# Riding the Global Financial Cycle (GFC):

# Brazil’s experience with capital flows and macro-prudential policies under Unconventional Monetary Policy (UMP)

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# Context

- EMEs are always riding some GFC (local MP in AE have global effects), we are always into some kind of "beauty contest", especially deficit-savings countries

- Nothing really new in challenges faced by EME policy frameworks in the two phases of GFC (e.g., transmission of K flows into inflation, asset prices, exchange rate, credit market, etc.), except for unprecedented speed+intensity + simultaneity of UMP (ZIF+QE+FG) in 3 major monetary areas

- EME monetary policy frameworks (IT or not) had to address new challenges posing significant risks to their monetary and/or financial stability (e.g., typical "boom" & "feel good" moment, followed by "sudden stop", reversal)

- Good News: EMEs better prepared (e.g., went through various financial crises, learned lessons) and could for the first time beginning of GFC, implement counter-cyclical FP+MP including with some G20 coordination

- Bad News: After a while, once EMEs recovery was underway, giving signs of overheating, the usual recipe to manage AD given EMEs' stronger initial conditions and given that AE's under UMP offered unprecented opportunities for carry-trade posed treats to our financial stability, (e.g., tigth MP compounded K inflows)

# The Issues

1. Enough evidence of spillovers into EMEs from UMP? How can we measure it in GFC's two phases (QE and "tapering")? How have EME monetary policy frameworks coped with global spillovers? Are there significant risks to monetary and/or financial stability in some jurisdictions?

2. Additional Tool(s) and/or New Policy Framework(s)?: What is the experience with the use of monetary policy (MP) and macroprudential (MaPs) tools in the management of global spillover effects? Can these tools (plus CFM) be used as substitutes for policy rate adjustments, or is there scope for a complementary "leaning-against-the-wind" approach to interest rate policy?

# The Issues

3. <u>How have EME monetary policy frameworks evolved post-crisis </u>(goals, strategies, instruments)? How has the role of the exchange rate changed? More generally, are adjustments to monetary policy frameworks desirable? If so, what form should they take (e.g. different reaction function)?

4. <u>Some G20 Policy Coordination?</u>: Possible / Need for EMEs to Coordinate Policies with AEs and vice-versa?

5. <u>If we have (some) analytical knowledge, </u>prudential regulatory tools, policies, etc. to address "excessive exuberance" procyclicality and "mood swings", <u>do we have the "adequate political economy" to do so</u>?

# Brazil's Experience & Lessons

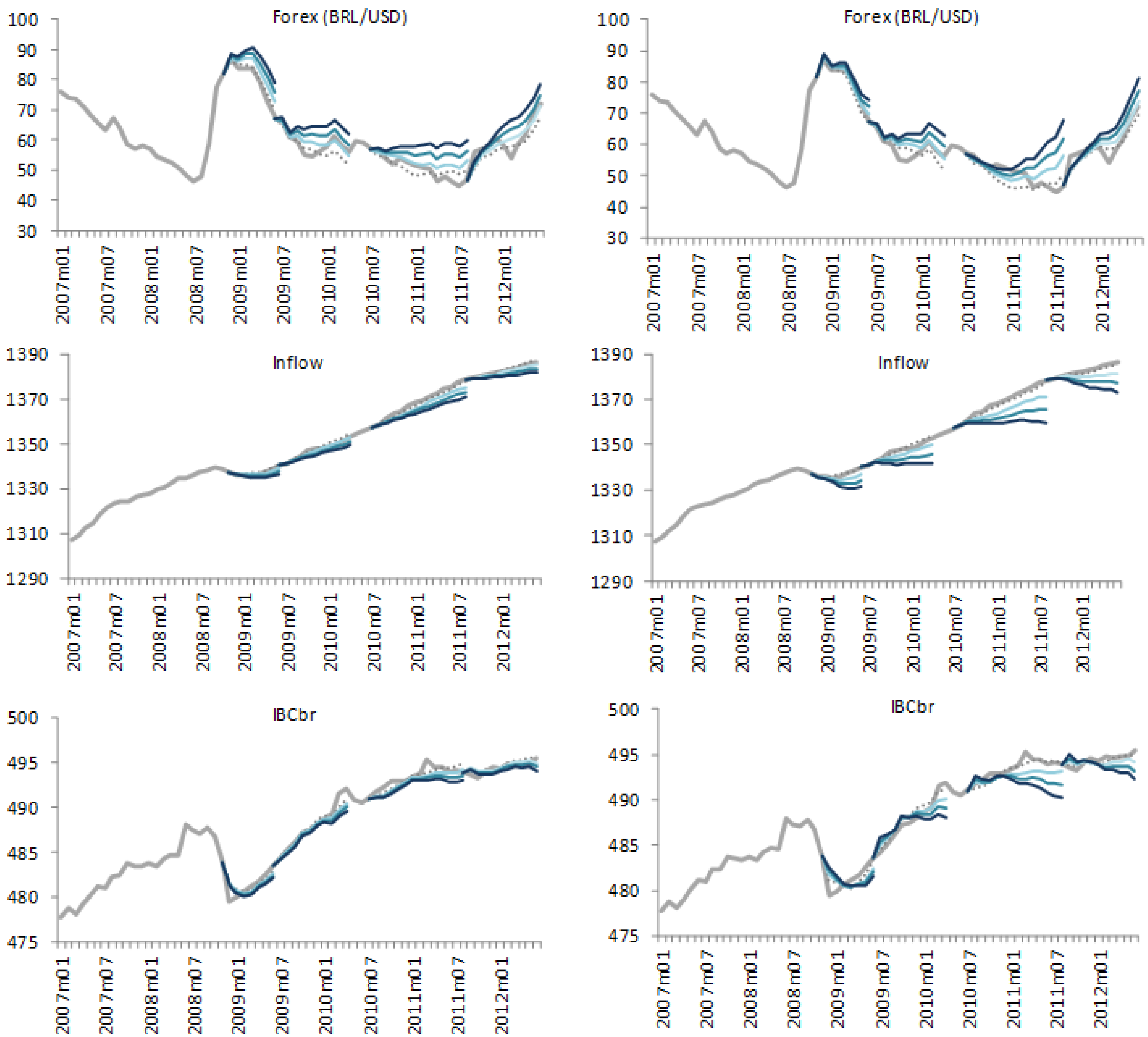
- Yes, there's plenty of evidence of spillovers into Brazil from UMP; we did our homework, many IMF spillover reports
- Our textbook response Policy Framework is working well: flexible ER, AD management (FP+MP) with sizeable buffers self-insurance (reserves); MaPs important work well for financial stability and complement MP in upswing; FX buffer is important to reduce volatility during "tapering"
- Policy Coordination in the G20 only at its beginning (e.g., CFMs and communication; "FED blaming game" not useful)
- Basel-type prudential regulatory tools can reduce "excessive exuberance" procyclicality and "mood swings" but political economy factors powerful for financial cycles

# Issue 1: Spillovers of UMP

Counterfactual exercise using VARs (Barroso, João Barata, L. A. Pereira da Silva and A. Soares (2013)) for Brazil to measure spillovers, externalities during phases of capital inflows

- Forecast for a range of variables the response to counterfactual scenarios with higher term spread (10y-3m) than actual (e.g. supposedly the QE effect).
- Compare this with actual behavior - or with forecasted responses based on anticipation of policy (e.g., as in Pesaran and Smith (2012))

# Counterfactuals for QE1, QE2, Twist




Ex Ante Effect = relative to dotted line

Ex Post Effect = relative to actual series

LHS = Full Sample

RHS = Crisis Sample

**Range = ex-ante effect, avg. ,accumulated.**

**** = sign at 5%**
*** = sign at 10%**
**º = not sign**

# Expected Results on Spillovers

Selected variables during QE policy rounds; actual values, counterfactual values
*(150bps counterfactual term spread)*

| | Average QEs | | | | | |
|---|---|---|---|---|---|---|
| | actual | | counterf. | | effect | |
| Variable | $t_0$ | $t_1$ | $t_1^o$ | $t_1^c$ | $\Delta^o$ | $\Delta^c$ |
| Headline inflation (yoy,%) | 5,3 | 5,8 | 6,5 | 5,8 | -0,7 | -0,1 |
| Activity index (yoy,%) | 1,0 | 2,9 | 2,0 | 0,9 | 0,9 | 2,0 |
| Capital inflow (12m, USDbn) | 68,3 | 104,2 | 75,1 | 37,1 | 29,1 | 67,1 |
| Policy rate (p.p) | 11,2 | 10,2 | 11,1 | 12,4 | -0,9 | -2,2 |
| Nominal exchange rate (BRL) | 2,00 | 1,77 | 1,89 | 1,91 | -0,12 | -0,14 |
| Non-earmarked credit (%gdp) | 28,8 | 29,4 | 28,9 | 28,6 | 0,4 | 0,8 |
| Non-earmarked credit; households (%gdp) | 13,8 | 14,6 | 14,2 | 14,0 | 0,3 | 0,6 |
| Credit private banks; households (%gdp) | 10,8 | 11,2 | 10,9 | 10,7 | 0,3 | 0,5 |
| Interest rate; reference loans (p.p.) | 38,7 | 36,9 | 38,8 | 41,2 | -1,9 | -4,3 |
| Interest rate; reference loans; firms | 29,2 | 28,2 | 30,0 | 33,0 | -1,8 | -4,8 |
| Stock market value (%gdp) | 43,3 | 46,4 | 39,8 | 35,0 | 6,5 | 11,3 |

# Issue 2-3: Brazil's Textbook Policy Framework works well for QE & "Tapering"

| | Monetary Policy | Fiscal Policy | Macro-Prudential | Exchange Rate |
|---|---|---|---|---|
| Macro-economic Stability (Activity / Inflation & Financial) | CB Rate Policy under Clear Arrangement (Flex IT, etc.) to Manage Activity/Inflation and Anchor Expectations | Short-term Credible Fiscal Targets to Stabilize (Gross, Net) Public Debt-to-GDP; Medium-Long Term Public Debt Management | Reducing Excessive pro-Cyclicality, i.e., smoothing financial accelerator and credit multiplier; reducing "excesses" in prices & quantities | Floating as 1st Line of Defense, Reserve Accumulation, Intervention to Avoid Excessive Volatility, etc. |

# Brazil’s Pragmatic Policy Framework

- Textbook PF with known, credible rules: flexible ERR, IT framework, FP with public debt ceiling rules, fiscal balance objective, AD management through FP+MP

- Additional Tool (1) during Upswing: MaPs as “speed bump” for K inflows, important work well for financial stability and complement MP during QE

- Additional Tool (2) during Reversal: FX buffer as “tranquilizer”, important to reduce excessive volatility during “tapering”

- Challenges: Multiple Tools, Multiple Objectives; Separation Principle is useful but credibility issues might arise

# Challenges arise because we know (relatively) well…

| | **Monetary Policy (MP)**<br>**<u>One</u>** Instrument:<br>CB Base Rate | **Macro-Prudential (MaP)**<br>**<u>Various</u>** Instruments:<br>RR, LTVs, DTIs, K req (Basel rules), etc |
|---|---|---|
| **Price Stability (Inflation)** | **Effects on Activity/Inflation well-known** | |
| **Financial Stability (Risk)** | | **Effects on Risk (credit & asset excess growth) well-known** |

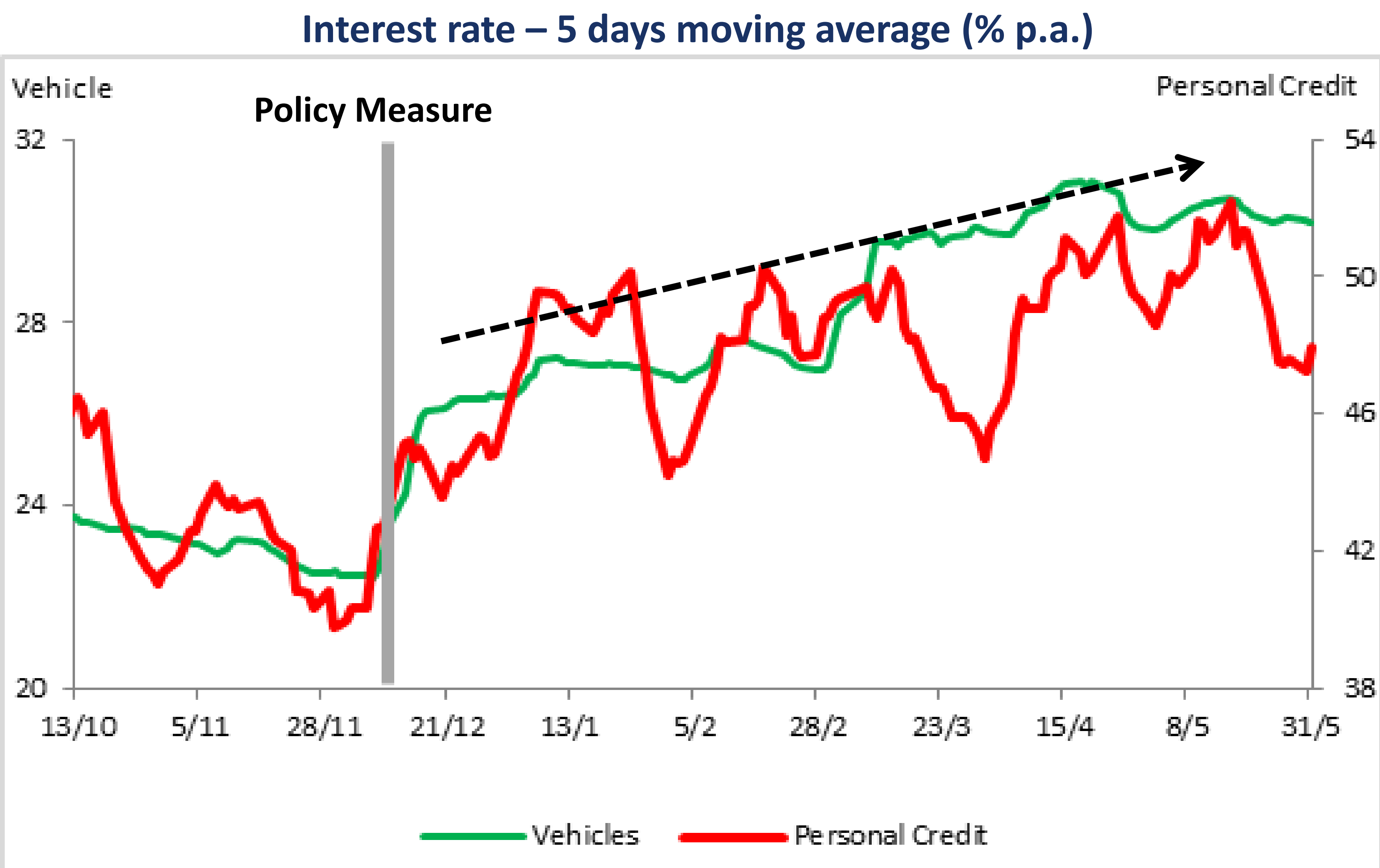
# But we are only learning interaction between MP and MaP

| | **Monetary Policy (MP)**<br>**One** Instrument:<br>CB Base Rate | **Macro-Prudential (MaP)**<br>**Various** Instruments:<br>RR, LTVs, DTIs, K req (Basel rules), etc |
|---|---|---|
| **Price Stability (Inflation)** | **Effects on Activity/Inflation well-known** | **Effects on Activity/Inflation less known** |
| **Financial Stability (Risk)** | **Effects on Risk (credit & asset excess growth) less known** | **Effects on Risk (credit & asset excess growth) well-known** |

# Ex1: Brazil's (MaPs), post-QE 2011-12
## issue was "credit exuberance"

- Higher Reserve Requirement on Deposits (demand & term deposits)
- Higher Capital Requirement for Consumer Credit
- Reserve Requirement on Banks' short FX exposure
- Financial Transaction Tax (IOF) on (some) capital flows

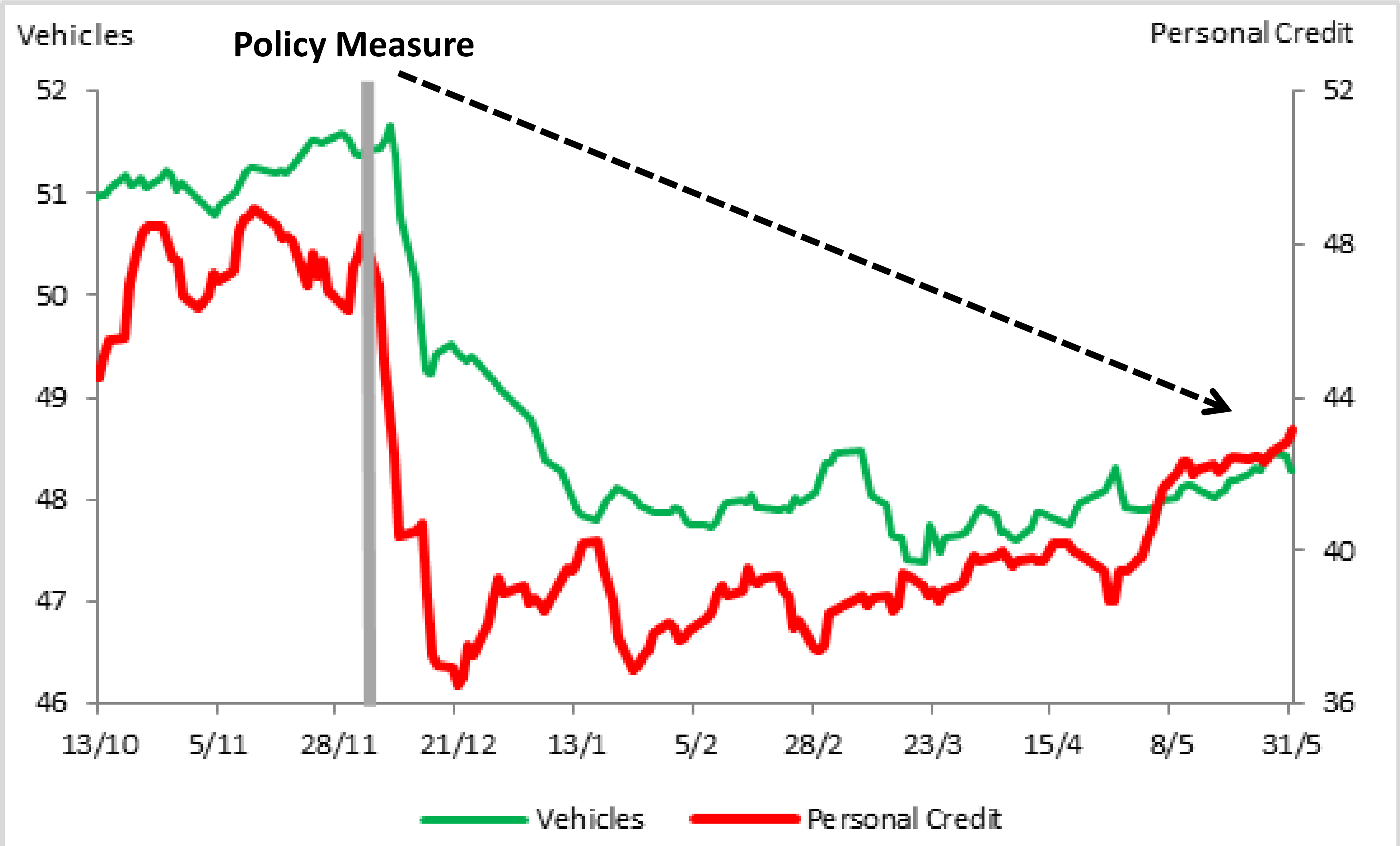
# MaP Results for Car Loans & Personal Credit




Source: BCB

# MaP - Results for Car Loans & Personal Credit

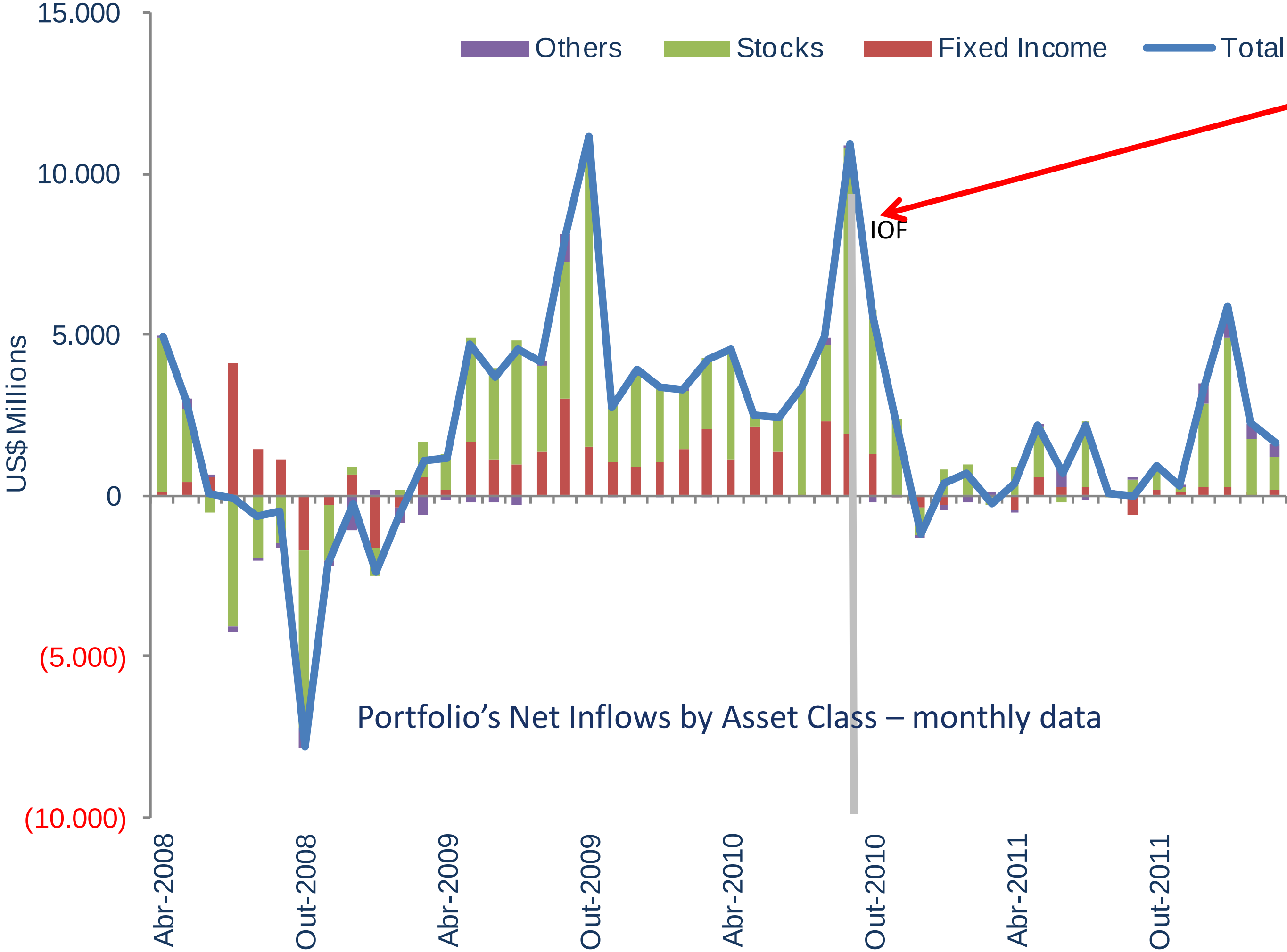
Average maturity– 5 days moving average (months)




Source: BCB

# IOF Tax on Portfolio Investments

Expected to curb excessive short-term and speculative capital inflows and lengthen flow composition




**IOF Tax of 6% on Fixed income portfolio investment by non-residents (October 2010)**

Source: BCB

# Ex2: UMP exit brings higher volatility


Source: Bloomberg and BCB

# Ex2: Brazil knew “tapering” will come

- Brazil learned from its own past experience, we built more solid fundamentals, built local and FX buffers during the period of high global liquidity

- We knew “tapering” will bring a change in relative prices between EMEs and AE (e.g., the US), a straightforward consequence of tighter global monetary conditions; despite “beauty contests”, trading strategies, re-pricing should not be confused with fragility

- We see the normalization of global monetary conditions as a net positive, as a consequence of economic recovery in the US; this recovery entails favorable spillover effects

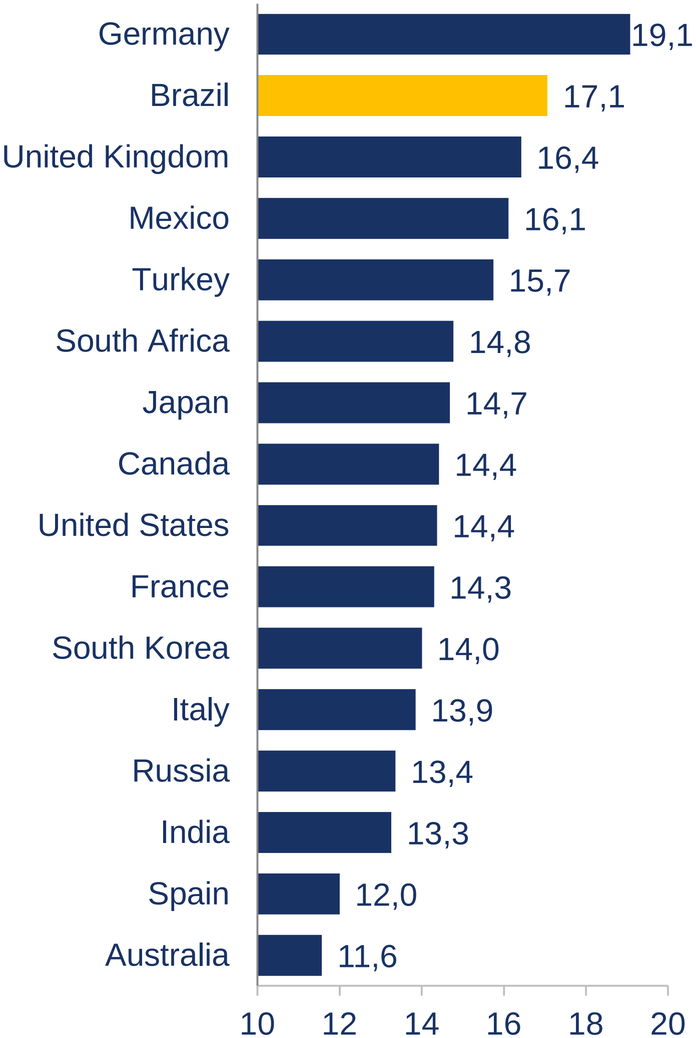
# Ex2: Brazil´s preparation for UMP exit

- Flexible ERR regime as first line of defense against external chocks

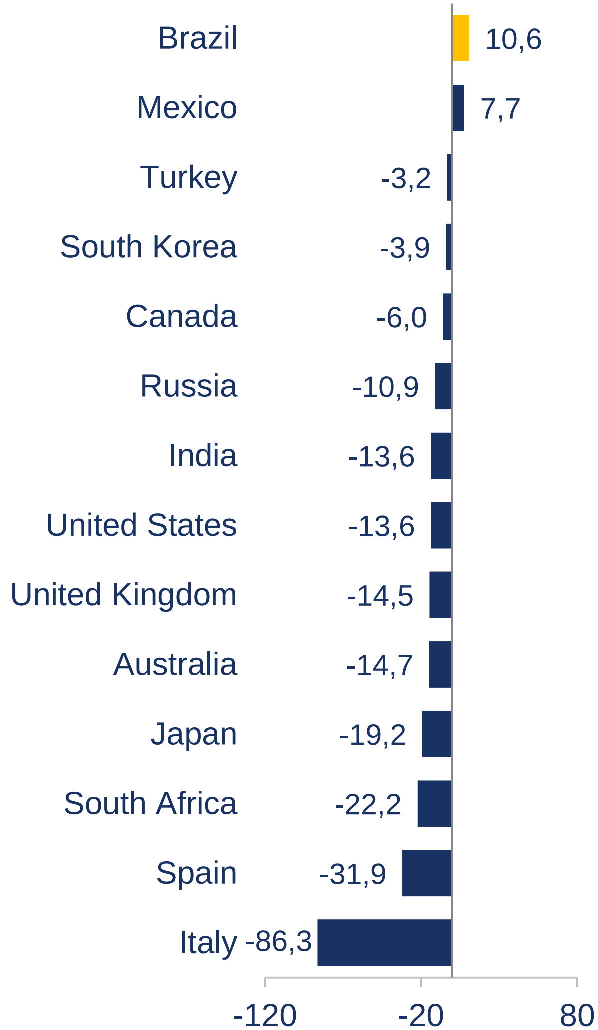
- Improved resilience with buffers and precaution in FX exposures
  - Net external creditor (FXreserves of US$ 376 bi)
  - Low foreign share in the public debt
  - Better composition for net external liabilities (more FDI, less portfolio)
  - Highly capitalized, sound and resilient financial system

# Sound financial system

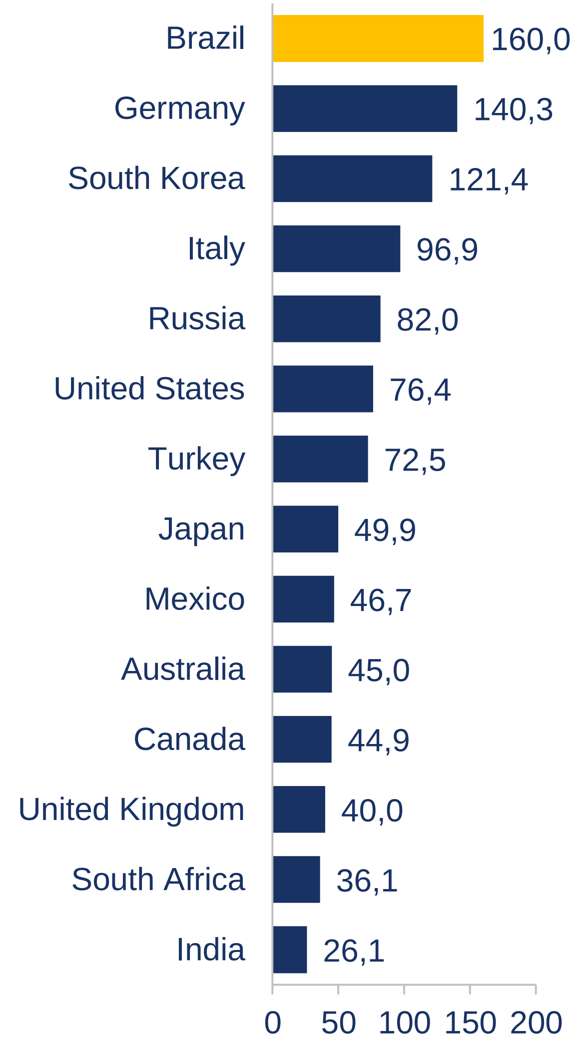
**Regulatory Capital to Risk-Weighted Assets**




**( Provisions – NPL) / Capital**

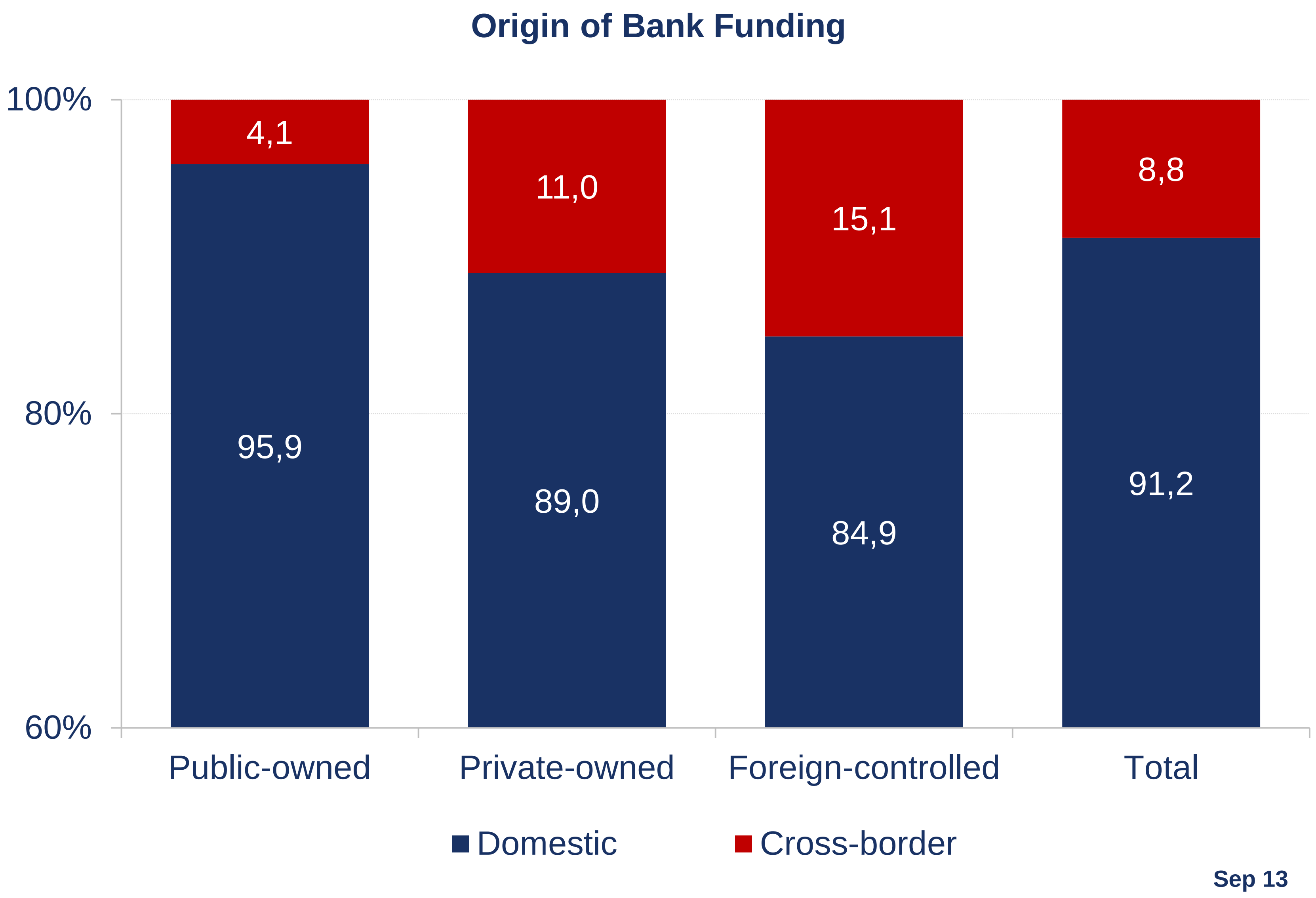



**Liquid Assets to Short Term Liabilities**



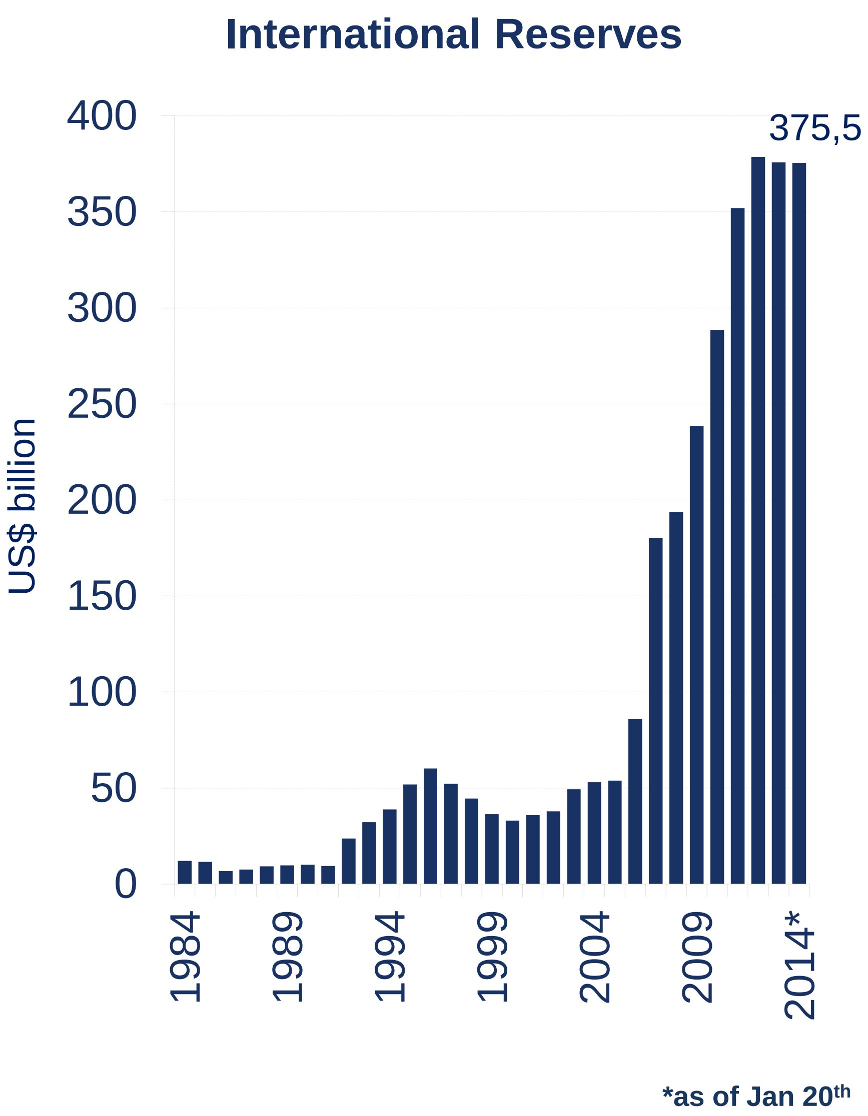

**Source: IMF (FSI – latest available data)**

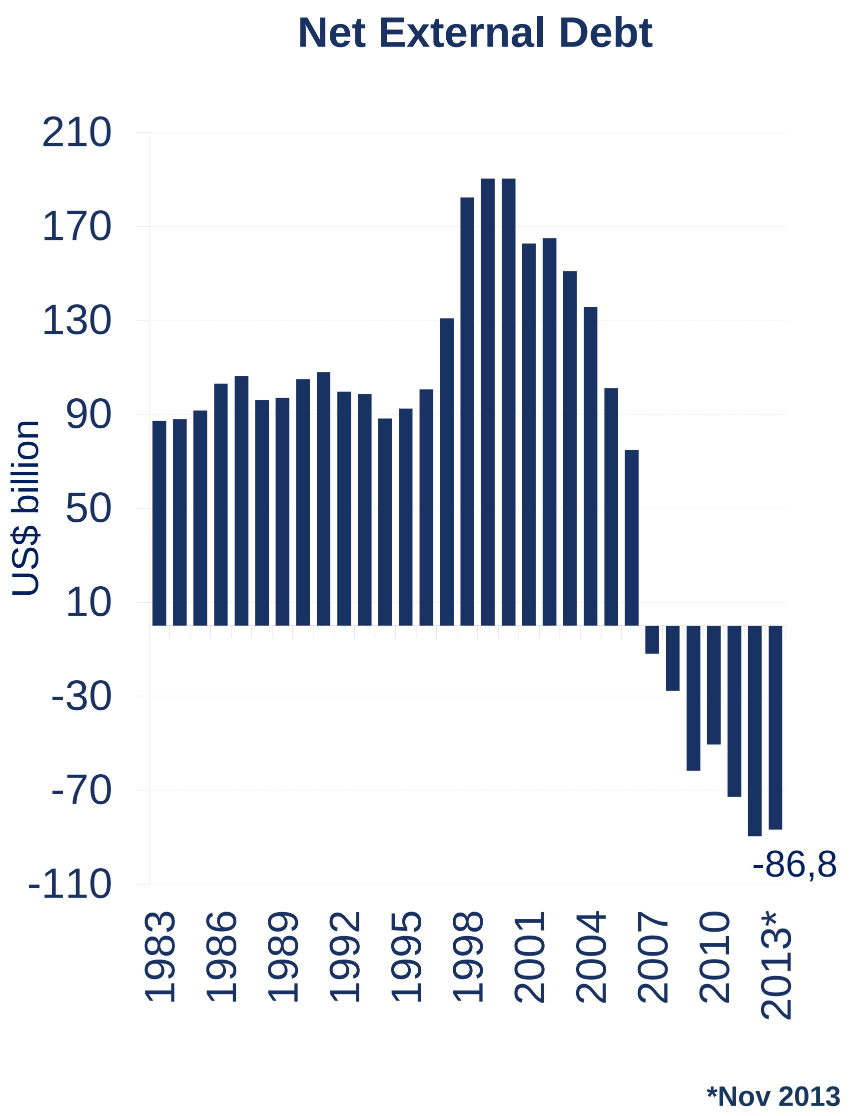
# Banks: low reliance on cross-border funding




**Source: BCB**

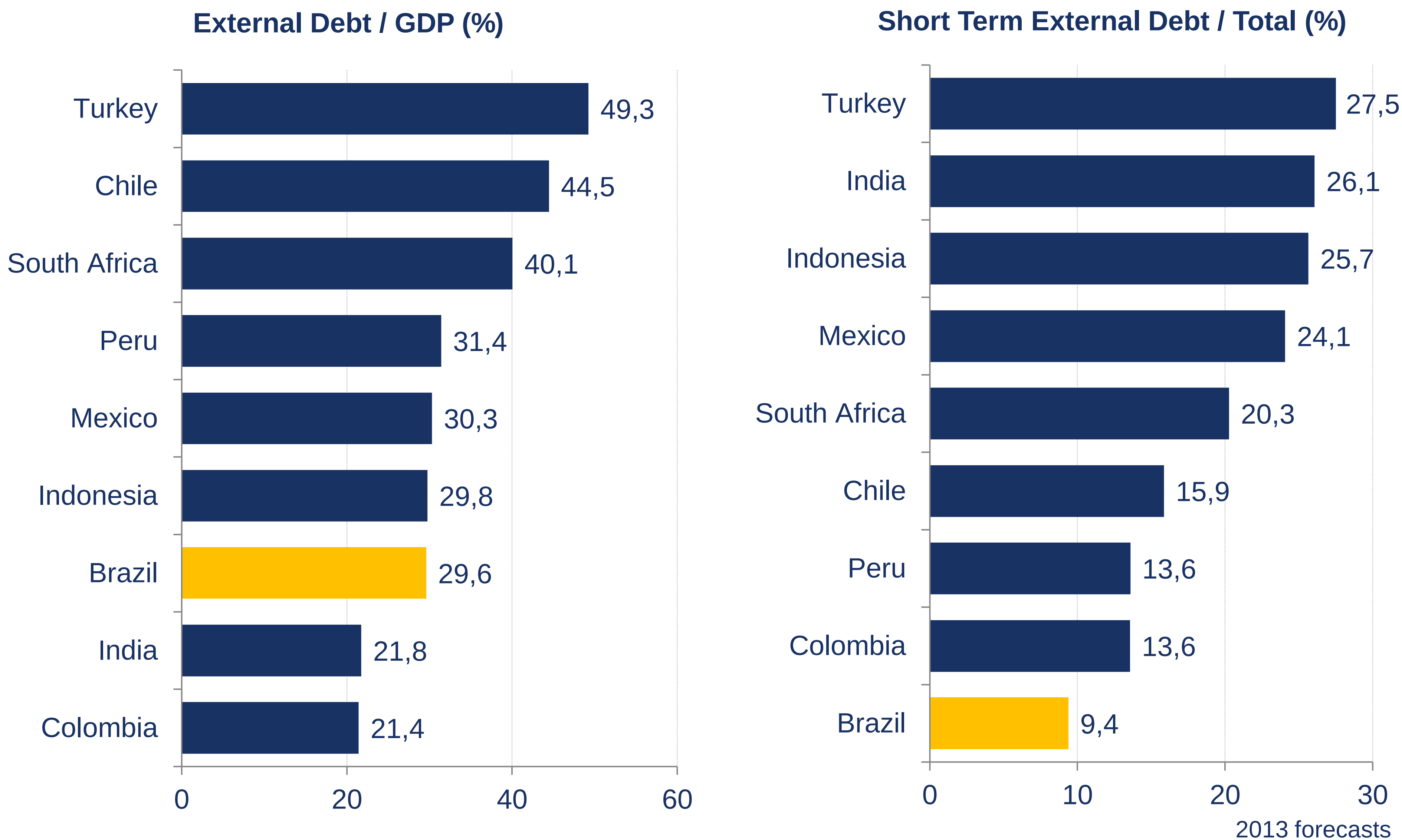
# Net external creditor position




Source: BCB

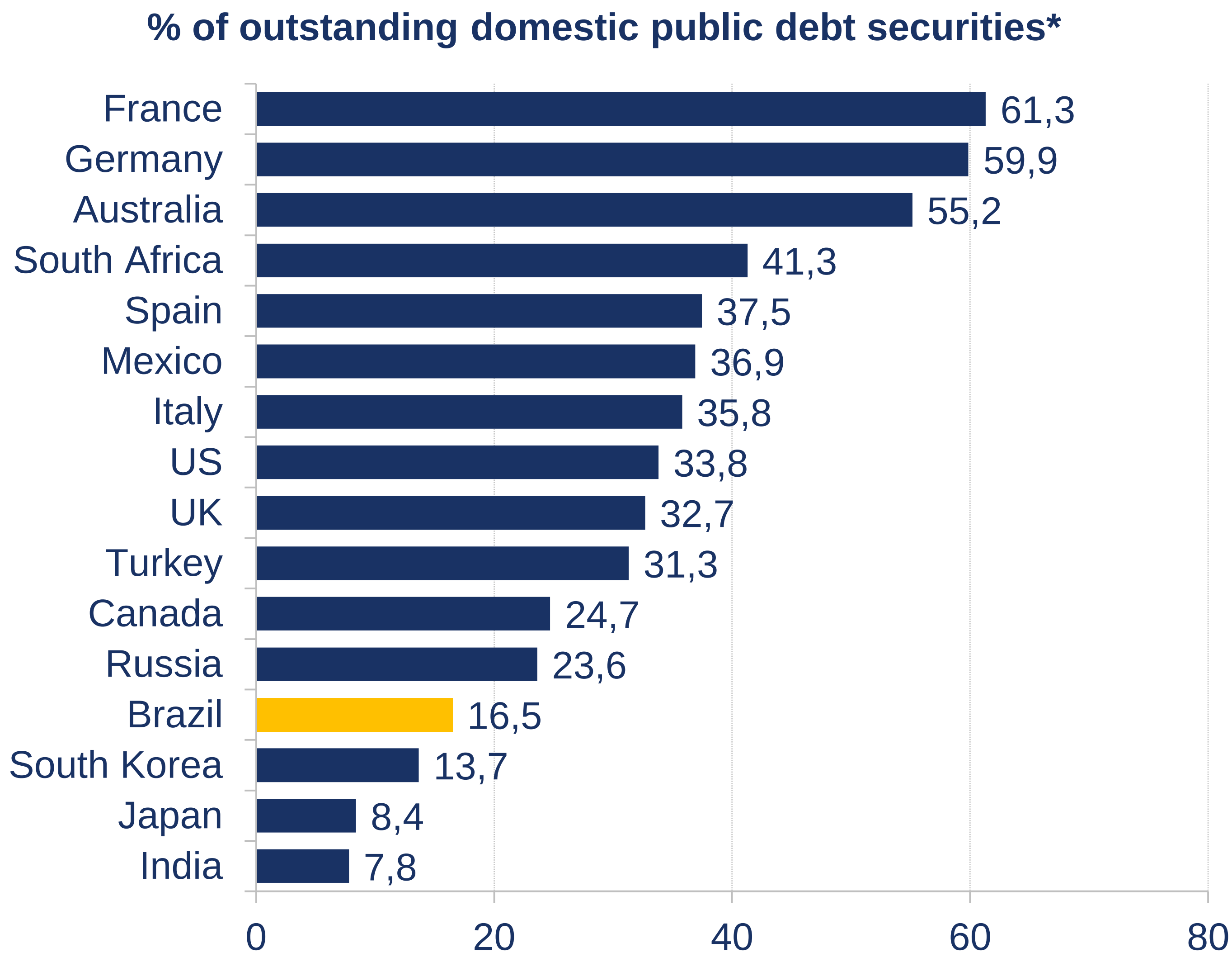
# Strong external debt indicators




**Source: IIF**

* Brazil data includes intercompany debt transactions and domestic debt in hands of foreign investors

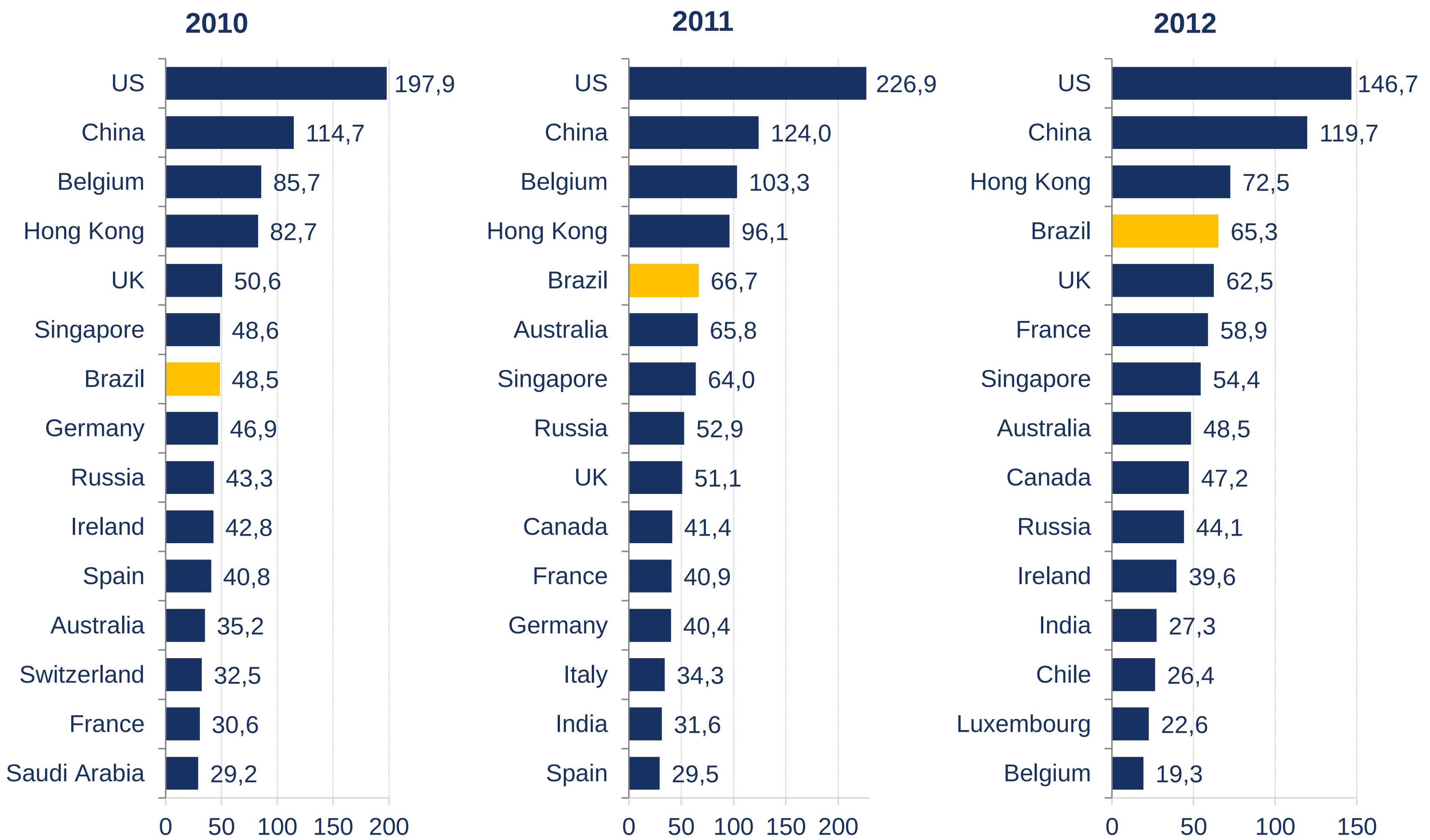
# Low nonresident public debt share




* The latest data reported by the IMF Fiscal Monitor in October 2013. For Brazil, data from November, as reported by *Secretaria do Tesouro Nacional* (STN).

**Source: IMF / STN**

# Leading destination for FDI




**Source: UNCTAD**

# Brazil's Classic policy response to "Tapering"

- First, accumulate the buffers and be prepared
- Unwinding of MaPs adopted in 2010-2011 (e.g., CFM IOF tax)
- Allow exchange rate flexibility to be shock-absorber
- Show resolve through policy tightening (MP + FP)
- Use of FX buffers to provide "hedge" to those exposed to FX risk

# Brazil's FX Hedge - Auction Program

- FX swap auctions and US dollar sale auctions with repurchase agreement.
- Goal: providing FX hedge to the economic agents and liquidity to the FX market.
- Since 8/22/13:
  - From Monday to Thursday, with offers of US$ 500 million per day.
  - Sale auctions with repurchase agreement on Fridays, with a credit line of US$ 1 billion.
- Since 1/2/14 through, at least, 6/30/14:
  - From Monday to Friday, with offers of US$ 200 million per day.
  - Sale auctions with repurchase agreement conducted according to liquidity conditions in the FX market.
  - Whenever deemed necessary, the BCB can hold additional operations to sell dollars through the available instruments.

# Issue 4: Policy Coordination

- AEs Monetary Policy is local but has global effects

- Solution 1: Pragmatic “Laissez-Faire” in the G20-IMF? AEs can do ZIF and QE and EMEs can do CFM and K controls? This solution is not globally welfare-enhancing

- Solution 2: (some) Cooperation-coordination better: use regulation for cross-border flows for both issuers and recipients countries? Communicate better steps for exiting UMP? Separate “tapering” from “monetary policy action”?

# Multilateral Cooperation Has Been Here for a Long Time…

"But such (capital) control will be more difficult to work…by unilateral action than if movements of capital can be controlled *at both ends*."

**John Maynard Keynes**

"Almost every country at one time or another, exercises control over the inflow and outflow of investments, but without the cooperation of other countries such control is difficult, expensive, and subject to considerable evasion."

**Harry Dexter White**

Source: J. Ostry (IMF)

# Issue 5: Addressing Excessive Pro-Cyclicality
# CBs searching for the Holy Grail
# Macro + Financial Stability

- Provisions
- Capital
- Mandatory Registration
- Trading in CCPs
- Counter-cyclical regulatory powers

# Preventing Financial Instability through Regulation

*"thou shalt remember that people forget"*

the causes of past financial crises and that

*"thou shalt not rely on self-regulation"*.

Alan S. Blinder (2013), *"After the Music Stopped: the Financial Crisis, the Response and the Work Ahead"*, The Penguin Press, New York.

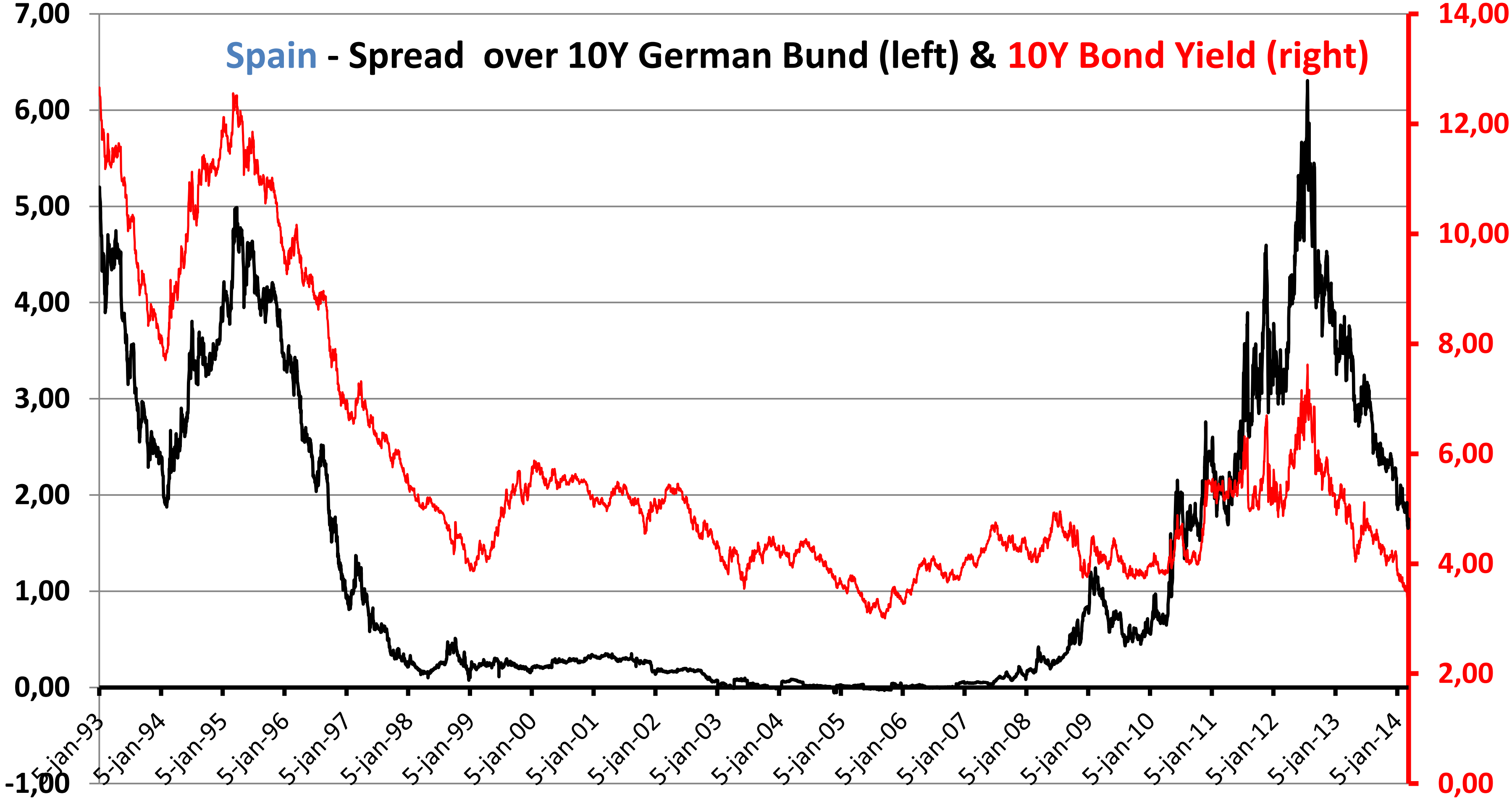
# .. But there are still unresolved issues

- Regulation as important it might be, might not be enough (complementary package of fiscal + monetary policies, but issues of political economy for implementation, e.g., the perennial of housing booms, e.g., in European housing markets after Euro inception)

- Under Basel III, how to use wisely counter-cyclical macroprudential tools, e.g., the CC capital buffer with a proper methodology for estimating credit gaps, credit-to-GDP gaps, etc.

- communication and transparency requirements and the ritual and rules associated with the timing and announcements before activating a CC buffer

- institutional setup that would best promote the **<u>coordination</u>** between monetary and macroprudential policies



Spain - Spread over 10Y German Bund (left) & 10Y Bond Yield (right)
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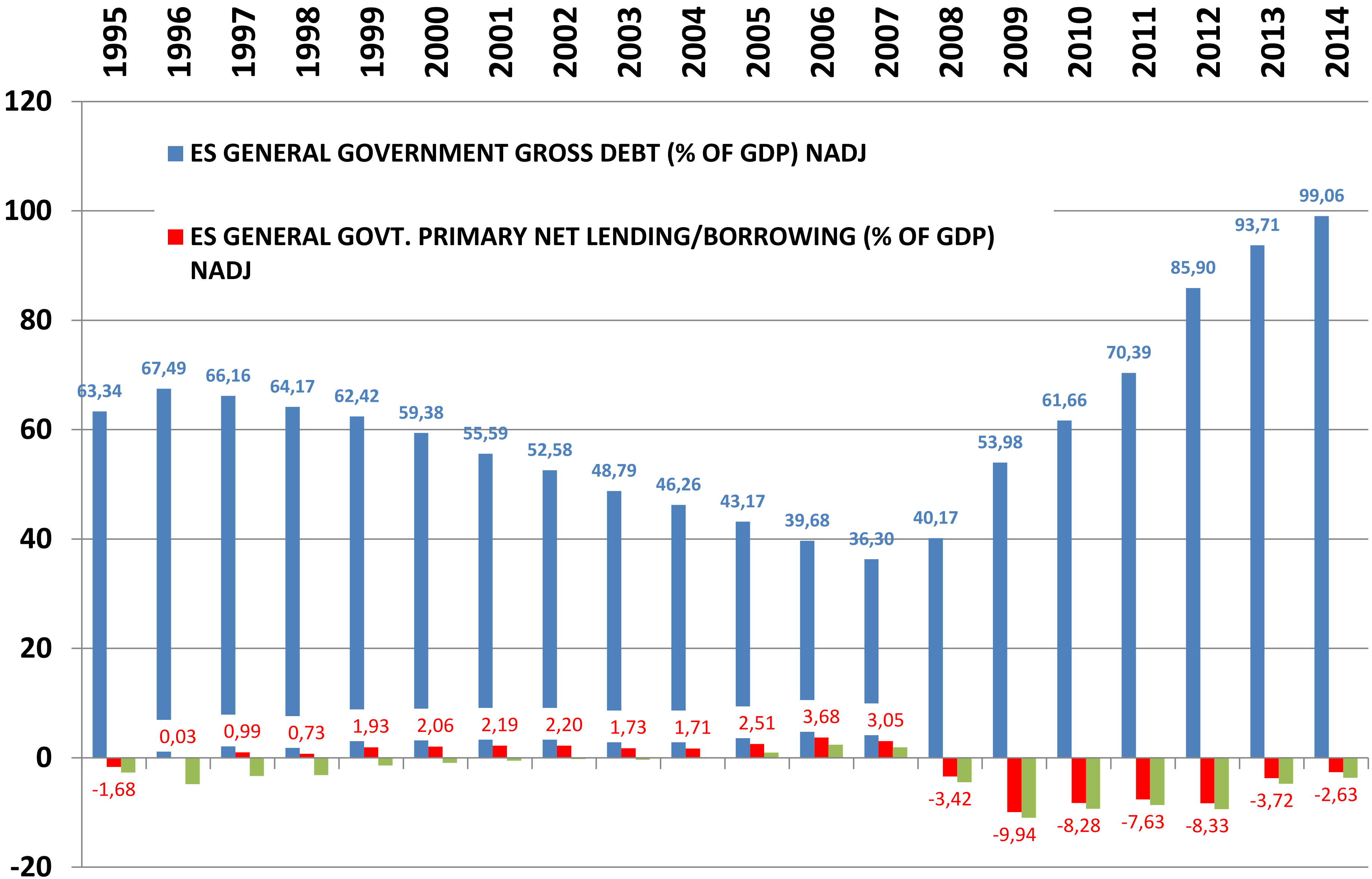

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ES GENERAL GOVT. PRIMARY NET LENDING/BORROWING (% OF GDP) NADJ
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-8,28
-7,63
-8,33
-3,72
-2,63

# Conclusions & Lessons from the GFC

- **Prevention of Financial Crises is Better than Cure** (mopping-up after crisis is too costly and with uncertain results because of confidence; growth model based on credit-fueled consumption and high public debt unsustainable)

- **Strengthening Prudential Regulation and Financial Infrastructure  Best Remedy** (e.g., G20-FSB, Basel 3 agenda → higher level & quality of K, counter-cyclical buffers, supervision, comprehensive & cross-border resolution frameworks, etc.)

- **Theory and practice for combining MP & MaP is under construction** (not to speak about optimality). More research needed, e.g., pace of financial asset (credit) growth in EMEs

# Brazil used a Pragmatic Approach

- **Separation Principle Holds but Evolves into More Coordination:** FS remains in mandate of many CBs (unified agency?); MP should deal with aggregate demand pressure and inflation/expectations; MaP should deal with financial stability issues; separation important for clear communication and anchoring expectations

- **Implementing Coordinated Comprehensive Policies is Better, both in a Preventive Mode and as Crisis Response Mode** (e.g., fiscal, monetary, prudential regulatory, etc.)

- **Building buffers** is important during upswings to be used during reversals

# Brazil used a Pragmatic Approach

- Exit from UMP is a welcome transition to more normal global monetary conditions.

- EMEs have strengthened their fundamentals, are well prepared to protect themselves from external shocks

- Brazil uses its policy space to absorb international shocks and to reengineer the growth process.

- Given the high interconnectedness of the global economy, lasting economic recovery needs to be widespread among both advanced and emerging economies.

- Clear communication is critical to avoid excessive volatility during transition period.

Inter-American Development Bank

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# Inflation Targeting and Financial Stability

## A Perspective from the Developing World

Pierre-Richard Agénor
Luiz A. Pereira da Silva

http://www.cemla.org/PDF/IADB-CEMLA-InflationTargeting.pdf

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