Comments on Akinci and Olmstead-Rumsey

'How effective are macroprudential policies? An empirical investigation'

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Background

o Nice empirical paper on a key policy question – at center stage since the global crisis

o Available evidence still very incomplete

- Measurement and data challenges
  - Systematic attention to MPPs largely a post-crisis phenomenon, so data availability limited until very recently
  - MPPs comprise very heterogeneous tools – including many hard to quantify and compare across countries / over time (the 'small print' matters)

o But empirical literature rapidly expanding

  - Along with large and very detailed datasets – notably the one in this paper

MPP Measurement

o Not a straightforward issue – no obvious metric
- Some readily quantifiable actions (e.g., capital ratios), but many are not
- Most literature resorts to 'tightening and loosening' approach (+1/-1)
- Leaves out the 'intensity' of policy changes
- Likely a source of measurement error (perhaps favorable!)

o This paper's MAPP: 7 categories; 57 countries, 2000-2013
- 3 housing: LTV, DTI, KS
  - KS includes capital gains taxes – not often explicitly linked to MPPs
  - Other housing taxes / subsidies should also matter for housing prices (and credit demand)
- 4 other: credit ceilings, capital ratios, dynamic provisioning, consumer credit limits

MPP Measurement (II)

o MAPP index as (unweighted) sum of actions in the various categories
  - OK in some special cases – e.g.,, if variables standardized and uncorrelated.
  - But if may be preferable to let the data dictate the weights:
      Principal components
      Or testing and imposing constraints on individual regression coefficients

o Missing from the analysis: reserve requirements
  - The most frequently used MP tool (60% of the 1,100 policy actions in Kuttner and Shim 2013)
  - Especially in emerging markets ('the poor man's MPP tool')
  - And empirically it has significant effects on credit growth -- Glocker & Towbin (2012) for Brazil, Tovar et al (2012) for LA, Federico et al (2014) for EMs.
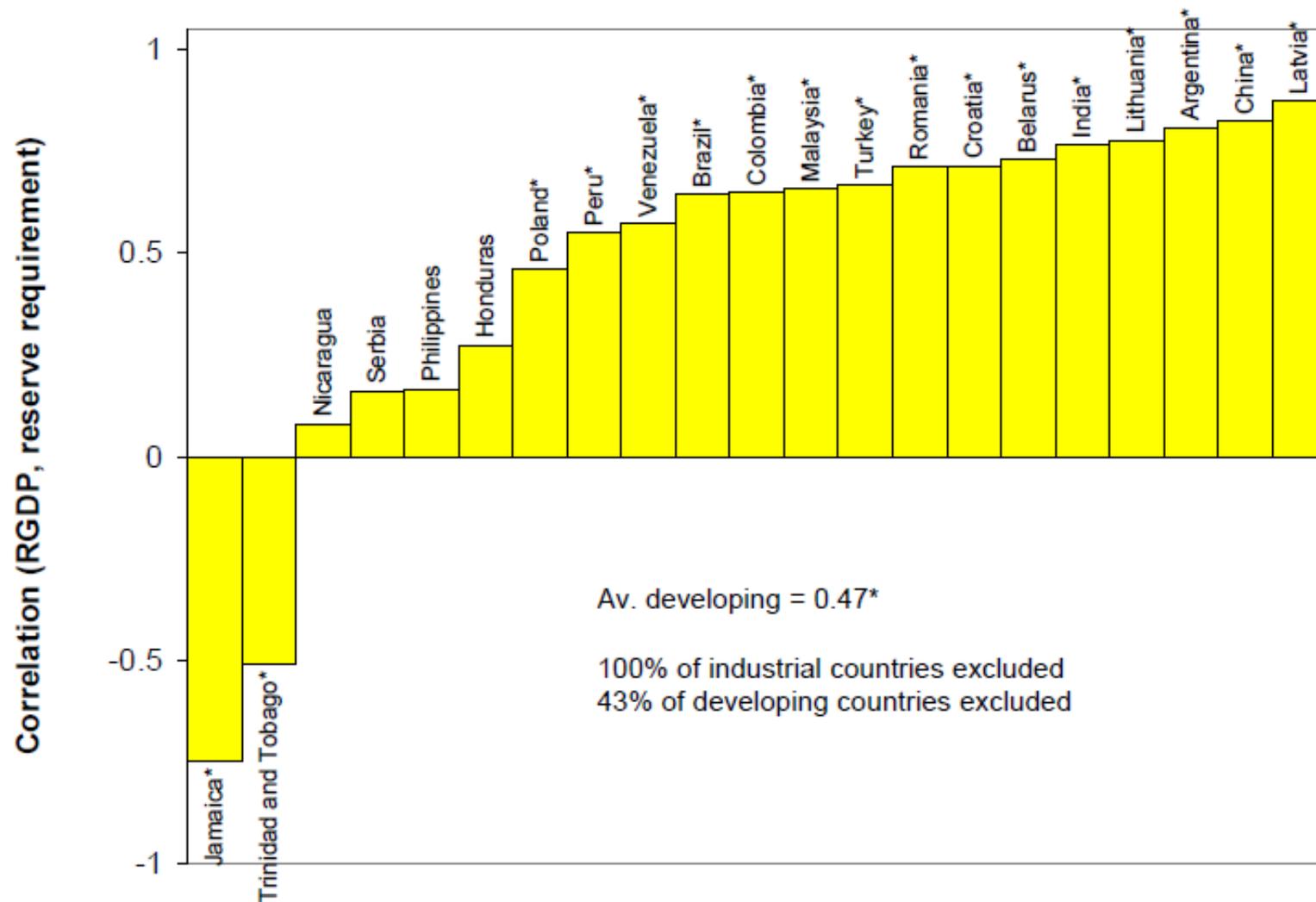
Policy actions by type and region

Table 1

	Asia-Pacific (13)		Central and eastern Europe (15)		Latin America (7)		Middle East and Africa (4)		North America (2)		Western Europe (19)		All economies (60)	
	absolute number	per decade	absolute number	per decade	absolute number	per decade	absolute number	per decade	absolute number	per decade	absolute number	per decade	absolute number	per decade
Reserve requirement	201	7.5	218	8.4	87	7.9	6	1.1	20	3.1	109	2.6	641	5.4
Credit growth	9	0.3	7	0.3	0	0.0	0	0.0	0	0.0	7	0.2	23	0.2
Liquidity	30	1.1	4	0.2	6	0.5	0	0.0	0	0.0	13	0.3	53	0.4
General credit total	240	9.0	229	8.8	93	8.4	6	1.1	20	3.1	129	3.0	717	6.1
LTV	56	2.1	11	0.4	2	0.2	0	0.0	4	0.6	21	0.5	94	0.8
DSTI	20	0.7	12	0.5	1	0.1	1	0.2	2	0.3	9	0.2	45	0.4
Risk-weighting	14	0.5	19	0.7	5	0.5	3	0.5	0	0.0	9	0.2	50	0.4
Provisioning	16	0.6	10	0.4	6	0.5	1	0.2	0	0.0	4	0.1	37	0.3
Exposure limits	11	0.4	8	0.3	0	0.0	0	0.0	0	0.0	1	0.0	20	0.2
Targeted credit total	117	4.4	60	2.3	14	1.3	5	0.9	6	0.9	44	1.0	246	2.1
Housing-related tax	50	1.9	23	0.9	0	0.0	0	0.0	5	0.8	70	1.6	148	1.3
Total	407	15.2	312	12.0	107	9.7	11	2.0	31	4.8	243	5.7	1111	9.4

Notes. The figures in the columns labelled "per decade" are the absolute number of policy actions taken in all economies in one region, divided by the sum of the number of coverage years for each economy in the region, and then multiplied by 10 so that it represents the average number of actions taken in a decade. The number of coverage years for each economy used to calculate the average value is the difference between June 2012 and the earlier of the following two years. (1) the first for which official source materials from central banks and financial authorities were reviewed in order to identify relevant measures; and (2) the first year in which a relevant policy action appears in the database.

Source: Kuttner and Shim (2013)

Figure 11. Panel B. Cyclicality of reserve requirement policy (2005-2011)

Av. developing = 0.47*

100% of industrial countries excluded
43% of developing countries excluded

Note: Average reserve requirement is used for calculations. Sample only includes active reserve requirement policy countries (21 of 37 developing economies are active). * indicates that the correlation is statistically positive at five percent level.

Source: Federico et al (2014)

MPP Measurement (III)

o The paper's data potentially a major addition – more on it would be helpful

- How does it compare with other large databases – e.g., Cerutti et al (2015)?
- How correlated are the different measures – e.g., are they usually taken together?
- How correlated are they with other policy measures – i.e., monetary policy, housing-related taxes, fiscal stance?
- And how correlated across countries?
    - Much of the MPP action reflects correlated responses to correlated shocks (i.e., the global financial cycle)

All this matters for identifying correctly the effects of MPP measures

- Bruno et al (2014): in Asian countries, changes in various MPP tools are strongly correlated
- And they are also significantly correlated with monetary policy changes

Response of macroprudential measures to a monetary policy shock[1]
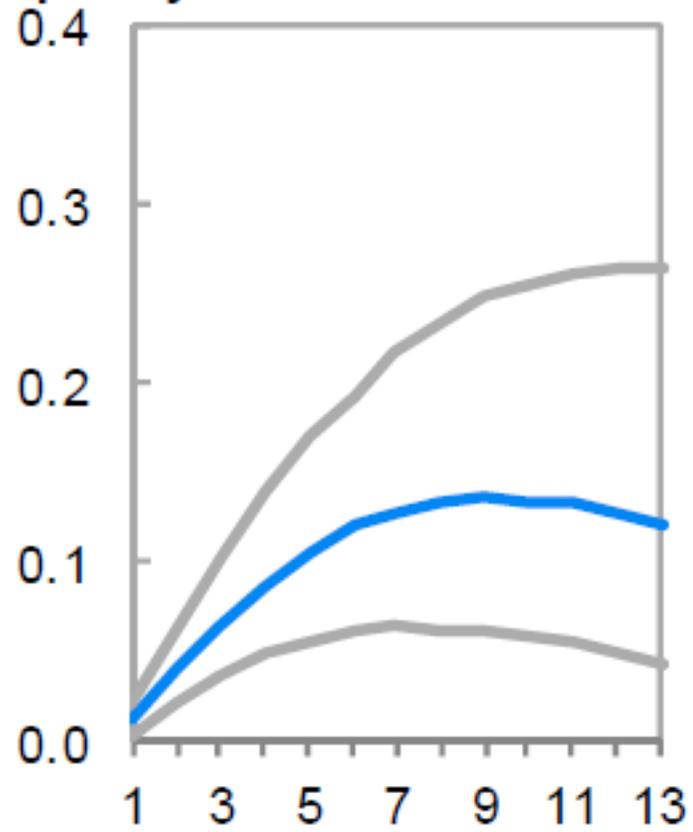
Response of monetary policy rates to a macroprudential shock[1]
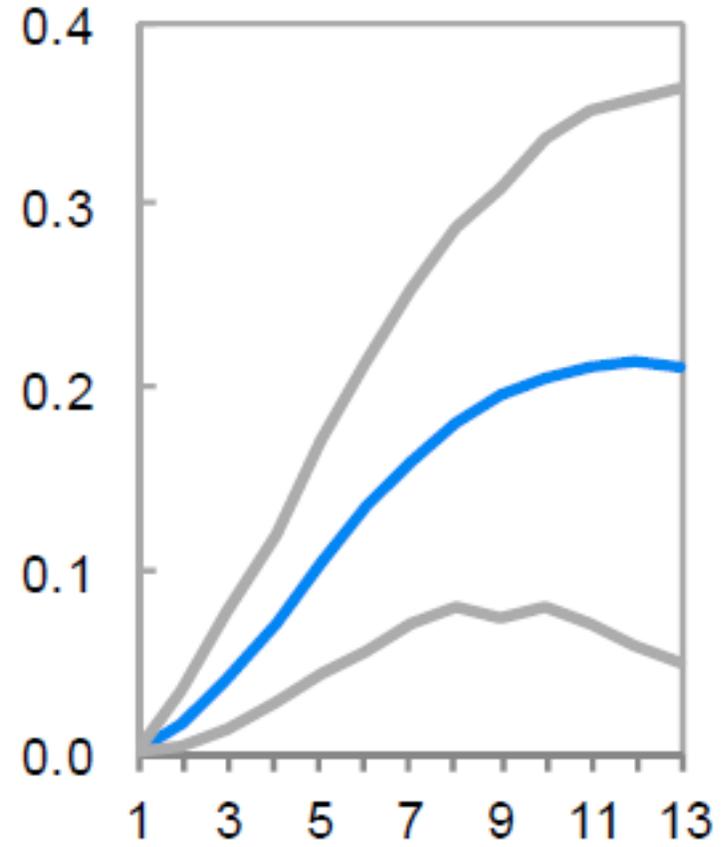
Source: Tovar et al (2012)

Empirical results

o Reduced-form regressions of total bank credit, housing credit, house prices, on MPP indices plus controls (policy rates, GDP, VIX)

o Results consistent with intuition

- Housing and non-housing MP tools affect total credit growth
  - Although DTIs, LTVs seem to matter little
- Housing-related MP tools affect housing credit and house prices
  - Some non-housing tools also matter when taken individually
  - Might find bigger effects of non-housing tools if asymmetry is allowed (Kuttner and Shim 2014)
- Bank controls and capital controls don't matter for credit growth
  - Is this a robust finding? (e.g., Zhang and Zoli 2014).

Empirical results (II)

What are the mechanisms at play?

o Policy complementarities: is MPP effectiveness affected by other policies?
  • e.g., bigger impact when implemented along with monetary policy? (Galati et al 2014)
  ➢ Add *interaction* effects with monetary / fiscal / CFM policies

o Heterogeneity: how do effects vary with economic / institutional conditions?
  • Asymmetries: magnitude / timing of effects of tightening not the same as loosening in reverse (Kuttner and Shim 2014, Vandenbussche et al 2012)
  • Cyclical stage (Cerutti et al 2015)
  • Financial development / depth: may weaken MPP effectiveness (Cerutti et al 2015)
  • Financial openness (Bruno et al 2014)
  ➢ Interactions / sample splits

Empirical results (III)

Some econometric quibbles and cheap shots

- Dynamics fixed at 1 lag of dependent and independent variables – would be better to test other specifications too
  - Higher lags may matter (e.g., Vandenbussche et al 2012, Bruno et al 2014)
  - No diagnostic statistics reported
- Lagged MPPs rather than IV approach
- VIX as only common factor
  - Shocks to credit and asset prices have a large international component
  - More flexible specifications – e.g., Pesaran CCE – likely preferable
- MPP in cumulative (level) form; policy rates in differences – why?
- Analysis of individual MPP tools one-at-a-time – better done jointly
  - Otherwise omitted variable bias (unless variables uncorrelated)

Broader questions

o **Offsetting forces**
- Empirics look at MPP effects on *domestic bank credit*
- Policy concern really be *total* credit – so spillovers across funding sources matter
  - Domestic credit from non-bank (unregulated) institutions
  - Foreign borrowing

  How big is their offsetting role in response to MPP shifts?

o **Economic significance**
- Are the effects 'big'? (e.g., Kuttner and Shim 2014: only taxes really matter for house prices)
- Do MPPs really help in *big* booms? (i.e., nonlinear effects)
- Still a rough guide to policy because the intensity of needed policy changes is not captured

End