The Interaction of Monetary and Macroprudential Policies in an Interconnected World

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Structure: Two Parts

1. Domestic: interactions between monetary and macroprudential policies
   – New paradigm for macroeconomic and financial stability
   – Interactions, implications for policy and institutional design

2. Global dimensions: monetary, macroprudential and capital flows management policies
   – Monetary policy, global financial cycles and spillovers, given policy coordination failures
   – Macroprudential policies and capital flow management tools
Domestic Dimensions
“Old” Framework of Macroeconomic and Prudential Policies

How we saw the world before the financial crisis

**Macro**

- Macroeconomic Policies (monetary/fiscal/external)
- Price Stability
- Economic Activity

**Prudential**

- Microprudential Policy
- Idiosyncratic Risk
Paradigm delivered broadly stable output and low inflation

Output Gap
(In percent of Potential Output)
W.E.O. September, 2007

Headline Inflation
(In percent)
But dangerous imbalances built up despite

- The crisis made evident that to ensure macroeconomic stability, policy needs financial stability as a goal
- But a new goal requires new tools: macroprudential policies
“New” Framework of Macroeconomic and Micro- and Macroprudential Policies

How we see the world now
Questions on Interactions

• What is “best” conduct of monetary (MOP), macroprudential (MAP) policies given interactions?
  – Caveat: knowledge to date on MAP is not same as MOP
• Start with a benchmark if both MOP and MAP would be conducted optimally
• Departures from ideal world give three questions:
  1. If MAP work imperfectly, what implications for MOP?
  2. If MOP is constrained, what is the role for MAP?
  3. If there are institutional and political economy constraints, how can both policies be adjusted?
Conceptual Framework

• With only nominal rigidities as a distortion, stabilizing inflation = maximizing welfare
• With financial distortions, financial stability becomes an additional intermediate policy goal
• But financial stability is fuzzy concept because financial distortions can vary over time, by country
• Preserving financial stability requires mitigating the aggregate consequences of financial distortions (i.e., excessive leverage, liquidity risk, currency mismatches, etc.)
Monetary policy is not best suited to maintaining financial stability

• Monetary policy lacks the sectoral features that often accompany financial distortions

• Mitigating effects of financial distortions or pricking asset price bubble can require large changes in policy rate, becomes costly for the entire economy
  – E.g., Panel VAR suggests 100 basis points increase reduces house price appreciation by 1 pp. but also to a decline of 0.3 pp. in GDP growth

• Hard for open economies when capital flows respond to rate (e.g., if capital flows limited or managed)

• Price stability should thus remain primary objective
MAP relatively less well suited to managing aggregate demand

• The use of MAP for managing aggregate demand may create additional distortions
  – There can be economic costs as MAP impose constraints on behavior beyond where financial distortions originate

• When monetary/fiscal policies available and effective, desirable to keep MAP focused on financial stability
  – Using MAP for macroeconomic management likely overburdens MAP, with risk of overestimating what MAP can achieve and political economy risks
But each policy has side effects on the objectives of the other.
Side effects

• MOP can influence financial stability by affecting:
  – \textit{ex-ante} risk-taking incentives of individual agents, institutions, or financial markets
  – \textit{ex-post} the tightness of borrowing constraints and thereby exacerbating asset price, exchange rate externalities, and leverage cycles

• MAP affect output by constraining borrowing and hence expenditure in a sector of the economy
No major complications to the conduct of both policies

• The conduct of both policies does not change markedly compared to a world without side effects, when policies operate perfectly
• However, in the real world, there are many complications, as evidence and case studies show
• In addition, knowledge on MAP is still limited
1. If MAP work imperfectly, what are the implications for MOP?

• Reasons why MAP may not work perfectly:
  – Financial stability is not well-defined
  – Limited knowledge on the quantitative impact of MAP, on how they interact with MOP, each other
  – Institutional constraints may impede the optimal deployment of MAP instruments

• Imperfect MAP may give rise to economic costs

• MOP may then have a residual role in ensuring financial stability, as in models w/o MAP, for “getting in the cracks”
2. If monetary policy is constrained, what is the role for MAP?

• Where MOP is constrained, i.e., a currency union or small open economy with less independent MOP, demands on MAP are greater
  – The resulting “suboptimal” MOP can make excessive risk-taking incentives stronger (e.g., euro area, other peggers), with larger booms and busts

• But where MOP lacks credibility or effectiveness, i.e., in countries where MOP is in progress, MAP should not be used as a substitute
3. Dealing with political economy and institutional constraints

• Just as political economy issues justify central bank independence, the same applies for MAP
• Safeguards include clear mandate, decision-making, accountability, and communication structures
• When policies work imperfectly, coordination issues arise (as with monetary ↔ fiscal policy interactions)
• When both functions are housed within the central bank, coordination is improved, but more safeguards are needed to separate tasks and counter the risks of dual objectives
P.S. MAP also interact with other policies, raising more coordination questions.
Domestic Part: Conclusions
Interactions MOP and MAP

• When policies operate perfectly, interactions do not pose significant challenges to the conduct of both policies. But:
  • Constraints on one policy imply other one has to do more
  • Housing MAP in central bank can improve coordination, but then need safeguards against risks of dual objectives
• To have clear-cut policy advice, more work is needed on:
  – Effectiveness and interactions among MAP tools and intermediate targets
  – Coordination issues with other policies (e.g., fiscal, crisis management, microprudential)
  – Costs of MAP in terms of potential new distortions they may introduce
International Dimensions
International Dimensions

• MOP and exchange rate policies in small open economies (SOE) not always follow the standard model
• Spillovers exist from MOPs in advanced countries and global financial cycles on SOEs
• MOPs and MAP hard to coordinate internationally (gains small/uncertain, cooperation difficult, with no forums, except some ex-post, in crises)
• Some countries may need to resort to capital flows management (CFM) policies
• How to balance and interface MAP and CFM tools?
Monetary and exchange rate policy in Small Open Economies (SOEs)

- De-facto, many small open economies seem to have:
  - Two targets: inflation and exchange rate
  - And two instruments: MOP and reserves
- Reflects in part concerns for international conditions on exchange rate, capital flows, financial stability
  - Given balance sheet mismatches, booms and other effects
- This SOE model can operate well
  - Provided interventions are limited, exchange rate kept close to fundamentals
  - Maybe second best—as it relies on distortions, limits to international arbitrage—but also natural (financial) frictions
International spillovers

• MOPs in advanced countries and global financial cycles spills over to SOEs
  – Occurs through asset prices and quantity (capital flows) channels, more than basic models “predict”
  – Behavior of internationally active banks important, as it drives (gross) credit flows, leading to booms/busts
• Exchange rate regime does not fully insulate
  – Domestic MOP cannot be fully independent, e.g., even with floating exchange rate see local impacts
• Risks can arise to economic and financial stability
  – Can increase asset prices, and credit booms (and busts
  – (Unconventional) MOPs (entry and exit) increase risks
Impact of US MOP shocks: nonpeggers’ interest rate affected too
(reaction to 100 bp US shock)
MOPs and MAPs are hard to coordinate internationally

• MOPs
  – Gains from cooperation are small in many models
    • Even when larger, uncertainty can preclude cooperation
  – Central banks are independent, accountable local

• MAPs
  – Supply side: inward leakages, outward spillovers
  – Demand side: incomplete coverage, arbitrage
  – Very few methods (to date) to coordinate policies
    • So far only countercyclical buffers, surcharges
    • In times of stress, even harder (e.g., ring-fencing)
Capital flow management (CFM) tools

• Given continued scope for spillovers and limits to coordination, CFM tools may be needed

• Some distinctions between MAP and CFM
  – Operational: type of capital flows (bank intermediated, gross vs. net flows); FX vs. LC
  – Legal: resident vs. non-resident

• But also much overlap & both may be needed
  – Regardless, use of MAP and CFM has to be guided
How to use and balance MAP and CFM tools?

- Monetary Policy
- Macroprudential Policy
- CFM Measures

- Price Stability
- Financial Stability
- Stable Capital

Economic Activity
Systemic Risk
Flows
MAP-CFM: A three-way classification

1. MAP
   - Reduce systemic risk without discriminating based on residency or currency

2. FX-related prudential measures
   - Discriminate according to currency, not residency, of flow
   - Applied to regulated financial institutions, primarily banks

3. CFM
   - Discriminate between residents and non-residents in cross-border capital movements (OECD Code, 2009)
   - Economy-wide or sector/industry (usually finance) specific
   - Cover all flows or specific (debt, equity, FDI; short, long)
Examples of MAP, FX, and CFM

1. MAP
   - LTV ratios; Limits on credit growth and sectoral lending; Dynamic loan-loss provisions, and counter-cyclical capital requirements; Reserve requirements for local currency deposits; Levy on interest from consumer loans; Capital requirements for specific sectors and loans.

2. FX-related prudential measures
   - Limits on banks’ open FX (derivative) position (as a proportion of their capital), on FX lending by domestic banks, on ratio of banks FX loans and securities to FX borrowing; Reserve requirements on foreign currency deposits, special capital requirements for FX loans.

3. CFM
   - Unremunerated reserve requirements on non-resident deposits; Tax on capital gains for NR investments, on equity and bond inflows, on settlement of derivative contracts with NRs, fees on NR purchases of central bank paper; Licensing requirements; Outright limits or bans.
Comparing classifications
Functional vs. legal ...

MAP
- LTV ratios
- RR for LC deposits
- Credit growth limit
- Counter-cyclical capital requirements
- Sectoral limits on loan concentration

FX-related measures
- Limit on net open FX position
- Limit on FX loans
- Capital requirements for FX loans
- Limit on FX derivative position
- RR on FX deposits
- Levy on non-deposit foreign liabilities

CFMs
- URR on inflow
- Taxes on inflow
- Administrative restrictions on inflow

Less likely to have an impact on capital inflow

Non-CFMs
- ‘Other measures’ from above
- Limit on net open FX position
- Limit on FX loans
- Capital requirements for FX loans

Other CFMs
- RR on FX deposits
- Levy on non-deposit foreign liabilities

Residency-based CFMs
- URR on inflow
- Taxes on inflow
- Administrative restrictions on inflow

More likely to have an impact on capital inflow

- Limit on FX derivative position
- Withholding tax on non-residents’ bond purchases
- RR on short dollar position
In practice, many countries use both MAP and CFM measures.

Correlations between MAP and CFM measures for 40+ EMs.
How do macroeconomic and financial stability concerns and policies fit together?

**Capital inflow surge**

- Macroeconomic concerns
- Financial-stability risks

**Primary responses**

- **Macro policies:**
  - exchange rate appreciation, reserves accumulation, fiscal and monetary policy mix

- **Prudential policies:**
  - Strengthen/introduce prudential measures (Microprudential and MAP)

**Macro policy options exhausted? Residual risks?**

- Imose/intensify CFMs (or measures that act like them) subject to multilateral considerations and macro test
Choice of instruments: flows intermediated through domestic banks

Flows to domestic banks

- Fragile external liability structure (maturity mismatch/sudden-stop risk)
  - CFMs / FX-related prudential¹/
    - CFMs on banks (esp. short-term debt), e.g., taxes/reserve requirements
      - Legal or other impediments to CFMs?
        - FX-related prudential

- Currency risk (due to open FX position) or credit risk (due to unhedged borrower)
  - FX-related prudential¹/
    - Open FX limits/higher capital requirements on loans to unhedged borrowers
      - Concerns about access to finance/distortions?
        - CFMs

- Credit boom/asset price bubble
  - Other prudential
    - Cyclical capital requirements, LTV limits

¹/ Once macro policy space exhausted, and taking due account of multilateral considerations.
Choice of instruments: flows not intermediated through financial sector

Direct flows or through unregulated financial sector

Fragile external liability structure (debt, especially short-term)
- CFMs
  - CFMs to discourage debt instruments

Currency risk (due to lack of natural or financial hedge)
- CFMs
  - CFMs to discourage FX borrowing by unhedged entities

Asset price bubble
- CFMs
  - Broad-based CFMs

Legal or other impediments to CFMs?
- Borrower-based FX-measures

1/ Once macro policy space exhausted, and taking due account of multilateral considerations
Exceptions to decision chart

• Playing field for access of large firms vs. SMEs
  – Could make CFM preferable over MAP

• MAP may cause disintermediation to unregulated
  – Extend the perimeter? Not easy in short run
  – Regulatory arbitrage more likely with weak supervision; or with sophisticated financial institutions, and deep capital markets

• International obligations may prohibit, constrain use of CFMs
  – E.g., EU treaty, GATS, OECD code, bilateral treaties
International Dimensions: Conclusions
Interactions MAPs and CFMs

• Macroeconomic and MAP tools can go a long way to deal with global effects, including from UMP
  – Use and strengthen orthodox policies, toolkit before CFMs
  – Assure macro policy space exhausted, multilateral effects considered

• May need MAPs and CFMs to target specific risks
  – MAPs main instruments when flows intermediated through banks
  – CFMs controls main instrument when flows by-pass banks

• In designing CFMs, have to consider
  – Macro concerns imply broad, price-based controls for surges
  – Prudential concerns imply targeted on specific risks and possibly administrative CFM, even in case of persistent inflows
  – All design to reflect administrative ability, financial sophistication