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QUANTIFYING THE TIGHTNESS OF MORTGAGE CREDIT AND ASSESSING POLICY ACTIONS

LAURIE S. GOODMAN*

Abstract: This Article quantifies the dramatic tightening of mortgage credit that has occurred in the post-crisis period. It then describes the policy actions to loosen the credit box taken to date by both the government sponsored enterprises (GSEs) and their regulator, the Federal Housing Finance Agency (FHFA), as well as those taken by the Federal Housing Administration (FHA), concluding the FHA still has some important actions it has yet to undertake. Finally, the consequences of tight credit are discussed: namely, a lower home ownership rate, particularly among minorities, leaving many unable to access what has historically been the single most powerful vehicle to build wealth.

INTRODUCTION

Mortgage credit has become very tight in the aftermath of the financial crisis. Although experts generally agree that it is poor public policy to make loans to borrowers who cannot make their payments, failing to make mortgages to those who can make their payments has an opportunity cost, because historically homeownership has been the best way to build wealth. And, default is not binary: very few borrowers will default under all circumstances, and very few borrowers will never default. The decision where to draw the line—which mortgages to make—comes down to what probability of default we as a society are prepared to tolerate.

This Article first quantifies the tightness of mortgage credit in historical perspective. It then discusses one consequence of tight credit: fewer mortgage loans are being made. The Article then evaluates the policy actions to loosen the credit box taken by the government-sponsored enterprises (GSEs) and their regulator, the Federal Housing Finance Agency (FHFA), as well as the policy actions taken by the Federal Housing Administration (FHA), arguing that the GSEs have been much more successful than the FHA. The Article concludes with the argument that if we don't solve mortgage credit availability issues, we will have a much lower per-

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centage of homeowners because a larger share of potential new homebuyers will likely be Hispanic or nonwhite—groups that have historically had lower incomes, less wealth, and lower credit scores than whites. Because homeownership has traditionally been the best way for households to build wealth, the inability of these new potential homeowners to buy could increase economic inequality between whites and nonwhites.

I. QUANTIFYING THE TIGHTNESS OF MORTGAGE CREDIT

Before we can discuss whether mortgage credit is tight or loose, we must be able to measure it objectively. Many researchers have looked at the Federal Reserve Senior Loan Officer Opinion Survey,¹ while others use the mortgage denial rate as measured by Home Mortgage Disclosure Act (HMDA) data. Neither source seems very useful for our purposes. The Federal Reserve survey failed to pick up the loosening of credit in 2000 to 2007, although it did pick up recent tightening (Figure 1a). The denial rate using HMDA data is even less useful; it was highest in 2007, suggesting credit was tightest then, when we know that was when it was loosest (Figure 1b). Denial rates confuse supply and demand. Although the supply of mortgage credit was very robust in 2007, the demand from marginal borrowers was even greater, leading to a high denial rate in the face of loose credit.

We can look directly at the mortgages originated at any point in time to quantify the tightness of mortgage credit. However, many different dimensions make up credit risk. The most important dimensions include the loan-to-value (LTV) ratio, debt-to-income (DTI) ratio, credit score (FICO is the measure traditionally used for mortgages), and whether the mortgage is a traditional product (fixed-rate mortgage with a term of 30 or fewer years, or an adjustable-rate mortgage with more than 5 years to the reset) or a non-traditional product (interest-only loan, loan with negative amortization, 40-year mortgage, or hybrid adjustable-rate loan with a short fixed-rate period where the payment is initially low and rises considerably over the life of the mortgage). In 2016, mortgage credit looked very tight when measured by FICO scores and percentage of nontraditional products; it looked much looser when measured by LTV ratios and about average when measured by DTI ratios (Figure 2).

So which measure should we be relying on? Li and Goodman (2014, 8–18) constructed a Housing Credit Availability Index (HCAI) that is up-

¹ Surveys and reports dating back to 1997 are available on the Federal Reserve Board's website, available from <https://www.federalreserve.gov/BOARDDOCS/SnLoanSurvey/> [<https://perma.cc/E2S5-59NE>].

dated quarterly.² The HCAI measures the *ex ante* credit risk of the mortgages originated in any given quarter—more precisely, it measures the likelihood that those mortgages ever default, which is defined as ever going 90 or more days delinquent. The index is constructed by first examining the behavior of 2001–2002 mortgages, which represent a normal scenario, and 2005–2006 mortgages, which represent a stress scenario. Look-up tables are constructed for the two groups of mortgages, showing the percentage of loans that defaulted as a function of LTV, DTI, FICO, and whether the loan is a nontraditional product. Mortgages for any quarter are then mapped into the look-up tables, with the results for 2001–2002 production (the normal scenario) weighted by 90%, and the results for 2005–2006 production (the stress scenario) weighted by 10%.³ The results of this analysis are shown in Figure 3, which tracks the HCAI from 1998 through the first half of 2016. The top line shows the total risk of the market, as measured by the *ex ante* probability of default. The borrower risk measures the risk of the market using actual borrower characteristics for each origination quarter but assumes there are no nontraditional products.

This analysis produces a few key takeaways:

- While total risk increased considerably from 2001 to 2007, borrower risk increased only slightly. The increase in total risk reflected the large uptick in the availability of nontraditional, more risky products. Borrowers with the same risk profiles were taking larger loans in 2005 to 2007 than they were earlier in the decade. They were able to qualify because the payments were artificially lowered by various features, including paying back interest only (no pay-down of principal), negative amortization, 40-year amortization schedules, and low initial payments that reset upward after a short period (2/28 and 3/27 mortgages). In 2001, total risk averaged 12.3%, with borrower risk at 9.3%. By 2006, total risk averaged 16.5%, with borrower risk having increased only marginally to 10.5%.
- As of second quarter (Q2) 2016, the market was taking less than half the credit risk it was taking in 2001, a period of reasonable lending

² The latest version of the HCAI, as well as a 2014–2016 archive, is available from <http://www.urban.org/policy-centers/housing-finance-policy-center/projects/housing-credit-availability-index> [<https://perma.cc/J8PW-D54N>].

³ The weights were chosen to reflect the fact that over the past one hundred years, the chance of a severe housing market stress has been approximately 10%. As discussed in Li and Goodman (2014, 8), according to NBER's Business Cycle Dating Committee, there have been nineteen business cycles between 1913 and 2013. Only two of these nineteen caused severe housing market collapses: the Great Depression and the Great Recession. Therefore, we assign a weight of 10% to the expected default risk under the stressed scenario, and 90% to the expected default risk under the normal condition.

standards. In 2001, the *ex ante* probability of default was 12.3%; as of Q2 2016, it was 5.1%.

Moreover, using historical experience is misleading, and the market is taking even less credit risk than is indicated by the HCAI. We make this argument because for every given risk category, mortgages with similar characteristics are performing better than they have in the past at the same age. Figure 4 shows the experience of Federal National Mortgage Association (“Fannie Mae”) fully amortizing mortgages with FICO scores below 700, 80% to 90% loan-to-value (LTV) ratios, and full documentation. These loans are tracking much better at the same age than the best performing mortgages for which we have data—the 1999–2003 vintages—and much better than the 2004–2010 vintages. (Goodman 2016). And this FICO-LTV bucket is not an isolated example. No matter what cohort we look at, we find a similar pattern: recent mortgages are performing much better at the same age than the 1999–2003 cohort.

II. HOW MANY LOANS ARE MISSING AS A RESULT OF TIGHT CREDIT?

What are the consequences of tight credit? Many loans are not being made that should be. This change can be seen in Figure 5, which compares the number of home sales (new and existing) with the number of mortgages extended, every year from 2001 through 2015. In 2001, new and existing home sales totaled 5.785 million units; in 2015, sales totaled 5.564 million units, a 4% drop. However, the number of mortgages is down far more dramatically, a drop from 4.651 million units to 3.513 million units, a 32% drop. Stated differently, over this period, the number of new and existing home sales was down 4%, while the number of mortgages was down 32%.

We established earlier that credit is very tight. One way to measure the consequences of this tightness is to analyze the changing distribution of credit scores among loans being originated. HMDA, our most complete record of originations, does not yet contain credit scores. However, HMDA data can be matched with CoreLogic data, which does contain credit scores, following the methodology detailed in Li and colleagues. (Li et al. 2014, vi, 21–31). Later years of CoreLogic data do not include many of the nonbank originators or servicers, so beginning in 2012, we supplement these data with agency data from (eMBS). (eMBS Inc). These matched/supplemented results are used for the balance of this section of this Article. The most recent available HMDA data are from 2015.

Figure 6 shows borrowers grouped by FICO score range (above 700, 660 to 700, below 660) through time. In 2001, more than 30% of borrowers had FICOs below 660. By 2015, that share had dropped to around 14%. Thus, low-credit-score borrowers make up a shrinking share of a shrinking

bucket (as the total number of mortgages originated has dropped dramatically).

Goodman, Zhu, and Bai calculated the number of “missing loans” using the HMDA-CoreLogic matched data, supplemented with agency data from eMBS, and then scaled up to the HMDA universe. (Goodman, Zhu & Bai 2016). Table 1 shows their results. The “actual decline” column shows the decline in the absolute number of mortgages made to each FICO group. The number of loans to borrowers with FICOs above 700 is down 1.4%, the number of loans to borrowers with FICOs of 660 to 700 is down 20.3%, and the number of loans to borrowers with FICOs below 660 is down a shocking 64.9%.

Assuming loans in each FICO bucket had been down the same 1.4% as loans to borrowers with FICOs above 700, how many additional loans would there have been? The answer, contained in the final column, is there would have been an additional 1.1 million loans in 2015: approximately 163,000 additional loans to borrowers with FICOs of 660 to 700 and 911,000 additional loans to borrowers with FICOs below 660.

Cumulatively, from 2009 to 2015, using this methodology, Goodman, Zhu, and Bai found 6.3 million missing loans. (Goodman, Zhu & Bai 2016). This number is likely an overstatement because it conflates supply and demand. Perhaps in the wake of the financial crises, lower-credit-score borrowers, many having seen friends and relatives lose their homes to foreclosure, have less desire to take a mortgage to own their own home. Although it is unclear how to sort out these supply and demand effects, no one can rationally look at a 65% drop in mortgages to borrowers with low credit scores and not believe that there would be many more loans if credit were not so tight.

III. WHY IS CREDIT SO TIGHT?

Credit is very tight in large part because originators are putting credit overlays on top of the Federal National Mortgage Association (“Fannie Mae”), Federal Home Loan Mortgage Corporation (“Freddie Mac”), and Federal Housing Administration (FHA) underwriting box. That is, Fannie Mae may be willing to underwrite a mortgage with a 620 FICO, but the originator requires a 660 FICO.

Why would originators knowingly drive away business? Because they are concerned that the costs of producing and servicing mortgages that are less pristine are higher than what they can earn on the mortgages. There are three sources of these concerns: representations and warranties, also called

“reps and warrants risk”⁴; litigation risk, particularly the use of the False Claims Act (the “Act”); and the high and uncertain costs of servicing delinquent loans.

A. Reps and Warrants Risk

Originators fear that if a loan they have extended defaults, the insurer or guarantor will carefully scrutinize the original loan documentation, find some small item in violation of insurer or guarantor guidelines, and force the originator to repurchase the loan or refuse to honor the insurance on the loan. For loans of 80% loan-to-value (LTV) or less sold to the government sponsored enterprises (GSEs), the put-back enforcement is determined by the GSEs’ policies. By charter, however, the GSEs cannot take the first loss risk on loans greater than 80% LTV; these loans require additional credit enhancement. Stated differently, another entity must take the loss on mortgage amounts greater than 80% LTV. Mortgage insurance is the vehicle usually chosen. Thus, loans greater than 80% LTV that are sold to the GSEs have an added level of rep and warrant exposure to the mortgage insurers. When there is any type of rep and warrant violation, the mortgage insurers can and historically have rescinded the insurance. That is, they will refund all paid premiums and effectively take the position that the insurance policy never existed. And, when the mortgage insurer rescinds coverage, the GSEs have historically put the loan back to the lender automatically. FHA loans are similarly subject to the FHA refusing to honor the insurance or demanding indemnification for any claim filed.

Figure 7 shows the share of full-documentation fully amortizing 30-year Fannie Mae loans that were put back, by origination year. The numbers are not high. Even for the peak year, 2007, only around 2% of these loans were repurchased. As shown in Housing Finance Policy Center (2016, 38), Freddie Mac put-back numbers are very similar to the Fannie Mae numbers.

However, the repurchases are much higher for less than full documentation loans, Alt-A loans, interest-only loans, 40-year loans, and others. And the numbers in Figure 7 do not account for loans covered under global settlements because these were not loan-level put-backs. But the loans with high put-back rates are no longer being made by originators or purchased by the GSEs. For the types of loans being made now, the put-back numbers are extraordinarily low, but the scars are very deep.

⁴ At the inception of the loan, the originator presents facts about the loans that the guarantor or insurer rely on (representations) and provides an assurance these facts are true, with an implied indemnification obligation (warranties). To the extent these representations are untrue, the originator runs the risk that he will be required by the guarantor or insurer to repurchase the loan.

So how do lenders protect themselves? First, they try to make loans that are very unlikely to default. Hence the reason our HCAI is so low. Second, lenders are spending an inordinate amount of time on each loan to make sure the loans are error free. Figure 8 shows the number of loans underwritten per retail originator per month. These data, provided by the Mortgage Bankers Association (Mortgage Bankers Association 2016, 12–21), show the number of underwritten applications has gone from around 180 loans per month per underwriter in 2002 to around 34 per month in 2015. Assuming twenty-one working days in each month, an originator is now spending about five hours with each loan, up sharply from one hour per loan in 2001.

1. GSE Actions on Reps and Warrants

Errors made in the origination of the loan are called “manufacturing defects” and logically should be avoidable by the originator. A loan that is manufactured error free may still default for reasons beyond the control of the originator (such as the borrower’s subsequent unemployment), and that risk of default is why originators seek insurance from the secondary market. The GSEs and the FHA have acted to make originators and servicers comfortable that they are responsible only for manufacturing defects on the loans, but not for subsequent performance. The GSEs, and the Federal Housing Finance Agency (FHFA), have far more flexibility than the FHA to address lenders’ concerns. For executive branch departments such as the U.S. Department of Housing and Urban Development (HUD), of which FHA is a part, significant changes in rules must be made in accordance with the Administrative Procedure Act’s rules for notice-and-comment rulemaking and listed in the Code of Federal Regulations (CFR), which together create a complex and time-consuming set of process requirements. (Carey 2013, 5–6). More problematically, however, any clarification of the FHA enforcement regime requires the cooperation of other executive branch departments, such as the U.S. Department of Justice, which have shared responsibility for enforcing FHA rules. Enforcement agencies often prefer to maintain wide discretion in how they interpret rules, which often creates uncertainty for lenders, a challenge that we discuss later in this section. As a result, the GSEs have made much more progress addressing reps and warrants issues than has the FHA.

The GSEs began to act on reps and warrants issues in September 2012, and have now substantially completed their new reps and warrants framework. That framework includes six features: (1) rep and warrant sunsets; (2) clarification of life-of-loan exclusions; (3) no further put-backs on pre-2009 loans; (4) loan review earlier in the process; (5) a taxonomy of loan defects

with remedies; and, (6) an independent dispute resolution process. Moreover, the GSEs are moving toward waiving many representations and warranties at the point of origination (Day 1 Certainty). Fannie did so in the fourth quarter (Q4) of 2016 for mortgages meeting specific criteria, and Freddie Mac expects to release a similar program in calendar year 2017. (Caruso 2016).

Between 2012 and 2016, the FHFA and GSEs took the following actions on reps and warrants, which are summarized as a timeline in Figure 9:

- In September 2012, the GSEs and the FHFA, then under the leadership of Acting Director Edward DeMarco, introduced a 36-month sunset—that is, if the loan had a clean pay history for the first three years, the originator would no longer be responsible for the rep and warrant risk. (Federal Housing Finance Agency 2012). The sunset was 12 months for loans modified under the Home Affordable Refinancing Program. In May 2014, in one of Director Mel Watt’s first actions, the FHFA relaxed the sunset eligibility requirements to allow loans with no more than two 30-day delinquencies and no 60-day delinquencies during the applicable 36- or 12-month period to qualify. (Fannie Mae 2014a, 2–3; Freddie Mac 2014b, 2–3).
- The FHFA wanted to comfort lenders that they were responsible only for manufacturing defects, not subsequent performance. However, the sunsets did not give lenders sufficient comfort because the GSEs retained certain life-of-loan exclusions that never sunset, including: (1) misrepresentation, misstatements, or omissions; (2) data inaccuracies; (3) charter compliance issues; (4) first-lien enforceability or clear title matters; (5) legal compliance violations; and (6) unacceptable mortgage products. In November 2014, the FHFA clarified these life-of-loan exclusions in detail, requiring a pattern of misbehavior, not isolated instances, to trigger put-backs. (Fannie Mae 2014b, 2–3; Freddie Mac 2014a, 2). The first two exclusions received the most attention, as they were of most concern to originators. A misstatement, for example, must involve at least three loans delivered to the GSE by the same lender and be made pursuant to a common activity involving the same individual or entity to be “significant.”⁵
- In October 2013, the FHFA announced that the GSEs needed to file rep and warrant claims on loans originated in 2009 and earlier by the end of 2013. (DeMarco 2013). Thus, lenders could be certain that they will not be subject to further put-backs on these loans. The thought was that

⁵ For a fuller discussion, see Goodman, Parrott, and Zhu 2015.

if the management of legacy lenders was not distracted with old issues, it would be able to originate more new loans.

- In September 2012, the FHFA announced the GSEs would review a sample of loans shortly after purchase in order to provide feedback to lenders earlier in the process on specific loans and on what the GSEs expect systemically. Using a combination of random and targeted samples, the GSEs review loan files in the first four months after purchase to ensure they meet underwriting eligibility requirements. (Federal Housing Finance Agency 2012). Thus, lenders better understand the GSEs' expectations and are more likely to be able to meet them.
- In October 2015, Fannie Mae and Freddie Mac implemented a taxonomy under which loan defects are graded. In the least serious category, a data change may be required, but the loan would have been purchased anyway at the same price, so no further adjustment is necessary. (Fannie Mae 2015a, 3; Freddie Mac 2015a, 3). In the second category, where the defect makes the loan riskier, a loan-level price adjustment may be required. Only loans in the third category, those with significant defects, will be subject to put-back. Moreover, if mortgage insurance is rescinded, a loan is no longer considered an automatic put back; other remediation is possible.
- In February 2016, the GSEs concluded their rep and warrant framework by implementing an independent dispute resolution process. (Fannie Mae 2016a; Freddie Mac 2016a, 1–2). Before this, the GSEs would revisit a put-back loan if the lender objected, but they retained the final decision power.
- Finally, late in 2016, Fannie Mae rolled out its Day 1 Certainty program, in which certain representations and warranties for qualifying mortgages are waived at the point of origination. (Fannie Mae 2016a). In particular, Fannie will waive income, assets, and employment representations when it can automatically verify these at the point of origination. It will also waive the rep and warrant for appraisals when the value of the property is sufficiently close to Fannie Mae's automated valuation. Finally, Fannie Mae will waive the property inspection requirement on refinance transactions; the lender will receive rep and warrant relief on property value, condition, and marketability. Freddie Mac expects to release a similar program in calendar year 2017.

In addition to the development of their rep and warrant framework, the GSEs have taken steps to increase credit to low- and moderate-income borrowers. They reintroduced 97% LTV lending in December 2014. (Swanson 2014). In August 2015, Fannie Mae introduced the HomeReady program, which, for the first time, takes account of the income of household members

not on the mortgage. Both GSEs are working with lenders to expand their 97% LTV programs, which are targeted to low- and moderate-income borrowers. (Mortgage Reports Newsdesk 2016).

2. FHA Actions on Put-Back Risk and the False Claims Act

The FHA has made much less progress than the GSEs in giving lenders certainty that they will be responsible only for manufacturing defects. Moreover, the FHA is a more important vehicle for low- and moderate-income borrowers than the GSEs; the GSEs and private mortgage insurers do risk-based pricing, while the FHA does not. Thus, the FHA has more favorable pricing for most high-LTV lending; and, within this sphere, the more risky the borrower characteristics, the larger the FHA pricing advantage.

On the positive side, the FHA has taken three important actions, which it initially outlined in its Blueprint for Access.⁶ (FHA 2014). These FHA actions are summarized as a timeline in Figure 10. First, the FHA made it easier to utilize its more than 900 mortgagee letters, which are used to communicate with lenders. In September 2015, the FHA completed the Herculean task of putting all the letters in a single, coordinated document; in the process, the administration eliminated inconsistent information.

Second, the FHA created a supplemental performance metric to measure lender risk-taking. FHA lenders are subject to a compare ratio, which evaluates early pay default rates across lenders. When a lender's compare ratio is more than twice the industry average, the FHA can terminate that lender's ability to issue FHA loans; before this happens, warehouse lenders would have pulled the lender's funding lines. But lenders that originate a greater proportion of loans to more risky borrowers—borrowers the FHA is often interested in serving—are likely to have higher compare ratios. The supplemental performance metric, introduced in August 2015, corrects for the riskiness of the lender's book of business. If the lender triggers the compare ratio, but not the supplemental performance metric, the FHA has guaranteed it will take no action. (FHA Office of Single Family Housing 2015b).

Third, in June 2015 the FHA completed a loan quality assessment taxonomy that classified manufacturing defects into four categories: (1) loans that would have been made anyway if the correct values were used; (2) loans that would have been unapprovable by a small margin; (3) loans that would have been unapprovable by a large margin; and (4) loans with fraud, material misrepresentations, inconsistent information, or containing a statu-

⁶ The blueprint is discussed in depth in Parrott 2014, at 1–4.

tory violation. (FHA Office of Single Family Housing 2015a, 7). Unfortunately, the taxonomy does not define the remedy for loans in each category, which effectively means that the taxonomy has not been implemented.

The FHA did take one very important additional action to expand access, lowering its annual insurance premiums in January 2015. This price reduction was intended to make mortgage lending more affordable to low- and moderate-income borrowers, who make up the bulk of FHA customers. The expected increase in volume was expected to partially compensate for the decrease in profitability per loan.

B. Litigation Risk from the False Claims Act

The big issue for FHA servicers is the presence of the False Claims Act. This Act allows the federal government to recoup damages from people or entities that knowingly submit false or fraudulent claims for payment or approval. The liability under this Act is extensive: violators are required to pay civil penalties and, much more critically, a fine equal to triple the loss amount. (31 U.S.C. § 3729(a)(1)). The FHA's direct endorsement program grants qualified lenders the right to deem mortgages eligible for FHA insurance. As part of this delegation, lenders are required to certify annually that their quality control mechanisms comply with all relevant HUD rules. They must also certify that each loan complies with all eligible HUD rules. The HUD inspector general periodically audits loans that go to claim. If loan-level certification or the annual certification is found to be incorrect, the case is referred to the Department of Justice, which can sue under the False Claims Act. (Goodman 2015, 2).

Table 2 lists the firms that have settled with the Department of Justice when faced with False Claims Act violations. It includes most of the largest lenders, and fines total close to \$5 billion. Quicken is the only firm continuing to fight the allegations and fine.

The actions under the False Claims Act have had an absolutely chilling effect on lenders' willingness to originate mortgages that have more than a trivial probability of default. (Goodman 2015, 1–2). This chill has kept the FHA lending box far tighter than the FHA's stated requirements. Many of the largest banks that have settled with the Department of Justice have tried to move out of FHA lending, instead setting up programs for 97% LTV conventional mortgages with Fannie Mae or Freddie Mac.

There are two solutions to the False Claims Act threat. First, the FHA could establish a certification that protects the FHA and makes the lenders comfortable—a very tricky balancing act. The FHA has revised the certification several times, but the servicers have not been convinced they are safe from False Claims Act liability for insignificant defects. Second, and better,

the FHA could complete its loan quality assessment taxonomy and, in conjunction with the Department of Justice, establish a policy that allows only the most serious category of errors or the most serious two categories of errors to be subject to False Claims Act charges.

C. High and Uncertain Servicing Costs

The high and variable cost of servicing delinquent loans is an unappreciated constraint on access to credit. (Goodman 2014, 1–4). Numbers obtained from the Mortgage Bankers Association show the annual cost of servicing performing loans in 2015 was \$181, while the annual cost of servicing nonperforming loans was \$2,386 (Figure 11). The cost of servicing nonperforming loans has also risen far more steeply than the cost of servicing performing loans. Lenders can price for cost, but cost variability due to such factors as how easy it would be to transfer servicing if the lender needed to do so is impossible to price for. And, many lenders believe they are getting mixed signals from the government; the Consumer Financial Protection Bureau (CFPB) is telling them to do whatever they can to keep delinquent borrowers in their homes, while the GSEs and FHA impose fines (compensatory fees) on servicers that exceed specified timelines. This high and variable cost of servicing nonperforming loans is leading many lenders to decide they are unwilling to make loans that have any nontrivial probability of default.

Further, the number of months a loan is delinquent at the time it is foreclosed on and becomes real estate owned (REO) has been rising sharply. At the end of 2008, the average mortgage was 18 months delinquent at real estate owned (REO) liquidation; by late 2014, the average mortgage was 34 months delinquent at REO liquidation. (Cordell & Lambie-Hanson 2015, 19). The dramatic extension stems from more loans being left in the pipeline in states with judicial foreclosure regimes (the nonjudicial states have cleared their pipelines). Between 2008 and late 2014, the share of REO liquidations in judicial states increased from 25% to 50%, and the number of months delinquent at the time of liquidation roughly doubled from 21 to 43. (*Id.*).

1. GSE Servicing Issues: Compensatory Fees Reduced Considerably

Both GSEs have made great strides to give servicers comfort that if they service within the context of the market they will not be charged “compensatory fees” (meant to compensate the GSEs for lost interest) for foreclosure delays. Before November 2014, the state-by-state foreclosure completion timelines imposed by the GSEs were so tight that two of every three loans that went through foreclosure would be flagged as over the al-

lowable time limit. Although a servicer is not responsible for “uncontrollable delays,” once a loan is flagged, the servicer must establish the extent of such delays loan by loan, a cumbersome process with an uncertain outcome.

In November 2014, the FHFA and the GSEs announced a number of changes, effective January 1, 2015, to reduce the burden associated with the compensatory fees. (Fannie Mae 2014c, 1–2; Freddie Mac 2014c, 1–2). First, the timelines in 47 states were recalibrated so only 40% of loans in the foreclosure process exceeded the target. The FHFA and the GSEs also increased the threshold for imposing compensatory fees from \$1,000 to \$25,000 in total fees a month. As a result, close to half the servicers do not have to pay compensatory fees at all; for those that do, the amounts are smaller and less variable. In September 2015, the GSEs announced an extension of the timeline in thirty-three states; the GSEs made a small round of changes in March 2016, in which timelines were cut in some states and extended in others. (Fannie Mae 2015b, 2; Fannie Mae 2016c, 2; Freddie Mac 2015b, 1–2; Freddie Mac 2016b, 3).

In late 2015, the GSEs also adopted a defect taxonomy for servicing. (Fannie Mae 2015c, 1–2; Freddie Mac 2015c, 5). This defect taxonomy grades servicing deficiencies and attaches a remediation to each violation, reassuring servicers that a delinquent loan will not be put back because of minor servicing violations.

2. FHA Servicing Issues

Servicing FHA loans is more costly than servicing GSE loans; in response to our questioning, a number of lenders have estimated that non-reimbursable costs and direct expenses associated with FHA’s foreclosure and conveyance policies were more than double that for GSE loans. These higher costs reduce lenders’ profit on loans that go delinquent, and thus their willingness to make loans that they may have to manage through delinquency.

Servicers’ issues with FHA servicing (Goodman 2014, 3) can be loosely grouped into two categories: timeline-related concerns and problematic conveyance and property preservation standards. Some of these issues were corrected early in 2016, but much still remains to be done.

The first set of issues associated with FHA servicing arises because FHA timelines are over-engineered and inflexible. Unlike the GSEs, which set one timeline for the delinquency or foreclosure process, the FHA has separate timelines for each phase, set state by state. There is a set amount of time from the first missed payment to the first legal deadline by which the lender must begin foreclosure proceedings, there is a separate timeline from the first legal action date to completion of the foreclosure process, and an-

other timeline from completion of the foreclosure process to conveyance. If any of these steps run over, the servicer is subject to monetary fines. Lenders cannot make up time lost in one part of the process by being more efficient in another.

From January 2013, when the CFPB issued its servicing standards (Bureau of Consumer Financial Protection 2013, 380–381, 452), to February 2015, when the FHA issued Mortgagee Letter 2016-4, the FHA's first legal deadline—the requirement that FHA servicers must initiate foreclosure actions within 180 days of default—was often inconsistent with the CFPB timelines, which provide that foreclosure cannot be initiated until the borrower is 120 days or more delinquent. Lenders were likely to miss the FHA's deadline on borrowers who submitted modification information just before the CFPB deadline because there was insufficient time for the lender to review the information, decline to offer a modification, and give the borrower time to appeal. FHA Mortgagee Letter 2016-4 allows for automatic extensions when there is an inconsistency with CFPB rules. Although this has helped with the specific problem of the first legal deadline, it does not correct the broader problem of insufficient flexibility throughout the process.

The second set of FHA servicing issues concerns the vague, problematic conveyance and property presentation standards and processes. The conveyance process for FHA differs from that of any other governmental entity. The GSEs and the Veterans Administration require servicers to convey title to properties within twenty-four hours of a foreclosure sale. By contrast, the FHA requires servicers to convey the property within thirty days of a foreclosure sale or the receipt of marketable title, and to complete repairs before conveyance to ensure the property is in “conveyable condition.” The difference in treatment arises because the FHA guarantees the loan, which is technically owned by the lender, and only the owner of the mortgage (the lender) can foreclose. In contrast, the GSEs own the loans, and they can direct the lender to foreclose. Moreover, the FHA holds the servicer responsible for maintaining the property until the claim is paid by HUD, rather than transferring responsibility for maintenance when title is conveyed.

As a result of these differences, FHA lenders absorb some uncertainties of the foreclosure process, and the FHA sets strict limits on reimbursements. This tension has generated the following issues for servicers:

- The definition of “conveyable condition” was unclear. FHA clarified this definition in Mortgagee Letter 2016-02, issued in February 2016. However, before the property can be conveyed, FHA requires an inspection, which takes time to arrange. While waiting for inspection, the

home is often vandalized. Moreover, the damage caused by vandalism is not usually reimbursable to the lender; if the damage was not adequately noted on the initial inspection report, HUD does not reimburse the lender.

- The allowance for repairs is too low and restrictive. This was improved, but not completely corrected, in Mortgagee Letter 2016-02. For example, there was a \$2,500 maximum property preservation allowance before February 2016 that was raised to \$5,000, and there are limits on individual repairs (\$1,000 for a roof repair, for instance). A servicer can exceed these limits but must seek approval in advance. A related issue is that the FHA requires the property to be conveyed vacant. FHA borrowers often require a forced eviction—which frequently results in additional property damage—because the relocation incentives are insufficient to encourage borrowers to move voluntarily.
- Responsibility for the property after conveyance increases uncertainty. Between conveyance and when HUD makes the final payment, the property can be subject to continued deterioration and vandalism. This increases the servicer’s costs as well as liability; the extent of that increase is not under the servicer’s control, nor is it reimbursable.

Moreover, according to the FHA’s Single Family Loan Performance Trends reports, the time from foreclosure (deed transfer) to HUD acquisition has increased dramatically from 5.7 months in February 2013 to 12 months in August 2016. (U.S. Department of Housing and Urban Development 2016, 6; U.S. Department of Housing and Urban Development 2013, 6). This extension is costly to servicers, as the home must be maintained during this period.

D. Bottom Line

The GSEs have substantially reduced lender overlays on their credit box. They have introduced a new rep and warrant framework and have made necessary servicing reforms. Although the FHA has made some progress, the False Claims Act litigation looms as a large issue for servicers. Moreover, FHA servicing procedures continue to be much more problematic than GSE servicing.

The inability of the FHA to match the GSEs’ progress has a particular impact on access to mortgage credit for low- and moderate-income borrowers, most of whom cannot put down a large down payment. Since the cut in the FHA mortgage insurance premium in January 2015, most borrowers with an LTV greater than 95% and a FICO score below 760 will find pricing on an FHA loan more favorable than on a GSE loan (Housing Finance Policy Center 2016, 33), but such borrowers may not be able to get FHA

loans. Until the FHA resolves the issues causing lender overlays, it is hard to see how the credit box can open considerably for such borrowers.

IV. TIGHT MORTGAGE CREDIT HITS MINORITY BORROWERS HARDER THAN NON-HISPANIC WHITE BORROWERS

The differences in homeownership rates between non-Hispanic white households and Hispanic, African American, and other nonwhite households are dramatic. In the 2010 Census, for instance, the homeownership rate was 72.2% for white families, 47.3% for Hispanic families, 44.3% for African American families, and 56.3% for families of other races and ethnicities. (Goodman, Pendall & Zhu 2015, 40). Much of this disparity reflects large differences in median income; white households had a median income of \$55,800 in 2010, while Hispanic or nonwhite households had a median income of \$33,600. The difference in wealth is even larger; median wealth is \$140,000 for non-Hispanic white families versus \$22,000 for Hispanic or nonwhite families. (Bricker et al. 2014, 11–12).

These differences are especially important to the country and the economy because new potential homeowners are going to be increasingly minority. Goodman, Pendall and Zhu (2015, 26–27) have estimated that of the 11.6 million new households expected to form between 2010 and 2020, 77% will be Hispanic or nonwhite. This number rises to 88% between 2020 and 2030. Although Goodman, Pendall, and Zhu expect the homeownership rate to continue declining, the new homeowners will be disproportionately Hispanic or nonwhite. As shown in Figure 12, they estimate that between 2010 and 2020, 84% of the net new homebuyers will be Hispanic or nonwhite: 47% Hispanic, 10% African American, and 26% other (primarily Asian). They expect this number to rise to slightly above 100% between 2020 and 2030, because more non-Hispanic whites, the oldest segment of the population, are exiting homeownership than are entering it. That is, the share of new non-Hispanic white homeowners is expected to decline as that population ages, with Hispanics accounting for 56% of all net new homeowners, African Americans accounting for 11%, and those of other races accounting for 33%.

Given that the composition of new homeowners is skewed to Hispanics and nonwhites, who have lower credit scores (Avery, Brevoort & Canner 2010, 18–19) or are credit invisible (Brevoort, Grimm & Kambara 2015, 16–18), and have less income and less wealth than their non-Hispanic white counterparts (Bricker et al. 2014, 4), the tight credit box will inhibit homeownership even more going forward than it has in the past, unless we do something to correct it.

V. TIGHT MORTGAGE CREDIT MEANS FEWER HOUSEHOLDS HAVE THE OPPORTUNITY TO BUILD WEALTH, EXACERBATING ECONOMIC INEQUALITY

We showed earlier that one consequence of tight credit is that fewer loans are made. This means fewer households will have the opportunity to become homeowners, and homeownership has historically been the best way to build wealth. The Federal Reserve's 2013 Survey of Consumer Finances shows this pattern very dramatically, as tabulated by the Joint Center for Housing Studies. (Joint Center for Housing Studies 2015, appendix table W-2). The total median net worth for homeowners is \$195,500, of which \$80,000 comes from home equity, the single largest component of net worth. In contrast, the total median net worth for renter households is \$5,400. (*Id.*).

This pattern, in which homeowners have a considerably higher net worth than renters and their home is the single largest component of this net worth, holds across all races and ethnicities. Among white households, the median household net worth for homeowners is \$231,100 (including \$90,000 in home equity); the median net worth for renters is \$8,201. Among African American households, the median net worth of homeowners is \$79,970 (including \$47,000 in home equity); the median net worth of renters is \$1,100. Among Hispanic households, the median net worth of homeowners is \$90,250 (including \$48,000 in home equity); renters have a median net worth of \$5,070. (Joint Center for Housing Studies 2015, 15). These results clearly indicate that homeownership is a path to wealth building.

Moreover, primary residences are distributed far more equitably than other assets. The top 10% of households (as ranked by housing wealth) hold 46% of the country's net housing wealth, the top 20% hold 63%, and the top 50% hold 90%. (Li & Goodman 2016, 37). Compare this to the concentration of household wealth, in which the top 3% of households hold 54% of the total wealth, and the top 10% hold 75% of the total wealth. (Bricker et al. 2014, 10).

Tight credit means that in the future, fewer households will have the opportunity to build wealth by owning their home, contributing to growing economic inequality.

CONCLUSION

Since the financial crises, mortgage credit has become extraordinarily tight. The Housing Credit Availability Index indicates mortgage lenders are taking less than half the credit risk they were taking in 2001, a period of reasonable lending standards. This tight credit has resulted in more than one

million fewer housing purchase loans per year than would have been originated if standards had been less tight.

This tight credit availability stems from lenders imposing overlays as a reaction to rep and warrant risk, litigation risk (particularly under the False Claims Act), and the high cost and uncertainty associated with servicing delinquent loans. Although the government sponsored enterprises (GSEs) and the Federal Housing Finance Agency (FHFA) have completed their new rep and warrant framework, and lowered the costs associated with delinquent servicing, much work remains to be done at the Federal Housing Administration (FHA). This is especially important because the FHA is the more economical provider of high loan-to-value (LTV) loans, particularly to borrowers with lower credit scores.

The consequences of tight mortgage credit will grow over time. The overwhelming majority of new homeowners going forward are expected to be Hispanic or nonwhite, groups that have lower credit scores, less wealth, and lower incomes than their non-Hispanic white counterparts. In addition, homeownership is the traditional way that households build wealth. Choking off this important wealth-building channel will likely contribute to growing economic inequality.

BIBLIOGRAPHY

More detailed versions of the graphics embedded in this article may be viewed online at http://bc.edu/content/dam/bc1/schools/law/pdf/law-review-content/JLSJ/37_2/goodman_graphics_A1b.pdf [<https://perma.cc/2F98-LFN5>].

Administrative Procedure Act. 5 U.S.C. subchapter II.

Avery, Robert B., Kenneth P. Brevoort and Glenn B. Canner. 2010. Does Credit Scoring Produce a Disparate Impact? Board of Governors of the Federal Reserve System Working Paper 2010-58. Available from <https://www.federalreserve.gov/pubs/feds/2010/201058/201058pap.pdf> [<https://perma.cc/X682-VJEM>].

Brevoort, Kenneth, Philipp Grimm and Michelle Kambara. 2015. Data Point: Credit Invisibles. Consumer Financial Protection Bureau. Available from https://s3.amazonaws.com/files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf [<https://perma.cc/KZ4B-4R76>].

Bricker, Jesse, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Kevin B. Moore, John Sabelhaus, Jeffrey Thompson and Richard A. Windle. 2014. Changes in U.S. Family Finances for 2010 to 2013: Evidence from the Survey of Consumer Finances. *Federal Reserve Bulletin*. 100 no. 4: 1–41. Available from <http://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf> [<https://perma.cc/FV5Y-XNUY>].

Bureau of Consumer Financial Protection. February 14, 2013. Mortgage Servicing Rules Under the Real Estate Settlement Procedures Act (Regulation X): Final rule, official interpretations. *Federal Register* 78, no. 31 (February 14, 2013): 10696.

Carey, Maeve P. The Federal Rulemaking Process: An Overview. Congressional Research Service Report 7-5700.

Caruso, Nick. October 25, 2016. Fannie, Freddie Make Changes to Mortgage Origination Processes. *RISMedia*. Available from <http://rismedia.com/2016/10/25/fannie-freddie-make-changes-to-mortgage-origination-processes/#close> [<https://perma.cc/8UUD-W998>].

Cordell, Larry and Lauren Lambie-Hanson. 2015. A Cost-Benefit Analysis of Judicial Foreclosure Delay and a Preliminary Look at New Mortgage Servicing Rules. Federal Reserve Bank of Philadelphia Working Paper.

DeMarco, Edward. 2013. An Update on the Conservatorships of Fannie Mae and Freddie Mac. Remarks at the Mortgage Bankers Association 100th Annual Meeting and Expo, Washington, DC, October 28. Available from <http://www.fhfa.gov/Media/PublicAffairs/Pages/An-Update-on-the-Conservatorships-of-Fannie-Mae-and-Freddie-Mac-Remarks-at-the.aspx> [<https://perma.cc/9RMV-XJUX>].

EMBS Inc. Mortgage-Backed Securities OnLine. Available from <https://www.embs.com/> [<https://perma.cc/B9N6-2LRM>].

False Claims Act. 31 U.S.C. §§ 3729–3733.

Fannie Mae. October 24, 2016 (2016a). Fannie Mae Announces Day 1 Certainty Initiative. Press release. Available from <http://www.fanniemae.com/portal/media/corporate-news/2016/6467.html> [<https://perma.cc/S2W6-6PQU>].

Fannie Mae. May 12, 2014 (2014a). Lender Selling Representations and Warranties Framework Updates. *Selling Guide* Announcement SEL-2014-05. Available at <https://www.fanniemae.com/content/announcement/sel1405.pdf> [<https://perma.cc/R3DM-3G2H>].

Fannie Mae. November 20, 2014 (2014b). Lender Selling Representations and Warranties Framework Updates. *Selling Guide* Announcement SEL 2014-14. Available from <https://www.fanniemae.com/content/announcement/sel1414.pdf> [<https://perma.cc/A7VM-9HAP>].

Fannie Mae. February 2, 2016 (2016b). Selling Representations and Warranties Framework—Independent Dispute Resolution. *Selling Guide* Announcement SEL 2016-01. Available from <https://www.fanniemae.com/content/announcement/sel1601.pdf> [<https://perma.cc/6MD5-3KAM>].

Fannie Mae. October 7, 2015 (2015a). Selling Representations and Warranties Framework—Origination Defects and Remedies. *Selling Guide* Announcement SEL 2015-11. Available from <https://www.fanniemae.com/content/announcement/sel1511.pdf> [<https://perma.cc/CD6Q-P5GK>].

Fannie Mae. October 14, 2015 (2015b). Servicing Guide Updates. *Servicing Guide* Announcement SVC 2015-13 – Revised. Available from <https://www.fanniemae.com/content/announcement/svc1513.pdf> [<https://perma.cc/KPK2-BFK5>].

Fannie Mae. December 16, 2015 (2015c). Servicing Guide Updates. *Servicing Guide* Announcement SVC 2015-5. Available from <https://www.fanniemae.com/content/announcement/svc1515.pdf> [<https://perma.cc/348E-WB4A>].

Fannie Mae. March 9, 2016 (2016c). Servicing Guide Updates. Servicing Guide Announcement SVC 2016-2. Available from <https://www.fanniemae.com/content/announcement/svc1602.pdf> [<https://perma.cc/86JN-NQGA>].

Fannie Mae. November 17, 2014 (2014c). Updates to Compensatory Fees for Delays in the Liquidation Process, Foreclosure Time Frames, and Allowable Foreclosure Attorney Fees. Lender Letter 2014-7. Available from <https://www.fanniemae.com/content/announcement/ll1407.pdf> [<https://perma.cc/R2YL-XUEL>].

FHA (Federal Housing Administration). 2014. *Blueprint for Access*. Available from https://portal.hud.gov/hudportal/documents/huddoc?id=BlueprintAccess5_9_2014.pdf [<https://perma.cc/DTW3-78H5>].

FHA Office of Single Family Housing. 2015 (2015a). FHA's Single Family Housing Loan Quality Assessment Methodology (Defect Taxonomy). Available from http://portal.hud.gov/hudportal/documents/huddoc?id=SFH_LQA_Methodology.pdf [<https://perma.cc/U5RE-5435>].

FHA Office of Single Family Housing. 2015 (2015b). FHA's Supplemental Performance Metric Fact Sheet. Available from http://portal.hud.gov/hudportal/documents/huddoc?id=SF_SPMFactSheet.pdf [<https://perma.cc/R7QN-P6P2>].

Federal Housing Finance Agency. September 11, 2012. FHFA, Fannie Mae and Freddie Mac Launch New Representation and Warranty Framework. Press release. Available from <http://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-Fannie-Mae-and-Freddie-Mac-Launch-New-Representation-and-Warranty-Framework.aspx> [<https://perma.cc/Q364-VBDM>].

Freddie Mac. February 2, 2016 (2016a). Selling Representation and Warranty Framework—Independent Dispute Resolution. Bulletin 2016-1. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11601.pdf> [https://perma.cc/G5K6-PRJS].

Freddie Mac. November 20, 2014 (2014a). Selling Representation and Warranty Framework Life-of-Loan Exclusions. Bulletin 2014-21. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11421.pdf> [https://perma.cc/TK5F-CZKX].

Freddie Mac. October 7, 2015 (2015a). Selling Representation and Warranty Framework—Origination Defects and Remedies. Bulletin 2015-17. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11517.pdf> [https://perma.cc/V773-2938].

Freddie Mac. May 12, 2014 (2014b). Selling Representation and Warranty Framework Updates. Bulletin 2014-8. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11408.pdf> [https://perma.cc/UN8A-5TPX].

Freddie Mac. November 14, 2014 (2014c). Servicing Updates. Bulletin 2014-19. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11419.pdf> [https://perma.cc/BL28-DEUW].

Freddie Mac. October 14, 2015 (2015b). Servicing Updates. Bulletin 2015-18. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11518.pdf> [https://perma.cc/7SNM-TR5S].

Freddie Mac. December 16, 2015 (2015c). Servicing Updates. Bulletin 2015-22. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11522.pdf> [https://perma.cc/6C2T-P85P].

Freddie Mac. March 9, 2016 (2016b). Servicing Updates. Bulletin 2016-5. Available from <http://www.freddiemac.com/singlefamily/guide/bulletins/pdf/bl11605.pdf> [https://perma.cc/BAW9-E8JC].

Goodman, Laurie S. 2014. Servicing Is an Underappreciated Constraint on Credit Access. Urban Institute. Available from <http://www.urban.org/research/publication/servicing-underappreciated-constraint-credit-access> [https://perma.cc/5M3N-MK8M].

Goodman, Laurie S. August 31, 2016. Squeaky-clean loans lead to near-zero borrower defaults—and that is not a good thing. *Urban Wire* (blog). Urban Institute. Available from <http://www.urban.org/urban-wire/squeaky-clean-loans-lead-near-zero-borrower-defaults-and-not-good-thing> [https://perma.cc/BS7C-YSLK].

Goodman, Laurie S. 2015. Wielding a Heavy Enforcement Hammer Has Unintended Consequences for the FHA Mortgage Market. Urban Institute. Available from <http://www.urban.org/research/publication/wielding-heavy-enforcement-hammer-has-unintended-consequences-fha-mortgage-market> [https://perma.cc/MCC4-AA7R].

Goodman, Laurie S., Jim Parrott and Jun Zhu. 2015. The Impact of Early Efforts to Clarify Mortgage Repurchases. Urban Institute. Available from <http://www.urban.org/research/publication/impact-early-efforts-clarify-mortgage-repurchases> [https://perma.cc/Y6YV-K9J5].

Goodman, Laurie S., Rolf Pendall and Jun Zhu. 2015. *Headship and Homeownership: What Does the Future Hold?* Urban Institute. Available from <http://www>.

urban.org/sites/default/files/alfresco/publication-pdfs/2000257-Headship-and-Home-ownership-What-Does-the-Future-Hold.pdf [https://perma.cc/T8KZ-UM4F].

Goodman, Laurie, Jun Zhu and Bing Bai. November 21, 2016. Overly Tight Credit Killed 1.1 Million Mortgages in 2015. *Urban Wire* (blog). Urban Institute. Available from <http://www.urban.org/urban-wire/overly-tight-credit-killed-11-million-mortgages-2015> [https://perma.cc/49Y2-J6GF].

Housing Finance Policy Center. November 2016. *Housing Finance At a Glance: A Monthly Chartbook*. Urban Institute. Available from <http://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-november-2016> [https://perma.cc/WA6G-M5MD].

Joint Center for Housing Studies of Harvard University. 2015. *The State of the Nation's Housing 2015*. Cambridge, MA: President and Fellows of Harvard University. Available from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs_2016_state_of_the_nations_housing_lowres.pdf [https://perma.cc/76VR-Q95X].

Li, Wei and Laurie Goodman. 2016. *How Much House Do Americans Really Own? Measuring Americans' Accessible Housing Wealth by Geography and Age*. Urban Institute. Available from <http://www.urban.org/research/publication/how-much-house-do-americans-really-own-measuring-americas-accessible-housing-wealth-geography-and-age> [https://perma.cc/2VFN-R3JG].

Li, Wei and Laurie Goodman. 2014. *Measuring Mortgage Credit Availability Using Ex-Ante Probability of Default*. Urban Institute. Available from <http://www.urban.org/research/publication/measuring-mortgage-credit-availability-using-ex-ante-probability-default> [https://perma.cc/4FMJ-6JSF].

Li, Wei, Laurie Goodman, Ellen Seidman, Jim Parrott, Jun Zhu and Bing Bai. 2014. *Measuring Mortgage Credit Accessibility*. Urban Institute. Available from <http://www.urban.org/research/publication/measuring-mortgage-credit-accessibility> [https://perma.cc/AG4L-9HC5].

Mortgage Bankers Association. 2016. *Mortgage Bankers Performance Reports—Quarterly and Annual*. Available from <https://www.mba.org/news-research-and-resources/research-and-economics/single-family-research/mortgage-bankers-performance-reports-quarterly-and-annual> [https://perma.cc/XT46-E33D].

Mortgage Reports Newsdesk. November 30, 2016. HomeReady™ Mortgage: Updated Eligibility, Rates, & Mortgage Guidelines. *The Mortgage Reports*. Available from <http://themortgagereports.com/18653/homeready-mortgage-guidelines-interest-rates> [https://perma.cc/33SQ-QW2G].

Parrott, Jim. 2014. *Lifting the Fog around FHA Lending?* Urban Institute. Available from <http://www.urban.org/research/publication/lifting-fog-around-fha-lending> [https://perma.cc/2VLK-V9YH].

Swanson, Brena. December 8, 2014. Fannie and Freddie Officially Approve 3% Down Payment Mortgages. *Housing Wire*. Available from <http://www.housingwire.com/articles/32269-fannie-and-freddie-officially-approve-3-down-payment-mortgages> [https://perma.cc/8M5T-78AC].

U.S. Department of Housing and Urban Development. 2013. *FHA Single Family Loan Performance Trends*, August.

U.S. Department of Housing and Urban Development. 2016. *FHA Single Family Loan Performance Trends*, September.

Figure 1a.

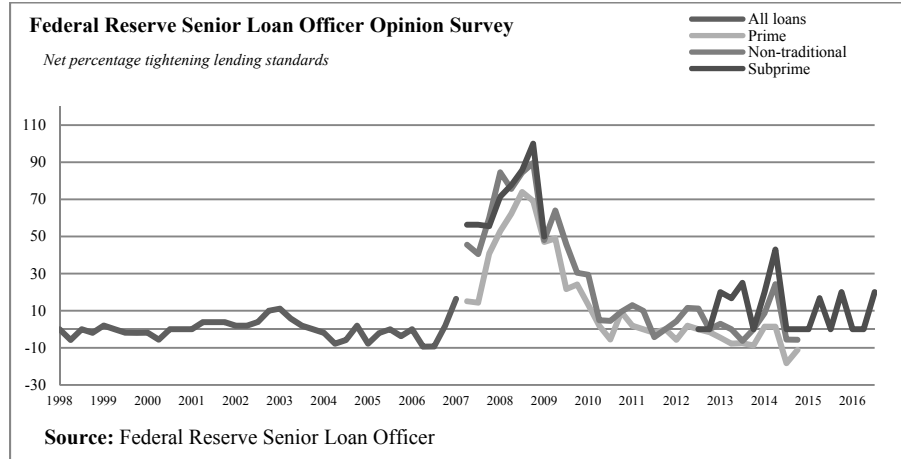


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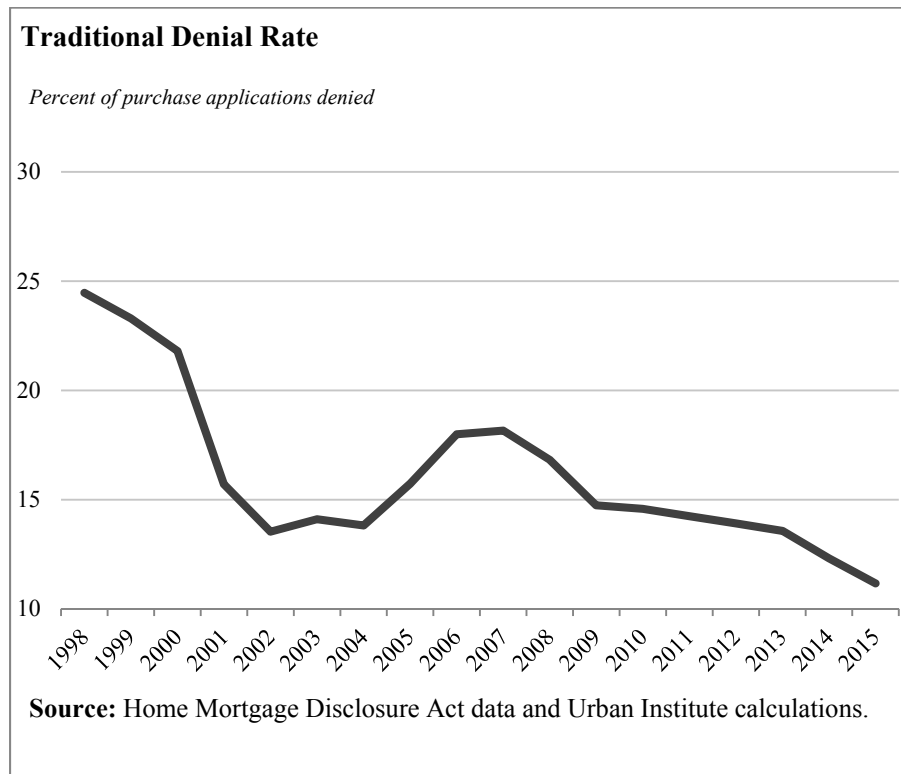


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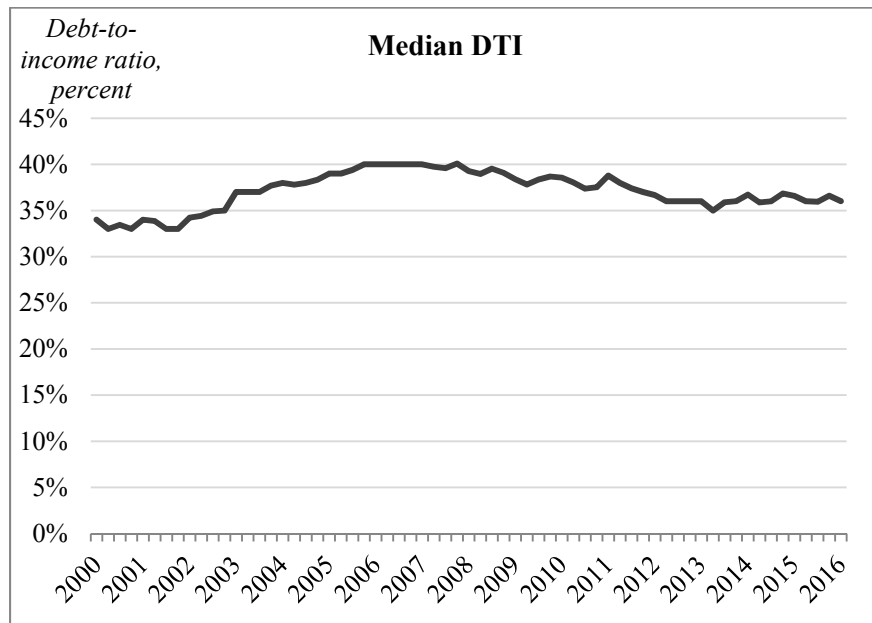
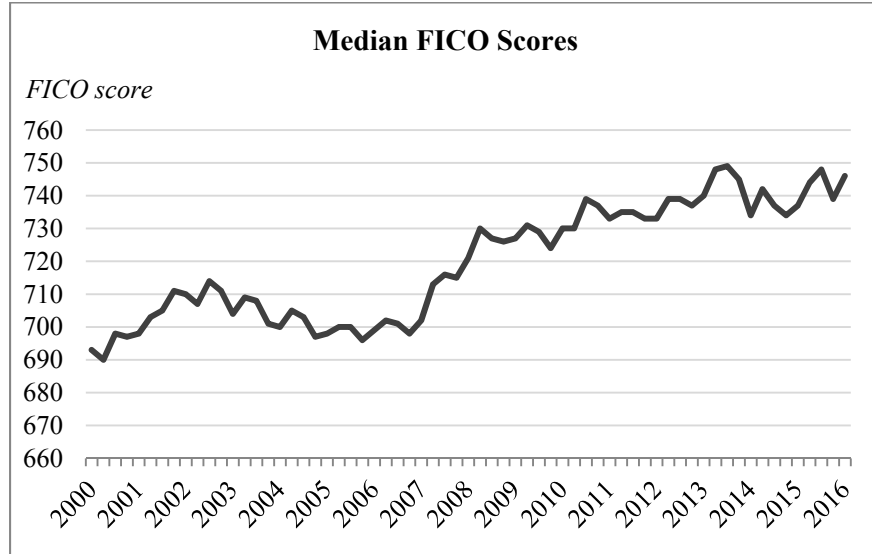


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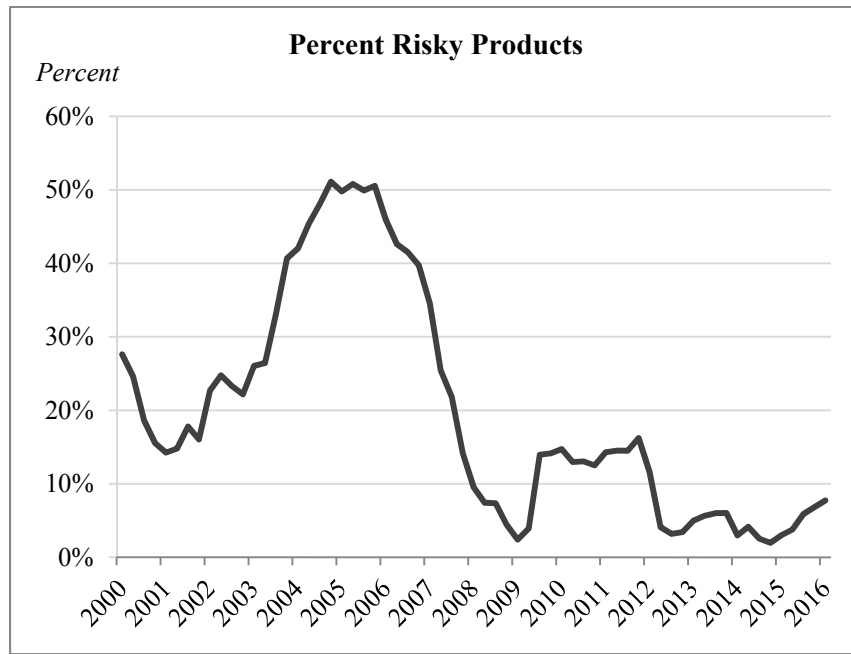
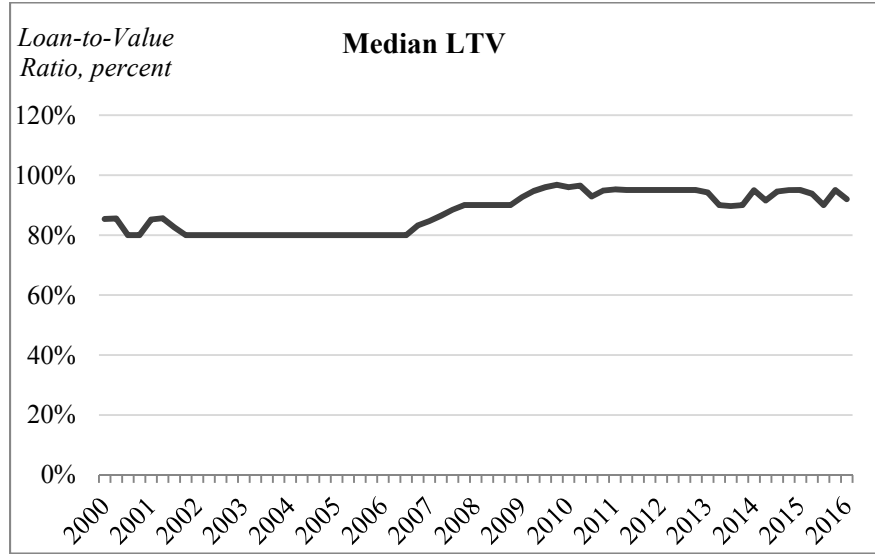


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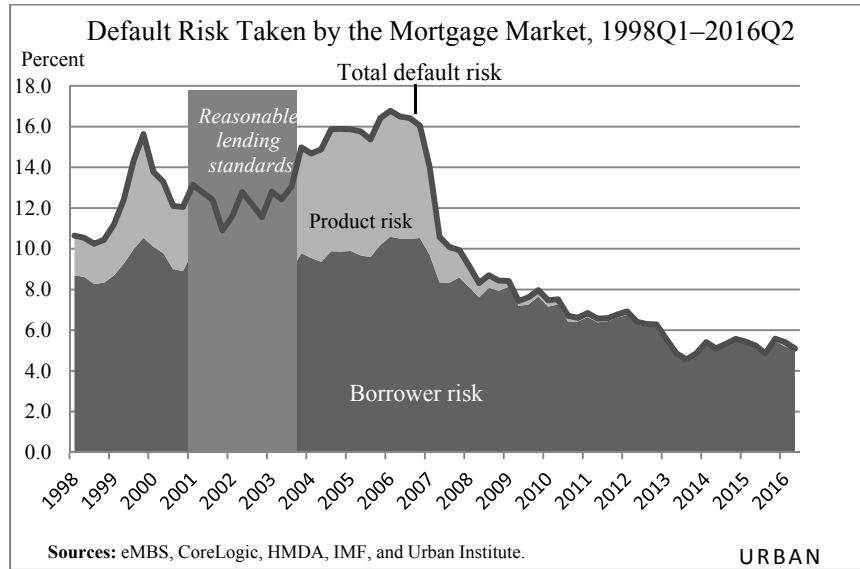


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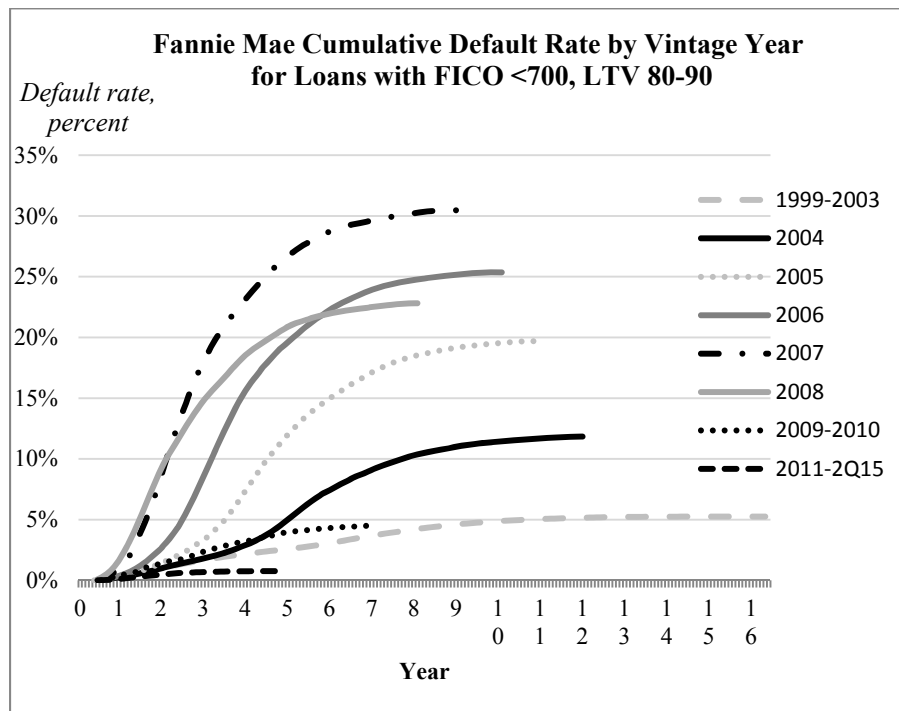


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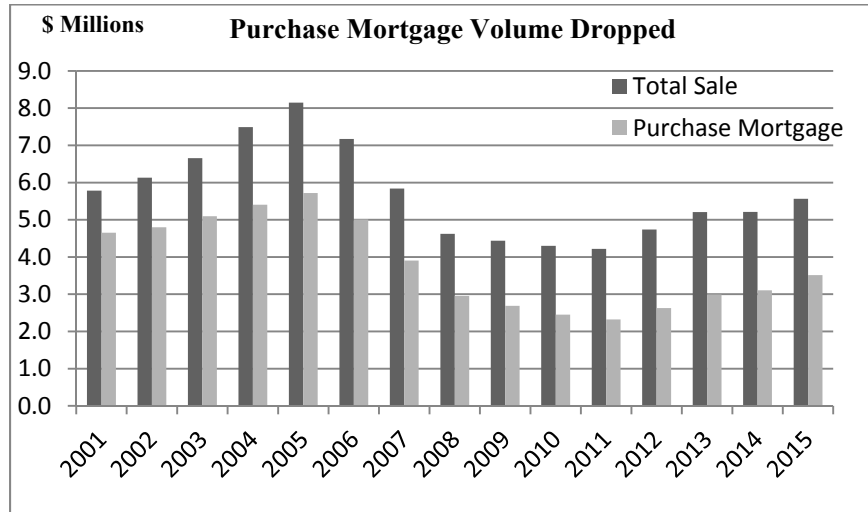


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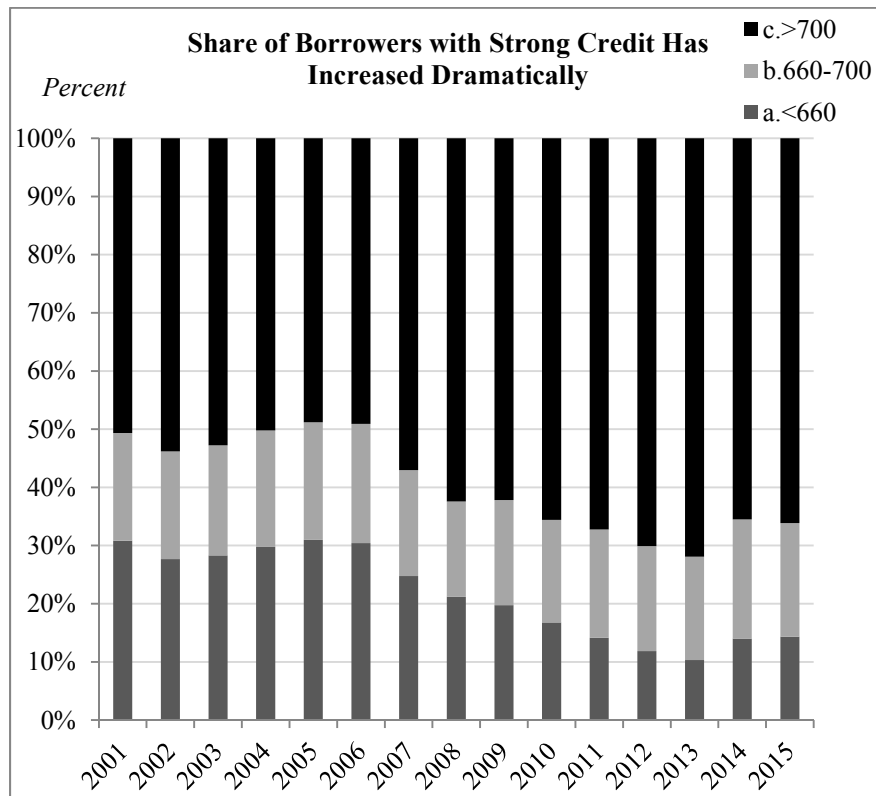


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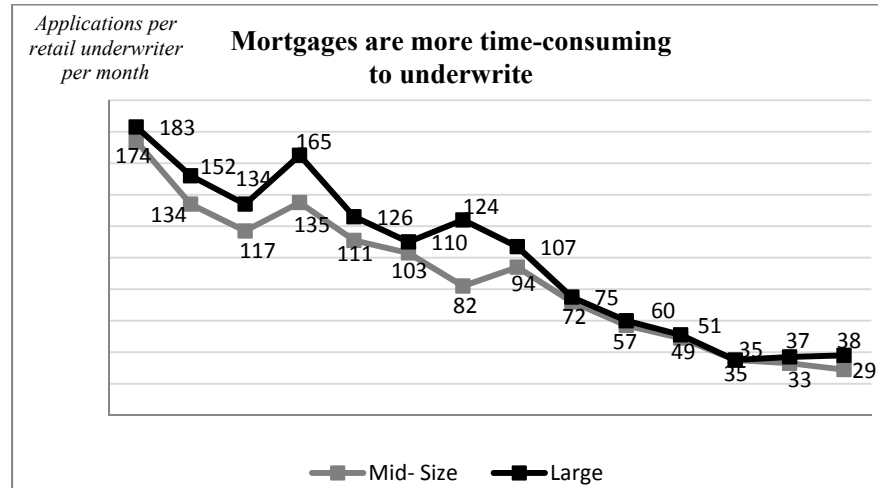


Table 2.

Settlements		
Firm	Settlement Date	Amount
Citi	Feb-12	\$158.3 mil
Flagstar Bank	Feb-12	\$132.8 mil
Bank of America	February 2012 (NMS), August 2014 (broader settlement)	\$1 bil (NMS), \$1.85 bil (broader settlement)
DB/Mortgage IT	May-12	\$202.3 mil
Chase	Feb-14	\$614 mil
US Bank	Jun-14	\$200 mil
SunTrust	Sep-14	\$418 mil
MetLife	Feb-15	\$123.5 mil
First Horizon/First Tennessee	Jun-15	\$212.5 mil
Walter Investment Management Corp	Sep-15	\$29.6 mil
Wells Fargo	Apr-16	\$1.2 bil
Freedom Mortgage	Apr-16	\$113 mil
M&T Bank	May-16	\$64 mil
Regions Bank,	Oct-16	\$52.4 million
Branch Banking and Trust (BB&T)	Oct-16	\$83 million
Primary Residential Mortgage	Oct-16	\$5.0 million
Security National Mortgage Co.	Oct-16	\$4.25 million

Figure 9.

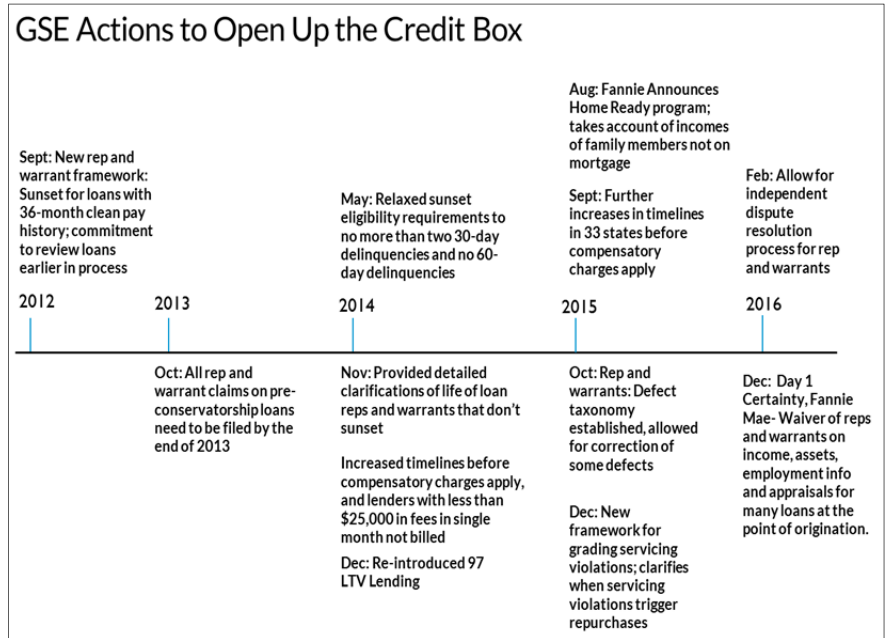


Figure 10.

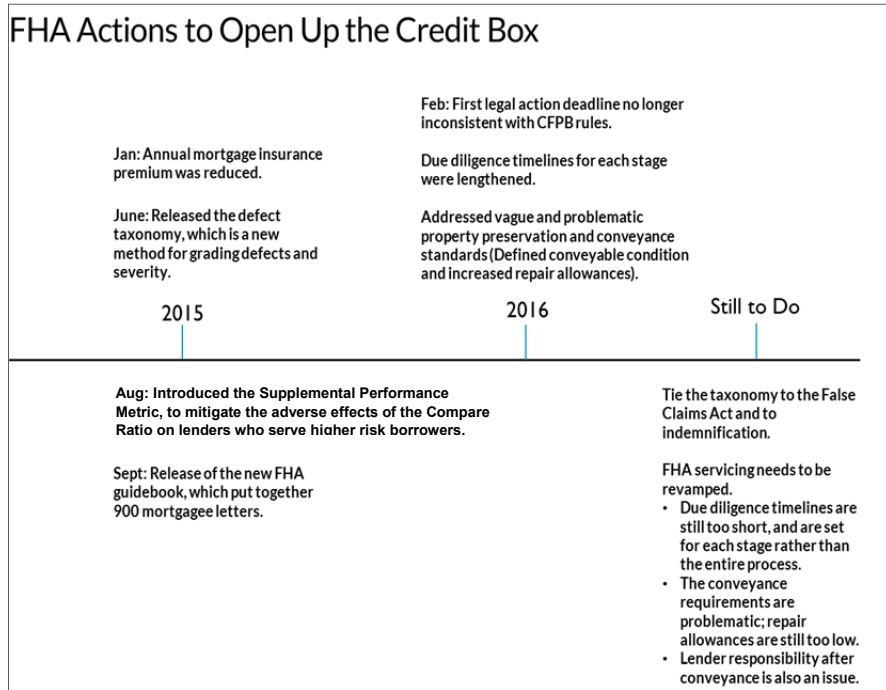


Figure 11.

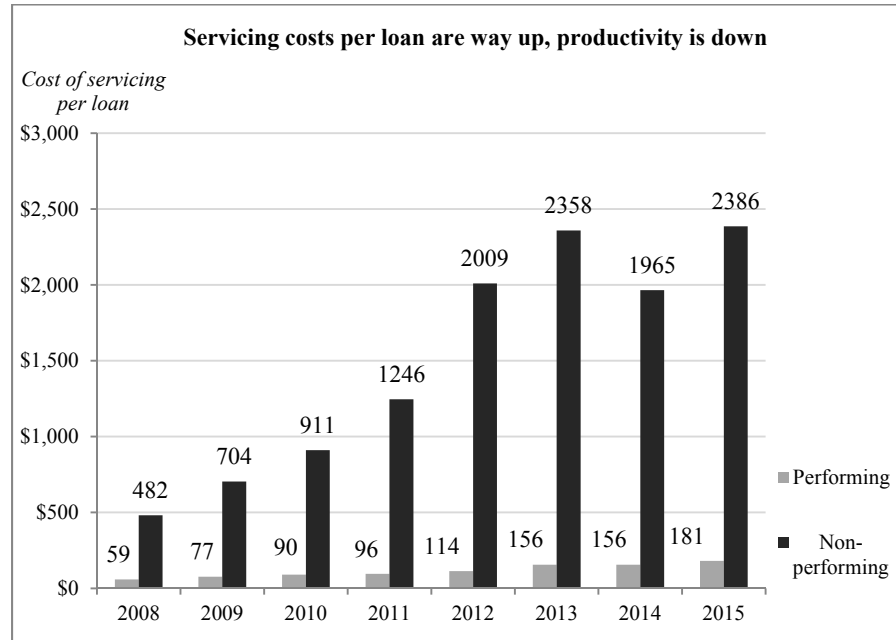


Figure 12.

