Macropru is not something new

- It has been part and parcel of the operation of monetary policy in EM
- Used for financial repression (remember McKinnon)
  - Directed lending to the government
  - Directed lending by government policy
  - Caps on interest rates
  - Controls on entry (and exit)
  - Anti-competitive practices notably by state-owned financial institutions
  - Under remunerated compulsory savings accounts
  - Subsidized interest rates for designated sector and/or projects
  - Capital account restrictions
  - In general, a tight and troubling association between government and banks

We used to think of this structure as producing bad outcomes

- Inefficient allocation of K & lower productivity of K
- Increases in the K/L ratio + K deepening w/distorted factor markets
- Predisposition for rent-seeking and corruption

Challenge: separate this legacy
From news ways of implementing macropru

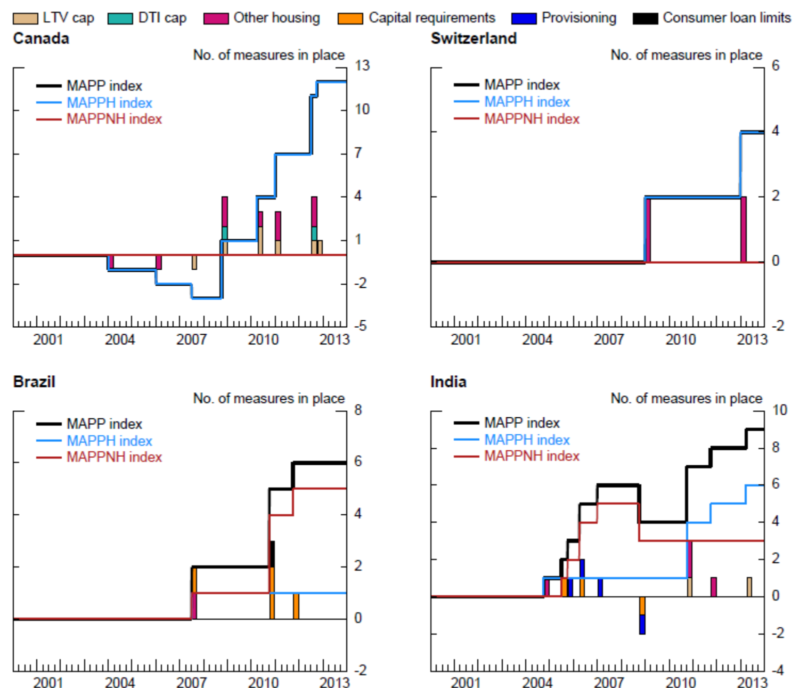
- IMF/IEO's: *IMF Response to the Financial and Economic Crisis* (2014)
  Background work: Brazil, Indonesia, India, Mexico and Turkey
  Assess FSAPs
- Did well post- GFC impact
  - In part because had built new resilience
  - In part because of "old macropru"
    - public banks lent when private banks were not willing to
    - the state issued guarantees to major borrowers
    - the central bank slashed reserve requirements
    - subsidized smaller banks by granting them regulatory concessions
    - etc.
- FSAPs: little to say about these practices & their possible effects
  - Not surprisingly, follow-up FSAPs were late in detecting when the counter-cyclical measures outlasted their purpose
  - ► credit booms (especially with low global rates and "search for yield" in G3
  - ► another cycle of regulation… macropru

Brazil accepted wholeheartedly the new emphasis on macropru

Financial Stability Reports since 2002

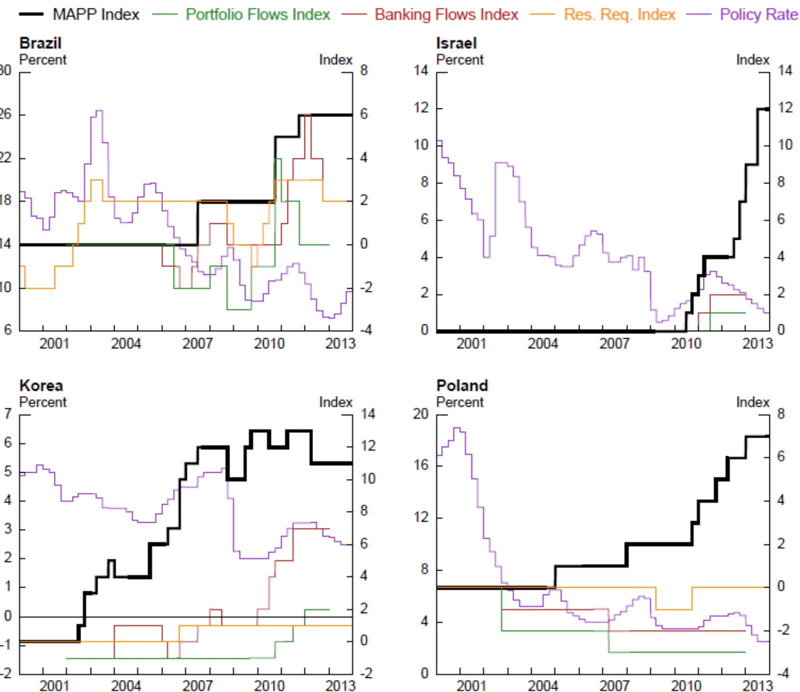
Post-2008 : changed rhetoric of "controls" and "concessions" to "macropru"

Figure 1: New and Cumulative MAPP Tools in Selected Countries, 2000:Q1 to 2013:Q4



Note: Figures show the cumulative macroprudential policy index (MAPP index, black line), subindex for housing-related prudential policies (MAPPH index, blue line), and subindex for nonhousing measures (MAPPNH index, red line) for four selected countries from 2000 to 2013. The colored bars show the quarter of implementation of individual new measures. Tightenings take a positive value and loosenings take a negative value. Capital requirements and provisioning bars exclude housing-related capital requirement and provisioning measures.

Figure 5: MAPP, Capital Flow Measures and Monetary Policy, 2000:Q1 to 2013:Q4

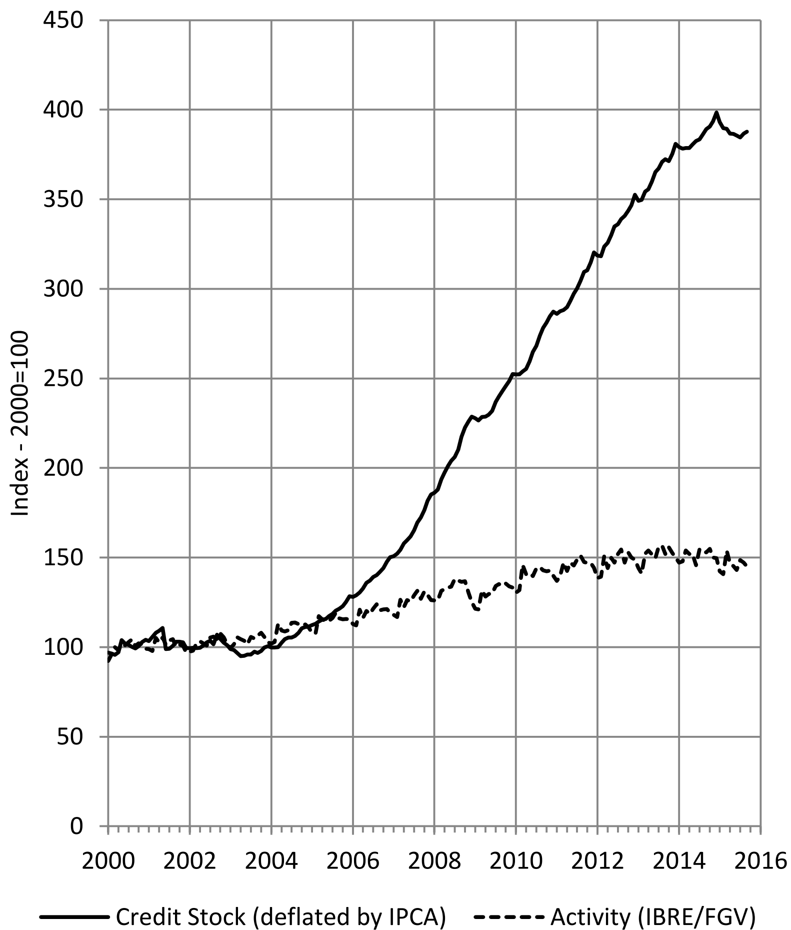


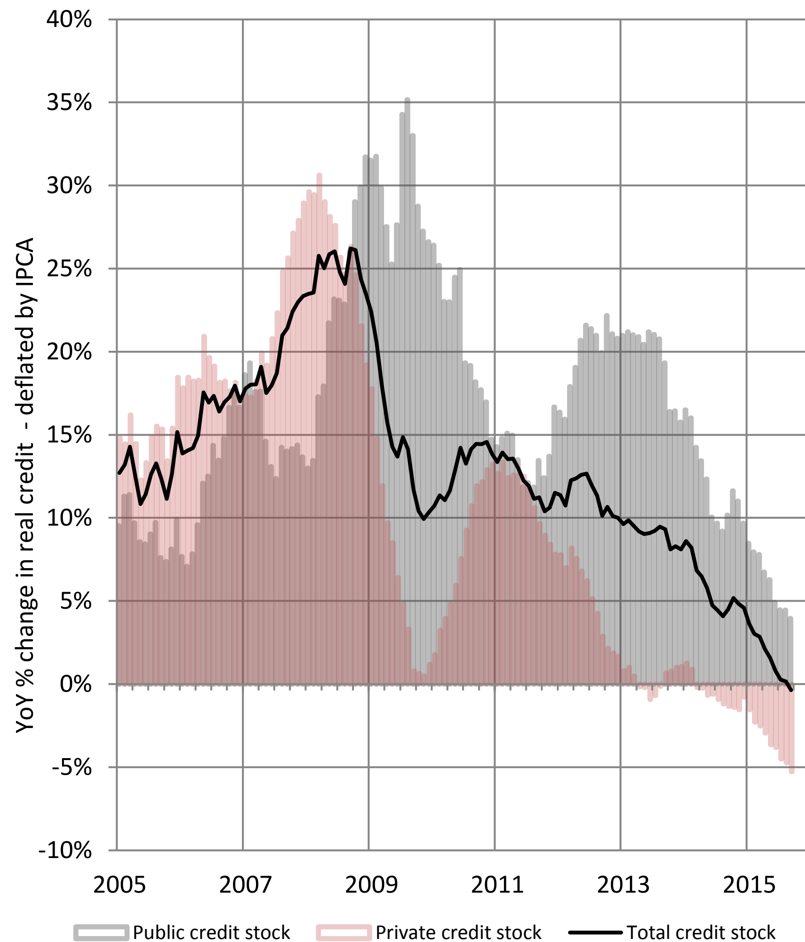
Note: Figures show the cumulative macroprudential policy index (MAPP Index, black line), portfolio inflow control index (green line), banking inflow control index (red line), domestic currency reserve requirement index (Res. Req. Index, orange line), and monetary policy rate (purple line, left axis) for four selected countries from 2000 to 2013. Tightenings for the policy indexes take a positive value and loosenings take a negative value.

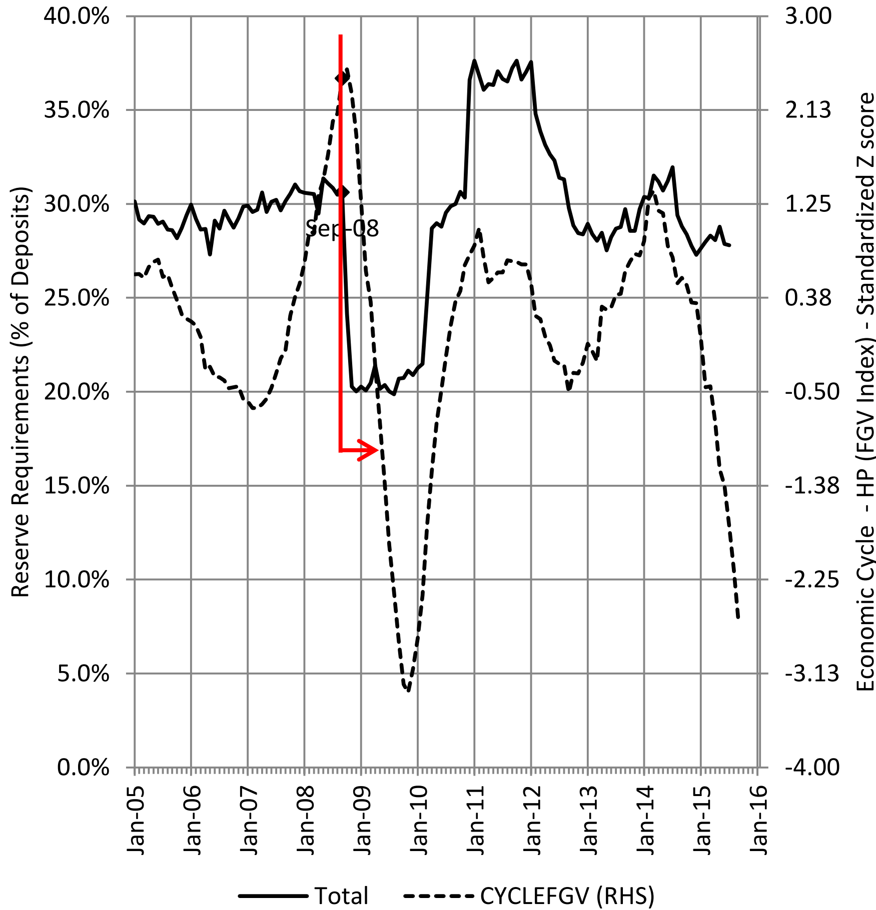
Source: Akinci, Ozge and Olmstead-Rumsey, Jane: "How Effective are Macroprudential Policies? An Empirical Investigation." Board of Governors of the Federal Reserve System - International Finance Discussion Papers, Number 1136, May 2015

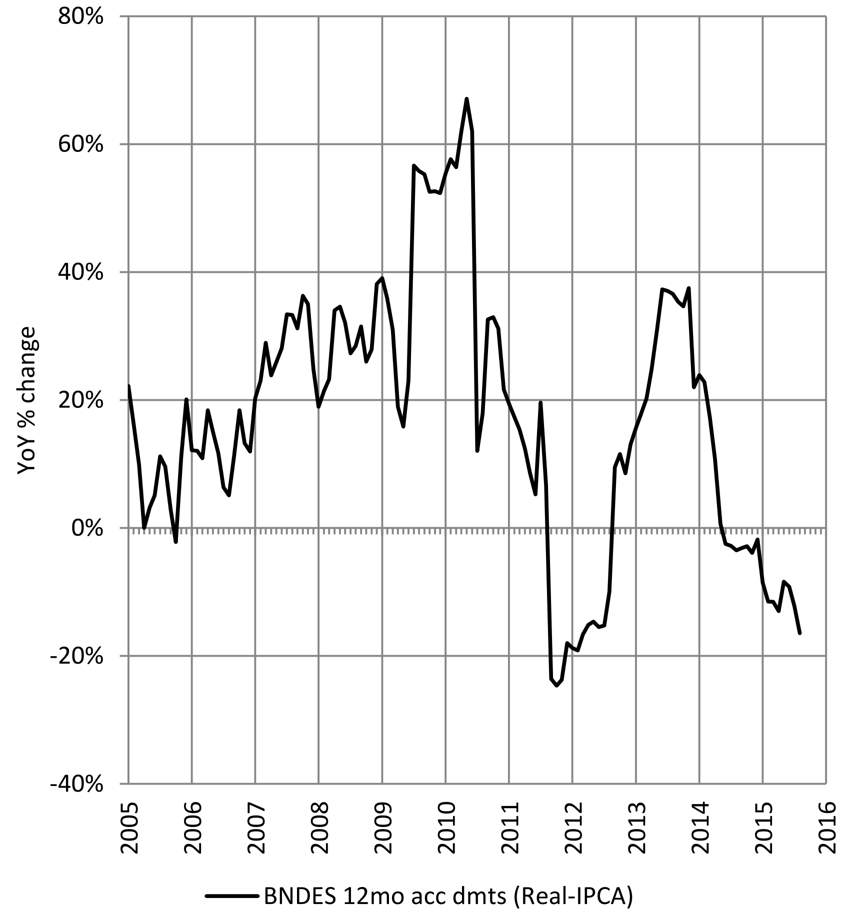
What happened?

- The "Lehman Moment" comes near the apex of a credit & growth boom
  - Sharp contraction in Q1/2009 ► Massive (overwhelming) response
  - Q4/2009 GDP @ 5.3%yoy; 2010 GDP @ near 6%yoy
- 2010 elections (and disregarding the China stimulus)
  - BNDES Jan/09-Dec/10 real dbmts: up 42%pa on average
  - The same was done with lending through Banco do Brasil
  - Caixa Econômica Federal bought two failing banks
  - Central bank reduced RR of large banks
    - Counterpart: Acquisition of credits from smaller banks (app. 4% 2009 GDP)
  - Funding for smaller (troubled) banks: new deposit guarantee mechanism
- Plus: Usual measures
  - FX interventions (Swap program grew to $160bn = largest in non-China EM)
  - Emergency provisions of liquidity


Credit & Activity
Credit stock deflated by CPI/IPCA
Index: 2000=100
Index - 2000=100
450
400
350
300
250
200
150
100
50
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
Credit Stock (deflated by IPCA)
Activity (IBRE/FGV)

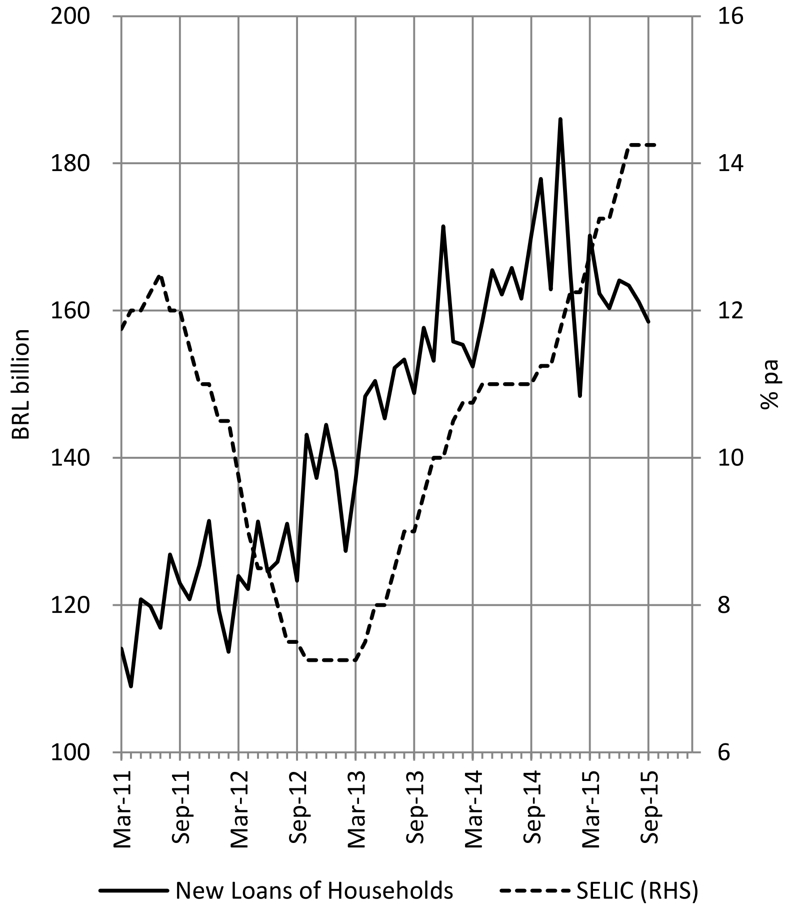

Credit stock of private and public banks
Deflated by CPI/IPCA
YoY % change
YoY % change in real credit - deflated by IPCA
40%
35%
30%
25%
20%
15%
10%
5%
0%
-5%
-10%
2005
2007
2009
2011
2013
2015
Public credit stock
Private credit stock
Total credit stock

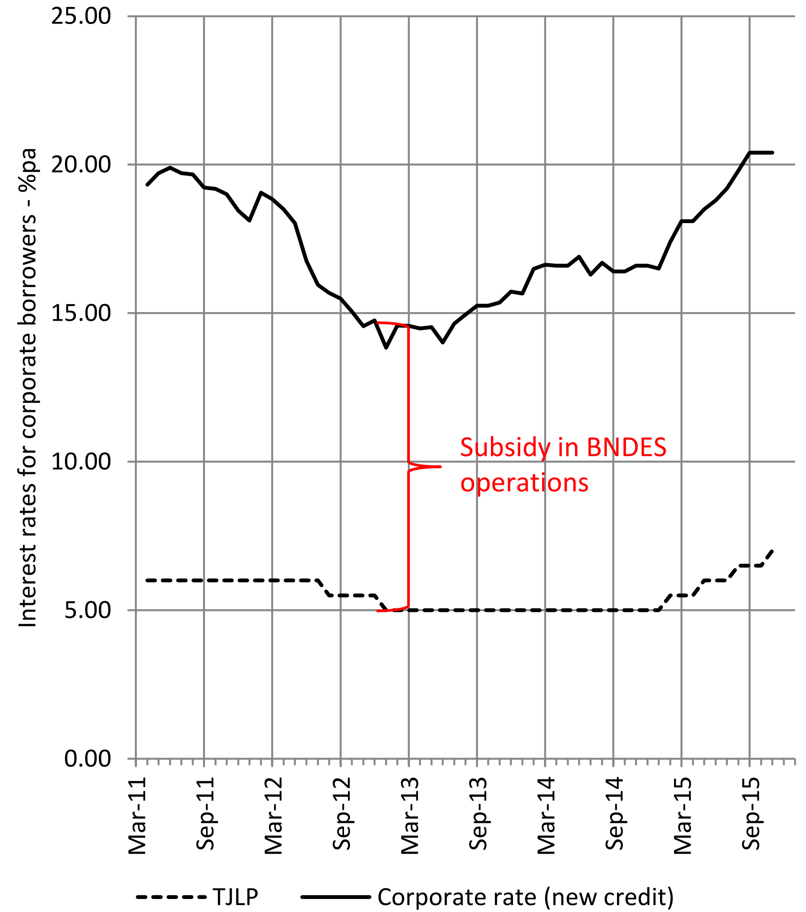

Deposit taking institutions:
Average rate of required reserves
eop/period average
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Reserve Requirements (% of Deposits)
3.00
2.13
1.25
0.38
-0.50
-1.38
-2.25
-3.13
-4.00
Economic Cycle - HP (FGV Index) - Standardized Z score
Sep-08
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Total
CYCLEFGV (RHS)


BNDES: New credit disbursements
12mo accumulated – deflated by CPI/IPCA
80%
60%
40%
20%
0%
-20%
-40%
YoY % change
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
BNDES 12mo acc dmts (Real-IPCA)

By late 2010 the credit cycle was excessive

- Active sterilization to curb the appreciation of the BRL + K-inflows (fueled by the carry trade) ► ineffective monetary policy
- New round of macropru measures
  - Increase RR on term deposits from 15 to 20%
  - Increase RR on demand and term deposits from 8 to 12%
  - Increase the tax on financial operations (IOF) from 1.5 to 3.0%
  - Increased the IOF on nonresident portfolio investments from 2 to 4% (and ultimately to 6%)
  - New 60% RR on banks' short position in the forex spot market
  - Additional measures to limit banks' exposure in forex derivative markets
  - Increase capital requirements for consumer loan through a change in risk weights
    - For vehicle financing: increase weight from 75 to 150%
    - Equivalent to an increase in capital requirement from 8 to 16.5%
  - Increase the loan to value ratio (LTV) on vehicle loans—maximum LTV was set to 80% for loans between 24-36 months


Policy rate & credit growth
New loans to households & SELIC rate
BRL billion
% pa
200
180
160
140
120
100
16
14
12
10
8
6
Mar-11
Sep-11
Mar-12
Sep-12
Mar-13
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
New Loans of Households
SELIC (RHS)


Interest rate subsidy
Rate charged by commercial banks for new loans to corporates & BNDES base lending rate
Interest rates for corporate borrowers - %pa
25.00
20.00
15.00
10.00
5.00
0.00
Subsidy in BNDES operations
Mar-11
Sep-11
Mar-12
Sep-12
Mar-13
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
TJLP
Corporate rate (new credit)

By 2012, the economy was faltering

- Central Bank cut interest rates 525bp to 7.25% lowest on record
- Even while inflation & expectations above target and the exchange rate remained over-appreciated

New round of macropru measures

- Reduced RR on demand deposits from 12 to 0% in 2 steps
- Reduced RR on time deposits from 12 to 11%
- Abolished the special provisions for the car industry

Post “Taper tantrum” (summer of 2013) = strong currency depreciation

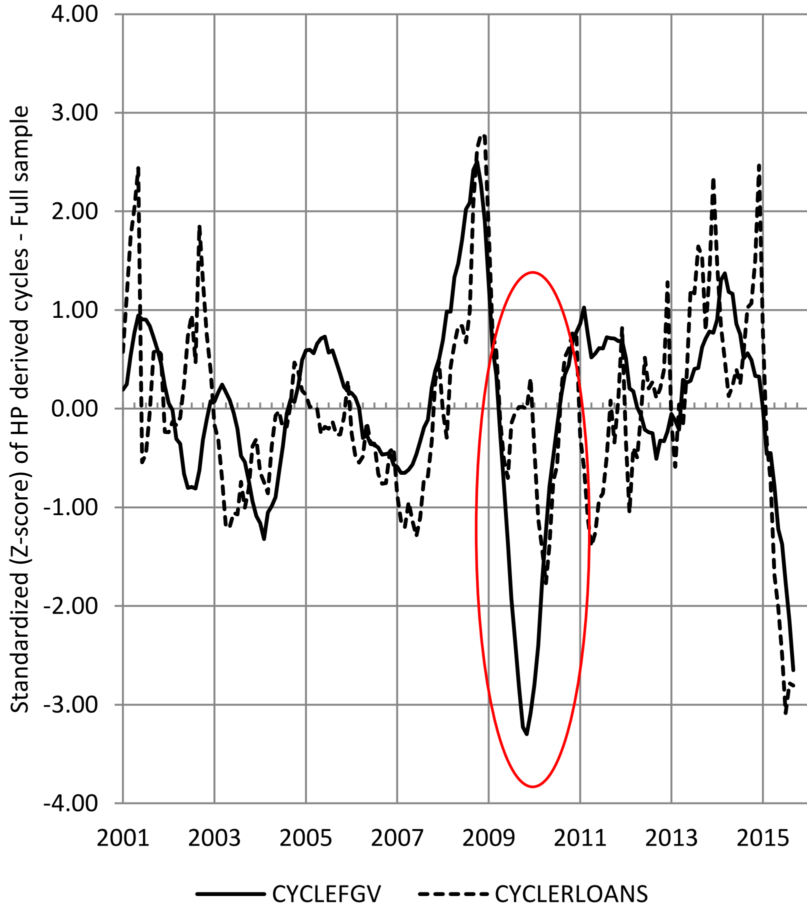
- IOF on forex operation was abolished
- IOF on cash withdrawals in foreign countries was increased from 0.38 to 6.38%
- Ministry of Finance introduced measures to boost aggregate demand
  - Tax-abatements favoring certain sectors, notably the auto sector
  - New program of subsidized credit for home purchases using resources from directed credits and federal transfers to Caixa Econômica Federal
  - Ramped-up transfers to BNDES (about 2% of GDP) while disguising these transfers through accounting tricks
  - Increased protectionism on supplier requirements for public investments, especially to Petrobras
  - Strong "moral suasion" to banks to lend to public enterprises while controlling their prices and increasing their losses

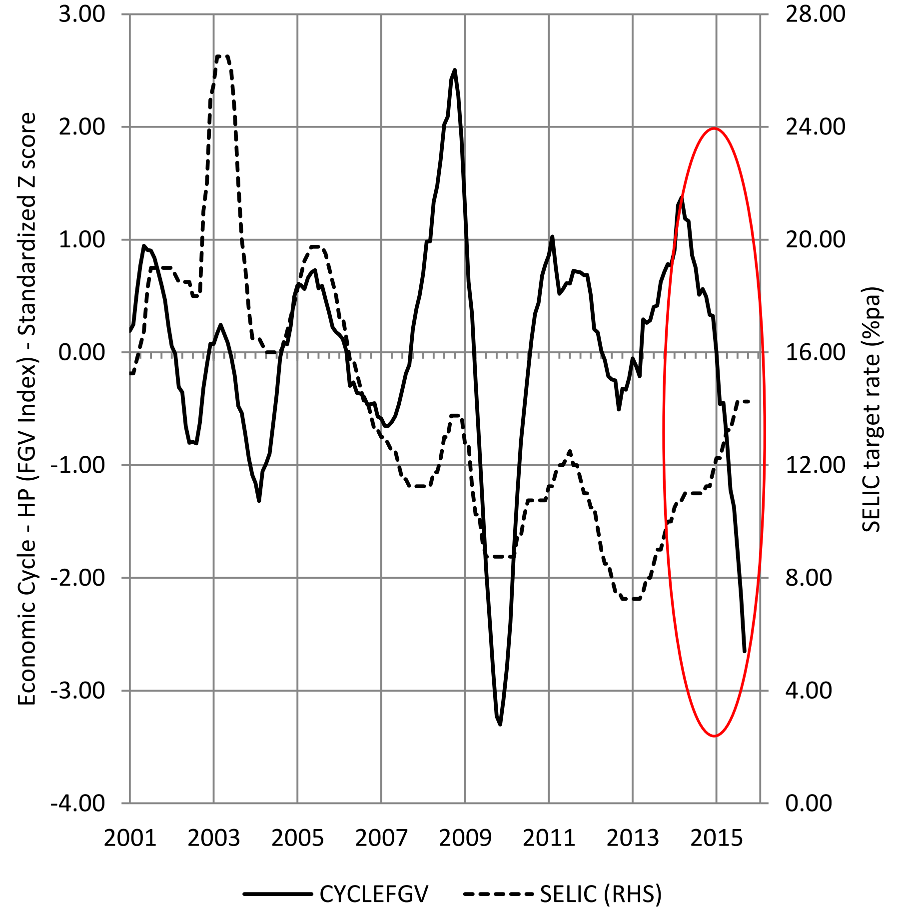
Table 2b: Policy mix matrix (2005-2011)

		Central bank interest rate policy		
		Pro-cyclical (1)	**A-cyclical (2)**	**Counter-cyclical (3)**
Reserve requirement policy	**Pro-cyclical (1)**		Jamaica	Trinidad and Tobago
	A-cyclical (2)	Costa Rica	Ecuador (dollarization), Hungary, Macedonia, Mexico, Nicaragua, Panama, Philippines, Serbia, Thailand, Uruguay,	**Australia**, **Canada**, Chile, Czech Rep., **Denmark**, El Salvador, **Euro-17**, Guatemala, Honduras, Israel, **Japan**, **New Zealand**, **Norway**, Singapore, **Sweden**, **Switzerland**, **United Kingdom**, **United States**
	Counter-cyclical (3)		Argentina, Belarus, Brazil, China, Croatia, Lithuania, Romania, Turkey	Colombia, India, Latvia, Malaysia, Peru, Poland, Venezuela

Substitutes **Complements**

Cordella, Tito, Pablo Federico, Carlos Vegh and Guillermo Vuletin: "Reserve Requirements in the Brave New Macroprudential World." World Bank - Policy Research Working Paper No. 6793, February, 2014.


Economic and credit cycles
Coincident except: Jun/09-Aug/10
Standardized (Z-score) of HP derived cycles - Full sample
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
2001
2003
2005
2007
2009
2011
2013
2015
CYCLEFGV
CYCLERLOANS


Output gap (Economic Cycle) & Policy rate
Countercyclical: 2004-2014
Procyclical: 2015-?
Economic Cycle - HP (FGV Index) - Standardized Z score
SELIC target rate (%pa)
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
28.00
24.00
20.00
16.00
12.00
8.00
4.00
0.00
2001
2003
2005
2007
2009
2011
2013
2015
CYCLEFGV
SELIC (RHS)

CONCLUSION

Outcome: A recession and a deep crisis not seen since the IXXth century

- The main issue was faulty diagnosis:
  - Problem was NOT insufficient domestic demand
  - Disincentives to invest leading to increasingly binding supply constraints
  - Failure to recognize that past policy had once and for all effects
  - By 2012 these effects were over and gone (the "manna" from China)
- And the wrong use of policy
  - Exchange rate and public prices to control inflation
  - Protectionism to increase supply
  - Public banks to increase credit
    - Substituting for private credit
    - Disregarding drop in the demand
    - Hence, subsidizing financial speculation at the expense of the fisc
  - Currency intervention to face the drop in terms-of-trade
  - Hyper-activism in monetary and macropru policy
    - Destabilized expectations and accentuated cyclical trends