What do we know about macroprudential policy so far?

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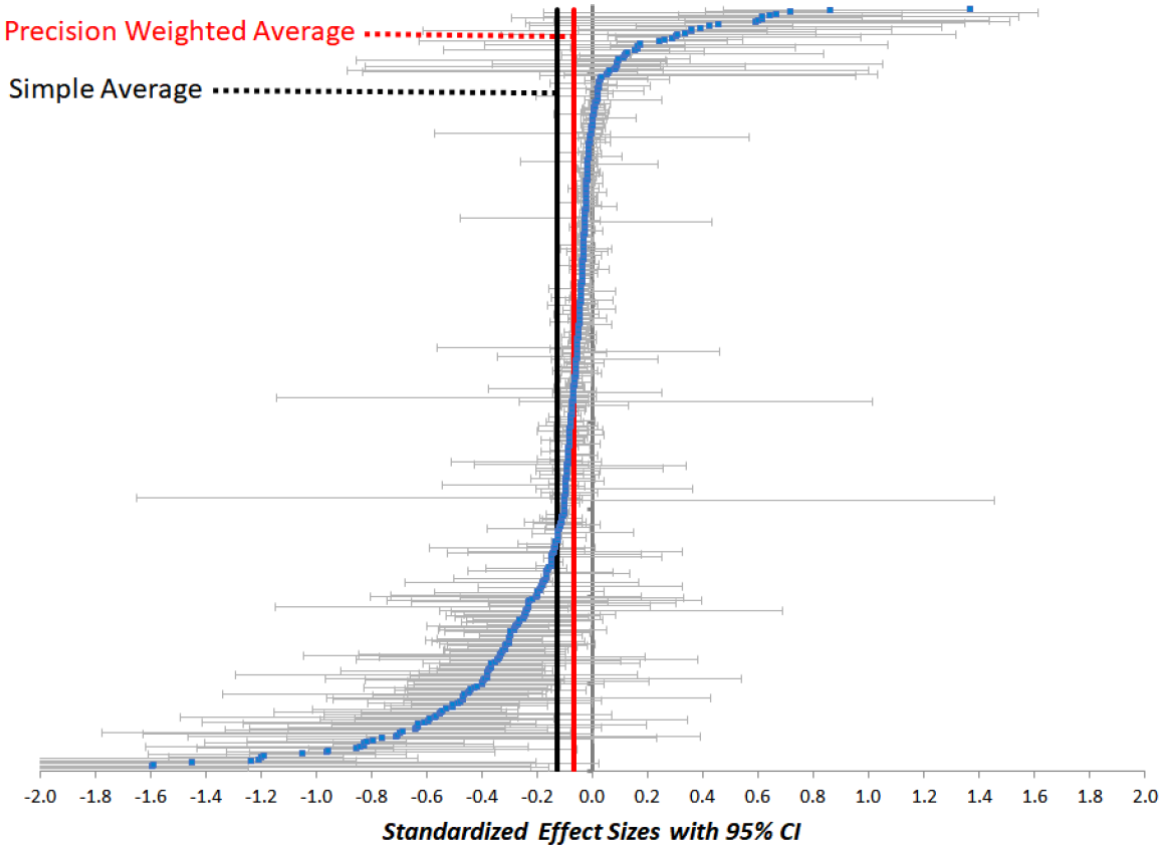
"20 years of Macroprudential Policy in Europe – looking back and looking forward"
National Bank of Slovakia, Bank of Finland, SUERF
Bratislava, 21-22 September 2023.

What we know empirically

- Credit booms tend to precede financial crises and hence should be prevented (e.g., Mendoza & Terrones (12))
- Mixed results on effectiveness of broad MPP indicators on aggregate credit and home prices (Galati & Moessner (13,18), Gambacorta & Murcia (19))
- Araujo et al. (20): metadata of 58 papers, 6k estimates
  a) Precision-weighted, standardized average effect of combined MPP tools on credit is about -0.8% but very noisy
  b) Controlling for unpublished papers, effect of broad-based tools on credit is insignificant (housing tools too if conditioning on "tools in place")
  c) All aggregate MPP tools have insignificant effects on *household* credit and home prices
- Stronger evidence for specific instruments (LTVs, DTIs, cap reqs.) and in micro data

Effects of tightening MPP on credit



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What we know theoretically
(surveys in Bianchi & Mendoza (18,20))

- ***Positive***: Fisherian deflation of collateral prices is a plausible mechanism for explaining crises facts
- ***Normative***: MPP tackles pecuniary externality & overborrowing caused by collateral constraints
- Optimal policy is very powerful (reduces sharply frequency and magnitude of financial crises)
- But implementation is challenging
  1. Very complex, nonlinear policy
  2. Lack of credibility (optimal policy is time-inconsistent)
  3. Unlike Taylor rule for MP, simple rules perform poorly

Simple v. optimal policies

$\tau = 0.6, \eta_b = 2, \bar{b} = -0.23$

	Decentralized Equilibrium	Optimal Policy	Best Taylor	Best Fixed
Welfare Gains (%)	–	0.30	0.09	0.03
Crisis Probability (%)	4.0	0.02	2.2	3.6
Drop in Asset Prices (%)	−43.7	−5.4	−36.3	−41.3
Equity Premium (%)	4.8	0.77	3.9	4.3
Tax Statistics				
Mean	–	3.6	1.0	0.6
Std relative to GDP	–	0.5	0.2	–
Correlation with Leverage	–	0.7	0.3	–

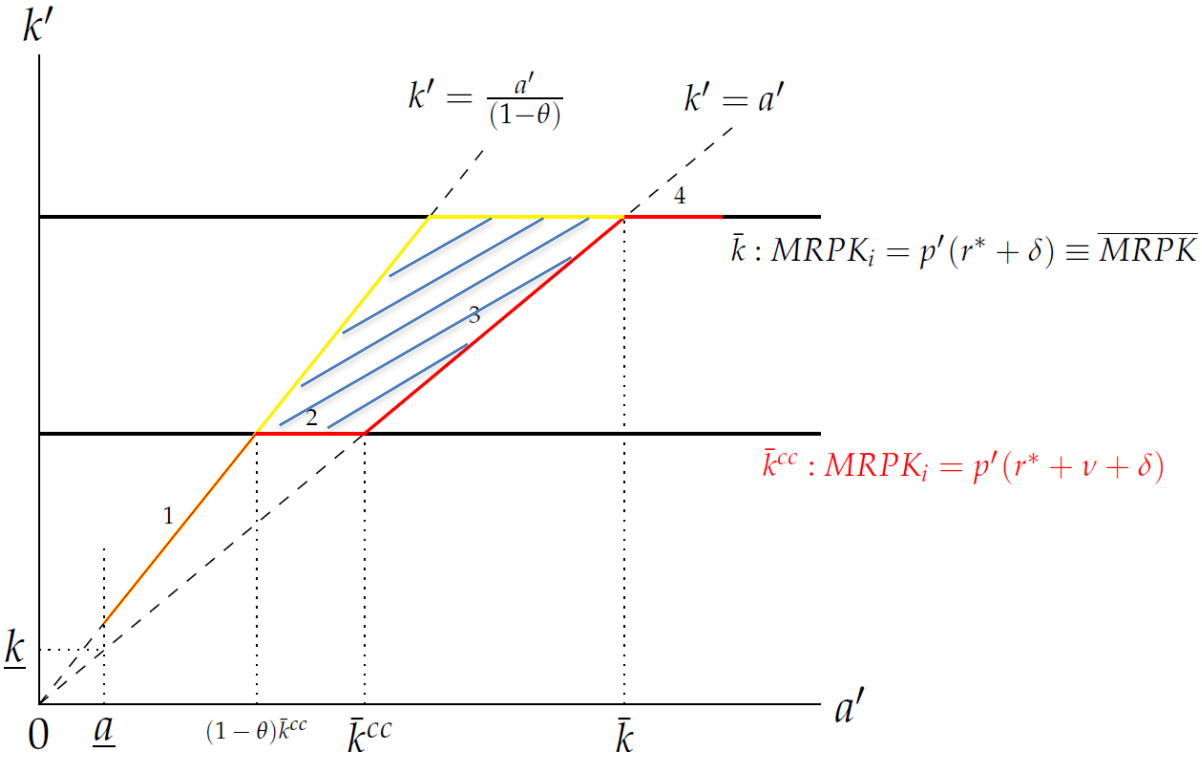
Financial Taylor Rule: $\tau = \max[0, \tau_0(b_{t+1}/\bar{b})^{\eta_b} - 1]$

- Results from Bianchi-Mendoza (JPE, 18), for a model with land as collateral calibrated to U.S. data

What we know theoretically (contn'd)

- **Interaction with MP**, separate MPP and MP rules far dominate LAW MP rules (Carrillo et al. (AEJMacro, 21))
- **Efficiency tradeoffs** are important, but little understood (MPP tools akin to capital taxes that distort investment)
- **Heterogeneity** of efficiency tradeoffs causes large capital misallocation and welfare losses (Andreasen et al. (23))
  - MPP tools work like size-dependent industrial policies
  - Mid-size, high-TFP and exporting firms affected the most
  - LTVs attain same overall credit reduction with significantly smaller "side effects" than CCs or debt surcharges
  - Strong empirical evidence in firm-level data from Chile's CCs episode in the 1990s

How CCs cause misallocation



Application to Chilean CCs: Long-run Effects

(unr. Res. Req. equivalent to 1.75% tax on inflows)

	CC regime $\nu = 0.0175$ $\theta^{NE} = 0.0610$	LTV regulation $\nu = 0$ $\theta^{NE} = 0.0538$
Exports	-0.82%	-0.94%
Share of exporters	-5.74%	-1.62%
Domestic Sales	-0.94%	-0.21%
Investment	-1.46%	-0.91%
Consumption	-0.73%	-0.08%
Final goods output	-0.85%	-0.21%
Real GDP	-0.56%	-0.38%
Real wage	-0.70%	-0.42%
Wage	-1.06%	-0.40%
Price level (Real ex. rate)	-0.36%	0.02%
Agg. credit/Value Added	-12.87%	-12.87%

Application to Chilean CCs: Misallocation & Welfare

(unr. Res. Req. equivalent to 1.75% tax on inflows)

	Baseline w. CCs		LTV regulation	
	Misallocation	Welfare	Misallocation	Welfare
All firms	0.50%	−0.61%	0.29%	−0.20%
Exp. status				
Exporters	1.25%	−1.82%	0.91%	−0.15%
Non-exporters	0.34%	−0.56%	0.16%	−0.20%
OSG				
Large	0.51%	—	0.31%	—
Small	0.23%	—	0.04%	—

Empirical evidence from Chilean CCs

	(1)	(2)	(3)
		$mis_{ijt}(VA)$	
VARIABLES	All firms	Balanced Panel	W/o crisis cohort
CC*TFP	0.876***		0.883***
	(0.122)		(0.126)
CC*Exp	0.224***		0.208***
	(0.030)		(0.030)
CC*OSG	0.248***		0.244***
	(0.031)		(0.031)
CC*TFP_BP		1.363***	
		(0.190)	
CC*Exp_BP		0.296***	
		(0.060)	
CC*OSG_BP		0.309***	
		(0.056)	
Observations	91,374	22,204	90,359
R-squared	0.624	0.579	0.625
Controls	YES	YES	YES
Firm FE	YES	YES	YES
Time FE	YES	YES	YES

So what do we know?

1. Credit booms precede financial crises, should be prevented.
2. Targeted MPP tools (LTVs, DTIs, Cap. Reqs.) are effective at reducing credit and home prices, but aggregate tools like CCs, CCyB much less clear
3. Even if effective, implementing MPP with a net cost/benefit gain is challenging (complexity, credibility, underinvestment, misallocation)
4. Quantifiable models capturing relevant tradeoffs play a crucial role in policy design
5. Fisherian models can explain the facts and provide a market-failure argument for MPP, but more progress is needed to determine whether other fin. frictions are also relevant