"The price of leverage: learning from the effect of LTV constraints on job search and wages" By Gazi Kabas and Kasper Roszbach

Discussion by Tania Babina

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My comments

- Comment 1: Was the reform important?
- Comment 2: Treatment
- Comment 3: Macro framing vs. micro estimates

Comment 1: Was the reform important?

- Reform: in 2012 limits new mortgage LTVs to 85% (affects 65% of mortgages)
- In paper, say that an earlier 2010–2011 version of the reform did not work
- Therefore, exclude 2010-2011 years from the diff-in-diff regression analysis
- But never show histogram showing LTV distribution of mortgages before/after the reform
- Footnote 18: remove people with LTV above 85% (new LTV limit) from treated sample

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- But never show histogram showing LTV distribution of mortgages before/after the reform
- Footnote 18: remove people with LTV above 85% (new LTV limit) from treated sample
- Suggestion. Start with histograms showing mortgage LTVs before and after the reform
  - Do this for the entire population of new mortgages (not just tiny regression sample)
  - I would like to see no bunching at 85% before the reform and clear bunching after
  - Bunching itself can be used for identification (new IO methods)

Comment 2: Treatment

- Since do not observe treatment (who would have wanted to get mortgage above 85% LTV but could not), predict treatment using machine learning model trained on personal characteristics and other pre-reform variables
- Issue: normally want to have treated and control groups to have similar characteristics
- Here: the definition of treatment is based (mainly) on personal characteristics

Comment 2: Treatment (cont.)

Treated (LTV>85%) and control (LTV<85%) groups look very differently:

	$d(\widehat{LTV}<0.85)$	$d(\widehat{LTV}\geq 0.85)$	Difference	t-stat
Income_{t-1}	1120.76	710.29	410.47	8.67
Wage_{t-1}	1065.95	687.38	378.57	8.31
$\text{Debt-to-Income}_{t-1}$	2.58	1.54	1.04	4.20
Deposits_{t-1}	869.19	156.09	713.10	28.61
$\text{Business Inc.}_{t-1}$	54.81	22.91	31.90	2.05
$\text{Parents' Debt}_{t-1}$	1898.84	1987.59	-88.75	-0.46
$\text{Parents' Dep.}_{t-1}$	1458.99	600.92	858.06	10.18
$\text{Parents' Wealth}_{t-1}$	1508.78	529.30	979.48	4.82
Age	36.09	32.39	3.70	5.58
Immigrant	0.18	0.20	-0.02	-0.90
Immigrant^{Mot}	0.21	0.24	-0.03	-0.94
Immigrant^{Fat}	0.29	0.30	-0.01	-0.27
College	0.73	0.39	0.34	10.68
College^{Mot}	0.26	0.17	0.09	3.63
College^{Fat}	0.33	0.18	0.15	5.66
Observations	1880			

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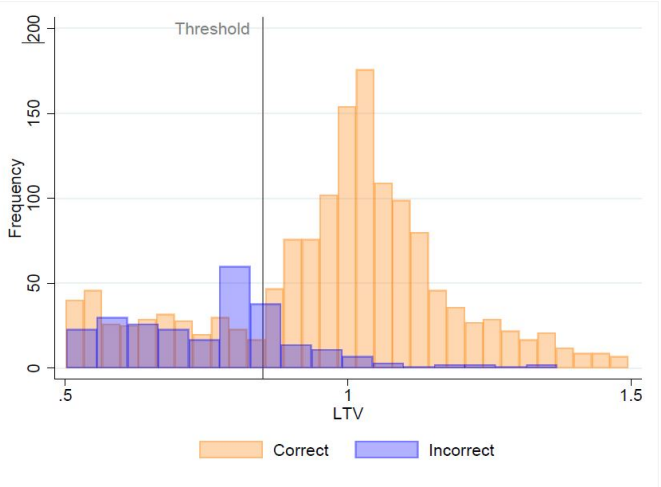
- Issue: normally want to have treated and control groups to have similar characteristics
- Here: the definition of treatment is based (mainly) on personal characteristics
- Hence, treatment effect driven by differences between treated and control groups
- For example, bank deposits is most important predictor of treatment
- Include education fixed effects as control but not other characteristics

Comment 2: Treatment (cont.)

- Another question: how well can machine learning algorithm **correctly** predict treated/control individuals?



Comment 3: Macro framing vs. micro estimates

- Macro (policy experiment): how does macro-prudential policy to restrict mortgage LTVs affect labor market outcomes
- Micro (what paper does): examines small subset of people (approx 1800)
  - Sample: people who just got mortgage, then get fired in mass layoff
  - Finds very large magnitudes: reducing DTI by 25% leads to increase in unemployment durations by 79 days and wage gain of 3.3pp
  - But argues that this reform did not have any significant other changes (e.g. mortgage applications, house prices, who gets mortgages)

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- Suggestion. Consider re-focusing main analysis on ALL workers (intent to treat effects)

My other questions to authors

- To control for shocks, why not use industry-time and location-time FE and instead use location-industry FE?
- Figure A shows unemployment over time and shows that unemployment is lower during the Financial Crisis. Is this a mistake? Should it be showing employment instead?
- The mean of wage growth is -0.074 in every single sub-sample. Is this a typo?
- Why is the number of observations of 1800 (number of unique people) in all tables that are panel regressions?
- How do you define wages for (unemployed) people who did not find a job post-treatment?

Summary

- Interesting paper with a great potential
- Identification: consider trying identification based on bunching around 85% LTV
- Macro vs micro implications: consider re-focusing main analysis on broader sample of workers (intent to treat)