TESTIMONY

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"Fannie Mae and Freddie Mac: How Government Housing Policy Failed Homeowners and Taxpayers and Led to the Financial Crisis"
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Chairman Hensarling, Ranking Member Waters, and members of the Subcommittee: My name is Lawrence J. White. I am a Professor of Economics at the NYU Stern School of Business. During 1986-1989 I served as a Board Member of the Federal Home Loan Bank Board; in that capacity I was also one of the three Board Members of Freddie Mac. I have written extensively on the subject of the government-sponsored enterprises (GSEs);[1] a chronological list of these writings is at the end of this statement, as is my short biographical summary and the "Truth in Testimony" disclosure form. I represent solely myself at this hearing.

Thank you for the opportunity to testify today on this important topic. Despite having been in government conservatorships since September 2008, Fannie Mae and Freddie Mac remain at the center of the U.S. residential mortgage finance system. Although there is a general consensus that this dominant role for these GSEs is <u>not</u> a viable long-run pattern for the mortgage finance system, there is no consensus as to what should replace them; and this political stasis has led de facto to the GSEs' continued dominant position.

[1] As a technical matter, the Federal Home Loan Bank System (FHLBS) should also be included in the category of "housing-oriented GSE". However, since the topic of today's hearing is solely Fannie Mae and Freddie Mac, my references to GSEs will apply solely to Fannie Mae and Freddie Mac, unless otherwise indicated.

Accordingly, a review of their history is surely worthwhile. After all, in order to know "Where should we go?" it is often useful to know "How did we get here?" Or, to quote George Santayana, "Those who cannot remember the past are condemned to repeat it."

In the remainder of this statement I will first provide some general background on the two GSEs and then discuss their specific roles in the housing bubble of the late 1990s and early and mid 2000s and the subsequent housing collapse and the financial crisis of 2008-2009.

Some general background.

Fannie Mae and Freddie Mac are two private-sector, publicly traded corporations, with shareholders. Until their conservatorships in 2008, the shares of each company were traded on the New York Stock Exchange.

The two companies do fundamentally the same things: They operate in the secondary market for U.S. residential mortgages. They buy mortgages from originators – the first-instance lenders to mortgage borrowers – and then do either of two things:

(a) They may bundle pools of hundreds of mortgages into residential mortgage-backed securities (RMBS) and sell the RMBS to investors. These RMBS represent "pass-through" claims on the streams of interest payments and principal repayments by the underlying mortgage borrowers. These RMBS carry the guarantee of the issuing GSE (for which the GSE charges a fee) that, in the event that the underlying borrower of a mortgage in the bundle defaults on his/her payment obligation, the GSE will keep the RMBS investor whole by making payments from the company's resources in lieu of the borrower's payments. Or

(b) The GSEs may hold the mortgages in their own portfolios, with the funding for these portfolio holdings coming almost entirely (prior to 2008) or entirely (since 2008) from their issuance of debt obligations that represent direct claims on each company.

Fannie Mae had its origins in 1938, as an agency within the Federal Housing Administration. After modest growth through the 1960s (see Table 1), Fannie Mae was privatized in 1968 and became a publicly traded company. However, it retained many special ties with the federal government (which will be detailed below). Freddie Mac came into existence in 1970. Both GSEs grew modestly in the 1970s and early 1980s. The contraction of the savings & loan (S&L) industry (which had hitherto been the major financer of residential mortgages) in the mid 1980s gave both GSEs an expanded opportunity to grow, as did legislation in 1989 (the Financial Institutions Reform, Recovery, and Enforcement Act, or FIRREA) and 1992 (the Federal Housing Enterprises Financial Safety and Soundness Act, or FHEFSSA).

Prior to their conservatorships in 2008, both companies might have looked like ordinary U.S. corporations, since they had public shareholders, their shares were traded on the NYSE, and their corporate governance structure included a chief executive officer (CEO) and board of directors. However, they had many other features that clearly made them special:

- Their corporate charters were created through specific congressional legislation;
- The board of directors of each company was mandated to have 18 members, of which the president of the United States could appoint five members;
- They paid no state or local income taxes;
- They each had a potential line of credit with the U.S. Treasury of up to $2.25 billion;
- Their securities were considered to be "government securities" under the Securities Exchange Act of 1934;
- They were not required to register their securities with the U.S. Securities and Exchange Commission (SEC), and they were exempt from SEC fees;

- Their securities could be purchased and held in unlimited quantities by U.S. banks and savings institutions;
- Their securities could be purchased by the Federal Reserve for the latter's "open market operations";
- They each could use the Federal Reserve as their fiscal agent; and
- Their insolvencies could not be resolved by a bankruptcy process or by a regulatory agency but instead would have to be resolved by the U.S. Congress.

There were also limitations:

- Their activities were specifically restricted (again, by statute) to the secondary mortgage market; they were specifically prohibited from originating mortgages;
- The size of mortgage that they could buy (the "conforming loan limit"), either for investment or for securitization, was limited in amount (which was adjusted each year in accordance with an index of house prices); as of early 2008 that amount was $417,000, which continues to apply today in most areas of the U.S. (but the Congress subsequently expanded this amount for high-cost housing areas to as high as $729,750 and today to $625,500 in those high-cost housing areas);[2] "conforming loans" were also expected to be high-quality mortgages that met "investment quality standards";
- They were subject to prudential regulation by a federal regulatory agency (until 2008, this was the Office of Federal Housing Enterprise Oversight [OFHEO]; in the summer of 2008 the Federal Housing Finance Agency [FHFA] replaced OFHEO); and
- They were subject to "mission regulation" (i.e., regulatory requirements that they meet targets with respect to their mortgage purchases in areas with low- and moderate-income

[2] Mortgage loans that are larger than the conforming loan limit are typically described as "jumbo" loans.

and underserved households), which was under the jurisdiction of the U.S. Department of Housing and Urban Development (HUD) until the summer of 2008 (when FHFA absorbed this role).

It was thus no accident that the GSE label came to be applied to these two companies.

There was at least one other characteristic that made the GSEs special: their sheer size. From the early 1990s onward, their holdings of mortgages plus the RMBS that they issued and guaranteed accounted for over a third of the value of all residential mortgages in the U.S. (see Table 1); and from 1999 onward (with the exception of 2005 and 2006) they accounted for over 40%. As of year-end 2008, the aggregate value of their mortgages held and guaranteed exceeded $5.2 trillion.

The GSEs' specialness had an important consequence: The GSEs were able to borrow at interest rates that were lower than their financial condition would have otherwise justified. In essence, the financial markets believed (correctly, as it turned out) that if either (or both) of the GSEs were to experience financial difficulties, the federal government would intervene and make sure that the companies' creditors would remain whole. The consensus of academic studies is that this perception – this belief in an "implicit guarantee" – allowed the GSEs to borrow at rates that were approximately 2/5 of a percentage point lower than would otherwise have been the case.

In turn, their favorable borrowing costs translated into lower mortgage interest rates for conforming mortgages (i.e., the mortgages that the GSEs were allowed to buy and hold or securitize). The academic consensus is that conforming mortgages carried interest rates that were approximately ¼ of a percentage point lower than would otherwise have been the case.

In addition to these favorable borrowing costs, the GSEs had other important advantages that encouraged them to grow rapidly in the 1990s and the early 2000s (see Table 1): They had lower capital requirements (2.5% of the value) for holding mortgages in their portfolios than did depository institutions (for which the comparable capital requirement was at least 4%); and they had much lower capital requirements (0.45%) for covering the credit risk on their RMBS than was required for depository institutions (again, 4%) to cover the same category of risk. As a consequence, their balance sheets were highly leveraged, with capital (net worth) equal to only 3-4% of assets (and thus debt providing the funding for 96-97% of assets).[3] Further, when depository institutions held the GSEs' RMBS (and, starting in 2002, other issuers' highly rated RMBS), the capital requirement was only 1.6%, as compared with the 4% requirement for holding unsecuritized "whole" mortgages, which provided a favorable market for the GSEs' RMBS.

Given these advantages – plus the shrinking of the S&L industry after the mid 1980s, the conversion of Freddie Mac into a less restrained company in 1989, and the discarding of Fannie Mae's caution after experiencing financial difficulties in the early 1980s – the rapid absolute and relative growth of the GSEs in the 1990s and the early 2000s was not surprising. It was only accounting scandals at Freddie Mac in 2003 and at Fannie Mae in 2004 that gave their prudential regulator (OFHEO) the ability to put caps on the sizes of their portfolio holdings of residential mortgages. Limits (other than the 0.45% capital requirement) were not, however, placed on the securitization of their RMBS, which continued to grow.[4]

[3] This could also be described as an assets-to-capital leverage ration of 25-to-1 or 33-to-1. If the "off balance sheet" guarantee on their RMBS were included as an additional claim for which their capital was supposed to provide protection, the GSEs' leverage ratio could be described as 75-to-1.

[4] Since the GSEs were experiencing little or no credit-related losses at the time, the major fears by the GSEs' critics were of interest-rate risks: that the GSEs were not adequately hedging their portfolios against the financial damage that changes in interest rates could bring to the value of the 30-year fixed-rate mortgages that dominated their balance sheets. Since the GSEs' guarantees on their RMBS covered only credit-related losses – the RMBS investors

Finally, it is worth emphasizing that the special governmental advantages for the GSEs were not an anomaly in U.S. economic policy. Instead, these advantages – with the expectation that they would reduce the cost of housing finance – were a part of a much larger and wider set of government policies – at the federal, state, and local levels – that are intended to reduce the cost of housing for households.[5] At the federal level, these have encompassed widespread tax deductions (such as the mortgage interest deduction for households), the existence and widespread involvement of other government agencies (such as the FHLBS, FHA, and Ginnie Mae), tax advantages and direct subsidy programs for housing construction, direct subsidies for renters, etc.

With respect to housing and housing policies, the characterization "Too much is never enough!" seems appropriate.

<u>The housing boom – and bust</u>.

Starting around 1997, the U.S. economy experienced a major housing boom (which is now, with hindsight, recognized to have been a bubble).[6] Annual housing starts increased, home ownership rates rose, and housing prices increased above the general rate of inflation in the U.S. Between 1997 and 2006, the S&P/Case-Shiller national index of house prices rose by about 125%, while the U.S. Consumer Price Index (CPI) rose by only 28%. By the early 2000s there was a widespread belief that housing prices could only go up.

The growth of Fannie Mae and Freddie Mac in the 1990s surely helped support this boom – although, as the data in Table 1 indicate, the GSEs had been growing vigorously since the late

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were the parties that would have to deal with the interest-rate risk on those RMBS – the expansion of the GSEs' RMBS issuances was not seen as a problem.

[5] It is important to realize that these efforts at lowering the costs of home ownership and of rental housing have effectively lowered the "price" of housing and have thereby encouraged U.S. households to buy and consume more housing than they otherwise would have – at the expense of other things that households, and American society more generally – could have consumed and/or invested in.

[6] The U.S. was not alone in this regard. Other countries – e.g., the U.K., Ireland, and Spain – experienced similar housing booms at roughly the same time.

1980s, whereas the housing boom only took off around 1997. At least as important in helping stoke the boom was the development and growth of "private label" residential mortgage securitization – i.e., the development of techniques and structures whereby financial institutions (typically investment banks, commercial banks, and mortgage banks) that were not GSEs and that could not provide the kind of guarantee that the GSEs provided were nevertheless able to issue RMBS that could be sold to financial institution investors.[7]

The widespread belief that housing prices could only go up had an important implication for mortgages: *Residential mortgage loans would rarely fail to be repaid!* Even if a borrower could not repay the mortgage from his/her normal income – say, because of an accident or extended illness, or because of loss of employment – he/she could still repay the mortgage by selling the house (at a profit) and repaying the mortgage from the proceeds.[8]

There was a further important implication: The traditional creditworthiness criteria for a mortgage borrower – sufficient household income to make the necessary mortgage payments, sufficient household financial resources to make a 20% down payment, a good credit history, etc. – as well as the importance of the monthly mortgage amortization payment were increasingly seen as less important to protect the lender in a context where housing prices would only go up and mortgages would rarely fail to be repaid. Accordingly, increasing numbers of "alt-A" and "sub-prime" mortgages were granted to borrowers with flawed credit histories, inadequate incomes, poor documentation, or other irregularities and with lower down payments. And the initial experience with these mortgages in the environment of rising prices in the late 1990s and

[7] After other methods were tried, the "tranching" technology became the method of choice in the early 2000s. This involved the pooling of hundreds of mortgages into a bundle and then issuing multiple layers of junior and senior securities, such that the junior securities would be the first absorbers of losses from any defaults by the underlying mortgage borrowers, which thereby gave greater protection and assurance to the holders of the more senior securities.

[8] And if mortgages would rarely fail to be repaid, then private-label RMBS would largely be safe investments.

early 2000s – that defaults were few and that the losses to lenders were small when those few defaults did occur – seemed to confirm that lending to these below-prime borrowers was not as risky as had previously been believed. In turn, of course, this experience encouraged yet more lending of this type.

As mentioned above, the "conforming" mortgages that the GSEs were allowed to buy were expected to meet "investment quality standards" (as determined by OFHEO). In the early 1990s and before, these standards had usually meant mortgage loans where the borrower had made at least a 20% down payment (or, equivalently, the loan-to-value [LTV] was 80% or less) or had private mortgage insurance for loans where the down payment was as little as 5%; where the borrower had a good credit history (as represented by a good "credit score" that was usually compiled by Fair, Isaac and Company and that came to be known as the "FICO score"); where the borrower's income was deemed adequate so that the monthly payments on the mortgage were affordable; and where there was good documentation. These indicia meant that the borrower was unlikely to default and that even in the event of default the sizable down payment (or mortgage insurance) provided a buffer that would protect the GSEs (as investors or as guarantors) against losses.

Beginning in the mid 1990s, however, the GSEs began buying some mortgages that would not otherwise meet these quality standards; this was done partly because lower-quality mortgages provided an additional area for expansion for the GSEs and partly because the regulatory pressures (which were encompassed in FHEFSSA) on the GSEs to increase their purchases of mortgages from low- and moderate-income households and households that were located in underserved areas were increasing. Some combination of the upward trend in housing prices, especially after 1996, and the GSEs' expertise in selecting higher-quality borrowers among those with apparently lower qualifications, kept the GSEs' losses low. From 1990 through 2007 Freddie Mac's credit losses on its mortgages in portfolio plus guaranteed RMBS never exceeded 0.11% annually; for Fannie Mae the comparable credit losses never exceeded 0.06%. For the years 1999-2005 (for Fannie Mae) and 2000-2006 (for Freddie Mac) the credit losses were only 0.01% annually!

Around 2003 the GSEs' involvement in lower-quality mortgages became more substantial. From around 2000 onward, the growth in alt-A and sub-prime mortgage lending and the related private-label securitization threatened the market shares of the GSEs. At first glance, this should not have been so, since the higher quality mortgage standards of the GSEs should have kept them separate and aloof from the sub-prime borrowers and lenders, and vice-versa. However, in the environment of rising prices and the widespread expectations that prices would continue to rise, lenders were encouraging borrowers who otherwise would have qualified for a conforming loan to borrow larger amounts (which would push them into "jumbo" territory) and/or to structure their loans in ways that would not meet the GSEs' underwriting standards (which would push them into nonconforming territory). The latter was done, for example, by allowing the borrower to make a down payment that was less than 20% but not insisting on (costly) mortgage insurance; or by allowing a second-lien mortgage loan to cover some or even all of the down payment; or by allowing a higher ratio of mortgage payments to income; or by providing initial low "teaser" rates but with a scheduled upward adjustment after two or three years (these were the so-called "2/28" or "3/27" mortgage loans); or by tolerating reduced levels of documentation.

In addition to these market share pressures, the GSEs were subject to increased regulatory pressures to expand their shares of mortgage purchases from low- and moderate-income households and from households in underserved areas. These regulatory pressures also led to the GSEs' decisions to buy significant amounts of private-label high-rated RMBS tranches that had sub-prime and/or alt-A mortgage loans as their underlying collateral, since many of these borrowers were households in the designated regulatory categories and the GSEs received regulatory credit for these securities purchases.

The continued increase in house prices initially masked the consequences of these actions, and annual credit losses for the GSEs stayed extremely low. But the S&P/Case-Shiller national index of house prices peaked in the second quarter of 2006 and then began to decline. Without the safety valve of "the borrower can always sell the house at a profit", mortgage delinquencies began to rise, and mortgage defaults followed. Although the increases were especially pronounced for sub-prime mortgages, all categories of mortgages suffered increases, including (not surprisingly) the GSEs' mortgages.

The patterns of cumulative defaults by cohort based on year of origination can be seen in Figures 1 and 2 for Fannie Mae and Freddie Mac, respectively. It is clear that the cohort of originations in 2004 marked the beginning of a different default experience, as compared to the cohorts of earlier years. This was due to the combination of the lower quality mortgages that the GSEs bought and the lesser amount of time (until mid 2006) for house price appreciation to cover the "sins" of the lower quality mortgages that had been bought. The successive annual cohorts through 2008 were even worse.

The rising defaults on sub-prime and alt-A mortgages and then on the private-label RMBS that had these mortgages as collateral also meant that the GSEs suffered losses on their investments in these apparently safe high-rated private-label RMBS.

<u>The financial crisis of 2008-2009</u>.

The GSEs failed to earn profits in 2007, instead running losses – for the first time ever for Freddie Mac and for the first time since 1985 for Fannie Mae.

The first major "casualty" from the rising defaults in mortgages and in private-label RMBS was the large investment bank Bear Stearns. Like the four other large investment banks,[9] Bear Stearns had a capital-to-assets ratio at the end of 2007 that was less than 4%. In early 2008 the financial markets came to believe that the mortgage- and RMBS-related losses that were embedded in Bear Stearns' balance sheet might well cause its insolvency, and Bear Stearns found it increasingly difficult to refinance its short-term debt. In March 2008 the Federal Reserve engineered the absorption of Bear Stearns by JPMorgan Chase.

In the first two quarters of 2008 the losses of both GSEs continued to rise. Although the delinquencies on the GSEs' mortgages were at lower rates than for the general population of mortgages economy-wide, nevertheless *the GSEs' thin capital levels were an insufficient buffer against these losses*. By the end of the summer of 2008, their insolvencies were looming, and the financial markets were beginning to worry whether the Treasury really would come to the rescue of their creditors. Like Bear Stearns six months earlier, the GSEs found it increasingly difficult to refinance their short-term debt. On September 6, 2008, in coordination with the Treasury, the FHFA placed both GSEs into conservatorships. In principle, the companies were still intact, with their shareholder/owners still in place; in practice, the GSEs had become the wards of the U.S. Government (which immediately dismissed and replaced their senior managers). The Treasury agreed to cover their losses and thus keep their creditors whole. The financial markets' belief in the "implicit guarantee" had proved correct.

[9] These were Goldman Sachs, Morgan Stanley, Merrill Lynch, and Lehman Brothers.

Because the Treasury did keep the GSEs' creditors whole, the GSEs' insolvencies did not create a cascade of other financial difficulties elsewhere in the U.S. financial sector.[10] However, their insolvencies and conservatorships likely did heighten the financial markets' concerns in September 2008 about the possible insolvencies and instabilities of other large and thinly capitalized financial institutions in the U.S. economy, such as the remaining four large investment banks, A.I.G., and the large Citigroup holding company. The Lehman Brothers bankruptcy filing a week later converted these concerns into a reality, which then unleashed the full forces of the financial crisis.

Conclusion.

As of March 2013, the Treasury's capital injections into Fannie Mae and Freddie Mac have been approximately $188 billion. Although initial estimates had raised the possibility that the Treasury's losses could rise as high as $400 billion, the stabilizing of the U.S. housing markets in 2012 appear to have meant the stabilizing of the GSEs' losses as well. FHFA now predicts a range of aggregate losses to the Treasury of $191-$209 billion. By any indicator, this has been a costly experience.

Although each of the GSEs has remained in a conservatorship since September 2008, they both have remained actively involved in residential mortgage finance. When private-label securitization collapsed at the end of 2007, the GSEs plus FHA expanded to fill the gap. Their expanded roles have been maintained: The three agencies account for the financing of approximately 90% of all new residential mortgages; the two GSEs alone account for 60-70% of the aggregate.

[10] The presence of significant foreign central bank holdings of the GSEs' obligations also appears to have been a significant factor in the Treasury's decision to keep all of the GSEs' creditors whole.

There are at least two major policy lessons to be learned from the GSE experience: First, there are rarely (if ever) “free lunches” to be found in economic policy. The lower mortgage costs that the GSEs provided – ¼ of a percentage point on conforming mortgages – appeared to be a free lunch, since there were no budgetary implications at the time in connection with the GSEs’ special status and the “implicit guarantee”. However, the “lunch” has become costly indeed. It behooves the federal government to be extremely wary of situations where the financial markets assume that the Treasury will come to the rescue of a financial institution’s creditors.

Second, large systemic financial institutions – in this case, involved with residential housing finance – must be subject to rigorous prudential regulation, with high capital requirements at the center of this regulation. Anything less is an invitation to a repeat of this costly experience.

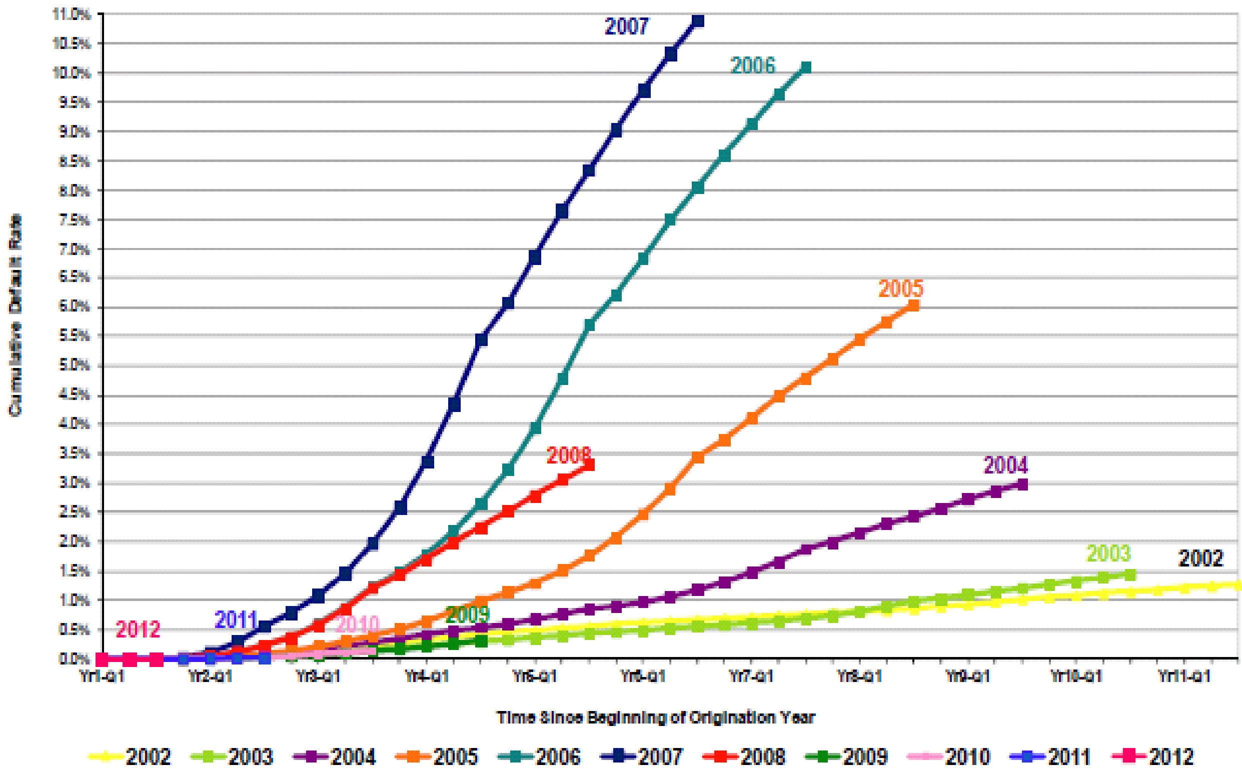
Table 1: Mortgages Held and MBS Outstanding, by Fannie Mae and Freddie Mac, 1948-2009
(all dollar amounts are in $ billions)

	Fannie Mae		Freddie Mac			
Year	Mortgages Held in Portfolio	MBS Outstanding	Mortgages Held in Portfolio	MBS Outstanding	Total U.S. Residential Mortgages	Total (F+F)/ Total Res. Mort.
1948	$0.2				$39.8	0.5%
1949	0.8				45.2	1.8
1950	1.3				54.3	2.4
1951	1.8				62.3	2.9
1952	2.2				69.9	3.1
1953	2.5				78.1	3.2
1954	2.4				88.0	2.7
1955	2.6				101.4	2.6
1956	3.1				112.8	2.7
1957	4.0				121.9	3.3
1958	3.9				133.7	2.9
1959	5.3				148.7	3.6
1960	6.2				162.1	3.8
1961	6.1				177.6	3.4
1962	5.9				195.0	3.0
1963	4.7				215.1	2.2
1964	4.4				136.9	3.2
1965	4.7				257.6	1.8
1966	7.1				274.0	2.6
1967	8.9				290.7	3.1
1968	7.1				311.1	2.3
1969	11.0				331.8	3.3
1970	15.5				352.2	4.4
1971	17.9		$0.9	$0.1	388.5	4.9
1972	19.7		1.7	0.4	440.2	5.0
1973	23.6		2.5	0.8	493.0	5.5
1974	28.7		4.5	0.8	535.1	6.4
1975	30.8		4.9	1.6	574.6	6.5
1976	31.8		4.2	2.8	640.9	6.1
1977	33.3		3.2	6.8	742.0	5.8
1978	42.1		3.0	12.0	863.4	6.6
1979	49.8		4.0	15.3	990.7	7.0
1980	55.6		5.0	17.0	1100.4	7.1
1981	59.6	$0.7	5.2	19.9	1172.6	7.3
1982	69.4	14.5	4.7	43.0	1216.3	10.8
1983	75.2	25.1	7.5	57.7	1347.3	12.3
1984	84.1	35.7	10.0	70.0	1507.2	13.3
1985	94.6	54.6	13.5	99.9	1732.1	15.2
1986	94.1	95.6	13.1	169.2	2068.8	18.0
1987	93.7	135.7	12.4	212.6	2186.1	20.8
1988	100.1	170.1	16.9	226.4	2436.6	21.1
1989	108.0	216.5	21.4	272.9	2655.9	23.3

1990	$114.1	$288.1	$21.5	$316.4	$2893.7	25.6%
1991	126.7	355.3	26.7	359.2	3058.4	28.4
1992	156.3	424.4	33.6	407.5	3212.6	31.8
1993	190.2	471.3	55.9	439.0	3368.4	34.3
1994	220.8	486.3	73.2	460.7	3546.1	35.0
1995	252.9	513.2	107.7	459.0	3719.3	35.8
1996	286.5	548.2	137.8	473.1	3967.7	36.4
1997	316.6	579.1	164.5	476.0	4214.0	36.5
1998	415.4	637.1	255.7	478.4	4603.9	38.8
1999	523.1	679.1	322.9	537.9	5070.0	40.7
2000	607.7	706.7	385.5	576.1	5524.3	41.2
2001	706.3	863.4	503.8	653.1	6118.0	44.6
2002	820.6	1040.4	589.9	729.8	6911.9	46.0
2003	919.6	1300.5	660.5	752.2	7809.1	46.5
2004	925.2	1408.0	664.6	852.3	8895.9	43.3
2005	736.8	1598.9	709.5	974.2	10070.6	39.9
2006	726.4	1777.6	700.0	1122.8	11189.6	38.7
2007	723.6	2118.9	710.0	1381.9	11985.1	41.2
2008	768.0	2289.5	748.7	1402.7	11922.3	43.7
2009	745.3	2432.8	717.0	1495.3	11717.8	46.0
2010	704.2	2399.6	681.6	1468.0	11248.5	46.7
2011	639.0	2433.7	640.6	1422.1	10988.2	46.7

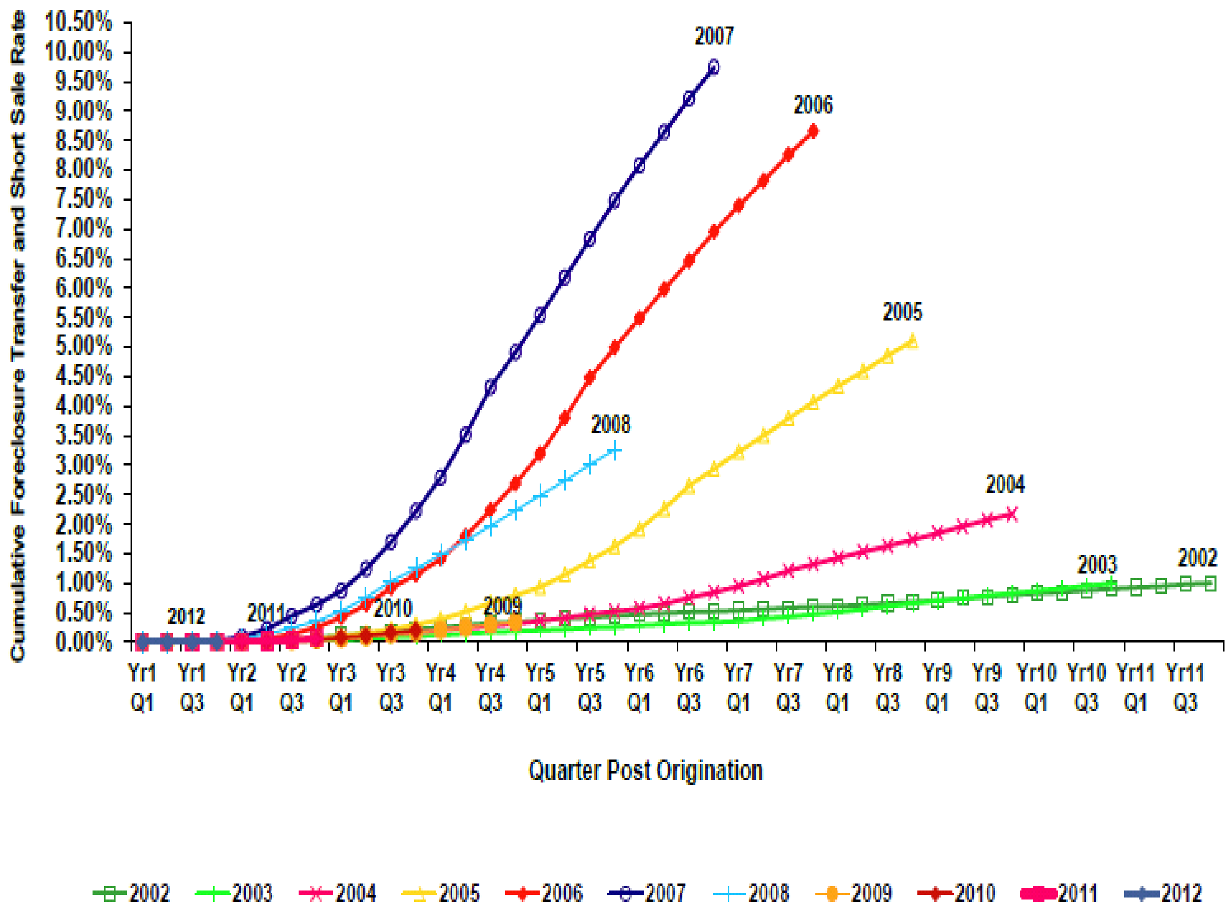
Note: All mortgage amounts encompass single-family mortgages plus multi-family mortgages.
Sources: Federal Reserve "Flow of Funds", various years; FHFA Report to Congress, 2011.

Figure 1: Fannie Mae Cumulative Default Rates by Year of Origination



Source: Fannie Mae, "2012 Third-Quarter Credit Supplement," November 7, 2012, p. 14; available at: http://www.fanniemae.com/resources/file/ir/pdf/quarterly-annual-results/2012/q32012_credit_summary.pdf

Figure 2: Freddie Mac Cumulative Default Rates by Year of Origination



Source: Freddie Mac, "Fourth Quarter 2012 Financial Results Supplement," February 28, 2013, p. 29; available at: http://www.freddiemac.com/investors/er/pdf/supplement_4q12.pdf

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