Trilemmas and Tradeoffs: Living with Financial Globalization

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Two contradictory recent views of monetary autonomy in small open economies:

– The open economy is qualitatively no different from the closed economy, provided the nominal exchange rate is flexible.

– Small economies have no monetary autonomy, regardless of the exchange rate, due to the effect of financial cross-border flows. Large countries' monetary and financial shocks dominate the global monetary environment.

Most capital flows to EMs are sensitive to global factors

Global factors driving some inflows to EMs
(percent; normalized inflows)
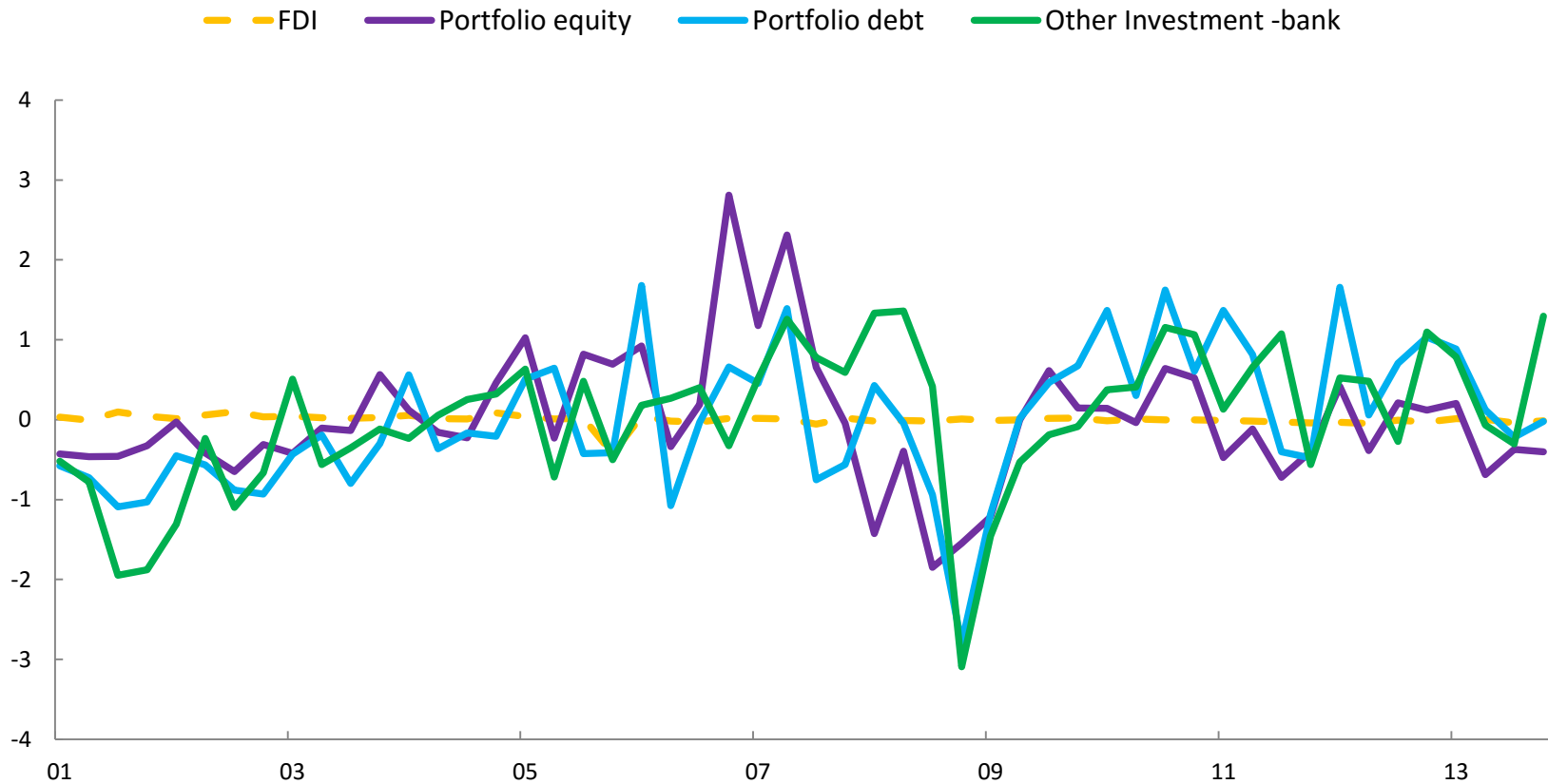
Sources: Cerutti, Claessens, and Puy (2015; IMF WP/15/61).

The following three are not all mutually compatible:

1. Fixed exchange rate.
2. Unimpeded cross-border financial flows.
3. Monetary autonomy.

Bretton Woods made US exceptional.

Floating was supposed to bring symmetry, "insulate" economies, and free monetary policy (Milton Friedman, Harry Johnson).

But life turned out to be complicated

- Charles Kindleberger summarized well in his 1970 response to Johnson at the Boston Fed's Cape Cod conference:

- "Along with one more instrument – the exchange rate – there is one more target – the exchange rate."

- And don't even mention financial stability (FS)!

- Given current realities – does it follow that floating rates confer no monetary autonomy?

So, how does monetary policy work?

Not infrequently we hear central bankers say something like: "We have only one instrument, money growth (or the interest rate), and so we can have only one target, inflation." This view may be based on the targets and instruments approach of Tinbergen, of over fifty years ago, the general result of which was that you need as many instruments as targets. That view is correct if you have to hit the target exactly.

But it is not correct if the problem is set up as is typical in microeconomics, where the goal is to maximize a utility function subject to constraints, in a situation where for whatever reason it is not possible to hit all the targets precisely and all the time. Among the reasons we may not be able to hit our targets precisely and all the time is that there may be more targets than instruments, for instance when the central bank's maximand is a function of output and growth. In that case we have to find marginal conditions for a maximum, and to talk about tradeoffs in explaining the optimum.

Stanley Fischer, "Myths of Monetary Policy," *Israel Economic Review*, 2010.
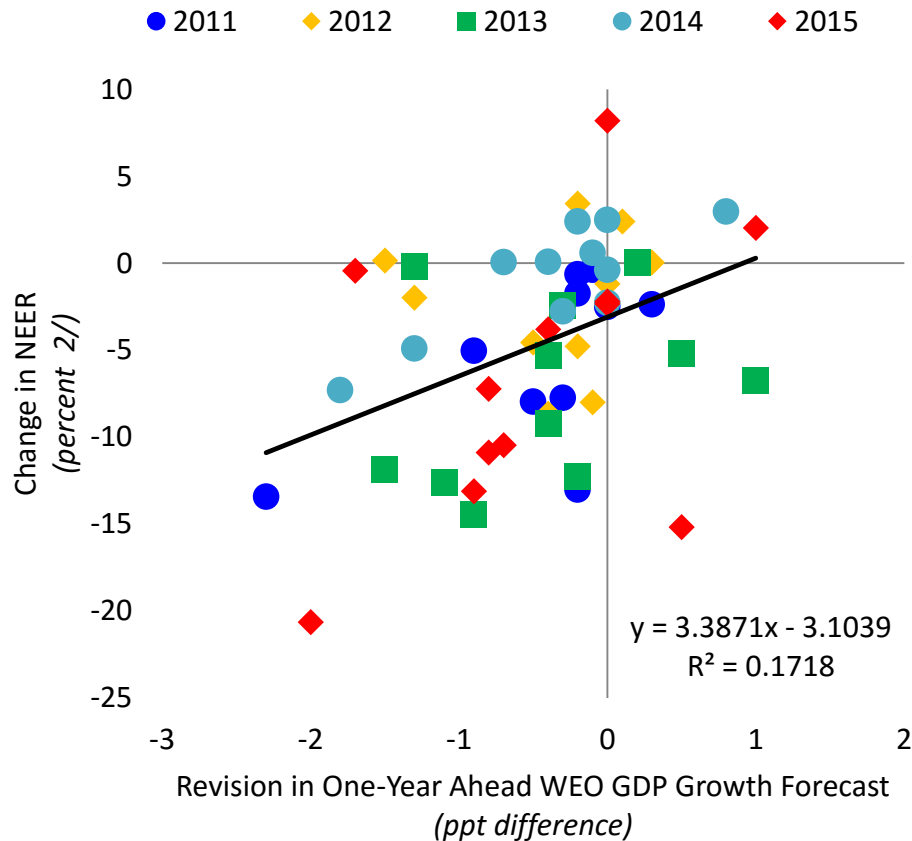
A general perspective

- With targets > instruments, not all targets will be hit.

- Attained level of "social welfare" depends on position of the short-run equilibrium tradeoff between targets (e.g., a short-run Phillips relationship).

- Economic openness → gains from trade, but also can worsen some policy **tradeoffs**.

- Even optimal exercise of "monetary autonomy" may leave the economy farther from policy bliss point than if more instruments were available.

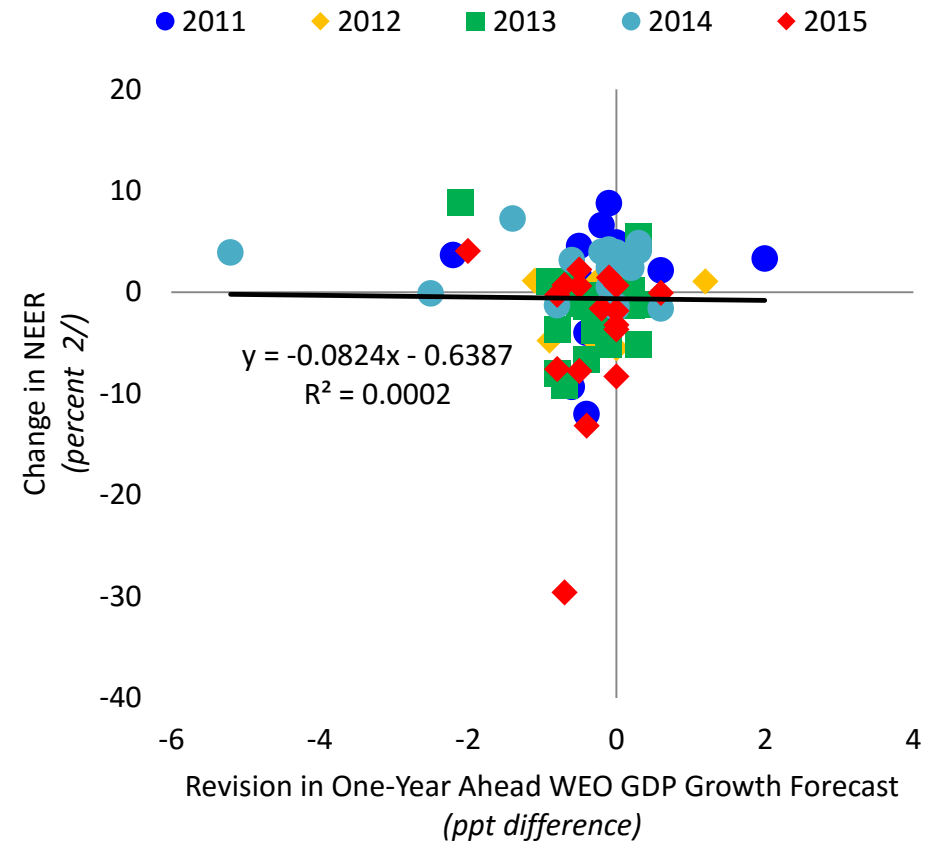- But fixed exchange rate "corner solution" is worse.

Flexible exchange rates have a buffering role

Currency Adjustments and Growth Forecast Revisions in EMs 1/

Floating FX regimes — Fixed FX regimes

Legend: 2011, 2012, 2013, 2014, 2015

Floating FX regimes:
$$y = 3.3871x - 3.1039$$
$$R^2 = 0.1718$$

Change in NEER *(percent 2/)*

Revision in One-Year Ahead WEO GDP Growth Forecast *(ppt difference)*

Fixed FX regimes:
$$y = -0.0824x - 0.6387$$
$$R^2 = 0.0002$$

Change in NEER *(percent 2/)*

Revision in One-Year Ahead WEO GDP Growth Forecast *(ppt difference)*

Sources: IMF, *World Economic Outlook*; IMF, *Information Notice System*; and IMF staff calculations.
Note: 1/ 29 largest EM economies; 2/ Positive change in NEER denotes appreciation.

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- Even in closed economy:
  - Inflation vs. unemployment – "divine coincidence"?
- Exchange rate side-effects in the open economy:
  - Sectoral objectives (e.g., export or tradables externalities).
  - Adjustment challenge for EMEs: market power, credit markets.
  - Dollarized liabilities → balance-sheet spillovers.
  - **No "divine coincidence" for exchange rate.**
- So: harsher *tradeoffs* in the open economy, even abstracting from any global financial cycle → "fear of floating." This is all well accepted ….

Traditional channel from capital inflows to domestic financial conditions

- The traditional monetary mechanism works through the policy interest rate/exchange rate connection:

$$i_t = i_t^{US} + E_t e_{t+1} - e_t + \rho_t$$

- Generally: more exchange stability → less interest rate independence (monetary trilemma).

- FX intervention allows capital inflows to affect monetary base; sterilization may be difficult.

- See Calvo, Leiderman, Reinhart on capital inflows.

Non-standard transmission channels

- Cross-border bank lending can relax quantitative credit constraints, undermine domestic credit control.
- If agents hedge foreign dollar credits, covered interest parity → same cost as domestic-currency loans.
- But they may choose not to → carry trades.
- And CIP may not hold exactly.
- Direct LT interest rate arbitrage.
- Special role of U.S. dollar
- Domestic-currency bond markets have developed in EMEs but in many cases remain thin – vulnerable to shifts in foreign demand (Shin 2013), and could conceal off-balance sheet currency mismatches.
- However, this does lessen "original sin."

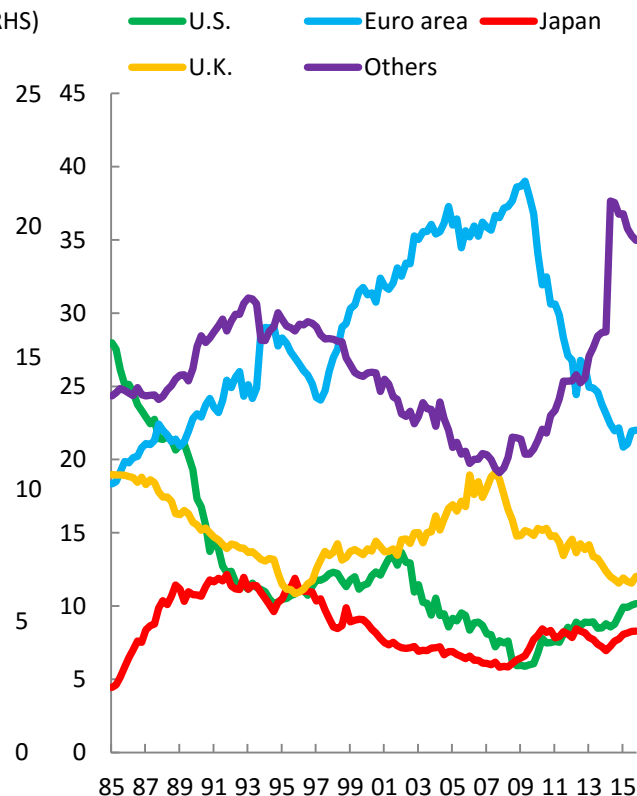# Cross-border U.S. dollar-denominated banking flows are important

Substantial cross-border bank lending to EMs…
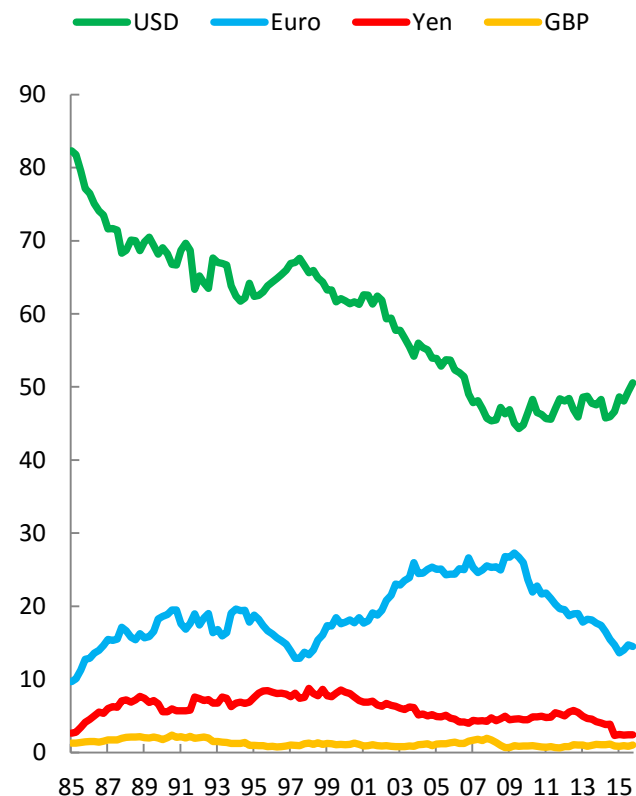*(BIS reporting banks' cross-border claims on EMs 1/)*
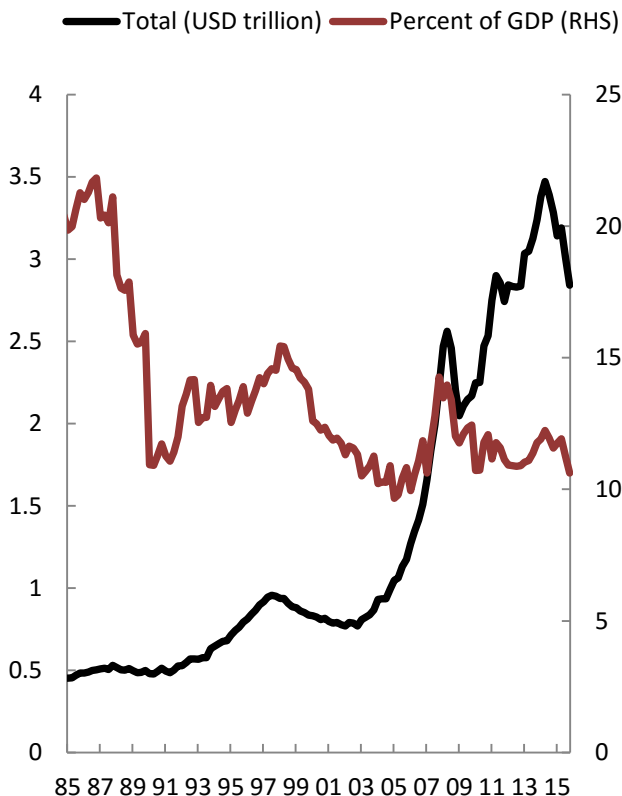
…with Euro area banks having a key role…
(percent; share of cross-border bank lending to EMs by banking systems)

…but with the U.S. dollar being the dominant currency
(percent; share of cross-border bank lending to EMs by currency denomination)

Exchange rates don't cleanly offset financial shocks

- Imagine a portfolio shift toward an EM's assets.
- Even if central bank does not intervene, and currency appreciates, domestic balance sheets may improve.
- Dollarization is lower, but not gone.
- Even at a constant current account balance and exchange rate, there can be offsetting *gross* position changes – e.g., corporates borrow and place funds abroad. Implications for FS, resilience.
- Portfolio shifts can show up in other prices along with exchange rate, such as corporate borrowing spreads, which fall with global liquidity/``risk on'' conditions.
- We need more/better **general-equilibrium** models.

- Following Shambaugh, Obstfeld-Taylor-Shambaugh, Klein-Shambaugh, consider the panel regressions:

$$\Delta i_{jt} = \alpha + \beta \Delta i_{bt} + \gamma' X_{jt} + \upsilon_{jt}$$

- With literally no monetary independence we expect β = 1. Would also be true for *long-term* rates.

- Initially pool all countries, with US as base currency.

- Then look at nuances, including: pegs, time effects to capture global interest rate shocks.

Evidence on interest rate relationships

	(1) US-base SR	(2) Multi-base SR	(3) Multi-base SR with Time Effects	(4) Multi-base SR with VIX Percent Change	(5) US-base LR	(6) Multi-base LR	(7) Multi-base LR with Time Effects	(8) Multi-base LR with VIX Percent Change
US-base SR change	0.0571							
	(0.158)							
Multi-base SR change		0.202	0.0457	0.240				
		(0.171)	(0.229)	(0.177)				
US-base LR change					0.354***			
					(0.0594)			
Multi-base LR change						0.548***	0.430***	0.631***
						(0.0668)	(0.136)	(0.0616)
VIX Percent Change				0.00236*				0.00291***
				(0.00139)				(0.000663)
Constant	-0.00166**	-0.00151**	0.000171	-0.00150**	-0.000791***	-0.000624***	-0.00113**	-0.000635***
	(0.000746)	(0.000751)	(0.000713)	(0.000745)	(0.000174)	(0.000165)	(0.000438)	(0.000165)
N	3273	3273	3273	3273	3076	3076	3076	3076
adj. R^2	0.034	0.036	0.061	0.036	0.048	0.084	0.138	0.094
Optimal Lags	5	5	5	5	0	0	0	0
p-value for F Test that growth and inflation change variables (and their lags, where applicable) = 0	2.81911E-12	5.34395E-12	2.29415E-07	2.31095E-11	0.07240475	0.17723405	0.04280572	0.13447361

From 2016 WEO, we also know that global factors matter less in countries with floating exchange rates

Share of Variation in Gross Capital Inflows Explained by Global Factors, 2000-2015 1/
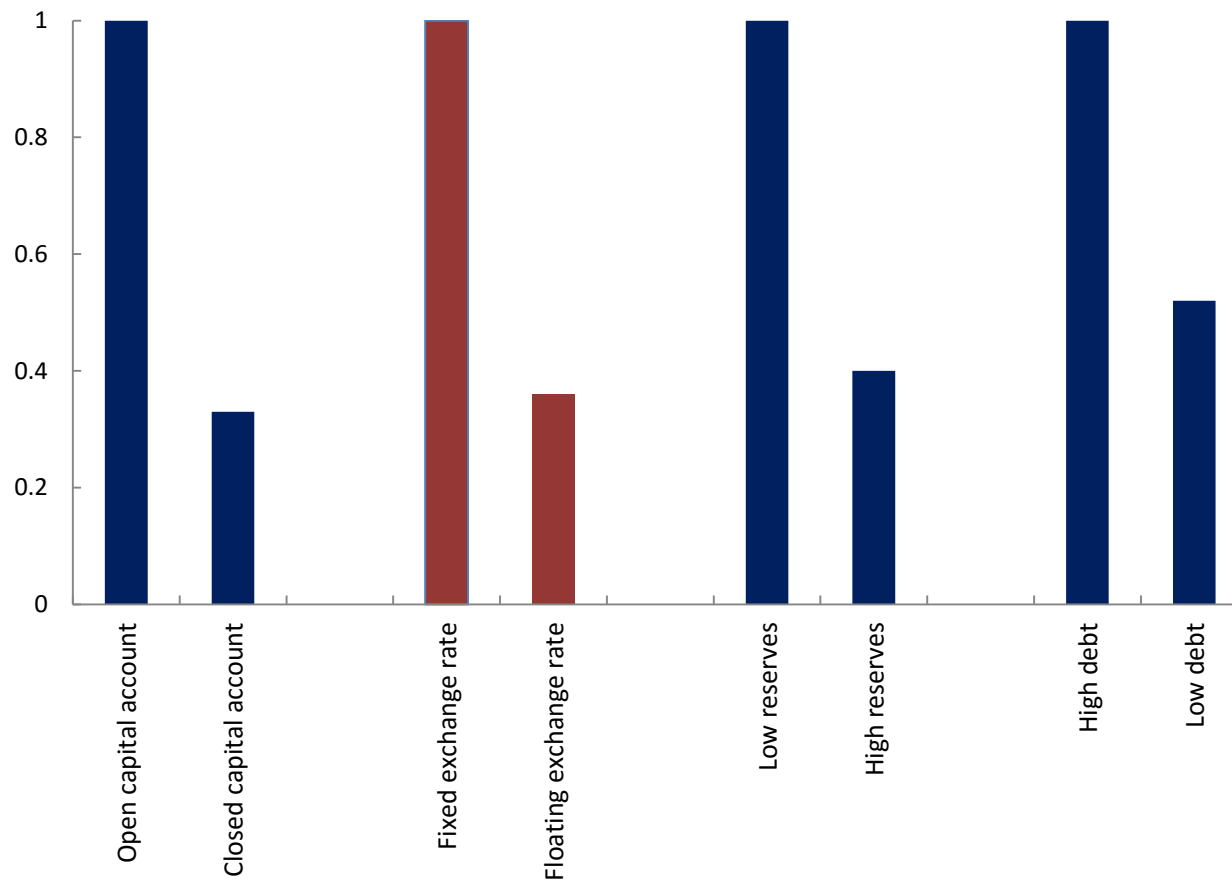
Sources: CEIC Asia database; CEIC China database; Fernandez and others 2015; Haver Analytics; IMF, AREAER; IMF, *Balance of Payments Statistics*; IMF, *International Financial Statistics*; World Bank, World Development Indicators database; and IMF staff calculations.
1/ R-squared values are from a regression of country-specific gross capital inflows on average gross capital inflows, normalized using within-group standard deviation of flows, with the base group set to 1.

- … but if capital account openness makes the FS problem harder to manage, and if additional prudential policy instruments are unavailable, monetary policy will deviate more from its other targets at an optimum.

- I will argue that **financial openness inevitably challenges prudential tools**.

- So tradeoff for policy is worse … even if monetary policy is potentially effective.

The following three are not all mutually compatible (Schoenmaker 2013):

1. Financial stability.
2. Nonintervention in cross-border financial flows.
3. National control over financial supervision and regulation.

<u>Note</u>: Valid *under any exchange-rate regime*.

For example: Cerutti, Claessens, and Laeven (2016) show that macroprudential measures induce greater cross-border borrowing in more open economies.

- Problematic to be lender of last resort in domestic currency.

- Analogy with internal versus external drain under the gold standard: Bagehot versus Thornton.

- Less ability to target reserve use for systemic foreign exchange liabilities.

- Lack of visible exchange rate risk encourages borrowing in foreign currency.

Resolving trilemmas and improving tradeoffs

Ingredients of a more efficient international system:

1. Flexible exchange rates.
2. Sound domestic macroprudential policies (addressing inadequacy of monetary policy alone).
3. More international coordination of regulation/resolution.
4. Including: more reciprocity, as in Basel III CCB rules.
5. Domestic regulatory control over large FBOs, as U.S. has done.
6. Since full coordination politically impossible, rules of road for capital controls, if they are at times needed to address idiosyncratic national issues – OECD code, IMF "institutional view" on CFM.
7. Enhanced facilities for international liquidity support (such as swap lines, FCL) – to counteract downsides of gross reserve accumulation.
8. More equity, less debt, and lower dollarization.