Reserve requirements in the brave new macroprudential world

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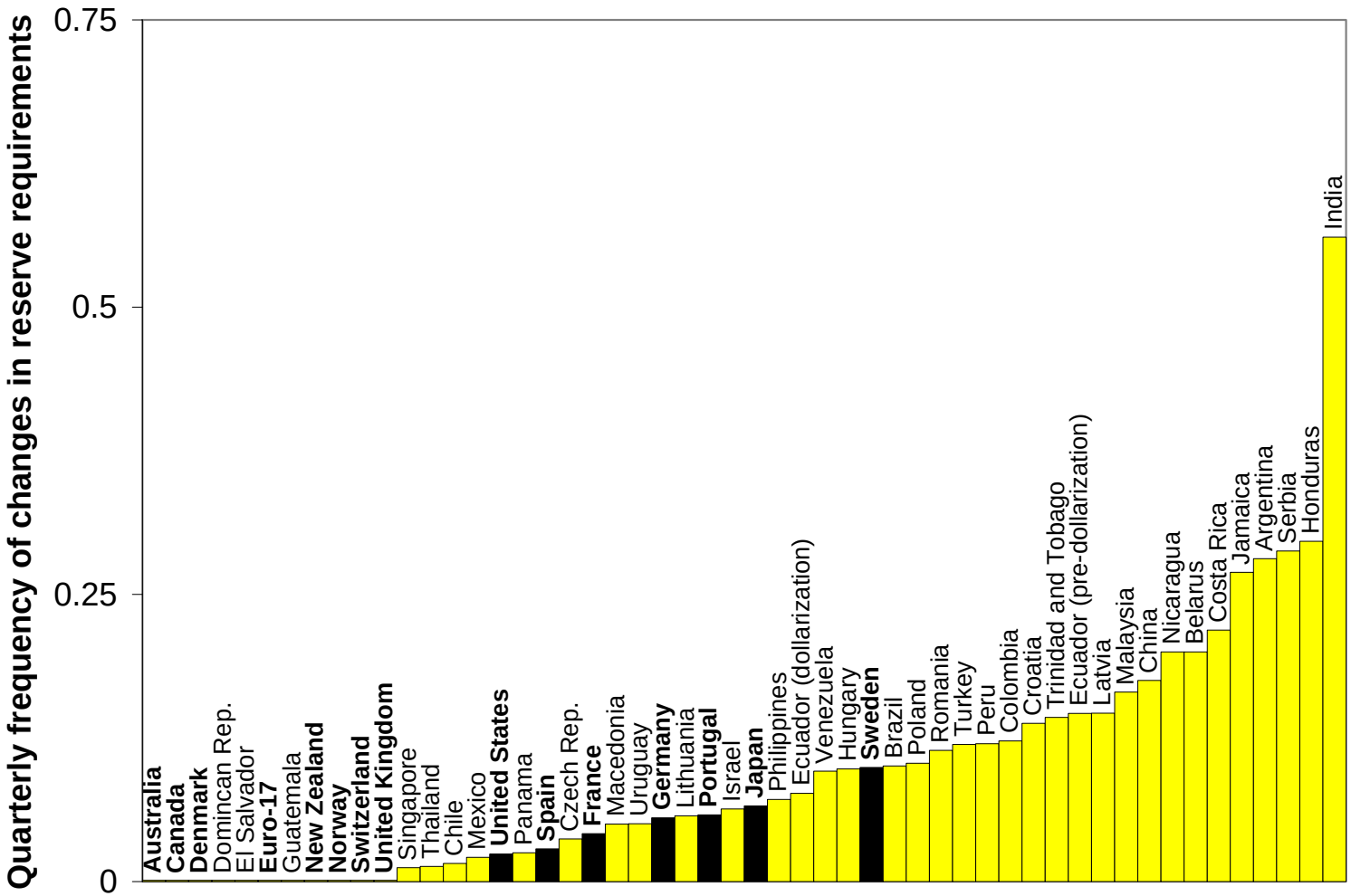
- What are some of the unintended (micro) effects of macroprudential policy?
- Designing a macroprudential framework: All-terrain or state-contingent?

Sources and database

- Empirical focus is on reserve requirements
- 52 countries (37 emerging, 15 industrial)
- Sample: 1970 to present
- Frequency: Quarterly
- Sources:
  - Reserve requirements: Country desks, central banks, regulatory agencies, and IMF staff reports
  - Interest rates, GDP, and international reserves: IFS, GFS, and national sources

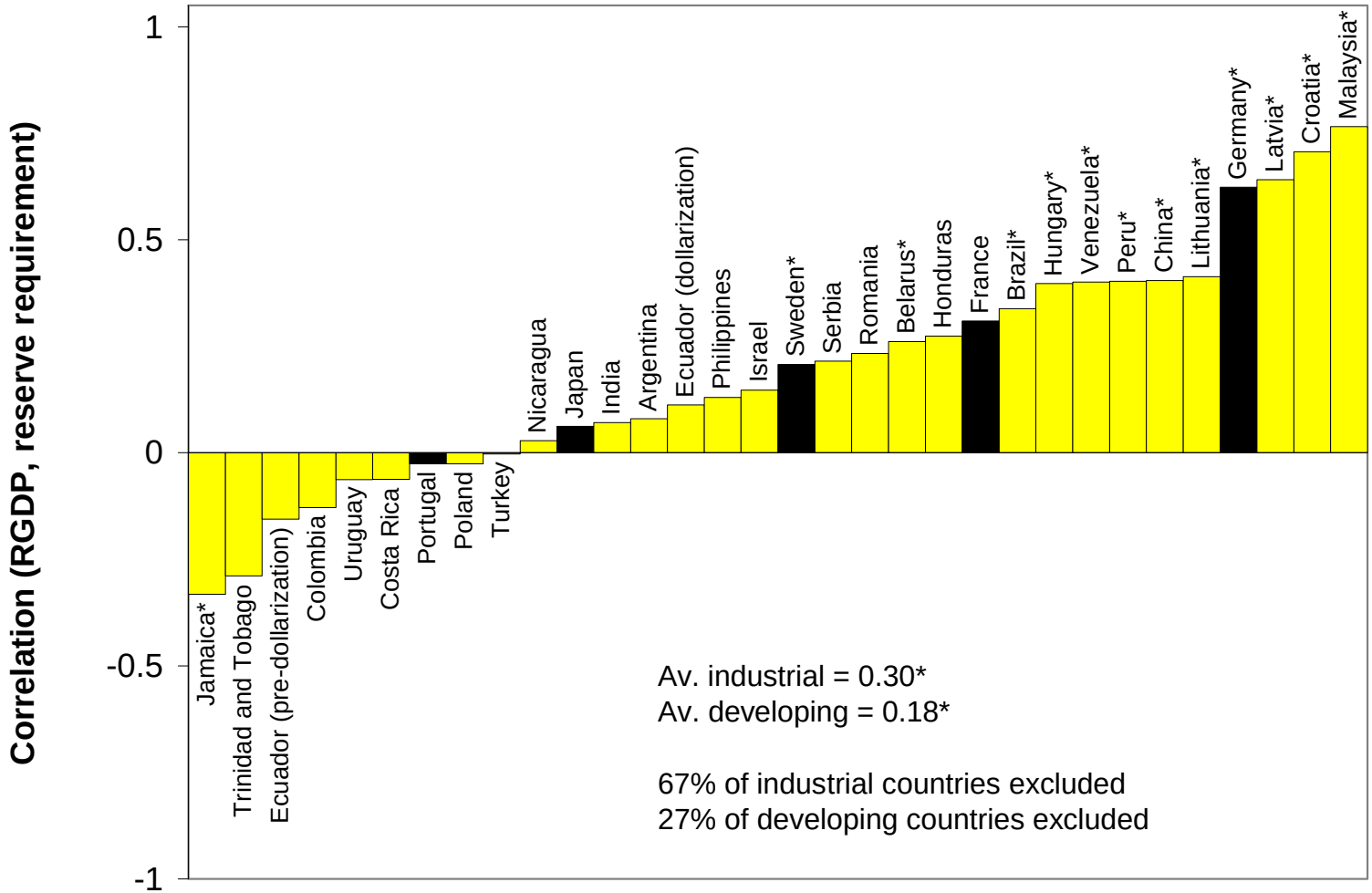
Frequency of changes in reserve requirements



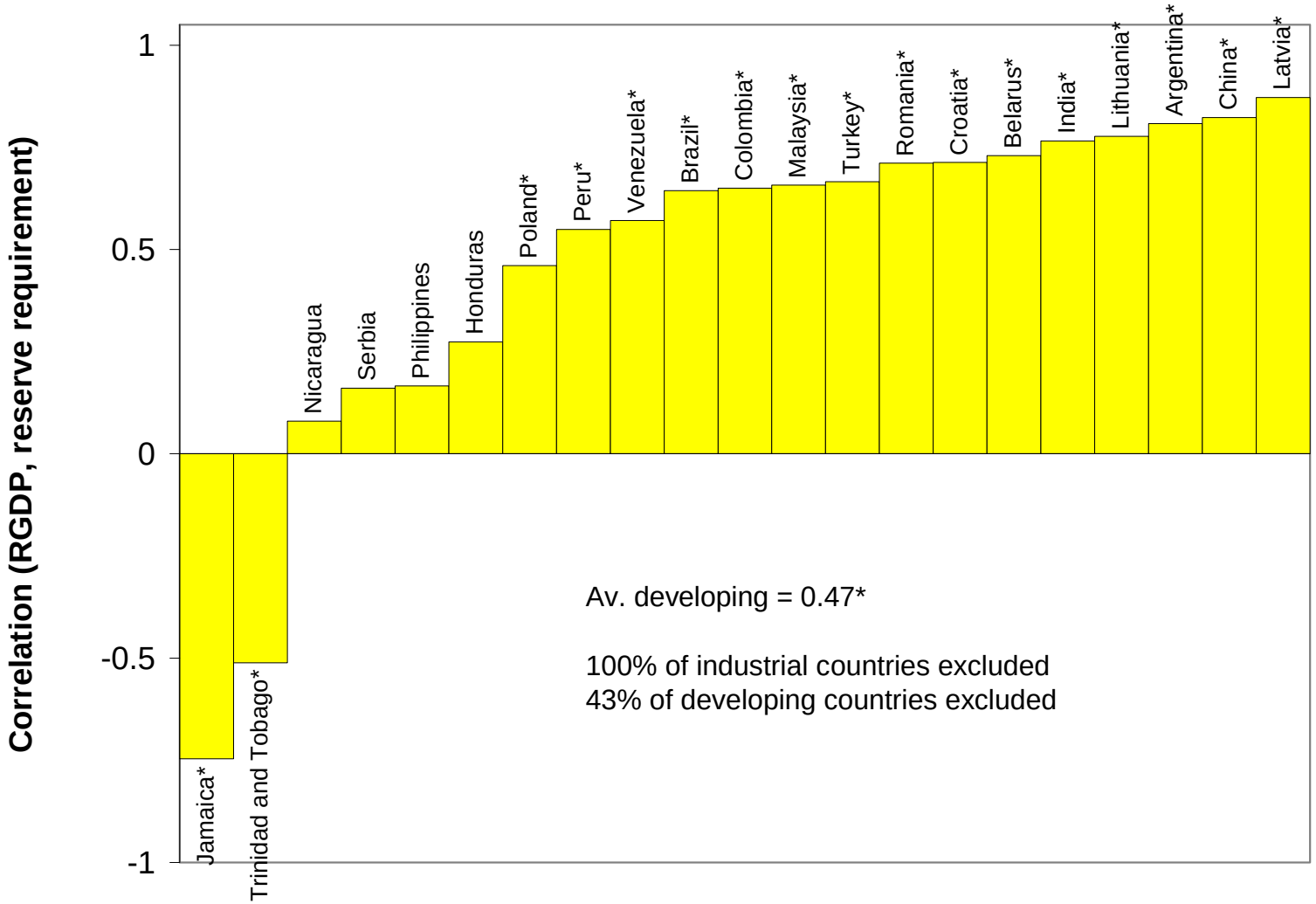
Active versus passive RRP

- We define "active" versus "passive" based on frequency of changes in RR relative to duration of business cycle
- If average duration between changes in RR is less than average duration of business cycle (+ 1 SD) $\Rightarrow$ active
- Otherwise, passive
- Based on this criterion:
  - 68% of developing countries have been active
  - 33% of industrial countries have been active (and none since 2004)

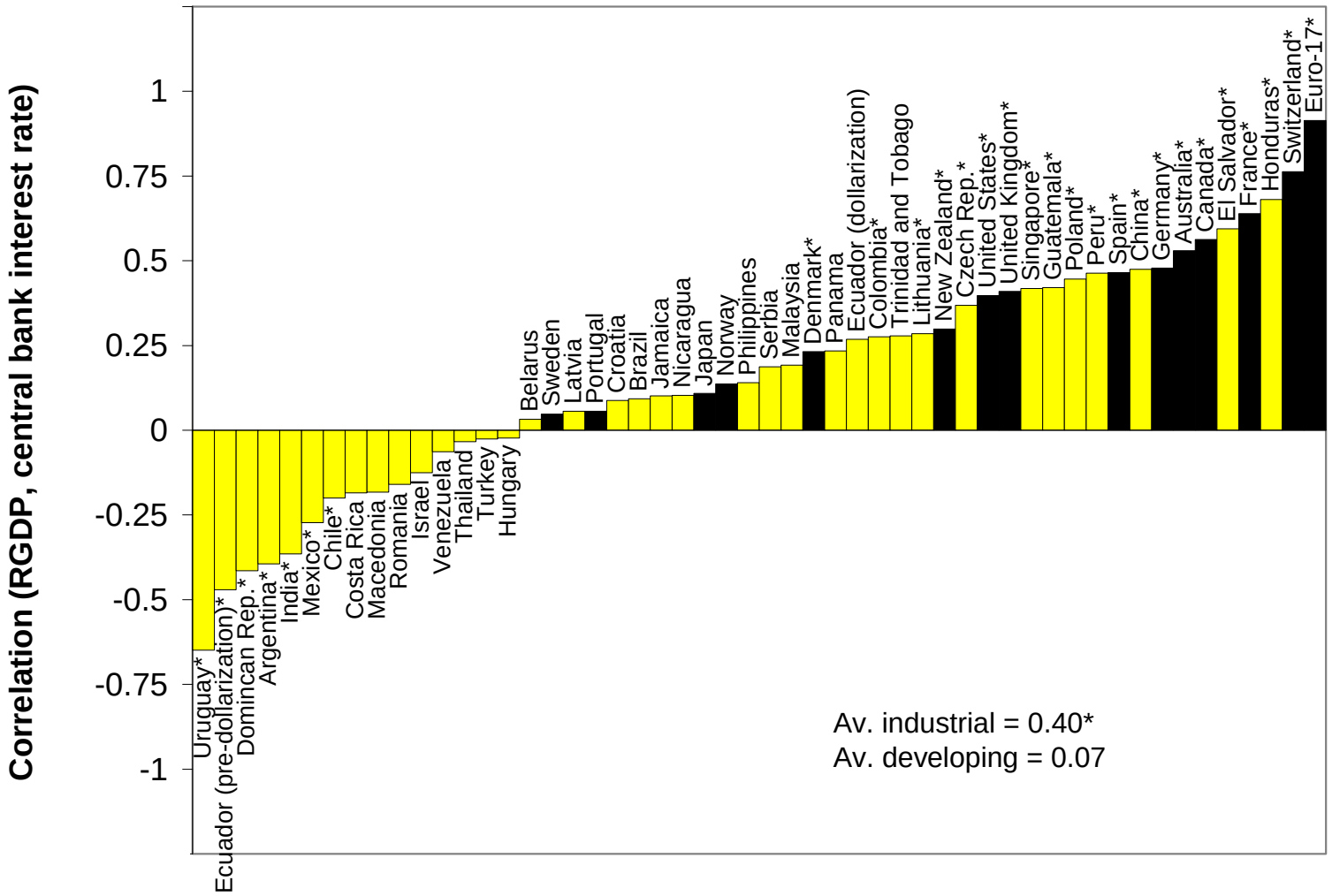
Cyclicality of reserve requirement policy



Cyclicality of reserve requirement policy, 2005-2011



Cyclicality of interest rate policy



Complementarity/substitutability with interest rate policy: Policy mix matrix

		Central bank interest rate policy		
		Pro-cyclical	**A-cyclical**	**Counter-cyclical**
Reserve requirement policy	**Pro-cyclical**		Jamaica	
	A-cyclical	Argentina,Chile, Costa Rica, Domincan Rep., Ecuador (pre-dollarization), India, Mexico, Uruguay	Israel, **Japan**, Macedonia, Nicaragua, Panama, Philippines, **Portugal,** Romania, Serbia, Thailand, Turkey	**Australia, Canada,** Colombia, Czech Rep., **Denmark,** Ecuador (dollarization)**,** El Salvador, **Euro-17, France,** Guatemala, Honduras, **New Zealand, Norway,** Poland, Singapore**, Spain, Switzerland,** Trinidad and Tobago, **United Kingdom, United States**
	Counter-cyclical		Belarus, Brazil, Croatia, Hungary, Latvia, **Sweden**, Venezuela	China, **Germany**, Lithuania, Malaysia, Peru

Substitutes

Complements

Complementarity/substitutability with interest rate policy: Policy mix matrix

1970-2004

		Central bank interest rate policy		
		Pro-cyclical	**A-cyclical**	**Counter-cyclical**
Reserve requirement policy	**Pro-cyclical**			Colombia
	A-cyclical	Argentina, Chile, Domincan Rep., Ecuador, India, Mexico, Uruguay	Belarus, Costa Rica, Croatia, Czech Rep., Denmark, El Salvador, Guatemala, Israel, Jamaica, Japan, Macedonia, Nicaragua, Norway, Panama, Philippines, Portugal, Romania, Serbia, Thailand, Trinidad and Tobago, Turkey	**Australia, Canada, Euro-17,** Lithuania, **New Zealand,** Poland, Singapore, **Spain, Switzerland, United Kingdom, United States,**
	Counter-cyclical		Brazil, Hungary, Latvia, Malaysia, **Sweden**, Venezuela	China, **France**, **Germany**, Peru,

Substitutes Complements

2005-2011

		Central bank interest rate policy		
		Pro-cyclical	**A-cyclical**	**Counter-cyclical**
Reserve requirement policy	**Pro-cyclical**		Jamaica	Trinidad and Tobago
	A-cyclical	Costa Rica	Ecuador (dollarization), Hungary, Macedonia, Mexico, Nicaragua, Panama, Philippines, Serbia, Thailand, Uruguay,	**Australia, Canada,** Chile, Czech Rep., **Denmark,** El Salvador, **Euro-17,** Guatemala, Honduras, Israel, **Japan, New Zealand, Norway,** Singapore, **Sweden, Switzerland, United Kingdom, United States**
	Counter-cyclical		Argentina, Belarus, Brazil, China, Croatia, Lithuania, Romania, Turkey	Colombia, India, Latvia, Malaysia, Peru, Poland, Venezuela

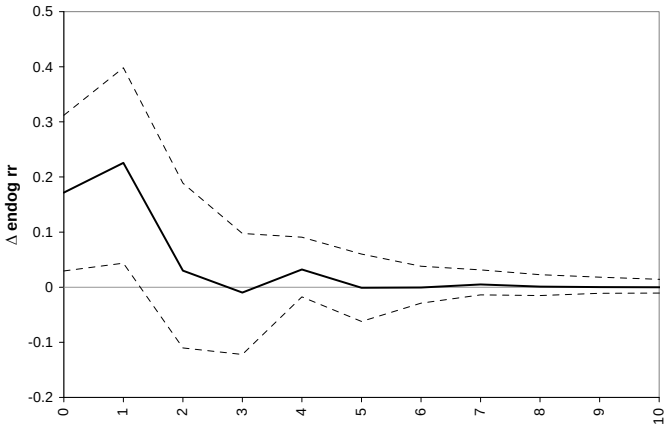
Substitutes Complements

Explaining substitutability: Fear of free falling/fear of capital inflows

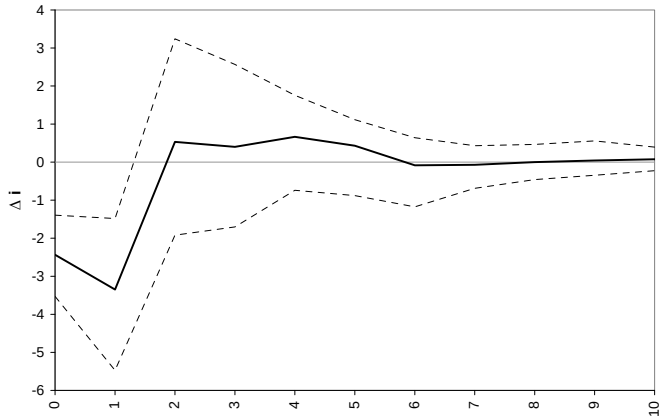
- Fear of free falling
  - Need to defend the currency in bad times
  - Policy interest rate "lost" to FFF
  - Reserve requirements are lowered to stimulate economy
- Fear of capital inflows
  - Reluctance to raise interest rates in good times
  - Interest rate kept constant or lowered
  - Reserve requirements are raised to cool off economy

Policy response to a real GDP shock

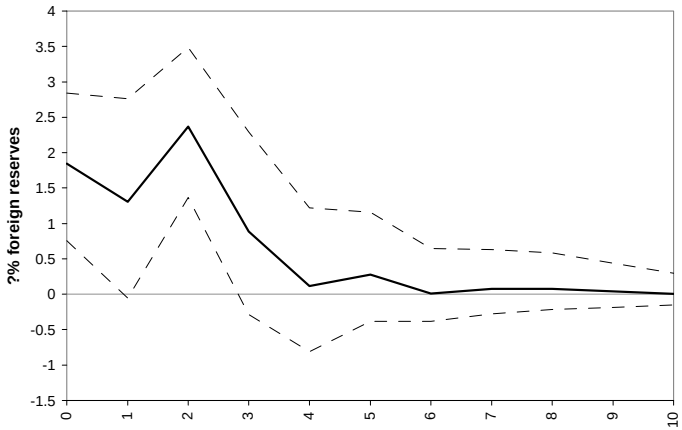
Reserve requirement



Interest rate



International reserves



Policy implications

- RR actively used in a countercyclical manner in many emerging markets
- RR can be an effective instrument, often substituting for interest rate policy
- Rationale for RR: interest rate policy is often aimed at the domestic currency
- Caveat emptor (buyer beware): by increasing moral hazard, higher RR may increase individual banks' risk-taking behavior
- An all-terrain macroprudential framework may be too inflexible, but a state-contingent framework requires exact timing and regulatory swiftness