

Reps and Warrants

Lessons from the GSEs Experience

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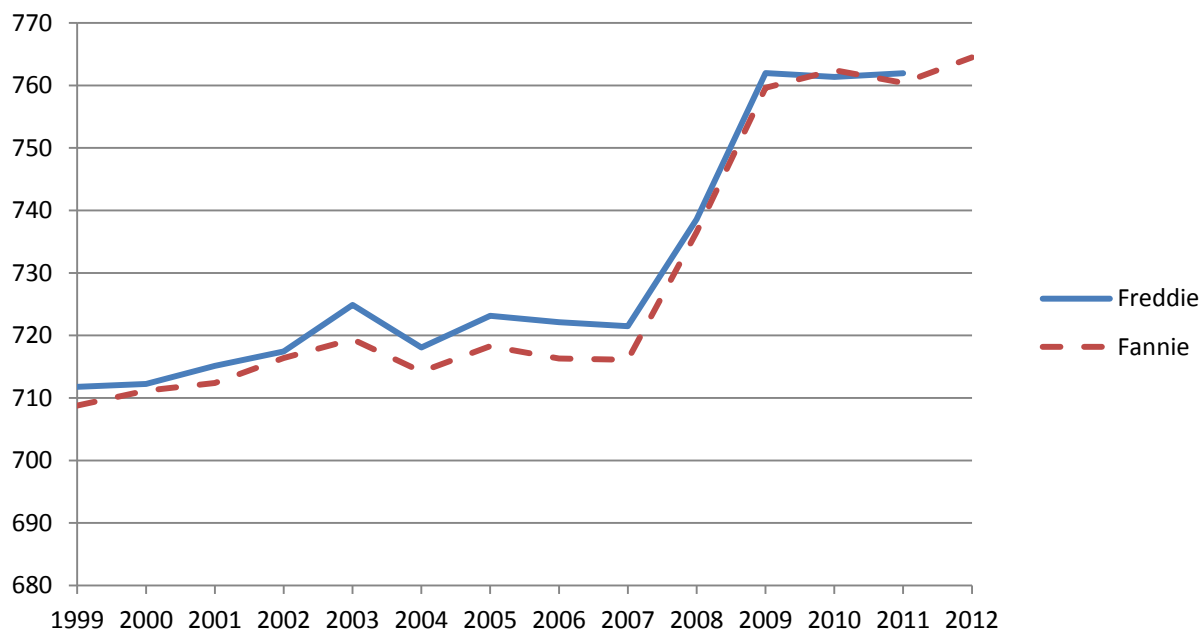
Reps and Warrants

Obtaining a loan guaranteed by Fannie Mae and Freddie Mac is more difficult today than it was in 2001. While many factors have caused this change, the system of representations and warranties (reps and warrants), under which lenders can be forced to repurchase loans long after they are sold to the GSEs, is a hidden contributor. Recent efforts by Fannie and Freddie and their regulator to fix the problem should help, but there is room to give lenders greater assurance without harming Fannie and Freddie. And that assurance should translate into greater lender willingness to increase lending by expanding the “credit box.”

Introduction

Credit backed by the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac is very tight. The average FICO score¹ for a GSE-backed loan has increased from 710 in 2001, to 720 between 2004 and 2007, to over 760 as of the middle of 2012, as shown in figure 1. In addition, the GSEs are requiring loans to have lower loan-to-value ratios (LTVs) than in the past and are doing more vigorous risk-based pricing through their loan-level pricing adjustments. Moreover, both Fannie and Freddie have ceased buying loans with LTVs over 95 percent. As a result, the share of fully amortizing, 30-year full-documentation GSE-backed loans with FICO scores greater than 750 and LTVs less than 80 percent has increased from 25 percent in 2001 to 30 percent in 2004 and 62 percent in mid-2012.

Figure 1. Average FICO Score on Fannie and Freddie Originations, 1999–2012



Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Lenders often blame the tight credit box and their reluctance to extend credit to any less-than-pristine borrower on uncertainty about the lender’s exposure to repurchase requests based on the representations and warranties they provide the GSEs. The lender’s concern is that if a loan defaults for any reason, the GSE will assert that the default was the result of improper underwriting and “put back”—meaning, require the lender to repurchase—the loan, instead of owning up to the credit guarantee the lender has paid for. One consequence of this uncertainty is that lenders have become excessively cautious, raising the minimum credit standards they require for making a loan well above what the GSEs require. A second consequence is that for the loans lenders do make, both the lenders and the GSEs believe they need to be compensated for default risk, so the borrowers in essence pay twice for the coverage.

In an effort to reduce this uncertainty, the Federal Housing Finance Agency (FHFA), the GSEs’ regulator, directed Fannie and Freddie to introduce a three-year sunset period for most reps and warranties on loans with perfect pay histories.² This policy applies to loans the GSEs purchased after January 1, 2013. Under the new policy, the lender generally cannot be forced to repurchase the loan if the borrower does not miss a single payment for the first three years.³ The sunset was coupled with more robust quality control early in the life of the loans.

Newly released GSE data⁴ has enabled us to go beyond anecdote for the first time and examine several critical questions surrounding put-backs, including the following:

1. How large is the put-back issue?
2. Which loans are most apt to be put back? What is the relationship between put-backs and delinquencies?
3. What is the effect of different sunset periods? That is, how much are the GSEs actually giving up under a three-year sunset? What if the period were reduced further? What if the sunset also covered loans with less-than-perfect pay histories?

We find that put-backs are actually quite small relative to their impact on lender behavior and credit availability. Excluding loans purchased by the GSEs during the boom years of 2006 through 2008, when both lender and GSE underwriting standards deteriorated significantly, put-backs since 2001 have been tiny relative to the number of mortgages originated. Lenders have nonetheless applied significant overlays to their lending, partly in defense against the uncertainty associated with this risk. At least some of this sense of uncertainty arises from their experience with loans originated from 2006 through 2008 (2006–08 vintages), for which most put-backs occurred at the height of the collapse, and all the associated economic uncertainty. This appears to have magnified the impact of the experience of these vintages and produced an outsized effect on credit availability, as lenders apply credit overlays and particularly strict underwriting standards for higher risk lending.

Our analysis indicates that the GSEs would suffer minimal negative consequences if they implemented a rep and warrant sunset shorter than three years and allowed for loans that have less-than-perfect pay histories; the losses would be even smaller with enhanced up-front due diligence. Such policies would produce greater certainty for lenders, reduce the duplication of charges for bearing credit risk, and encourage an expansion of credit.

How Large Is the Put-Back Issue?

The data in Freddie Mac's new loan-level credit database enable us to discern loans that were put back to lenders and to know whether those loans were put back before or after they became six months delinquent. The Fannie Mae data reveal loans repurchased before they became six months delinquent.⁵

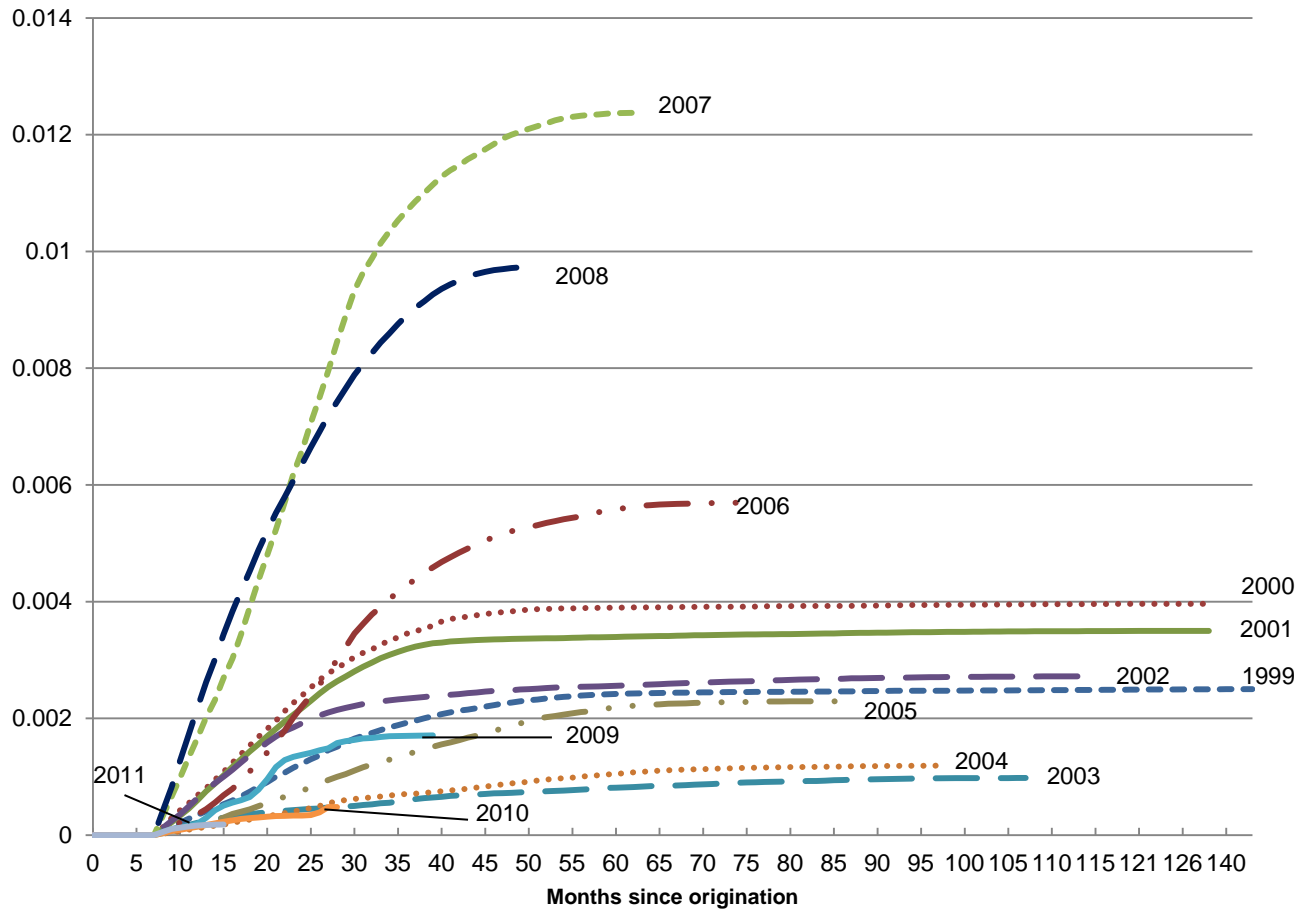
While the data do not represent the full book of business for either GSE, the loans included are typical of both current and likely future originations: they are 30-year, fixed-rate, fully amortizing loans with full documentation. The Freddie Mac data cover 16 million loans acquired from 1999 through June 2012, with

performance history through December 2012—just over half of Freddie’s total mortgage acquisitions during this period. The Fannie Mae database has similar coverage.

This combined database is limited in a few important respects. It does not flag as repurchases loans covered by global settlements, such as those between Freddie Mac and Bank of America. It also excludes many of the loans most likely to be put back: limited-documentation loans, affordability programs, and loans with pool policies. Though the resulting set of loans represents nearly all current lending (full documentation, amortizing), one should not underestimate the impact that the put-back experience with the riskier loans not captured here has had on lender perceptions of their current risk.

Figure 2 shows the dollar amount of loans put back as a percentage of original loan balance by vintage for Freddie Mac, drawn from the credit database. Though loans currently in the put-back process are not captured in this figure, their number among loans originated before 2010 should be insignificant. Except for the 2006–08 vintages,⁶ put-backs have been relatively small. Excluding that period, the worst year was 2000, in which the cumulative put-back rate was less than 0.5 percent of the original loan balance for the vintage. Assuming a 40 percent severity,⁷ this suggests originators experience lifetime losses of less than 20 basis points.⁸ The 2009, 2010, and 2011 books of business are being put back at a rate slightly below the 2000–03 books of business at the same age.⁹

Figure 2. Freddie Put-Backs as a Percentage of Original Balance by Issue Year



Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Changes in the Nature of Put-Backs

While put-back rates on recent vintages are similar to rates on pre-2006 loans, the mix of loans being put back since 2009 has changed dramatically. As seen in the third column of table 1, which shows the percentage of Freddie Mac loans that were always current until repurchase, most loans that were put back before 2009 were delinquent. In stark contrast, since 2009, most put-back loans have been current. In particular, for pre-2009 vintage years, the share of loans that were current until repurchase was less than 30 percent. In contrast, the current (nondelinquent) rate for put-back loans was 64 percent for the 2009 vintage, 82 percent for 2010, and 97 percent for 2011. As table A1 in the appendix shows, the pattern is similar for Fannie Mae.¹⁰

Table 1. Current versus Delinquent Loans among Freddie Mac Put-Backs

Origination year	Current until Repurchase		Not Current until Repurchase	
	Loan count	Percent of put-backs	Loan count	Percent of put-backs
1999	234	6.53	3,347	93.47
2000	254	5.84	4,095	94.16
2001	589	6.27	8,799	93.73
2002	896	11.17	7,126	88.83
2003	831	27.92	2,145	72.08
2004	512	25.04	1,533	74.96
2005	503	14.17	3,046	85.83
2006	595	8.86	6,118	91.14
2007	836	6.07	12,929	93.93
2008	618	6.08	9,547	93.92
2009	2,027	64.04	1,138	35.96
2010	549	82.06	120	17.94
2011	376	97.41	10	2.59
Total	8,820	12.82	59,953	87.18

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

With the introduction of the three-year sunset and more up-front due diligence, we would expect the portion of current loans being put back to continue to increase. As part of the up-front quality control process, the GSEs are checking some loans electronically upon loan sale, or very quickly thereafter, to ensure that the documentation is in order and that important calculations (such as loan-to-value) are done correctly. The goal is to increase the electronic review to 100 percent so documentation can be corrected at an early stage.¹¹ This electronic review does not verify the accuracy of loan file contents. The GSEs currently examine the loan file contents on both a random sample of loans as well as a targeted sample of loans. The GSEs are likely to increase the targeted sample of loans by enhancing the models used to identify loans that merit further scrutiny earlier in the review process. No matter which process is used, a

corollary of requiring repurchase soon after the loans are sold to the GSEs is that the loans are more likely to be current when put back.

Which Loans Are Most Apt to Be Put Back, According to Freddie Mac Data?

Table 2 shows, by vintage, the loan count, original balance, FICO score, LTV, and interest rate on three categories of Freddie Mac loans: those that defaulted (went six months delinquent), those that were repurchased (put-backs), and all loans for the vintage. For originations before 2009, the average FICO score of the loans that were put back was lower than the average FICO score of the loans that defaulted, the LTVs were higher, and the interest rate was higher. In short, the loans that were put back were more risky than the loans that defaulted. In contrast, for originations in 2009 and later, the characteristics of the loans that were put back were stronger than the characteristics of loans that defaulted.¹² Note that for all vintages, the loans that were repurchased and that defaulted were worse than the total universe of loans.

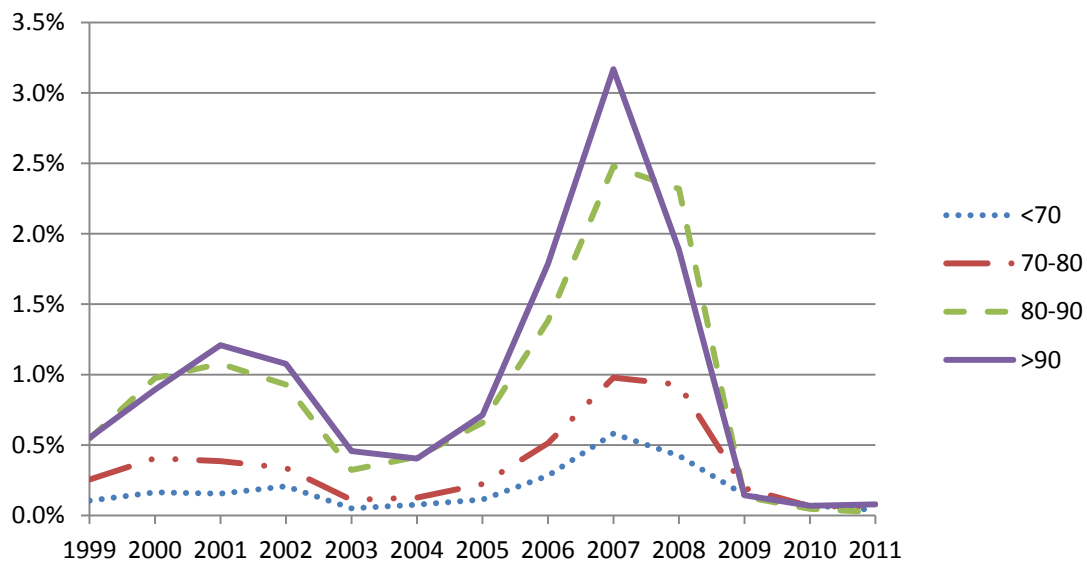
Table 2. Freddie Mac Defaults and Repurchases by Vintage

Orig. year	Loan Count			Orig_UPB			FICO			LTV			Interest Rate		
	Default	Repurchase	Total	Default	Repurchase	Total	Default	Repurchase	Total	Default	Repurchase	Total	Default	Repurchase	Total
1999	20,711	3,581	1,094,975	103,260	112,468	125,941	667	645	712	83.0	84.3	76.7	7.5	7.8	7.3
2000	13,962	4,349	786,382	101,238	111,494	131,819	661	646	712	85.0	85.4	77.6	8.5	8.7	8.2
2001	33,356	9,388	1,756,529	110,902	114,228	147,797	663	643	715	83.4	84.4	75.4	7.3	7.6	7.0
2002	39,103	8,022	1,684,454	117,811	110,482	155,514	668	646	717	82.6	82.9	73.9	6.8	7.2	6.6
2003	55,342	2,976	1,929,187	144,596	133,478	161,429	685	673	725	80.2	82.4	72.1	5.9	6.2	5.8
2004	52,503	2,045	1,130,676	160,480	137,178	166,657	682	677	718	79.9	81.8	73.7	5.9	6.2	5.9
2005	100,587	3,549	1,323,629	192,555	178,007	181,202	690	681	723	77.9	80.9	72.1	6.0	6.1	5.9
2006	105,735	6,713	1,082,783	203,470	195,914	186,961	689	678	722	77.9	81.1	72.5	6.5	6.7	6.4
2007	113,684	13,765	1,069,334	205,383	208,747	189,024	687	679	721	79.7	83.0	73.7	6.5	6.7	6.4
2008	56,783	10,165	985,207	220,791	237,455	212,809	698	695	739	78.6	80.9	71.9	6.4	6.6	6.1
2009	7,843	3,165	1,512,603	220,110	216,971	227,701	721	728	762	75.0	69.1	67.0	5.3	5.4	5.0
2010	1,178	669	787,804	190,114	203,526	224,151	718	740	761	75.0	68.3	69.7	5.2	5.0	4.8
2011	112	386	554,886	175,009	201,220	235,910	725	741	762	77.3	74.9	71.3	5.0	4.8	4.6
Total	600,899	68,773	15,698,449	178,107	169,524	176,385	685	672	728	79.6	81.9	72.9	6.4	6.9	6.2

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

The absolute repurchase rates on loans in the Freddie Mac database, by the year of loan origination, is shown in figure 3, sorted by LTV and vintage. For loans originated before 2009, the repurchase rate was consistently higher for higher LTV loans. For example, the repurchase rate for the 80–90 LTV bucket was consistently more than double (and often triple) that on the 70–80 LTV bucket. For 2009 and later, there was a dramatic shift: there was no difference in the absolute repurchase rate between loans with lower LTVs and loans with higher LTVs.

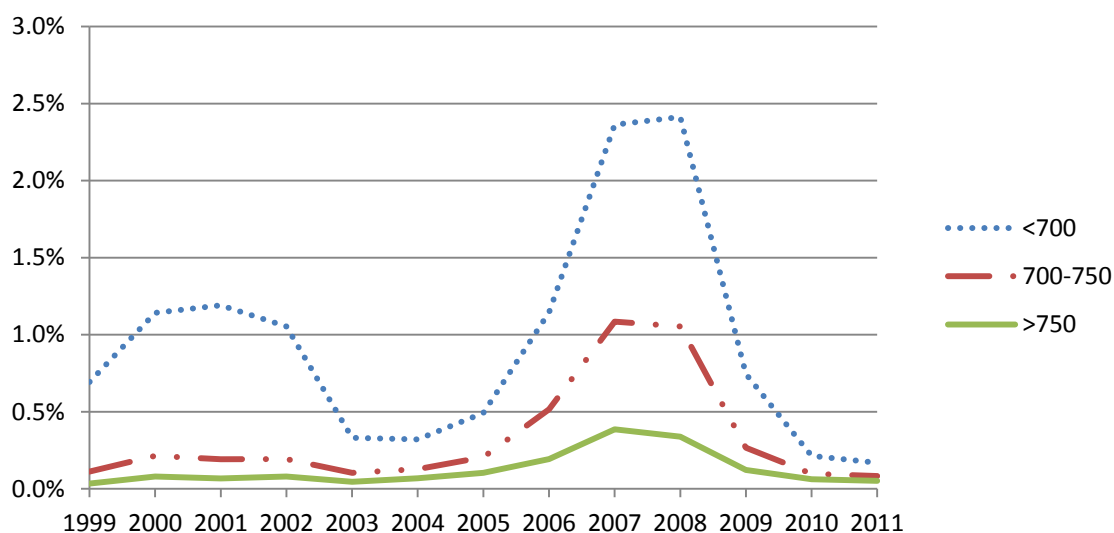
Figure 3. Absolute Repurchase Rates by LTV



Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Figure 4 sorts the Freddie Mac data by FICO and year of loan origination; we see exactly the same pattern as in figure 3. For loans originated before 2009, the repurchase rate was hugely different for different FICO buckets. In particular, the <700 FICO bucket had a repurchase rate that was a multiple of that on the 700–750 FICO bucket loans. After 2009, there was a dramatic shift in that the repurchase rates were very similar for all FICO buckets.

Figure 4. Absolute Repurchase Rates by FICO

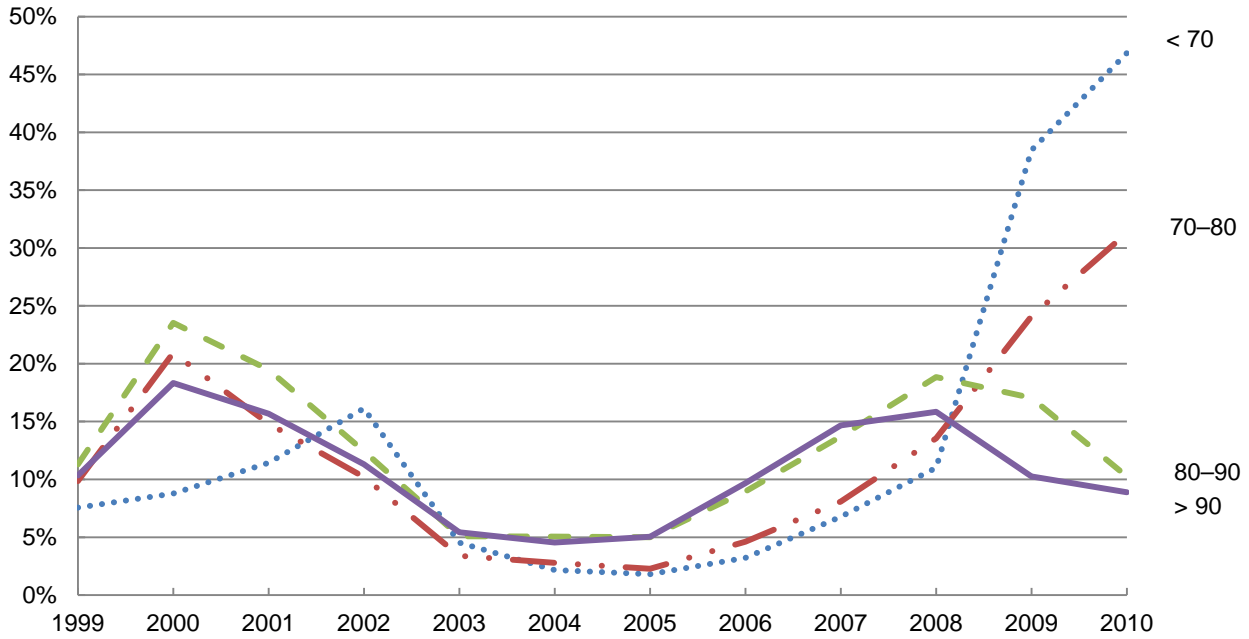


Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Thus, before 2009, lower-quality loans had a much higher put-back rate than their higher-quality counterparts; in 2009 and later, there is little difference. Looking at absolute purchase rates is a bit misleading, as repurchases are meant to protect the GSEs against defects in loan manufacturing that are apt to contribute to a default. If underwriting is sloppy, but the borrower is not apt to default, that loan is not likely to be put back. If the borrower actually defaults, the GSEs are likely to scrutinize the loan to see if it can be put back, and since lower-quality loans are more likely to default, it stands to reason they would have absolutely more repurchases. So why we are seeing muted differences in absolute put-back rates in the recent vintages?

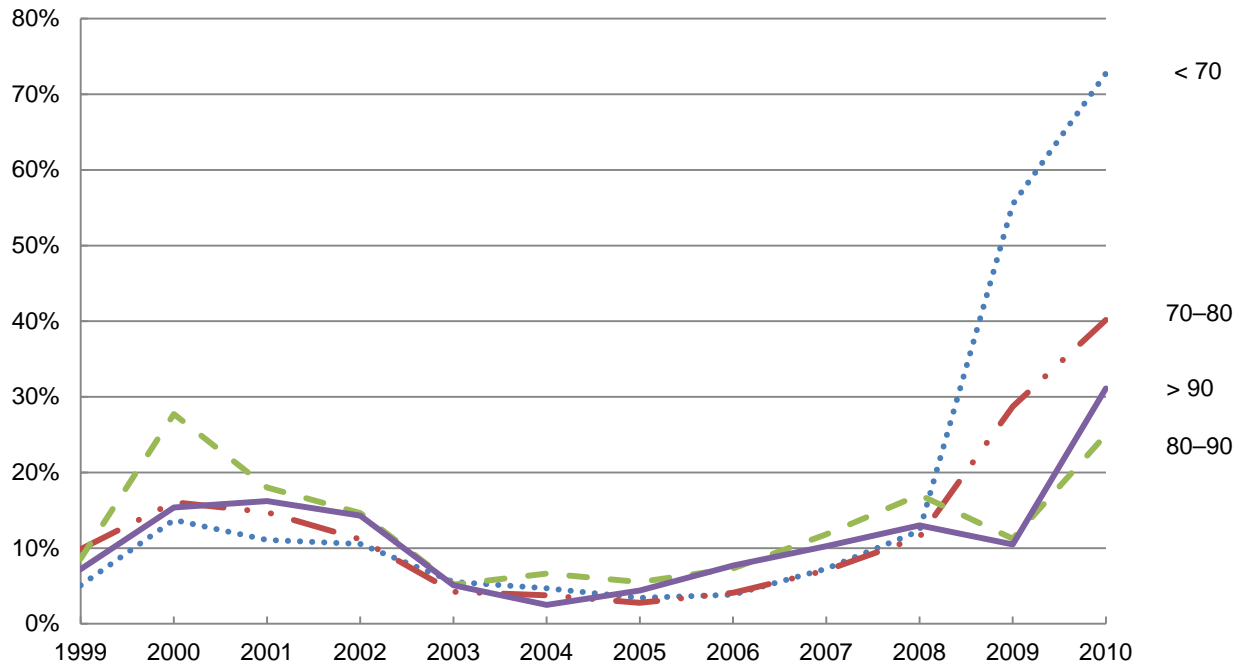
We thought it would be illuminating to look at the ratio of repurchases to defaults. Historically, the ratio of repurchases to defaults has been much higher for lower-quality loans; more recently this pattern has been reversed. Figure 5 shows the experience, by LTV range, for loans with FICO scores between 700 and 750, while figure 6 shows loans with FICO scores over 750. The figures clearly illustrate that for vintages before 2009, the ratio of repurchases to defaults was much higher for higher-LTV loans. For 2009 and newer vintages, this is not the case; higher-LTV loans are less likely to be repurchased relative to their default rate.

Figure 5. Ratio of Freddie Repurchases to Default Rates of 700–750 FICO Loans by Vintage and LTV



Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Figure 6. Ratio of Freddie Repurchase to Default Rates of >750 FICO Loans by Vintage and LTV



Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

To confirm our conclusion that there was a dramatic shift in behavior in 2009, we performed a logit analysis on Freddie Mac data, dividing the data into two categories: pre-2009, and 2009 and later. Our dependent variable was the ratio of repurchased loans to defaulted loans. We controlled for vintage, state, and seller (originator). The results are shown in table 3. Note that in the pre-2009 category, FICO has a negative sign. A lower FICO indicates a higher propensity for a loan to be put back relative to its default rate. For the same period, LTV has a positive score, indicating that a higher-LTV loan had a higher propensity to be put back relative to its default rate. In the 2009 and later regressions, the results are reversed. All things equal, in the later years, higher-FICO loans and lower-LTV loans were more apt to be put back (relative to their default rate) than their lower-FICO or higher-LTV counterparts.¹³

Table 3. Subperiod Regression Results for Freddie Mac

Variable	Pre-2009			2009 and Later		
	Estimate	Odds Ratio	St .Error	Estimate	Odds Ratio	St. Error
Intercept	-6.5277		0.0986	-6.5357		12.7840
LTV	0.0098	1.0100	0.0004	-0.0359	0.9650	0.0017
FICO	-0.0027	0.9970	0.0001	0.0059	1.0060	0.0005
Orig_upb	0.0000	1.0000	0.0000	0.0000	1.0000	0.0000
INT_RT	0.7546	2.1270	0.0087	0.4947	1.6400	0.0494
DTI	-0.0014	0.9990	0.0004	0.0335	1.0340	0.0019
Year 1999	-0.25	0.33	0.03			
Year 2000	-0.39	0.29	0.02			
Year 2001	0.34	0.60	0.01			
Year 2002	0.34	0.59	0.01			
Year 2003	-0.14	0.37	0.02			
Year 2004	-0.42	0.28	0.02			
Year 2005	-0.43	0.28	0.02			
Year 2006	-0.26	0.33	0.01			
Year 2007	0.35	0.60	0.01			
Year 2009				-1.07	0.07	0.05
Year 2010				-0.55	0.11	0.05
State indicator		Yes			Yes	
Seller indicator		Yes			Yes	
R-squared		0.07			0.20	

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

These results reflect the GSEs doing due diligence earlier in the process. They also strongly suggest that, as a result of the pre-2009 origination put-back experience, lenders have been exercising more due diligence on lower-quality loans (which are more likely to default) than on higher-quality loans (which are less likely to default). This change in behavior is coincident with—and discussions with lenders indicate that this is a partial cause of—the sharp tightening of the credit box. That is, lenders used to take advantage of the entire permissible Freddie/Fannie credit box; now they impose overlays that limit the size of the box. (Clearly the lenders are not the only party limiting the size of the credit box; the mortgage

insurance companies impose overlays as well, in the form of both cut offs and pricing.) From 2001 to 2007, only 27–33 percent of the Freddie Mac loans had FICO scores over 750 and LTVs of 80 or less. In contrast, for 2009 to 2011 vintages, the number has been 60–64 percent.¹⁴

The Policy Implication—A Discussion about Sunset Periods

Thus far we have shown that although the actual amount of put-backs for most vintages is very small, put-backs do appear to have affected lender behavior in such a way that has contributed to the very tight credit box. Originators have indicated that better-defined rep and warrant policies would make them more comfortable expanding the credit box by eliminating some of their credit overlays.¹⁵ The questions we now want to answer are (1) what portion of the loans that are eventually put back would have been put back had different rep and warrant rules been in effect, and (2) how would different rep and warrant policies affect the GSEs?¹⁶

Tables 4 and 5 compare various sunset rules. Table 4 shows the total number of put-backs for four sunset periods and three payment rules, while table 5 shows the percentage of loans in each category. Let us begin with the rep and warrant framework that applies to loans sold to the GSEs after January 1, 2013, in which reps and warrants sunset after three years with a perfect pay history.¹⁷ We can use table 4 to examine what the impact on put-backs would have been had the current rules been in effect earlier. Taking 2008 as an example, 108 loans that were current for 36 months were eventually put back (out of 10,165 total put-backs). These loans would not have been put back under the new rules. Table 5 translates these numbers into percentages; for 2008, approximately 1 percent of the loans that were eventually put back would not have been put back if the current three-year sunset had been in effect. The largest percentage effect would have been in 2003, when 568 loans of 2,976 total put-backs were current for three years (19 percent).

Using this methodology, we can now examine less stringent sunset rules and see how much difference they would have made. Continuing with 2008, if the sunset period were two years (24 months) with perfect pay history, 754 loans (out of 10,165, or 7 percent) would not have been put back. If the period were shortened to 12 months, 4,110 of 10,165—or 40 percent of the loans—would not have been put back.

In the middle columns of tables 4 and 5, we show the result of relaxing the criteria from completely current to missing no more than one payment over the period (one 30-day delinquency). The results are almost the same as requiring a completely clean history. In the right columns of the tables, we show the effect of allowing either two 30-day delinquencies or one 60-day delinquency over the period. This analysis indicates requiring a “good” pay history makes only a small difference versus requiring a completely clean

history. For example, for Freddie's 2008 book of business, 205 loans (2 percent of the put-backs) that had two 30-day delinquencies or one 60-day delinquency in the first 36 months were eventually put back, in contrast to 145 loans (1.4 percent of the put-backs) with one 30-day delinquency and 108 loans with completely clean histories. In general, allowing some flexibility in pay history would result in fewer missed put-backs than shortening the sunset period.

These results assume no change in up-front due diligence. Even without enhanced due diligence, only 13 percent of the 2008 loans and 12 percent of the 2009 loans that were eventually repurchased had two 30-day delinquencies or one 60-day delinquency within 24 months. Allowing a 24-month sunset with no more than two 30-day delinquencies or one 60-day delinquency would have minimal impact on GSE finances. Using the 2008 Freddie Mac vintage as an example,¹⁸ if the sunset applied after 24 months, and two 30-day delinquencies or one 60-day delinquency were allowed, 1,274 loans would not have been put back. Assuming each loan was for \$200,000, and further assuming a 40 percent loss severity, the total cost to Freddie Mac would have been \$102 million. For the 2010 vintage using the same rule, 133 loans would not have been put back, and the total cost to Freddie Mac would have been \$10.6 million. Placed in the context of Freddie Mac's \$5 billion net income for the second quarter of 2013 (\$20 billion annualized), these numbers are tiny. That is, if Freddie had a two-year sunset in effect in 2008, and allowed two 30-day delinquencies or one 60-day delinquency, the lost income would have represented approximately 0.5 percent of projected 2013 earnings. With more rigorous up-front due diligence, these numbers could be reduced significantly.

Table 4. Freddie Mac Put-Back Counts with Different Sunset Policies in Effect

Orig. year	Current				No More Than One 30-Day Delinquency				No More Than Two 30-Day Delinquencies or One 60-Day Delinquency				Total
	6 months	12 months	24 months	36 months	6 months	12 months	24 months	36 months	6 months	12 months	24 months	36 months	
1999	2,437	1,410	491	163	2,623	1,627	595	194	2,998	1,912	719	248	3,581
2000	2,597	1,365	339	84	2,869	1,614	421	100	3,337	1,950	541	144	4,349
2001	5,654	2,889	740	279	6,284	3,393	899	304	7,373	4,114	1,110	338	9,388
2002	4,506	2,195	830	485	5,114	2,485	894	509	5,995	3,015	1,033	567	8,022
2003	1,975	1,351	862	568	2,062	1,410	889	599	2,266	1,527	971	652	2,976
2004	1,535	1,122	625	298	1,601	1,199	667	346	1,721	1,298	726	378	2,045
2005	2,937	2,072	897	436	3,022	2,227	988	496	3,195	2,459	1,105	571	3,549
2006	5,499	3,837	1,268	436	5,735	4,205	1,497	511	6,108	4,637	1,825	599	6,713
2007	10,583	6,894	1,392	356	11,176	7,787	1,816	452	12,004	8,680	2,396	526	13,765
2008	7,044	4,110	754	108	7,621	4,692	960	145	8,414	5,349	1,274	205	10,165
2009	2,749	2,228	307	3	2,797	2,306	350	3	2,882	2,402	388	3	3,165
2010	471	276	129	0	483	283	132	0	500	299	133	0	669
2011	218	15	0	0	221	15	0	0	224	15	0	0	386
Total	48,205	29,764	8,634	3,216	51,608	33,243	10,108	3,659	57,017	37,657	12,221	4,231	68,773

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Table 5. Freddie Mac Put-Backs Ratio with Different Sunset Policies in Effect

Orig. year	Current				No More Than One 30-Day Delinquency				No More Than Two 30-Day Delinquencies or One 60-Day Delinquency			
	6 months	12 months	24 months	36 months	6 months	12 months	24 months	36 months	6 months	12 months	24 months	36 months
1999	68%	39%	14%	5%	73%	45%	17%	5%	84%	53%	20%	7%
2000	60%	31%	8%	2%	66%	37%	10%	2%	77%	45%	12%	3%
2001	60%	31%	8%	3%	67%	36%	10%	3%	79%	44%	12%	4%
2002	56%	27%	10%	6%	64%	31%	11%	6%	75%	38%	13%	7%
2003	66%	45%	29%	19%	69%	47%	30%	20%	76%	51%	33%	22%
2004	75%	55%	31%	15%	78%	59%	33%	17%	84%	63%	36%	18%
2005	83%	58%	25%	12%	85%	63%	28%	14%	90%	69%	31%	16%
2006	82%	57%	19%	6%	85%	63%	22%	8%	91%	69%	27%	9%
2007	77%	50%	10%	3%	81%	57%	13%	3%	87%	63%	17%	4%
2008	69%	40%	7%	1%	75%	46%	9%	1%	83%	53%	13%	2%
2009	87%	70%	10%	0%	88%	73%	11%	0%	91%	76%	12%	0%
2010	70%	41%	19%	0%	72%	42%	20%	0%	75%	45%	20%	0%
2011	56%	4%	0%	0%	57%	4%	0%	0%	58%	4%	0%	0%
Total	70%	43%	13%	5%	75%	48%	15%	5%	83%	55%	18%	6%

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Note: Ratio is calculated as the number of put-backs divided by the total number of loans in each vintage.

Conclusion

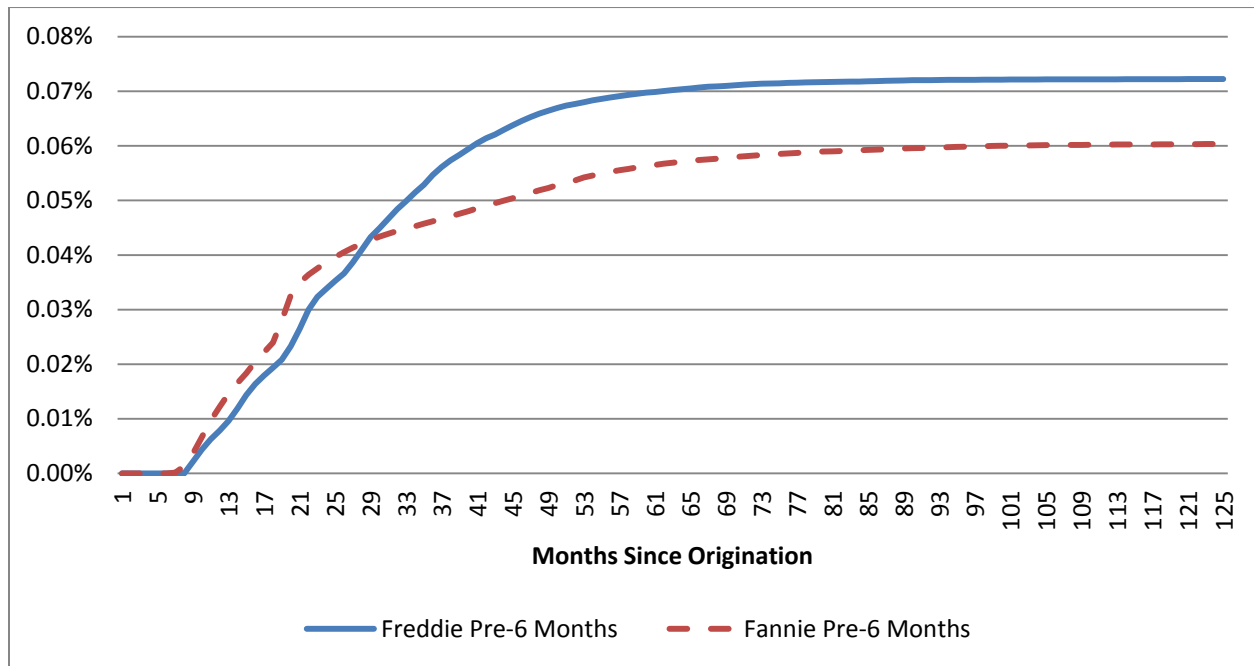
The present system of reps and warrants functions poorly. Both the originators and the GSEs believe they are absorbing the risk of default and need to be compensated. Thus, the borrower is paying twice for rep and warrant protection—once to the originator, once to the GSEs. Under a more rational system, lenders would take the risks that they can control, the balance of the credit risk would be covered by the GSEs, and the GSEs would price for taking the risk. Mistakes in underwriting should belong to the lenders; the GSEs can detect them, in part, through better up-front due diligence, with the sunset period providing further protection. Lenders pay the GSEs to take the borrower's credit risk, and that risk belongs with the GSEs.

One sticky issue in this debate is who bears the credit risk after the loan is made, but before it is closed and delivered to the GSEs. During this period the borrower can lose his job, incur additional debt, or incur other changes in circumstances that affect creditworthiness. We believe the correct answer should be that the GSEs bear that risk, with a limitation on the amount of time that elapses between loan closing and sale to the GSEs. This is not an underwriting issue, but a credit issue, and the GSEs are in a better position to insure the credit risk most efficiently. More important than the correct answer, however, is a clear answer, so originators and the GSEs have a clear understanding of which risks belong to which party.

Shorter sunsets on rep and warrant obligations and a relaxation of the pay history requirement, coupled with more up-front due diligence, is perhaps the best way to create the certainty that lenders are looking for to expand credit. The FHFA is moving Fannie and Freddie in this direction with the January 1, 2013, introduction of a three-year sunset for loans that have perfect pay histories and a greater emphasis on up-front due diligence. We believe that as up-front due diligence efforts further ramp up, the sunset period could be reduced and the pay history restrictions relaxed, at minimal cost to the GSEs. If this is coupled with steps to clarify which parties bear which risk, it would reduce reps and warrants as a significant obstacle to expanding the credit box.

Appendix. Supplementary Figures and Tables

Figure A1. Fannie versus Freddie Repurchase Rates on Loans That Have Not Gone Six Months Delinquent



Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Table A1. Current versus Pre–Six-Month-Delinquent Loans among Fannie and Freddie Put-Backs

Origination year	Fannie				Freddie			
	Current until Repurchase		Not Current until Repurchase		Current until Repurchase		Not Current until Repurchase	
	Loan count	Percent of put-backs	Loan count	Percent of put-backs	Loan count	Percent of put-backs	Loan count	Percent of put-backs
1999	226	55.39	182	44.61	209	24.22	654	75.78
2000	1,501	59.35	1,028	40.65	223	25.17	663	74.83
2001	2,967	72.31	1,136	27.69	549	25.73	1,585	74.27
2002	2,684	77.59	775	22.41	798	40.43	1,176	59.57
2003	1,459	65.10	782	34.90	757	72.65	285	27.35
2004	557	60.09	370	39.91	455	71.54	181	28.46
2005	468	55.58	374	44.42	468	66.10	240	33.90
2006	337	55.79	267	44.21	497	52.99	441	47.01
2007	398	53.64	344	46.36	710	42.75	951	57.25
2008	789	57.38	586	42.62	517	32.39	1,079	67.61
2009	912	79.17	240	20.83	1,899	84.66	344	15.34
2010	1,882	97.06	57	2.94	487	91.37	46	8.63
2011	441	98.88	5	1.12	324	97.89	7	2.11
2012	19	95.00	1	5.00				
Total	14,640	70.43	6,147	29.57	7,893	50.78	7,652	49.22

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Table A2. Pooled Regression Results for Fannie Mae and Freddie Mac

Variable	Fannie		Freddie	
	Estimate	St. Error	Estimate	St. Error
Intercept	-9.6866	10.7752	-6.4724	0.1154
LTV	-0.0233	0.000909	-0.0137	0.000795
LTV*(If <Y2009)	0.00384	0.0009	0.0236	0.00079
FICO	0.0114	0.000261	0.00194	0.000205
FICO*(If<Y2009)	-0.00343	0.000258	-0.00467	0.000203
Orig_upb	1.7E-06	1.02E-07	0.00146	0.000056
INT_RT	0.0243	0.0163	0.7476	0.0085
DTI	-0.0183	0.000669	0.000534	0.000396
Year 1999	2.4358	0.1264		
Year 2000	2.3113	0.1183	-0.4533	0.0757
Year 2001	1.9715	0.1151	0.2745	0.0735
Year 2002	1.5831	0.1153	0.2672	0.0734
Year 2003	0.5718	0.1168	-0.215	0.075
Year 2004	0.2533	0.1188	-0.5011	0.0757
Year 2005	-0.4132	0.1193	-0.4984	0.0744
Year 2006	-0.8686	0.1208	-0.3171	0.0734
Year 2007	-0.8921	0.1197	0.2993	0.0731
Year 2008	-0.044	0.1181	0.8266	0.0735
Year 2009	-3.4001	0.2816	-0.838	0.2372
Year 2010	-1.4066	0.2804	-0.3638	0.2415
Year 2011	-1.3024	0.2846	1.8525	0.2626
State indicator	Yes		Yes	
Seller indicator	Yes		Yes	
R-squared	0.0553		0.0761	

Sources: Fannie Mae and Freddie Mac credit database and Urban Institute calculations.

Notes

¹ FICO scores are a commonly used measure of the likelihood that a borrower will not default on a loan. Scores run from 300 to 850; higher scores are better. Traditionally, prime credit scores exceeded 680 and subprime scores were below 620.

² See “New Lender Selling Representation and Warranties Framework,” MBS News and Announcements, Fannie Mae, September 11, 2012; and Federal Housing Finance Agency, “FHFA, Fannie Mae and Freddie Mac Launch New Representation and Warranty Framework,” news release, September 11, 2012.

³ Certain “life of the loan” reps and warrants extend beyond three years. These life-of-the-loan reps and warrants are limited to charter matters; product eligibility; clear title/first-lien eligibility; compliance with laws and responsible lending practices; and misstatements, misrepresentations, omissions, and data inaccuracies. The GSEs attempted to give lenders comfort on the last point by requiring a pattern, rather than isolated instances of misstatements and misrepresentations, to justify a request to repurchase.

⁴ In March 2013, Freddie Mac released loan-level credit data in support of a securities issuance designed to share credit risk with investors; Fannie Mae followed suit in April. This data release was intended to allow investors to build more accurate credit performance models and, hence, develop more confidence in pricing the new securities, which, unlike traditional GSE securities, have embedded credit risk. A nice bonus, however, is that the release provided previously unavailable detailed data on put-backs.

⁵ The Freddie Mac and Fannie Mae credit databases both eliminate loans from the data when they go six months delinquent or are otherwise terminated. Both datasets include the reason for loan termination, namely voluntary prepayment; 180-day delinquency; and, if it occurred before the loan was 180 days delinquent, loans that were disposed of via short sales, third-party sales, deeds-in-lieu of foreclosure, REO acquisitions, and repurchases. The Freddie Mac dataset contains an additional field capturing loans that exited the database because they went 180 days delinquent but were subsequently repurchased. As a result, the Freddie Mac data enable us to discern loans that (1) were pulled out of the database because they were put back (these would be loans that were less than six months delinquent) and (2) went six months delinquent and were subsequently repurchased. The Fannie Mae dataset flags only loans pulled out because they were repurchased; it does not flag loans that went six months delinquent and were subsequently repurchased.

⁶ Freddie’s put-back rate was 0.6 percent for 2006-vintage loans, 1.2 percent for 2007-vintage loans, and 1.0 percent for 2008-vintage loans. (Assuming a 40 percent severity, losses to originators would have been 40–48 basis points for the 2007–08 vintages.) We do not view these years as representative of what would be experienced going forward, even in an environment in which prices are declining substantially, because so many loans that were considered full documentation actually had had their documentation waived. In addition, appraisal and occupancy fraud was common on GSE loans. However, this experience does color an originator’s perception of the prevalence of put-backs.

⁷ A 40 percent severity would mean that for \$1 of loan balance a lender is required to repurchase, the lender would ultimately, after working with the borrower, selling the loan, or foreclosing, lose 40 cents. Thus, if all lenders were required to repurchase 0.5 percent of the total dollar amount of loans sold to Freddie Mac, they would ultimately lose two-tenths of a cent for each dollar of loans sold, or 20 basis points ($.005 \times .40 = .002$).

⁸ A lifetime loss of 20 basis points is approximately 4 basis points annually.

⁹ For Fannie Mae, we don’t know the total put-back rate, as we don’t have information on loans that were pulled out of the database because they went six months delinquent and were then put back. However, Fannie Mae put-back rates on loans that were pulled out of the database before becoming six months delinquent are similar to Freddie’s put-back rates on similar loans, as can be seen in figure A1 in the appendix. To the extent there is a difference, Fannie’s pre-six-month put-backs are generally slightly lower than Freddie’s put-backs.

¹⁰ Table A1 compares the percent of Fannie and Freddie put-backs, where the loan was put back before it became six months delinquent. The share of current loans put back was much higher in the recent vintages for both Fannie and Freddie. We have included this table to show that Fannie’s put-back patterns are similar to Freddie’s. Since Fannie reports only repurchases before six months delinquent, we show Freddie on the same basis in this table.

¹¹ Again, with the review done early in the process, these targeted loans are likely to be performing; in earlier periods, with more limited up-front due diligence, these loans would not have been reviewed until they defaulted.

¹² We can establish these points more definitively by looking at each variable separately. For pre-2009 originations, the average FICO score of the loans put back was lower than the score of those that defaulted; and, the average FICO score of the loans that defaulted was, as expected, lower than the FICO score for the universe. For example, in 2001 the average FICO score in the Freddie universe was 715; it was 663 on the loans that defaulted and 643 on the loans that were put back. This changed abruptly for 2009 originations. In that year, while the average FICO score for put-back and defaulted loans was lower than the overall universe, the average FICO score for repurchased loans was higher than the average FICO score for defaulted loans.

The pattern continued in 2010, when the FICO score for repurchased loans averaged 740, in contrast to an average score of 718 for defaulted loans.

This pattern is apparent for LTVs as well. Until 2009, the LTVs of the loans that were put back were higher than the LTVs of the loans that defaulted, which were in turn higher than the universe of loans as a whole. For example, in 2001 the average LTV of the repurchased loans was 84.4; it was 83.4 on the defaulted loans and 75.4 for all 30-year fixed-rate amortizing loans in the database. That changed after 2009: the LTVs on repurchased loans were lower than the LTVs on defaulted loans. For example, in 2009, repurchased loans had an average LTV of 69.1, while defaulted loans had an average LTV of 75.0.

Mortgage interest rates show a similar pattern, as we would expect the interest rates on more risk layered loans to be higher. Before 2009, the interest rates on the loans that were repurchased were higher than on those that defaulted; both these categories were higher than the total universe. For example, in 2001 the average interest rate was 7.60 on loans that were repurchased, 7.27 on loans that defaulted and 7.01 for the universe. This too changed in 2009. After that, the average interest rate on the repurchased loans was lower than on those loans that defaulted. For example, in 2010, the interest rate for the loans that were repurchased was 4.97, in contrast to an average of 5.15 for the loans that defaulted.

¹³ Fannie Mae results are very similar but not quite as powerful. Some of this difference may be a data issue. As we have discussed, with the Fannie Mae data we cannot identify loans that defaulted then were put back. Because of that, we did not break the Fannie Mae data into two subsamples and conduct two individual analyses. Instead, we pooled the data and applied a logit analysis with interaction terms between credit characteristics and year indicators. To compare the results, we produced a similar analysis to that on the Freddie loans. Table A2 in the appendix shows the result of a regression analysis of both Fannie and Freddie loans. For both Fannie and Freddie, the FICO term in the regression is positive (the higher the FICO, the more apt to be put back). However, the pre-2009 dummy variable largely offsets the base coefficient in the pre-2009 period. Similarly, the LTV term is negative (lower LTV loans were more likely to be put back), but this is outweighed by the positive dummy variable for the earlier period.

¹⁴ For a further discussion of this issue, see Jim Parrott and Mark Zandi, “Opening the Credit Box” (Washington, DC: Moody’s Analytics and Urban Institute, 2013).

¹⁵ Credit overlays are underwriting requirements imposed by lenders in excess of those required by a guarantor or investor, such as the GSEs. An example of a lender overlay arises if a GSE will purchase loans with a 10 percent down payment, but lenders will only make loans with 15 percent down payments.

¹⁶ Note that this comparison is a bit unfair, as with the introduction of the sunset in the rep and warrant rules came an increase in the amount of up-front due diligence. That is, with a three-year sunset, the GSEs’ due diligence will be done earlier, potentially reducing the number of post-three year put-backs that would have slipped through under the old system.

¹⁷ We are ignoring the life of loan reps and warrants for the purposes of this analysis.

¹⁸ The 2008 Freddie Mac vintage had one of the highest put-back rates at close to 1 percent of the total original loan amount for the vintage.