

POLICYMAKERS SHOULD REEVALUATE THE PREMISES THAT LED TO AN OVERHAUL OF REGULATION Z

KEVIN ERDMANN

Visiting Fellow, Mercatus Center at George Mason University

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I appreciate the opportunity to submit a comment to the Consumer Financial Protection Bureau (Bureau) in response to possible amendments to the Ability-to-Repay and Qualified Mortgage (ATR/QM) Rule. Specifically, my comments here support an extension and even an expansion of a provision in this rule, called the GSE Patch, which is applicable to certain mortgage loans eligible for purchase by the government-sponsored enterprises (GSEs).

I am a visiting fellow at the Mercatus Center at George Mason University, and this public interest comment reflects my views based on my research. The Mercatus Center is dedicated to bridging the gap between academic ideas and real-world problems and to advancing knowledge about the effects of regulation on society. This comment, therefore, does not represent the views of any particular affected party or special interest group. Rather, it is designed to help the Bureau as it considers how to implement these policies.

The continued market preference for GSE QM mortgages suggests that the safe harbor protection is highly valued. Thus, any changes in the availability of that protection should be approached with utmost caution. A momentous change such as the Bureau's current proposal presents an opportunity to reflect on and reconsider both the practical details and the motivations regarding the policies in question. This comment seeks to help the Bureau, specifically, with topic B.1:

B. Other Temporary GSE QM Loan Issues

1. . . . To minimize disruption to the mortgage market when the Temporary GSE QM loan provision expires, should the Bureau consider any other changes to Regulation Z's ability-to-repay and qualified mortgage provisions (i.e., other than changes discussed in response to prior questions)?

For more information, contact
Mercatus Outreach, 703-993-4930, mercatusoutreach@mercatus.gmu.edu
Mercatus Center at George Mason University
3434 Washington Blvd., 4th Floor, Arlington, VA 22201

This comment will draw on new findings on the housing bubble and the financial crisis. The financial crisis and the collapse in building and home prices have generally been blamed on overbuilding that was fueled by excessive and aggressive lending. My research calls into question the premises that postcrisis mortgage regulation has been built around. The core causal factor in the housing bubble that preceded the financial crisis was a severe shortage of housing, especially in key urban centers. The building boom was helping to overcome that shortage, and the volatility in home prices that accompanied it was a result of structural obstacles to new building. In light of this, new regulations in the mortgage market, which have added obstacles to financing new housing, have worsened the endemic housing supply problem.

This assertion will require a significant amount of empirical support. Please consider the following sources to be references assisting in your consideration of my comment:

- A brief introduction to this new research can be found in the policy brief, “Housing Was *Undersupplied* during the Great Housing Bubble.”¹
- The book *Shut Out: How a Housing Shortage Caused the Great Recession and Crippled Our Economy* outlines the evidence and implications of these findings more broadly. The Mercatus Center can provide copies of this book for your review.
- An appendix provides additional details regarding some of the evidence mentioned in this comment.

These findings bring into doubt the premises that motivated the implementation of ATR and related limits, mandates, and liabilities imposed on lenders in mortgage origination markets.

Considering the expiration of the temporary GSE patch (scheduled for January 2021) gives policymakers an opportunity to revisit those premises. Rather than remove the temporary patch, my research suggests that safe harbor should be extended to other conduits for origination. The broader package of limits, mandates, and liabilities appears to have had the unintended effect of making the origination of smaller mortgages on more affordable properties more difficult.

This analysis will focus on some fundamental principles that fueled the call for new lending standards. An updated understanding of the causes of the crisis calls for a fundamental reconsideration of the broad set of rules that were part of the postcrisis revisions to Regulation Z.

This comment will proceed in three parts:

1. The premise that led to an overhaul of Regulation Z was false.
2. Regulation Z caused market dislocations after the crisis.
3. Postcrisis changes to Regulation Z should be softened or reversed before the expiration of the GSE patch.

THE PREMISE THAT LED TO AN OVERHAUL OF REGULATION Z WAS FALSE

In my book *Shut Out* I argue that inflation in the rental value of housing was neglected as a factor in the design of Regulation Z. Specifically, I show that loosening mortgage terms is associated (correlated) with rising prices but does not cause them; rather, I find that the rising cost of the

¹ Kevin Erdmann, “Housing Was *Undersupplied* during the Great Housing Bubble” (Mercatus Policy Brief, Mercatus Center at George Mason University, Arlington, VA, April 2018).

consumption of housing—the rental value—is the cause of inflation in house prices. High prices, especially in the most expensive cities, reflect fundamental value rather than unsustainable, credit-fueled speculative fervor. A nationwide housing bubble would call for a review of federal regulations, but the bubble was localized. The defining core of the precrisis housing market was a sudden divergence between a few cities such as San Francisco and most other cities. That difference is effectively explained by differences in local incomes and local housing supply. That difference is what demands a regulatory response, and new regulatory impositions on the national lending market do little to address that problem.

The demand for postcrisis reform rested on a presumption that rent could explain very little about the precrisis housing market. The Financial Crisis Inquiry Commission (FCIC) report is emblematic of this problem. The main report and the two dissenting reports attribute the crisis to the inevitable collapse of a housing bubble caused by overly accommodative monetary policy, speculative activity, and reckless extensions of credit.

The FCIC report spends a single paragraph on rent, which appears in a section titled “The Bubble: ‘A Credit-Induced Boom,’” and was intended to establish that rents were an irrelevant factor because price-to-rent ratios increased during the boom—dramatically in some cities.² This was a critical error. Price-to-rent ratios were rising because rents were rising. The metropolitan areas where price-to-rent ratios had risen the most were those where rents had risen the most.

My analysis of the housing boom reveals that rising rents were a key factor behind rising home prices, and thus rising mortgage levels and more tenuous mortgage terms, before the crisis. Among the largest US metropolitan areas, the following trends dominated the changing housing market:

- In some key cities, rent on the median housing unit was increasingly rising far above the national average.
- Home prices reacted systematically to rising rents.
- The housing boom was associated with the increasing importance of rent as a factor in home prices. This is a relatively new relationship. In 1980, there was no correlation between median rent and median price-to-rent ratios in major metropolitan areas. By 2000, there was a slight correlation of just under 20 percent. By 2005, the correlation was more than 60 percent. And by 2018, the difference between median rents of major metropolitan areas could explain more than 70 percent of the difference in price-to-rent ratios (see figure A1).³
- There is a similar strong correlation between housing supply and rent in metropolitan areas. Seventy percent of the difference in rents between various metropolitan areas in 2005 was associated with the difference in the rate at which new housing units had been approved in the years leading up to 2005. Rising rents (and thus rising prices and increasingly tenuous lending) were largely attributable to constrained supply (see figure A2).

² Financial Crisis Inquiry Commission, *Financial Crisis Inquiry Report: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, 2011, 158. Dissenting views were expressed by Keith Hennessey, Douglas Holtz-Eakin, and Bill Thomas (page 411) and Peter J. Wallison (page 441).

³ These claims are derived from data on metropolitan area median price-to-income ratios and rent affordability generously made available to the public at www.zillow.com/research/data. For more details on the importance of constrained supply and rising rents in the housing boom, see chapter 1 of Kevin Erdmann, *Shut Out: How a Housing Shortage Caused the Great Recession and Crippled Our Economy* (Arlington, VA: Mercatus Center at George Mason University, 2018); Erdmann, “Housing Was Undersupplied during the Great Housing Bubble.”

- The rate of rent inflation during the housing boom, as measured by the consumer price index, also correlated strongly and negatively with the rate of new housing permits issued in a given metropolitan area (see figure A3).

At the national level, rising prices appeared to be unrelated to rents and also appeared to be related to strong rates of building. Comparing metropolitan areas provides a different picture: rising rents and prices were associated with highly constrained building.

New research on this topic has found that the housing boom was not related to a significant reduction in borrower quality.⁴ In fact, factors such as income and education became more important indicators of home ownership in the years leading up to the financial crisis.

That leaves an apparent mystery of what created a housing bubble. That mystery is solved by understanding the importance of supply and rental value as the trigger that set off rising prices. The housing market was reacting to fundamentals, driven by supply constraints. Systematically destabilizing credit terms developed in that context.

It is true that an increasing number of new housing units were being built from 2000 to 2005 compared to the 1990s, nationally. The growth in real expenditures on housing had been declining in the 1990s, compared to other types of personal expenditures. And it is true that from about 2003 to 2006, this growth recovered (although even then real consumption of housing was only growing at a rate similar to other types of consumption). So it is true that, for instance, the number of homes built compared to population growth was rising.

This is key. During the housing bubble, Americans were moderately increasing the quantity and quality of the housing stock along with their rising incomes. This activity caused stress in cities where the housing stock could not be increased at a sustainable rate. In those cities, prices and rents skyrocketed in response to moderately strong demand for better housing. The ratio of the growth of housing units to population growth moderately rose, nationally, but curiously it rose the most in the cities that allow the fewest new homes. Those happen to be cities that have been economically strong—most notably Boston, Los Angeles, New York City, and San Francisco. The only way that could happen was through depopulation (see figure A5).

The families that were priced out of the most expensive cities became part of a mass migration event. This led to a secondary housing bubble in places like inland California, Arizona, Nevada, and Florida. The key characteristic that all of those places have in common is that they are the most popular landing points for families moving away from the California and Atlantic Northeast urban centers. Even in these regions, the fundamental source of volatility was the urban housing shortage and the migration event it triggered. At first glance, these regions seemed to experience extremely volatile home prices even though they were building many homes. But they weren't overbuilding. They were unable to keep up with the migration surge. That surge suddenly peaked and then crashed between 2006 and 2008. Suddenly places that had been taking in high levels of migration for decades saw migration grind to a halt. The housing boom and bust in those

⁴ Manuel Adelino, Antoinette Schoar, and Felipe Severino, "Loan Originations and Defaults in the Mortgage Crisis: The Role of the Middle Class" (Duke I&E Research Paper No. 15-8, Duke University, Durham, NC, March 2016); Stefania Albanesi, Giacomo De Giorgi, and Jaromir Nosal, "Credit Growth and the Financial Crisis: A New Narrative" (NBER Working Paper No. 23740, National Bureau of Economic Research, Cambridge, MA, August 2017); Christopher L. Foote, Lara Loewenstein, and Paul S. Willen, "Cross-Sectional Patterns of Mortgage Debt during the Housing Boom: Evidence and Implications" (NBER Working Paper No. 22985, National Bureau of Economic Research, Cambridge, MA, December 2016).

regions has been blamed on irrational sentiment and reckless borrowing, which suddenly unwound when sentiment changed. But fundamentally, the volatility in demand was real—it came from families in search of affordable roofs to put over their heads because there were none in the cities they were leaving.

Addressing the precrisis context correctly requires a review of the intentions and goals behind the changes to Regulation Z. There needs to be a fundamental reassessment.

THE OVERHAUL OF REGULATION Z CAUSED MARKET DISLOCATIONS AFTER THE CRISIS

The imposition of new regulatory oversight greatly limited the funding for potential new homeowners after the crisis. According to the Federal Reserve Bank of New York, mortgage originations to borrowers with FICO scores greater than 760 have continued at or above the rates typical before the financial crisis. Originations to borrowers with FICO scores less than 760 dropped to less than half their precrisis level and remain there.⁵ During the housing bubble, borrowers with low FICO scores had not increased as a proportion of all borrowers, so this decline in low FICO lending is not a reversal of trends during the bubble.

Likewise, construction projects for multi-unit housing were initiated at a rate between 300,000 and 400,000 every year from 1996 to 2007, and they have since recovered to those levels. Homes that sold for more than \$200,000 numbered nearly 800,000 by 2005, and sales have recovered, thus far surpassing 500,000 units. But homes that sold for less than \$200,000 have declined from annual sales of more than 500,000 to *only 72,000* by 2018.⁶ The housing market for households with lower incomes in areas where housing is the most affordable has been bifurcated into two markets: a high-tier market where building continues and a low-tier market where single-family building has almost entirely stopped and new developments target the multi-unit renters' market. In lower-priced neighborhoods, households have had to cut back on real consumption of shelter even while their nominal rental expenses remain high.

The same pattern has developed between metropolitan areas. The major metropolitan areas with high incomes and very low rates of home building were the epicenters of the housing bubble. Rates of building have recovered to precrisis levels in those cities. There is a strong correlation between average income within metropolitan areas and the recovery in home building. In metropolitan areas with median household incomes below \$60,000, the rate of building remains about half of what it was before the crisis. And as noted above, the premise that these cities had overbuilt is false.

The continued demand for the safe harbor of the GSE patch suggests that the mandates, fees, limits, and regulatory liabilities may create a general air of uncertainty when lending to certain classes of potential borrowers that comes from a combination of influences.

But the extreme nature of these demand shifts and the lack of support, in hindsight, for the premises on which they were imposed call for a reassessment. And while that reassessment happens, safe harbor should not be ended. If anything, it should be expanded beyond the GSEs.

Some will use evidence such as rising debt-to-income ratios (DTIs) to conclude that the Bureau should strengthen the new limits on lending, that America should double down on

⁵ Federal Reserve Bank of New York, *Quarterly Report on Household Debt and Credit*, August 2019, 6.

⁶ Census Bureau, "New Residential Sales," August 29, 2019, https://www.census.gov/construction/nrs/historical_data/index.html.

postcrisis lending regulation. But the reason that measures such as the proportion of mortgages with high DTIs are rising is because the various elements of Regulation Z have made it very difficult to fund *affordable* homes. The development of the postindustrial urban housing shortage has led to a peculiar new pattern. It is households with high incomes in cities with successful local economies that have high housing costs and that must push outside previous norms in mortgage terms. The markets where activity has largely shut down are markets where homes are available at affordable price points, but some combination of factors is preventing potential borrowers in those markets from buying affordable homes. Many factors are at work at once, such as the cost of mandates regarding underwriting, limits on fees or spreads to cover those costs, and tight oversight on the types of income that can be counted as income in the underwriting process, for instance. Where two or three of these new constraints combine to make a new mortgage untenable, it may be difficult to quantify the effect of each factor.

One signal that seemed to point to excessive lending before the crisis was that, in some cities, low-tier home prices appreciated much more than high tier prices. This was a phenomenon limited to the very expensive “superstar” cities, the same cities that created a mass migration event as millions of American families moved away because of a lack of affordable housing. In four-fifths of the largest metropolitan areas, there was little systematic unusual rise in low-tier home prices. By 2010, when Dodd-Frank was passed, those isolated aberrations in prices had reversed. At that point, four years into the collapse in residential construction, relative prices within metropolitan areas were balanced. In other words, within the typical metropolitan area, low-tier and high-tier homes purchased in 2000 had similar price appreciation over the following 10 years, after the ups and the downs.

But *after* the passage of Dodd-Frank, low-tier prices in many metropolitan areas dropped by 10 percent or more, compared to high-tier prices. The metropolitan areas that had the least negative price shock after Dodd-Frank were the very expensive cities. The negative shock that followed Dodd-Frank hit the hardest in the cities where there hadn’t been a positive shock during the bubble. The cities that fed the premise that led to the passage of Dodd-Frank were the cities where prices were least affected by it (see figure A6).

During the boom, rent inflation was strongly and negatively correlated with the rate of building. CPI-measured rent inflation from 2000 to 2005 averaged more than 4 percent annually in the expensive cities that triggered the migration event but was much lower in cities that allowed more building.

The negative demand shock that has been created since the crisis has mostly affected affordable areas where incomes are lower. So the expensive cities that triggered the bubble have all recovered to their precrisis rates of building. Those building rates are unsustainably low, so that there remains a steady flow of outmigration from those cities. Supply remains a problem. But demand in those cities has recovered so that their rent inflation and rates of building are similar to precrisis levels. The cities that fed the premise that led to tightened mortgage regulations are the cities where building rates, demand, and rent inflation have changed the least as a result of those regulations.

Other cities have been affected by the shock to housing demand, so rates of building in other cities are low now—not much higher than the expensive cities. And because of the limit to supply,

rent inflation has been about 4 percent annually in metropolitan areas that aren't in economic decline (see figure A4.)

Housing markets in the expensive cities have not changed much from the precrisis boom. Homes are still expensive because rents are high, and rents are high because of limited building. In all other cities, there has been a systematic change in housing markets since the crisis. Rent affordability has become worse but mortgage affordability has become better.

The demand shock created by limits to new lending has compressed price-to-rent ratios, pushing prices below replacement cost. So rents are rising, mortgage affordability in most cities is better than at any precrisis point of comparison, and supplies are stagnant because prices are too low to induce new building, especially in the most affordable markets where credit constraints are the most binding and affordability is most important. According to data from Zillow.com, the rent on the median American home claims about 28 percent of the median household's income. In the period since the crisis, rent has generally claimed a larger portion of household income than it had at any time for decades before the crisis. But a conventional mortgage on that same home would only claim about 16 percent of the median household's income. In contrast to rent affordability, mortgage affordability since the crisis has been better than at any time for decades before the crisis. And these shifts are most extreme in the most affordable cities. The less expensive housing is, the better a mortgage payment stacks up against the rent payment on a typical house. This is not the time to add regulatory obstacles to potential new homeowners.

There has been some price recovery in the more affordable markets, but that price recovery has not yet been associated with either significant increases in new building at low price points or with expansion of mortgage originations among borrowers with, for instance, moderate FICO scores. Much of that recovery has been a reversal of the negative shock that followed Dodd-Frank. Again, it is tempting to view rising prices as a reason to double down on new regulations limiting mortgage access. But the fact that those recovering prices have not triggered an increase in supply should be a red flag.

The premise of the changes in Regulation Z was that loose lending terms led to either exceedingly high prices or, in regions with elastic supply, overbuilding. As described earlier, that premise was wrong in many ways. But in addition, that premise does not explain recent trends either. Recent increases in prices have *not* triggered new supply, even where supply is elastic. Those rising prices are not, then, a sign of excess demand. They are a sign that a negative demand shock, created by tight lending standards, has pushed prices far below the price required to fund a functional market with ample new supply. Existing homes sell for less than the cost of potential new homes even though rental values of existing homes have been rising. Those rising prices should alert policymakers that lending has been far too tight, not too loose.

POSTCRISIS CHANGES TO REGULATION Z SHOULD BE SOFTENED OR REVERSED BEFORE THE EXPIRATION OF THE QM PATCH

The most immediate implication of this analysis is that it is imperative that policymakers keep the safe harbor provided by the patch, whether that is by extending the expiration date of the patch or by extending safe harbor beyond the GSEs. Any change that increases the regulatory risks of lending in affordable markets will worsen the rent affordability problem.

Beyond that immediate issue, the nation's mortgage market really consists of two separate submarkets. In four-fifths of the country, the perception of excessively high prices and overbuilding was simply wrong. The premises that led to changes in Regulation Z were wrong. The imposition of these new standards has created net costs for households in most cities and has made housing affordability worse by putting upward pressure on rents. The entire approach of adding costs, mandates, and risks for lenders working in those markets should be reassessed.

In the localized regions where endemic and severe limits to housing supply have pushed mortgage expenses far above 20th-century norms, there should be a shift of focus. In most markets, more generous lending creates various positive externalities for households that don't take on mortgages. Supply expands, rents moderate, construction employment grows, real estate serves as a stable means for saving and deferring consumption. But in the expensive markets that are characterized by extreme political limits to building, more generous lending standards cannot create those positive externalities. Instead, they create volatility, inequitable capital gains, and migration surges. Homeowners pocket windfall profits when they sell their homes while renters are subjected to ever-rising rents. Those cities end up divided between haves and have-nots, depending on whether they were insiders (owners) or outsiders (renters) of a veritable urban real estate cartel.

In those markets, the supply crisis means that markets in a sustainable equilibrium with rational buyers and prices based on fundamentals will create instability and inequity. Even without a speculative bubble, those cities have risk-inducing housing markets. First and foremost, that calls for a regulatory framework that nudges housing constrained cities to create more supply. Where new policies fail to induce more supply, the approach to housing markets in those cities should not be to further limit access to housing through regulatory obstacles in the mortgage market.

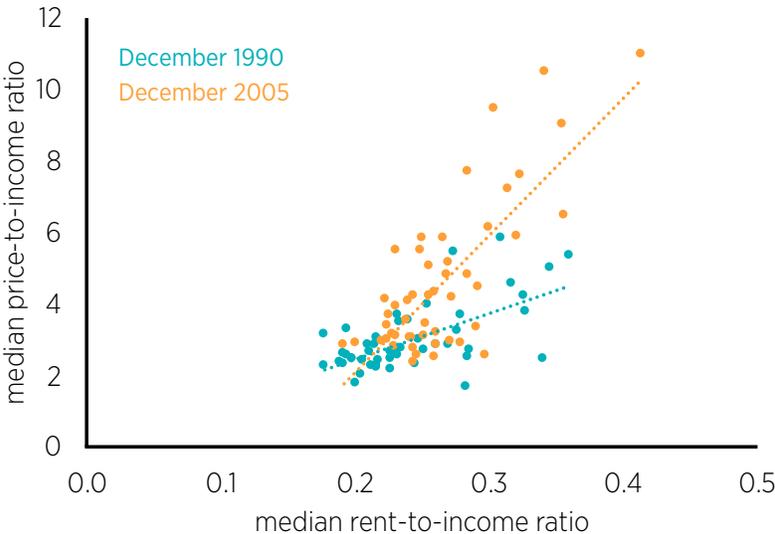
ATR and the various associated risks and costs that lenders face, based on borrower characteristics, are not an approach that addresses the root causes of high housing rents and prices.

CONCLUSION

I lament that these findings narrow the middle ground. They call for a fundamental reconsideration of the approach to mortgage regulation that has characterized the postcrisis period. I hope that this input can help the Bureau to safely pursue the course ahead in the best interest of all American households. If there is any way that I can provide helpful details or explanation on the research that has informed this comment or if I can be of any further help, please do not hesitate to ask.

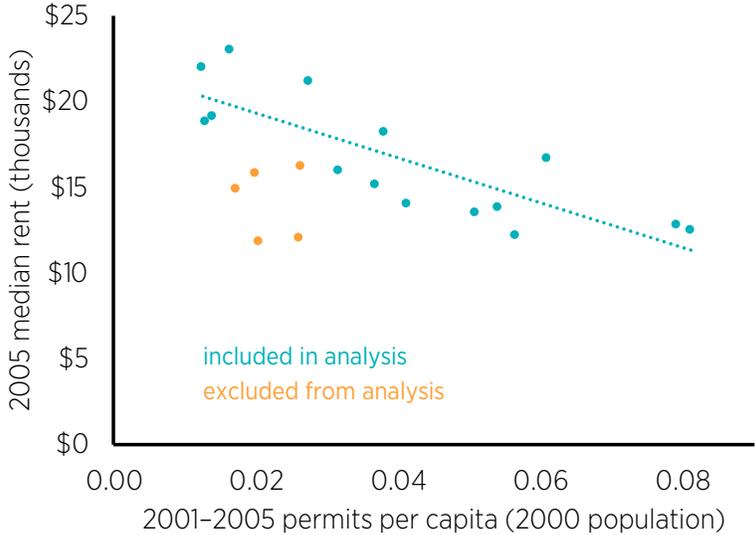
APPENDIX

FIGURE A1. PRICE-TO-RENT AMONG 50 LARGEST METRO AREAS



Note: Using data from Zillow.com for median home prices, rents, and household income in individual metropolitan areas, this figure shows the evolution of price-to-income and rent-to-income ratios among metropolitan areas during the housing boom. The US median ratio of price to rent increased slightly, reflecting low long-term real interest rates, but remained within historical norms. Most metropolitan areas maintained moderate rents and prices and remained near the national median. The extreme rise in prices was strongly related to extreme increases in rents. The reason there were metropolitan areas where price-to-rent ratios shot up far above historical norms was that rents there had increased to far above historical norms and are expected to continue increasing. The equations for the trendlines are as follows: **December 1990:** $y = 12.72x - 0.08$; $R^2 = 0.40$. **December 2005:** $y = 38.48x - 5.63$; $R^2 = 0.59$. Source: Zillow, "Economic Data," accessed August 29, 2019, <https://www.zillow.com/research/data/>.

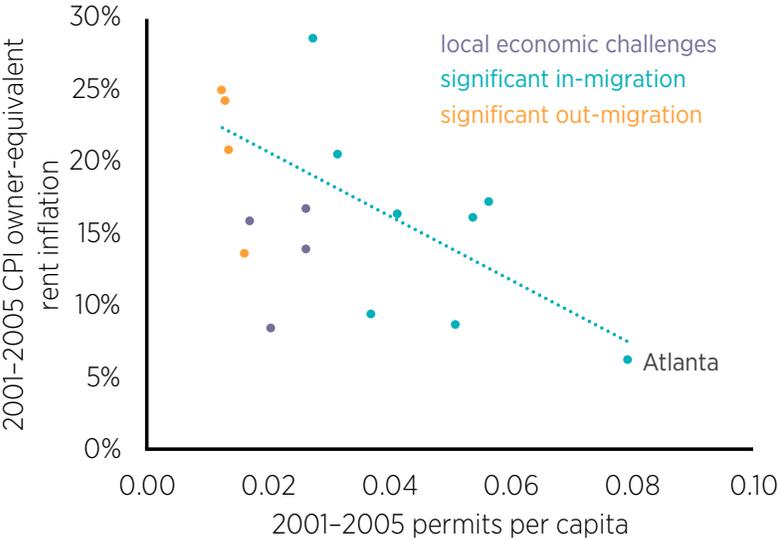
FIGURE A2. MSA HOUSING PERMITS AND RENTS



Note: This figure compares the rate of housing permits per capita from 2001 to 2005 with the median metropolitan area rent in 2005 in the 20 largest metropolitan statistical areas (MSAs). Five MSAs (shown in orange) were excluded because, owing to low demand and little population pressure, the potential growth of their housing supplies has not been tested. They were chosen through a separate analysis of population growth trends that differentiated MSAs with low demand from MSAs with low growth in spite of high demand. Those five MSAs are Baltimore, Chicago, Detroit, Philadelphia, and St. Louis. Among the remaining 15 MSAs, there is a strong correlation between the rate of housing construction and rent levels, as shown in the figure. The equation for the trendline is as follows: $y = 22390e^{-7.86x}$; $R^2 = 0.70$.

Source: **MSA Rent Data:** Zillow, “Economic Data,” accessed August 29, 2019, <https://www.zillow.com/research/data/>. **Permit Data:** Census Bureau, “Permits by Metropolitan Area,” June 20, 2019, <https://www.census.gov/construction/bps/msaannual.html>. **Population Data:** Bureau of Economic Analysis, “Regional Data,” accessed August 29, 2019, <https://apps.bea.gov/iTable/iTable.cfm?acrdn=1&isuri=1&reqid=70&step=1>, table MAINC1. “Personal Income, Population, Per Capita Personal Income.”

FIGURE A3. MSA HOUSING PERMITS AND RENT INFLATION, 2001-2005

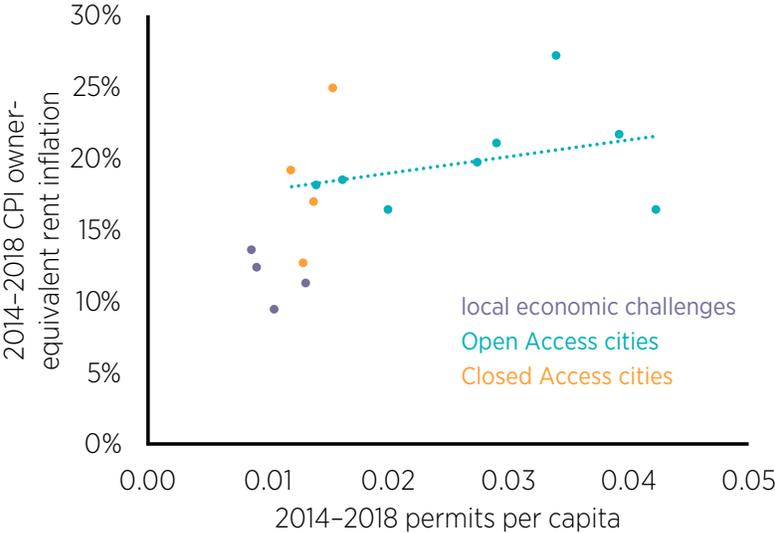


Note: This figure compares the rate of per capita housing permits from 2001 to 2005 with the CPI metropolitan area measure of rent inflation from 2001 to 2005 for the 20 largest metropolitan areas. The metropolitan areas shown in purple have local economic challenges, so the supply of new housing is not a binding constraint for them. They permitted few new homes because demand is low. (The regression statistics shown omit those cities.) The other cities face high demand for housing from potential population growth, and they either meet that demand with ample building, which keeps rents moderate, or they fail to meet that demand with ample building, which causes local rents to rise. On the margin, before the financial crisis, metropolitan areas either created housing supply by allowing new units to be built (e.g., Atlanta) or created new housing supply by inducing rents to rise far enough to induce outmigration by households who couldn't afford the rising rents. The equation for the trendline is as follows: $y = -2.24x + 0.25$; $R^2 = 0.46$.

During the housing boom, the metropolitan areas in blue tended to have positive levels of domestic in-migration. The metropolitan areas in orange have high rates of domestic out-migration, which is especially strong for households with low incomes, and domestic out-migration from those metropolitan areas spiked during the housing boom.

Source: **Permit Data:** Census Bureau, "Permits by Metropolitan Area." **Population Data:** Bureau of Economic Analysis, "Regional Data." **Rent Inflation Data:** Bureau of Labor Statistics, "BLS Data Finder 1.1," accessed August 29, 2019, [https://beta.bls.gov/dataQuery/find?st=0&r=20&s=title%3AA&q=owners%27+equivalent+of+residences&fq=survey:\[cu\]&fq=mcd:\[Not+seasonally+adjusted\]&fq=mcd:\[Monthly\]&more=0](https://beta.bls.gov/dataQuery/find?st=0&r=20&s=title%3AA&q=owners%27+equivalent+of+residences&fq=survey:[cu]&fq=mcd:[Not+seasonally+adjusted]&fq=mcd:[Monthly]&more=0). This source contains search results for data on the Consumer Price Index: owners' equivalent rent of residences for individual MSAs. (For example, the data series used for Boston is CUURS11ASEHC.)

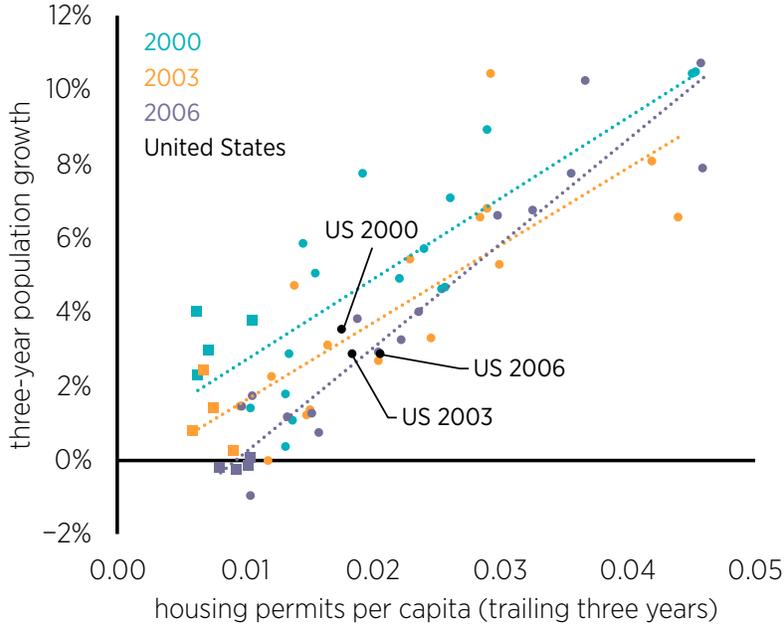
FIGURE A4. MSA HOUSING PERMITS AND RENT INFLATION, 2014-2018



Note: This figure compares the same measures (housing permits per capita and CPI rent inflation) for the years 2014 to 2018. The postcrisis lending and housing markets have been associated with sharp declines in housing construction across the country. The rate of building in what I call the Closed Access cities (where new housing is highly constrained, rents rise relentlessly, and households are forced to make difficult choices as housing expenses eat up their budgets [shown in orange]) has recovered to the boom period rate, but that rate of building is unsustainably low. Those metropolitan areas continue to have a flow of domestic out-migration. In the other metropolitan areas that face high demand for population growth, new limits to housing construction have pushed housing supply down to low levels that lead to rent inflation. So in the current context, there is no systematic relationship between rates of building and rent inflation because there are no metropolitan areas building at high enough rates to moderate rents. Today, cost of living is the binding constraint reducing urbanization, in spite of urban economic opportunity. The equation for the trendline is as follows: $y = 1.18x + 0.17$; $R^2 = 0.11$.

Source: **Permit Data:** Census Bureau, “Permits by Metropolitan Area.” **Population Data:** Bureau of Economic Analysis, “Regional Data.” **Rent Inflation Data:** Bureau of Labor Statistics, “BLS Data Finder 1.1.”

FIGURE A5. MSA HOUSING PERMITS AND POPULATION CHANGE



Note: This figure compares housing permits per capita with population growth among the 20 largest metropolitan areas for three-year periods ending in 2000, 2003, and 2006. The black data points represent the national ratio. The squares are the Closed Access cities, with very low rates of building. What this visualization makes clear is that the national measure isn't very useful as an indicator of building activity.

There is a huge difference between the rates of building in different metropolitan areas. What seems like a very large shift in building rates at the national level is a rounding error at the metropolitan area level. Rising rates of building at the national level tell practically nothing about whether capital is being allocated prudently to residential investment. Within individual metropolitan areas, changes in rates of building during the housing boom were a reaction to rising migration and population growth. The right end of the regression lines didn't change much. The change between the late 1990s and the 2004-2006 boom period was most importantly a change in population growth among the "closed access" cities that do not allow much building. Building rates in those cities for all three periods were around one new unit per one hundred residents. But in the late 1990s, households were willing to stuff into that stagnant stock of housing so that the populations of those metropolitan areas grew by 2 to 4 percent. During the housing boom, Americans lost their appetite for stuffing into that stagnant stock of housing, and the populations of those metropolitan areas stopped growing.

The housing boom was set in motion by the downward shift in population growth in the cities with very constrained housing supply, which required more building in other cities to house the households being pushed out of the "closed access" cities by rising rents. The equation for the trendline is as follows: **2000:** $y = 2.18x + 0.01$; $R^2 = 0.69$. **2003:** $y = 2.09x - 0.00$; $R^2 = 0.67$. **2006:** $y = 2.82x - 0.03$; $R^2 = 0.92$.

Source: **Permit Data:** Census Bureau, "Permits by Metropolitan Area." **Population Data:** Bureau of Economic Analysis, "Regional Data." **Rent Inflation Data:** Bureau of Labor Statistics, "BLS Data Finder 1.1."

FIGURE A6. THE DIFFERENCE BETWEEN 1ST-QUINTILE PRICE APPRECIATION AND 5TH-QUINTILE PRICE APPRECIATION, DECEMBER 2000 TO THE DATES SHOWN IN EACH COLUMN

	Aug 2007	Mar 2009	Jun 2010	Dec 2013	Dec 2017
Metro Quintile 1	3.3%	-0.7%	-1.9%	-6.1%	-3.8%
Metro Quintile 2	5.4%	1.2%	-0.8%	-11.8%	-4.5%
Metro Quintile 3	6.1%	4.1%	0.7%	-13.1%	-2.3%
Metro Quintile 4	6.8%	2.1%	-0.8%	-9.3%	2.8%
Metro Quintile 5	28.7%	10.2%	1.7%	-4.7%	5.4%

Note: This heatmap uses the median home value at the ZIP-code level, estimated by Zillow. First, metropolitan areas were sorted into five quintiles according to metropolitan area home prices at the peak of the housing boom in 2006. Quintile 1 contains the least expensive metropolitan areas and quintile 5 contains the most expensive metropolitan areas. Next, within each metropolitan area, ZIP codes were sorted by median home price into five quintiles. And price appreciation of the lower quintiles from December 2000 to the later dates shown was compared to the price appreciation of the higher quintiles.

For instance, from December 2000 to August 2007, in the least expensive metro areas (quintile 1), the least expensive ZIP codes saw an average price appreciation of 37 percent while the most expensive ZIP codes saw an average price appreciation of about 33 percent. Low-priced homes appreciated, on average, by 3.3 percent more than high-priced homes, as shown in the figure.

From December 2000 to December 2013, the least expensive ZIP codes in the least expensive metro areas saw an average price appreciation of about 28 percent, compared to 36 percent for the highest-priced homes in those metro areas. So low-priced homes appreciated, on average, 6.1 percent less than high-priced homes, as shown in the figure.

The figure highlights two key issues: First, the unusual and extreme rise in low-tier homes within metropolitan areas was largely confined to the most expensive cities, which allow very little building. By the time Dodd-Frank passed in July 2010, that phenomenon had reversed, and so from December 2000 to June 2010, among all types of cities, there was remarkably little variation in home price appreciation between high-tier and low-tier markets. After Dodd-Frank, low-tier prices in the expensive cities, which had previously seen extreme price appreciation during the boom, were not greatly affected. But low-tier prices in the more affordable cities, which never had extreme price appreciation, were pushed down more than 10 percent.

Source: Zillow, "Economic Data," accessed August 29, 2019, <https://www.zillow.com/research/data/>. The particular data series used was the median home price by ZIP code for all homes (ZIP_ZHVI_AllHomes).