

Incorporating Financial Stability in
Policy Analysis
Garcia Cicco et al.

Discussion by
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Discussion of project

- Document describes a basic OE NK model with FF and reports results of estimation and simulation of similar shocks for
 - Chile, Columbia, Mexico and Peru
 - Adapts NK-FF model to incorporate commodity effects
- Ambitious and highly productive project
 - Document reveals a huge coordinated effort that has already borne fruit
 - Substantial coherence in policy frameworks
- Reconciliation of models needs to be done
 - Promises to offer major insights into monetary and macro-prudential policy for LAM

Discussion

- Model and estimation too detailed to get into the nuts and bolts
- More general comments, quibbles, suggestions, observations

Plan of discussion

- Discuss the basic modeling template used
 - Compare with other FF models
- Implications for macro-prudential policy
- Comment on assumptions about financial market structure
- Comment on nature of capital flows
- Suggestion for extending the model to a richer theory of international financial intermediation

How does model compare with other
FF models?

The current model (assuming only one intermediary)

Budget constraint of household

$$C_t + (1 + \Upsilon_t)D_t + B_t = W_t H_t + \Lambda_t + R_t^D D_{t-1} + R_t B_t$$

$\Upsilon_t = \Upsilon \left(\frac{Q_t K_{t+1}}{N_t} \right)^\chi$ is external to household and $\Upsilon'(\cdot) > 0$.

N_t is intermediaries net worth.

Gives a spread on loan rate over the safe government rate

$$R_t^D = (1 + \Upsilon_t)R_t$$

Intermediaries borrow and lend at same rate

$$R_{K_{t+1}} = R_t^D$$

Models with explicit intermediation structure (e.g. Gertler Karadi)

Enforcement constraint $N_t \geq \kappa Q_t K_{t+1}$

Equilibrium spread is

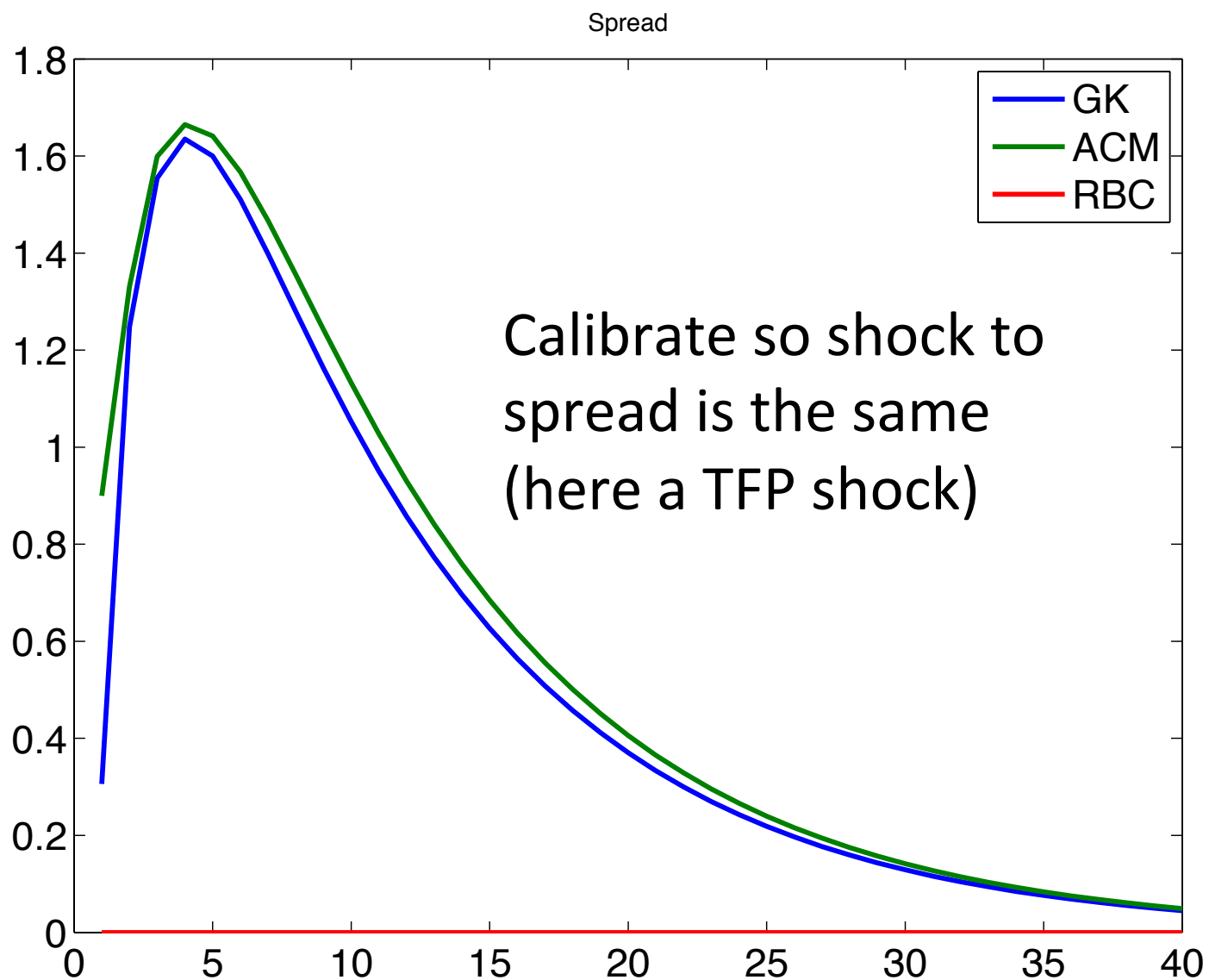
$$R_{Kt+1} - R_t^D \geq \phi\left(\frac{Q_t K_{t+1}}{N_t}\right)$$

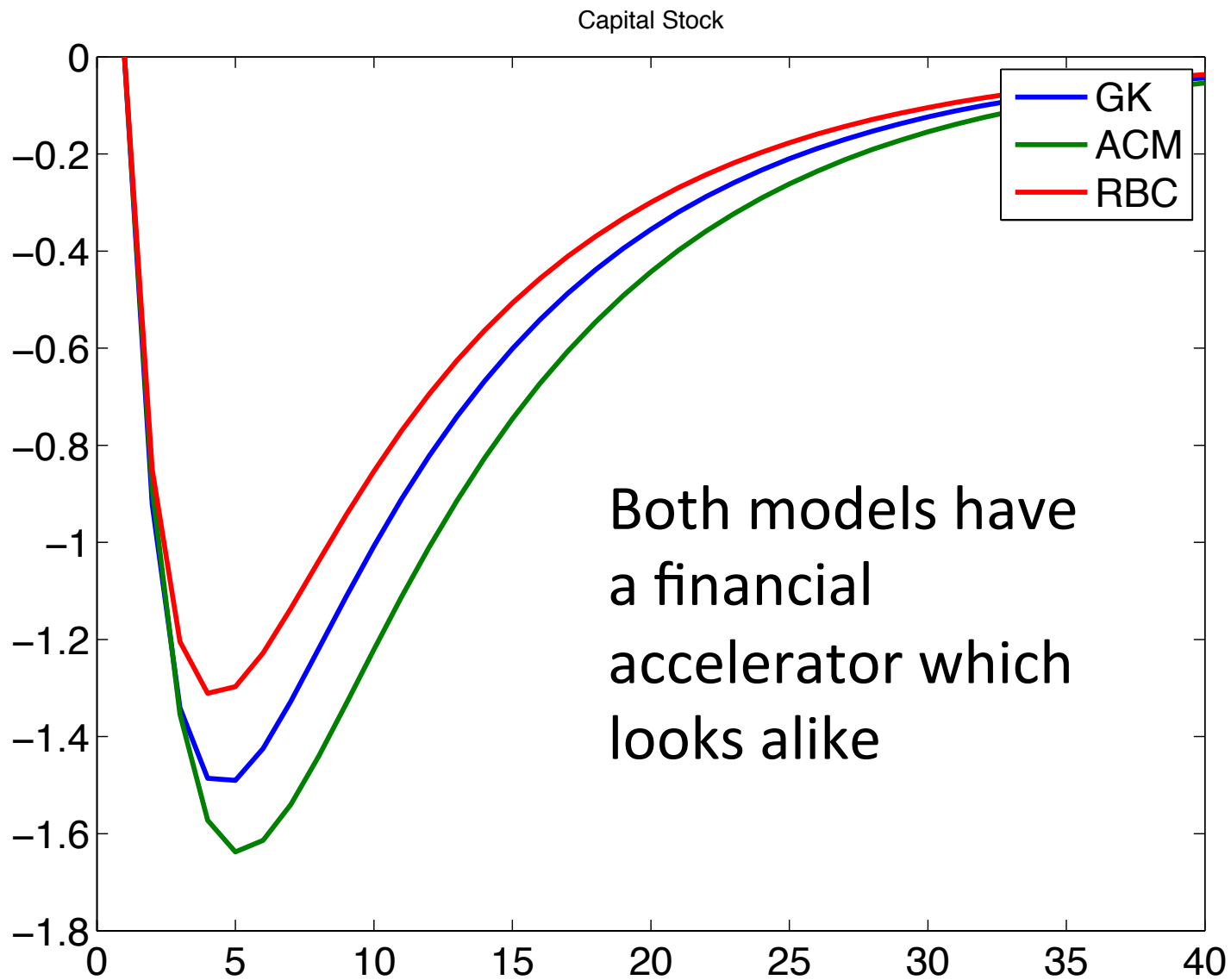
$$\phi'(\cdot) > 0$$

Intermediaries choose deposits and investment subject to enforcement constraint (spread is internalized).

Conclusion in simulation

- Has very similar aggregate IRFs

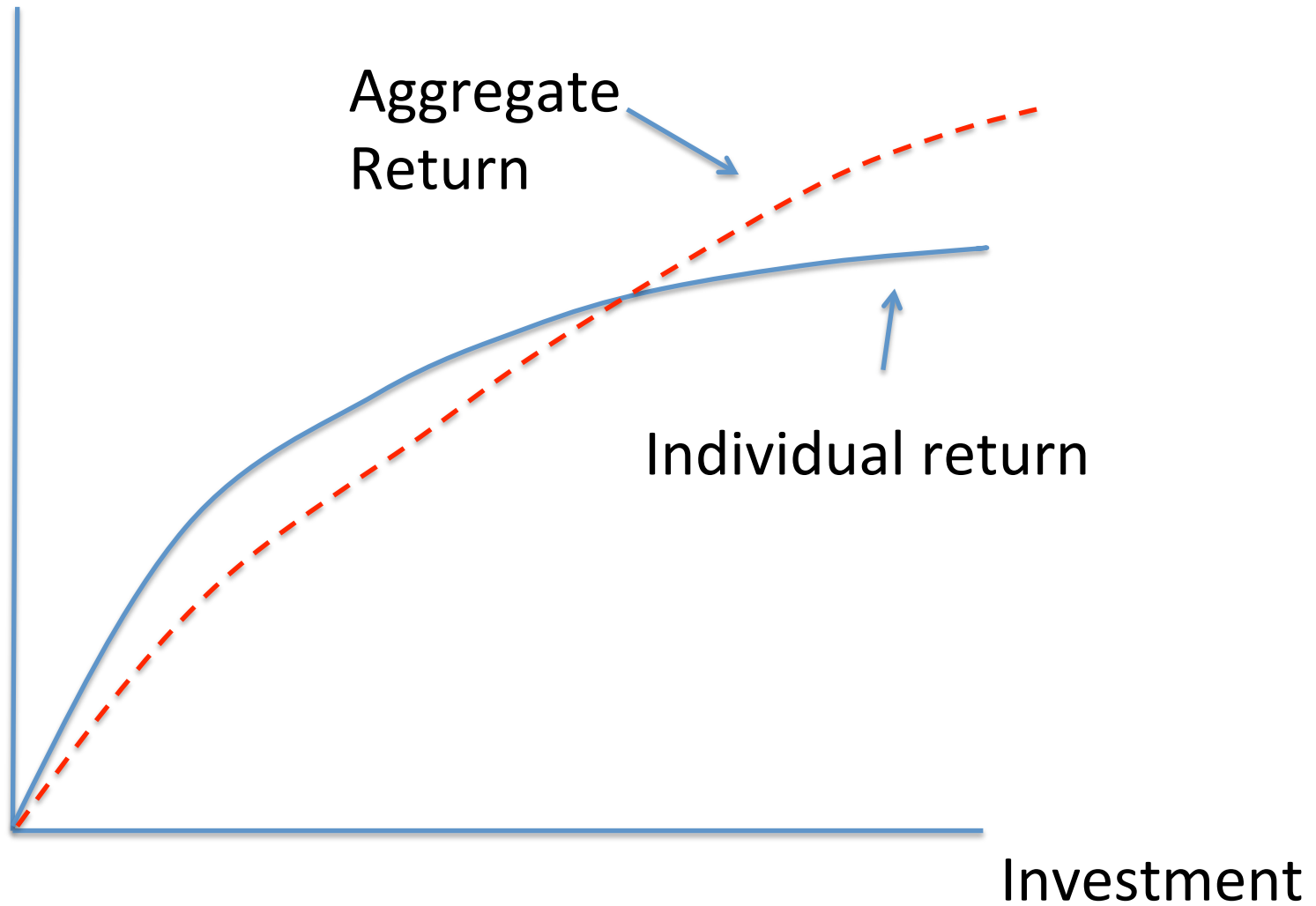




Conclusion in simulation

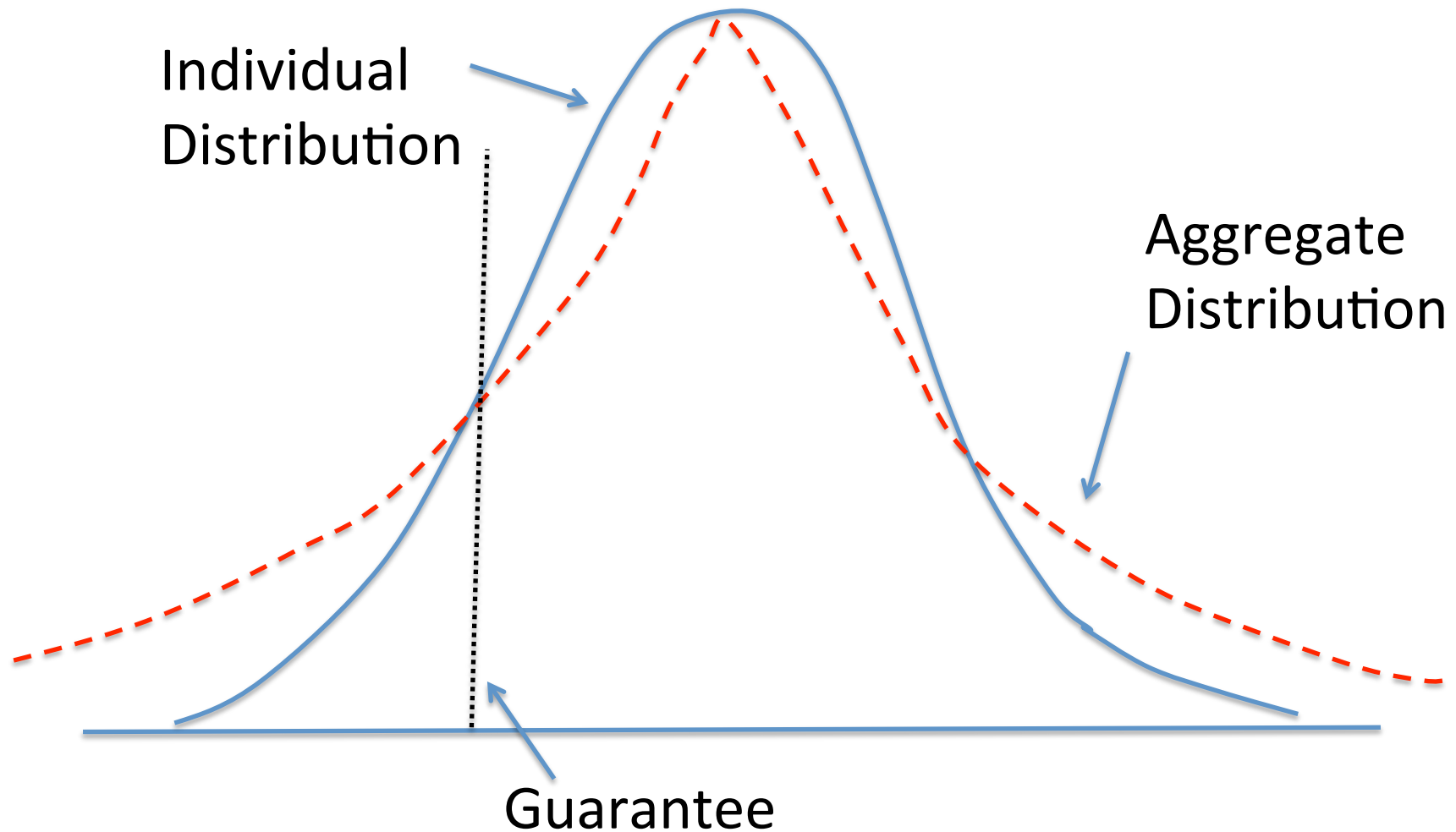
- Has very similar aggregate IRFs
- Does this mean it has same implications for macro-prudential policies?
- Perhaps not?
 - Contract structure in financial intermediation may be very important for response to prudential regulation

With externalities



Example: with explicit balance sheet effects, decisions may lead to more risk-taking with no-loss guarantees

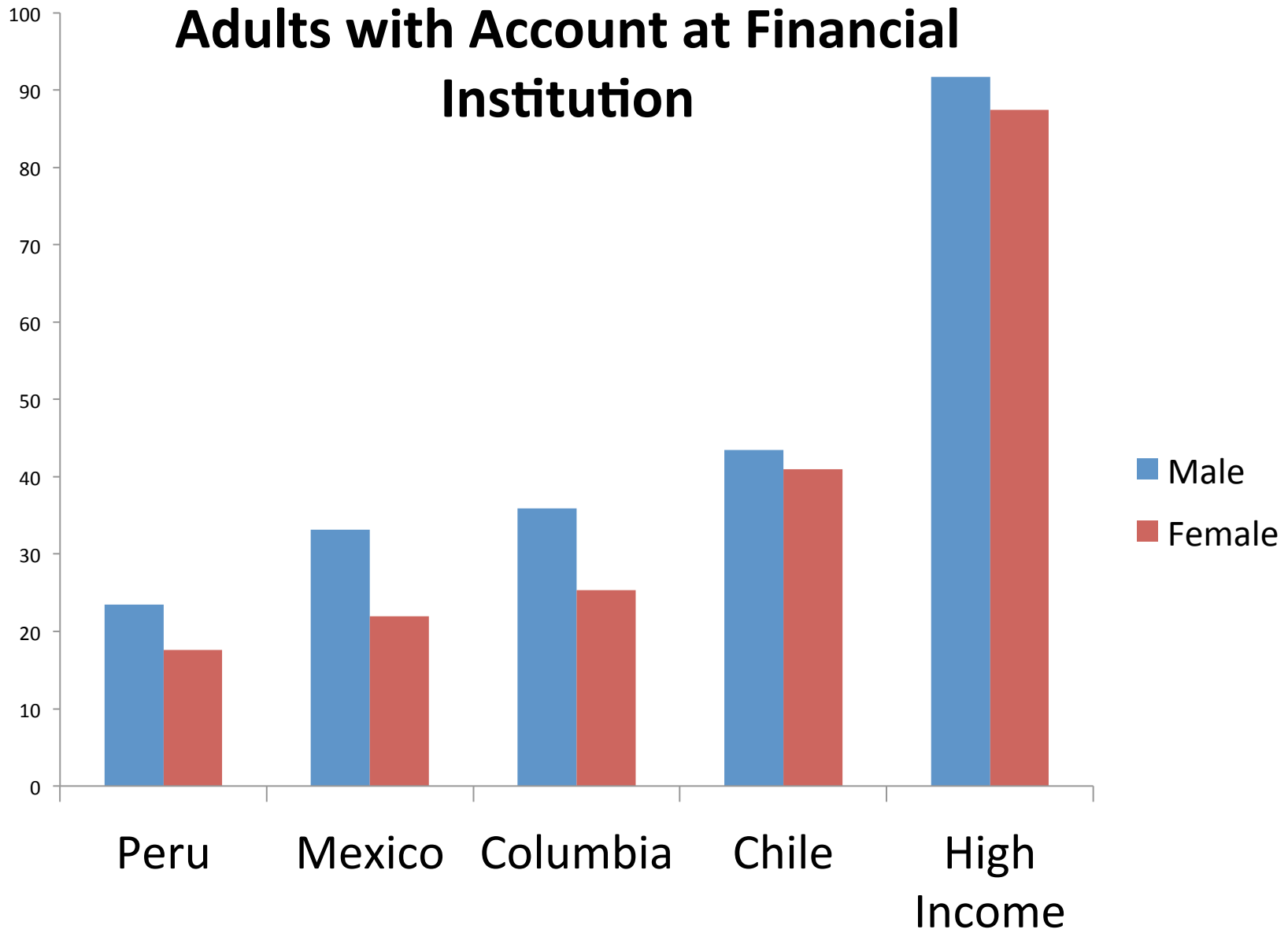
(may show up only at higher order approx. though)



Some more comments on the model

- Domestic Households have full access to domestic bank deposits, government securities and foreign bonds
- Is this reasonable for the countries involved?
- Maybe not
 - Measures of financial market access for these countries are far lower than for high-income countries
 - See following graph

Adults with Account at Financial Institution



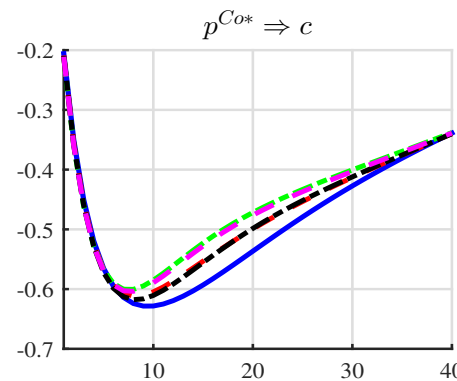
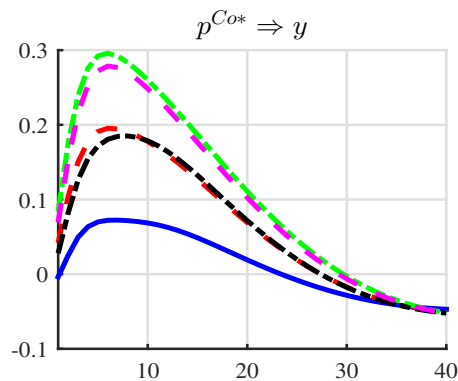
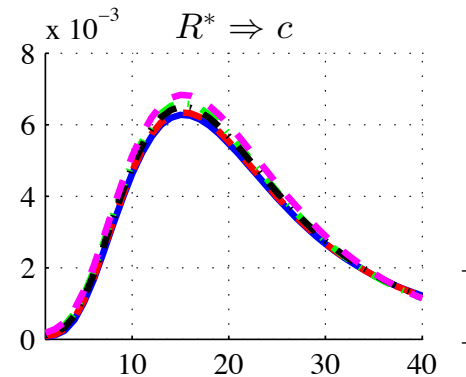
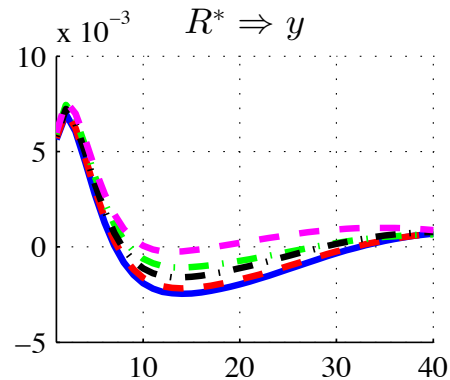
*Global Findex Database, World Bank

How much difference could this make?

- Perhaps a lot
 - Response to external interest rate shocks may differ (see below)
 - Ability to actively use sterilized intervention
 - May affect the dynamics of financial accelerator?
- Also, the extent of `financial inclusion' may affect the conduct of monetary policy
 - See recent BIS wp by Mehrotra and Yetman 2015

Interest rate shocks for Chile and Colombia

- Expansionary, as in Mundell Fleming model



Solutions?

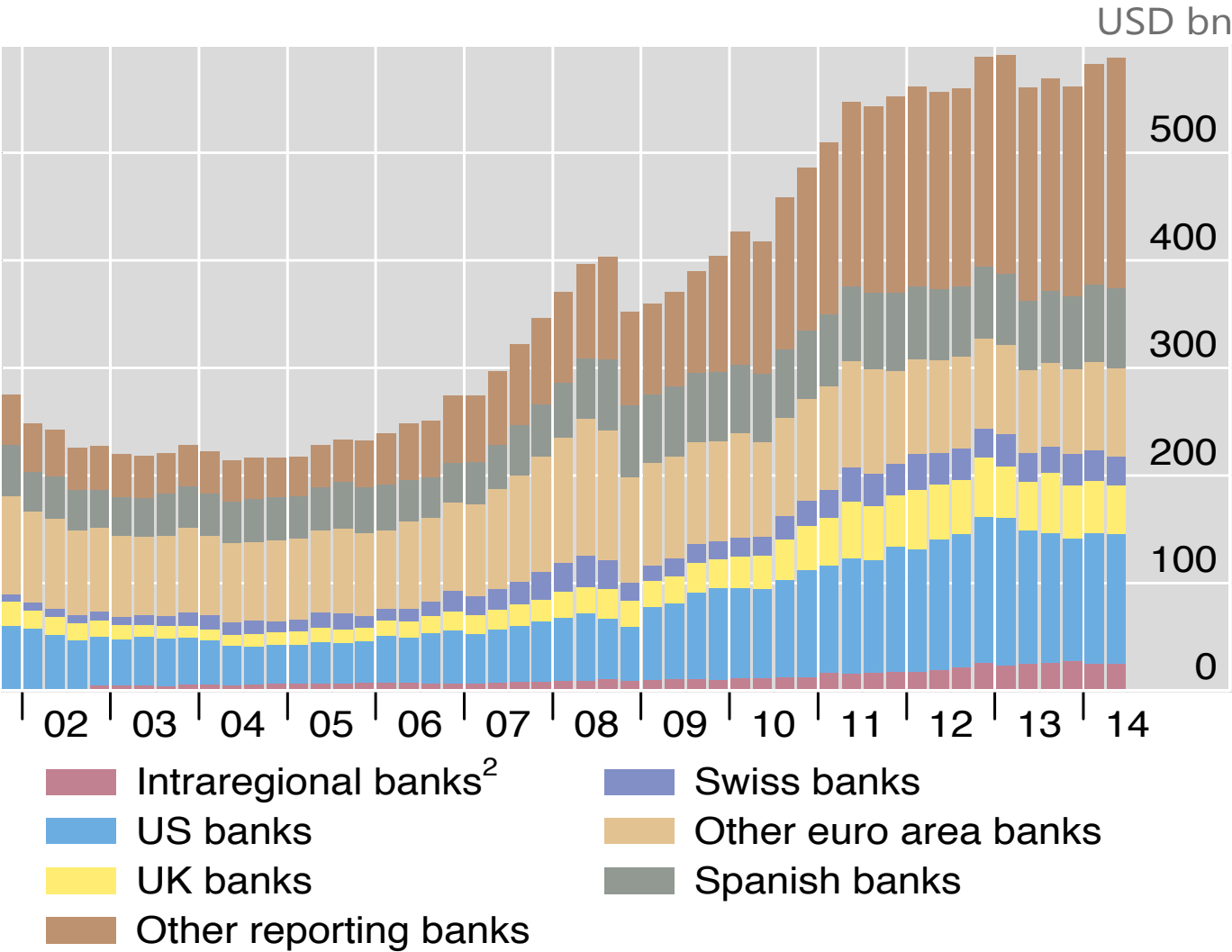
- Incorporate working capital, as in Neumeyer-Perri (2004)?
- Can easily combine into a model with financial frictions
 - Mendoza 2010, etc.
- But more generally, financial linkages may be much more complicated?

Financial linkages

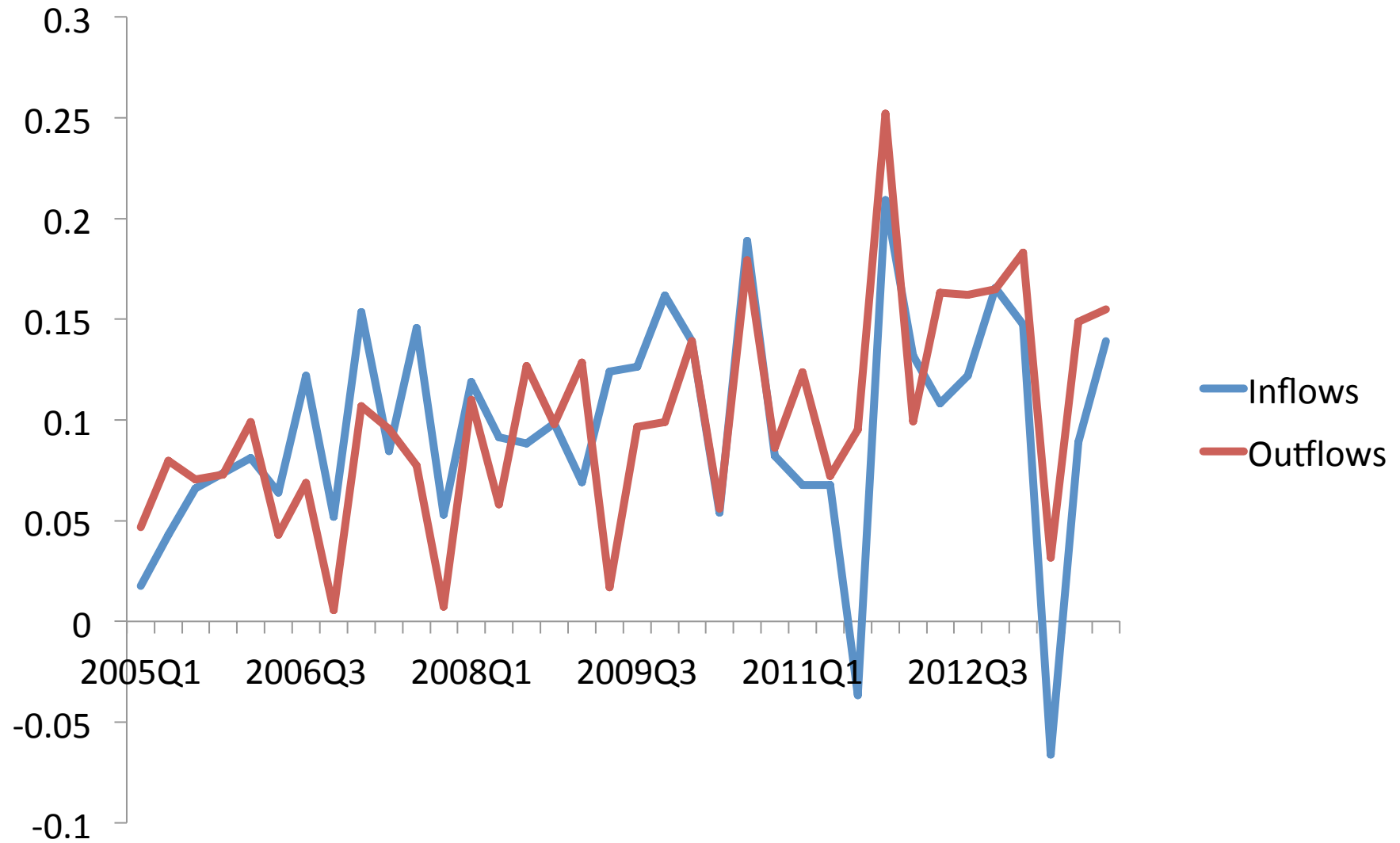
- Banks here all financed with domestic deposits
- Three implications
 - No direct exposure to currency risk due to maturity mismatch
 - No direct vulnerability to external funding shocks (global financial cycle)
 - With foreign funding of banks, gross capital flows may matter

Bank credit to Latin America and the Caribbean

International claims on the region¹



Chile: Gross Inflows/Outflows (IFS)



Model with explicit role for gross flows, foreign intermediaries

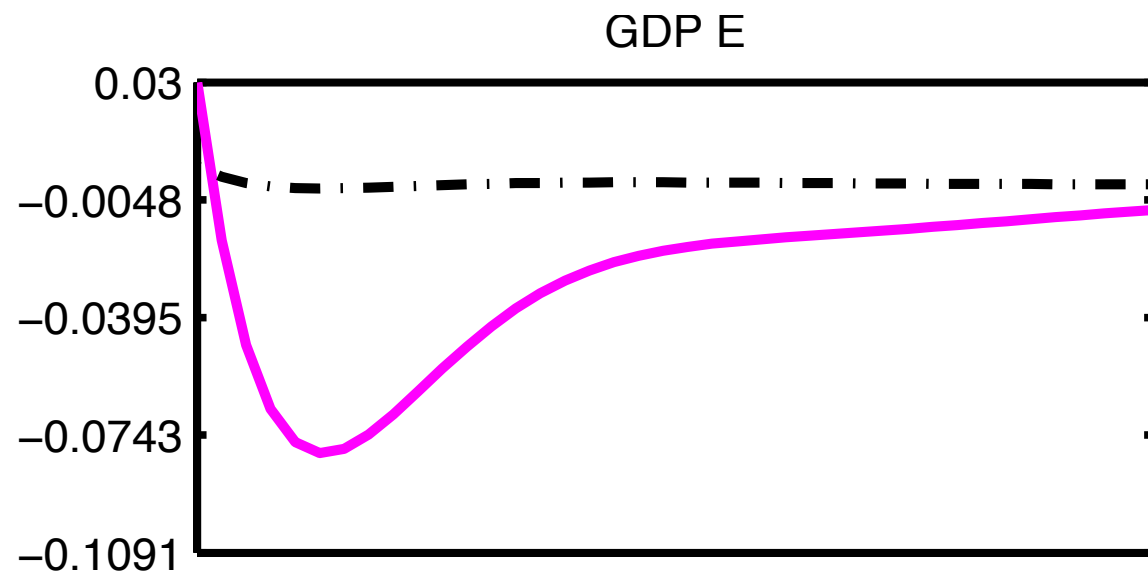
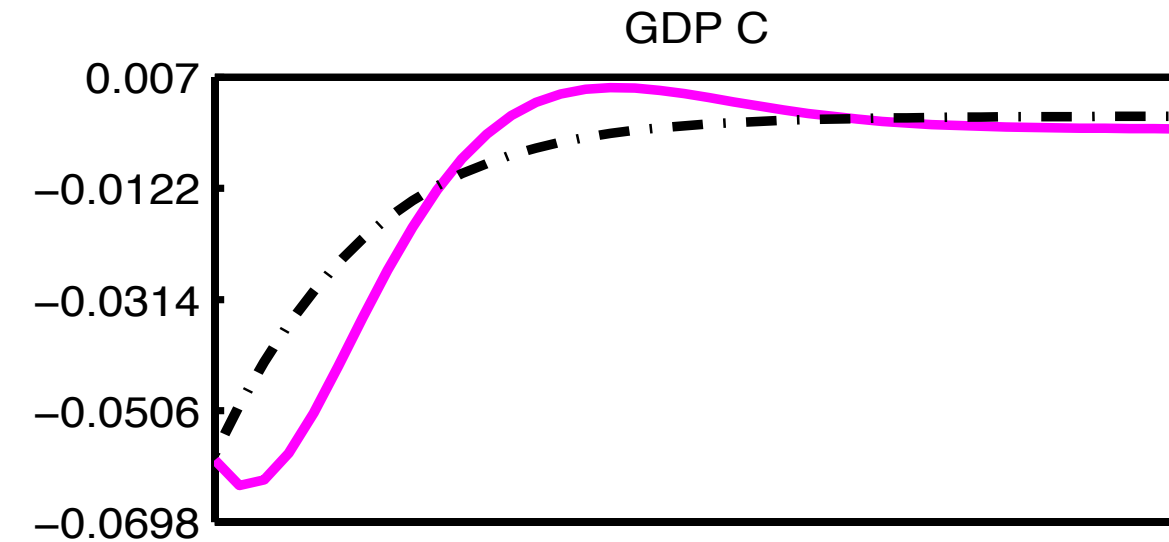
- Devereux and Lombardo, 2015
- Global banks – funding for emerging market banks
 - Balance sheet constraints at both levels
- US policy shocks affect BS of global banks, reduce lending to EME banks, shrinking in BS for both
 - Coordinated increase in spreads
- Similar to Bruno and Shin 2014

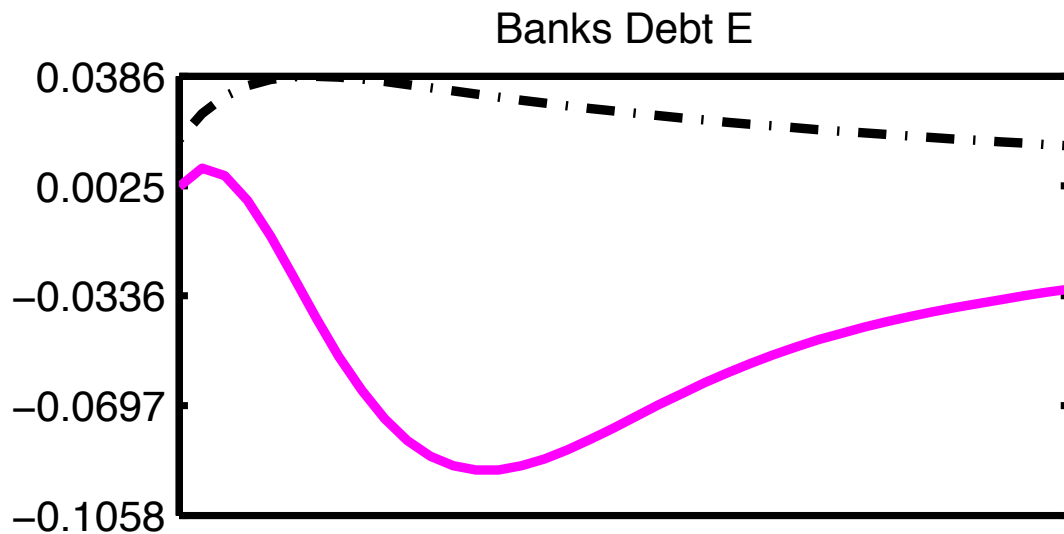
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GDP
response:

With financial
frictions at
both levels,
policy
tightening in
US causes a
global
downturn

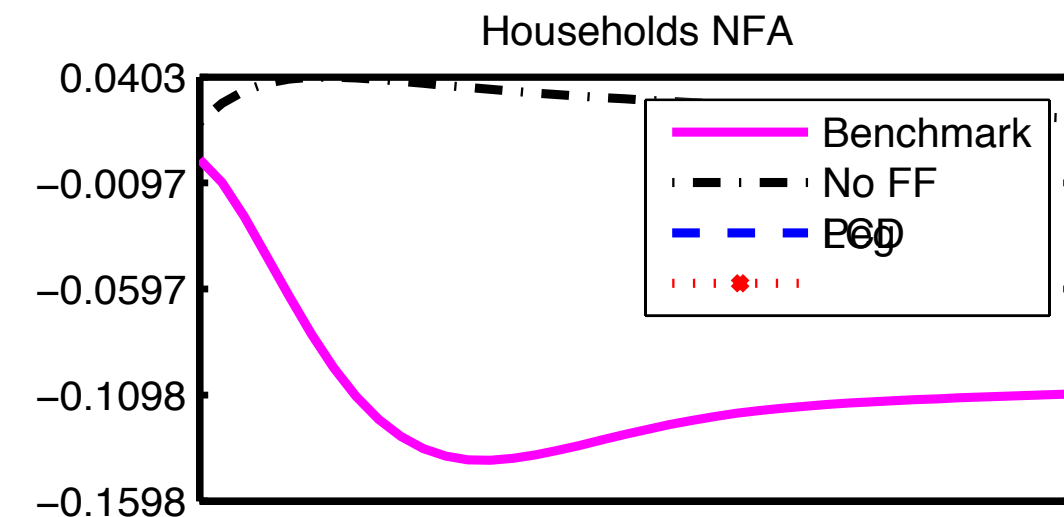
Without FF,
does not





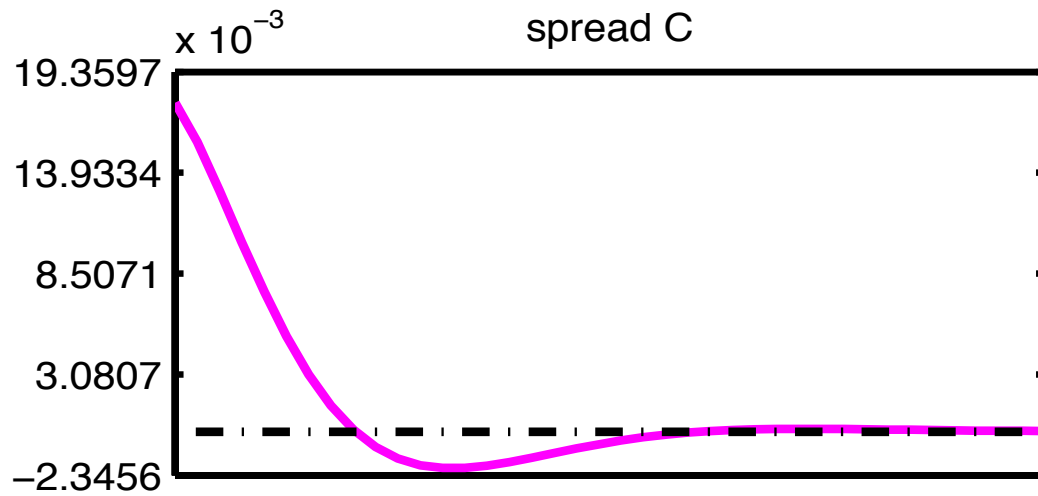
Contraction in Capital inflows and outflows

Fall in capital inflows to EM banks

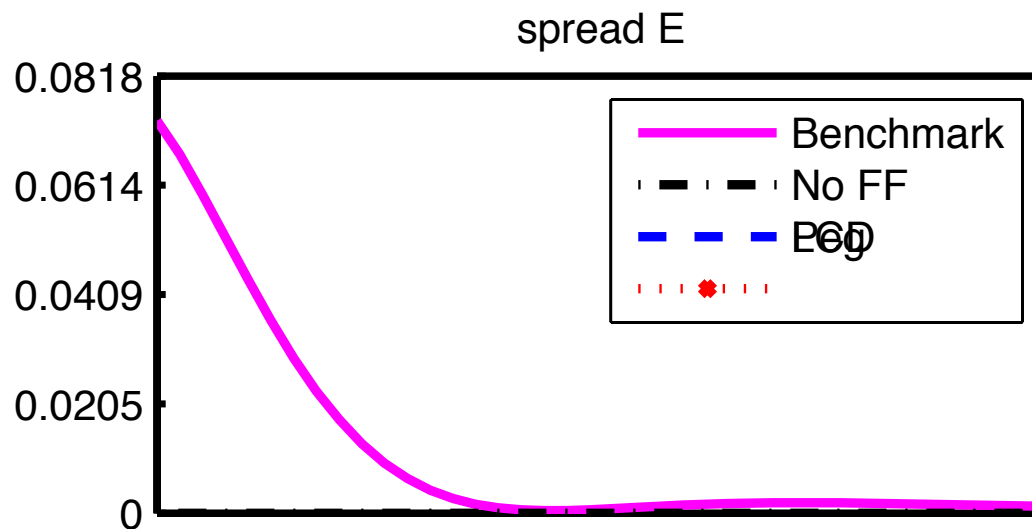


Fall in capital outflows to US

US dollar denomination makes a difference



You also get a common increase in spreads, in both core and periphery

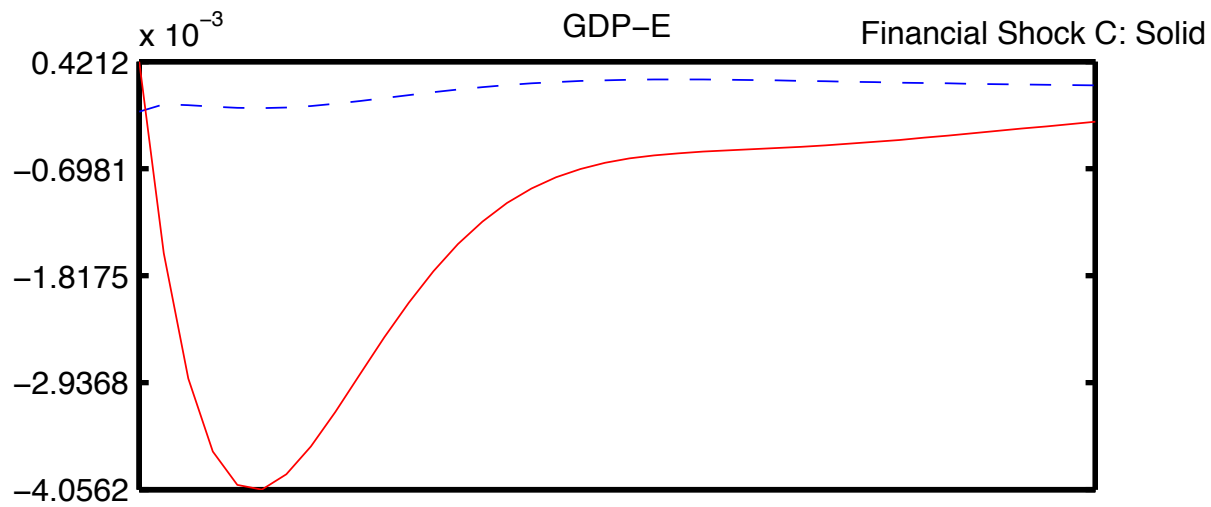


Implications

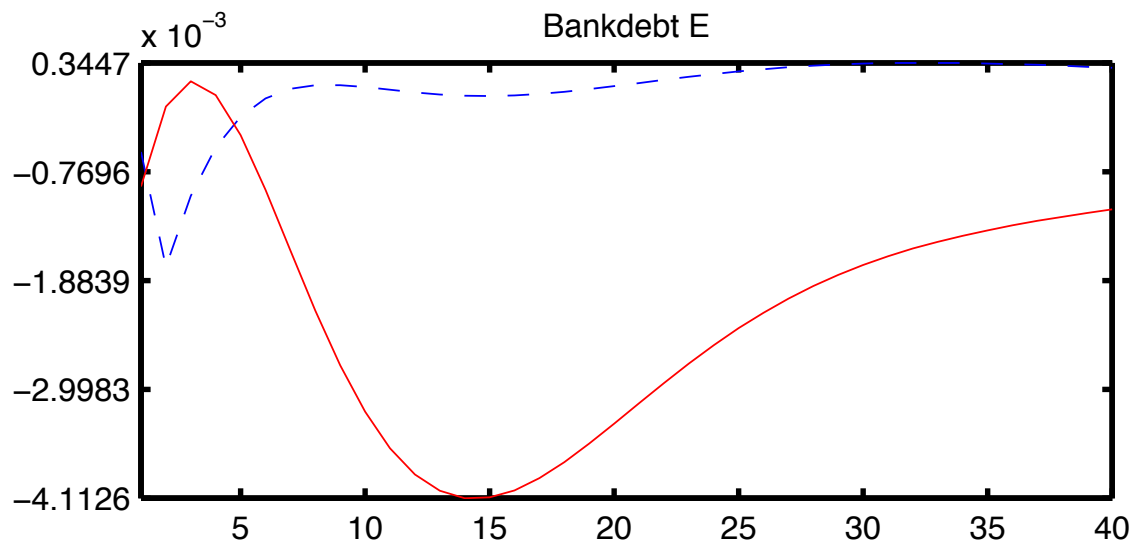
- Portfolio positions and gross flows may be important in environment of financial frictions

Implications for policy?

- Optimal cooperative monetary policy can sharply reduce co-movement of financial shocks



Benchmark
vs. Ramsey
policy



Other issues

- Fiscal side is minimized
 - Interaction between commodity cycle and fiscal balances may be important for some countries
 - How pro-cyclical is fiscal policy?
- Need to incorporate commodity sector more explicitly into consumption and investment sectors?
 - There may be important distributional effects of commodity shocks
 - across sectors and regions

Big picture issues

- Allowing for risk, non-linearities, crises, sudden stops
 - May be very important for evaluation of macro-prudential policy
 - More easily done in small models
 - But some results with full multi-country DSGE models
 - Devereux and Yu, 2015

Conclusions

- All these suggestions are more for general background
- Current project has made major strides
- Look forward to seeing future developments