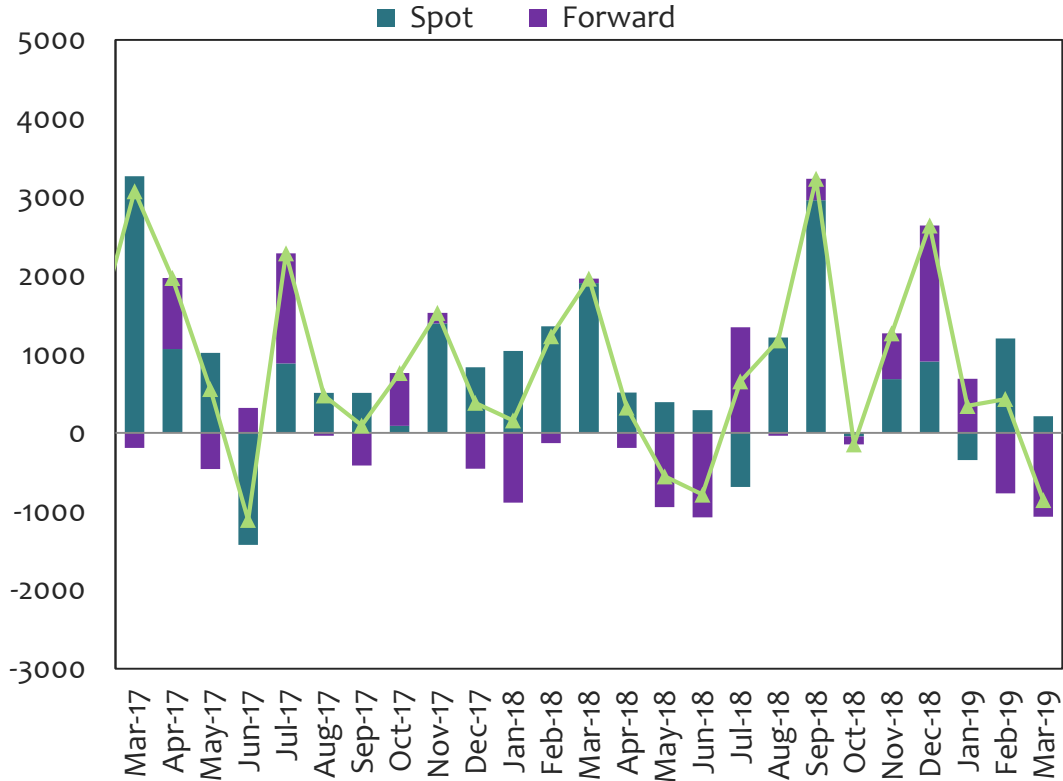
- **Capital mobility** should also affect the adequate level of **external buffers** for an economy.
- A larger participation of foreign portfolio investors in the local sovereign bond market is an important vulnerability factor, as it increases the sensitivity of local financial markets to international conditions.

Offshore Investors' Stock in Local Sovereign Bonds by Investor Type

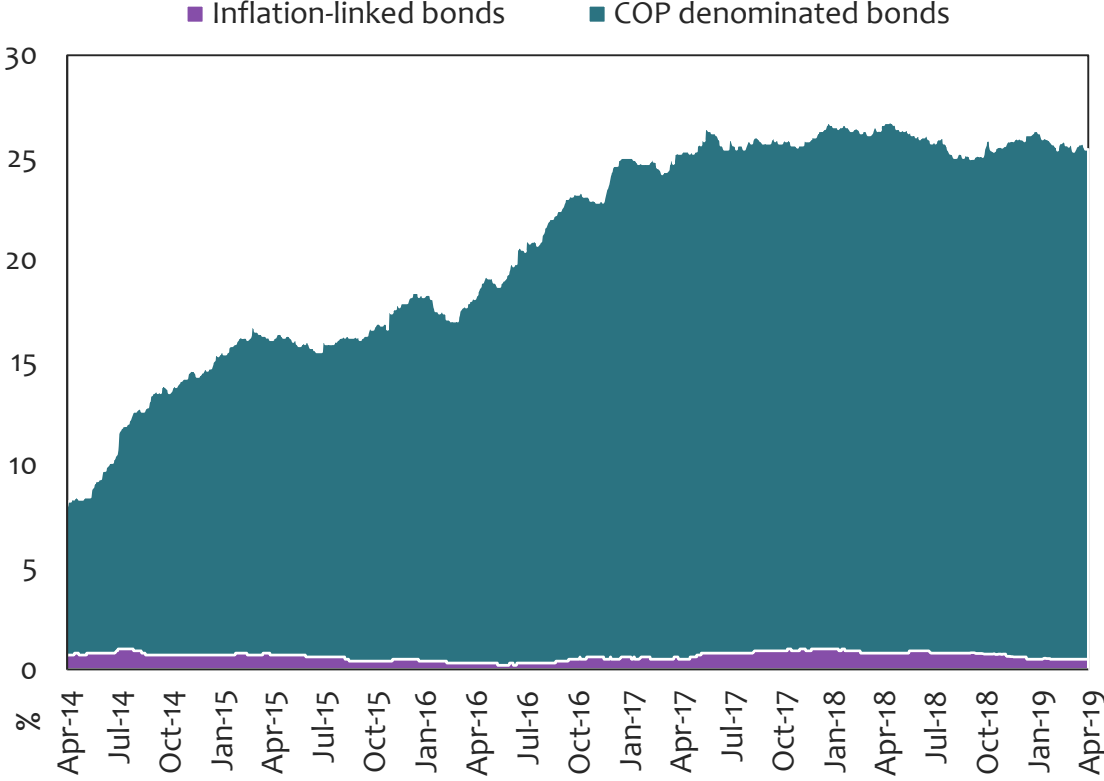


Sovereign bonds in local currency (TES) bought by foreigners

COP billion



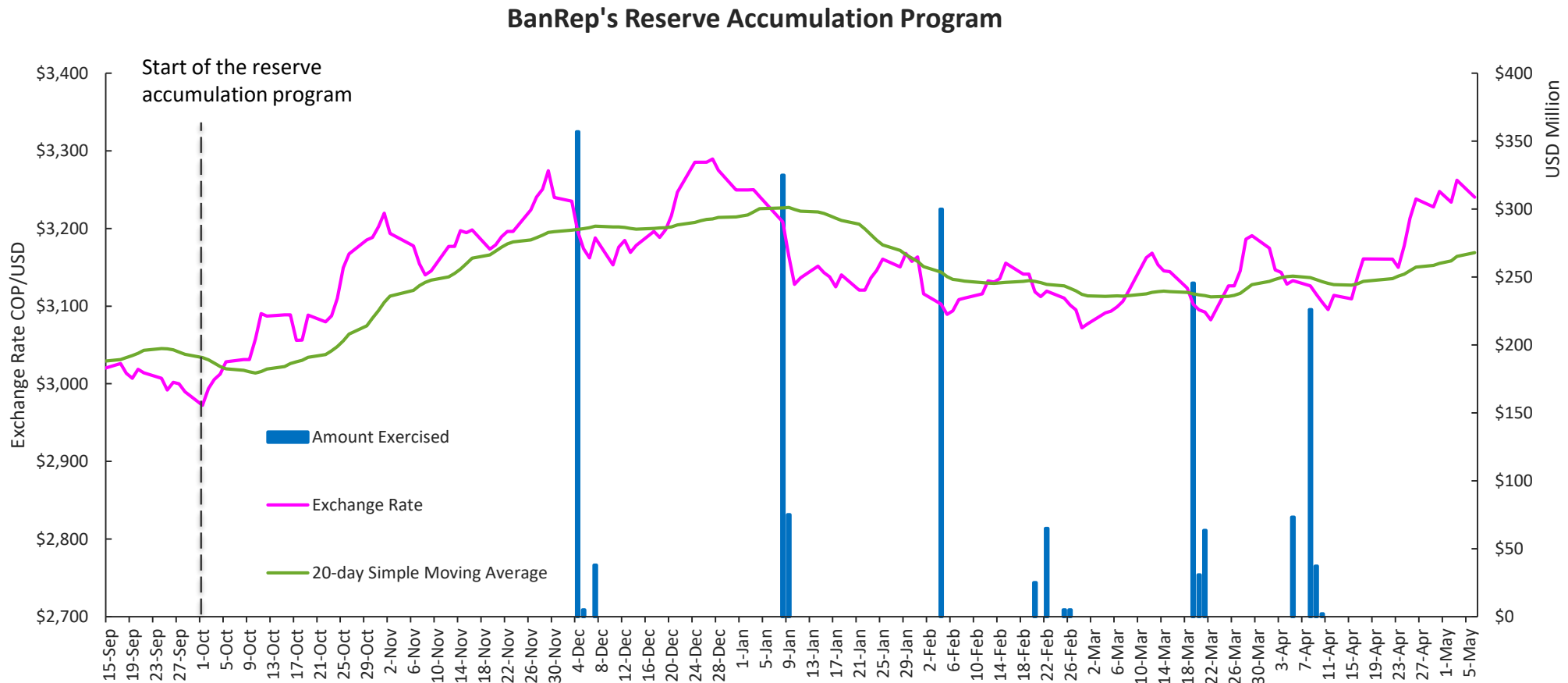
Foreigners participation in the stock of TES (%)



Source: Banco de la República.

- To account for **the significant presence of foreign investors** and considering the drawbacks of traditional international reserves adequacy metrics
 - **BanRep decided to change the way it assesses reserve adequacy with a new measure resembling the Liquidity Coverage Ratio (LCR) for credit institutions**
- With this new measure, BanRep seeks to hedge against both a **decrease in external financing** and unexpected **capital outflows**
- Current reserves plus the IMF's FCL already represent a sufficient enough buffer under this new methodology.
 - However, given the **expected reduction of the FCL**, **BanRep began a reserve accumulation program**

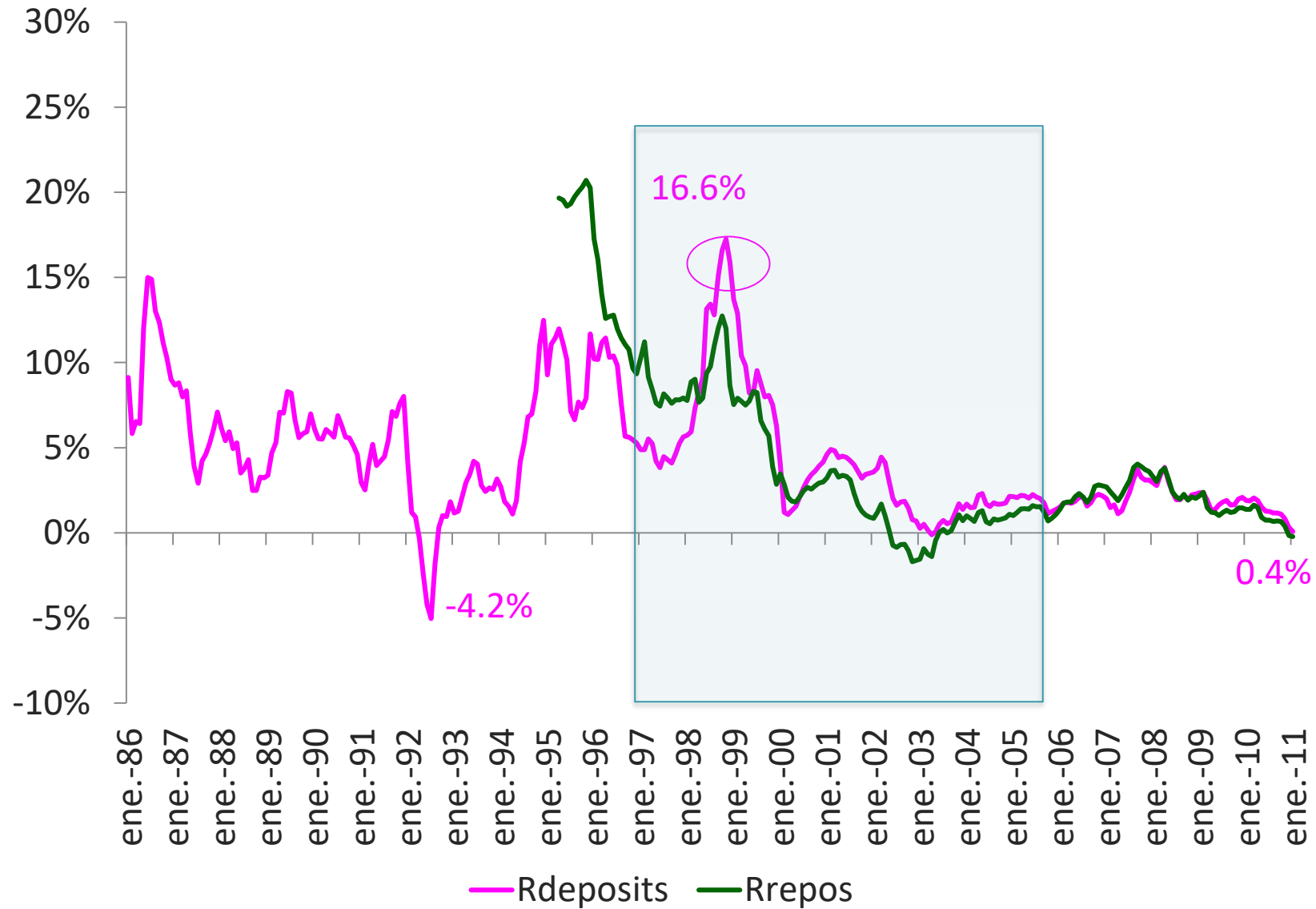
- The BR is currently **accumulating international reserves** by means of **put options**, to minimize the impact on the FX market.
- This shows how FX intervention can be used to improve external buffers, without pursuing a particular level for the exchange rate.



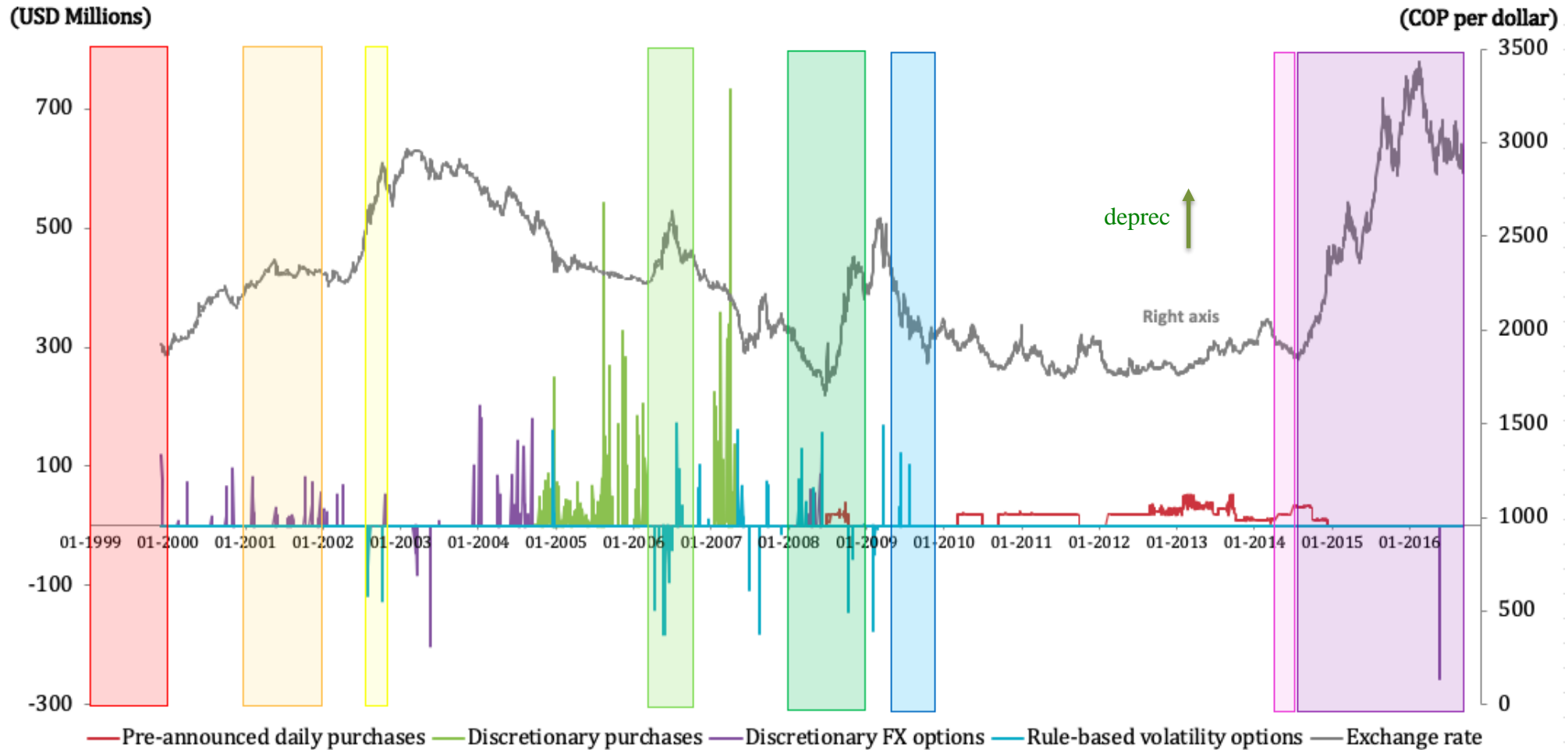
Foreign exchange intervention in an inflation targeting regime

- Given that BR follows an inflation targeting regime, foreign exchange intervention is **always sterilized** to maintain the overnight interbank rate as close as possible to the reference rate.
- CBs should have the supply of sterilization instruments as needed
 - To sterilize purchases of reserves the BR can issue bonds.
 - For avoiding competition between the government and BR in the public bond market, the entities signed a Memorandum of Understanding (MoU) which states that the government issues the bonds needed by BR and deposits the money at the BR.

Intervention I. Central bank increasing real interest rates (to sustain the Exchange rate band) during the 1999 recession



Intervention 2: History of FX Interventions in Colombia, 1999 - 2017



■ Colombian mortgage Crisis 1999 and end of Asian Crisis 1997-9

■ Argentina's crisis (currency board, Corralito) 2001

■ Lula da Silva Elections (Brazil) 2002, Colombia does not qualify to the Soccer World Cup

■ Inflation targeting with financial objectives

■ Global Financial Crisis 2008-09

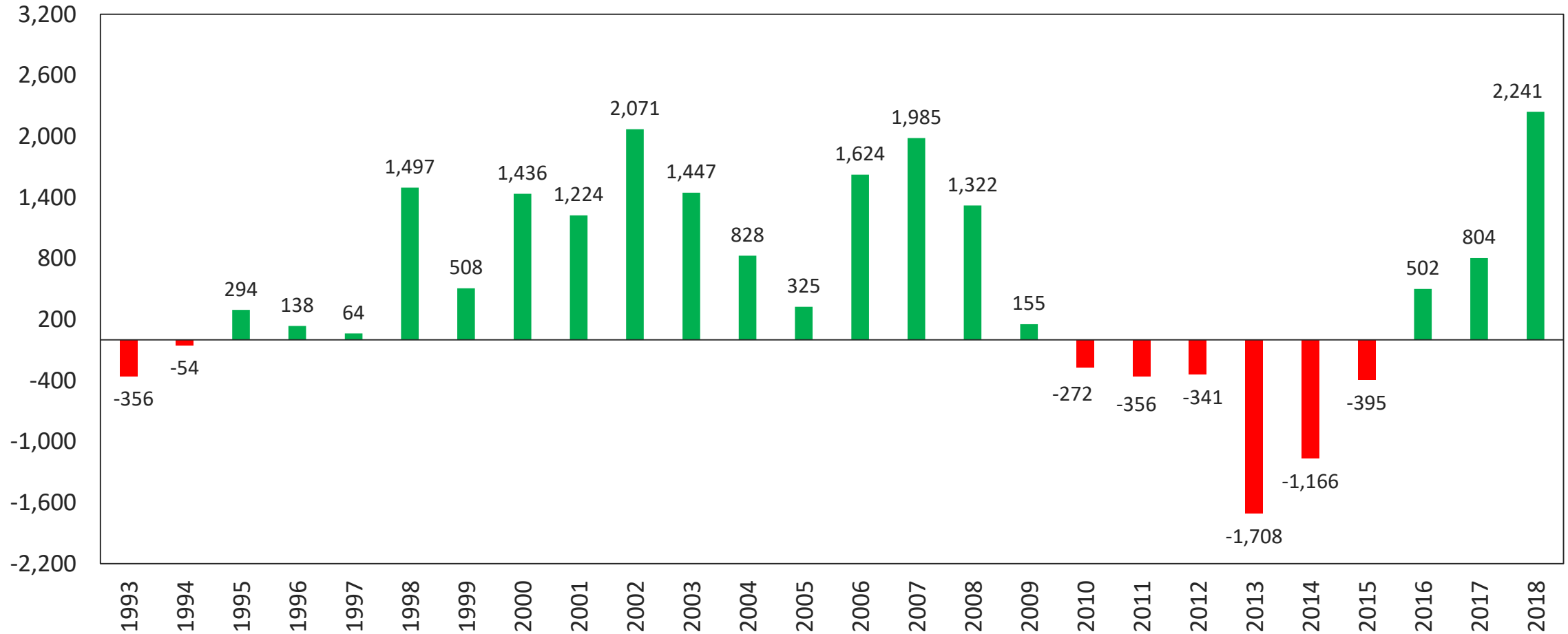
■ Oil price recovery post-crisis

■ Colombian treasury bonds added to JP Morgan index

■ Oil Price crisis 2014

FX Interventions (3)

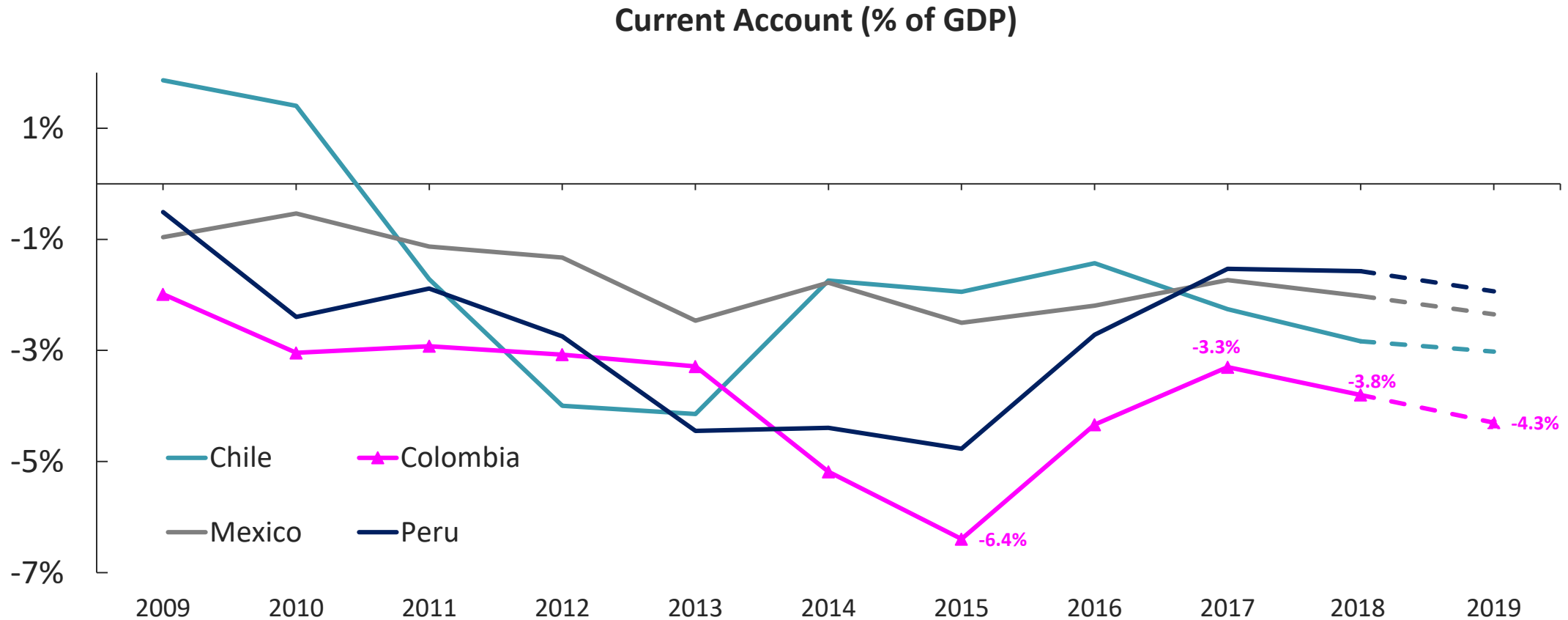
Central Bank profits 1993 – 2018, Col \$ billions



Fuente: Banco de la República

The current account and monetary policy

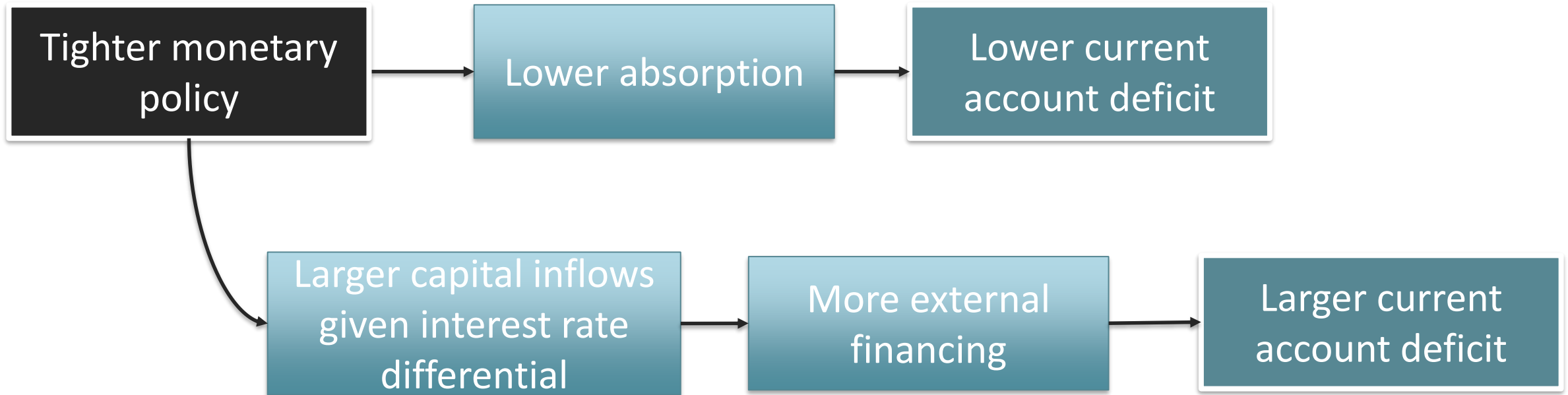
Recently, a debate has begun in Colombia regarding the relationship between monetary policy and the current account:



*IMF forecasts except for Colombia, where BR's forecast is used.

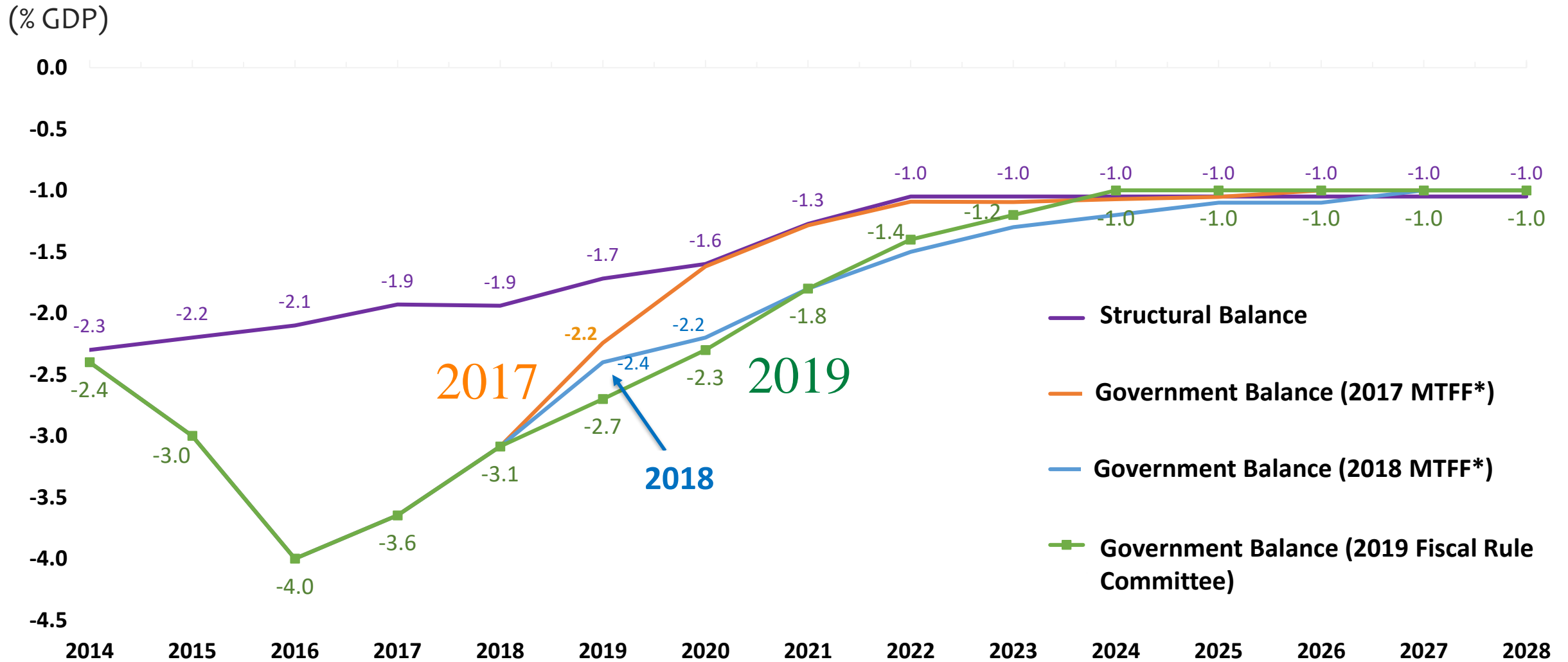
Source: IMF and Banco de la República.

Monetary policy and the current account



- The overall effect is not clear
- Besides, the current account deficit may be responding to structural factors (i.e. savings and investment) that cannot be adjusted by means of the interest rate.

Finally... fiscal issues (fiscal rule)



Source: Ministry of Finance and Fiscal Rule Committee

* MTFF=Medium Term Fiscal Framework

Conclusions

- Exchange rate **flexibility** has granted **independence to monetary policy** and has moderated the response of the economy against external shocks
- There are important **preconditions** for a successful functioning of exchange rate flexibility:
 - Limited currency mismatches
 - A credible monetary policy regime
 - Adequate level of external buffers
- When used, Capital flow management measures have shared a similar goal to FX regulation, that is, to contain the excessive accumulation of foreign exchange debt
- Structural macroprudential framework is therefore an important condition for a successful floating exchange rate and inflation targeting regime
 - However, there might be conflicts between the different macroprudential measures.