



Housing’s Role in the Slow Recovery

Why has homebuilding recovered so sluggishly after the Great Recession? The evidence points to some unusual supply and demand factors.

BY BURCU EYIGUNGOR

Homebuilding contributed to overall economic growth in every previous U.S. economic recovery since 1947, yet contributed next to nothing in the first three years of the recovery from the Great Recession. Home construction had been such a reliable indicator of recovery that its failure to promptly rebound led economists during the early years of the recovery to repeatedly forecast that a housing turnaround was right around the corner. The magnitude of the housing boom in the early 2000s was unprecedented, and its effects on the housing sector lingered for years. As I will show, the slow recovery in homebuilding and the economy was partly a byproduct of the fast increase in house prices and homebuilding in the early 2000s. To explore this dynamic further, I examine some key factors at work in this period: What happened on the supply and demand sides of the housing sector during this past boom and bust cycle?

WHAT HAD WE COME TO EXPECT AFTER A RECESSION?

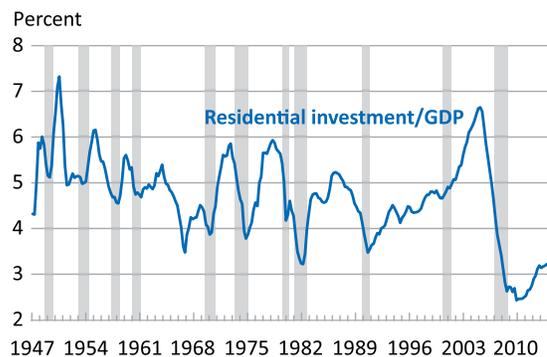
Homebuilding — measured by the amount of money spent on house and apartment construction, including major renovations — is highly *procyclical*. In every recession since 1947, the share of residential investment relative to the gross domestic product (GDP) has fallen and then recovered during the subsequent expansion (Figure 1). This pattern implies that home construction is more volatile than GDP in general: In a typical recession, residential investment declines more than GDP does.

The second well-established fact is that homebuilding leads the business cycle.¹ The recovery in homebuilding starts on average two quarters before the recovery in general eco-

FIGURE 1

Homebuilding Is Highly Sensitive to Recessions and Recoveries

Private residential fixed investment as share of gross domestic product.



Source: Bureau of Economic Analysis via Haver Analytics.

nom ic activity. In that sense, home construction is an important jump-starter — that is, it precedes and makes possible the overall economic recovery. Economists have also pointed out that this lead/lag relationship might be due to monetary policy — that is, lower interest rates first trigger a recovery in housing because of easier mortgage financing, followed by recovery in other activities.² Residential investment has contributed almost 1 percentage point to real GDP growth on average in the first year of a postwar recovery.

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HOMEBUILDING BEHAVED QUITE DIFFERENTLY IN THE LAST BOOM-BUST CYCLE

The housing boom from 1991 to 2005 was the longest uninterrupted expansion of home construction as a share of overall economic output since 1947 (Figure 1). During the 1991 recession, private home construction had constituted 3.5 percent of GDP, and it increased its share of GDP without any major interruptions to 6.7 percent in 2005. This share was the highest it had been since the 1950s.

Just like the boom, the bust that followed was also different from earlier episodes. During the bust, private residential investment as a share of GDP fell to levels not seen since 1947 and has stayed low even after the end of the recession in 2009. In previous recessions, the decline in residential construction was not only much less severe, but the recovery in housing also led the recovery in GDP. As Federal Reserve Chair Janet Yellen has pointed out, in the first three years of this past recovery, homebuilding contributed almost zero to GDP growth.

The extra volatility in residential construction since 2000 is also observable in house prices, which when adjusted for inflation had been fairly stable from 1953 until this past boom (Figure 2). The increase in real house prices from 2000 to 2006 and the following crash were a big historical anomaly.

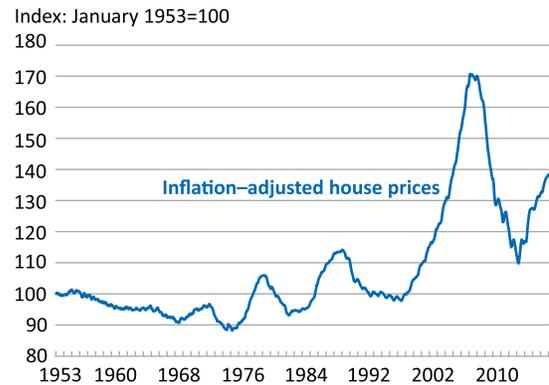
In this article, I will try to understand why home construction recovered so slowly this time around. First, I look at the housing supply and whether the big increase in house prices during the expansion led to overbuilding, meaning that the recovery started with this extra supply hampering construction of new housing. Another possibility I will explore is whether house prices fell so much in the bust that home construction became unprofitable. As I will show, a number of things on the demand side also changed.

HOUSING SUPPLY

If inventories of homes available to buy or rent are high compared with demand, the amount of construction required to satisfy that demand will be lower and might be the reason behind the recent decline in homebuilding. For a measure of inventories, I look at vacancy rates for both rental and owner-occupied units. Rental vacancy rates were higher than their historical averages during both the boom and bust, while vacancy rates for owner-occupied homes shot up in 2006, at the same time that house prices started falling precipitously (Figure 3). More important, vacancy

FIGURE 2

An Unprecedented Rise in House Prices House price index, 1953–2015.



Source: Census Bureau via Haver Analytics.

rates for both types of housing have recently fallen to levels that had prevailed before the boom, which would seem to indicate there is no longer an excess supply.

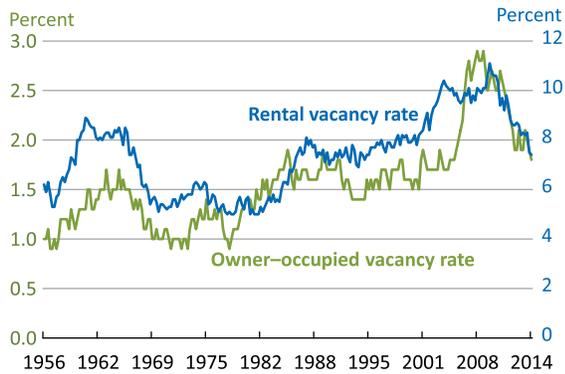
Then again, one might wonder whether these vacancy rates capture the entire housing inventory. Some vacant homes may not yet be for sale or rent but will be once they are renovated — constituting what one might call a *latent* supply of homes. Indeed, the ratio of all vacant homes — not only those for sale or rent — to the stock of total housing (excluding vacation properties) started going up during the housing boom, peaked around 2009, and has not come down much since then (Figure 4).³ This latent supply might explain some of the slack in construction.

Another driver of residential construction is house prices: As demand for new houses drives up prices to profitable levels, construction firms respond by ramping up homebuilding. House prices fell steeply during the bust, but this decline had been preceded by very large increases between 1999 and 2005. When adjusted for inflation, house prices are still substantially higher than their historical averages before 1999. So, why haven't these high prices led to high levels of residential construction during the recovery?

This puzzle raises an interesting question: Could it be that prices are actually still too low? Do they need to rise further for construction to pick up again? To answer that question, we need to examine the profitability of the construction sector by comparing house prices with homebuilders' costs. As construction worker payrolls account for 72 percent of homebuilders' costs, the employment cost index for total compensation of private construction workers is a

FIGURE 3

Vacancies Have Recovered to Preboom Rates...



Source: Census Bureau Housing Vacancy Survey via Haver Analytics.

FIGURE 4

...But Vacancies Including Homes Off the Market Still Elevated



Source: Census Bureau Housing Vacancy Survey via Haver Analytics.

reasonable measure of total costs in this sector.⁴

We also need an appropriate measure of house prices. As city centers become more fashionable, it is possible that house prices are increasing simply because the price of urban land is increasing, which would not necessarily imply that homebuilders' profits are higher. Therefore, measures that track sales of existing homes such as the S&P/Case-Shiller house price index might give a misleading picture of profitability, since older homes are typically found in locations with higher land values than houses built today are. Indeed, judging by a measure that tracks prices for newly built single-family homes, profitability went up from 2000 to 2006 but crashed in the 2007–09 recession, mostly because of a plunge in the prices of new houses. The ratio of new

house prices to employment costs remained below average during much of the recovery and only by mid-2014 had returned to its preboom level (Figure 5).

We also see that profitability in the homebuilding industry indeed drives new home construction. When profits have been low, construction spending has declined, and when profits have been high, construction has gone up (Figure 5). Still, the decline in home construction in the latest recovery has been abnormally large. Given the historical correlation between residential construction spending as a share of GDP and profits as measured by the price-to-cost ratio, a normal share for residential construction spending as a share of GDP would have been more like 2.7 percent rather than the 1.3 percent we saw in the second quarter of 2014. As I will show, there was also a sharp drop in demand for housing during this recovery that may explain some of this gap between expected and actual residential construction spending.

DEMAND FOR HOUSING

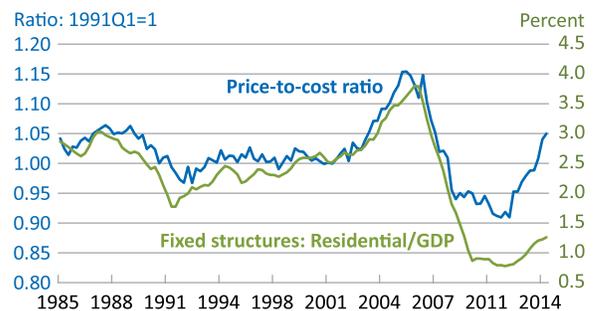
Two decisions that individuals and families make based on their own circumstances end up having a major impact on the whole housing market when taken all together. One is whether to have a household of one's own. The other is whether to buy or rent one's dwelling. Following the crash, people's responses to these two choices shifted in ways that decreased overall housing demand: Both household formation and homeownership rates fell.

Household formation. Every time a new household forms, it creates more housing demand, regardless of whether that new household decides to rent or buy a dwelling.⁵ If there is not enough inventory to meet the demand for

FIGURE 5

Profitability Drives Homebuilding

Ratios of new single-family house prices to employment costs and residential investment to GDP.



Sources: Bureau of Economic Analysis and Census Bureau via Haver Analytics.

more housing, higher household formation will trigger more homebuilding. Household formation peaked during the boom, and it was persistently well below its historical average from 2007 until the end of 2014 (Figure 6). In no period since 1956 has net household formation been so low for so long. One can imagine how the extra household formation during the expansion might have contributed to the decline now. Because of the easy availability of mortgages during the boom, people who ordinarily would have formed their own households later in life might have done so sooner, implying a lower household formation rate when mortgages become hard to obtain again. In addition, when households default on their mortgages and have to move in with other family members, that decreases household formation.

Maybe the stark component of this picture is not the initial decline in household formation following the crash, which would be expected, but the persistence of the decline. With the decline of foreclosure rates and unemployment, household formation is back up again, but only after seven years of sluggish performance.

One might wonder if part of this decline was due to the aging of the population. Looking at the *headship rate* — the proportion of householders in the adult population — we see very large declines for all age groups between 2006 and 2013 (Table 1), so the aging of the population does not seem to explain this persistent decline in headship rates.

There is another way of looking at this puzzle. Whether someone can afford to be the head of a household usually depends on whether he or she is employed. People move into other households because of hardship, such as unemploy-

ment, and move out again when they can afford it. The ratio of householders relative to employed people went up during the crisis, mostly because employment fell so sharply (Figure 7). As employment falls, one would expect the number of households to shrink as many unemployed householders can no longer afford to maintain a home. But this process takes time: Some householders default on their mortgages but remain in their homes rent- and mortgage-free while foreclosure proceedings continue. Some householders go through their savings before moving in with someone else or even become homeless. And households with two earners might try to keep their own dwelling while the one who is unemployed searches for a job.

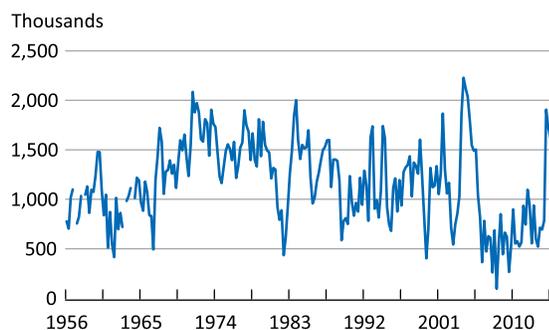
Although the number of householders relative to employed people might be affected by demographic factors and marriage rates, between 2000 and 2008 (until the recession hit), the ratio for people age 25 to 59 was quite stable at 65.8 percent. After the recession hit, the ratio went up to 68.4 percent in 2010, and it has been falling since then because of both employment growth and low net household formation. By 2014 it had reached 65.9 percent, which is remarkably close to the ratio before the crisis hit. The fourth quarter of 2014 was also when household formation went back to its prerecession rate. All this suggests that the householder-to-employment ratio might be a quite good predictor (at least in the short run) of future household formation.

Homeownership. Another major trend since the housing bust is the persistent decline for all age groups in the homeownership rate, which had increased uninterruptedly from 1995 to 2005 but has since fallen back in line with the pre-1995 era, making it hard to predict whether this decline

FIGURE 6

Household Formation Well Below Long-Run Average

Number of households formed in the prior year.



Source: Census Bureau Housing Vacancy Survey via Haver Analytics.
Note: Gaps in the 1950s and 1960s indicate incomplete data.

TABLE 1

Headship Rate Has Fallen for All Age Groups

Percentage point change in proportion of householders in adult population.

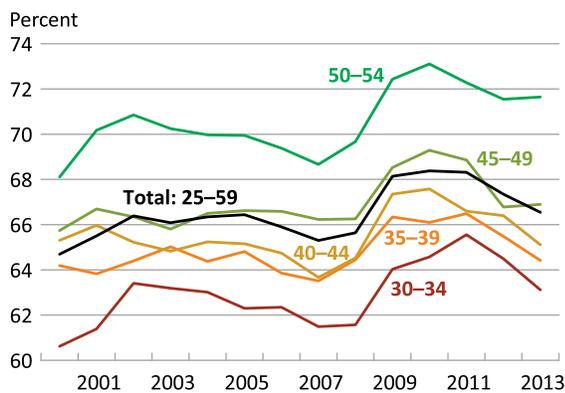
	2000–2006	2006–2013
All ages	0.056	-1.751
25–29	1.313	-3.363
30–34	0.004	-1.486
35–39	-0.944	-1.840
40–44	-1.561	-1.923
45–49	-0.453	-2.509
50–54	0.677	-1.092
55–59	0.288	-1.831
60–64	1.566	-2.095

Source: Census Bureau Housing Vacancy Survey via Haver Analytics.

FIGURE 7

A Good Predictor of Future Household Formation?

Headship-to-employment ratio.



Sources: Census Bureau Housing Vacancy Survey; Bureau of Labor Statistics via Haver Analytics.

will persist (Figure 8).⁶ Some have proposed that more stringent loan approval requirements have led to this decline. For example, credit scores of those approved for purchase loans have increased substantially, but it is difficult to identify how much this increase is being driven by lower demand by poorer households and how much by more stringency by banks.⁷ One thing is certain: This decline has lowered overall housing expenditures, because homeowners on average spend more on housing than renters do because of the tax incentives of homeownership and holding a mortgage.⁸ Together, the declines in household formation and homeownership contributed to the decline in residential expenditures as a share of GDP.

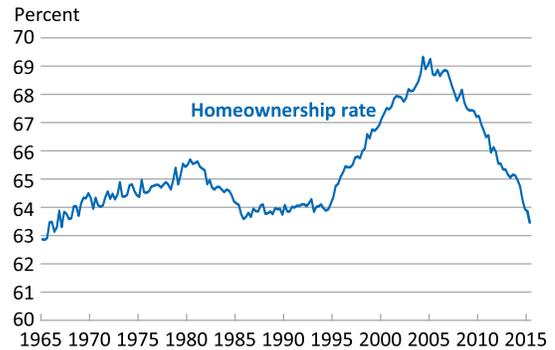
INTERACTION BETWEEN HOUSING AND EMPLOYMENT

There is evidence that the slowness of the recovery in housing contributed to the slowness of the overall recovery. Recent research tries to understand this connection.

Atif Mian and Amir Sufi document a demand-side effect of the sharp decline in house prices on employment. Their argument is that house price declines reduced household wealth, which led homeowners to spend less and that this drop in demand for goods and services in turn led to the recession. They find wide geographic variation in how households' balance sheets were affected during the housing bust, as house prices declined more in some parts of the country than in others, and households in some locales were more debt-burdened on average than in other areas. Using

FIGURE 8

Will Homeownership Resume Its Trend — or Keep Falling?



Source: Census Bureau Housing Vacancy Survey via Haver Analytics.

this variation, they find that locations that suffered the biggest declines in housing wealth also had the biggest declines in employment.⁹ According to their calculations, the decline in demand due to lower housing wealth accounts for around 55 percent of the jobs lost between 2007 and 2009.

Another finding comes from Greg Kaplan: When young householders get laid off, they may use their parents as insurance and be more likely to move back in with them. In addition, there is a positive long-term income effect of moving in with one's parents after a job loss. Comparing 20-year-olds who lost their jobs with those who did not, he finds that after six years, the wages of those who lost their jobs were 25 percent lower. But this difference arises mostly because of the drop in wages suffered by people who did not move in with their parents when they lost their job. People who did move in with their parents had no statistically significant income loss six years after being laid off. Kaplan believes that this difference is due to the fact that young people who move in with their parents can afford to take longer to search for better jobs, so they end up earning higher wages in the long run. By contrast, those with no option to move back home and who have to pay rent have to settle for jobs even if they do not pay well or are not very suited to their abilities. This study implies that as young people move back with their parents, their job-finding rates fall, which might explain some portion of the recent slow recovery. This effect might be more pronounced in longer recessions such as the recent one, as more young people than usual will have moved back with their parents.¹⁰

Kyle Herkenhoff and Lee Ohanian find that, for a household that stopped paying the mortgage, the aver-

age time spent in default increased from four months to 12 months during the crisis. They propose that this increase may have led to higher unemployment rates. Being able to live rent-free longer may have served as extra unemployment insurance, giving unemployed delinquent mortgagors the financial leeway to be choosier about what jobs they would accept. They find that this effect increased unemployment rates by an estimated one-half to one-third of a percentage point in this recession and recovery.

SOME CONCLUDING THOUGHTS

Although homebuilding constitutes a small portion of GDP — on average 4.7 percent since 1947 — it has outsize importance for the rest of the economy. In general, the housing sector leads the recovery in the rest of the economy, and the last recession suggests that without the housing sector, recovery is slow. Housing is also special in that housing wealth is spread much more evenly across society than financial asset wealth is, and so large falls in house prices affect middle-income people more than a similar decline in stocks does.

Therefore, it is important to avoid severe boom and bust episodes in the housing market in the future. The preventive steps that have been taken since the crisis — stricter regulation of the banking sector to limit risk-taking and more stringent requirements for mortgage borrowers — might have slowed down this recovery but are necessary to avoid a similar episode in the future. ■

NOTES

¹ This relationship was first pointed out by Morris Davis and Jonathan Heathcote. Edward Leamer has suggested that residential investment should be used to predict the business cycle and should play a prominent role in monetary policy.

² Finn Kydland, Peter Rupert, and Roman Sustek point out that the prevalent use of fixed-rate mortgages in the U.S. might be why homebuilding leads the business cycle in the U.S. They build a model to show how changes in interest rates might lead homebuilding to respond earlier than other economic activity.

³ Unfortunately, details on whether homes are vacant because of foreclosure or for other reasons such as repairs are available only after 2012, which makes it impossible to perform a more detailed analysis on why there are still so many more vacant homes than before the crisis.

⁴ Michael Elsby, Bart Hobijn, and Aysegül Sahin give the payroll share for a range of sectors.

⁵ The difference in the total number of households between periods gives the number of new households formed during that interval. The Census Bureau looks at the number of households each month. One person in each household is designated as the “householder,” which refers to the person (or

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one of the persons) in whose name the housing unit is owned or rented. If it is a married couple living in the same unit, only the husband or wife would be listed as householder; if unrelated roommates live in the same unit, again only one would be recorded as the householder.

⁶ Again, this does not seem to be solely due to demographic changes, as homeownership rates have declined significantly for all age groups.

⁷ See, for example, Laurie Goodman, Jun Zhu, and Taz George’s analysis.

⁸ Martin Gervais and Satyajit Chatterjee and I have studied this phenomenon in depth.

⁹ More specifically, they had the biggest employment declines in *nontradable* sectors — those that produce goods and services consumed domestically rather than exported.

¹⁰ When we look at aggregate employment rates for different age groups, we do not see that young people behaved very differently in this recession than in earlier ones. But that might be because some people in all age groups had to move in with other family members. As seen in Table 1, the headship rate fell for all age groups between 2007 and 2013.