

Firm Credit Constraints and the Missing Recovery

A House is Not a Starter Home

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June 9, 2025

Outline

1 Motivation and Literature Review

2 Credit Matters for Home Building

3 Firm Size Heterogeneity

4 Model Ingredients (WIP)

5 Conclusion

Affordability has been falling

- Housing affordability has become a major concern in the United States, with many measures of affordability being at all-time lows.
- There has been consistent housing price growth, which should trigger a supply response.

Buy Rent Sell Get a mortgage Find an Agent



Zillow Research Data Market Trends Renters Affordability Climate Risk Policy & Industry Dash

NEWS

In 233 U.S. Cities, Even a Starter Home Costs \$1 Million

Half of all states have at least one city where entry-level homes top \$1 million — a lasting effect of pandemic-era price growth.



The supply response

- But housing supply has not responded as expected.
- The typical approach in the urban literature has been to look at supply constraints and calculate supply elasticities (Saiz, 2010)
- Some recent applied work has demonstrated that many of these supply elasticities essentially tell us nothing about price and quantity growth over the Great Recession and previous 20 years (Davidoff, 2013) (Louie et al., 2025)



Figure: Supply Constraints

Research Question

- **Question:** Why has housing supply not responded?

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- **My Answer:** Firm-size heterogeneity in segmented credit markets with credit constraints.

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- **Question:** Why has housing supply not responded?
- **My Answer:** Firm-size heterogeneity in segmented credit markets with credit constraints.
- **This presentation:** Present the setting, describe some new facts about the construction sector post-Great Recession, and discuss firm size and credit constraints in segmented markets as a plausible mechanism.
- **The paper (hopefully):** Develop a model of construction firms with different credit structures operating in segmented housing markets.

- **Post-Recession Housing Dynamics:** Davidoff (2013), Quintero (2022), Le (2025), Louie, Mondragon, and Wieland (2025)
 - **Contribution:** Explain the roots of new housing dynamics.
- **Housing Supply:** Dipasquale (1999), Mayer and Somerville (2000), Saiz (2010), Gyourko, Saiz, and Summers (2008), Gyourko, Hartley, and Krimmel (2021), Baum-Snow and Han (2024), Glaeser and Gyourko (2025),
 - **Contribution:** Offer competing credit-based narrative to land-use constraints, show that concentration has been increasing.
- **Great Recession and Scarring:** Chodorow-Reich (2013), Mian and Sufi (2016), Yagan (2019), Ayres and Raveendranathan (2023)
 - **Contribution:** Understand how credit constraints affect the recovery of a critical part of the economy.

- ① Credit is **critical** for successful housing construction
 - Credit matters to builders
 - Completions have fallen and the recovery has been slower than previous cycles
- ② Small firms hit harder by credit constraints in the recession
 - Competition and firm counts have fallen
- ③ Small firms matter because they lower the barrier to entry for home-buyers by competing with large builders.

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Institutional Setting: Building a House

- Building a house takes time, labor, land, materials, and money
- There are two types of new builds: speculative and custom.
 - For “spec” housing, the builder builds the house before finding a buyer.
 - For custom housing, the owner builds the house using cash/credit.
- There is builder heterogeneity: large builders typically work with larger parcels of land and produce many units, while smaller builders will work with only a few houses/smaller parcels.

- There is **builder heterogeneity in credit markets**: small builders take out loans from local banks while big builders typically have access to a line of credit.
 - Larger firms have an advantage because their loan is not explicitly tied to a single property/credit environment.
- The sharp downturn devastated many small firms and affected credit access for large firms.
 - D.R. Horton and Lennar both lost their investment-grade status and had issues accessing credit due to collateral constraints, but survived using markdowns on large portfolio (van Straelen, 2023)
 - Many smaller firms died. Some survivors switched to the custom market (anecdotally).

- After the Great Recession, credit constraints bind more tightly.
- Credit market segmentation could lead to different supply responses depending on whether local banks continue to supply capital to small builders, which affects whether or not they participate in the spec housing market.
- Then, there are fewer “starter homes” available, because it is harder for speculative builders to enter.

- **Big Builders:**

- Lennar and D.R. Horton both lost investment-grade status during the crisis.
- Indeed, Lennar, in their 2009 annual report acknowledged that due to collateral constraints they “were unable to borrow under the Credit Facility for a majority of 2009.”

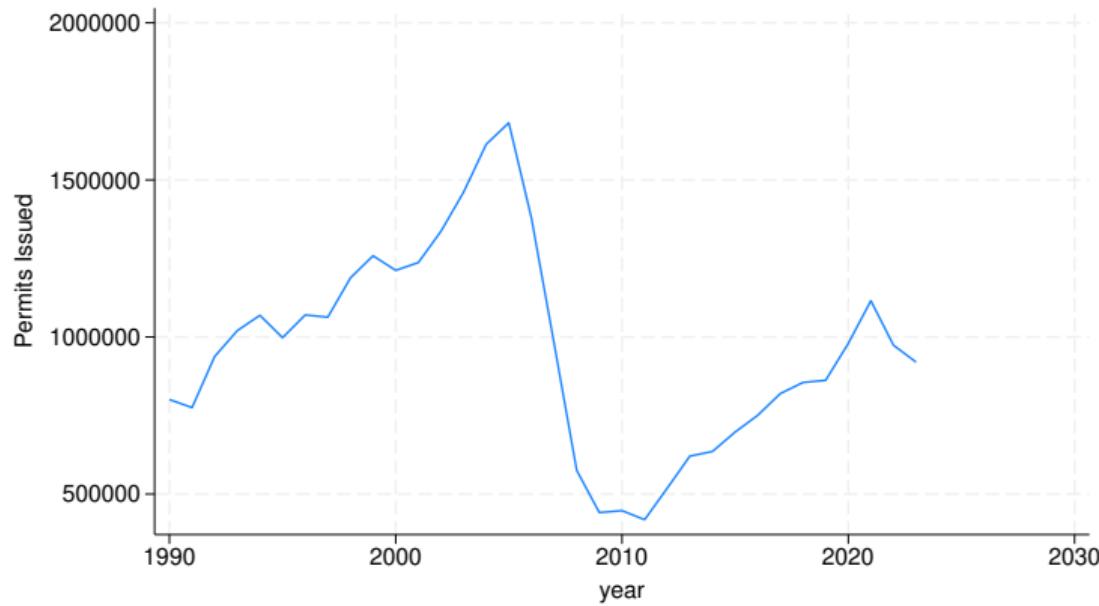
- **Small Builders:**

- “I think frankly, **this time around, the private builders have been devastated more than they have been devastated in any previous downturn**,” Tomnitz said. “So I see our markets and our sub-markets around the country, and the one thing that is consistent among all these markets is that **there are fewer and fewer private builders in there who are [still] alive, and if they are alive, [they] can't get a loan from a bank.**” - CEO of D.R. Horton (April 24, 2012)

► Mortgage FICO Distribution

► Mortgage Originations by FICO

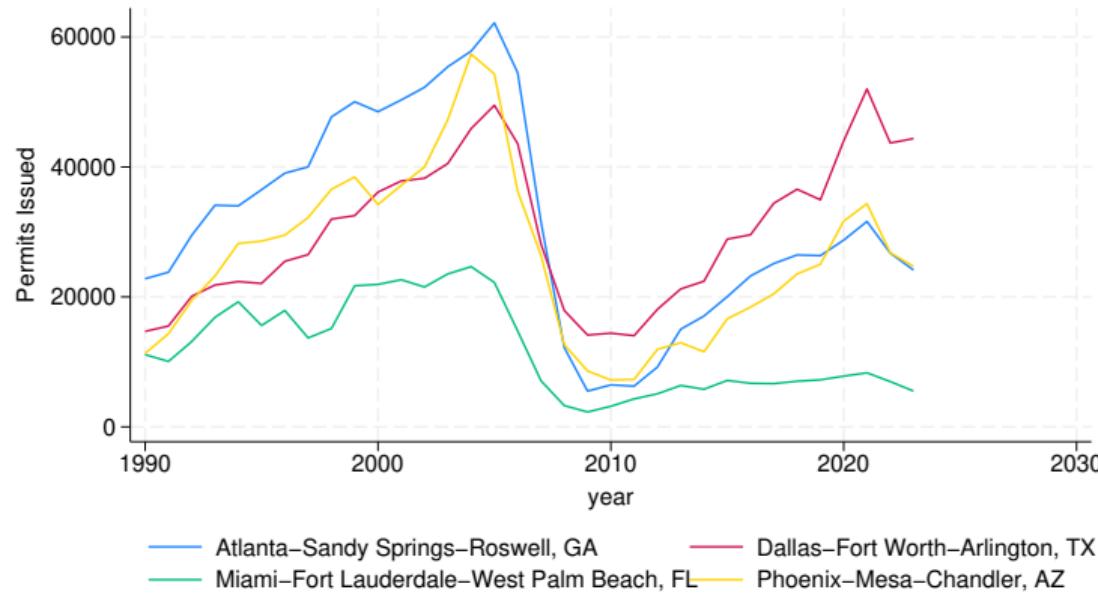
Permit Counts: Permits fall in aggregate and . . .



Source: Building Permits Survey, Census Bureau

Figure: Single-family permits issued (US)

Permit Counts: . . . there is significant heterogeneity in response



Source: Building Permits Survey, Census Bureau

Figure: Single-family permits issued

Recovery: The recovery has been slower than in previous cycles

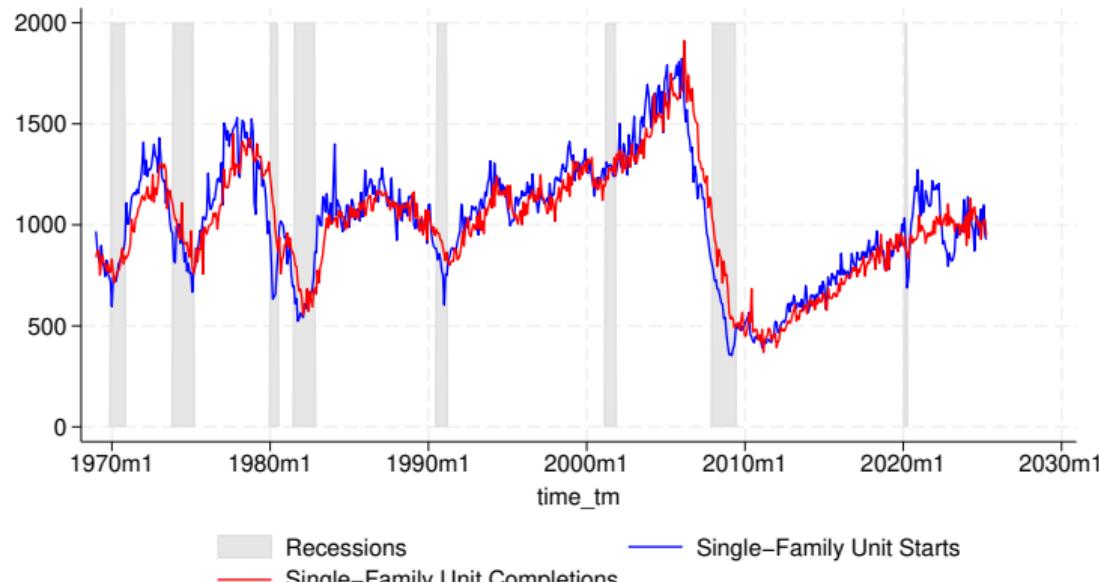


Figure: Single-family starts and completions (Monthly, SA, annual rate, thousands)

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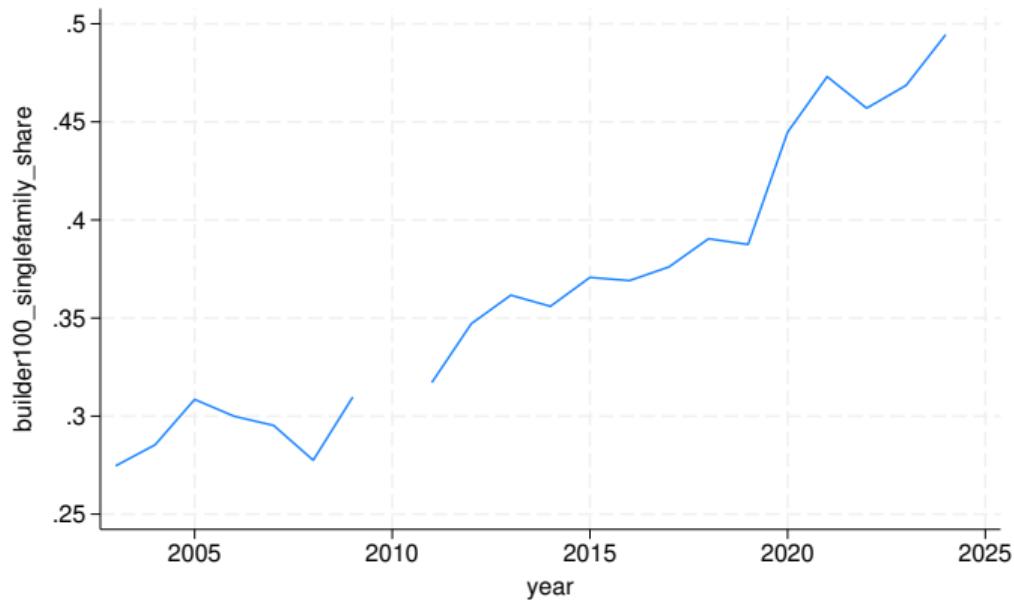
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Firm Size Heterogeneity

- To fix ideas, there has been a missing housing recovery. Part of this story could be that the credit constraints bind differently for different sizes of firm.
- If banks in an area are less likely to lend to builders going forward, the smaller builders will lose speculative housing share to the larger builders because the large builders have a general pool of capital.
- I will present some facts about concentration in the aggregate and cross-section consistent with larger firms and less competition.

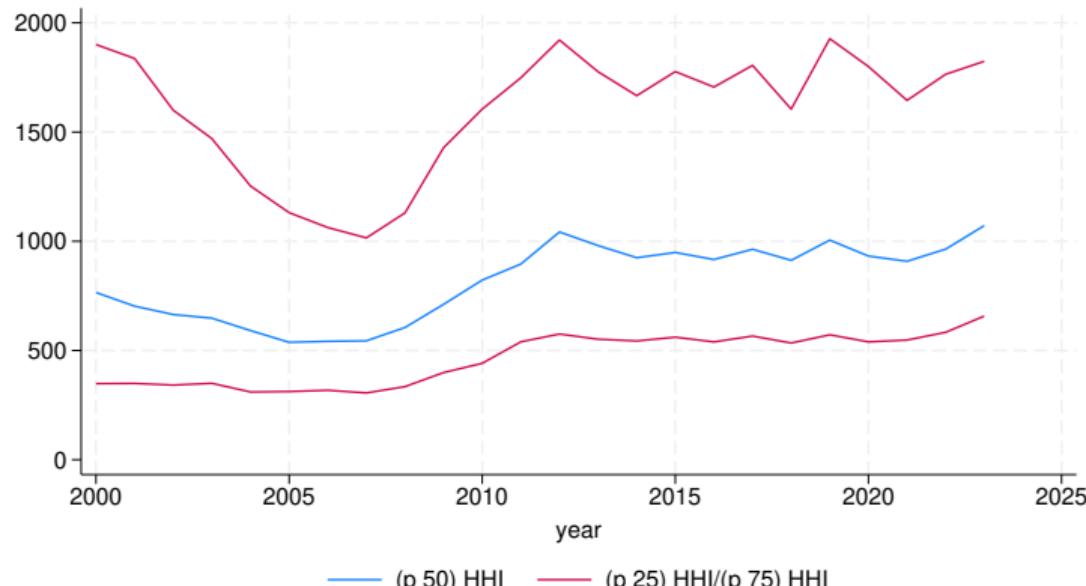
Concentration: The share of single-family housing built by Builder 100 is high and growing



Source: Survey of Construction, Builder Magazine
Note: 2010: elided due to lack of D.R. Horton reporting

Figure: Homes closed by Builder 100 / single family completions

Concentration: Concentration has risen in the cross-section . . .



Source: CoreLogic

Figure: Raw HHI in the balanced panel of counties

► Normalized HHI

Concentration: ... and firm counts have fallen

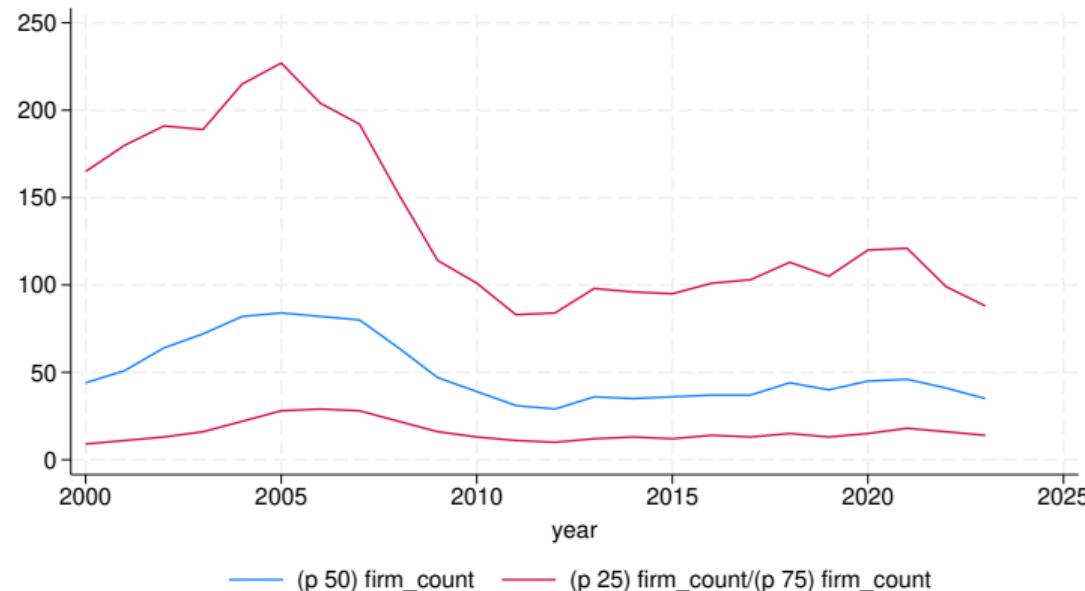
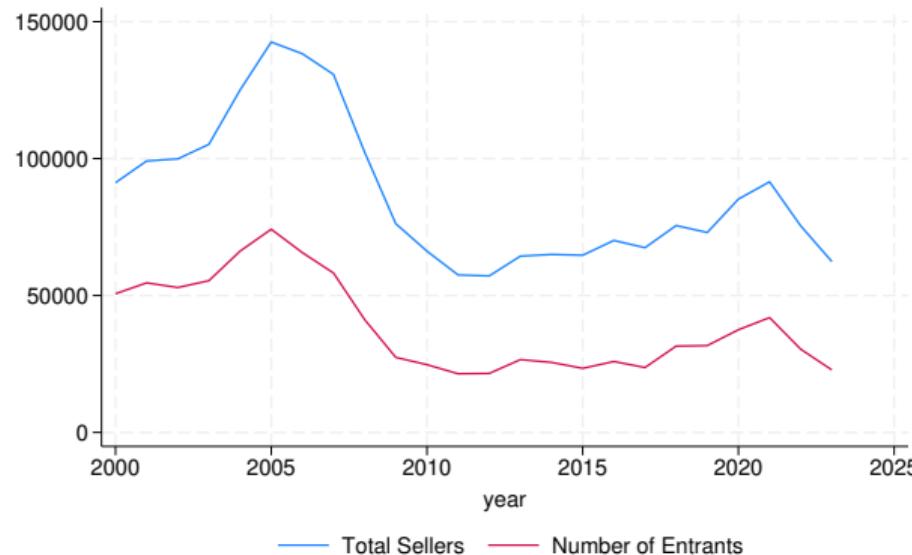


Figure: Firm counts in the balanced panel of counties

Concentration: There are fewer entrants



Source: CoreLogic, author's calculations

Figure: Homes closed by Builder 100 / single family completions

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- **Builders:**

- A representative large builder, which develops a portfolio of homes using a single pool of capital that it can use.
- There is a representative small builder, which produces one-shot home projects. The small builder has to raise capital for each local project based on credit conditions in segmented markets.
- Builders can operate in the speculative and custom housing markets.

- **Technology:**

- Builders can build different qualities of house. To do so, they need to spend money.
- There is time-to-build (i.e. a house I start now can only be finished in 6 months).

- **Consumers:**

- Two types of home-buyers, high and low-income types, each with a distribution of income and preferences over consumption that results in a relatively inelastic housing demand.

Intuition:

- The large builder chooses production with time-to-build and has market power but competes with small builders in its market. In markets with binding credit constraints, large builders act like monopolists and the small builder mostly does custom work.
- Small types have credit threshold that becomes more binding post-recession, so build homes that look more like luxury builders or build in areas with less-binding constraints where credit flows.

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Conclusion

- The typical structure of housing recovery has been disrupted, and most markets never recovered (with the exception of “superstars” like Dallas, Houston, and Phoenix).
- A story of land-use constraints and a pure demand story are less likely given the negative correlation with Great Recession intensity and especially the rapid recovery of construction labor.
- Instead, the patterns we see are consistent with a story of a binding change in credit constraints resulting in lasting scarring to small firms and residential construction entry. Given how time-sensitive spec housing construction is, this could explain many of the dynamics I’ve presented today.

Next Steps:

- The model with two types of builder and credit constraints for inelastic housing demand to understand market share implications to credit constraint shocks before adding demand side.
- Who builds in the superstar markets and who doesn't?
 - What does the market share look like for big builders in more constrained markets?
 - What kinds of house are built?
- Measuring credit constraints using FDIC Call Reports to understand how local bank capital allocations look.

Thank You

Thank you! Please let me know if you have any suggestions.

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6 Regulation

7 Demand Side

8 SOC Supplemental

9 FRED Recovery Supplemental

10 Permits Supplemental

11 Concentration Supplemental

12 Some Puzzles

Regulation has not meaningfully changed in response to the severity of the Great Recession

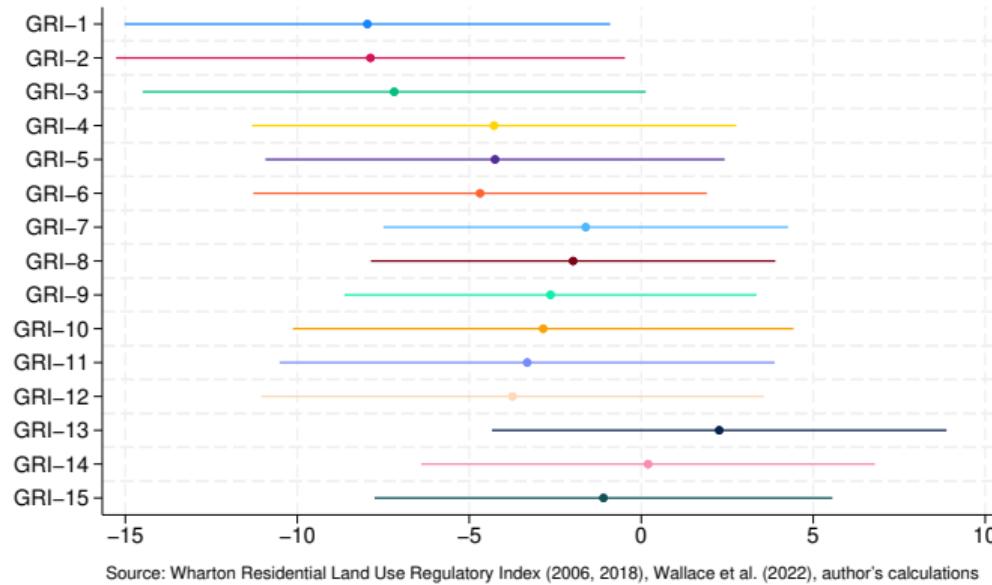


Figure: Coefficient in the Wharton Residential Land Use Regulation Index

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Demand Side: Borrowers who acquire mortgages are less risky ...

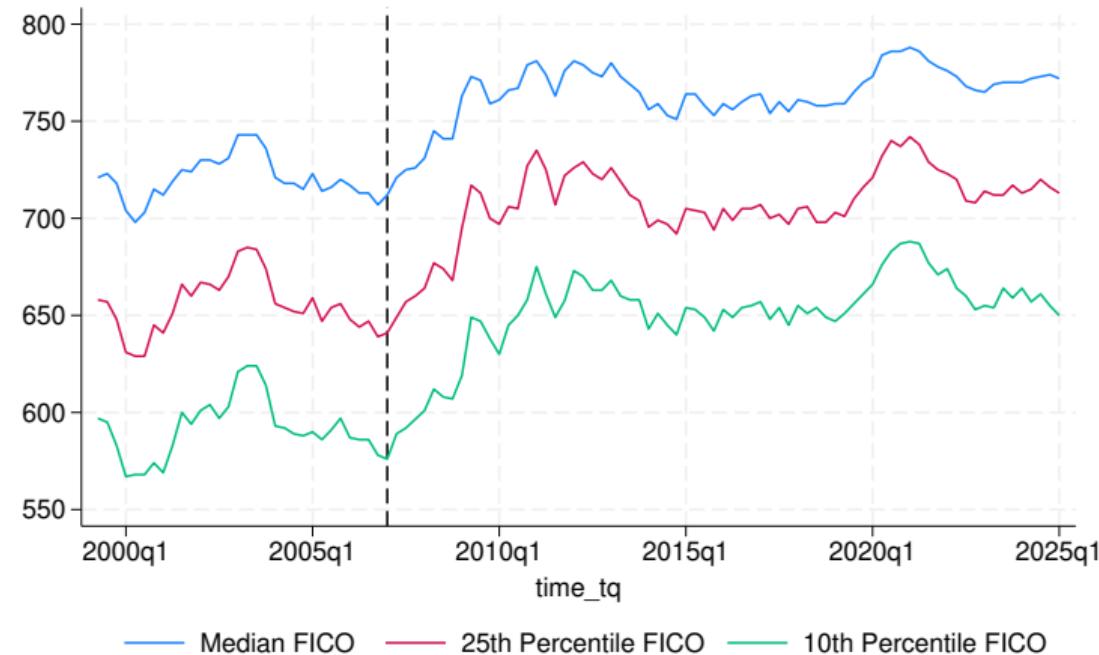
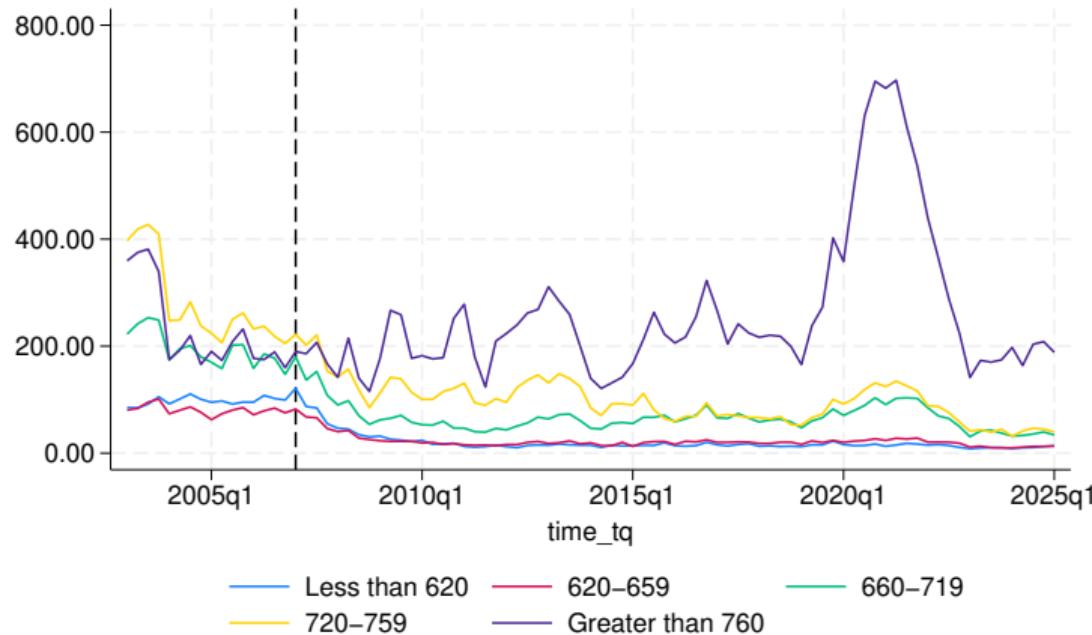


Figure: FICO percentiles for those receiving mortgages

Demand Side: . . . and lower-credit borrowers have effectively disappeared from the market



Source: NY Fed Consumer Credit Panel/Equifax
Note: Originations in 2010Q1 dollars

Figure: Real origination volume by FICO band

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SOC: Housing production has fallen

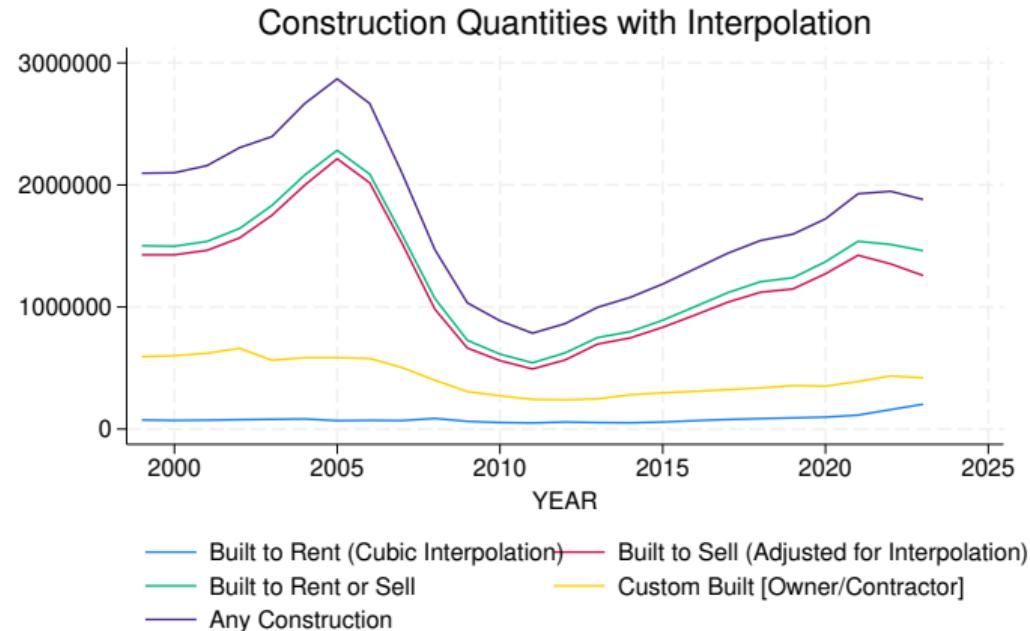


Figure: Annual Production from Survey of Construction Microdata

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Recovery: The slow recovery holds for total units

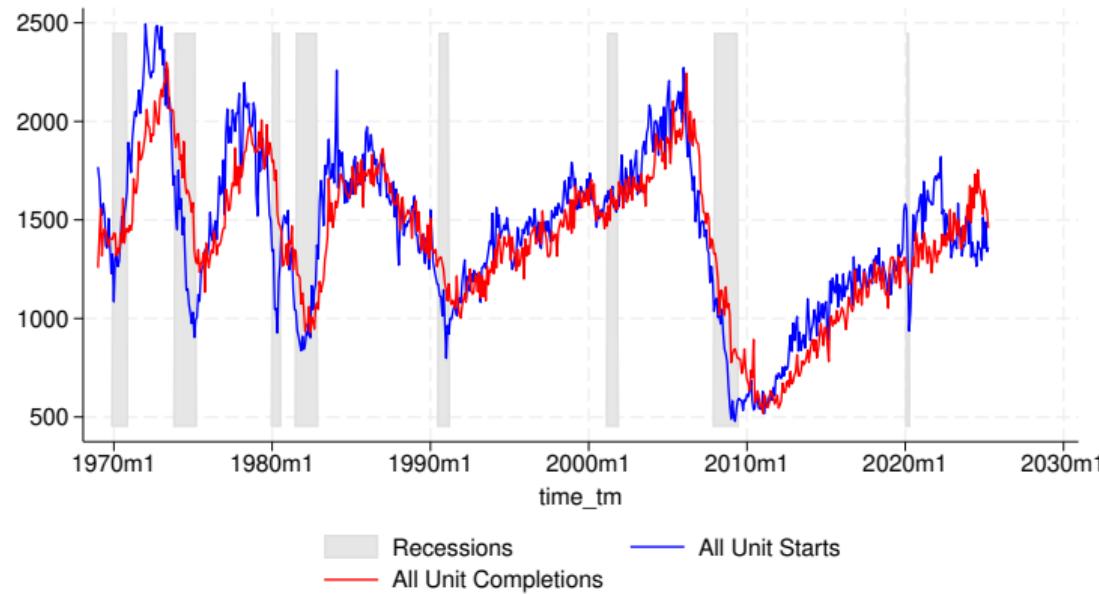


Figure: Housing starts and completions over the business cycle (Monthly, SA, annual rate, thousands)

► Back to Single-Family Recovery

Recovery: Labor recovers but completions do not ...

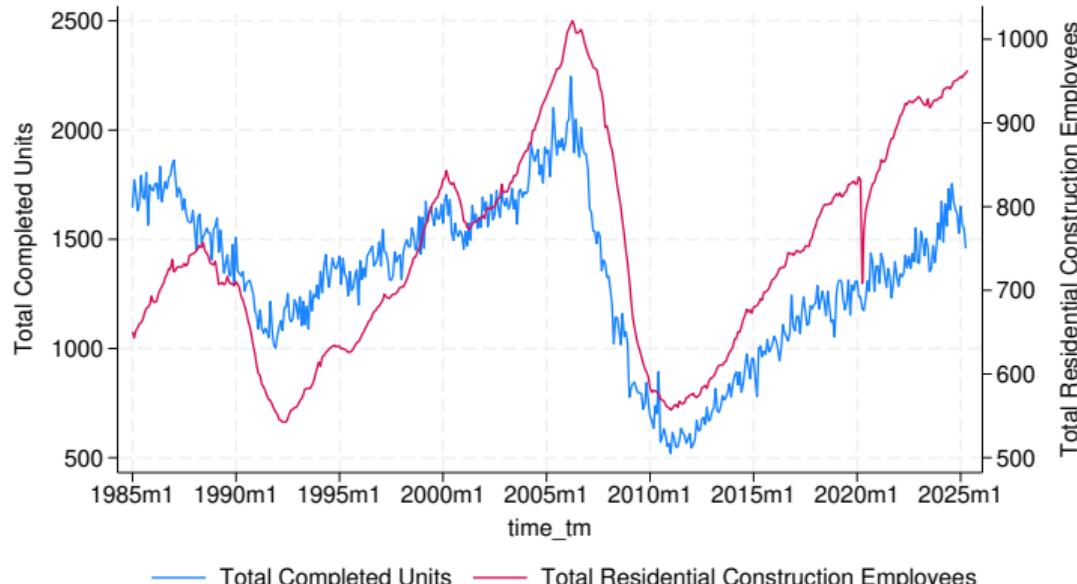
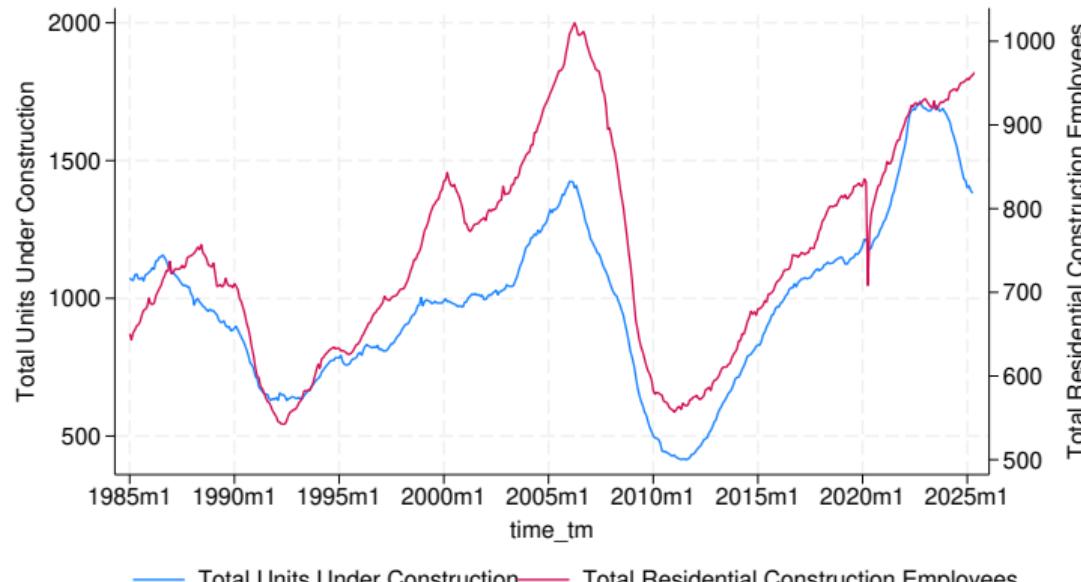


Figure: Total Unit Completions (Annual rate) and Residential Employment (Monthly, SA, thousands)

► Back to Single-Family Recovery

Recovery: . . . and housing under construction is elevated



Source: Survey of Construction, Bureau of Labor Statistics

Figure: Total Units Under Construction (Annual rate) and Residential Employment (Monthly, SA, thousands)

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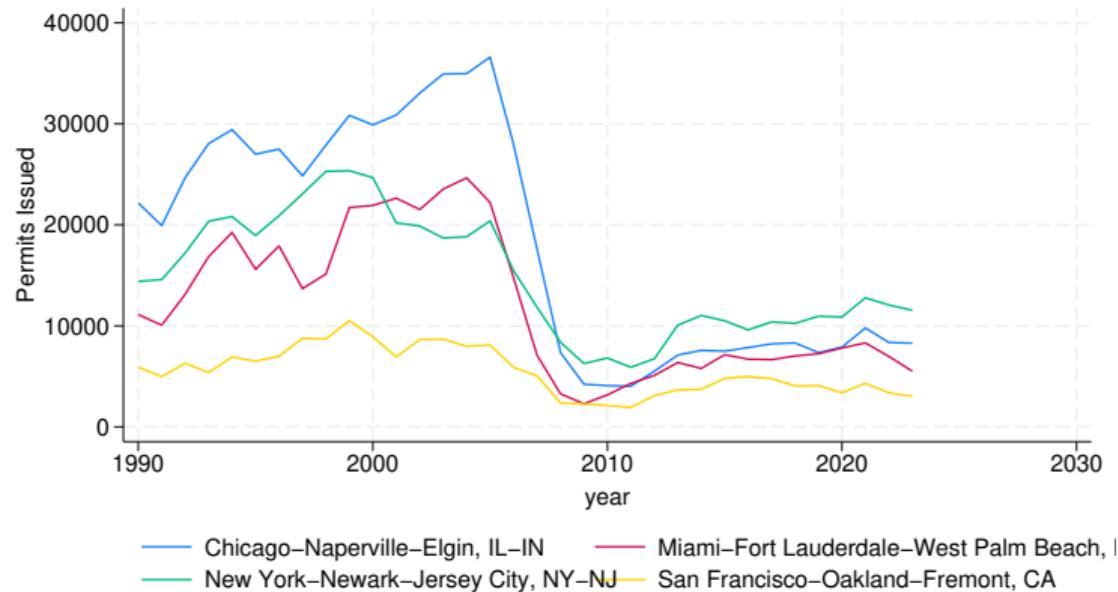
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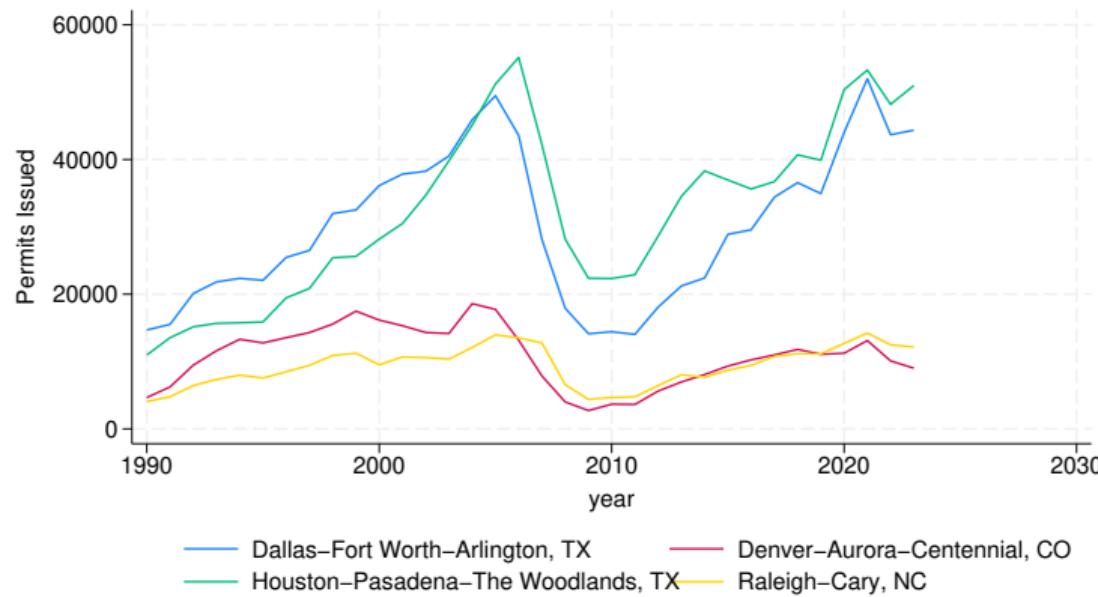
Permit Counts: Permits also fall in the cross-section



Source: Building Permits Survey, Census Bureau

Figure: Single-family permits issued

Permit Counts: Even in some geographically unconstrained cities



Source: Building Permits Survey, Census Bureau

Figure: Single-family permits issued

Permit Counts: Special cities

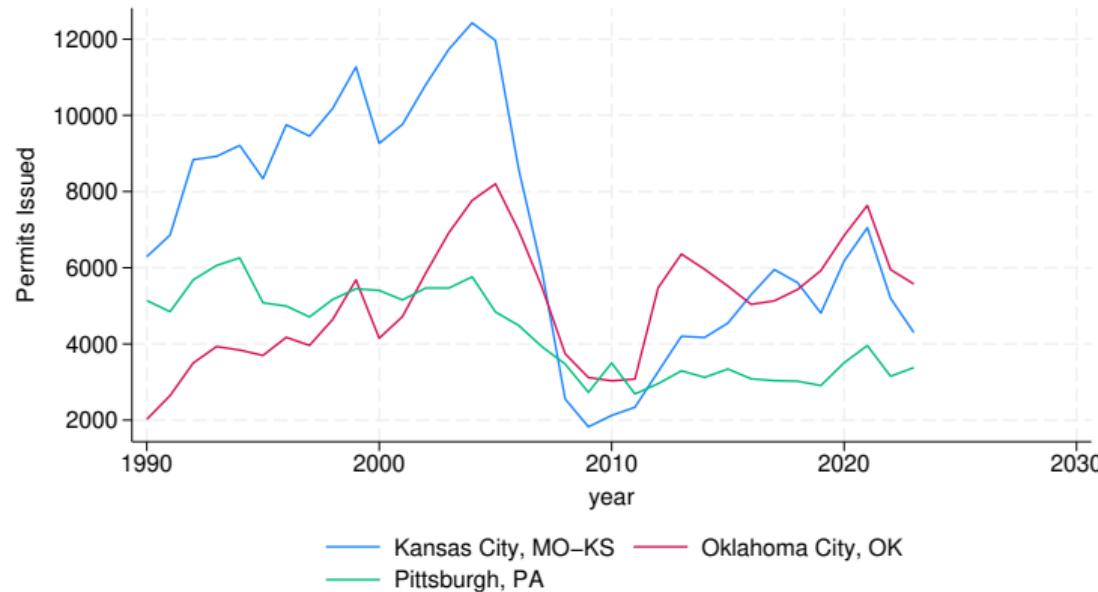


Figure: Single-family permits issued

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Concentration: Concentration has risen in the cross-section and ...

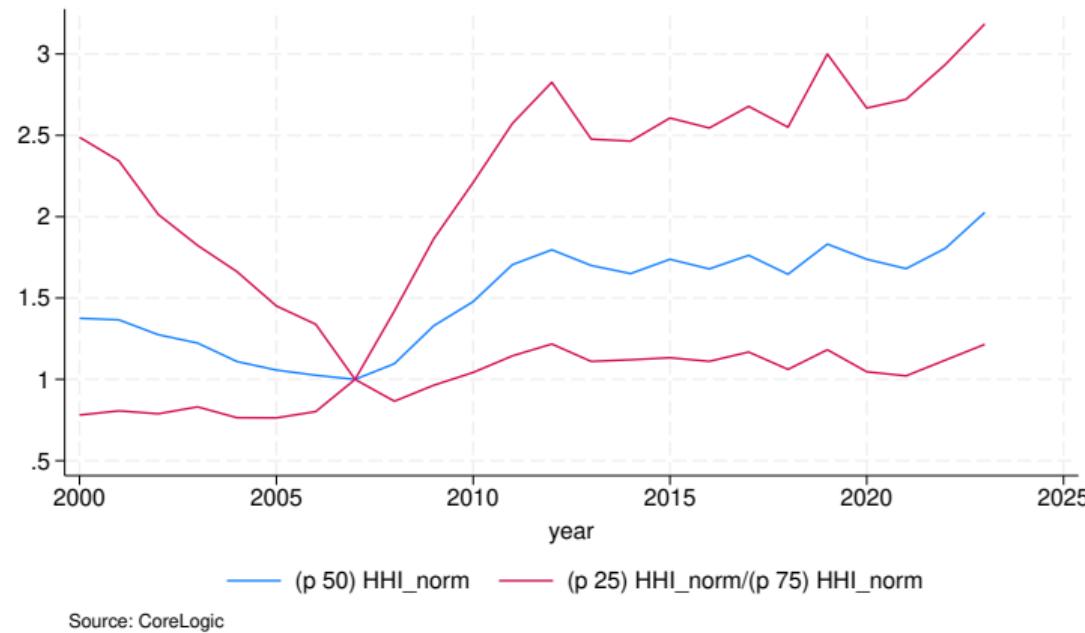
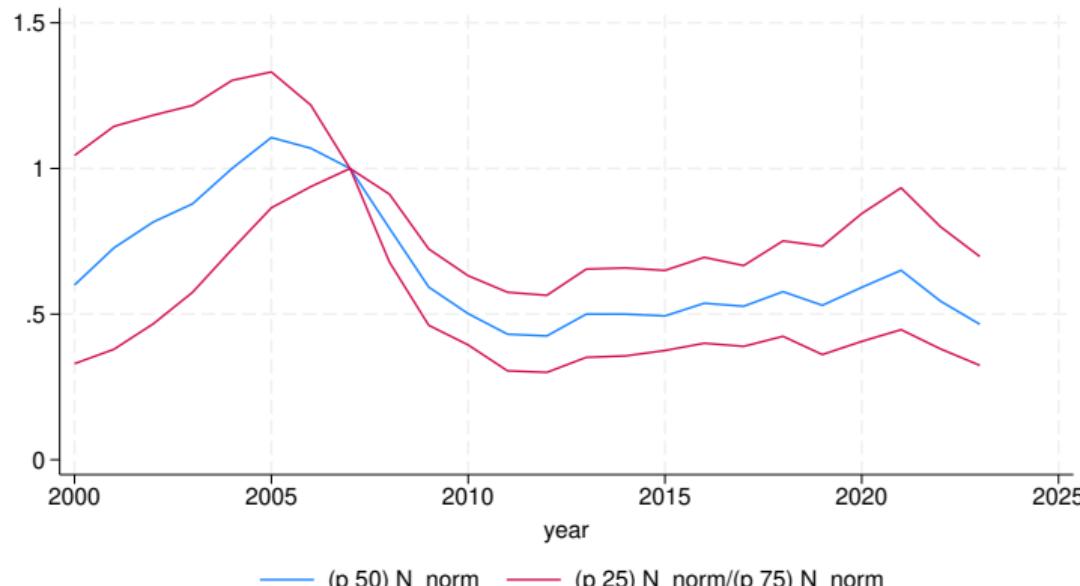


Figure: Normalized HHI (2007=1) in the balanced panel of counties

Concentration: Firm counts have fallen



Source: CoreLogic

Figure: Firms counts in the balanced panel of counties

Concentration: Entrants make up a smaller share of sellers



Figure: Homes closed by Builder 100 / single family completions

Concentration: Entrant transactions have fallen

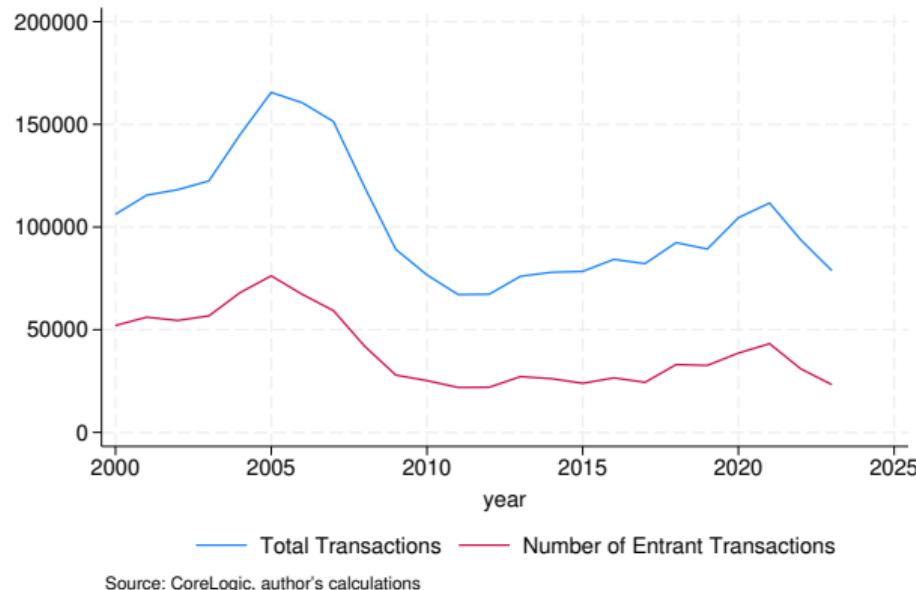


Figure: Homes closed by Builder 100 / single family completions

► Entrant Counts

Concentration: Entrants produce a smaller share of transactions



Figure: Homes closed by Builder 100 / single family completions

► Entrant Counts

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Puzzle 1: Employment rebounded, but units didn't

- **Possible Explanation:** Productivity? Not quite at the magnitudes you would need (also it's the residual)
- **Possible Explanation:** Increased allocation to custom-builds? Not true in the SOC data
- **Possible Explanation:** Quality? Some evidence for an increase in quality (house sizes increase)
- **Possible Explanation:** Concentration? Some evidence for increase in markups (final sale/permit increases).
- **Possible Explanation:** Labor story? Keep them on staff and well-paid so they don't enter? Plausible, but still it's very risky.

Puzzle 2: The disappearance of low-credit borrowers.

- **Possible Explanation:** Credit constraints on borrowers? After initial drop, it's a gradual process by which they get eliminated after the initial fall.
- **Possible Explanation:** Spec housing builders switch to building for less-risky borrowers? Plausible, and consistent with rising lot sizes in aggregate. You produce at lowest possible point.
- **Possible Explanation:** Do landlords buy to rent? Also plausible given anecdotal evidence of entry by institutional investors and an “alpha” in affordable housing (Damen, Korevaar, and Van Nieuwerburgh, 2025).