**NABE** National Association for Business Economics  CrossMark

# What is holding back housing?

Laurie S. Goodman[1]

**Abstract** There are two major factors constraining the homeownership rate today: limited supply relative to net household formation and restricted credit availability. In this paper, we carefully document each of these factors, arguing that is is very difficult to fix the supply issues, as so much of the problem is local zoning laws, while steps can be taken to fix the credit availability issues. The supply/demand imbalance is currently the more significant of the two problems, as it places upward pressure on both home prices and rents.

**Keywords** Housing · Housing supply · Mortgage credit · Zoning

There are two major factors constraining the homeownership rate today: limited supply relative to net household formation and restricted credit availability. The supply/demand imbalance is the currently the more significant of the two problems, as it places upward pressure on both home prices and rents.

✉ Laurie S. Goodman
  Lgoodman@urban.org

[1] Housing Finance Policy Center, Urban Institute, Washington, DC, USA

## 1 Supply/demand imbalance

The supply/demand imbalance at the national level is quantified in Table 1. This imbalance is reflected in the total new supply calculation, which compares net new units with total new demand, measured by net household formation. In 2017, there were 785,000 1–4 family units and another 347,000 units in multifamily structures (structures with 5 units or more) completed, for a total new construction of 1,132,000 units. To adequately capture gross new supply, we must add the 92,000 new manufactured housing units shipped, for a gross new supply of 1,224,000 units. To then derive net new supply from these gross new supply numbers, we also subtract units lost to obsolescence. There are just over 135 million housing units in the US. Using the Components of Inventory Change from the American Housing Survey,[1] we can calculate the net obsolescence rate, which includes homes that have been lost to disasters, homes that are uninhabitable without renovation, homes converted to commercial use, and commercial units converted to residential use. We find that the net obsolescence rate in 2017 was 0.31%. This does not suggest that the average home lasts 300 years. This calculation does, however, capture the significant number of commercial to residential conversions that have occurred from 2001 on. Applying our very conservative obsolescence rate of 0.31% to the 135 million housing units in the US suggests that 422,000 units were lost to obsolescence in 2017, leaving a net new supply of 802,000 units.

We then compare the supply of 820,000 new units to net new household formation. Between decennial census surveys (the last was conducted in 2010, the next is to be conducted in 2020), two series are widely used: the

---

[1] As reported by Eggers and Moumen (2016).

**Table 1** A supply shortage looms nationwide. *Sources* U.S. Census Bureau, Urban Institute estimates

| The supply/demand picture 2017 (in thousands of units) | 1–4 family | 5+ family | Total |
|---|---|---|---|
| Private residential completions | 785 | 347 | 1132 |
| Manufactured housing | | | 92 |
| Gross new supply | | | 1224 |
| Less: obsolescence rate | | | 422 |
| Net new supply | | | 802 |
| Household formation | | | 1150 |
| Difference | | | − 348 |

American Community Survey (ACS) and the Current Population Survey (CPS). The two series show very different numbers for net household formation, with CPS much higher than ACS. Moreover, both series are quite volatile. As a result, we use the two-year rolling average for each series, and average the two. This methodology places total net new household formation in 2016 at 1.05 million; we estimate that this number will increase to 1.15 million in 2017. Thus, we have an estimated supply/demand gap of 348,000 units (1,150,000-802,000). That is, we estimate that 348,000 fewer units were produced than the rate of household formation in 2017.

Figure 1 shows how this has looked through time. Net new supply exceeded demand in the early 2000s, as 1.8–2.0 million new homes were being built during this period. There has been a deficit of units since 2009.

The reasons for this lack of supply are twofold: land costs and labor shortages. Figure 2 shows price indices for home prices, broken down into the price of land and the price of the structure. The series goes back to 1975 and it is scaled so that Q2, 2000 = 1.0. Note that land costs are far more variable than the costs of structures and have appreciated much more since 2000.[2] In particular, as of Q1, 2016, the total index stands at 1.72, while the land index stands at 1.95, and the structure index stands at 1.58. Land costs are high because there are a significant and growing number of land use restrictions. Emrath (2016) has shown that regulatory costs account for 24.3% of the price of a new single family home. The largest portion of this—approximately three-fifths—is due to the price of the finished lot, resulting from regulations imposed during the lot development, including zoning and sub-division approval as well as the cost of delay. The other two-fifths—9.7%—are the result of costs incurred by the builder after the lot

has been finished and purchased. Ganong and Shoag (2015) use the per capita number of state appeals court cases that contain the phrase "land use" to measure land use restrictions over time; this measure is rising rapidly. They show that their measure of land use restrictions is robust, as it has a high correlation with the Wharton Residential Land Use Index (last updated using 2005 data), and it does a good job of explaining the relationship between income and home prices: states with more regulations have higher home values.

In addition to land, labor is very tight. Figure 3 shows the 12-month moving average of construction job openings; the current level is the highest it has been in over a decade. And the labor shortages are likely to grow more acute if immigration is made more difficult. Census data indicate that overall 17% of U.S. workers are foreign-born; in the construction and extraction occupations it is nearly double that share at 29%.

There is no easy solution to the supply/demand imbalance, which places significant upward pressure on both home prices and rents, decreasing affordability. While the Federal government can tie transit funding to increased density, this solution helps only at the margin. The more fundamental issue is that most of the constraints on land development are due to local zoning laws, with policies designed to limit growth. The Federal government has no tool that can offset these local laws.

## 2 Mortgage credit is tight

The second major issue holding back the homeownership rate today is tight mortgage credit: it is difficult for those who do not have pristine credit to get a mortgage in today's market. This means that many credit-worthy borrowers are being deprived of the ability to build wealth through homeownership, historically the best way to build wealth. The Federal Reserve's Survey of Consumer Finances (Bricker et al. 2017) consistently finds that home equity is the largest single component of homeowners' net worth. The average homeowner has a net worth of $231,400 of which $100,000 is home equity. The average renter has just $5200 of net worth.

Since mortgage credit is defined by a number of factors, including credit scores, loan-to-value (LTV) ratios, debt-to-income (DTI) ratios, and the type of mortgage loan the borrower has taken out, we need a way to combine these factors into a single measure. We use the Urban Institute's Housing Credit Availability Index (https://www.urban.org/policy-centers/housing-finance-policy-center/projects/housing-credit-availability-index), which looks at the ex-ante probability of default, defined as every going 90+ days delinquent, for mortgages taken out in a given origination

---

[2] Methodology developed by Davis and Heathcote (2007); data located on the Lincoln Institute of Land Policy website. The overall home price indices used for this calculation are from MacroMarkets LLC (formerly Case-Shiller-Wiess).

**Fig. 1** Supply and demand over time. *Sources* U.S. Census Bureau, Urban Institute estimates

### Supply and Demand for Housing



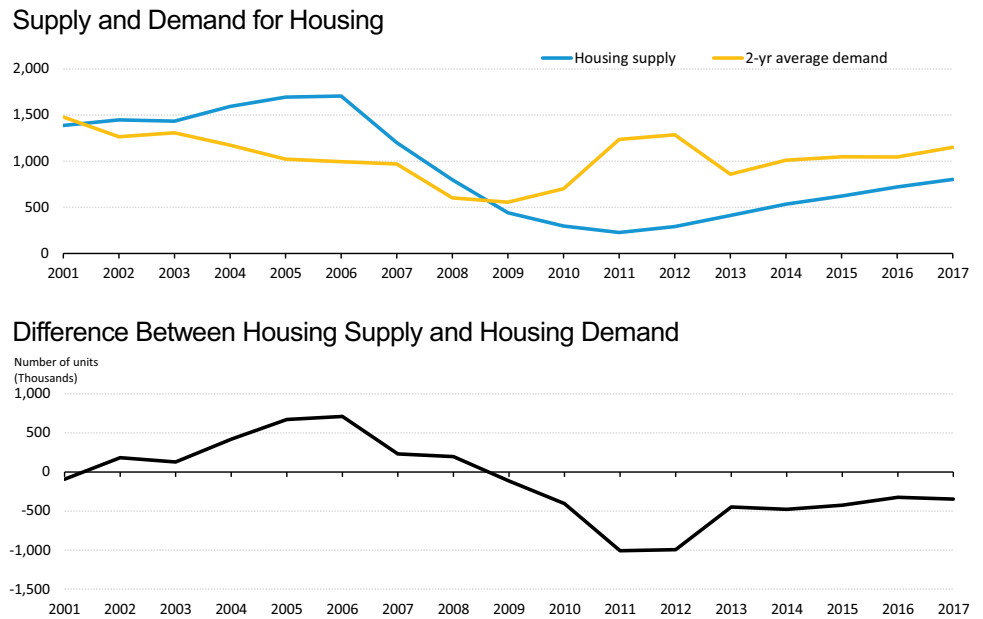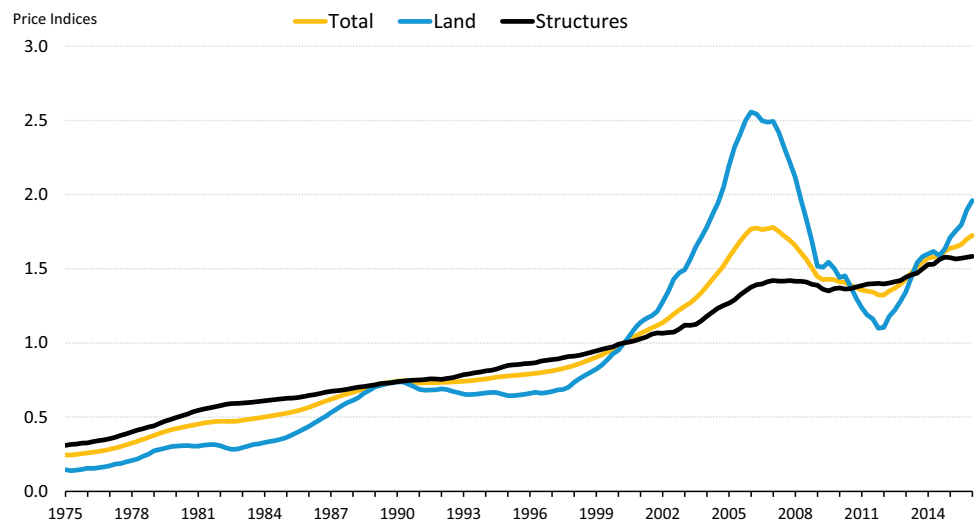### Difference Between Housing Supply and Housing Demand



**Fig. 2** Price indices: land and structures. *Source* Davis and Heathcote (2007)



quarter.[3] This measure was constructed by first assembling two giant look-up tables, one based on the performance of 2001–2002 production and the other based on the performance of 2005–2006 production; each look-up table has four dimensions: credit score, loan-to-value ratio, debt-to-income ratio, and whether or not the loan is a risky product (less than 5-years to the reset, terms longer than 30 years, interest only, or negative amortization). For each bucket of characteristics, we calculate the probability of the mortgage ever going 90+ days delinquent (D90+). We then map each loan in each quarter into our two look-up tables to calculate the ex-ante probability of default. We weigh the 2001–2002 experience (the normal scenario) 90%, and the 2005–2006 experience (the stress scenario) 10%. Figure 4 shows the results of this analysis. Note that the top line shows the total risk—the risk on all four dimensions—the three sets of borrower characteristics (credit score, loan-to-value ratio, debt-to-income ratio) added to whether or not the loan is a risky product; the bottom line in the figure shows the borrower risk, based solely on the three sets of borrower characteristics, assuming none of the loans are risky products. Note the lines have substantially converged in recent years, as product risk has been largely eliminated in the aftermath of the crisis.

---

[3] See Urban Institute https://www.urban.org/policy-centers/housing-finance-policy-center/projects/housing-credit-availability-index; based on methodology by Li and Goodman (2015).

**Fig. 3** Labor is tight. *Source* U.S. Bureau of Labor Statistics retrieved from FRED

## Construction job openings, 12-month moving average
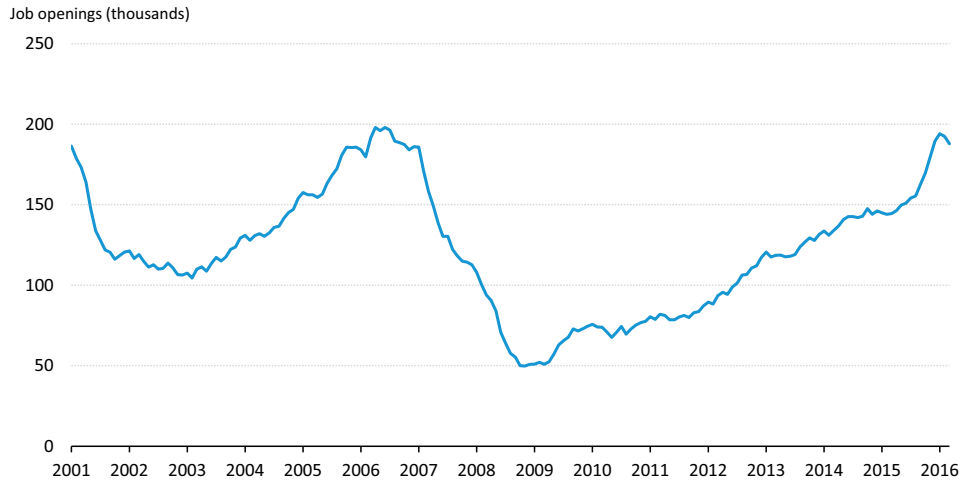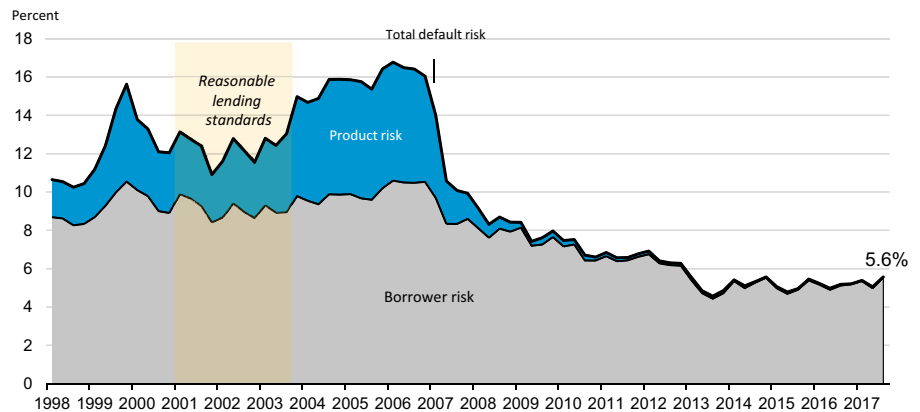
Job openings (thousands)

**Fig. 4** Credit is tight by historical standards. *Sources* eMBS, Corelogic, HMDA, IMF, and Urban Institute. *Note* Default is defined as 90 days or more delinquent at any point. Last updated January 2017

## Housing Credit Availability Index (HCAI)

Percent

As can be seen from this analysis, today's market risk is 5.6%, less than half the 12% risk the market was taking in 2001–2003, a period of reasonable credit standards; less than one-third of the risk it was taking in 2006–2007, a period when credit standards were too loose. Moreover, most of the difference between the 2001–2003 period and 2006–2007 period was the emergence of product risk. That is, borrower risk increased only marginally, but total risk increased considerably due to the expansion of product risk.

The weakness of this analysis is that it assumes that a bucket with a given set of risk characteristics is equally likely to default at any point in time. In fact, we observe that today's production is performing better than ever before. Figure 5 shows the probability of Fannie Mae full documentation fully amortizing mortgages with 80–90 LTVs and less than 700 FICO ever going D90+; recent production is tracking well below all historic periods. This is due to much more upfront due diligence on the part of

originators, as well as enhanced underwriting systems that make it possible to eliminate many errors prior to loan closings.

For example, Fannie Mae and Freddie Mac both have sophisticated automated valuation models. If the appraisal is significantly different from the automated valuation model, this will be flagged prior to the closing of the loan. Moreover, many originators have built systems to grab and enter income data automatically, eliminating the possibility of human entry error. This suggests that Fig. 4 may be overstating today's risk.

There are several reasons that lenders have narrowed the amount of credit risk in their originations so considerably. Two of the most significant are the risk of litigation under the False Claims Act (https://www.urban.org/research/publication/wielding-heavy-enforcement-hammer-has-unintended-consequences-fha-mortgage-market) and the high cost of servicing delinquent loans (https://www.urban.org/research/publication/servicing-costs-and-rise-squeaky-

**Fig. 5** Today's loans are performing better than ever before. *Sources* Fannie Mae single family loan-level dataset and Urban Institute calculations

### Default rates for loans with FICO < 700 and 80-90 LTV

*Default rate, percent*
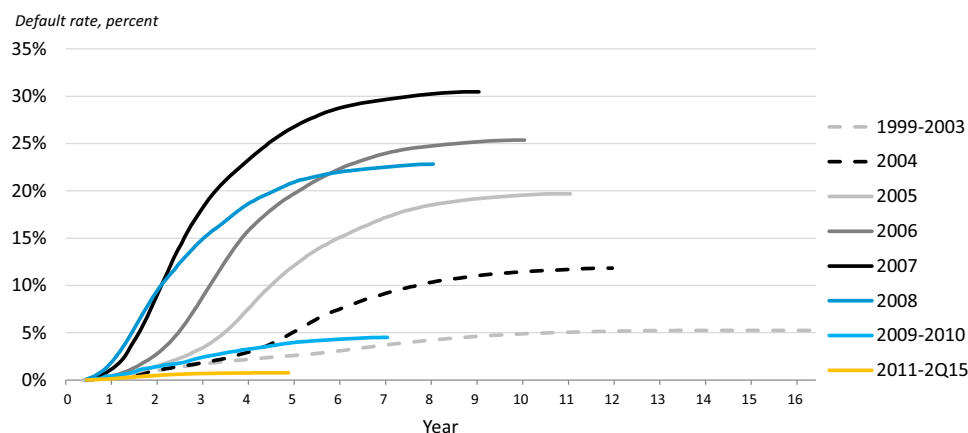


clean-loan). The False Claims Act allows the federal government to recoup damages from people or entities that knowingly submit false or fraudulent claims for approval. The liability under this Act is extensive: violators are required to pay civil penalties and more critically, a fine equal to triple the loss amount. Lenders submit both annual certifications and loan-level certifications attesting to the accuracy of the information. The HUD inspector general audits the loans that go to claim; if information is found to be incorrect, the loans are referred to the Department of Justice, which sues under the false claims act. For more details, see Goodman (2017).

Table 2 shows the list of firms that have settled with the Department of Justice under the False Claims Act; the list is extensive, representing most of the largest lenders and over $5 billion in fines. Two lenders, Quicken and Guild Mortgage, are fighting the charges. As a result of the threat of the False Claims Act, most of the largest bank lenders have dramatically cut back their participation in the FHA market; 82% of recent FHA production has been made by non-banks, as compared to 54% for GSE loans.

The second reason lenders are reluctant to lend to more risky borrowers is the high cost of servicing delinquent loans. Figure 6 shows that in 2016 the cost of servicing performing loans was $163 per year per loan, while the cost of servicing non-performing loans was $2113 per year per loan. Moreover, these numbers, calculated by the Mortgage Bankers' Association, show that the 2016 cost of servicing performing loans was less than three times what it was in 2008, while the cost of delinquent loans had gone up more than fourfold—from $482 per year to $2113 per year. The high costs of servicing delinquent loans make servicers question why they should make loans to borrowers that have any non-trivial probability of default. Moreover, more risky borrowers tend to turn to FHA for their mortgages; servicers have found servicing delinquent FHA loans to be three times more costly than delinquent GSE loans (Kaul et al. 2018).

There are a number of steps that can be taken to ease the tight credit situation. Here are a few suggestions:

- Clarify the underwriting defects that can expose lenders to triple damages under the False Claims Act. This is best done by tying the Defect Taxonomy, which grades the severity of defects, to the False Claims Act. There are four levels of defects in the taxonomy, perhaps only the most severe can "count" toward the False Claims Act.
- To the extent possible, align loss mitigation processes across all government entities—FHA, VA, USDA, and the GSEs. Most urgently, revamp FHA servicing (https://www.urban.org/research/publication/reforming-fhas-foreclosure-and-conveyance-processes) to allow for more flexibility in the loss mitigation process. This includes allowing for more flexibility with timelines and a rethinking of the conveyance process.
- Use alternative credit scores more (https://www.urban.org/research/publication/fhfas-evaluation-credit-scores-misses-mark) to include more borrowers and give better access to borrowers with thin credit files. This can best be done by making use of bank statements (to detect rental history) as well as using cell phone and other telecom and utility bills as an indication of creditworthiness.
- Expand the rules for measuring income to allow those who have less stable job histories to show that they have continual sources of income to pay the mortgage.

**Table 2** False claims act settlements and litigation. *Source* Urban Institute, various press releases from the U.S. Department of Justice Office of Public Affairs, and other press reports

| Firm | Settlement date | Amount |
|---|---|---|
| Citi | 12-Feb | $158.3 million |
| Flagstar Bank | 12-Feb | $132.8 million |
| Bank of America | February 2012 (NMS), August 2014 (broader settlement) | $1 bil (NMS), $1.85 bil (broader settlement) |
| DB/Mortgage IT | 12-May | $202.3 million |
| Chase | 14-Feb | $614 million |
| US Bank | 14-Jun | $200 million |
| SunTrust | 14-Sep | $418 million |
| MetLife | 15-Feb | $123.5 million |
| First Horizon/First Tennessee | 15-Jun | $212.5 million |
| Walter Investment Management Corp | 15-Sep | $29.6 million |
| Franklin American | 15-Dec | $70 million |
| Wells Fargo | 16-Apr | $1.2 billion |
| Freedom Mortgage | 16-Apr | $113 million |
| M&T Bank | 16-May | $64 million |
| Regions Bank, | 16-Oct | $52.4 million |
| Branch Banking and Trust (BB&T) | 16-Oct | $83 million |
| Primary Residential Mortgage | Oct-16 | $5.0 million |
| Security National Mortgage Co. | 16-Oct | $4.25 million |
| United Shore Financial Services | 16-Dec | $48 million |
| PHH Mortgage | 17-Aug | $75 million |
| Allied Home Mortgage Capital/Allied Home Mortgage Corporation | 17-Sep | $296 million |
| IberiaBank (LA) | 17-Dec | $11.7 million |
| Litigation in process | | |
| Quicken loans | – | – |
| Guild mortgage | – | – |

**Fig. 6** Cost of servicing. *Source* Mortgage Bankers Association Servicing Operations and Forum, Prime Servicers, and Urban Institute
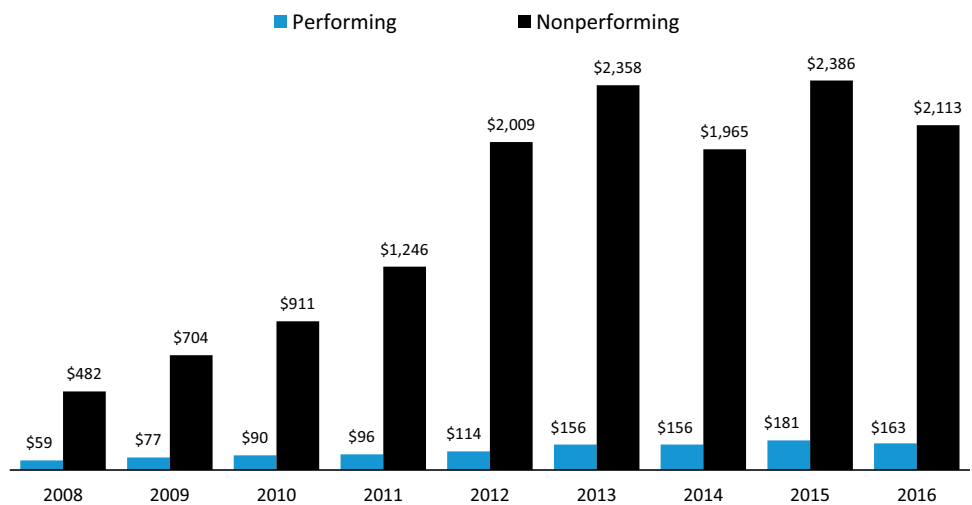
This may include a continuous job history, a series of part time jobs, or income contributed by those not on the mortgage.

Easier mortgage credit may at the margin aggravate the supply shortage, but more likely it will entice renters to become homeowners, which does not change the net demand for housing. Homeownership gives families an opportunity for housing stability and a path to build wealth.

## References

Bricker, Jesse, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Lindsay Jacobs, Kevin B. Moore, Sarah Pack, et al. 2017. *Changes in US Family Finances From 2013 to 2016: Evidence From the Survey of Consumer Finances*. Washington, DC: Board of Governors of the Federal Reserve System.

Davis, Morris A., and Jonathan Heathcote. 2007. The Price and Quantity of Residential Land in the United States. *Journal of Monetary Economics* 54 (8): 2595–2620; data located at Land and Property Values in the U.S., Lincoln Institute of Land Policy, http://www.lincolninst.edu/resources/.

Eggers, Frederick J., and Fourad Moumen. 2016. *American Housing Survey, Components of Inventory Change: 2011–2013*. Washington, DC: US Department of Housing and Urban Development, Office of Policy Development and Research. Data from earlier reports also used in the calculations; https://www.huduser.gov/portal/datasets/cinch/cinch13/cinch11-13.pdf.

Emrath, Paul. 2016. *Government Regulation in the Price of a New Home*. Washington, DC: National Association of Home Builders. http://www.nahbclassic.org/generic.aspx?sectionID=734&genericContentID=250611&channelID=311&_ga=1.154188152.1111877392.142229917.

Ganong, Peter, and Daniel Shoag. 2015. *Why Has Regional Income Convergence in the U.S. Declined?*. Cambridge, MA: Harvard University.

Goodman, Laurie S. 2017. Quantifying the Tightness of Mortgage Credit and Assessing Policy Actions. *Boston College Journal of Law and Social Justice* 37 (2): 235–265.

Kaul, Karan, Laurie Goodman, Alanna McCargo, and Todd M. Hill. 2018. *Reforming the FHA's Foreclosure and Conveyance Processes*. Washington, DC: Urban Institute.

Li, Wei, and Laurie S. Goodman. 2015. A New Mortgage Credit Availability Index. *Journal of Structured Finance* 20 (4): 67–83.

**Laurie S. Goodman** is the Co-Director of the Housing Finance Policy Center at the Urban Institute.