

Did Subprime Borrowers Drive the Housing Boom?

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The role of subprime mortgage lending in the U.S. housing boom of the 2000s is hotly debated in academic literature. One prevailing narrative ascribes the unprecedented home price growth during the mid-2000s to an expansion in mortgage lending to subprime borrowers. This post, based on our recent working paper, "Villains or Scapegoats? The Role of Subprime Borrowers in Driving the U.S. Housing Boom," presents evidence that is inconsistent with conventional wisdom. In particular, we show that the housing boom and the subprime boom occurred in different places.

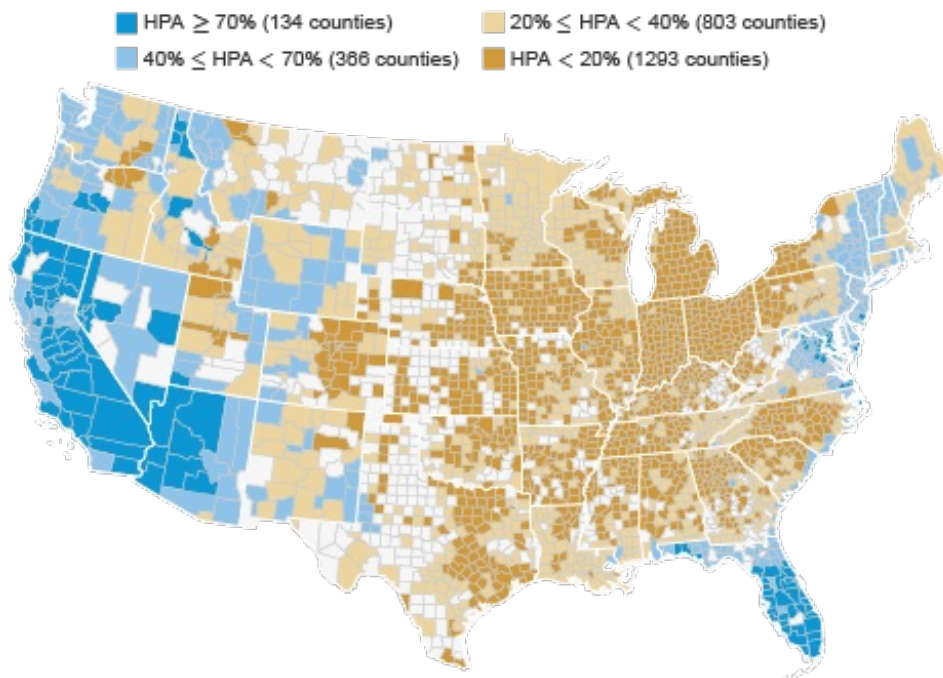
Where Were the Subprime and Housing Booms?

The exhibit below provides a straightforward illustration of our main finding. The top panel maps U.S. county-level house price growth between 2002 and 2006. The bottom panel plots the growth in the share of first-lien purchase mortgages to subprime borrowers over the same period. The contrast between the two panels is striking. House

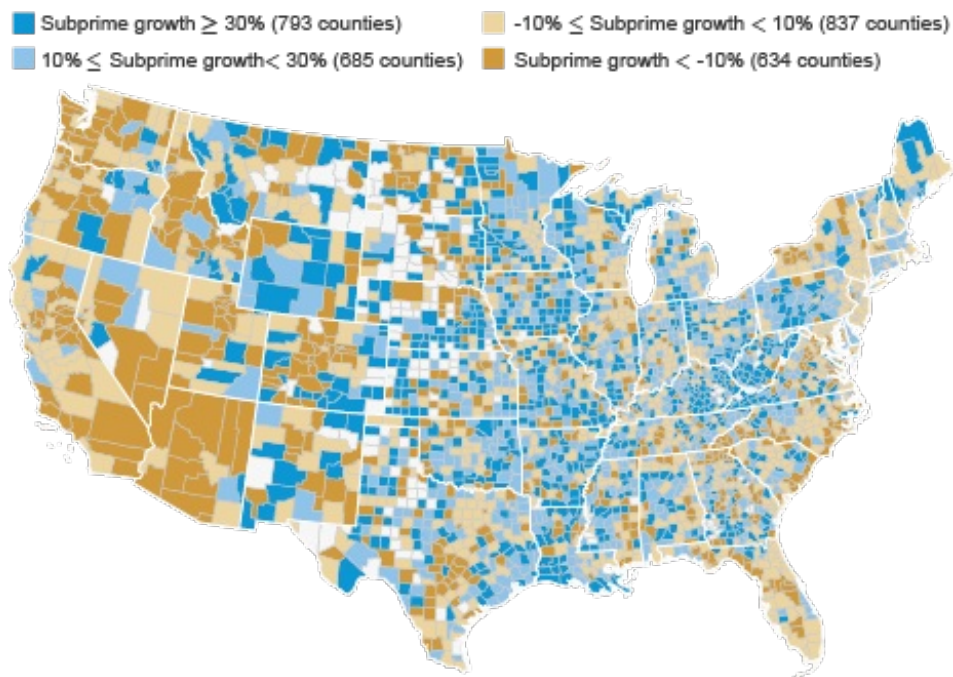
price growth was fastest in the western part of the country, Florida, and the Northeast Corridor, while the fastest growth in the subprime share of purchase lending occurred in areas like the Midwest and Ohio River Valley. Simply put, the housing boom and the subprime boom occurred in different places.

House Price and Subprime Booms Occurred in Different Places

Home Price Appreciation: 2002-06



Growth in Share of Purchase Mortgages to Subprime Borrowers: 2002-06



Sources: FHFA, authors' calculations. The loan sample for the bottom map is a merged sample of first-lien purchase mortgages from the McDash, provided by Black Knight, and ABSNet datasets after excluding all duplicates between the two data. We combine McDash with ABSNet to ensure coverage for all segments of the mortgage market. McDash has extensive coverage for portfolio loans, government and agency-sponsored loans. ABSNet covers over 80% of the private-label securitized loans.

Notes: Top: Color indicates home price appreciation (HPA) ranging from light blue (low HPA) to dark blue (high HPA). Bottom: Subprime borrowers are defined as borrowers with a FICO score below 680. Color indicates subprime growth ranging from light blue (subprime contraction) to dark blue (subprime expansion).

Multivariate regression analysis presented in the paper confirms the negative correlation between the growth in house prices and the increase in subprime share of home purchase mortgages at the county level over this period. This negative correlation is also shown to be robust to different regression specifications, time periods, house price indices, and credit score thresholds for defining subprime borrowers.

What Accounts for the Negative Correlation?

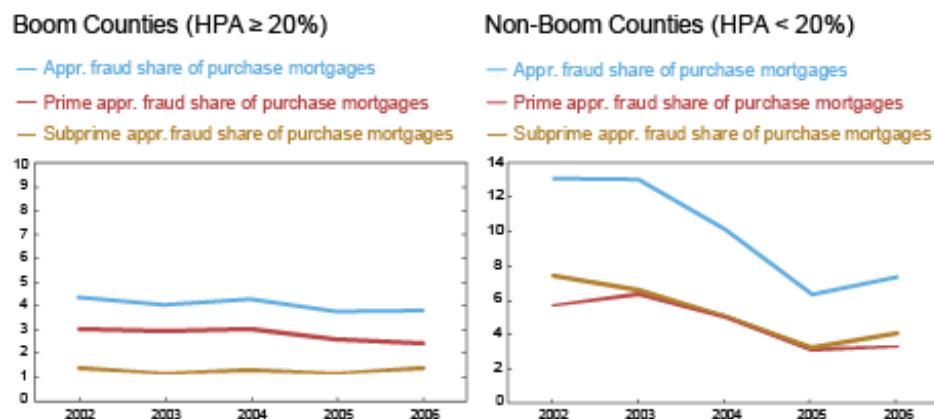
Our findings run counter to the traditional narrative of the 2000s housing boom: namely, that the growth in subprime home purchases led to the growth in house prices. One potential explanation for the negative correlation is reverse causality. That is, high house price appreciation may have made property increasingly unaffordable for subprime borrowers, leading to a “pricing out” effect. We present evidence in our paper that county-level house price growth had a negative and economically meaningful causal effect on the growth in the share of subprime purchase mortgage lending at the county level between 2002 and 2006. Moreover, using the Federal Reserve Bank of New York Consumer Credit Panel, we find that higher house price growth lowered the relative likelihood of a subprime individual becoming a homeowner. Taken together, these findings are consistent with a pricing out effect.

Were Subprime Mortgages More Likely to be Fraudulent?

While the growth in subprime mortgage lending was not a principal driver of the U.S. house price boom in the 2000s, it may still have played an indirect role by facilitating activities that have been linked to the boom. The literature has focused on two such activities: speculation by real estate investors; and mortgage fraud in the forms of appraisal inflation and income or occupancy misrepresentation. For this post we will focus on our findings related to appraisal inflation. Results related to other fraudulent lending and speculation activities can be found in the paper.

We identify appraisals as inflated if the difference between the appraised value and the estimated value at origination from Lewtan’s (ABSNet) proprietary automated valuation model (AVM) is at least 20 percent above the average of these two value estimates. The next chart plots the share of privately securitized home purchase mortgages that we identify as having inflated appraisals for boom and non-boom areas, distinguishing between those for prime and subprime borrowers. (Boom counties are defined as those with home price growth exceeding 20 percent between 2002 and 2006.)

Inflated Appraisals not Overly Concentrated in Purchase Mortgages to Subprime Borrowers



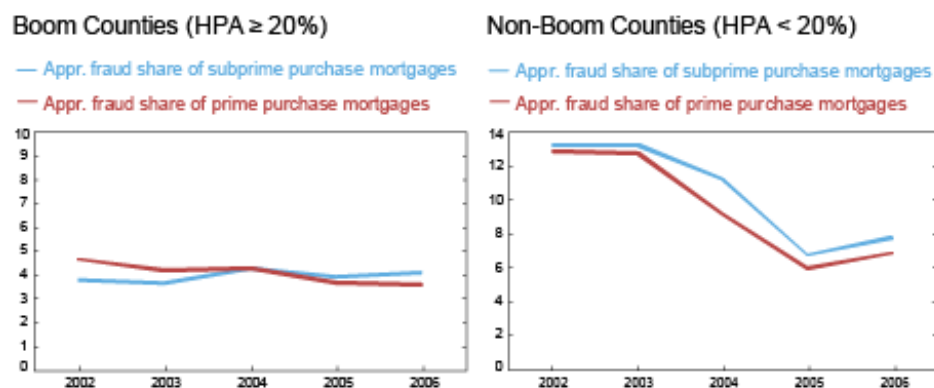
Sources: McDash; ABSNet; FHFA; authors' calculations.

Notes: Subprime borrowers are defined as FICO < 680; prime borrowers are defined as FICO \geq 680 (blue and red lines, respectively). HPA is home price appreciation.

There are two important takeaways. First, in boom areas, a significantly lower fraction of home purchase loans characterized by appraisal inflation were to subprime borrowers than to prime borrowers. Second, the incidence of appraisal inflation in home purchase mortgages does not appear to increase over time—for either subprime or prime borrowers—in either type of county. For boom counties, the overall share remains steady over time, while in non-boom areas the share decreases through the end of 2004 before picking up slightly.

In the next chart, we delineate the purchase shares of mortgages with inflated appraisals by prime and subprime borrowers separately. In both boom and non-boom areas the shares of inflated appraisals for prime and subprime purchase loans track very closely. This finding suggests that inflated appraisals were not overly concentrated in home purchase loans to subprime borrowers.

Inflated Appraisals Equally Common in Prime and Subprime Purchase Mortgages



Sources: McDash; ABSNet; FHFA; authors' calculations.

Notes: Subprime borrowers are defined as FICO < 680; prime borrowers are defined as FICO \geq 680 (blue and red lines, respectively). HPA is home price appreciation.

Conclusion

Our findings run counter to the prevailing view of the U.S. housing boom in the first

decade of this century. Specifically, we reveal that house price growth during this period was negatively correlated with the growth in home purchase lending to subprime borrowers. We further provide evidence consistent with this being a result of subprime borrowers being priced out of rapidly appreciating markets. We also show that seemingly fraudulent activities were not overly concentrated among subprime borrowers. Our analysis contributes to a "new narrative" that rapid U.S. house price appreciation during the 2000s was mainly driven by prime borrowers. Hence, policy prescriptions intended to limit access to credit for marginal borrowers may be insufficient by themselves to prevent a future housing boom.

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