Housing Speculation, GSEs, and Credit Market Spillovers

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ABSTRACT

In 2021, the U.S. Treasury reduced Government Sponsored Enterprises (GSEs) exposure to speculative mortgages. As a result, GSE purchases fell by about 20 percentage points. The policy reduced credit to speculative investors in housing, but increased credit to unaffected parts of the conforming-mortgage market. Banks responded by reallocating provision of speculative mortgage credit across their local markets, which in turn affected their provision of small business credit. These adjustments are most pronounced where banks do not own branches. The results suggest that banks manage credit provision not only in a macro sense – the focus of most research – but also market-by-market.

RESEARCH QUESTION

- What effects did the GSEs' purchase caps on speculative and high-risk mortgages have on the following?

1. Mortgage lending.
2. Non-mortgage lending.
3. Real estate market.
4. Local economy.

MOTIVATIONS

- Opportunity to study:

1. The spillover effects of GSEs' subsidy.
2. The impact that credit-fueled speculation has on housing markets.

INSTITUTIONAL DETAILS

- On **January 14, 2021**, the U.S. Treasury and the FHFA, **announced** additional changes to the PSPA to further strengthen GSE capitalization, along with other changes aimed at limiting their risk exposure.
- We focus on the following **Purchase Caps**:

1. Mortgages secured by second homes or investment properties to 7% of SFR acquisitions.
2. High-risk purchase mortgages to 6% and refinance mortgages to 3% of SFR acquisitions.

- High-risk mortgages have high CLTV, high DTI, and/or low credit score. Two out of three criteria must be met.
- The caps were applied based on a trailing 52-week period.
- The caps were **implemented on April 1, 2021**, and **suspended in September 2021**.

DATA

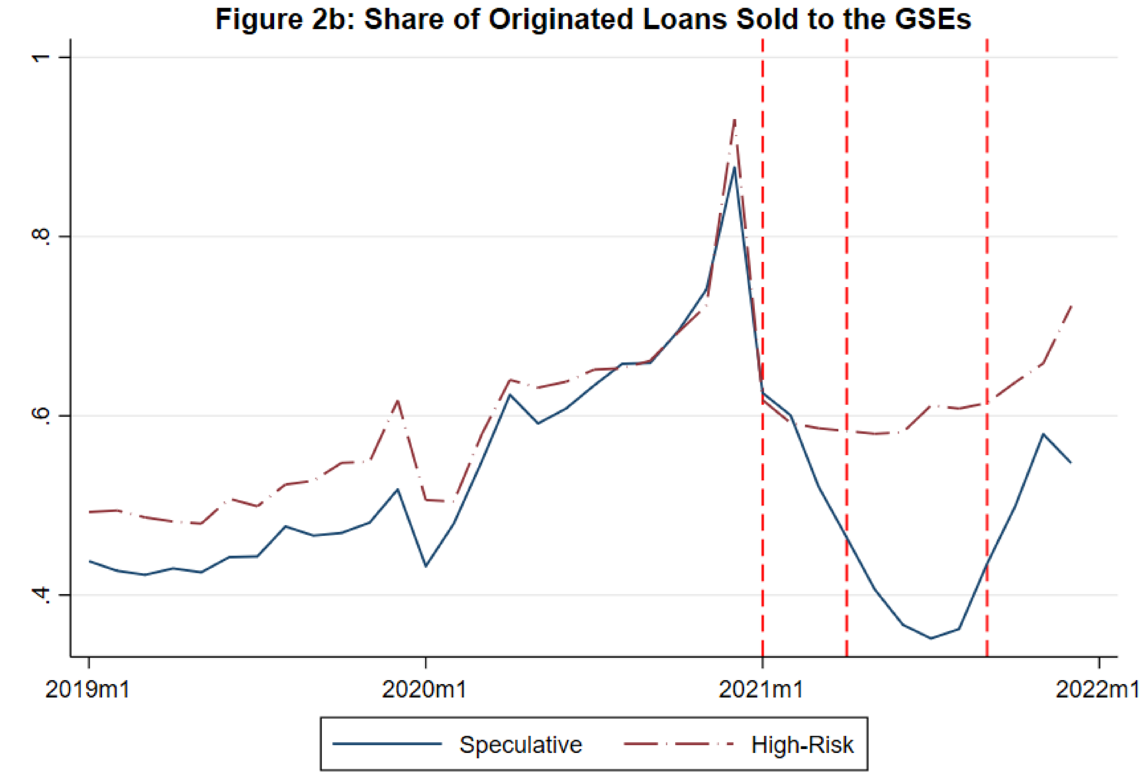
- **Confidential HMDA** – Mortgage application data with applicant characteristics, loan characteristics, application outcomes.
- **CoreLogic** – Housing transaction data.
- **Community Reinvestment Act (CRA) Data from the FFIEC** – Data on small business lending and CRA assessment area.
- **FDIC Summary of Deposits** – Bank branch data.
- **Call Reports** – Bank financial data.
- **Census Bureau Building Permits Survey** – Construction permits data.
- **BLS Quarterly Census of Employment and Wages** – Construction sector employment and wage data.

METHODOLOGY

- **Application/loan level** – Difference-in-differences (DiD) where treated group is speculative or high-risk mortgages and control group is safe conforming mortgages. Treatment timing shocks are (1) announcement (2021Q1) and (2) implementation (2021Q2).
- **Tract level** – DiD with treatment intensity defined as share of conforming speculative mortgages sold to the GSEs in 2020.
- **Lender-county level** – DiD with treatment intensity defined as share of conforming speculative mortgages sold to the GSEs in 2020.

POLICY CONSTRAINT

Figure 2b: Share of Originated Loans Sold to the GSEs

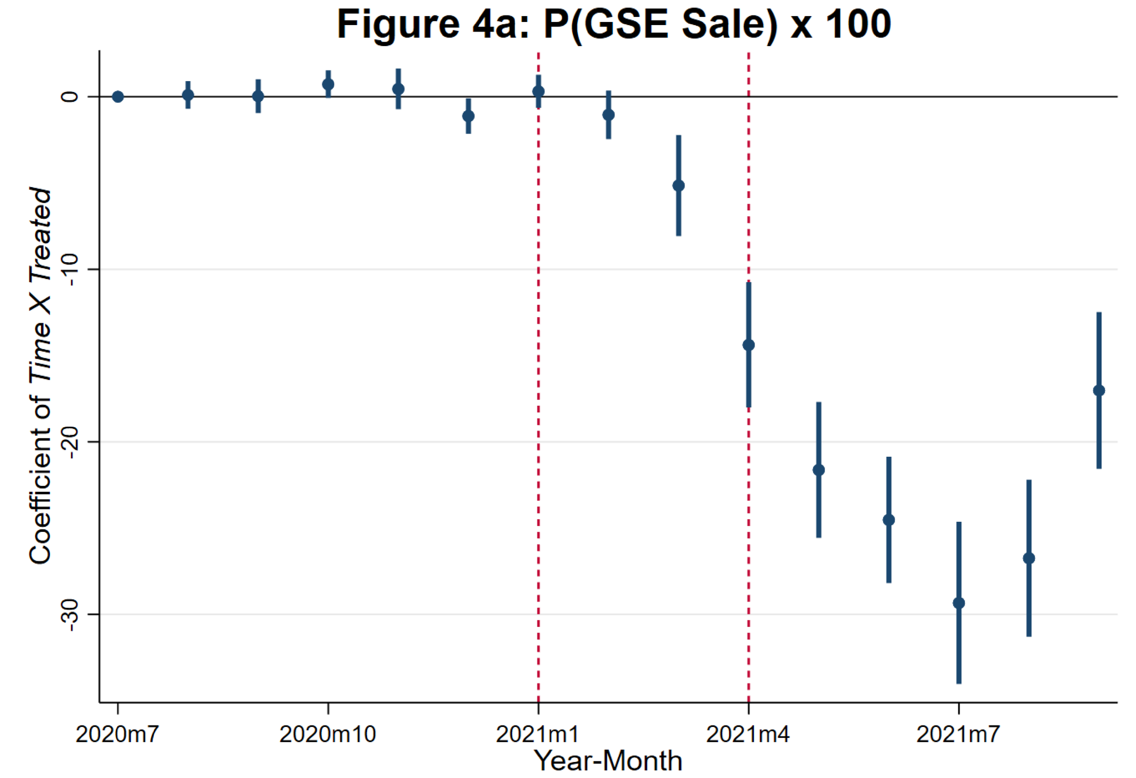


- The cap appears to be binding just for speculative mortgages so we:

1. Define treatment intensity based on speculative mortgage shares.
2. Main results focused on speculative mortgages.

LOAN-LEVEL RESULTS

Figure 4a: P(GSE Sale) x 100



- Probability of sale to GSE for speculative mortgages decreased by 20%. No effect for high-risk mortgages.
- Rejection probability does not change for speculative mortgages but decreased by 2% for high-risk mortgages. Suggesting credit reallocation.
- Interest rate increased by 13 bps for speculative mortgages and decreased by 2 bps for high-risk mortgages. Suggesting credit reallocation.

TRACT-LEVEL CREDIT SUPPLY RESULTS

	Speculative	Risky	Safe
	(1)	(2)	(3)
Treatment Intensity × Announcement	-0.500***	0.198**	0.403***
	[0.023]	[0.087]	[0.021]
Treatment Intensity × Implementation	-0.503***	0.297***	0.155***
	[0.019]	[0.062]	[0.017]
Tract FE	Y	Y	Y
Year-Quarter FE	Y	Y	Y
Controls	Y	Y	Y
SE Cluster	Tract	Tract	Tract
Observations	173,522	137,676	321,936
R-squared	0.804	0.549	0.879

- Origination volume:

1. Decreased for speculative mortgages.
2. Increased for high-risk and safe mortgages.

- Consistent with credit reallocation to unconstrained markets.
- Application volume regression results are similar. → Lenders encourage/discourage applicants across products.

TRACT-LEVEL HOUSING MARKET RESULTS

	% Speculative Transactions		% Primary Transactions		% Corporate Transactions	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Intensity × Announcement		-0.017***		0.009		0.005
		[0.006]		[0.007]		[0.006]
Treatment Intensity × Implementation	-0.027***	-0.033***	0.009**	0.012**	0.015***	0.017***
	[0.005]	[0.005]	[0.005]	[0.005]	[0.004]	[0.005]
Tract FE	Y	Y	Y	Y	Y	Y
Year-Quarter FE	Y	Y	Y	Y	Y	Y
SE Cluster	Tract	Tract	Tract	Tract	Tract	Tract
Observations	325155	325155	325155	325155	325155	325155
R-squared	0.76	0.76	0.756	0.756	0.493	0.493

	House Price Growth (Average Price)		House Price Growth (Median Price)	
	(1)	(2)	(3)	(4)
Treatment Intensity × Announcement		-0.066***		-0.066***
		[0.014]		[0.013]
Treatment Intensity × Implementation	-0.01	-0.032***	0.002	-0.020**
	[0.008]	[0.008]	[0.008]	[0.008]
Tract FE	Y	Y	Y	Y
Year-Quarter FE	Y	Y	Y	Y
SE Cluster	Tract	Tract	Tract	Tract
Observations	318,239	318,239	318,239	318,239
R-squared	0.065	0.066	0.069	0.069

- In more intensely treated tracts:

1. Share of speculative housing transactions decreased.
2. Share of primary residence and corporate transactions increased.
3. House prices decreased in more intensely treated tracts.

- Results suggest that:

1. Cutting GSE subsidy had cooling effects on the housing market.
2. Corporate investors filled in the gap from mom-and-pop investors.

LENDER-COUNTY SPECULATIVE MORT RESULTS

	(1)	(2)	(3)	(4)
Post × Treatment Intensity	-2.166***	-4.369***	-2.649***	-4.389***
	[0.376]	[1.144]	[0.557]	[1.151]
Post × Branch		0.108***		0.101***
		[0.028]		[0.033]
Post × Branch × Treatment Intensity		2.370**		2.271**
		[1.054]		[1.091]
Post × CRA Assessment Area			0.101***	0.01
			[0.032]	[0.037]
Post × CRA Assessment Area × Treatment Intensity			0.902	0.251
			[0.628]	[0.624]
Lender-Year FE	Y	Y	Y	Y
County-Year FE	Y	Y	Y	Y
Lender-County FE	Y	Y	Y	Y
SE Cluster	County and Lender	County and Lender	County and Lender	County and Lender
Observations	49,384	49,384	49,384	49,384
R-squared	0.56	0.562	0.561	0.562

- Banks cut speculative mortgage lending in more exposed counties that do not have branches.
- Consistent with soft information channel. → Banks remain in markets where they have information advantage.
- **Banks also manage risk market-by-market and not just at the balance sheet level.**
- No result for jumbo mortgages possibly due to private label securitization.

LENDER-COUNTY CRA LOAN RESULTS

	(1)	(2)	(3)	(4)
Post × Treatment Intensity	-1.636***	-3.781**	-1.089**	-3.248**
	[0.312]	[1.597]	[0.469]	[1.515]
Post × Branch		-0.640***		-0.438***
		[0.085]		[0.081]
Post × Branch × Treatment Intensity		3.469**		3.263**
		[1.578]		[1.509]
Post × CRA Assessment Area			-0.621***	-0.258***
			[0.082]	[0.060]
Post × CRA Assessment Area × Treatment Intensity			0.951	-0.248
			[0.578]	[0.429]
Lender-Year FE	Y	Y	Y	Y
County-Year FE	Y	Y	Y	Y
Lender-County FE	Y	Y	Y	Y
SE Cluster	County and Lender	County and Lender	County and Lender	County and Lender
Observations	64,288	64,288	64,288	64,288
R-squared	0.819	0.842	0.839	0.843

- Same pattern as speculative mortgage growth.
- **Consistent with banks having information synergy across loan products.**

OTHER RESULTS

- No detectable effect on: (1) other types of lending, (2) housing permits, (3) construction sector wage and employment.
- (2) and (3) may be driven by the short-lived nature of the caps.

CONCLUSIONS

- GSE purchase cap was binding for speculative mortgages but not high-risk mortgages.
- Banks cut back on speculative mortgages and reallocate credit to high-risk and safe mortgages.
- The purchase cap cooled down more affected housing markets. → Credit-fueled speculation matters for housing markets.
- Banks manage risk locally and not just at the balance sheet level.
- Banks cut back on small business loans. → There is information synergy across different risky loan products.

DISCLAIMER

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