

XIV Annual Inflation Targeting Seminar

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Macroeconomic Stability, Financial Stability, and Monetary Policy

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- Two main lessons of the global crisis.
- Financial regulation and supervision must adopt a **macroprudential perspective** to identify weaknesses in the financial system and mitigate systemic risk.
- Low and stable inflation **does not guarantee economic stability**.
- Should monetary policy be made responsive to (some measure of) financial (in)stability?

- **1.** Some key arguments, from the perspective of middle-income countries (MICs).
- Supply-side effects of bank credit; financial system is vulnerable to disturbances...
- ...even more so than before as a result of increased international financial integration.
- Many costly crises over the past decades.
- **2.** If yes, what should monetary policy react to?

Some Key Arguments

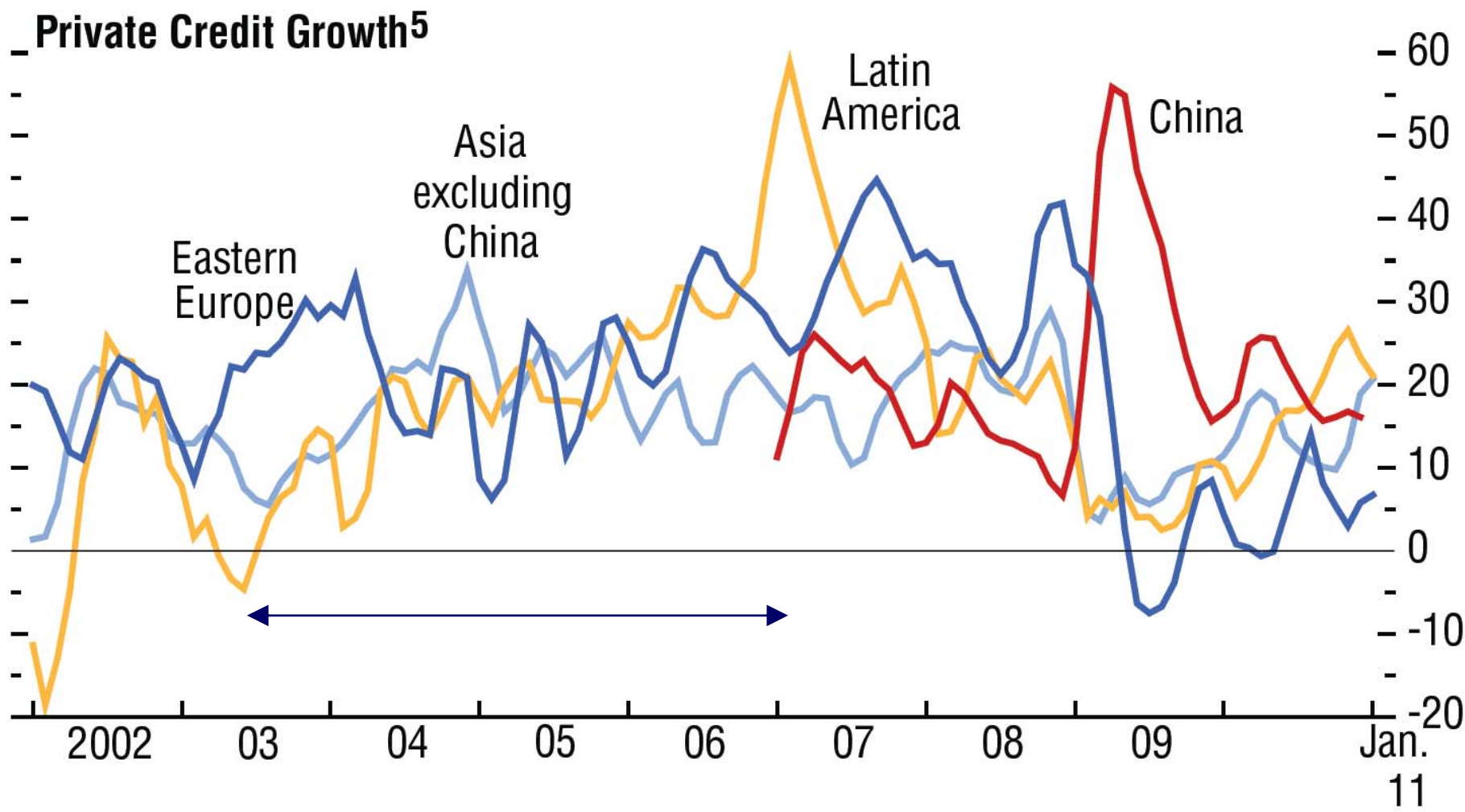
- Monetary policy, risk taking, and procyclicality.
- Monetary policy and macroprudential regulation.
- Monetary Policy, central bank credibility, and financial stability.
- Constraints on monetary policy in an open economy.

- 1. Monetary policy may induce boom-bust cycles in asset prices; low interest rates promote a “search for yield” and excessive risk taking.
- If monetary policy can be made to react early in the cycle, it could mitigate the risk of a bust.
- However, no evidence as of now that (loose) monetary policy is a **systematic** cause of boom-bust cycles in MICs.
- With noncompetitive credit markets, low policy rates may mean higher bank spreads, higher profits, and **possibly less risk**.

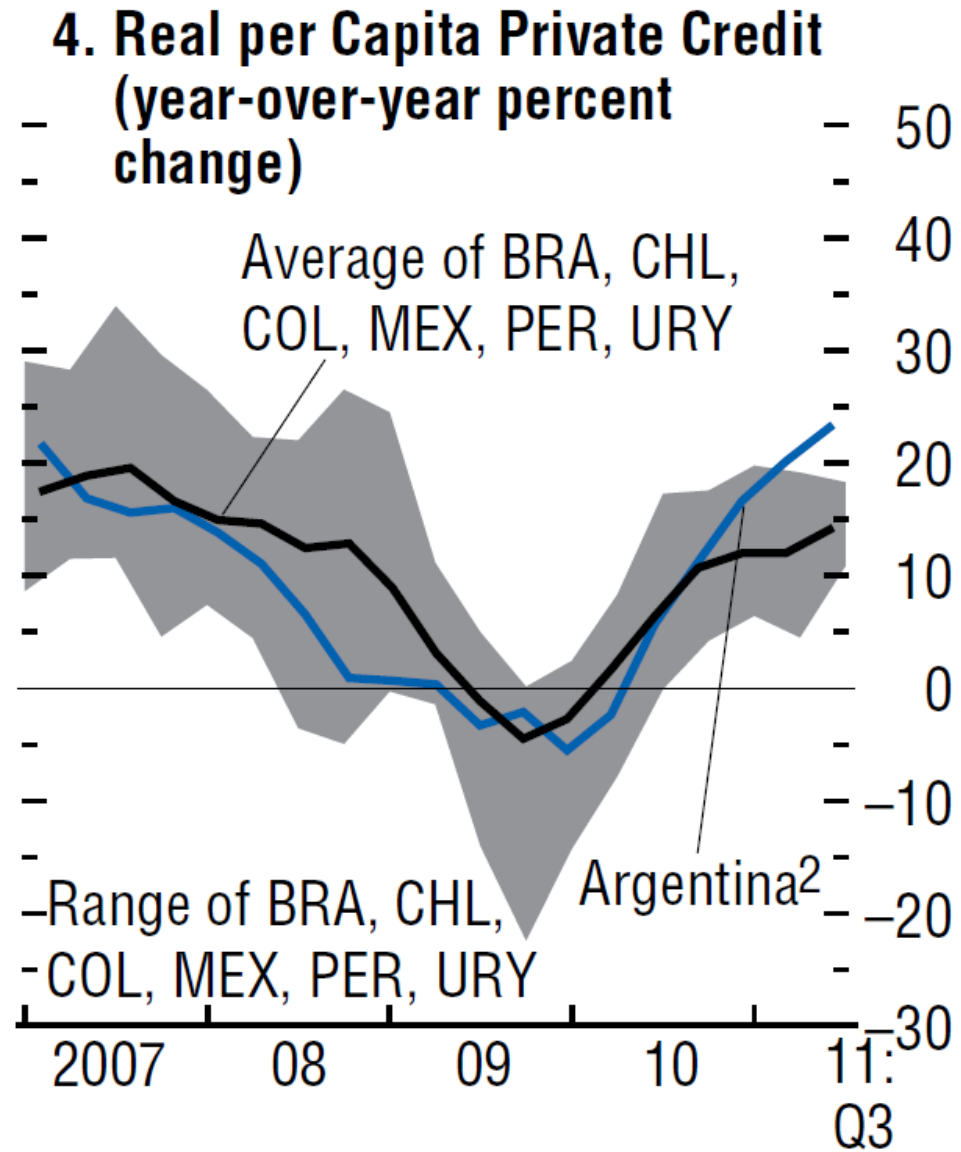
- Open debate about strength of the “risk channel” of monetary policy in MICs.
- However, strong evidence that bank intermediation is highly procyclical in MICs.
- Inherent feature of financial systems; optimistic expectations and tendency to underprice risks in good times; link with capital inflows.
- By “leaning against the (financial) cycle” a more active monetary policy may mitigate procyclicality...
- ...and also help to stabilize conventional targets (output, inflation).

- **2.** Policy rate is too blunt an instrument (possible adverse supply-side effects).
- Strengthening macroprudential tools, using both “old” (e.g. liquidity ratio, LTV/DTI ratio) and adding “new” tools, is a better strategy.
- More effective at limiting loan supply to specific sectors, prone to excessive credit growth.
- “New” tools (Basel III): countercyclical capital requirements, leverage ratio, dynamic provisioning (already in use in several MICs), etc.

- Help to reduce risk taking (CCRs), strengthen financial sector (DLPs), in addition to reducing balance sheet vulnerabilities.
- However, not obvious that macroprudential policy was all that successful prior to the crisis.
- Macroprudential measures did **not** prevent rapid credit growth in the lead-up to the crisis in, at least in some MICs.
- New prudential tools (e.g., DLP) may not be more effective in that regard.



Source: International Monetary Fund, *World Economic Outlook* (April 2011).



Source: International Monetary Fund, *World Economic Outlook* (April 2012).

- Spain's experience with DLP systems.
- Bubbles are not always strongly associated with credit growth (e.g., stock market bubbles); macroprudential tools are likely to be ineffective in these circumstances.
- Some of the “new” macroprudential tools are **largely untested**.
- No clear consensus yet on what tools will work; little evidence on the effectiveness of some of these tools (Lim et al. (2011)).

- Example: countercyclical capital buffers.
- Serious operational and institutional challenges, in a weak supervisory environment.
- Interaction between tools (e.g., CCRs and DLPs) not well understood.
- Some tools may alter the **monetary transmission mechanism**.
- Critical issue for an “IT+” or “hybrid” regime where financial stability becomes an explicit target.

- **3. If CB lacks credibility**, adding a financial stability objective to monetary policy may confuse markets, weaken perceived commitment to price stability, and destabilize expectations...
- ...making it more difficult to maintain low inflation.
- Potential **stabilization cost**.
- Example: **negative demand shock** that lowers both output and inflation.
- In standard IT regime: policy response is to lower policy rate; no tradeoff between objectives.

- But if CB is concerned with systemic risk (low rates promote a “search for yield”)...
- ...there may be a conflict between macroeconomic and financial stability objectives.
- Proposed policy response by some: lengthen the **horizon** for achieving the inflation target.
- However, concerns about systemic risk may be very difficult to convey to agents...

- Partly because there is **no consensus on defining “financial stability.”**
- If so lengthening target horizon may have adverse effect on expectations/CB credibility.
- Even though the policy response may promote stability, there is no credibility gain from eliminating or avoiding a hypothetical event.
- But a financial stability objective may not always adversely affect CB credibility; this depends also on **initial conditions.**

- If initially inflation is **above target**: a rise in the policy rate motivated by systemic risk concerns may actually be beneficial...
- ...from a macro stability perspective.
- Either way, taking on a financial stability objective creates new challenges for CB in terms of **transparency** and **communication** of its policy decisions.
- Learning period for markets; parallel with headline/core inflation targets.

- Another fundamental issue: inflation targets often have a **temporal dimension**; financial stability does not.
- See table.
- Key question: is it really possible to maintain such a dichotomy in a hybrid regime?
- If not, how costly would be the loss in flexibility for countries moving to two continuous targets?

Table A Individual countries' inflation targets

	Target set by	Target measure	Target 2011	Target type	Multiple targets?	Target horizon
Armenia	G and CB	H CPI	4% \pm 1.5 pp	P + T	–	Medium term
Australia	G and CB	H CPI	2%–3%	Range	–	Medium term
Brazil	G and CB	H CPI	4.5% \pm 2 pp	P + T	2011 and 2012	Yearly target
Canada	G and CB	H CPI	2% (mid-point of 1%–3%)	P + T	–	Six-eight quarters; current target extends to December 2011
Chile	CB	H CPI	3% \pm 1 pp	P + T	–	Around two years
Colombia	CB	H CPI	2%–4%	Range	–	Medium term
Czech Republic	CB	H CPI	2% \pm 1 pp	P + T	New target from 2010	Medium term, 12–18 months
Ghana	G and CB	H CPI	8.5% \pm 2 pp	P + T	End 2011 and 2012	18-24 months
Guatemala	CB	H CPI	5.0% \pm 1 pp	P + T	2011, 2012 and 2013	One, two and three years
Hungary	CB	H CPI	3%	Point	–	Medium term
Iceland	G and CB	H CPI	2.5%	Point	–	On average
Indonesia	G and CB	H CPI	5% \pm 1 pp	P + T	2011 and medium term	Medium term

Source: Bank of England (2011).

Israel	G and CB	H CPI	1%–3%	Range	–	Over next twelve months, continuously
Mexico	CB	H CPI	3% ±1 pp	P + T	–	Medium term
New Zealand	G and CB	H CPI	1%–3%	Range	–	Medium term
Norway	G	H CPI	2.5%	Point	–	Medium term
Peru	CB	H CPI	2% ±1 pp	P + T	–	At all times
Philippines	G and CB	H CPI	4.0% ±1 pp	P + T	–	Medium term (from 2012–2014)
Poland	CB	H CPI	2.5% ±1 pp	P + T	–	Medium term
Romania	G and CB	H CPI	3% ±1 pp	P + T	Until 2013	Fixed medium-term target from 2013
Serbia	G and CB	H CPI	4.5% ±1.5 pp ^(a)	P + T	2011 and 2012	Medium term
South Africa	G	H CPI	3%–6%	Range	–	On a continuous basis
South Korea	CB (with G)	H CPI	3% ±1 pp	P + T	–	Three years
Sweden	CB	H CPI	2% ±1 pp	Point	–	Normally two years
Thailand	G and CB	Core CPI	0.5%–3%	Range	Target set annually	Eight quarters
Turkey	G and CB	H CPI	5.5% ±2 pp	P + T	2011, 2012 and 2013	Multi year (Three years)
United Kingdom	G	H CPI	2%	Point	–	At all times

Note:

CB = Central bank.

G = Government.

H CPI = Headline CPI.

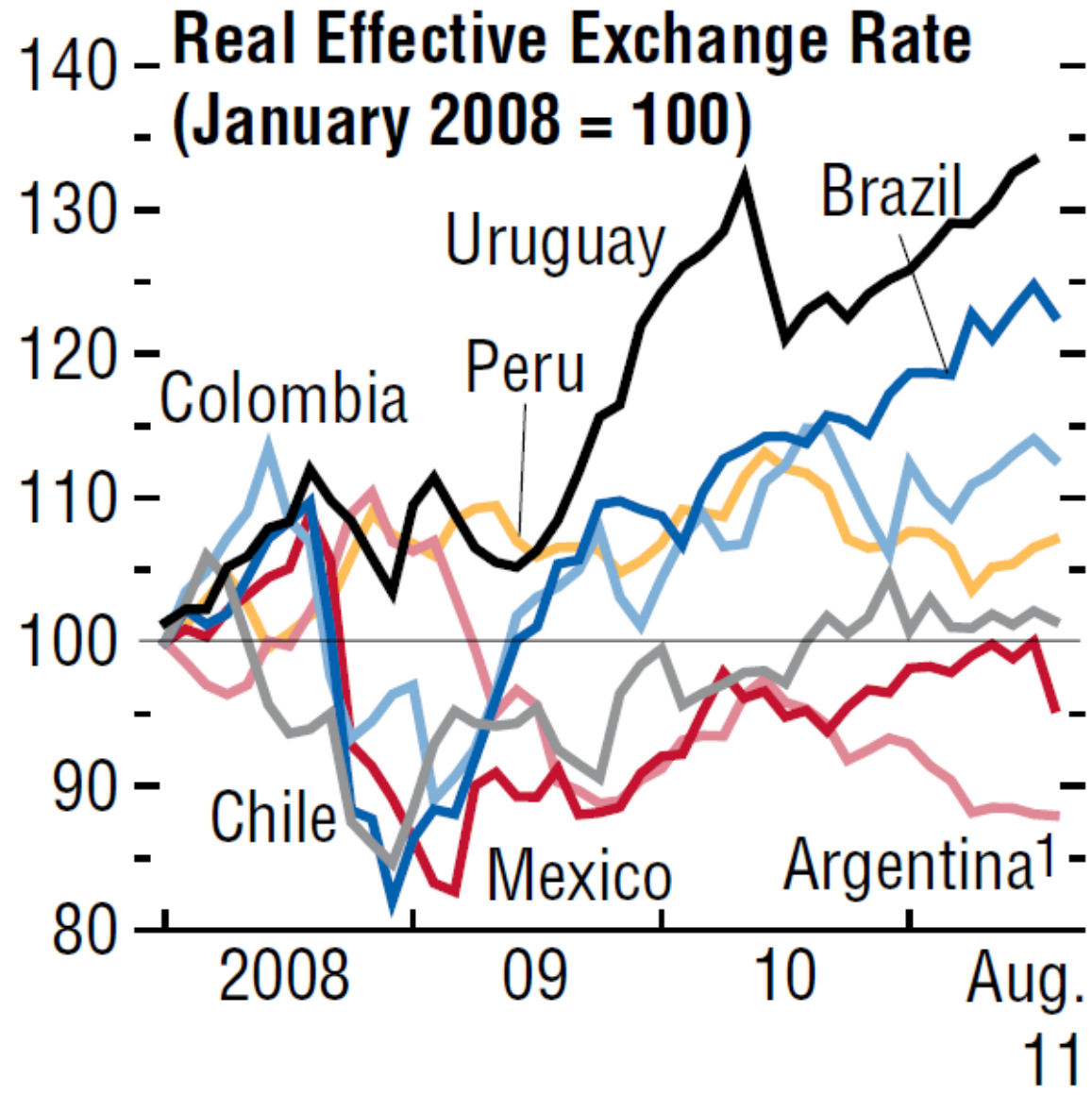
P + T = Point with tolerance band.

pp = percentage point(s).

(a) Target for end 2011.

Source: Bank of England (2011).

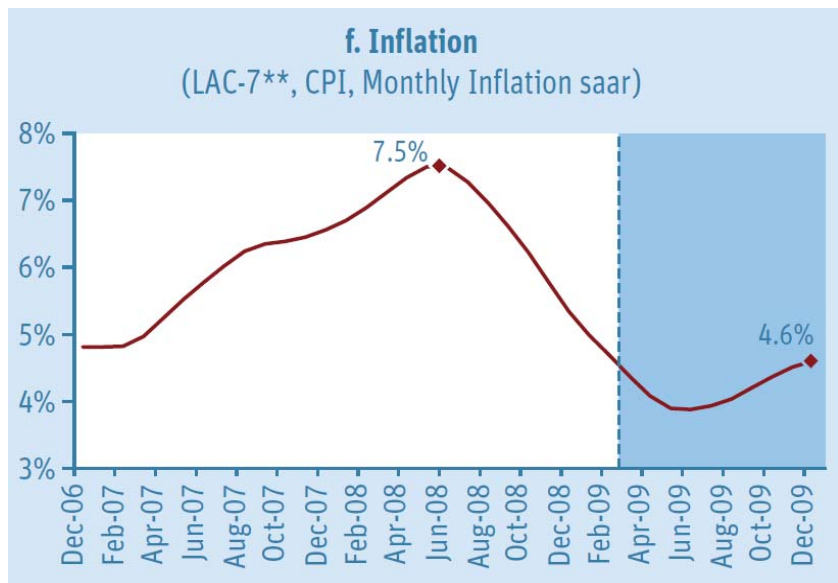
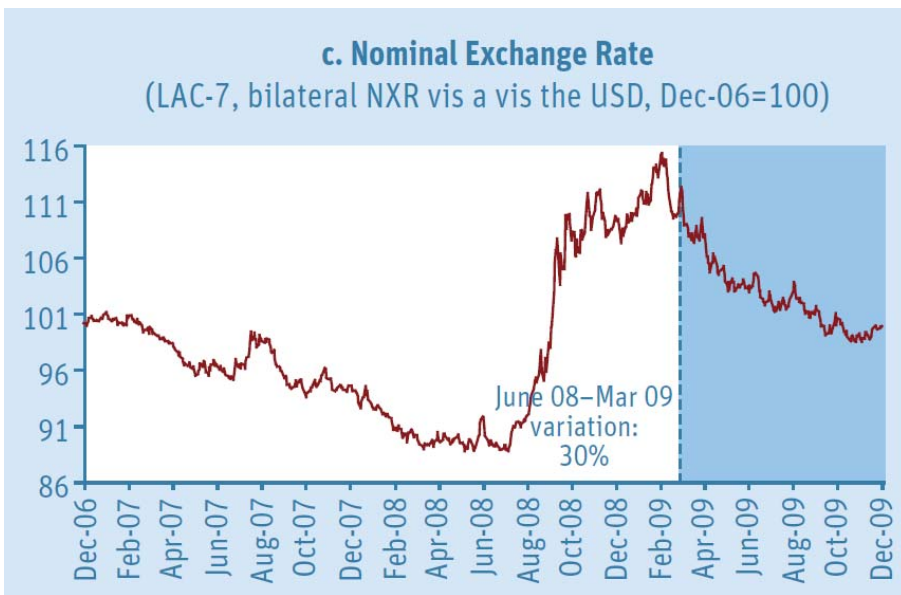
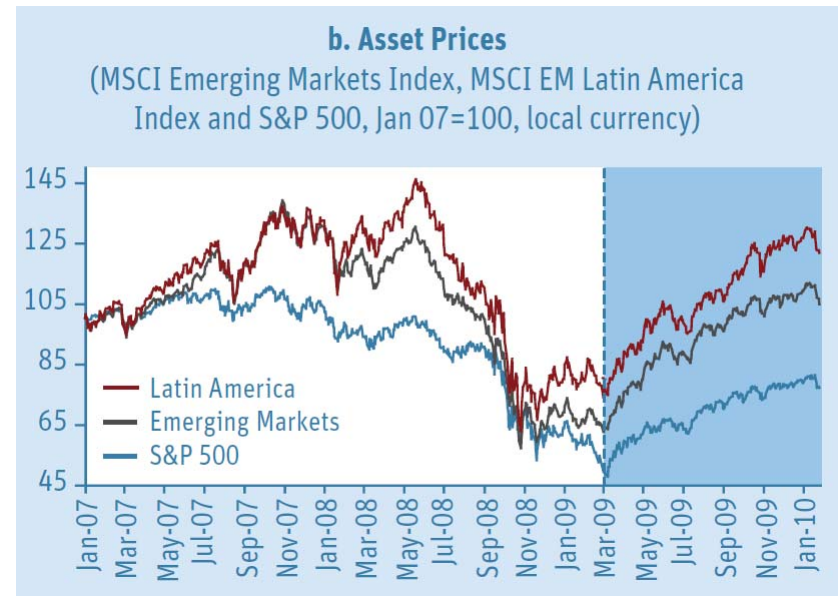
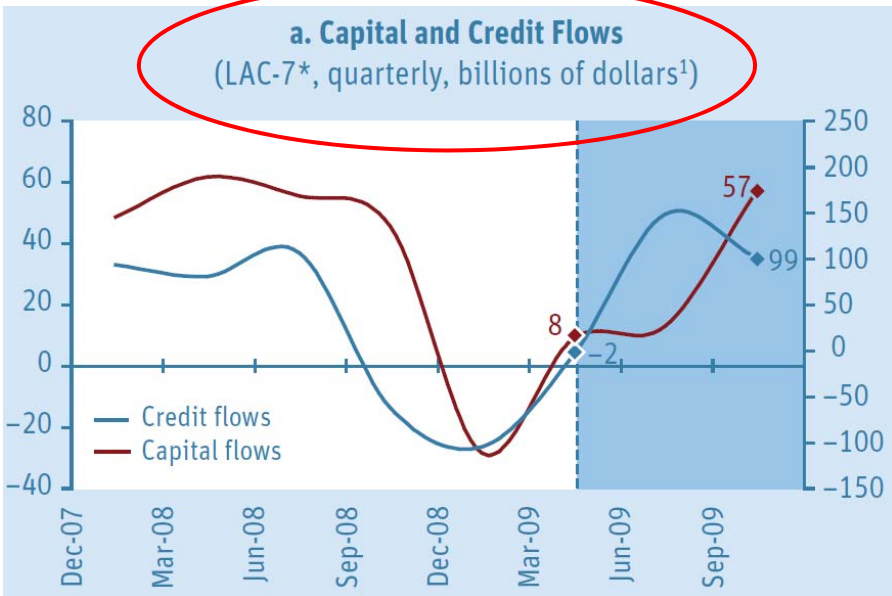
- 4. Depending on the nature of shocks, the scope for using monetary policy may be limited.
- Example: **sudden floods**.
- Serious issue for MICs; often a cause of macro-economic and financial instability.
- Real exchange rate appreciation, widening current account deficits, rapid credit and monetary expansion, asset price pressures.



Source: IMF, *WEO* (Sept 2011).

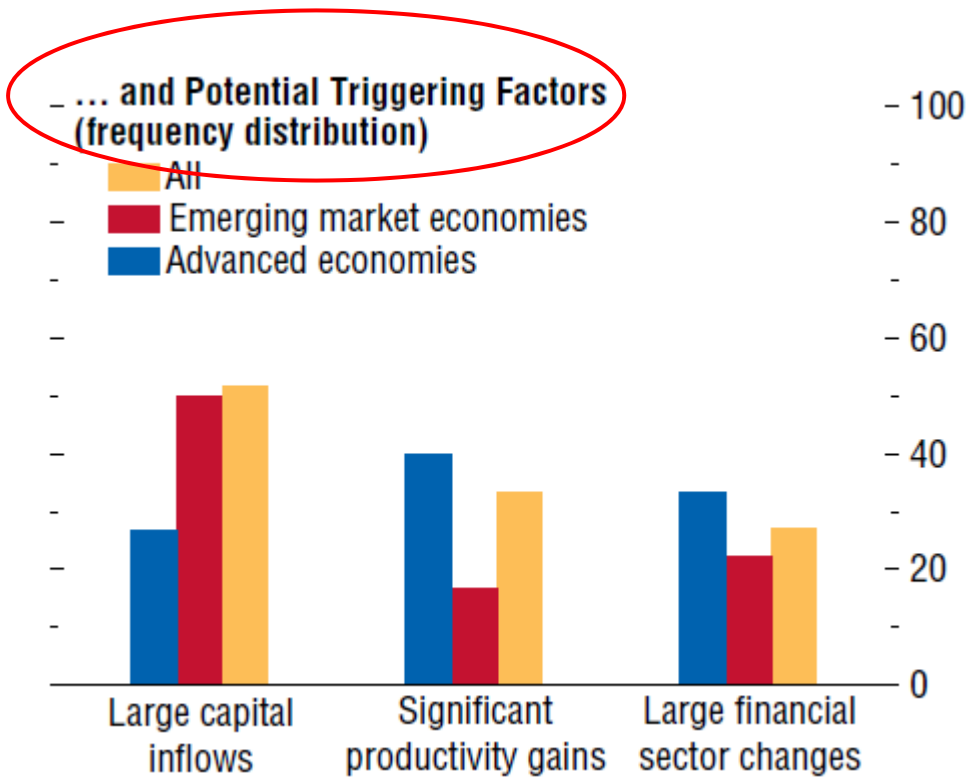
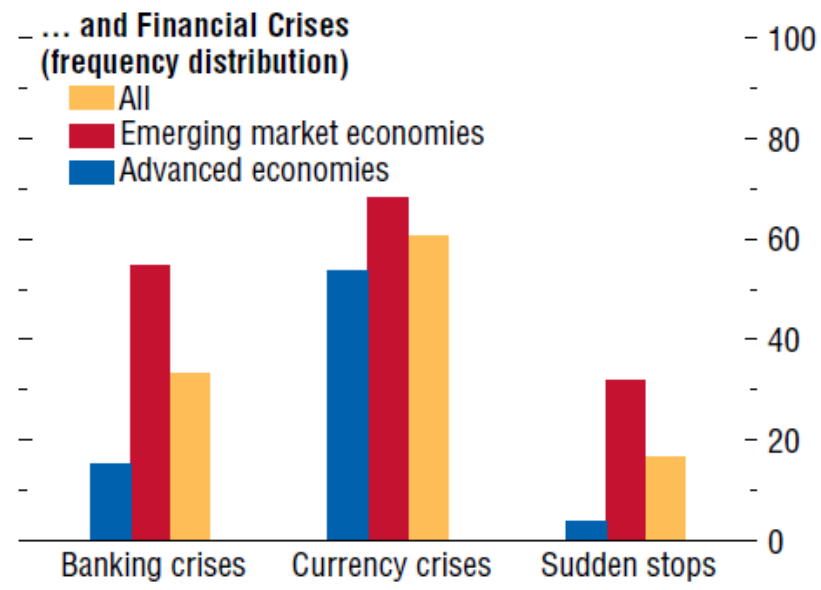
Table 1	Emerging market exchange rates during recent external shocks							
	Percentage change (increase representing appreciation) ¹							
	June 2007 to March 2009		March 2009 to August 2011		August 2011 to November 2011		June 2007 to November 2011	
	NEER	REER	NEER	REER	NEER	REER	NEER	REER
China	18.4	20.3	-8.6	-3.7	4.9	4.3	13.5	20.9
Hong Kong SAR	2.8	3.4	-15.7	-17.0	4.6	8.2	-9.3	-7.2
India	-17.5	-15.7	-0.1	17.4	-7.6	-7.0	-23.8	-8.0
Indonesia	-23.7	-16.0	18.2	24.2	-2.1	-2.1	-11.7	2.1
Korea	-37.5	-35.8	18.6	20.2	-2.8	-3.5	-28.0	-25.5
Malaysia	-4.7	-3.5	6.0	4.4	-2.4	-2.2	-1.3	-1.5
Philippines	-3.7	3.4	-2.2	1.9	0.8	1.3	-5.1	6.8
Singapore	4.3	7.4	9.2	11.8	-3.2	-3.1	10.2	16.3
Thailand	-3.3	-4.6	1.8	4.5	-1.3	-1.7	-2.8	-1.9
Argentina	-8.2	-2.3	-27.8	-17.9	4.0	5.3	-31.1	-15.5
Brazil	-11.6	-8.6	33.2	39.0	-7.5	-6.9	8.9	18.3
Chile	-7.6	-1.3	12.5	8.6	-5.1	-4.4	-1.3	2.5
Colombia	-18.2	-16.7	31.5	24.0	-3.7	-4.1	3.5	-0.9
Mexico	-24.8	-19.3	11.3	12.2	-9.2	-7.6	-23.9	-16.3
Peru	5.4	8.2	3.1	-0.7	5.1	5.5	14.2	13.4

Source: BIS (2011).



Source: Inter-American Development Bank (2011).

Figure 1.2.1. Credit Booms



Source: International Monetary Fund, *World Economic Outlook* (Sept 2011).

Note: Credit booms are defined as episodes during which the cyclical component of credit is larger than 1.75 times its standard deviation; see Mendoza and Terrones (2008).

- Figure: capital inflows are much more likely to lead to a credit boom in EMEs than in advanced economies.
- But during sudden floods, the scope for monetary policy to respond is limited.
- Need to rely on other measures, including macroprudential tools, such as **taxes on capital flows...**
- ...although effectiveness still under debate.

- Bottom line?
- Monetary and macroprudential policies are complementary policies.
- **Not because of Tinbergen's rule...** two instruments (interest rate, macroprudential tool) needed to achieve two targets (macro stability, inflation stability).
- Allows CB to achieve exactly, and continuously (dynamic rules) its targets.

- But in practice, CBs aim to minimize deviations from targets, rather than achieve them exactly and continuously.
- Each instrument may affect both targets in the same direction (lower volatility).
- They may therefore be **substitutes** at times.
- Key reasons for complementarity: in any event, monetary policy cannot address the cross-section dimension of systemic risk...

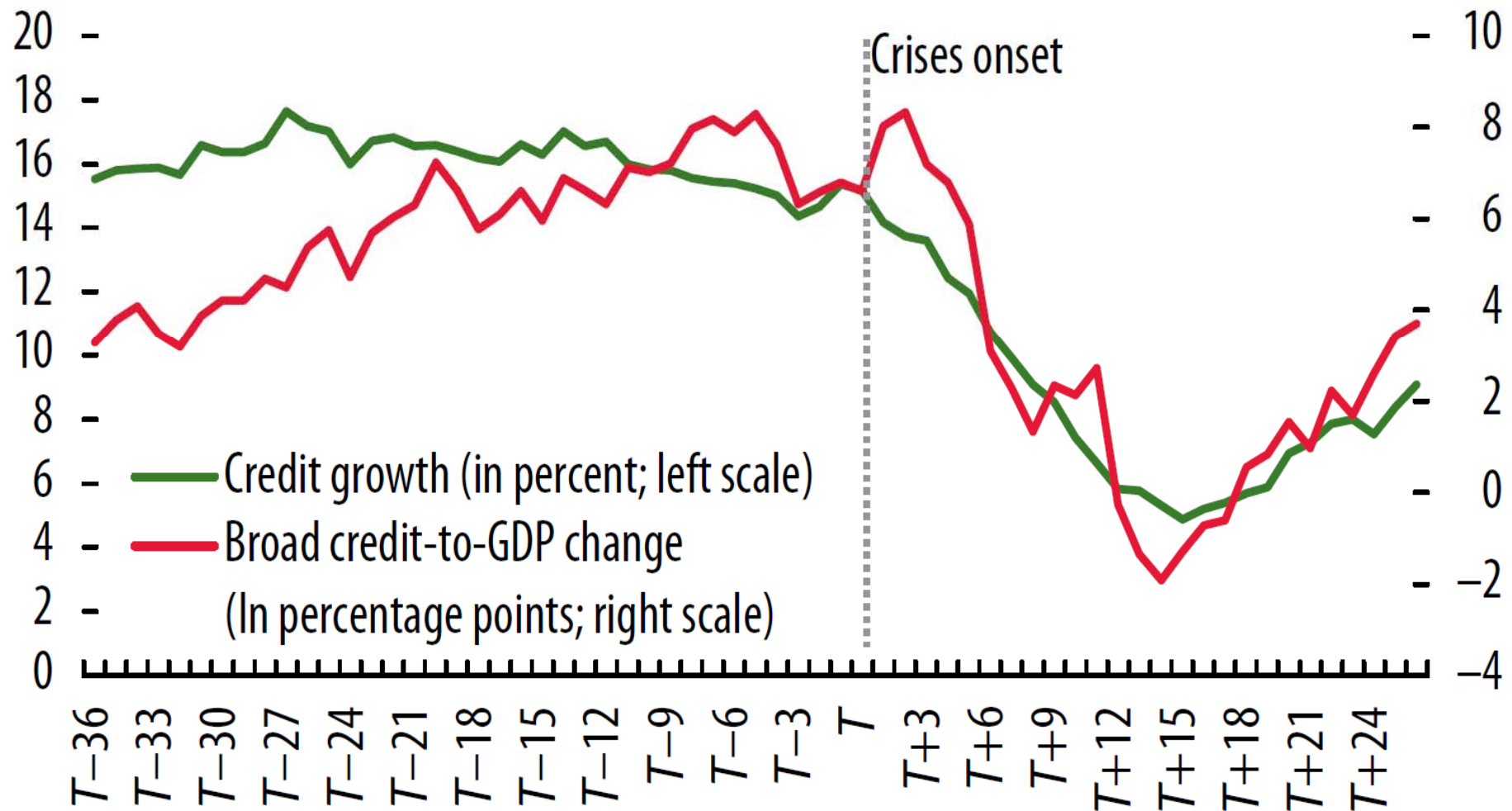
- ...and there are circumstances where its side effects limit its use (sudden floods).
- Issue: how do we define the hybrid regime? Still an open issue.
- One aspect of this—optimal combination of an “augmented” monetary policy rule and a counter-cyclical regulatory capital rule.
- Focus of most of recent DSGE models.
- Yet, urgent need to look at other instruments.

**What should Monetary Policy
React to?**

- MICs: in the time dimension of systemic risk, better to introduce a state contingent response to a private sector **credit gap**, either in terms of **growth rates** or the **credit-to-GDP ratio**.
- Helps to counter accelerator mechanisms that inflate credit growth and asset prices (through cost of borrowing).
- Rapid credit growth is often a warning sign of financial instability.

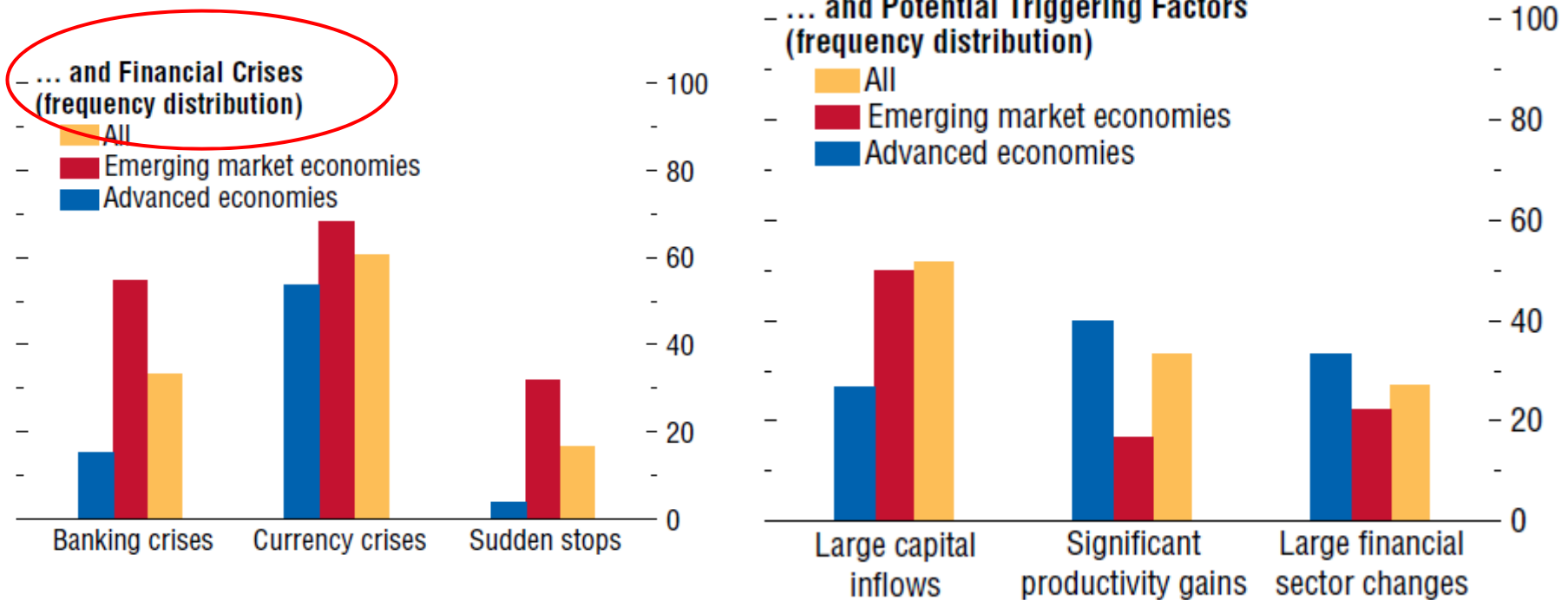
- Not all episodes of credit booms end up in crises...
- ...but almost invariably crises are preceded by episodes of credit booms.
- Credit booms raise (significantly) the likelihood of an asset price bust or a financial crisis (e.g., IMF (2009, 2011), IADB (2012)).
- Likely reason: rapid credit growth tends to go hand-in-hand with deterioration in credit quality and lending standards.

A. Private Sector Credit Growth: Narrow and Broad Measures



Source: IMF, Global Financial Stability Report (Sept 2011, p. 11).

Figure 1.2.1. Credit Booms



Source: International Monetary Fund, *World Economic Outlook* (Sept 2011).

Note: Credit booms are defined as episodes during which the cyclical component of credit is larger than 1.75 times its standard deviation; see Mendoza and Terrones (2008).

Study finds that net capital inflows are the most helpful factor in predicting credit booms. However, regulatory regime is missing.

THE WORLD OF FORKING PATHS

**Latin America and the Caribbean Facing
Global Economic Risks**

Inter-American Development Bank

March 2012

American Economic Review 2012, 102(2): 1029–1061
<http://dx.doi.org/10.1257/aer.102.2.1029>

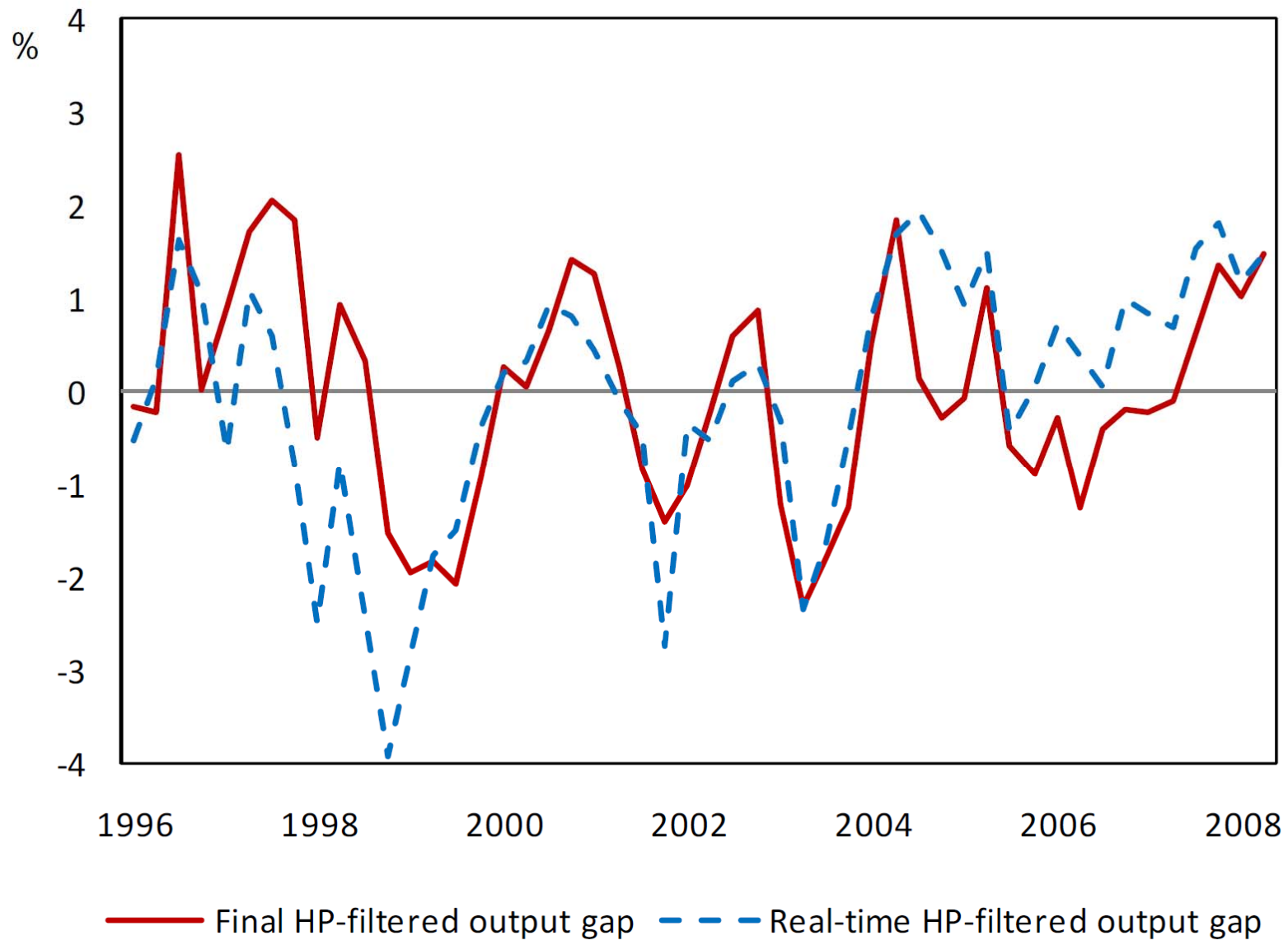
Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870–2008[†]

By MORITZ SCHULARICK AND ALAN M. TAYLOR*

Note: In this study a financial crisis is defined as an event during which a country's banking sector experiences bank runs, or there are sharp increases in default rates accompanied by large losses of capital that result in public intervention, bankruptcy, or forced merger of financial institutions.

- No strong evidence that asset prices (equity, house prices) are good out-of-sample predictors; high degree of noise.
- Many central banks in MICs are already paying much attention to credit growth.
- Credit data are more readily available; usually small revisions.
- Useful not only for prudential reasons, but also because of **unreliability of (real time) output gap measures**.

Brazil: Real time and Final HP-based Output Gaps



Source: Cusinato et al. (2009).

- Reduced weight on the output gap in the policy rule is optimal.
- Real credit growth gap can be viewed as an **intermediate target**...
- ...concerns about which are easier to convey than concerns about a multi-faceted final target, financial stability, that is more difficult to define.

- Targeting credit gap: creates an **asymmetry** in defining CB's policy loss function, because inflation and output are **final targets**...
- ...but may facilitate communication with the public.
- Broader approach: combine credit growth gap with an aggregate measure of the degree of vulnerability of bank balance sheets.
- Micro-macro approach.

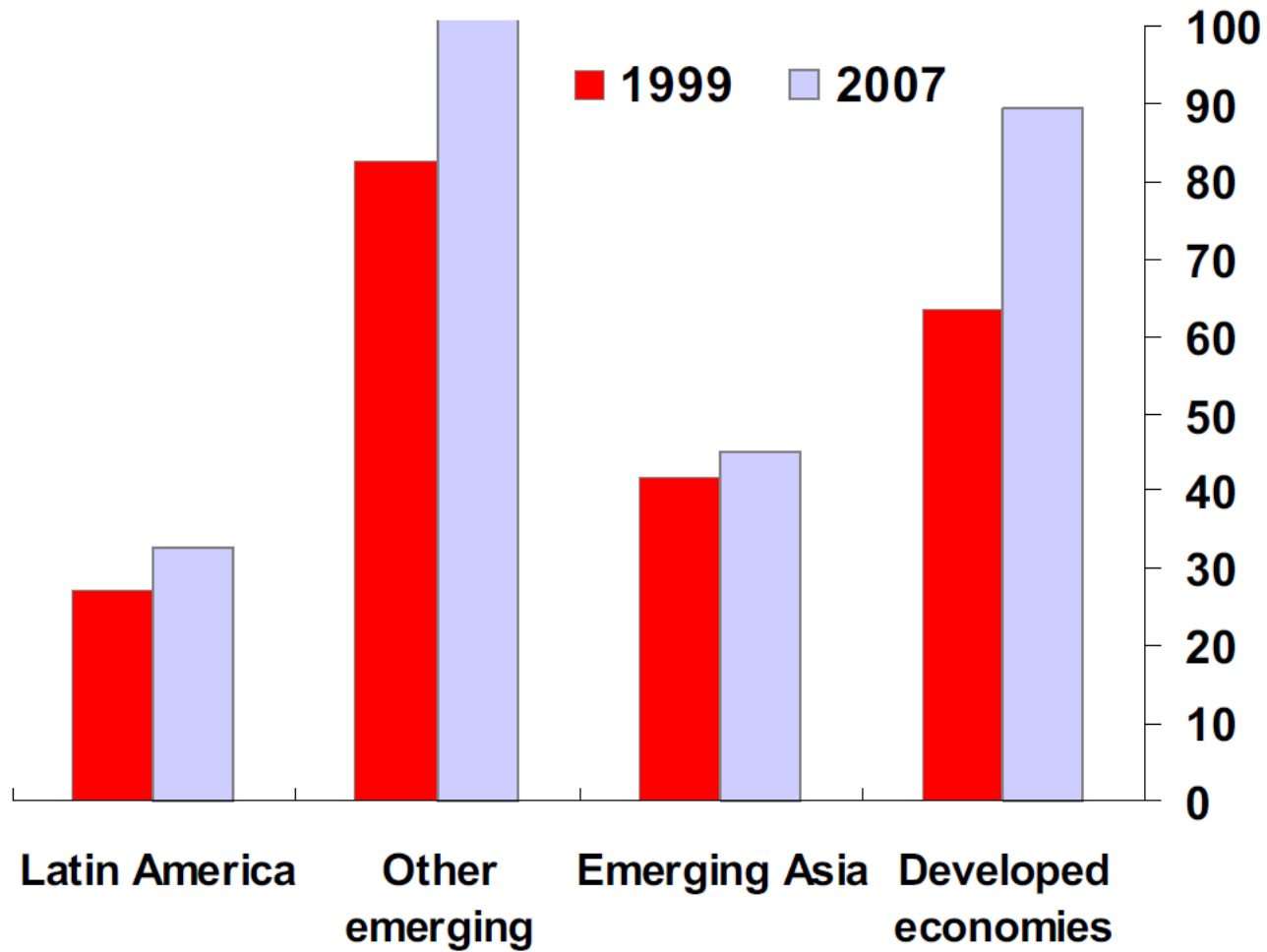
Practical Implementation

- 1. Aggregate credit measure or component?
- Working capital loans are related to supply-side, not demand-side, changes.
- However, these loans may substitute for firms' **internal resources**, which can now be used to finance (longer term) investment.
- Indirectly, impact on aggregate demand; argument for using a broad aggregate.

- **2.** How should the gap be calculated?
- Rather than deviations from trend, use deviations from measure based on **equilibrium value**.
- Helps to account for **financial inclusion** and its determinants (urbanization, etc.)...
- ...which may actually promote financial stability.
- Need for more research. Hint: methodology for calculating equilibrium REERs; support role for the IMF, BIS, and others.

Credit to Private Sector

(In percent of GDP) 1/



Source: Rennhack et al. (2009).

- However, the credit growth gap is still a noisy indicator; false signals may raise the risk of policy errors.
- Response should be contingent on the **magnitude** of the credit growth gap.
- Cannot address cross-section dimension of systemic risk.
- Arguments for combining macroprudential regulatory rules and an (augmented) monetary policy rule.