



MONETARY POLICY IN CRISES

Challenges in Monetary Policy
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Questions

1. Were monetary responses appropriate given depth of the problem, or undesirable but necessary stop-gap measures as appropriate fiscal and financial responses (e.g., countercyclical fiscal policy, bank recapitalization) were missing? How to evaluate policies aimed at countering perceived disruptions in credit market and asset markets?
2. How to evaluate spillover effects of aggressive easing in crisis hit countries, and their international spillovers? How should non-crisis countries react to such spillovers?
3. What is best mechanism for coordination between fiscal and monetary authorities? Should central banks eschew quasi-fiscal measures, or should they be considered as a part of legitimate central bank crisis toolkit?

Overview of Conclusions

1. Monetary policy response was unusual, but needed
 - Response dictated by complexity and speed of events
 - Effective, but came with some “costs”
 - Some elements need to be added to the toolkit
2. Spillovers are large, but not different from past
 - Low interest rate policies seen before
 - Macro-prudential/capital flows management approach
3. Design of monetary and fiscal policy
 - Old and new topic. Macro-prudential perspective needed, with multiple instruments, complex calibration, benefits and costs, and countries’ differences
 - Institutional design: depends on policy interactions

Roadmap for Presentation

1. Advanced economy financial crisis policy response
 - Overview of responses
 - Comparisons with past cases
 - Assessment of effectiveness and costs
 2. Crisis response: spillovers to others
 - Monetary policy spillovers: capital inflows
 - Macro-prudential/capital flows management response
 3. Coordination between fiscal and monetary policy
 - Financial stability/macro-prudential perspective
 - Institutional design
- Concluding remarks

1. Financial Crisis Policy Response

Overview

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Financial Crises and Recessions Challenges for Policymakers

- Unprecedented strains in financial markets
 - Elevated spreads
 - Disrupted monetary policy transmission mechanism
 - Frozen credit markets
- Very large shocks to aggregate demand
- Zero-bound on nominal interest rates

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Monetary Policy and Other Responses

- Policy rate (commitment)
 - Lower policy rates dramatically
 - Commit explicitly to keeping rates low for an extended period

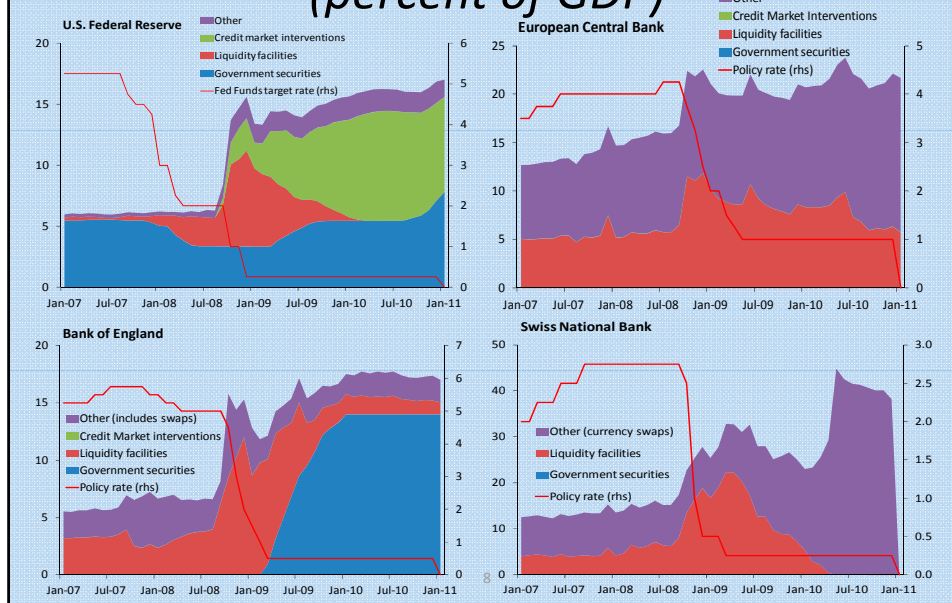
- Liquidity provision
 - Meet financial institutions' liquidity demand

- Government bond purchases
 - Purchase long-term government securities

- Credit market intervention
 - Intervene directly in impaired credit markets

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Central Bank Assets and Policy Rates (percent of GDP)



Policy Rate (Commitment)

- Aims at anchoring market expectations to keep front-end of the yield curve low
 - To varying degrees: Fed, BoE, ECB, SNB, BoJ
- Easy to announce, useful as policy uncertainty high
 - But can need supporting actions (QE1, QE2)
- Effectiveness hinges on credibility
 - Short-term commitment to low rates
 - Long-term commitment to low inflation

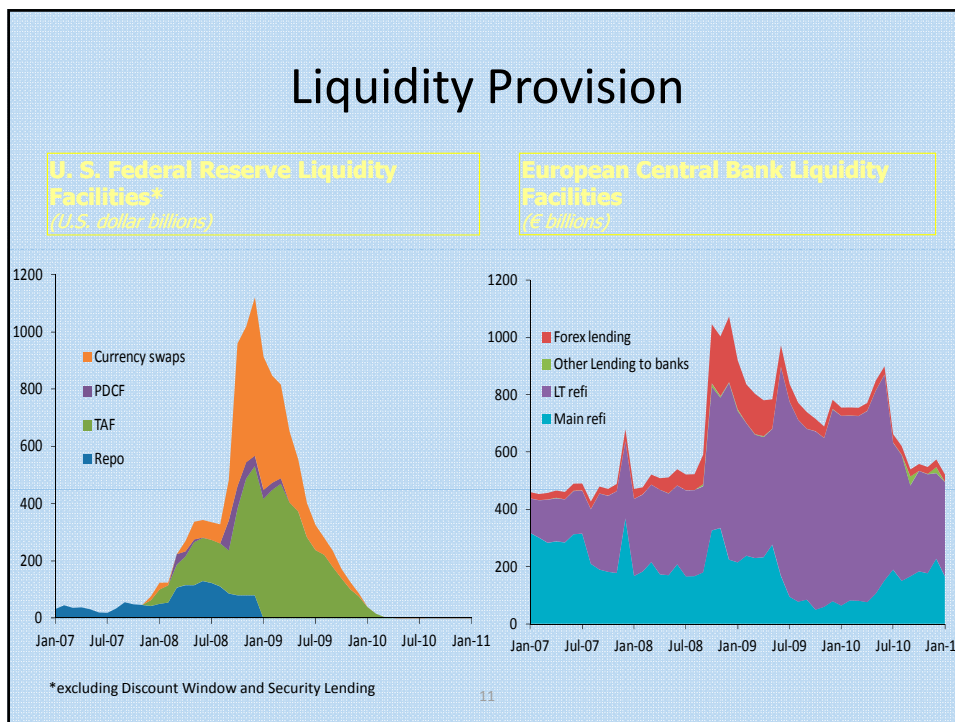
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(FX) Liquidity Provision

- Perceived counterparty risk led to liquidity hoarding and closed interbank funding markets
 - Including cross-border foreign exchange
- Central banks responded by offering liquidity
 - At longer maturities, to a wider range of financial institutions, against lower quality collateral, anonymously, foreign exchange, avoid stigma effects
 - Swap arrangements
- Has been effective and wound down easily
 - Helped overcome liquidity squeezes/real effects
 - While reinstated at times, low permanent costs
 - FX swaps could become permanent feature

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Liquidity Provision



Government Bond Purchases

- Aimed to:
 - Flatten yield curve—rates on government bonds as benchmark for pricing many private securities
 - Increase bank reserves—to support private sector lending
 - Support prices for sovereign bonds (EU)
- Potential issues:
 - Market/price and some credit risk for central banks
 - Substantial purchases needed to move rates
 - Less impact on prices of private, risky securities
- Commitments and actual purchases large

Credit Market Interventions

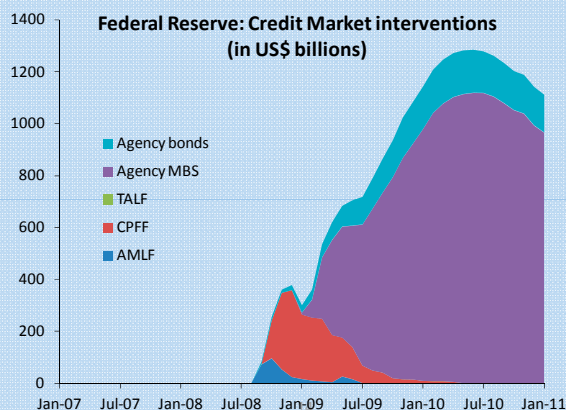
- Purchases of private-sector assets
 - Commercial paper, corporate bonds, asset-backed securities
- Direct lending to non-financial private sector
 - Limited to few isolated cases
- Advantages
 - Precisely targeted and selective, bypass weak banking system
 - Signaling value—doing all you can
- Issues
 - Logistical challenges (new facilities)
 - Exposes central bank to credit risk
 - May distort relative prices, exit and political economy risks

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Credit Market Interventions

- U.S. large scale; BoE, ECB, BoJ, smaller scale

Federal Reserve: Credit Market Interventions
(US\$ billions)



1. Financial Crisis Policy Response

Comparison with Past Crises

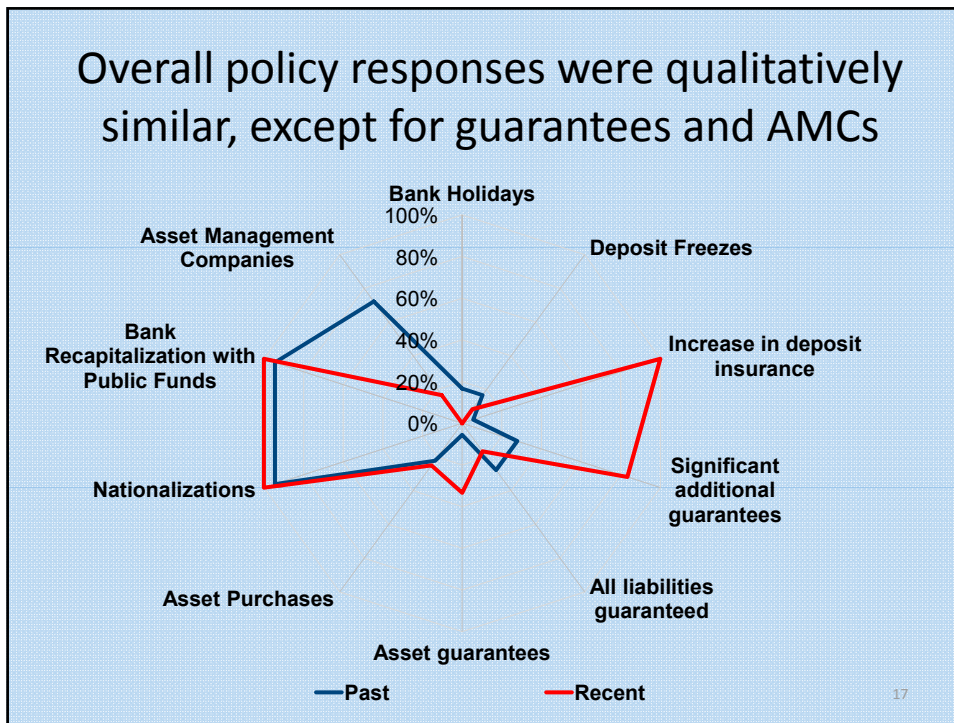
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Other type of evaluation: Compare responses in this crisis with past crises

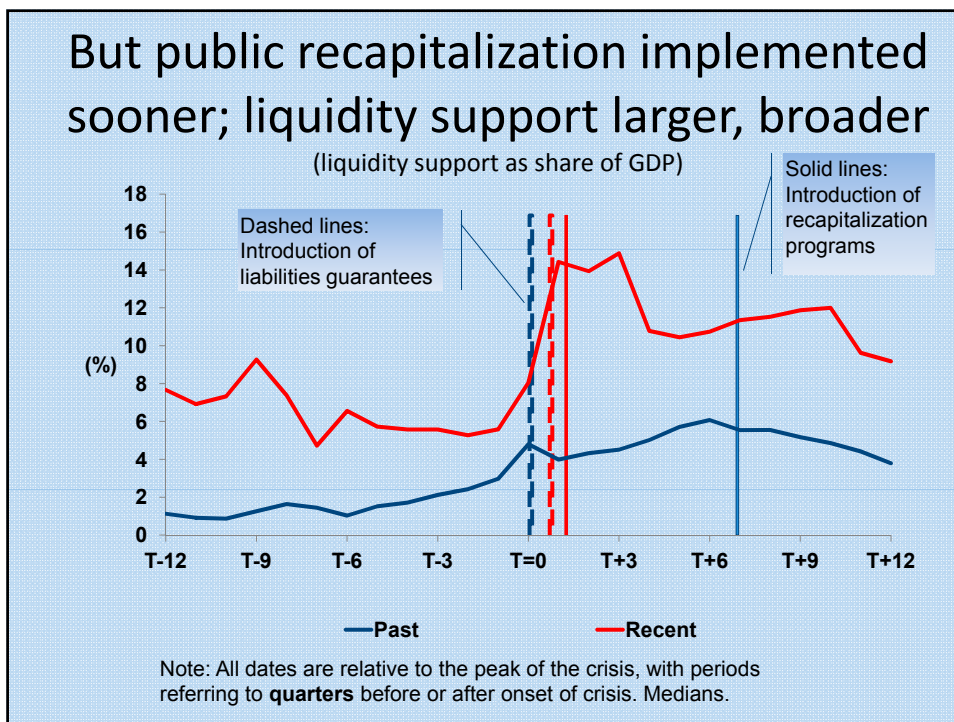
- Sample countries, with a systemic crisis
 - Recent Crises: 12 countries, of which 10 advanced
 - Past Crises: 18 countries, of which four advanced – the Nordics, Japan
- Recent crisis was unusual
 - In its global nature, not since Great Depression (typically, crises are regional, e.g., Asia, Latin America, and Nordics)
 - Financial systems and countries were different
 - Larger, more complex financial systems
 - More opaque risk exposures

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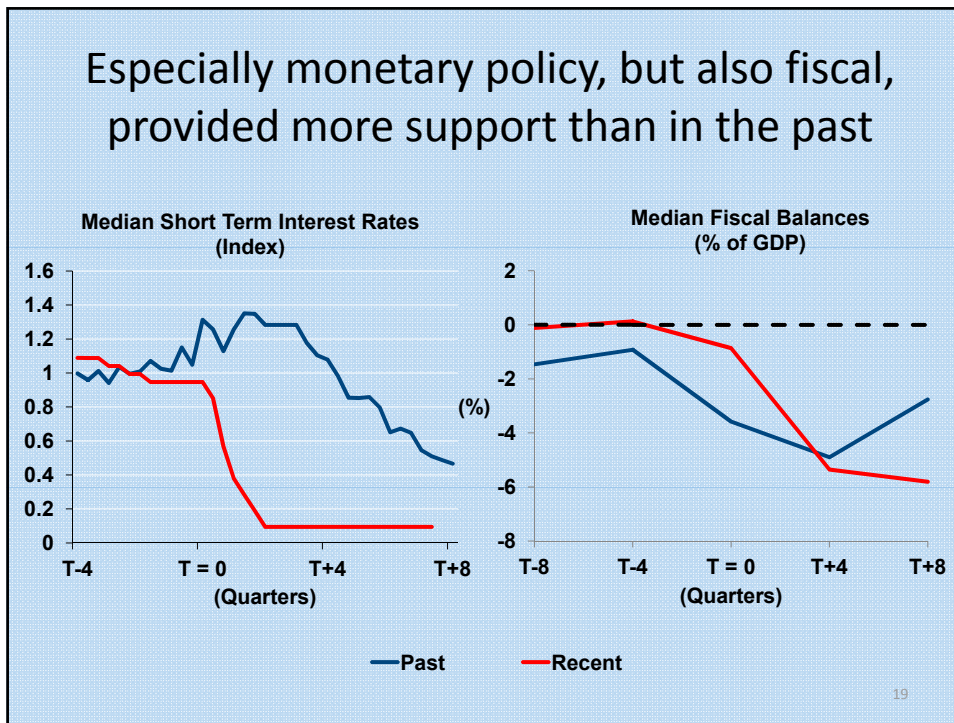
Overall policy responses were qualitatively similar, except for guarantees and AMCs



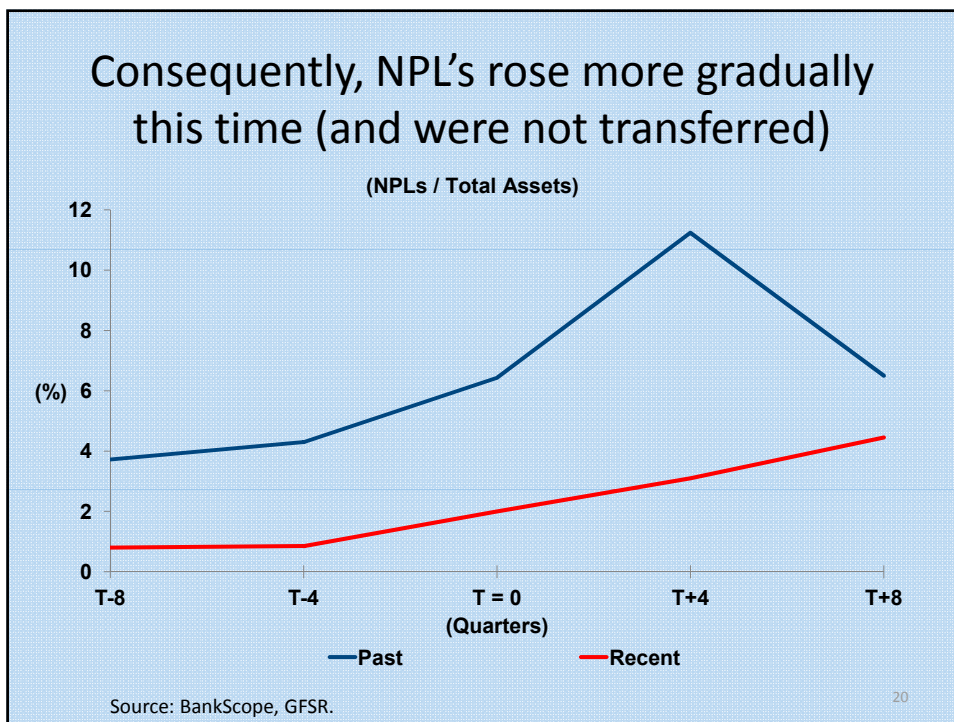
But public recapitalization implemented sooner; liquidity support larger, broader

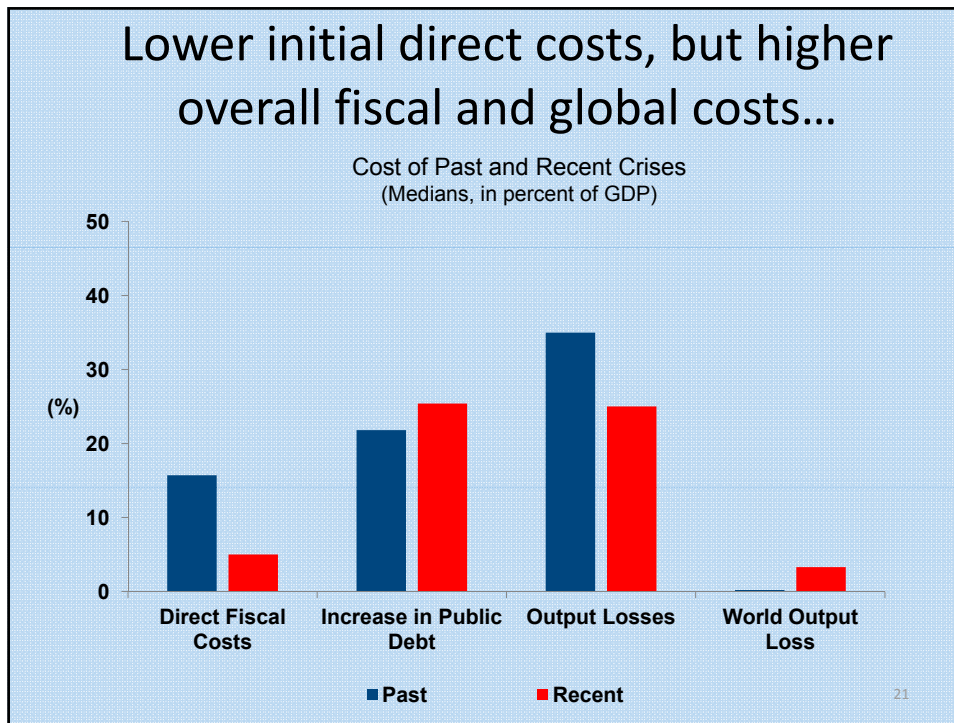


Especially monetary policy, but also fiscal, provided more support than in the past



Consequently, NPL's rose more gradually this time (and were not transferred)





1. Financial Crisis Policy Response

Assessment of effectiveness and costs

Overall Effects of Interventions I

- Purchases of government, agency bonds, other securities: lowered interest rates
 - Estimates vary, some 50-100 basis points on impact
 - Some indirect effects on other securities
 - And some effects on overall aggregate investment/demand
- Credit to institutions reduced liquidity squeezes
 - Both LC and FX liquidity very useful

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Overall Effects of Interventions II

- Credit easing alleviated pressure in some markets
 - MBS, agency debt, etc. (in US): rates responded
 - SMP: lowered sovereign interest rates
- Some effects on non-financial private sector
 - Direct: limited to few isolated cases, indirect effects not small
 - Event studies show some effects for financial constrained firms, but relative to severity of crisis, quantitative effects were limited

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Should Tools be Added to Central Bank?

- Some are driven by zero-lower bound + distress
 - Not relevant for normal times/most central banks
 - Come with many distortions, exit problems
 - Heavily depend on credibility
- Some have benefits, but can come with costs
 - Some help with (FX) liquidity, overcome stigma
 - But can create (system) moral hazard
- Others acknowledge greater role for markets
 - Market maker of last resort
 - But still untested

But: less differentiation and limited public assistance ‘conditionality’

- Support to potentially non-viable institutions (“open bank assistance”)
- Systematic assessment of viability only ex-post
- Conditions attached to public assistance were more limited and different
- Less use of ‘traditional’ restructuring measures

...and more limited asset restructuring

- Asset guarantees covering 'good' and 'bad' assets
- Relaxation of accounting standards (on valuing complex, illiquid assets)
- Less use of asset management companies to clean up balance sheets
- Limited direct programs for loan restructuring

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Issues with the overall approach, lessons going forward

- Overall policy mix and sequencing
 - Faster speed but less in-depth diagnosis
- Need more measures to reduce systemic risk
 - Reduce (SIFI, other) complexity/risk ex-ante
 - Limit bailouts ex-post (impose losses on creditors)
- Need better institutional tools for resolution
 - Non-bank financial institutions
 - Cross-border

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2. Spillovers to Others

Facts

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Exit from Stimulus is Taking Time

- Timing of exit from stimulus depends on the state of economy and financial system
- Need to err on further supporting demand and financial repair
- Unconventional monetary policy not necessarily unwound before raising policy rates
- With some exceptions, medium term fiscal consolidation priority; monetary can more easily adjust

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Long Exit from Stimulus— Implications for Advanced and Recipient Economies

For advanced countries

- Very low policy rates for an extended period
 - May lead to risk taking
 - Complicates monetary policy, exit

For other, recipient economies

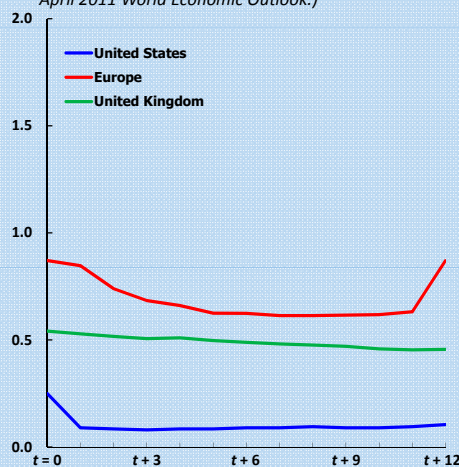
- Triggered wave of capital flows – but is it different this time?
- Macroeconomic policies – responded to the inflows, but was it different this time?
- What should be future policy approach be?

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AE monetary policy likely to stay very accommodative EM&DC requirements vary: some can pause tightening

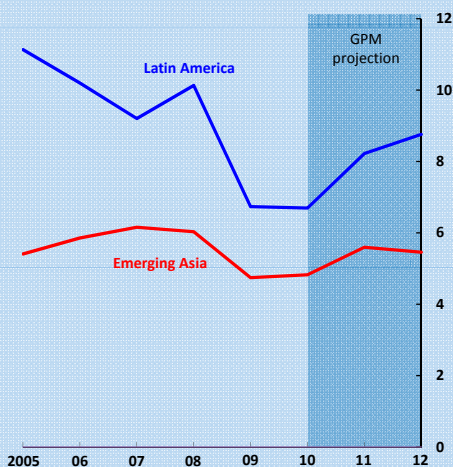
Policy Rate Expectations

(percent; months on x-axis; dashed lines are from the April 2011 World Economic Outlook.)



Policy Rates

(percent)



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Monetary Policy Spillovers— Capital Flows to Emerging Economies

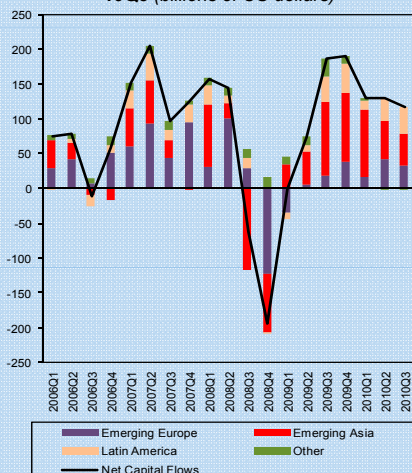
- Interest rates differential and fundamentals drive capital flows
 - Stronger domestic demand and growth prospects
 - Risks of asset price overshooting
 - Risks of credit quality deterioration

- Incentive for carry trade
 - Low cost of borrowing and few attractive investments in advanced economies
 - Higher yields and investment growth opportunities in many emerging markets

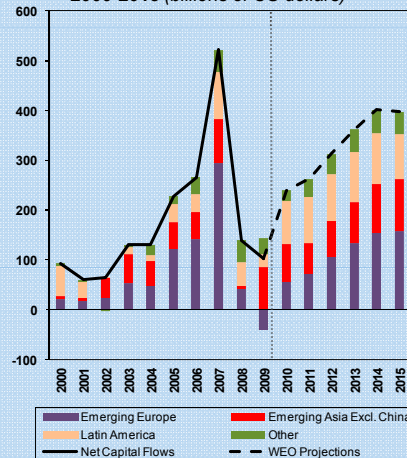
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2010 Capital Inflows: Recovery or Historic Surge?

Net Quarterly Capital Flows into EMEs, 2006Q1-10Q3 (billions of US dollars)



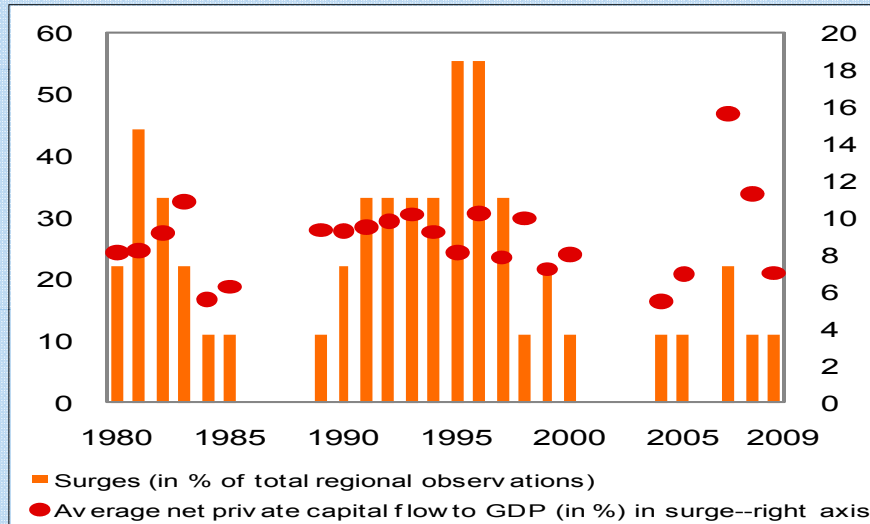
Net Annual Capital Flows into EMEs, 2000-2015 (billions of US dollars)



Source: International Financial Statistics.

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But Remember: Capital Inflow Surges Not Uncommon in Asia and Elsewhere

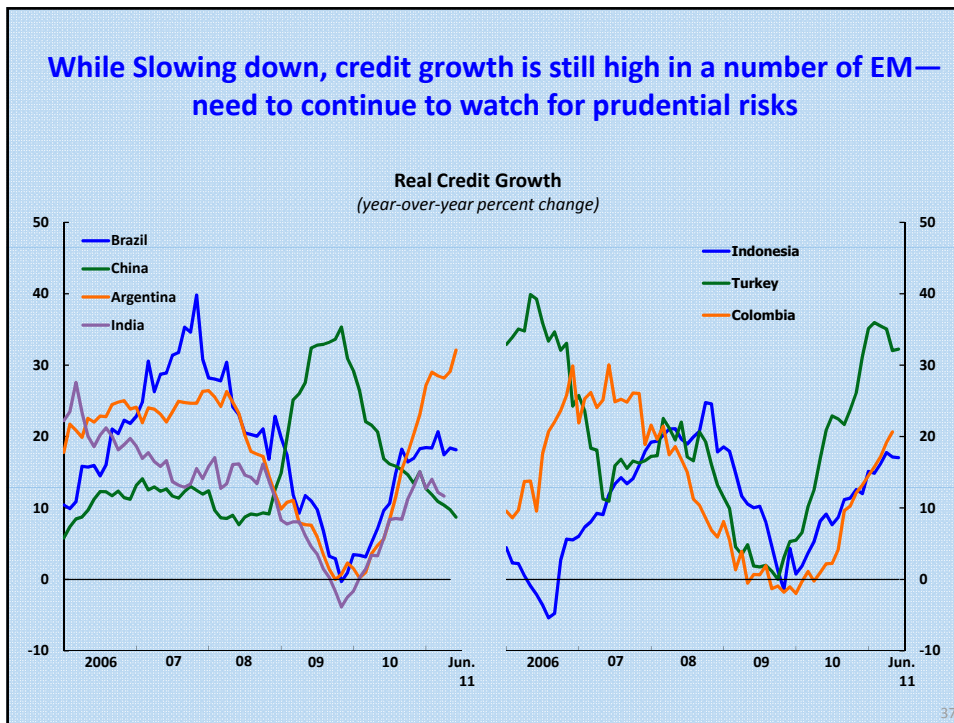


Inflation and Credit Growth: (Was) Becoming a Problem in Some Cases

	Magnitude of Net Inflows Percent of GDP (2009Q3-2010Q2)	Composition of Net Inflows Red = Portfolio flows, Orange = Other flows, Green = FDI	Inflation Percent y/y, (2010M6-2010M12)	Real Credit Growth Percent y/y, (2010M6-2010M12)
Brazil	6.2		5.0	12.9
Indonesia	2.6		6.2	9.2
Korea	1.9		3.3	0.4
Peru	5.9		2.1	9.3
South Africa	6.6		3.6	-0.1
Thailand	5.0		3.1	4.3
Turkey	6.9		7.9	21.4

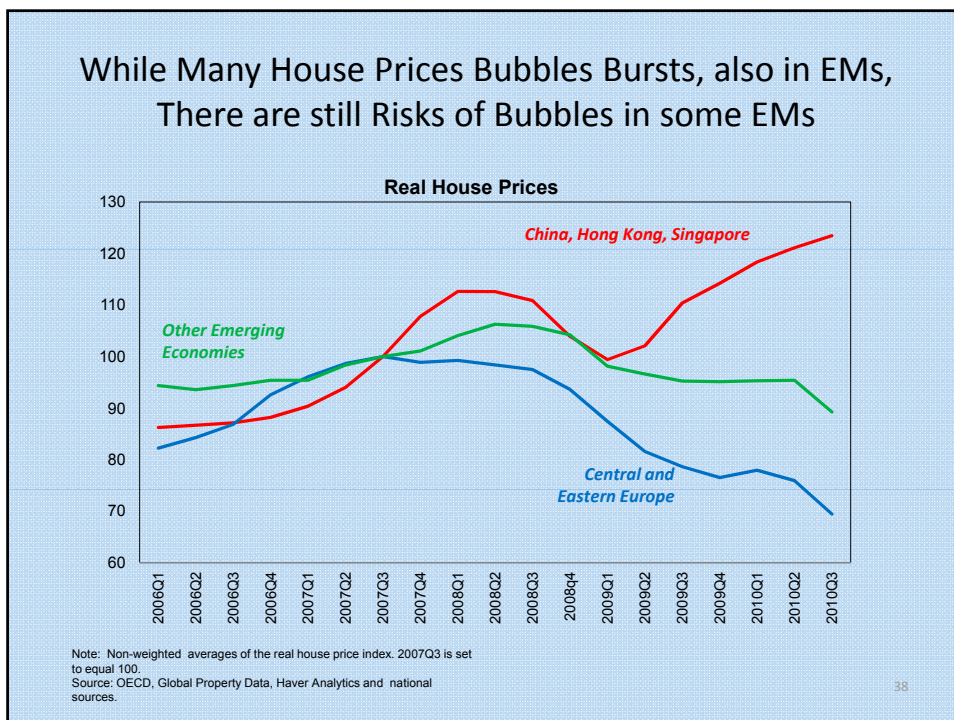
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**While Slowing down, credit growth is still high in a number of EM—
need to continue to watch for prudential risks**



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**While Many House Prices Bubbles Bursts, also in EMs,
There are still Risks of Bubbles in some EMs**



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2. Spillovers to Others

Policy Responses: Macroeconomic and Prudential Risks, Capital Flows Management

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Macroeconomic and Other Policy Responses to Capital Inflows (as of 2010Q2)

	Currency Appreciation	Reserve Increase	Monetary Policy	Fiscal Policy (Structural Balance)	Prudential Policies/ Capital Controls
Brazil	38.4	6.0	↑	↔↔↔	Yes
Indonesia	19.4	7.4	→	↔↔↔	Yes
Korea	17.5	10.7	↑	↔↔↔	Yes
Peru	5.6	9.0	↑	↔↔↔	Yes
South Africa	41.4	2.6	↓	↔↔↔	No
Thailand	9.3	22.3	↑	↔↔↔	Yes
Turkey	6.5	1.7	↓	↔↔↔	No

Notes: Currency appreciation is the percent change in the NEER since the trough of the crisis; Reserve increase is the increase in percent of GDP since the trough of the crisis; Monetary policy is the change in policy rates over 2009Q3-2010Q2; Fiscal policy is the change in cyclically adjusted fiscal stance between 2009-10.

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Capital Controls: Back in the News

FINANCIAL TIMES
Monday, February 22, 2010
IMF Reconsiders Capital Controls Opposition

The New York Times
L.M.F. Supports Bank Risk Charges
Published: April 13, 2010

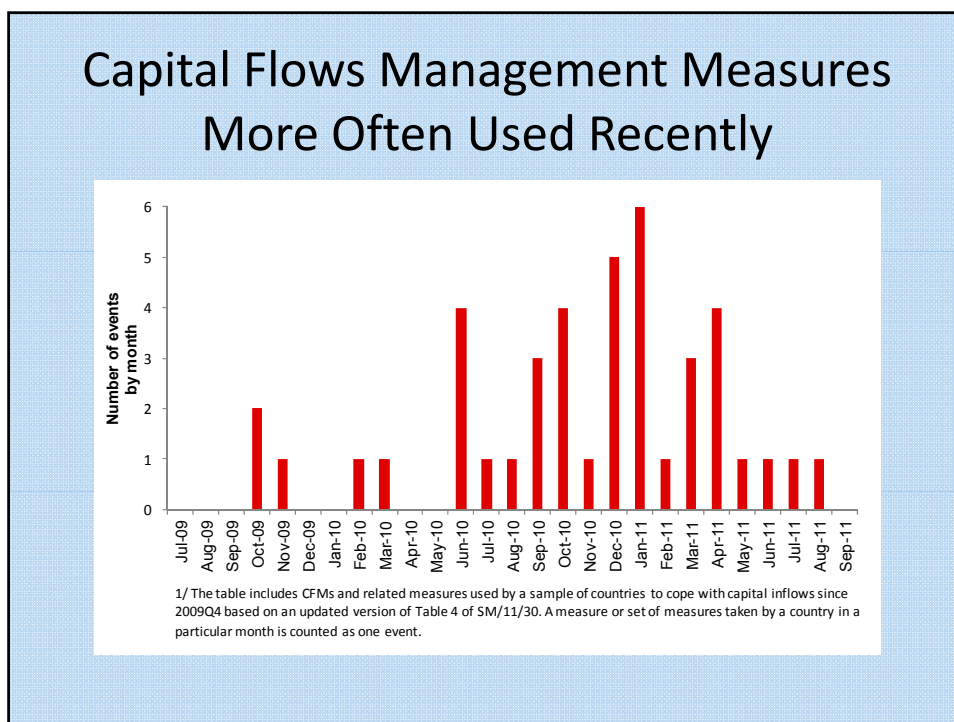
THE WALL STREET JOURNAL

IMF Suggests Capital Controls for Emerging Markets
FEBRUARY 19, 2010

The Economist
Feb 18th 2010
Capital controls
Fundamental questions
The IMF changes its mind on controls on capital inflows

The Daily T
Wednesday, April 14, 2010
Barriers on Capital Flows N
New Official IMF Policy

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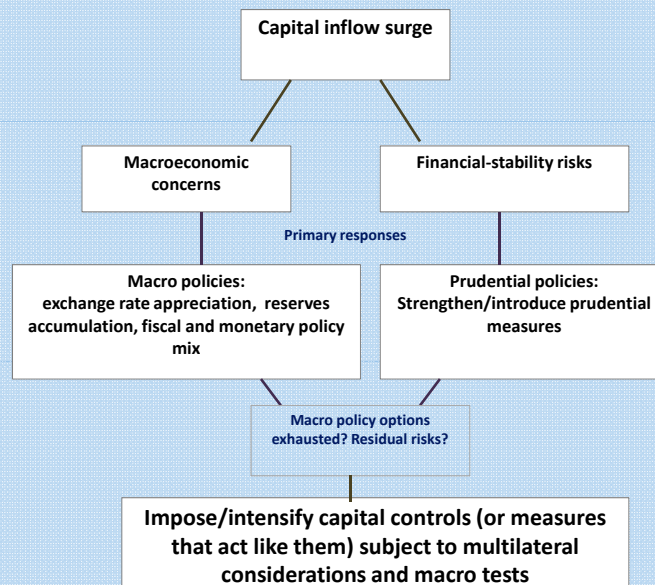


When are Such Measures Appropriate?

- Capital controls appropriate for inclusion in policy toolkit to address:
 - Macroeconomic risks, when:
 - Currency overvalued
 - Further reserve accumulation undesirable
 - Inflation/overheating concerns
 - Limited scope for fiscal tightening
 - Financial-stability risks, when:
 - Prudential framework still leaves high risk of financial fragility

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How do Macro and Prudential Concerns Fit Together?



How do Macro and Prudential Concerns Fit Together?

- Both macroeconomic and prudential considerations suggest that capital controls are appropriate
 - No real conflict—but possible design issues
- Macro considerations say yes, but prudential no
 - No conflict of principle, but again possible conflict of design
 - Controls as transitional measure given macro policy lags?
- Macro considerations say no, prudential ones yes
 - Genuine conflict
 - Multilaterally-consistent approach implies bar is much higher for the use of capital controls—especially broad-based controls
 - Exhaust available macro policy space and allow exchange rate appreciation *before* capital controls on inflows for prudential

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Why the Primacy of Exhausting Macro Policy Space?

- Essential to help abate capital inflow pressures
- To avoid undercutting necessary external adjustment
- Multilateral considerations
 - Ensure multilateral consistency of external positions and prevent the perpetuation of global imbalances
 - Prevent diversion of inflows to other countries that may be less able to absorb them (and risk of broad and indiscriminate adoption through imitation/diffusion)
 - Promote systemic stability and effective operation of the IMS (by paying attention to policies directed at the BoP)

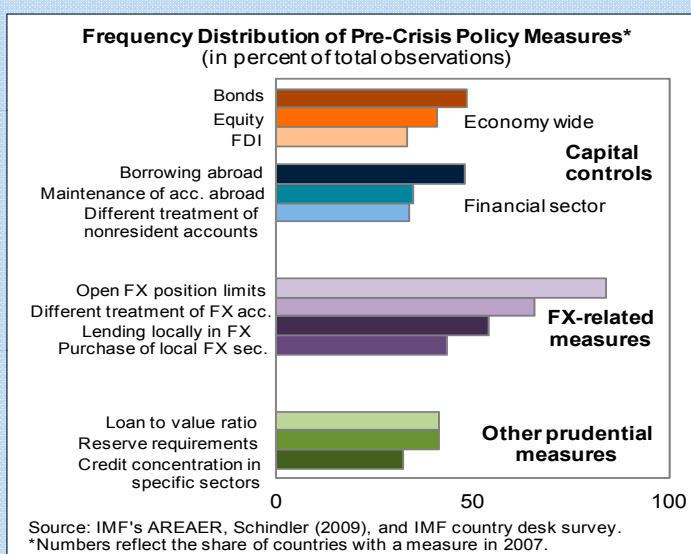
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What Instruments to Use?

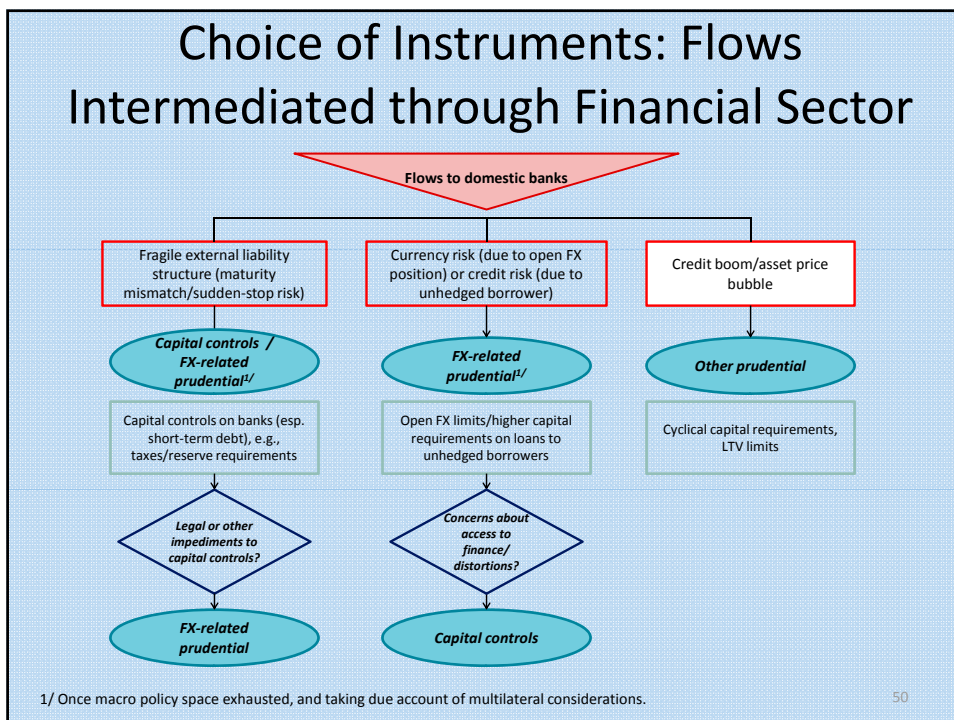
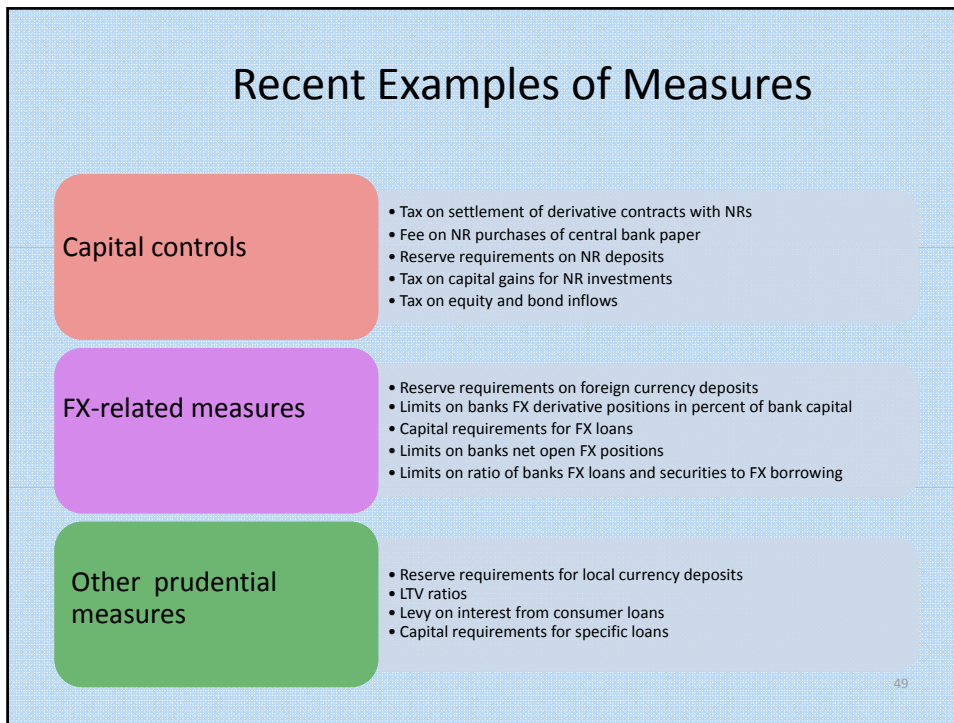
- **Capital controls**
 - Discriminate between residents and non-residents in cross-border capital movements (OECD Code of Liberalization of Capital Movements, 2009)
 - Economy-wide or sector (usually the financial sector) or industry specific
 - Cover all flows, or target specific types (debt, equity, FDI; short vs. long-term)
 - Examples: taxes, URRs, licensing requirements, and outright limits or bans
- **FX-related prudential measures**
 - Discriminate according to the currency, not the residency, of the flow
 - Applied to regulated financial institutions, primarily banks
 - Examples: limits on banks' open FX position (as a proportion of their capital), and limits on FX lending by domestic banks (or higher capital requirements)
- **Other prudential measures**
 - Reduce systemic risk without discriminating based on residency/currency
 - Examples: LTV ratios, limits on credit growth and sectoral lending, dynamic loan-loss provisions, and counter-cyclical capital requirements

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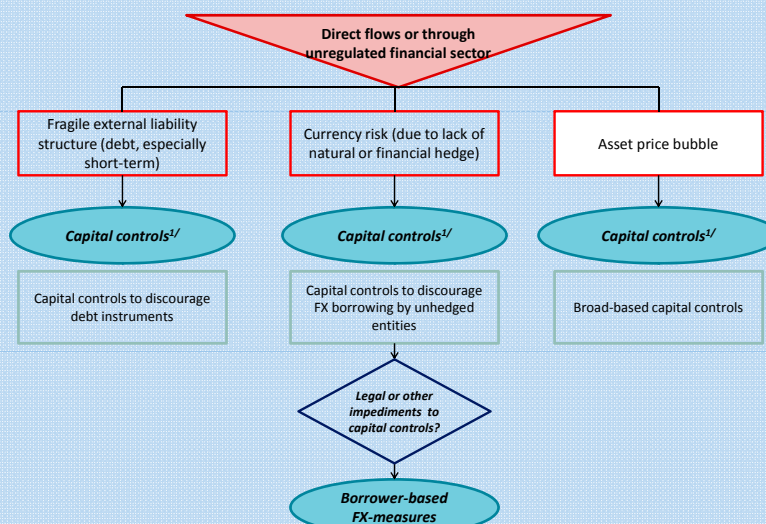
How Common are the Measures?



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Choice of Instruments: Flows Not Intermediated through Financial Sector



1/ Once macro policy space exhausted, and taking due account of multilateral considerations

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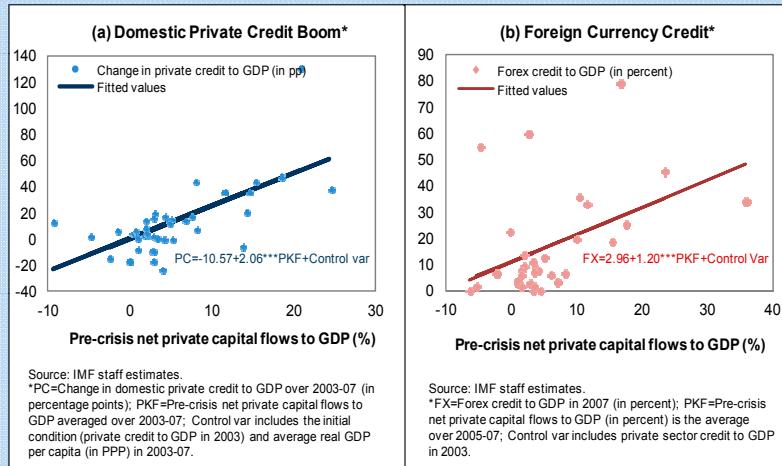
Exceptions to Flow Chart

- Playing field for access to credit, for example, large firms vs. SMEs
- Prudential regulations may cause flows to be intermediated through the unregulated financial sector (e.g. Croatia)
 - Extend the perimeter of regulation? Not easy in short run
 - Regulatory arbitrage more likely with weak supervision, sophisticated financial institutions, and deep capital markets
- International obligations may prohibit or constrain use (e.g., the EU treaty, the GATS, the OECD code, bilateral investment treaties)

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Capital Flows and Credit booms: Can Relate Closely, also FX Credit

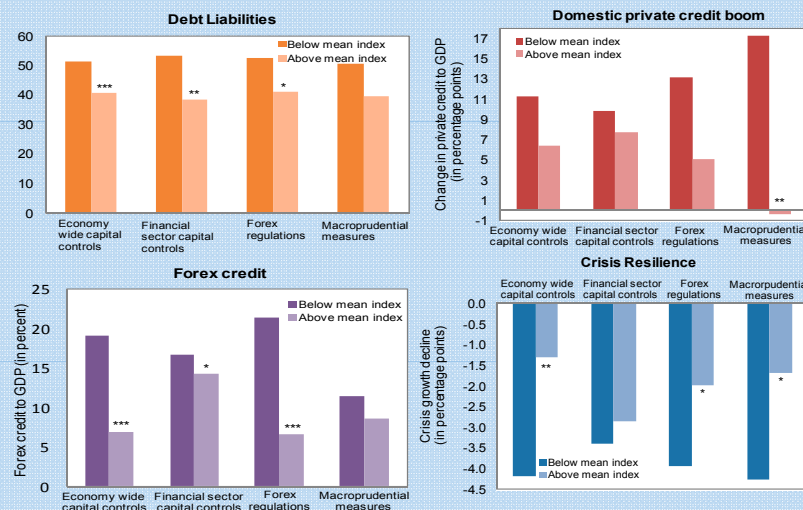
Domestic Credit and Net Capital Flows to GDP (in percent)



*Sample: 41 EMEs over 2003-07

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Policy Measures and Financial Fragilities*



Source: Authors' estimates.
 *Sample: 41 EMEs over 2003-07. Private credit boom is the residual (including constant) obtained after regressing change in private credit to GDP over 2003-07 on private credit to GDP in 2003. Forex credit is the residual (including constant) obtained after regressing forex credit to GDP in 2007 on private credit to GDP in 2005 and a binary variable (+1) if fixed exchange rate regime in place. Debt liabilities is the residual (including constant) obtained after regressing the share of debt liabilities in total external liabilities in 2007 (in percent) on a (lagged) composite external vulnerability index. Crisis resilience is the residual (including constant) obtained after regressing the difference between real GDP growth rates averaged over 2008-09 and 2003-07 on trading partner growth and terms of trade change.

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Key Takeaways on Capital Flows Management

- Macro and prudential policies can go a long way to deal with inflow surges
 - Use and strengthen orthodox toolkit before resorting to capital controls
- There is strength in numbers—no measure is likely to work perfectly, so diversify and use more than one
- Capital controls and prudential measures should target specific risks
 - Prudential measures main instrument when flows are intermediated through the banking sector
 - Capital controls main instrument when flows by-pass the banking sector
- In designing capital controls
 - Macro concerns imply broad and price-based controls for temporary surges
 - Prudential concerns imply targeted on specific risks and possibly administrative capital-control measures, even in case of persistent inflows
 - Design should reflect administrative inheritance/apparatus

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3. Coordination between Fiscal Policy and Monetary Policy

Objectives

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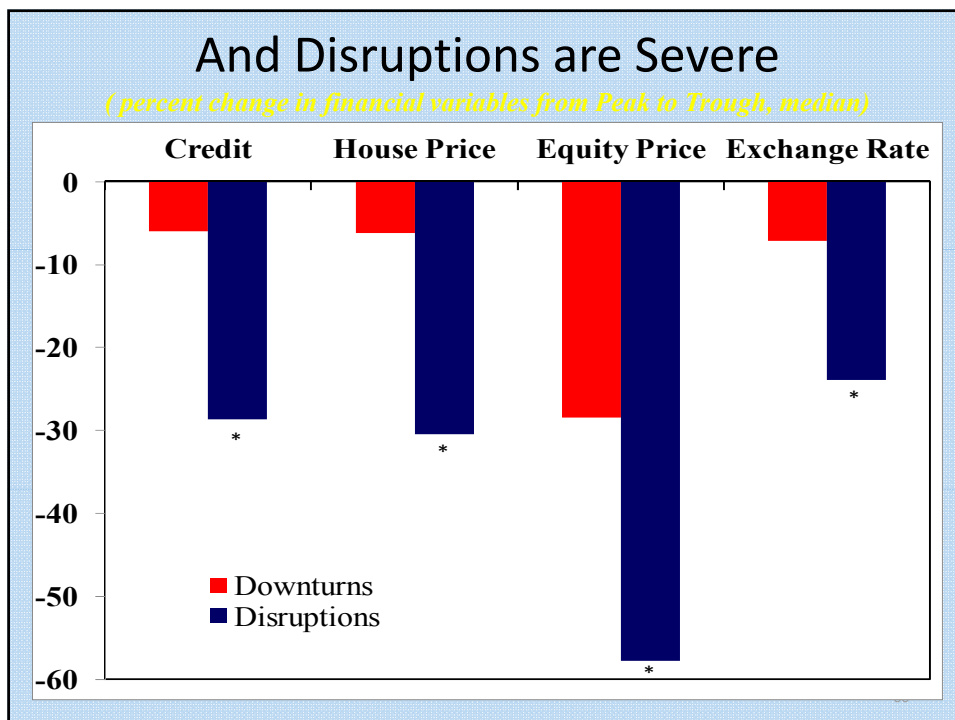
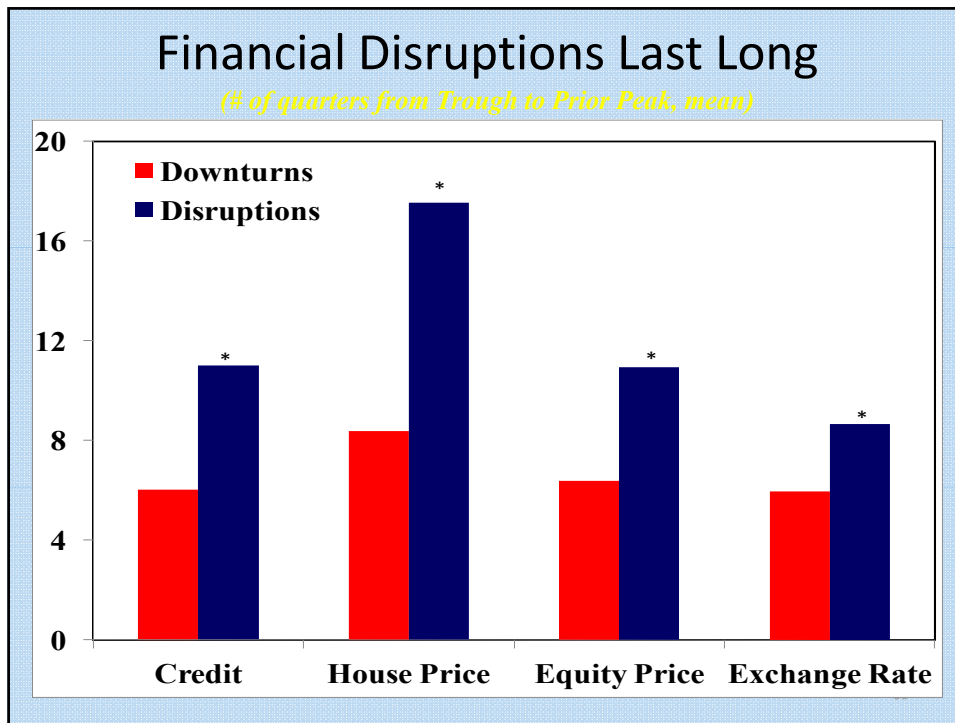
Objective: reduce systemic risk

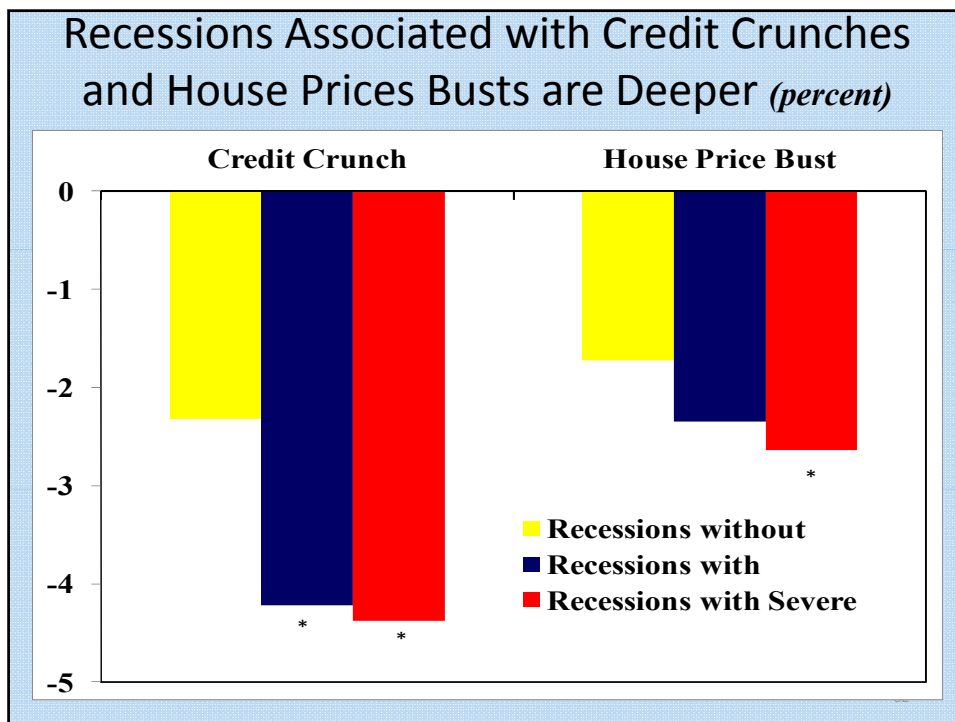
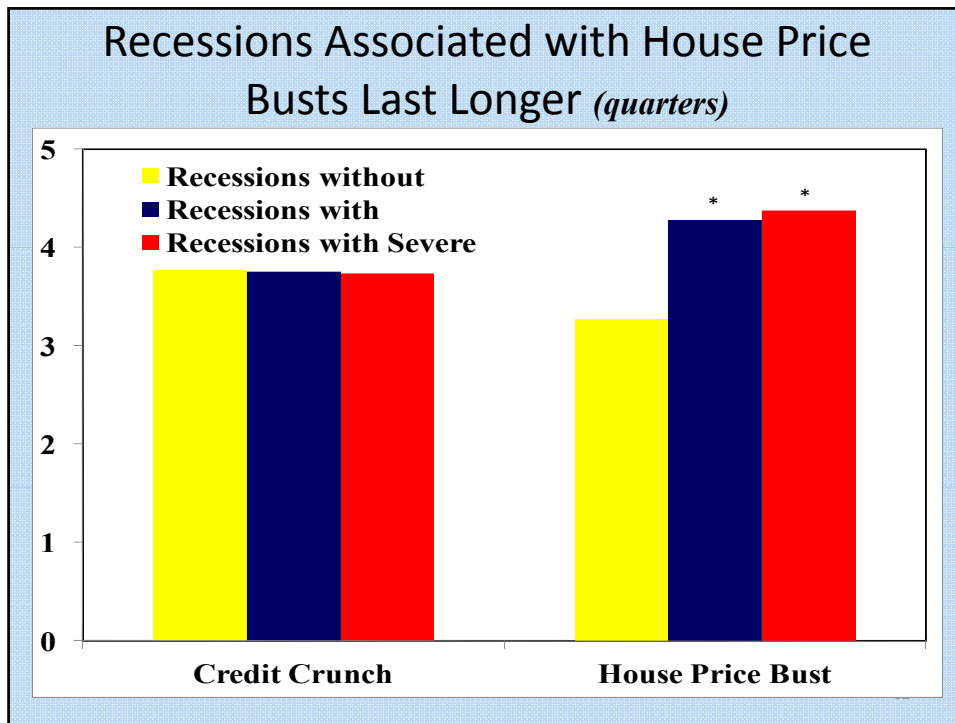
- Systemic Risk
 - Risk that financial markets and institutions will become impaired in ability to intermediate
- Different from individual institutions' risks, protection, market conduct, integrity, etc.
 - Assume macroeconomic management and micro-prudential/market regulation are done correctly
 - Otherwise systemic risk “authority” to “intervene”

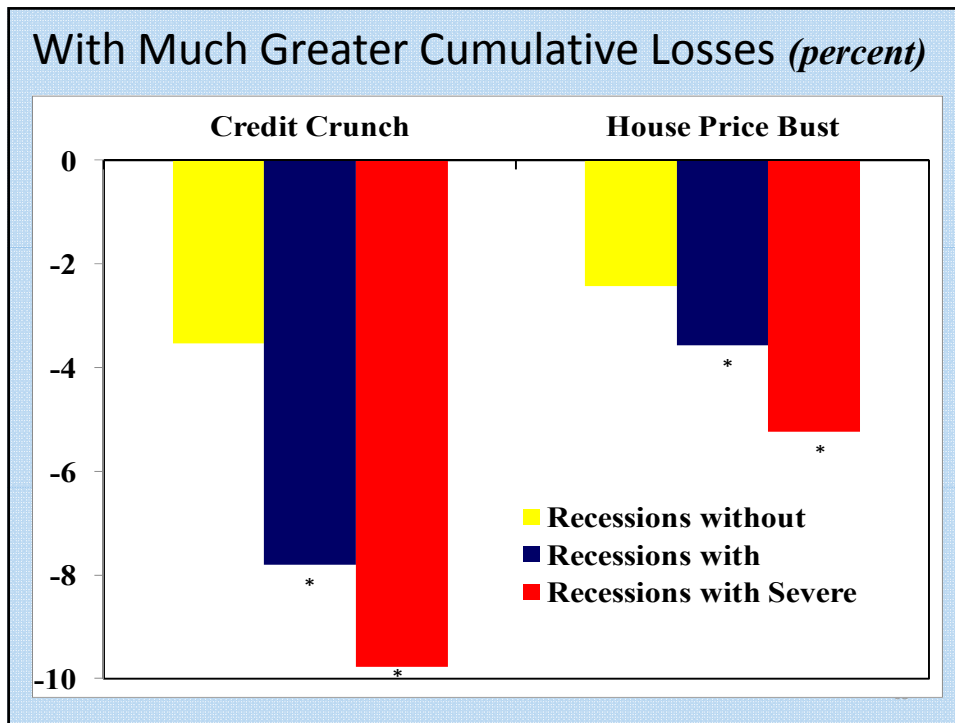
What Makes Booms Destructive to Financial Stability and Economic Activity? I.e., What is the Case for Policy Action?

- ▶ Leverage
 - ▶ Link to crises
 - ▶ Wealth effects
 - ▶ Supply side
- ▶ Illiquidity and fire sales
 - ▶ Network externalities

And What are the Indicators to Track?







Close Links Between Booms, Leverage and Crises

Booms, Financial Instability, Macroeconomic Performance				
Boom	Followed by ...			
	systemic banking crisis	significant drop in real GDP growth	either	both
Real estate	53%	77%	87%	43%
Credit	67%	78%	93%	52%
Real estate but not credit	29%	71%	71%	29%
Credit but not real estate	100%	75%	100%	75%
Both	61%	78%	91%	48%
Neither	27%	18%	45%	0%

Asset Prices, Credit, in combination with Leverage Important to Track

- Historical record on association between boom-busts and financial crises/recessions is strong
- Indicator to track during buildup is combination of credit and asset prices
- Leverage is key: policy tools should aim to address this 'destructive' aspect

3. Coordination between Fiscal Policy and Monetary Policy

Policy Intervention Options

Policy Options to Deal with Booms

General Points

- When to take action
 - Deviation from yardsticks (price-earnings, price-to-rent, productivity, leverage, credit growth, etc.)
 - Bubbles difficult to spot (but many policy decisions are taken under such uncertainty)
- Objectives, either or both of two
 - Prevent unsustainable booms and leverage buildup
 - Increase resilience to busts
- No silver bullet
 - Broader measures: hard to circumvent but more costly
 - Targeted tools: limited costs but loopholes

Monetary Policy and Risk Taking: Consensus Seems to be Moving..

- Many argue monetary policy “caused” recent crisis
 - Borio et al. (2008)
- Much of problems attributed to low interest rates
 - Overly loose monetary policy (Taylor, 2009)
 - Abundant liquidity – search for yield (Rajan, 2005)
 - Increase in leverage (Adrian and Shin, 2008, 2009...)
- Recent debate on whether ultra-low rates and macro bailout are seeding the ground for new crisis
 - Rajan (2010)
 - Diamond and Rajan (2010), Farhi and Tirole (2009)

Given Costs of Monetary Policy, Consider also Macro-Prudential

- Answer: make borrowing more expensive while limiting risk taking & leverage in financial institutions
- But monetary policy:
 - Too blunt: costly for the *entire* economy
 - Effect on speculative component is limited
- Example: Panel VAR suggests small impact on house prices at considerable cost to GDP growth
 - 100 basis points reduce house price appreciation by 1 but also lead to a decline of 0.3 in GDP growth
- Suggests macro-prudential needs to help

Macro-Prudential Policy: What should be its focus?

- Broadest/ultimate objective: *economic stability* (or “best” risk-growth trade-off) including price stability)
- Intermediate target, *financial stability*, more logical
 - More directly related to macro-prudential tools
 - Other tools (monetary, fiscal, structural reforms) address economic stability (but relevant for financial stability)
- Key question: *what market failures to correct?*
 - What drives systemic risk? What are externalities? Is systemic risks due to counterpart defaults, credit crunch, or fire sales? Liquidity in times of stress? Cycle itself?

What Focus? Cross-Sectional

- Micro-prudential first, generally consistent with financial stability
- Yet, need better micro-prudential regulation and supervision (Basel III etc. agenda), more robust institutional infrastructure (CCPs, etc.), etc.
- Macro-prudential to “oversee” micro-prudential bodies to assure that:
 - Discharge of micro-prudential tasks properly
 - Consider (some) macro-prudential aspects, such as systemicness of specific institutions

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Or Time/Cyclical Perspective?

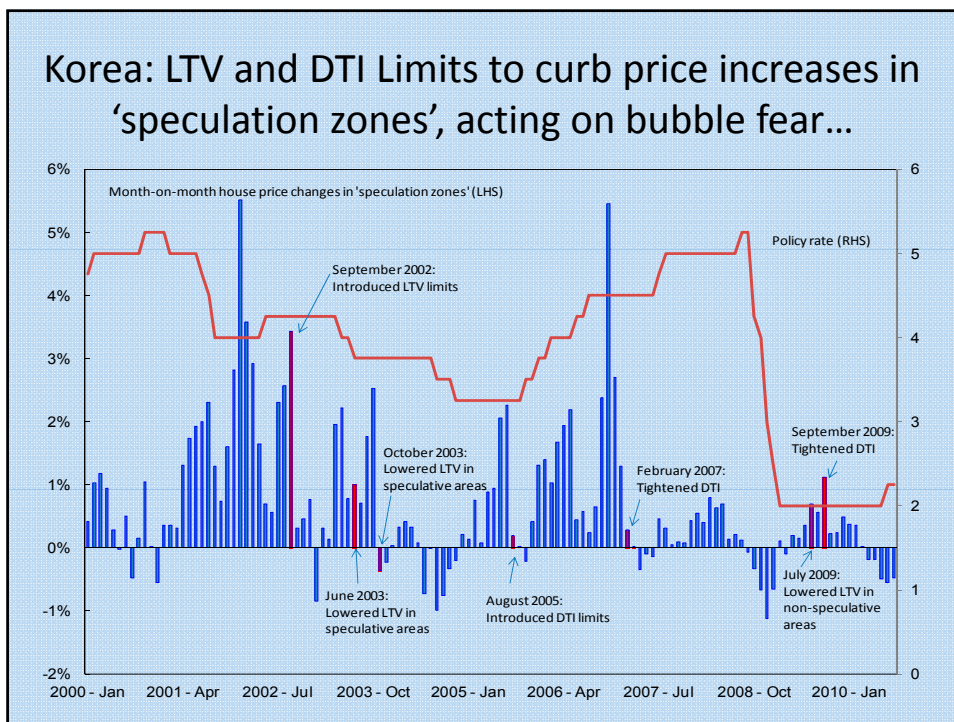
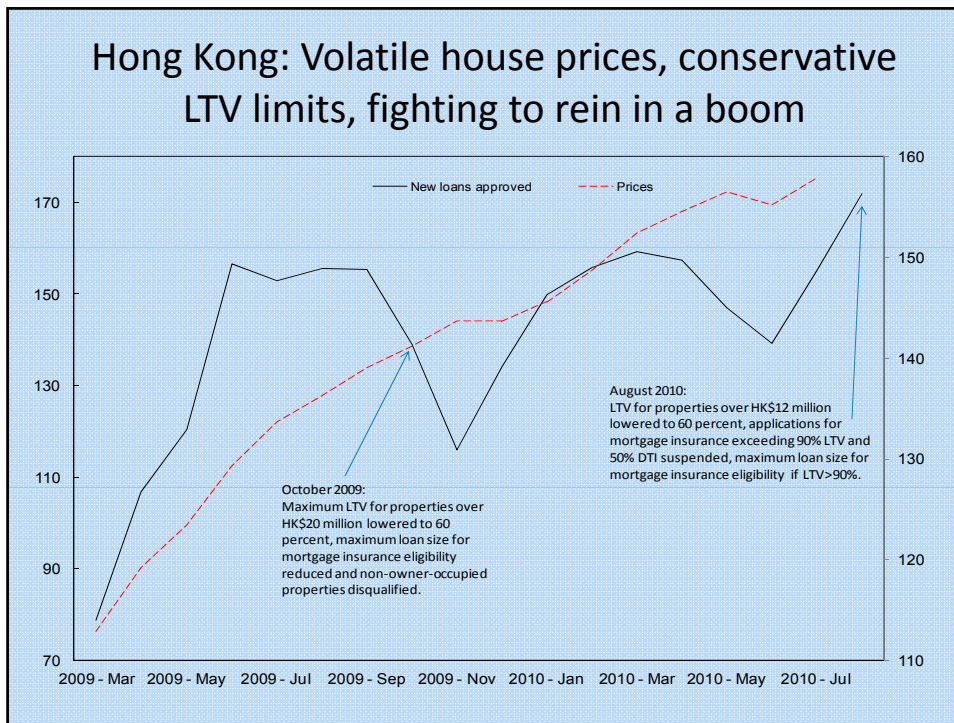
- Time/cyclical harder: theory, tools, empirics limited
- Need model/interpretation as to objective
 - Limit risks in buildup (booms, bubbles, foreign exchange)
 - Have greater buffers (capitalization, liquidity)
 - Reduce contagion, cross-exposures in turmoil
 - Reduce fire-sales and other externalities in bust
- And need some (new) macro-prudential instruments
 - MaPP toolkit, to be invoked across various agencies, markets, systems, fiscal authorities, etc.
- Empirics (calibration, tailoring, etc.): still to come

Macro-Prudential: Tools and 'Experiments'

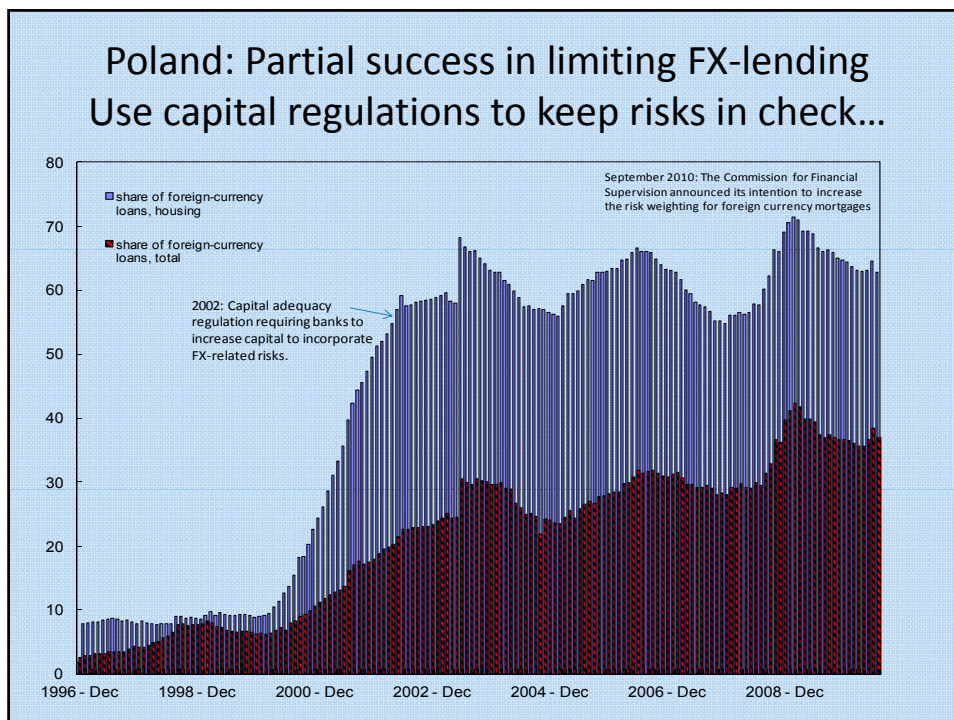
- Tools
 - Real estate: LTVs/DTIs
 - Banks: liquidity requirements on A/L, surcharges, dynamic provisioning, capital requirements
 - Capital markets: margins, haircuts, limit, CCPs
 - Economy: capital controls, taxes, limits,..
- Most 'experiments' in EMs, particularly Asia
 - Discretionary rather than rule-based
 - Aimed as both dis-incentives and buffers

Macro-Prudential Lessons: Still Early Days

- Mixed evidence on effectiveness
 - Some evidence of temporary cooling effect and building enough buffers for bad times
 - But not always sustained and seldom sufficient for bust
- Don't know side effects of macro prudential
 - Do tools mean directing resources/interfering too much with markets? Reduce credit flows, but lower output?
 - Create risks of (false) security, expose policy makers? Political economy risks as mandates expands?



Poland: Partial success in limiting FX-lending Use capital regulations to keep risks in check...



Spain: No option of using monetary policy, early in dynamic provisioning, but cannot stop a herd..

- Dynamic provisioning in place since July 2000
 - Dynamic provisions: avg. 10% of banks' income
- Housing demand up (immigration/foreign inv)
 - Rapid growth in prices and credit
 - Construction boom
- Bubble burst in 2007
 - Have to see if buffers will be enough....
 - Total accumulated provisions 1.3% of assets
 - Capital and reserves at 5.8%

General observations, qualifications

- There is scope for macro-prudential policy
 - Pragmatic and discretionary within existing frameworks, targeted at specific markets/objectives
 - Ensuring resilience and avoiding boom-bust cycles can be mutually reinforcing
- But overall macro-prudential still at early stage
 - More data, research and analyses on objectives, risks, calibration, etc. needed
 - Too early to judge interactions with other policies
 - Likely mixture of rules and discretion

3. Coordination between Fiscal Policy and Monetary Policy

Institutional design

Coordination: old and new topics

- Time consistency problems has been studied
- But new “macro financial policies” and new agency designs in many countries
- What types of policies are called for what reasons?
- What are implications for agency design?

Many Agencies

- Central Bank (CB)
- Ministry of Finance / Treasury (MoF)
- Financial Regulation / Supervisory (FSA)
- Deposit Insurance (DI)
- Bailout Funds (BF)
- Prime Minister / President (PM)
- Parliament / Congress (PL)

Many Goals and Tools/Policies

- Objective: maximize social welfare = ?
 - Growth / Efficiency
 - Macro stability
 - Inflation
 - Financial sector stability
 - Inequality / Micro stability
- Tools and Policies
 - Fiscal policy / tax & transfers
 - Monetary policy
 - Micro financial policy
 - Macro prudential policy

And Many Stages of Financial Policies

- Ex ante cyclical reduction
- Ex ante liquidity crisis prevention
- Ex ante systemic insolvency prevention
- Ex post bailouts and restructuring
- Ex post recovery policies

Better Simplify 😊

- Consider the location of *macro-prudential authority* for ex-ante cyclical/crisis prevention

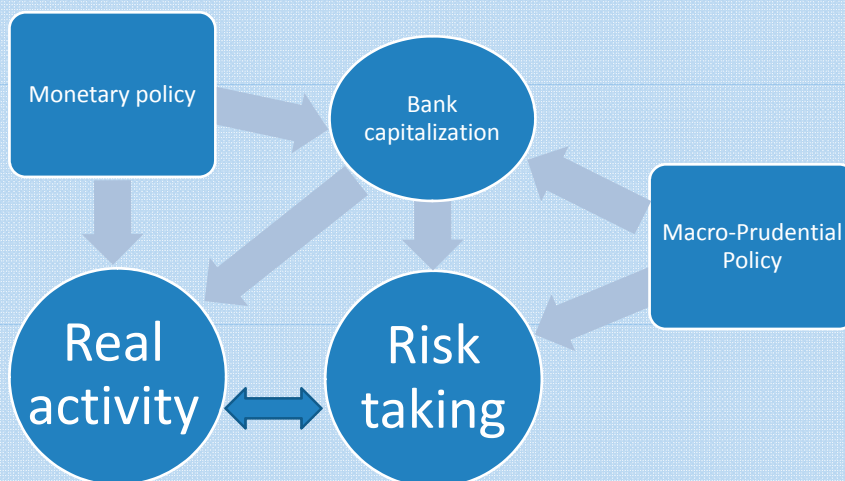
Further Simplify: One Authority or Two?

- Focus on location issues (others, such as information sharing, 1 versus 10 regulators, left out)
 - Two targets: Risk and Output (inflation)
 - Two instruments: Policy rate and Macroprudential
 - Policy rate affects output, and less so, risk
 - Macroprudential affects risk, and less so output
 - Question: One or two. MA and FA, or just CB?

Focus on Interaction/Game

- Conclusion depends on:
 - Effect of monetary policy on output and on risk
 - Effect of macro-prudential on risk and output
 - Differences in objective functions of MA/FA, and their relation to social welfare function
 - Multiple relationships. What do we know?

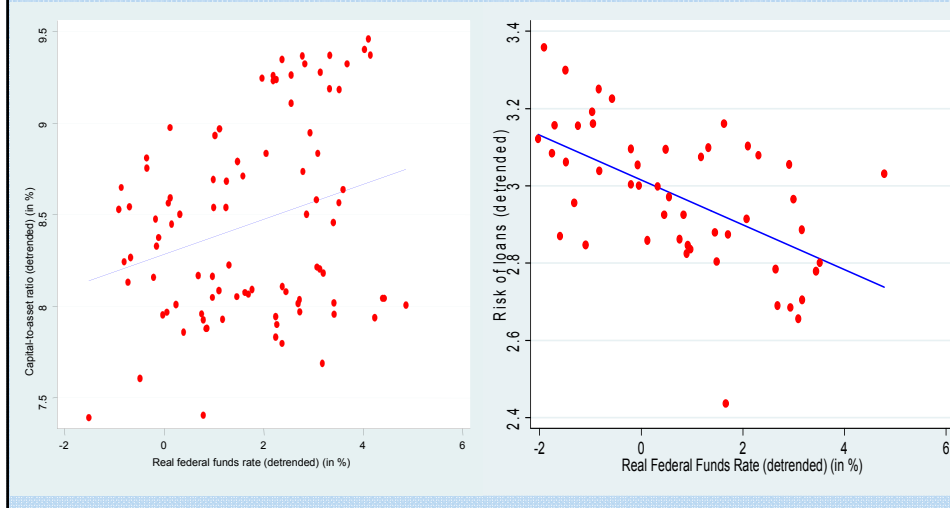
Acknowledge the Multiple Relations



Monetary Policy Effect on Risk Taking

- Effect of monetary policy on risk? (effect on output/inflation well understood)
 - Theoretically, can go either way
 - Search for yield: lower rates, more risk taking
 - Banks' limited liability, moral hazard: lower rate, larger profits, larger capital, less risk taking
 - Empirically: low interest rates → more risk taking
 - Emerging consensus: prolonged periods of easy money lead to trouble (short term more complex)

Stylized Facts Suggest Indeed More Risk Taking When Interest Rate is Lower (but Bank Capital Lower Too)



Macro-Prudential Policy Effect on Risk Clear, but on Output?

- Effects of macro prudential policy on risk: Conceptually straightforward
 - Reduce risk taking (cyclical CARs)
 - Strengthen financial sector (dynamic provisioning)
 - Reduce balance sheet vulnerabilities (LTV & DTI)
- Effects of macro prudential on output (inflation)
 - Likely to reduce credit flows
 - Lower output growth

How to Balance Preferences?

- If both MA and FA mandate reflect social welfare, then no problem. Unlikely though.
- MA:
 - Not indifferent to risk/financial stability
 - But greater weight on inflation/output gap
- FA:
 - Not indifferent to output/inflation (e.g. through health of banks), but more on risk
 - (If captured, then care less about risk)

Outcome Under Decentralization

- Under assumptions so far, outcome likely too much macroprudential, too low interest rates
- For example:
 - MA cuts rate to stimulate demand
 - FA tightens macro-prudential regulation to reduce risk-taking → MA eases more →
 - FA tightens regulation, creating a recession, not fully offset by cut in interest rates

Outcome under Centralization

- Give CB mandate corresponding to social welfare function. More weight to risk
- If CB implements mandate, then best. But has incentives to deviate, follow own preferences
- If CB follows its own preferences (insufficient weight to risk), then outcome may be bad
 - Reluctant to tighten macro-pru if demand weak?
 - Forbearance on banks to support output?
- Credibility becomes an issue

Concluding Remarks

Concluding Remarks

- Monetary policy responses unusual, but needed
 - Responses dictated by complexity and speed of events
 - Effective, but came with some “costs”
 - Some tools to be added to central bank toolkit
- Spillovers are large, but not different from past
 - Low interest rate policies before, but now very low for extended period → sustained capital inflows, including short-term flows, complicate policy in recipient countries
 - Macro-prudential/capital flows management approaches needed

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Concluding Remarks

- Design of monetary and fiscal policy
 - Old and new topic
 - Fiscal policy: no need to revisit
 - Macro-prudential perspective needed, with multiple instruments
 - Calibration, benefits and costs, and countries’ differences to be investigated
 - Location to be determined, not obvious



THANK YOU