Small Mortgages and the Rise of FinTech and Shadow Banks

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Abstract

We find that areas more exposed to FinTech and shadow bank growth have significantly higher small mortgage denial rates despite similar application quality and local economic trends. We also find a corresponding reduction in small mortgage originations as well as lower owner occupancy shares among originated small mortgages.

Motivation

- A fast increasing trend in the market share of FinTech and shadow banks within the U.S. mortgage market.
- Important to understand unexpected spillover effects on traditional bank lending.
- We study small mortgages (e.g., <$100k) since these mortgages are typically originated by brick-and-mortar banks and held in portfolios.

Methodology

We employ a Bartik-style (shift-share) variable to instrument for FinTech-shadow share (FS share) growth:

$$Bartik = \sum_{All\ lenders} Lender\ share_{c,t0,L} \times Lender\ growth_{t,L}$$

where Lender share is lender L's share in county c in 2009, and Lender growth is lender L's yearly origination growth (leaving out current CBSA).

Exclusion restriction condition

- The initial lender shares are not strongly correlated with local default risks.
- The instrument is not correlated with applicant quality (i.e., income, LTV, DTI).

Relevance condition

- Our instrument variable is significantly correlated with the FinTech-shadow share growth rate.

Main Findings

- Our IV results suggest that a 10% growth in FinTech and shadow bank market share increases small mortgage denial rates by around 5.2% to 7.6%.
- The rise of FinTech and shadow bank lenders is also associated with higher costs for small mortgages (e.g., total loan costs and origination charges).
- 2SLS results

First stage

Dep. Var.	FinTech-Shadow share growth					
Sample period	2011-2021		2012-2021		2013-2021	
Bartik (2009)	0.087***	0.087***	0.076***	0.076***	0.063***	0.063***
	(0.016)	(0.016)	(0.017)	(0.017)	(0.019)	(0.019)
Observations	15,484,560	15,484,560	14,179,817	14,179,817	12,832,400	12,832,400
Adj. R^2	0.285	0.285	0.271	0.271	0.267	0.267
F-Statistic	29.13	15.13	20.41	13.07	10.99	11.10

2SLS

Dep. Var.	Denied					
Sample period	2011-2021		2012-2021		2013-2021	
Small × FS growth	0.755***	0.651***	0.687***	0.594***	0.632***	0.524***
	(0.151)	(0.130)	(0.145)	(0.129)	(0.158)	(0.146)
Observations	15,484,560	15,484,560	14,179,817	14,179,817	12,832,400	12,832,400
Loan controls		Yes		Yes		Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

- Exclusion restriction check

Dep. Var.	Delinquency			Income	LTV	DTI
	30-day+	60-day+	90-day+			
Small × Bartik	-0.000	-0.002	-0.004	0.006	-8.680	-0.353
	(0.007)	(0.007)	(0.007)	(0.070)	(17.060)	(1.830)
Observations	21,392,599	21,392,599	21,392,599	3,475,712	1,618,083	1,601,087
Adj. R^2	0.016	0.019	0.020	0.324	0.005	0.233

Mechanism

- CRA channel - Small mortgage denial rates in CRA tracts are affected by the rise of FinTech and shadow banks about 1.5 to 2 times as much.

Dep. Var.	Denied		
Small	0.017***	0.017***	0.016***
	(0.001)	(0.001)	(0.001)
CRA	0.012***	0.012***	0.012***
	(0.001)	(0.001)	(0.001)
Small × Bartik	0.032***	0.028***	0.031***
	(0.006)	(0.006)	(0.006)
Small × Bartik × CRA	0.042***	0.036***	0.030***
	(0.011)	(0.011)	(0.011)
Observations	15,103,139	15,103,079	15,101,936
Adj. R^2	0.075	0.077	0.086
Borrower & loan controls	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes

- Jumbo channel - FinTech and shadow bank lenders take away conforming loan market, and traditional lenders shift to jumbo mortgages since these loans have lower per-dollar underwriting costs.
- We employ a **difference-in-discontinuity** design around the conforming loan limit (CLL).

RDD (Poisson)

Dep. Var.	Issued loan counts	
Polynomial	1st-order	2nd-order
Jumbo × Bartik	1.222***	1.187***
	(0.359)	(0.430)
Jumbo	-0.950***	-0.654***
	(0.078)	(0.080)
Observations	437,064	437,064
Fixed effects	Yes	Yes