Capital Flows, Financial Intermediation, and Macro-prudential Policies

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Outline

I. Background and Current Context: Global crisis and need for a macro-prudential framework.

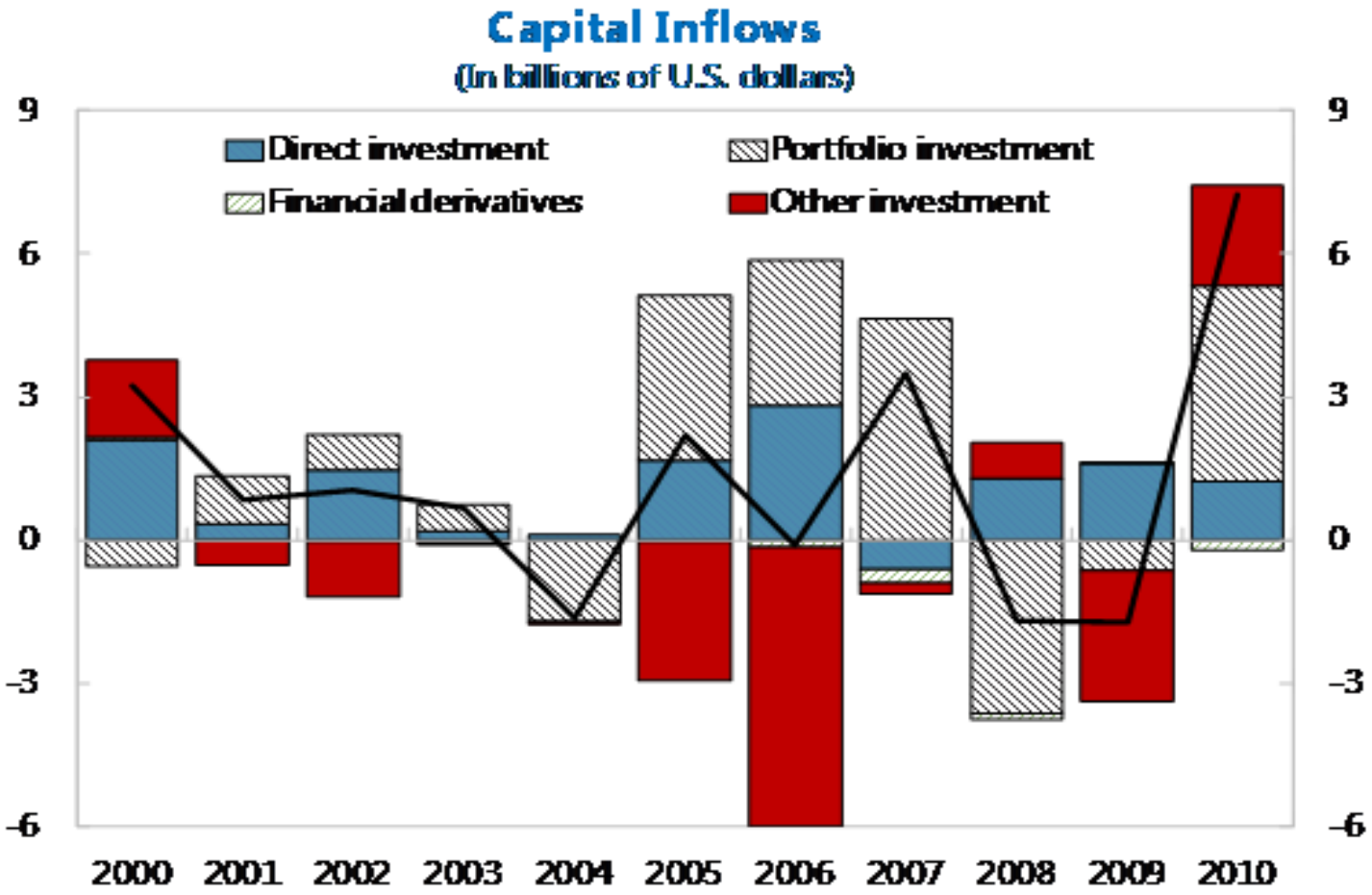
II. Propose an operational framework to understand the role of macro-financial risks and implementation of a macro-prudential framework.

- to understand the importance of financial shocks and macro-financial linkages.
- Assess the potential role for macroprudential policies including interactions with monetary policy.

Motivation

- In the wake of the crisis, it is increasingly recognized that central banks' have a dual role in maintaining both price and financial stability.
- A key missing ingredient was an overarching policy framework responsible for systemic financial stability.
- There have been increased calls for the development of a policy that can explicitly focus on system-wide risks—a macroprudential framework (IMF 2011a).

Capital inflows reached a record high in 2010, particularly portfolio and other flows



An operational macro-financial framework for the Philippines

- We develop a small open economy New Keynesian DSGE model with financial frictions and an optimizing banking sector for the Philippines following Gertler and Kyiotaki (2010, 2011) and macro-prudential policies as in Angelini and others (2010) to understand:

  - the impact of capital inflows and financial stability shocks on the macroeconomy;

  - the monetary transmission mechanism in the presence of banking sector and financial frictions; and

  - the potential role for macro-prudential policies in maintaining macro-financial stability including interactions with monetary policy.

Model structure

- In the model, capital flows and bank capital shocks affect real activity via asset prices and the impact of funds available to banks to lend.

- Macro-prudential policy (MP) is in the form of capital regulation where a penalty is imposed on banks for deviating from a time-varying optimal capital-to-asset ratio MP_t as in Angelini and others (2010).

$$MP_t = (1 - \rho_{MP})MP + (1 - \rho_{MP})\vartheta X_t + \rho_{MP} MP_{t-1}$$

- The optimal capital-to-asset ratio MP_t is expressed as a function of the growth rate of output X_t. This amounts to a countercyclical policy: capital requirements increase in good times (banks must hold more capital for a given amount of loans) and decrease in recessions.

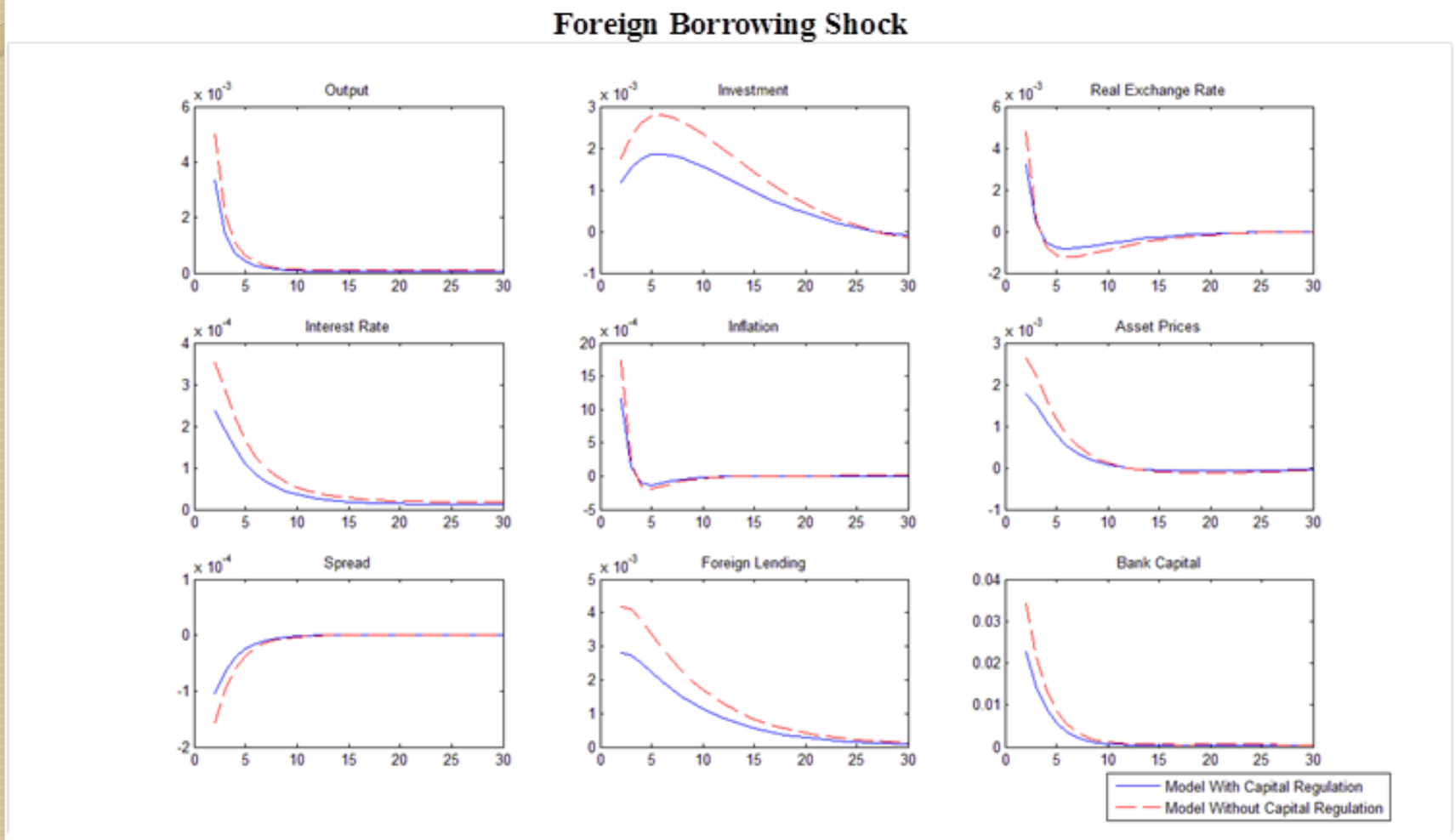
- The steady-state of the model is calibrated to the Philippines based on the average macro-financial aggregates between 2000-11.

Why capital requirements as the choice of macro-prudential instrument ?

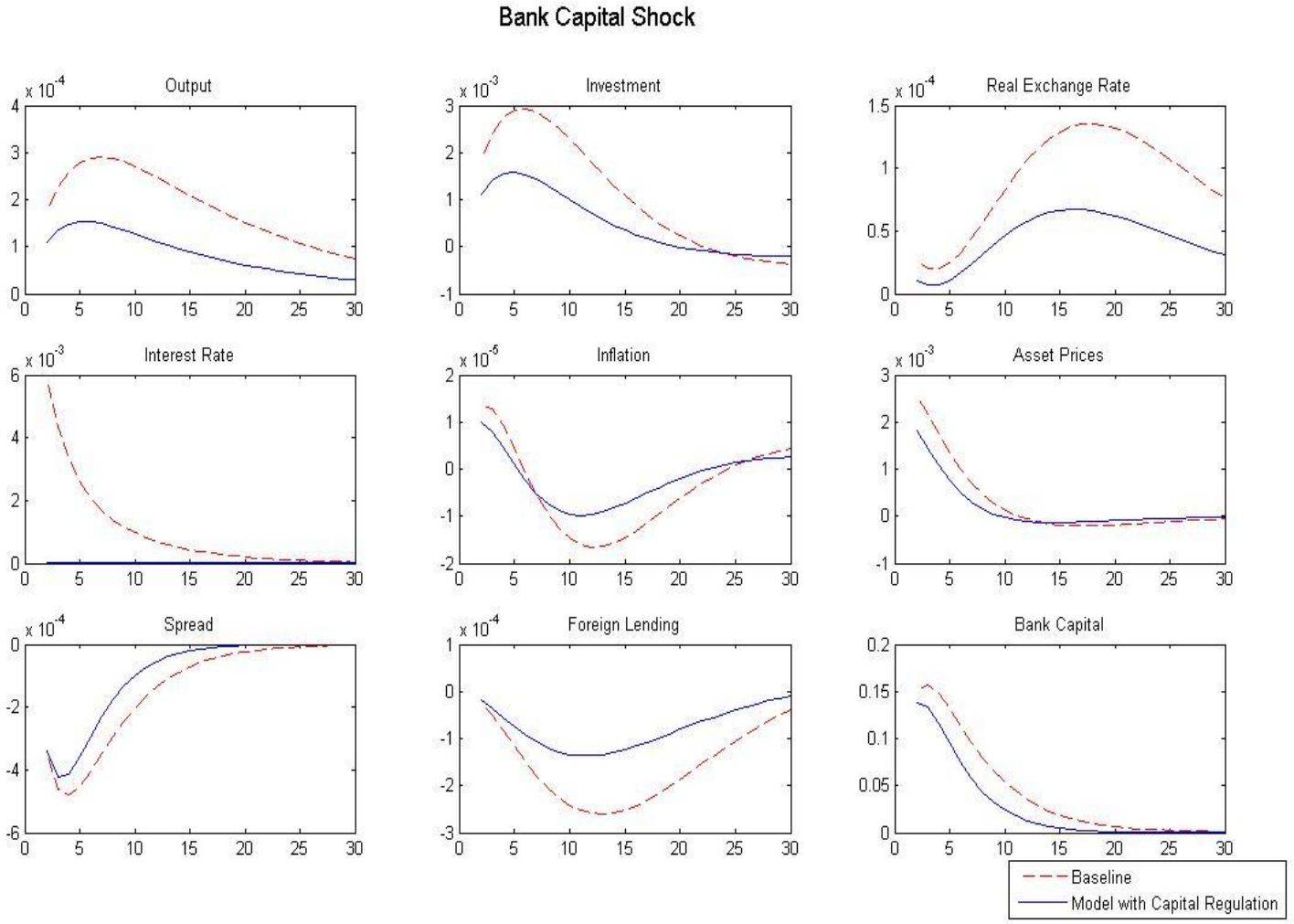
- First, based on past experience systemic crises inevitably affect bank capital and the supply of credit, either directly or indirectly. The counter-cyclical capital rule can be viewed as an example of the countercyclical capital buffer introduced by Basel III.

- Second, counter-cyclical risk weights and provisioning rates have been used frequently in Asia and the Philippines as a tool of macro-prudential policy, which also predominantly works through a bank capital channel.

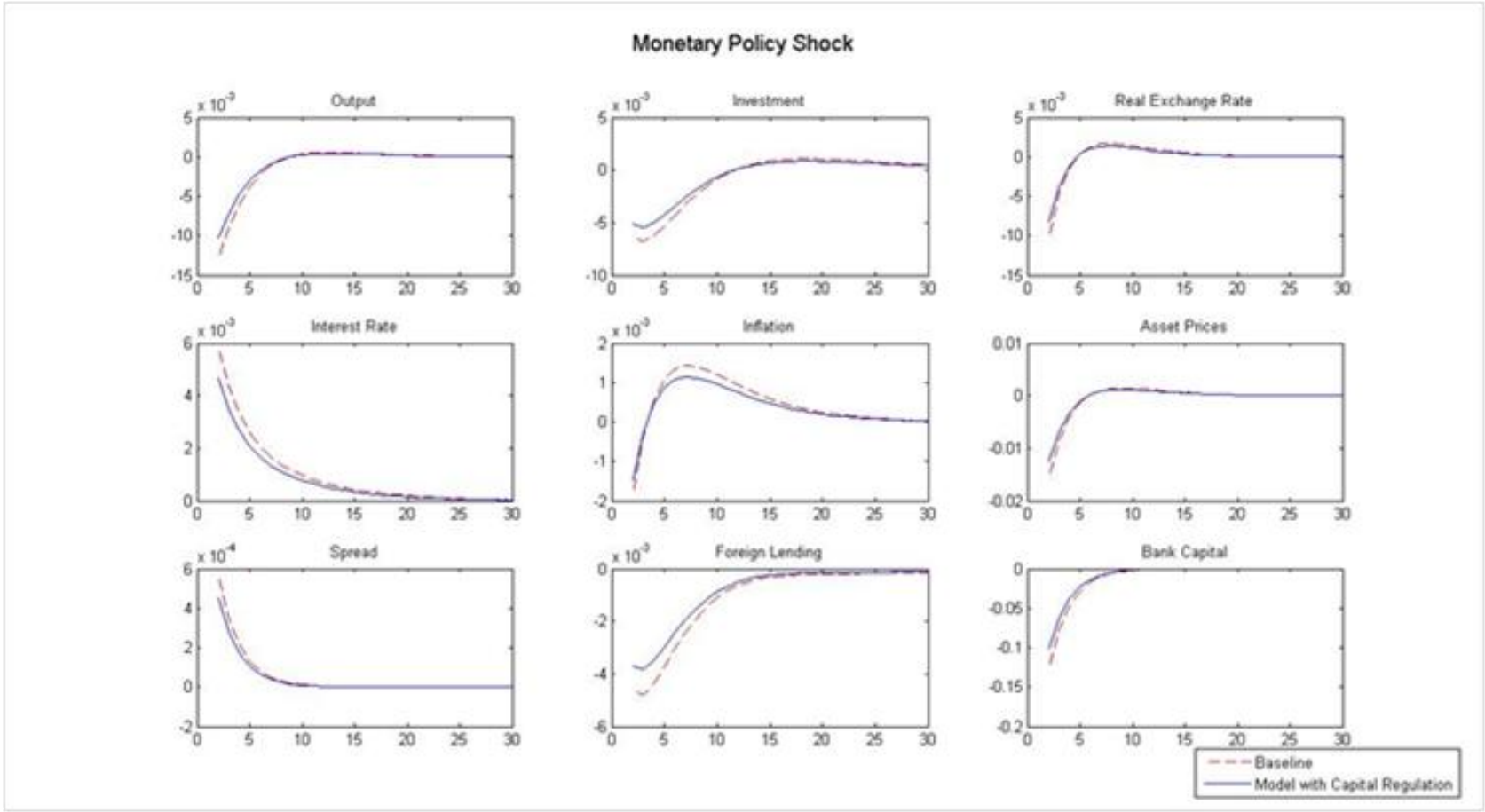
Higher capital flows raise asset prices and investment, leading to inflation pressures and exchange rate appreciation.



The response to a financial shock clearly demonstrates the importance of supply-side financial accelerator effects.



The impact of monetary tightening on aggregate demand and inflation is similar with and without counter-cyclical capital regulation.



Optimal policy simulations

	Lag interest rate	Inflation Rate	Output Gap	Credit Growth
Taylor Rule	0.5	2.0	0.5	
Taylor Rule With Macroprudential	0.5	2.0	0.5	0.5
Optimal Taylor Rule	0.4	2.1	0.1	0.7

Table 1 - Parameters of the Policy Rule

	Std. Dev. Inflation	Std. Dev. Output Gap	Welfare Loss
Taylor Rule	0.65	0.78	1.03
Taylor Rule With Macroprudential	0.47	0.83	0.91
Optimal Taylor Rule	0.20	0.93	0.90

Table 2 - Technology Shock

	Std. Dev. Inflation	Std. Dev. Output Gap	Welfare Loss
Taylor Rule	0.16	0.34	0.14
Taylor Rule With Macroprudential	0.11	0.35	0.13
Optimal Taylor Rule	0.02	0.35	0.12

Table 3 - Bank Capital Shock

	Std. Dev. Inflation	Std. Dev. Output Gap	Welfare Loss
Taylor Rule	0.44	0.77	0.79
Taylor Rule With Macroprudential	0.35	0.62	0.51
Optimal Taylor Rule	0.31	0.61	0.47

Table 3 - Foreign Lending Shock

Policy implications

- The results demonstrate the importance of capital flows and financial stability for business cycle fluctuations.
- Counter-cyclical macro-prudential polices can help reduce macroeconomic volatility and enhance welfare in response to capital flow and financial shocks. The gains from macro-prudential policies is less with technology shocks (as in IMF 2011b) and results in lower medium-term output.
- Asset prices and bank lending are the key channels of transmission of capital flow and financial shocks in the Philippines.

References

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