Discussion of : Fiscal Stimulus and Housing Booms: Evidence from the 2003 Tax Cuts

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Big Question

What is the effect of the 2003 tax cuts on pre-recession house prices?

- Focus on dividend income and capital gains tax cuts.
- Increased disposable income $\Rightarrow$ higher demand for housing.
- Novel variable: Stock market exposure.
- Causal identification strategy:
  - Diff-in-Diff setup.
- Highlight the importance of fiscal policy on housing market

Key Takeaway: Counties with higher stock market exposure in 2002 have higher house price growth after 2003.

Difference in Difference

Two Way Fixed Effects (TWFE) setup:

- Average Treatment Effect: β
- Treatment: $\textbf{DivRatio}_{i,2002}$

$$\Delta HP_{i,t} = \beta\ \textbf{DivRatio}_{i,2002} \times Post_t + \gamma X_{i,t} + \alpha_i + \alpha_t + \epsilon_{i,t}$$

Parallel trends assumption:

- In absence of tax cuts, counties with varying levels of stock market exposure would have followed a similar house price growth.

Main Result

House price growth is higher in counties with higher stock market exposure

- 1 SD increase in stock market exposure leads to a 0.8% increase in house price per year.

	(1)	(2)	(3)
Div Ratio$_{2002}$ × Post	1.337***	1.372***	1.263***
	(0.000)	(0.000)	(0.000)
Population Growth		0.635***	0.664***
		(0.000)	(0.000)
IPC Growth		0.014	0.012
		(0.498)	(0.541)
ΔUnemployment Rate		-0.001	-0.000
		(0.565)	(0.795)
Population$_{2002}$ × Post			0.000***
			(0.001)

Comment 1: DiD with Heterogeneous Effects

ATE and ATT estimates may be biased when the treatment effect shows heterogeneity (de Chaisemartin and D'Haultfoeuille (2022))

$$\beta = \mathbb{E}\left[\sum_{(i,t):D_{i,t}\neq 0} W_{i,t} TE_{i,t}\right], \quad TE_{i,t} = (Y_{i,t}(D_{i,t}) - Y_{i,t}(0))/D_{i,t}$$

- Treatment varies across counties
  - Higher stock market exposure $\Rightarrow$ higher house price growth
- The weights ($W_{i,t}$) could be negative, especially with multivalued treatment

Necessary Condition: In every period where the population's treatment is higher than its average across periods, the treatment of each treated group must also be larger than its average across periods

Comment 2: DiD with Continuous Treatment

Callaway, Goodman-Bacon, Sant'Anna (2024): TWFE estimators fail to have causal interpretation

1. Stronger Parallel Trend Assumption:
   - the average evolution of house price growth for the entire population if all experienced increase δ is equal to the path of outcomes that county i with treatment δ actually experienced.
2. Estimate β and be aware that it is a combination of the Average Causal Response and Average Treatment Effect of going from 0 to small δ.
3. Non-parametrically estimate the Average Causal Response function

Comment 3: Spatial Correlation

House price growth can be spatially correlated

- Authors aware of this and show regression estimates with neighboring counties.
- Could be beneficial to show spatial correlation robust standard errors (Watson & Müeller (2022))

Concluding Remarks

- Really nice paper:
  - Estimate the effect of fiscal policy on the housing market.
  - Causal DiD setup.
  - Novel treatment variable: stock market exposure
- Rich findings:
  - Higher stock market exposure lead to faster house price growth.
  - Effect is stronger where exposure is large relative to local house prices.
- DiD with Continuous Treatment can add more richness to the findings
- Robustness check with spatial correlation adjusted standard errors.