Discussion of: The Effect of LTV-Based Risk Weights on House Prices: Evidence from an Israeli Macroprudential Policy

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1. What do macroprudential policies do?

Table 1.1. Macroprudential Policy Tools

Number of macroprudential policy tools in use, 2018	>3	1–3	0	
Level of the countercyclical capital buffer, 2019 (percent)	>1	0–1	0	

Economy	Counter-Cyclical Capital Buffer	Nonbank Financial Sector Tools	Household Sector Tools	Corporate Sector Tools
Australia		■	■	
Austria			■	
Belgium		■	■	
Brazil		■	■	
Canada		■	■	
China		■	■	■
Denmark	■	■	■	■
Finland			■	
France	■			■
Germany		■		
Hong Kong SAR	■	■	■	■
India		■	■	■
Ireland	■		■	■
Italy		■	■	■
Japan		■	■	■
Korea		■	■	■
Luxembourg			■	
Mexico		■	■	■
Netherlands			■	
Norway	■		■	■
Poland		■	■	■
Russia		■	■	■
Singapore		■	■	■
Spain		■		
Sweden	■		■	■
Switzerland		■	■	
Turkey		■	■	■
United Kingdom	■	■	■	■
United States				

Source: IMF

1. What do macroprudential policies do?

- Widespread use of macropru policies, often via housing finance
- **What do these policies do?**
  - Reduce credit growth, and if so, how much? Asset prices? Default?
  - Improve financial stability, or just induce regulatory arbitrage?
  - How quickly do policies work? Long and variable lags?
  - Policy design: *Which* tools are most effective?
- Growing body of research uses micro-data to study these questions
  - **Laufer & Tzuer-Ilan 2019**, Acharya et al. 2019; Armstrong et al. 2019; Van Bekkum et al. 2018; Basten & Koch 2014 ...
- Future: Meta-analysis to understand variation in effects across countries and types of policies

2. This paper

- **Policy**: 100% risk weight if LTV $\geq$ 60% AND loan balance $\geq$ 800k.
- **Empirical strategy:** Use home value to calculate likelihood this dual condition would have been met in absence of policy:

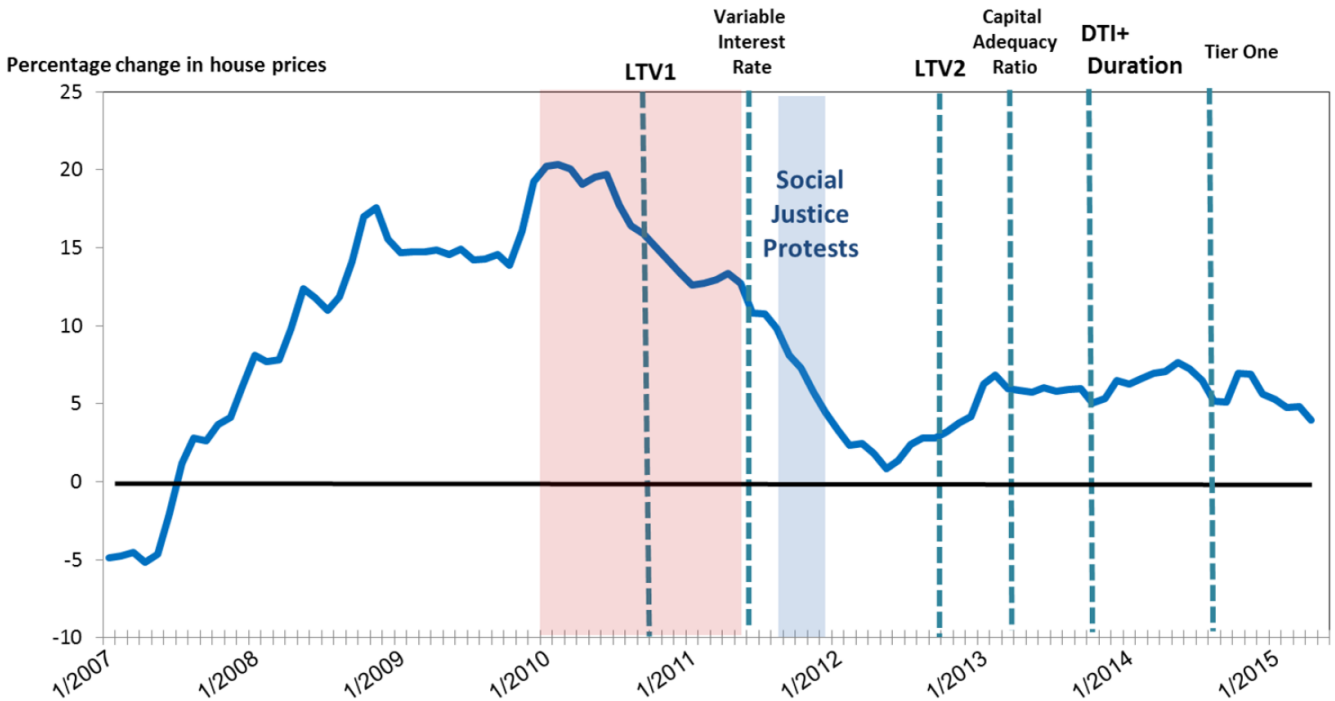
$$P(\text{mortgage}_i \geq 800k \ \& \ \text{LTV}_i \geq 60\%) = f(\text{home value}_i) \quad (1)$$

  where f(.) is constructed from "pre-policy" distribution of LTV

- Resulting "$treatment_i$" variable ranges between 0 and 0.45.
- **Finding:** Prices drop for properties affected by the LTV policy.
  - Magnitude: $treatment_i \times post_t$ = -0.031

3. Constructing the counterfactual

Would prices for high- and low-value homes have moved in parallel in absence of LTV policy? (would $treatment_i \times post_t = 0$?)



Source: Israel Central Bureau of Statistics.

Suggestion: Formal tests for parellel trends as in e.g., Autor (2003)

- Interact $treatment_i$ with vector of time dummies. Interaction effects zero before policy implementation? Trace out path over time.

4. Hedonic model

Treatment $\neq$ 0. Log-linear hedonic model seems misspecified.

				predicted price	
	PPSM	PPSM	PRICE	PPSM	PRICE
	(1)	(2)	(3)	(4)	(5)
3.roomsgroup	-0.183***	-0.101***	0.233***	-0.0591***	0.170***
	(0.00598)	(0.00603)	(0.00660)	(0.00643)	(0.00847)
4.rooms_group	-0.345***	-0.179***	0.441***	-0.0789***	0.525***
	(0.00775)	(0.00815)	(0.00930)	(0.00748)	(0.00852)
5.rooms_group	-0.490***	-0.241***	0.570***	-0.0811***	0.804***
	(0.00851)	(0.00927)	(0.0107)	(0.00833)	(0.00909)
lnage	0.00371***	-0.00346***	-0.0126***	-0.00741***	-0.0254***
	(0.000810)	(0.000887)	(0.00111)	(0.000991)	(0.000459)
Treatment	0.156***	0.744***	1.010***	0.744***	1.012***
	(0.00623)	(0.0175)	(0.0176)	(0.0170)	(0.0176)
After	0.0812***	0.0998***	0.0940***	0.0959***	0.0846***
	(0.00360)	(0.00362)	(0.00380)	(0.00287)	(0.00363)
TreatmentAfter	-0.0404***	-0.0309***	-0.0235***	-0.0212***	-0.0287***
	(0.0108)	(0.0119)	(0.0092)	(0.0095)	(0.0042)

Suggestion: Estimate richer hedonic model to capture nonlinearities.

- E.g.,: (i) Interaction effects, (ii) include transformations of sqm, (iii) machine learning methods.

5. Endogeneity of $treatment_i$ variable

Authors run regressions of the form:

$$ln(price_i) = \alpha.treatment_i + \beta.treatment_i \times post_t + \gamma X_i + e_i \qquad (2)$$

But $treatment_i$ is itself a function of the property price! Violates orthogonality assumption that $E[e_i|treatment_i] = 0$.

Suggestion: Always construct $treatment_i$ using predicted property value based on property characteristics e.g.,:

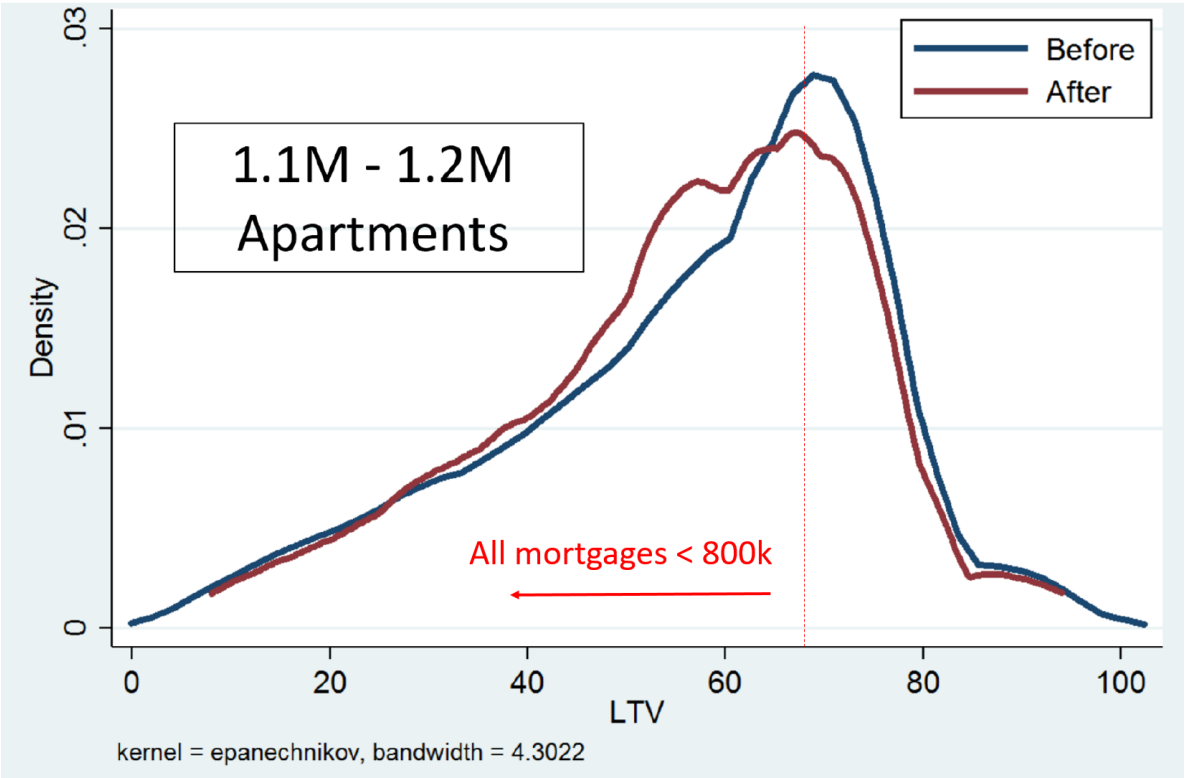
$$\widehat{price_i} = h_{pre}(X_i) \times (1 + \text{agg. price growth}) \qquad (3)$$

Variation of this is implemented but only in a small part of the paper (method also not very transparent).

6. Data puzzles

- **Suggestion:** show graphically evidence of mortgage bunching right below policy threshold = max(800k, home value/0.6)

- Data puzzles? e.g., see below: bunching significantly <800k
  - An artifact of kernel smoothing or something else?



7. Summing up

- Interesting paper examining a nice natural experiment. Some work to do to further refine analysis and isolate effect of LTV policy.

- Paper contributes to growing literature using applied micro methods to evaluate macroprudential policies:
  - Expect much more work, given widespread macropru + micro data.

- **Long-term goal:** Assemble an integrated body of evidence to tell us which macro-prudential policies are effective and how they work.

Appendix: Additional suggestions for authors

- Include table of summary stats for all variables used in analysis
- What can you say about effective shadow cost of capital. E.g. compare to Grancy and Kurtzman paper for the US looking at HVCRE. (Maybe more relevant to other Tzur-Ilan paper).
- You only study the initial macropru policy but there were others as well – why not study all of them? Additional identification.
- You have multiple papers on these policies – may be better to combine together? (E.g., would be nice to have interest rate evidence here as well).