



FANNIE MAE AND FREDDIE MAC
SINGLE-FAMILY GUARANTEE FEES
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EXECUTIVE SUMMARY

Fannie Mae and Freddie Mac (the Enterprises) buy single-family mortgages from mortgage companies, commercial banks, credit unions, and other financial institutions. In most cases, a lender receives mortgage-backed securities (MBS) in exchange for the loans. Each Enterprise guarantees the payment of principal and interest on its MBS and charges a fee for providing that guarantee. The guarantee fee (g-fee), covers projected credit losses from borrower defaults over the life of the loans, administrative costs, and a return on capital. Lender guarantee fee payments generally take the form of ongoing monthly payments and frequently also include an upfront payment at the time of Enterprise loan acquisition. A lender typically passes through to the borrower the cost of an upfront fee in the form of a slightly higher interest rate on the mortgage, since borrowers tend to choose not to pay points. Ongoing fees are also included in the interest rate charged to the borrower. Therefore, as a practical matter, whether the Enterprises charge guarantee fees to lenders as ongoing fees or upfront fees typically makes no difference to borrowers.

Section 1601 of the Housing and Economic Recovery Act of 2008 (HERA) requires the Federal Housing Finance Agency (FHFA) to conduct an ongoing study of the guarantee fees charged by Fannie Mae and Freddie Mac and to submit annual reports to Congress, based on aggregated data collected from the Enterprises, regarding the amount of such fees and the criteria used by the Enterprises to determine them. This report, the fifth prepared by FHFA in fulfillment of Section 1601, covers guarantee fees charged by the Enterprises in 2011 and 2012.¹ The report focuses on fees charged by the Enterprises for guaranteeing conventional single-family mortgages—loans that are not insured or guaranteed by the federal government and that finance properties with four or fewer residential units.

Following Enterprise practice, the report uses economic concepts and model-based projections, rather than financial results reported in conformance with Generally Accepted Accounting Principles (GAAP), to analyze the single-family guarantee fees charged by Fannie Mae and Freddie Mac. To analyze the guarantee fees it charges, each Enterprise estimates the cash it expects to collect and expend over the estimated life of the mortgages. Estimated cash inflows and outflows are converted into annualized rates expressed in terms of basis points of outstanding loan principal. One basis point is equal to 1/100th of one percent. The estimated total annual guarantee fee associated with a transaction is equal to the sum of the annual ongoing fee, collected over the life of the mortgage, and the annualized equivalent of any upfront fee.

The difference or gap between a transaction's estimated total guarantee fee and estimated cost (including expected outflows and target return on required capital) provides a measure of the expected profitability of the transaction. A negative gap does not mean that an Enterprise expected to incur a loss, but simply that it did not expect to earn its target rate of return. The estimated gap is

¹ The earlier reports covering guarantee fees charged by the Enterprises in 2007-2008, 2008-2009, 2009-2010, and 2010-2011 can be found at the following links:

www.fhfa.gov/AboutUs/Reports/Pages/Fannie-Mae-and-Freddie-Mac-Single-Family-Guarantee-Fees-in-2007-and-2008.aspx,
www.fhfa.gov/AboutUs/Reports/Pages/Fannie-Mae-and-Freddie-Mac-Single-Family-Guarantee-Fees-in-2008-and-2009.aspx,
www.fhfa.gov/AboutUs/Reports/Pages/Fannie-Mae-and-Freddie-Mac-Single-Family-Guarantee-Fees-in-2009-and-2010.aspx,
and www.fhfa.gov/AboutUs/Reports/Pages/Fannie-Mae-and-Freddie-Mac-Single-Family-Guarantee-Fees-in-2010-and-2011-Report.aspx

very dependent on each Enterprise's proprietary costing model² and the assumptions used. The estimates of guarantee fees and gaps provided in this report reflect Enterprise estimates based on the models in place at the time of loan acquisition and represent the Enterprises' forward-looking views at that time. Whereas each Enterprise's model includes a number of assumptions, the key ones are the target return on capital, the level and volatility of future interest rates, and worst-case and expected house price appreciation. The models and their assumptions have changed over time.

Fannie Mae and Freddie Mac consider many factors in determining the guarantee fees they charge, including the estimated cost of guaranteeing specific mortgages derived from their costing models, competitive conditions in the market for bearing mortgage credit risk, the relative pricing of each Enterprise's MBS, the Enterprises' public mission, and return-on-capital targets. No set formula exists for weighing those factors. Instead, each Enterprise weighs them differently and works towards its view of a balanced outcome in line with market conditions and company goals.

The Enterprise's credit risk evaluations take into account changing historical data, market developments, and their own forecasts. Credit losses were at historic lows when house price appreciation accelerated rapidly in 2002 through 2005. However, it has become clear that the industry as a whole underpriced single-family mortgage credit risk significantly in that period, as well as in 2006 and 2007. The Enterprises' costing models contributed to that underpricing, which the Enterprises began to correct in the fourth quarter of 2007, when they each announced increases in guarantee fees beginning in March 2008.

In March 2008, each Enterprise implemented an upfront adverse market charge of 25 basis points that was intended to protect against the heightened credit risk posed by deteriorating housing market conditions. At the time, that charge was equivalent to an ongoing guarantee fee of about five basis points on average. Also in March 2008, each Enterprise introduced additional upfront fees based on loan-to-value (LTV) ratios, credit scores, and other risk factors. In contrast to the multiple changes in guarantee fee pricing implemented in 2008, changes in 2011 and 2012 were less complicated. In December 2011, Congress passed the Temporary Payroll Tax Cut Continuation Act of 2011 (TCCA), which required the Enterprises to raise guarantee fees by 10 basis points. In August of 2012, FHFA announced an additional 10 basis point guarantee fee increase, effective late in the year. This increase was consistent with the higher estimates of the costs of bearing the credit risk of single-family mortgages produced by the new costing models implemented by the Enterprises in 2012.

That increase also made more uniform the guarantee fees that the Enterprises charge lenders who deliver large volumes of loans as compared to those who deliver smaller volumes. The increase also reduced cross-subsidies between higher-risk and lower-risk mortgages by increasing g-fees on loans with maturities longer than 15 years by more than fees on shorter-maturity loans.

² Each model uses cash flow simulations to estimate cost based on loan attributes that affect performance (e.g., borrower credit score, loan-to-value ratio) and projected market conditions. To estimate required capital, each model simulates the cost of guaranteeing the loan under stressful economic conditions.

In February 2009, the Obama Administration introduced the Making Home Affordable Program, designed to stabilize the housing market and help struggling homeowners get relief and avoid foreclosure. One component of that initiative was the Home Affordable Refinance Program (HARP), which gives homeowners with high LTV-ratio mortgages owned or backed by MBS guaranteed by Fannie Mae or Freddie Mac an opportunity to refinance into loans with more affordable monthly payments. The objective of HARP is to give homeowners who have shown a commitment to paying their mortgage, but whose properties have fallen in value, the opportunity to get into a new mortgage with better terms. HARP allows borrowers who are current but whose loans have current LTV ratios above 80 percent to refinance without obtaining new or additional mortgage insurance coverage. In October 2011, FHFA and the Enterprises announced “HARP 2.0,” which expanded HARP eligibility and reduced both upfront fees and lender representations and warranties in an effort to reach more homeowners.

Homeowners whose mortgage rates are higher than the current market rate and refinance through HARP receive an immediate reduction in their payments. Homeowners with adjustable-rate mortgages who refinance to a fixed-rate loan may experience higher payments, but they benefit from a more stable, predictable monthly payment and will no longer face the risk of future payment increases due to rising interest rates. Some HARP borrowers choose to refinance from 30-year loans into 15-year loans to benefit from a faster payoff.

Under data collection procedures established by FHFA, in accordance with Section 1601 of HERA, Fannie Mae and Freddie Mac submit loan group data to the agency for every month. For each lender, the Enterprises provide guarantee fee data by loan type. For each loan type, the data are segmented into different categories based on LTV ratios, loan purpose, and borrower credit scores that are calculated using models developed by FICO and that are supplied to the Enterprises by loan sellers. The study population of mortgages used to prepare this report represents 99 percent of the unpaid principal balance of all single-family mortgages the Enterprises acquired in 2012. In addition to the loan group data, the Enterprises provided loan-level data necessary to support additional analysis of HARP mortgages and other, similar flexible refinance loans. Based on analysis of the available data, FHFA has made the following findings:

1. The average total guarantee fee charged by Fannie Mae and Freddie Mac on single-family mortgages in the study population increased from 28 basis points in 2011 to 38 basis points in 2012. When HARP and flexible refinance loans are excluded in order to focus on mortgages eligible under the Enterprises’ standard underwriting guidelines (“standard loans”), the average total guarantee fee increased from 26 basis points in 2011 to 36 basis points in 2012. That change reflects increases in both the average ongoing fee and the average upfront fee.
 - The average ongoing fee on a standard loan increased eleven basis points, from 15 basis points to 26 basis points, primarily stemming from the TCCA increase.
 - The average upfront fee on a standard loan (as measured in estimated annualized revenue) decreased one basis point, from 12 basis points to 11 basis points. That change reflected changes in the credit risk profile.

2. Although Fannie Mae and Freddie Mac consider model-derived estimates of cost in determining their single-family guarantee fees, their pricing often subsidizes their guarantees on some mortgages, using higher returns they expect to earn on guarantees of other loans. In 2012, as in previous years studied by FHFA, that cross-subsidization in single-family guarantee fees charged by each Enterprise was evident across product types, credit score categories, and LTV ratio categories. There were cross-subsidies from mortgages that posed lower credit risk, on average, to loans that posed higher credit risk. The greatest estimated subsidies generally went to the highest-risk mortgages. However, because the share of higher-risk loans acquired was low in 2012, the overall cross-subsidization was substantially less than in either 2007 or 2008.
3. The credit profile of mortgages in the study population was not greatly changed in 2012. Thirty-year fixed-rate loans comprised a larger share of acquisitions in 2012 than in 2011, with smaller shares of 15-year fixed-rate mortgages and adjustable-rate mortgages (ARMs). The distribution of borrower credit scores was nearly unchanged. The distribution of LTV ratios shifted towards loans with lower down payments.
4. After little change in the share of HARP mortgages in 2010 and 2011, the share of HARP loans increased from 10 percent of the study population in 2011 to 17 percent in 2012. This reflects the expanded HARP eligibility of HARP 2.0. The share of jumbo conforming loans fell to 8 percent of the study population, and the share of cash-out refinances declined from 19 to 18 percent.³
5. Total guarantee fees charged by the Enterprises were up for all types of standard mortgages in 2012. Guarantee fees increased by 10 basis points for standard 30-year fixed-rate loans, 9 basis points for standard 15-year, fixed-rate loans, and 15 basis points for ARMs.
6. Estimated guarantee fee gaps fell substantially in 2012 for all products. Both Enterprises increased model fees in 2012 to more accurately represent the cost of bearing mortgage credit risk. In general, model fee increases outpaced increases in actual guarantee fees charged to lenders.
7. The share of standard mortgages in the study population used for rate term refinances increased in 2012, while the share of home purchases and cash-out refinances declined. Average guarantee fees increased for loans in all three loan-purpose categories, but average estimated fee gaps declined for loans in all three loan-purpose categories, owing to model changes.

³ Jumbo conforming loans are mortgages that are eligible for Fannie Mae and Freddie Mac to acquire, but whose balances exceed the baseline U.S. conforming loan limit of \$417,000.

8. Single-family guarantee fees charged by the Enterprises for standard mortgages increased more for the highest credit-score category in 2012 than for the lower credit score categories. The estimated guarantee fee gaps on standard mortgages declined in all credit-score categories because of the model changes, and the gaps became negative for loans to borrowers with credit scores of greater than 720.
9. The distribution of standard mortgages by LTV-ratio category continued to shift somewhat towards loans with lower down payments in 2012. Average guarantee fees charged by the Enterprises on standard loans increased for every LTV-ratio category, reflecting the two 2012 increases. The fee increases were increasingly large across categories with decreasing borrower equity. However, since HARP and flexible refinance mortgages were excluded from this analysis, the shares of loans in the higher LTV-ratio categories were low, with only 6 percent of standard loans having LTV ratio greater than 90 percent.
10. The estimated guarantee fee gaps for standard mortgages declined greatly in 2012 for all LTV-ratio categories, due to the increases in Enterprise model fees dwarfing increases in estimated charged fees. Standard loans with LTV ratios greater than 80 percent continued to have the most negative fee gaps, although all other LTV ratio gaps became negative as well in 2012.
11. HARP and flexible refinance mortgages, which together comprised 19 percent of the study population in 2012, have benefitted the Enterprises by increasing guarantee fee revenue and improving their economic position and have given borrowers who are current on their mortgage an opportunity to refinance into a lower interest rate or a more stable loan product.
12. A significant, but decreasing, share of the single-family mortgages acquired by each Enterprise comes from a small group of large lenders. Loans acquired from the top five lenders combined accounted for 50 percent of the Enterprises' combined business volume in 2012, down from 60 percent in 2011. Thirteen percent of the Enterprises' combined business volume in 2012 came from lenders with a ranking below the top 100, up from 7 percent in 2011.
13. Average guarantee fees on standard mortgages acquired by Fannie Mae and Freddie Mac increased by roughly the same amount for each of five acquisition-volume groups of lenders analyzed by FHFA. Fees for the smallest lenders moved closer to those for the largest lenders, reflecting the initial effects of fee changes late in the year that were designed to eliminate price advantages of large firms.
 - Fees paid by the largest lenders increased 9 basis points to 34 basis points, while fees paid by the smallest lenders increased 7 basis points to 40 basis points.

- The difference between the average ongoing fees paid by lenders in the extra-small-volume and the extra-large-volume groups declined by 2 basis points.
14. Estimated guarantee fee gaps turned negative for lenders in each acquisition-volume group in 2012. The estimated fee gap remained the largest for lenders in the extra-small-volume group in 2012, but the difference between the gaps for that group and for the extra-large-volume groups declined slightly from 2011.

INTRODUCTION

Section 1601 of the Housing and Economic Recovery Act of 2008 (HERA)⁴ requires the Federal Housing Finance Agency (FHFA) to conduct an ongoing study of the guarantee fees charged by Fannie Mae and Freddie Mac (the Enterprises) and to submit annual reports to Congress, based on aggregated data collected from the Enterprises, regarding the amount of such fees and the criteria used by the Enterprises to determine them. The section requires that each report identify and analyze:

1. The total revenue earned by the Enterprises from guarantee fees;
2. The total costs incurred by the Enterprises for providing guarantees;
3. The factors the Enterprises considered in determining the amount of the guarantee fees charged;
4. The average guarantee fee charged by the Enterprises;
5. An analysis of any increase or decrease in guarantee fees from the preceding year;
6. A breakdown of the revenue and costs associated with providing guarantees, based on product type and risk classifications; and
7. A breakdown of guarantee fees charged based on asset size of the originator and the number of loans sold or transferred to an Enterprise.

This report, the fifth prepared by FHFA in fulfillment of Section 1601, covers guarantee fees charged by the Enterprises in 2011 and 2012. FHFA's ongoing study focuses and reports on fees charged by the Enterprises for guaranteeing conventional single-family mortgages—loans that are not insured or guaranteed by the federal government and that finance properties with four or fewer residential units.

Section 1601 states that the Director of FHFA is not required or authorized to publicly disclose information that is confidential or proprietary. To avoid public disclosure of protected information, and to focus more on broad trends in Enterprise practice and less on the specific pricing practices of each Enterprise, this report presents Enterprise data on a combined basis and discloses certain information in a more limited manner.

THE SINGLE-FAMILY MORTGAGE GUARANTEE BUSINESS

Fannie Mae and Freddie Mac acquire single-family mortgages from mortgage companies, commercial banks, credit unions, and other financial institutions. Lenders may exchange loans for mortgage-backed securities (MBS) backed by those mortgages or sell whole loans for cash proceeds.⁵ When lenders receive MBS in exchange for their loans, they may hold them as an investment or sell them in the capital markets. The Enterprises also issue MBS backed by pools of loans acquired from multiple lenders.

⁴ Housing and Economic Recovery Act of 2008, Public Law 110-289, 122 Stat 2654 (2008).

⁵ Fannie Mae refers to the single-class mortgage-related securities that it has guaranteed as “mortgage-backed securities” (MBS), whereas Freddie Mac calls such securities that it has guaranteed “Participation Certificates” (PCs). This report refers to both as “MBS.”

Each Enterprise guarantees the payment of principal and interest on its MBS and charges a fee for providing that guarantee. The guarantee fee covers projected credit losses from borrower defaults over the life of the loans, administrative costs, float income (or expense), and a return on capital.⁶ Lender guarantee fee payments generally take the form of an ongoing monthly payment stream, which is derived from the interest paid on the loans, and frequently also include an upfront payment at the time of Enterprise loan acquisition. A lender typically passes through to the borrower the cost of an upfront fee in the form of a slightly higher interest rate on the loan, since borrowers tend to choose not to pay points. Therefore, as a practical matter, whether the Enterprises charge guarantee fees to lenders as ongoing fees or upfront charges typically has no impact on borrowers.

Some lenders sell single-family mortgages outright to the Enterprises for cash. The cash price paid by an Enterprise depends on the required yield of the loan, which includes an implicit guarantee fee. Larger lenders primarily swap loans for MBS. However, smaller lenders choose primarily to sell whole loans for cash, since those lenders typically lack the volume and capacity to utilize the swap program. Whole loans may be held in portfolio by an Enterprise or pooled into MBS and sold into the market.

Financial Performance of the Business in 2011 and 2012

Each Enterprise's recent financial reports provide information on the performance of its single-family mortgage guarantee business. That performance reflects income and expenses on mortgages acquired and guaranteed over many years. Table 1 displays the performance of each Enterprise's single-family guarantee business in 2011 and 2012.⁷ The information in the table is generally excerpted from the Annual Reports on Form 10-K that the Enterprises file with the Securities and Exchange Commission (SEC). Those reports are prepared in conformance with Generally Accepted Accounting Principles (GAAP). However, GAAP permits different reporting methods and each Enterprise measures the performance of the single-family guarantee business in a manner that is consistent with the way it manages the business. Thus, as is true for the comparison of financial statements of any two companies, individual line items in the financial reports may not be fully comparable across Enterprises.

The primary sources of revenue for the single-family guarantee business are guarantee fee revenue and net interest income, whereas the primary expenses are credit-related and administrative expenses. Fannie Mae reported net income of \$6.3 billion for the single-family guarantee business in 2012. Freddie Mac experienced substantial improvement over 2011, but still reported a small net loss. The improvement at each Enterprise was due to a dramatic decline in credit-related expenses, primarily as a result of a decline in non-performing loans.

⁶ Fannie Mae uses the term "guaranty fee," whereas Freddie Mac uses the term "management and guarantee fee." This report refers to both fees as "guarantee fees."

⁷ Totals in this and other tables in this report may not add due to rounding.

Table 1
Financial Performance of the Single-Family Guarantee Business, 2011 and 2012
(\$ in millions)

	Fannie Mae⁽¹⁾		Freddie Mac⁽¹⁾	
	2011	2012	2011	2012
Revenue			Revenue	
Guarantee Fee Income ⁽²⁾	\$ 7,507	\$ 8,151	Guarantee Fee Income ⁽²⁾	\$ 3,647 \$ 4,389
Net Interest Income (Expense) ⁽³⁾	\$ (2,411)	\$ (790)	Net Interest Income (Expense)	\$ (23) \$ (147)
Total Revenues	\$ 5,096	\$ 7,361	Total Revenues	\$ 3,624 \$ 4,242
Expenses			Expenses	
Credit-Related Expenses	\$ 27,218	\$ (919)	Credit-Related Expenses ⁽³⁾	\$ 12,890 \$ 3,230
Administrative and Other Expenses	\$ 1,819	\$ 1,990	Administrative and Other Expenses	\$ 734 \$ 1,176
Total Expenses	\$ 29,037	\$ 1,071	Total Expenses	\$ 13,624 \$ 4,406
Net Income (Loss)	\$ (23,941)	\$ 6,290	Net Income (Loss)	\$ (10,000) \$ (164)
 Other Performance Data			 Other Performance Data	
Average Book of Business ⁽⁴⁾	\$2,864,919	\$ 2,843,718	Average Book of Business ⁽⁴⁾	\$ 1,801,000 \$ 1,692,000
Average Effective Guarantee Fee Rate (basis points)	26.2	28.7	Average Effective Guarantee Fee Rate (basis points)	20.2 25.9

(1) The data sources are the respective SEC Form 10-Ks for the years ended December 31, 2011 and December 31, 2012. For the purposes of the presentation above, relevant information has been extracted and in certain cases reclassified to minimize the number of financial statement categories.

(2) Includes explicit fees earned on mortgage securities guaranteed by each Enterprise and implicit guarantee fees earned on whole mortgages held by each Enterprise in its investment portfolio.

(3) In 2010, Fannie Mae began reflecting the reversal of contractual interest due on non-performing loans as a component of net interest income. Freddie Mac charges most of those amounts to credit-related expenses.

(4) Includes both guarantees on securitized loans and whole loan assets.

On the revenue side, total revenues and guarantee fee income increased at both Enterprises in 2012. Net interest income was again negative for both Enterprises. Fannie Mae's net interest loss declined, primarily as a result of a significant decrease in interest income not recognized on loans in nonaccrual status, which fell during 2012 as a result of loan workouts. Freddie Mac's net interest loss increased.

Credit-related expenses declined dramatically for both Enterprises from 2011 to 2012. The improvement at Fannie Mae was a result of the increase in home prices and lowered default expectations for loans in their single-family guarantee book of business. The improvement at Freddie Mac reflected the higher credit quality of mortgages acquired recently as well as a decline in the rate at which delinquent loans transition into being seriously delinquent or are modified. Administrative expenses increased at both Enterprises.

Each Enterprise's average book of business decreased slightly in 2012. The average effective guarantee rate increased at each Enterprise, reflecting the year's increases in guarantee fees implemented.

Framework for Analyzing Guarantee Fees

This report follows Enterprise practice in using economic concepts and model-based projections, rather than the financial results reported in Table 1 or other figures prepared in conformance with GAAP, to analyze the single-family guarantee fees charged by the Enterprises. To help set the guarantee fees it charges, each Enterprise estimates the cash it expects to collect and expend over the estimated life of the mortgages. Estimated cash inflows and outflows are converted into annualized rates expressed in terms of basis points of outstanding loan principal. One basis point is equal to 1/100th of one percent. The difference or gap between a transaction's estimated fee and estimated cost (including expected outflows and target rate of return on required capital) provides a measure of the expected profitability of the transaction.

Estimated Fee = annualized projected cash inflows, in basis points

Estimated Cost = annualized projected cash outflows and return on capital, in basis points

Estimated Gap = estimated fee minus estimated cost, in basis points

Such analysis may be done at any level of aggregation. When analyzing groups of mortgages, the estimated annualized fee and cost associated with each loan may be weighted by its unpaid principal balance (UPB). Thus, a loan with a higher UPB will affect the weighted average fee or cost of a group of mortgages more than a lower-balance loan.

As noted, guarantee fee payments from lenders generally take the form of ongoing monthly payments, and typically also include an upfront payment at the time of Enterprise loan acquisition. Enterprise practice, employed in this report, is to combine both types of payments into the estimated guarantee fee. To do so, the upfront payment is annualized into an ongoing fee equivalent, based on projected prepayments, and added to the ongoing fee, where both are expressed in basis points of a

mortgage's UPB, to provide an estimated total guarantee fee. FHFA calculated the estimated annualized upfront payments by dividing them by the present value multiples (PVMs) of the mortgages estimated by the Enterprise at the time of acquisition.⁸ Thus, if an Enterprise received an upfront payment equal to one percent of a mortgage's UPB and estimated the PVM of the loan to be 5, the equivalent annualized fee is 20 basis points. If the ongoing fee on that mortgage is 15 basis points, then the estimated total guarantee fee is 35 basis points. Differences in estimated total guarantee fees for different years are due in part to differences in estimated PVMs.

Each Enterprise uses its own proprietary costing model to estimate the cost components. Cost includes the annualized projected credit losses, projected float income (or expense), the estimated cost of maintaining capital necessary to support the loan, and a constant for general and administrative (G&A) expenses. The G&A expenses and target return on capital are model inputs rather than calculations.

The estimated fee gap is the difference between the estimated total guarantee fee and the estimated cost. The estimated fee gap is zero when an Enterprise expects to earn its target rate of return on capital on average across the forecasted simulations generated by its internal costing model. A negative or positive estimated gap means the Enterprise expects to earn below or above its target rate of return, respectively. Whereas negative gaps that are smaller (closer to zero) are still generally expected to be cash-flow positive, larger negative gaps may be indicative of transactions that are expected to generate a loss. *The estimates of total guarantee fees and fee gaps provided in this report generally reflect Fannie Mae and Freddie Mac estimates based on models in place at the time of loan acquisition and represent Enterprise forward-looking views at that time.*

Factors the Enterprises Consider in Determining Guarantee Fees

Fannie Mae and Freddie Mac consider many factors in determining the guarantee fees they charge, including the estimated cost of guaranteeing specific mortgages, competitive conditions in the market for bearing mortgage credit risk, regulatory requirements, the relative pricing of each Enterprise's MBS, the Enterprises' public mission, and return-on-capital targets. No set formula exists for weighing those factors. Instead, each Enterprise weighs them differently and works towards its view of a balanced outcome in line with market conditions and company goals.

Estimated Cost

A key input into each Enterprise's pricing decisions is the "estimated cost" derived from its internal costing models. Those models use cash flow simulations to estimate cost based on loan attributes that affect performance (e.g., loan-to-value (LTV) ratio, borrower credit score, and loan purpose) and projected market conditions (i.e., house prices and interest rates along a large number of potential paths).

⁸ An upfront fee is quoted in price (as a percent of the loan principal), whereas an ongoing fee is quoted in yield (in basis points of the loan principal). Each Enterprise estimates a PVM that is used to convert the upfront, one-time charge to a yield equivalent; that is, it estimates the multiplier necessary to convert a payment received each year over the life of the loan to a payment received just once at the beginning. The PVM of a mortgage increases with its expected life, which is a function of estimated prepayments.

The models utilize four cost components: expected credit losses, a risk premium, G&A expenses, and net float income or expense. The risk premium is essentially the cost of capital, which is determined both by the Enterprise's target rate of return on capital and by the estimated level of capital required to support the mortgage. To estimate required capital, the models simulate the costs of guaranteeing the loan under stressful economic conditions.

Each Enterprise sets its own target rate of return on capital. Once the rate is set, the Enterprise uses that rate to estimate the costs of all acquisitions regardless of the characteristics of specific mortgages. However, the characteristics of a mortgage, which include attributes of the borrower and the property, determine the amount of capital estimated as necessary to support that loan. Mortgages expected to have higher default rates require more capital, to which the uniform target rate is applied to estimate the risk premium component of the total cost of the guarantee.⁹

The capital required for each loan estimated by an Enterprise's internal costing model has not been linked directly to regulatory capital requirements or to equity measured according to GAAP, nor has FHFA approved either Enterprise's model. Rather, required capital is a model-generated amount used as a pricing construct. Each Enterprise's model determines the capital required for each loan, against which a uniform target rate of return is applied.

Assumptions about G&A expenses are inputs to the costing models, and are based primarily on cost allocations and estimates by each Enterprise's management. Float income or expense is derived from the models, and based primarily on contractually specified remittance requirements and expectations of future interest rates and prepayment levels.

To estimate credit losses, float income or expense, and required capital, Enterprise models use simulations of future economic environments, each of which is represented by an interest rate path and a set of mean house price paths for different localities. Along each path, behavioral models of mortgage performance are used to estimate normal loan amortization, prepayments, defaults, losses given default, recoveries from private mortgage insurance (MI), and recoveries from lenders in the case of recourse, indemnification, or other credit enhancements. Future interest rates are the main driver of projected prepayments, whereas future house prices are the key factor affecting projected credit losses.

The models are built around a few key assumptions that make material differences in the estimated cost of guaranteeing a mortgage. In addition to mean house price appreciation, which varies by geographic area in the short and long term, those assumptions include:

- House price volatility,
- Stress paths, and
- The target rate of return on capital.

⁹ For example, assume an Enterprise estimates that two mortgages require capital equal to one percent and three percent of their respective loan balances each year. If the target return on capital is 10 percent, then the total estimated costs of guaranteeing those loans would include risk premia of 10 basis points and 30 basis points, respectively, of the loan balances.

The main characteristics that determine the estimated cost of guaranteeing a single-family mortgage, in addition to macroeconomic variables, are:

- Borrower credit score,
- LTV ratio and mortgage insurance coverage,
- Loan purpose (e.g. purchase, cash-out refinance),
- Borrower documentation,
- Occupancy status (e.g. owner-occupied, investor-owned),
- Product type (e.g. 30-year fixed-rate mortgage),
- Mortgage interest rate,
- Property type,
- Origination channel, and
- Borrower debt-to-income ratio.

Freddie Mac and Fannie Mae implemented new costing models in January and November 2012, respectively. Each Enterprise's new model resulted in sizeable increases in the Enterprise's estimates of the costs of guaranteeing single-family mortgages. FHFA believes that the estimated costs generated by each new model more fully reflect the credit risk posed by the loans than previous estimates. FHFA expects that the Enterprises will continue to update their costing models in the future. At FHFA's direction, Fannie Mae used its new model to prepare the estimates of the cost of all loans the Enterprise acquired in 2012, and FHFA used those estimates in preparing this report. Fee gaps in this report are not comparable to fee gaps in prior year reports due to the new costing models.

Competitive Environment

Through the single-family credit guarantee business, the Enterprises compete with each other and with other financial institutions and government agencies that assume the credit risk of single-family mortgages. Historically, the Enterprises' most important competitors have been depository institutions that hold some of the loans they originate in their investment portfolios, and to a lesser degree, the Federal Housing Administration (FHA), which focuses on insuring loans with high LTV ratios made to borrowers with high debt-to-income ratios.

During the mortgage credit boom that extended through the first half of 2007, the Enterprises also faced considerable competition from issuers of private-label MBS. Those issuers were often able to charge less than the Enterprises or depositories to bear the credit risk of subprime, Alternative-A (Alt-A), and other nontraditional mortgages, as relatively low levels of credit enhancement were required to obtain investment-grade credit ratings for those securities. The Enterprises were also major investors in tranches of private-label MBS that carried triple-A credit ratings. During the second half of 2007 and 2008, the market for private-label MBS collapsed, lenders and private mortgage insurers tightened their underwriting standards, depositories became less willing to invest in single-family mortgages, and FHA greatly expanded its volume of new insurance written. Factors driving FHA's expansion were an increase in the size of the mortgages eligible for FHA insurance, changes in the Enterprises' and private mortgage insurers' prices and credit terms, and an increased preference of some investors for the full federal backing of MBS guaranteed by the

Government National Mortgage Association (Ginnie Mae), the issuance of which provides long-term financing for nearly all FHA-insured loans.

The credit quality of single-family mortgages acquired by the Enterprises has improved since 2009, reflecting changes in the eligibility standards of the Enterprises and private mortgage insurers and the continued availability of FHA insurance for loans with higher LTV ratios and lower credit scores, both of which reduced Enterprise acquisitions of such loans. The Enterprises also increased their acquisition of refinance mortgages beginning in 2009. Generally, refinance mortgages have a stronger credit profile than purchase mortgages, so long as borrowers do not take cash out. Included among the refinance loans acquired since 2009 were ones taken out to refinance mortgages previously owned or guaranteed by Freddie Mac or Fannie Mae.

Programs That Support Borrowers Seeking to Refinance

During 2009, the Obama Administration introduced a comprehensive Financial Stability Plan to help protect and support the U.S. housing and mortgage markets and stabilize financial markets. As part of that plan, the Administration announced and implemented the Making Home Affordable program, which is intended to provide assistance to homeowners and prevent foreclosures. The Making Home Affordable program includes the Home Affordable Refinance Program (HARP), under which each Enterprise acquires loans made to refinance mortgages that it owns or that back MBS it has guaranteed. The objective of HARP is to provide access to low-cost refinancing for homeowners who are current on their mortgages and whose properties have fallen in value. The expectation is that refinancing their mortgages will put such borrowers in a better position by reducing their monthly payments or moving them from a loan that poses more risk (such as an interest-only or short-term adjustable-rate mortgage (ARM)) to a loan with more stable payments. During most of 2011, the program had the following eligibility requirements:

- The mortgage is already owned by the Enterprise or backs one of its guaranteed MBS;
- At application, the homeowner is current on the loan;
- The property is occupied by the owner;
- The amount owed on the first mortgage does not exceed 125 percent of the current market value of the property;
- Any existing mortgage insurance remains in force at the level of coverage on the refinanced loan;
- The borrower has the capacity to pay the new monthly payment;
- The refinance improves the long-term affordability of the loan; and
- The holder of any second mortgage must agree to remain in the junior lien position.

On October 24, 2011, FHFA and the Enterprises announced HARP 2.0, which expanded HARP eligibility in an effort to reach more homeowners. The changes to the program's terms eliminated upfront fees for borrowers who refinance into shorter-term mortgages, lowered upfront fees for other borrowers, and removed the requirement that the loan amount for fixed-rate mortgages not exceed 125 percent of the property's current market value. The first deliveries of loans made eligible by the HARP 2.0 changes occurred in early 2012.

Each Enterprise administers HARP as part of a broader program—Refi Plus at Fannie Mae and Relief Refinance at Freddie Mac—that facilitates the refinancing of single-family mortgages on which the Enterprise already holds the credit risk. Each program enables borrowers to benefit from mortgage insurance flexibilities, pricing concessions, and process efficiencies. In addition to HARP refinances, each program encompasses refinances for borrowers who are not eligible for HARP but have an acceptable payment history and would be eligible for a standard refinance as well as a small number of other borrowers who would not be eligible for a standard refinance.

Other Factors

In addition to estimated costs and the competitive environment, the Enterprises consider a number of other factors in determining the single-family guarantee fees they charge. Those factors include the mandates of safety and soundness, regulatory affordable housing goals, pricing guidance from FHFA as conservator, and their charter obligations.

Each Enterprise’s credit risk evaluations take into account changing historical data, market developments, and its own forecasts. Credit losses were at historic lows when house price appreciation accelerated rapidly in 2002 through 2005. However, it has become clear that the industry as a whole underpriced single-family mortgage credit risk significantly in that period, as well as in 2006 and 2007. The Enterprises’ costing models contributed to that underpricing, which they began to correct in the fourth quarter of 2007, when they separately announced increases in guarantee fees beginning in March 2008. The increases in guarantee fees implemented by the Enterprises at FHFA’s direction in the fourth quarter of 2012 were consistent with the higher estimates of the costs of bearing the credit risk of single-family mortgages produced by the new costing models implemented in 2012.

At the time of pricing, the Enterprises expect all but a small portion of their guarantee transactions to generate a positive rate of return over the life of the loans. However, the Enterprises may enter into transactions with lower expected returns than is typical in order to achieve regulatory affordable housing goals (as required by law), fulfill their public mission, or to retain a lender’s business. The Enterprises also may adjust their guarantee fees to reflect differences between the market prices for Fannie Mae and Freddie Mac MBS, since those differences affect the all-in value to the lender of exchanging mortgages for either Enterprise’s MBS. Freddie Mac has often charged lower guarantee fees to compensate lenders for the lower pricing of its MBS, relative to Fannie Mae’s, in the capital markets.

The Enterprises also consider and make tradeoffs among their objectives when making decisions about guarantee fees. Examples of such objectives include ensuring adequate revenue to cover default losses, which favors upfront fees over ongoing fees; having a relatively simple fee structure; charging risk-based fees for specific loan, property, and borrower characteristics, which discourages adverse selection by lenders; and maintaining a diversified customer base.

National and Lender-Level Pricing of Mortgages Delivered on a Flow Basis

Fannie Mae and Freddie Mac acquire single-family mortgages, whether financed with MBS or held in the investment portfolio, through either the flow or bulk transaction channels. On loans delivered

on a flow basis, the Enterprises enter into contracts that specify guarantee fees for a lender's future delivery of loans with agreed-upon risk profiles over a set time period. In a bulk transaction, a lender offers to sell a defined set of mortgages, and the Enterprise has the opportunity to review those loans for eligibility and pricing prior to delivery. Guarantee fees on bulk acquisitions are negotiated on an individual transaction basis. Bulk acquisitions have fallen from 20 percent of the total UPB acquired in 2007 to 1 percent in 2010 and negligible levels in 2011 and 2012. Seasoned loans have accounted for nearly all of the mortgages acquired through bulk transactions in recent years.

The guarantee fees that Fannie Mae and Freddie Mac each charge on mortgages delivered on a flow basis reflect a combination of prices that each Enterprise independently sets nationally for all lenders and prices that each independently negotiates with specific lenders. National pricing typically takes the form of upfront fees based on specific features of a loan or property (e.g., cash-out refinance loans, investment properties, or multiple-unit properties).¹⁰

Prior to 2008, Fannie Mae and Freddie Mac typically used national pricing for a very limited group of risk features such as mortgages with subordinate financing and loans on investor-owned and multiple-unit properties. In the fourth quarter of 2007, each Enterprise announced an expansion of national pricing that it implemented in March 2008. Each Enterprise introduced an upfront adverse market charge of 25 basis points intended to protect against the heightened credit risk posed by deteriorating housing market conditions. Also in March 2008, each Enterprise introduced varied upfront fees based on LTV ratios and credit scores. Later in 2008, the Enterprises updated those upfront fees in response to their respective views of worsening forecasted house price trends and higher forecasted losses for new mortgage acquisitions. The new or changed pricing affected cash-out refinance mortgages, investor-owned properties, multiple-unit properties, loans with subordinate financing, condominiums, and jumbo conforming mortgages, among other categories. After 2008, each Enterprise generally maintained the upfront fees implemented in that year with limited changes for specific risk attributes.

For many of the larger lenders that deliver a significant volume of single-family mortgages each year the respective Enterprises negotiate a mortgage delivery contract for a specified term to ensure that those lenders will deliver a minimum level of guarantee business at a predetermined guarantee fee rate. Those lender-level prices generally take the form of ongoing guarantee fees. Contracts typically specify ongoing guarantee fees by product type (e.g., 30-year fixed-rate loans, 15-year fixed-rate mortgages, and loans with interest-only features) and can also include custom charges, such as additional ongoing fees for specific risk characteristics. The ongoing fees apply to mortgages delivered during a specified contract term that meet the eligibility terms of the Enterprises' guides and other terms specific to an Enterprise's relationship with the lender. In prior years, the largest lenders typically entered into semi-annual or annual contracts, whereas ongoing guarantee fees established for smaller customers may have had shorter terms and allowed for more frequent changes of the terms. Recent contracts often included shorter pricing terms and greater pricing flexibility.

¹⁰ See <https://www.efanniemae.com/sf/refmaterials/llpa/pdf/llpamatrix.pdf> and <http://www.freddiemac.com/singlefamily/pdf/ex19.pdf>

Model-derived estimates of expected default losses are very sensitive to the product type and LTV ratio of the mortgage and the borrower's credit score. As expected credit losses increase, so does the guarantee fee an Enterprise must charge to earn its target rate of return. In 2008, as credit risk was re-priced throughout the mortgage market, the Enterprises sought to align their credit policies and prices more closely with their estimates of cost, which increased as credit conditions deteriorated. Increases in upfront fees were a major part of that effort. In 2009, the Enterprises each implemented additional increases in upfront fees previously announced in 2008, but few new changes in upfront fees were implemented during the year. In late 2010, each Enterprise announced fee increases for most loans with LTV ratios greater than 70 percent, but the changes were not effective until early 2011.

FHFA directed the Enterprises to raise ongoing guarantee fees on two occasions in 2012. The Temporary Payroll Tax Cut Continuation Act of 2011 required the Enterprises to increase ongoing fees by 10 basis points, and they implemented that requirement beginning in April. In addition, in November and December, the Enterprises implemented further increases in ongoing fees that raised their average charged fees by an additional 10 basis points.

ANALYSIS OF GUARANTEE FEES CHARGED IN 2011 AND 2012

Under data collection procedures established by FHFA in accordance with Section 1601 of HERA, the Enterprises submit loan group data on a regular basis. Quarterly data were submitted for 2007 through 2010 and monthly data for 2011 and 2012. For each lender, the Enterprises provide guarantee fee data by loan type. For each loan type, the data are segmented into different categories based on LTV ratios and borrower credit scores.¹¹ This section uses data on single-family mortgages delivered in 2011 and 2012 to analyze the average guarantee fee charged by the Enterprises in those years as well as how the fees they charged varied by product type, loan purpose, risk classifications, and the volume of mortgages delivered by lenders. To put the data in context, information on guarantee fees charged by the Enterprises in 2007-2010 may be presented. Prior year data presented in this report may not always match data for the same year in previous FHFA reports due to lender updates and other revisions of data by the Enterprises. The analysis uses the economic concepts summarized above rather than accounting data prepared in conformance with GAAP. To avoid public disclosure of protected information, the analysis presents Enterprise data on a combined basis and discloses certain information in a more limited manner.

The majority of single-family mortgages acquired by Fannie Mae and Freddie Mac in 2011 and 2012 were eligible under their standard underwriting guidelines and are referred to in this report as "standard loans." In addition to those mortgages, the Enterprises acquired a significant volume of loans under HARP as well as a small volume of other mortgages eligible under flexible refinance programs that have the same objective as HARP and have similarly relaxed underwriting

¹¹ In each quarter, for each lender, product type, LTV ratio, and credit score combination, each Enterprise provides FHFA with the unpaid principal balance of the mortgages it acquired in that quarter and the weighted average estimated upfront and ongoing fees it charged on those loans. The Enterprise also provides its costing model's estimate of the guarantee fee it would have had to charge in order to expect to earn its target rate of return on the mortgages.

standards.¹² In this report, guarantee fees charged on standard loans are analyzed separately from guarantee fees charged on HARP and other flexible refinance mortgages.

This section begins by providing the study population and acquisition profile of all single-family mortgages acquired by the Enterprises on a combined basis and then uses data on standard loans to analyze changes in the average guarantee fee charged in 2011 and 2012 and the variation in guarantee fees by product type, loan purpose, and risk classification. That allows the presentation of comparable data on all loans acquired in 2007 and 2008 and standard loans acquired in 2009-2012. A separate analysis examines guarantee fees on HARP and flexible refinance mortgages acquired in 2009-2012 and provides evidence of how those loans have benefitted borrowers. The section ends with an analysis of the variation of guarantee fees by lender delivery volume based on data on standard loan acquisitions for all six years.

Study Population

FHFA has excluded mortgages acquired through bulk transactions from its ongoing study of Enterprise single-family guarantee fees, since those loans are not representative of the Enterprises' credit guarantee business as a whole. The agency has also excluded certain atypical mortgages delivered on a flow basis, such as reverse mortgages, loans secured by manufactured housing, government-insured or -guaranteed mortgages, and second liens. Those exclusions represent a small share of the total single-family guarantee business. Table 2 shows the volume of single-family mortgages acquired by the Enterprises in 2009 through 2012, the data exclusions, and the UPB and number of loans in the study population for those years. The table also provides information on the share of standard mortgages, HARP loans, and flexible refinance mortgages in the study population in each year.

Acquisition Profile

Tables 3 and 4 show key credit risk characteristics of the single-family mortgages in the study population in 2007 through 2012. Thirty-year, fixed-rate mortgages comprised a declining share of acquisitions through 2011, whereas 15-year, fixed-rate loans comprised an increasing share, but those trends reversed in 2012 (see Table 3). Adjustable rate mortgages fell in 2012 to 4 percent of acquisitions, the lowest level since 2009. The distribution of borrower credit scores improved significantly from 2007 to 2009 but has been nearly unchanged in the last three years. The distribution of LTV ratios shifted towards lower LTV ratio loans between 2007 and 2009, after which the trend reversed with the introduction of HARP. In 2012 there was a large increase in the share of loans with LTV ratios above 90 percent, as the share of HARP and flexible refinance loans increased, and a decrease in the share of mortgages with LTV ratios below 80 percent.

¹² This report defines a "flexible refinance" as a loan acquired under Fannie Mae's Refi Plus or Freddie Mac's Relief Refi program after the start date of HARP (April 2009) that was not eligible for a standard refinance and has one or more of the following characteristics: 1) the home is an investor property or second home and the LTV ratio exceeds 75 percent; 2) the property has two to four units and the LTV ratio is greater than 75 percent and less than 80 percent; 3) the borrower's credit score is less than 620; or 4) the combined LTV ratio exceeds 97 percent.

Table 2
Study Population, 2009-2012
(Includes Standard, HARP, and Flexible Refinance Loans)

	2009				2010				2011				2012			
	Dollars in Millions	% of Total	Number of Loans	% of Total	Dollars in Millions	% of Total	Number of Loans	% of Total	Dollars in Millions	% of Total	Number of Loans	% of Total	Dollars in Millions	% of Total	Number of Loans	% of Total
Total Single Family Purchases	\$1,172,560	100%	5,425,556	100%	\$984,804	100%	4,594,074	100%	\$879,448	100%	4,187,335	100%	\$1,297,264	100%	6,117,685	100%
<u>Exclusions</u>																
All Bulk	\$31,149	3%	175,864	3%	\$11,319	1%	83,223	2%	\$3,427	0%	23,057	1%	\$1,473	0%	8,154	0%
Some Flow	\$18,715	2%	114,480	2%	\$12,557	1%	62,180	1%	\$14,871	2%	82,892	2%	\$11,756	1%	68,080	1%
Total	\$49,864	4%	290,344	5%	\$23,875	2%	145,403	3%	\$18,298	2%	105,949	3%	\$13,229	1%	76,234	1%
Study Population	\$1,122,696	96%	5,135,212	95%	\$960,928	98%	4,448,671	97%	\$861,150	98%	4,081,386	97%	\$1,284,035	99%	6,041,451	99%
<u>Loan Groups</u>																
Standard	\$1,072,539	91%	4,924,895	91%	\$847,824	86%	3,963,913	86%	\$758,555	86%	3,604,000	86%	\$1,043,818	80%	4,838,801	79%
HARP	\$46,017	4%	190,658	4%	\$101,436	10%	429,096	9%	\$94,787	11%	435,276	10%	\$223,761	17%	1,108,334	18%
Flexible Refinance	\$4,141	0%	19,659	0%	\$11,668	1%	55,662	1%	\$7,808	1%	42,110	1%	\$16,456	1%	94,316	2%

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Table 3
Product Type and Risk Class Profile, Study Population, 2007-2012
(Includes Standard, HARP, and Flexible Refinance Loans)

(share of total unpaid principal balance)

<u>Product Type</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>Change from 2011</u>
Fixed-Rate 30-year Mortgages	83	80	80	66	61	66	5
Fixed-Rate 15-year Mortgages	5	10	14	22	25	23	-2
Other Fixed-Rate Mortgages	3	3	4	6	7	8	1
Adjustable-Rate Mortgages	<u>8</u>	<u>7</u>	<u>2</u>	<u>6</u>	<u>7</u>	<u>4</u>	-4
	100	100	100	100	100	100	
<u>Loan Purpose</u>							
Purchase	50	42	20	25	26	24	-2
Regular Refinance	18	28	51	53	55	58	3
Cash-Out Refinance	<u>31</u>	<u>30</u>	<u>29</u>	<u>22</u>	<u>19</u>	<u>18</u>	-2
	100	100	100	100	100	100	
<u>Credit Score</u>							
>=720	55	68	85	84	84	83	0
660-719	28	24	13	13	14	14	0
<660	<u>17</u>	<u>8</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>3</u>	1
	100	100	100	100	100	100	
<u>Loan-to-Value Ratio</u>							
0-70 Percent	31	38	49	46	45	39	-5
70.1-80 Percent	45	40	40	38	37	34	-3
80.1 - 90 Percent	9	12	7	9	9	9	0
>90 Percent	<u>15</u>	<u>10</u>	<u>4</u>	<u>8</u>	<u>10</u>	<u>18</u>	8
	100	100	100	100	100	100	

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

The share of Enterprise single-family acquisitions with risk layering—multiple characteristics that increase the credit risk of the mortgage—continued to be significant in 2012 due to the continued high volumes of HARP and flexible refinance loans. The HARP and flexible refinance combined share of acquisitions rose to 18 percent (see Table 4). HARP and flexible refinance mortgages, even though they are designed to reduce credit risk, are defined to involve risk layering because they typically have high LTV ratios and carry less MI protection than standard loans with comparable LTV ratios. The share of jumbo conforming loans fell to 8 percent in 2012. Refinances with cash out continued to decline, dropping to 14 percent in 2012. The shares of investor mortgages and loans on condominiums and cooperatives were unchanged.

Table 4
Risk Layering Profile, Study Population, 2007-2012⁽¹⁾
(Includes Standard, HARP, and Flexible Refinance Loans)
 (share of total unpaid principal balance)

<u>Risk Layering</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>Change from 2011</u>
HARP Refinances	0	0	4	11	11	17	6
Flexible Refinances	0	0	0	1	1	1	0
Jumbo Conforming Loans	0	2	7	10	10	8	(3)
Refinances with Cash Out	31	30	27	20	17	14	(3)
Investor Loans	4	6	2	4	6	7	1
Condominiums and Cooperatives	11	10	7	8	8	8	0

⁽¹⁾ Some loans have multiple characteristics.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Average Guarantee Fees on Standard Mortgages

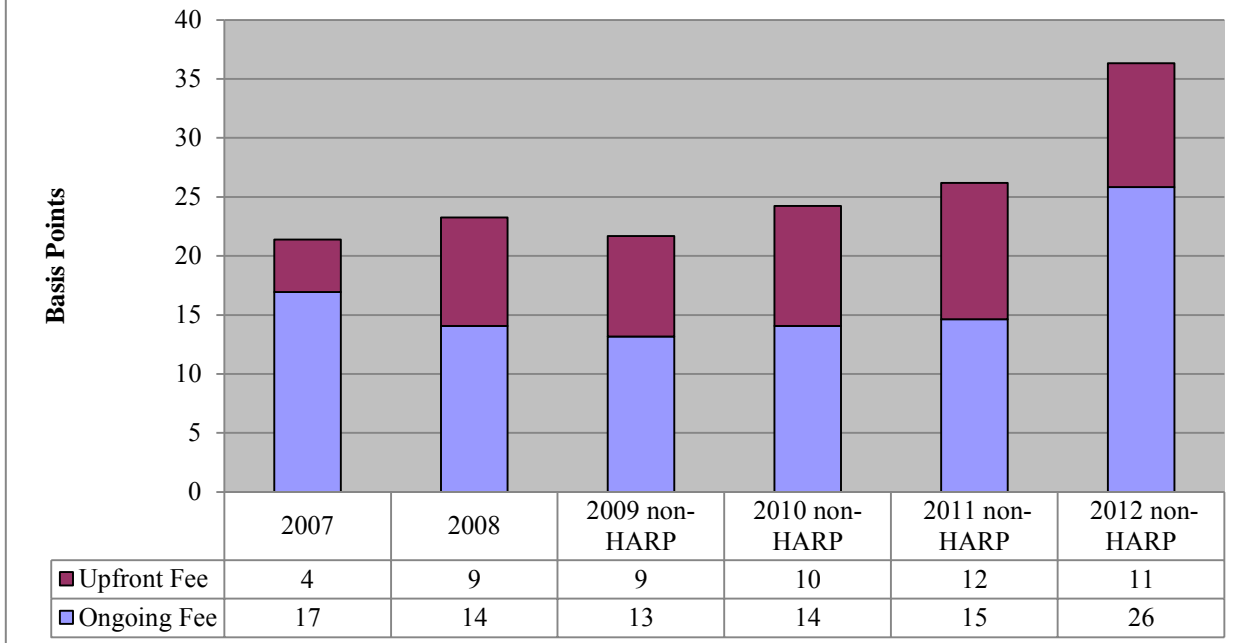
Figure 1 compares the estimated average guarantee fees charged by Fannie Mae and Freddie Mac on single-family mortgages delivered on a flow basis in 2007 through 2012. The estimates for 2007 and 2008 are for all loans and for 2009 through 2012 are for standard loans. The figure shows the estimated average upfront fee, annualized in basis points, separately from the average ongoing fee.

As indicated in Figure 1, the average total guarantee fee for standard loans increased from 27 basis points in 2011 to 37 basis points in 2012. If HARP and flexible refinance loans had been included in the results, the average total guarantee fee would have been 28 basis points for 2011 and 38 basis points for 2012. Those changes reflected a reduction in average upfront fees of 2 basis points from 2011 to 2012, which was more than offset by an increase of 11 basis points in ongoing fees. In addition to the increases in ongoing fees required by Congress and implemented at the direction of FHFA, ongoing fees also increased in 2012 as a result of Enterprise renegotiation of expiring contracts with lenders.

Variation in Fees on Standard Mortgages by Product Type, Loan Purpose, and Risk Classifications

Mortgage guarantee costs depend on the type of mortgage and the characteristics of the loan, the borrower, and the property. Recognizing that sensitivity, Section 1601 of HERA requires FHFA to report on Enterprise revenue and costs associated with providing guarantees by product type and risk classifications. This section of the report does so by grouping mortgages in the study population into three product type categories, three loan purpose categories, three credit score categories, and four LTV ratio categories. Those categories indicate how Enterprise guarantee fees varied along four dimensions that greatly influence expected default losses.

Figure 1
Average Estimated Single-Family Guarantee Fees, 2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Within each category, revenue is measured by the Enterprises’ average estimated total guarantee fee. Cost is not shown directly, but information about cost can be inferred from figures showing the gap between the average estimated guarantee fee and the average estimated cost. The estimated gap, rather than the estimated cost, is shown to allow the reader to see the expected relative profitability of guaranteeing mortgages in the different categories. In the figures in this section, the gap is presented with the numerical scale removed, but with the zero line darkened. That approach reveals where mortgages in each category were expected, on a weighted-average basis across all loans acquired by the two Enterprises in that category, to earn more than the acquiring Enterprise’s target rate of return (positive gap), or less than that target (negative gap). The numerical scales were removed from the figures that depict gaps to protect confidential and proprietary data, consistent with Section 1601 of HERA.

As noted, one of the key assumptions of each Enterprise’s costing model is its target rate of return on required capital. Each Enterprise’s target rate of return in 2011 was consistent with its 2010 level. The modeled cost estimates for each product type, loan purpose, credit score, and LTV ratio category are influenced by changes in the acquisition profile within that category, which are not captured by the single dimension analysis. For example, one product type category may have had a higher concentration of loans with lower credit scores. Therefore, smaller changes in estimated cost are less meaningful than larger changes.

Product Type

Most single-family mortgages acquired by the Enterprises are 30-year, fixed-rate loans. However, as shown in Table 5, from 2011 to 2012 the share of standard mortgages that were 15-year, fixed-

rate loans decreased from 27 percent to 26 percent, and the share of ARMs decreased from 8 percent to 4 percent. The share of 30-year, fixed-rate loans rose for the first time since before 2007, rising to 63 percent in 2012 from 58 percent in 2011. Fixed-rate loans with terms other than 30 or 15 years accounted for 7 percent of standard loan acquisitions in 2012, the same as 2011. Historically, 15-year, fixed-rate loans have had the lowest rate of credit losses among those product types.

The average guarantee fee charged by the Enterprises on standard mortgages increased by different amounts for the three product-type categories in 2012 (see Figure 2).¹³ The average fee increased by 10 basis points for 30-year, fixed-rate loans, 9 basis points for 15-year, fixed-rate mortgages, and 15 basis points for ARMs. Estimated gaps declined for all three product-type categories, reflecting the new Enterprise costing models. As in 2011, the Enterprises estimated 30-year, fixed-rate loans to be the least profitable category, and ARMs to be the most profitable, as measured by g-fee gaps (see Figure 3).

Table 5
Single-Family Acquisitions by Product Type,
2007-2012⁽¹⁾
 (share of total unpaid principal balance)

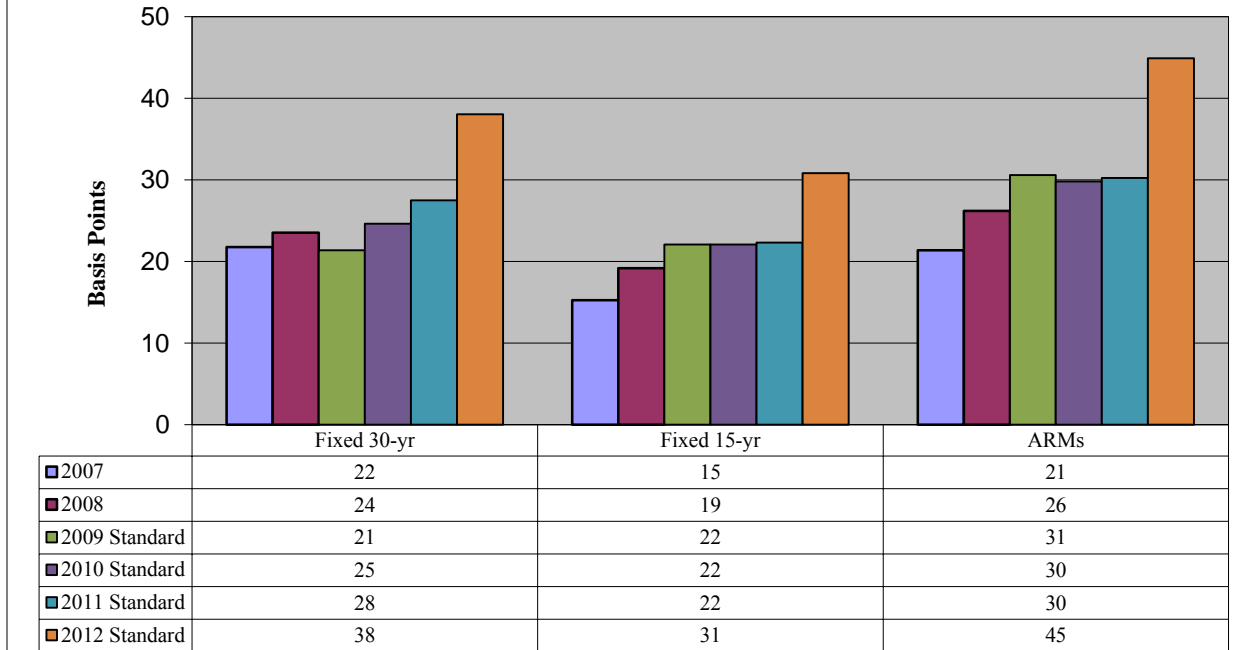
	Fixed 30-yr	Fixed 15-yr	All ARM
2007	83%	5%	8%
2008	80%	10%	7%
2009 Standard	80%	15%	2%
2010 Standard	64%	24%	6%
2011 Standard	58%	27%	8%
2012 Standard	<u>63%</u>	<u>26%</u>	<u>4%</u>
Change from 2011	5%	-1%	-4%

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

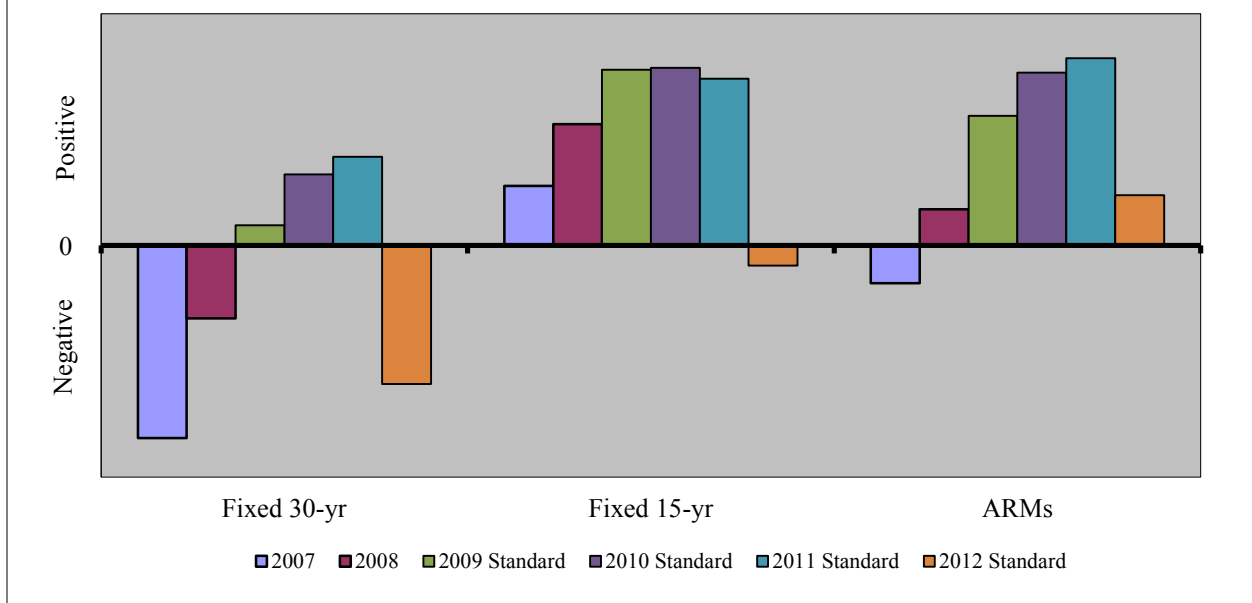
¹³ “Other Fixed-Rate Mortgages” is omitted from Figures 2 and 3 because that category includes loans with very different terms and the overall purchase volume is small.

Figure 2
Estimated Single-Family Guarantee Fee by Product Type, 2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Figure 3
Estimated Single-Family Guarantee Fee Gap by Product Type, 2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Loan Purpose

In recent years, the purposes of standard single-family mortgages acquired by the Enterprises have changed significantly. As Table 6 shows, in 2007 half of all standard loans were for home purchases. Cash-out refinances made up the next largest category, at 31 percent. Refinances in which the borrower obtained a lower interest rate or shorter loan term were only 18 percent of standard acquisitions. In the wake of the 2008 financial crisis, a combination of falling home prices, a collapse in home sales, declining interest rates, and tighter underwriting standards led to changes in this mix. By 2009 purchases accounted for only 20 percent of acquisitions. In the last three years, that category has recovered somewhat to make up 24 percent of standard acquisitions in 2012, down slightly from 2011. The share of cash-out refinances has fallen steadily since 2007 and made up 18 percent of standard loans in 2012, down from 19 percent in the previous year. The share of rate-term refinances, after increasing rapidly from 2007 to 2009, has grown more slowly since then, reaching 58 percent of standard loans in 2012, up from 55 percent in 2011.

Table 6
Single-Family Acquisitions by Loan Purpose,
2007-2012⁽¹⁾
(share of total unpaid principal balance)

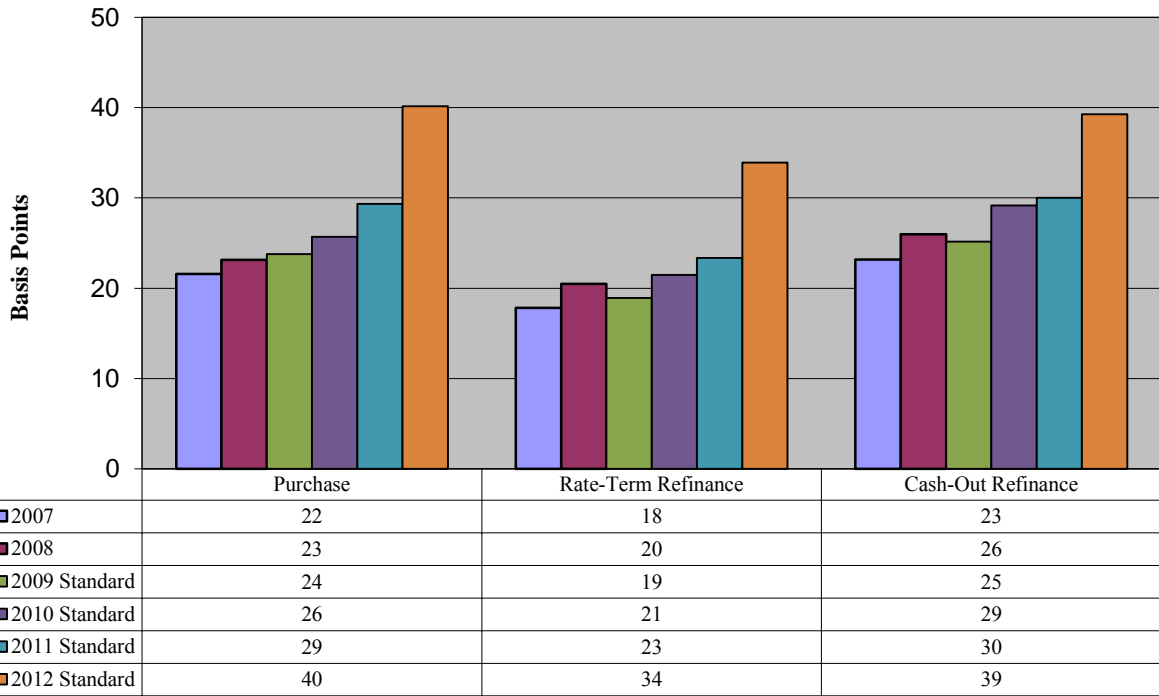
	Purchase	Rate-Term Refinance	Cash-Out Refinance
2007	50%	18%	31%
2008	42%	28%	30%
2009 Standard	20%	51%	29%
2010 Standard	25%	53%	22%
2011 Standard	26%	55%	19%
2012 Standard	24%	58%	18%
Change from 2011	-2%	3%	-2%

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012. Years do not total to 100% because of loans with other purposes not shown in this table.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

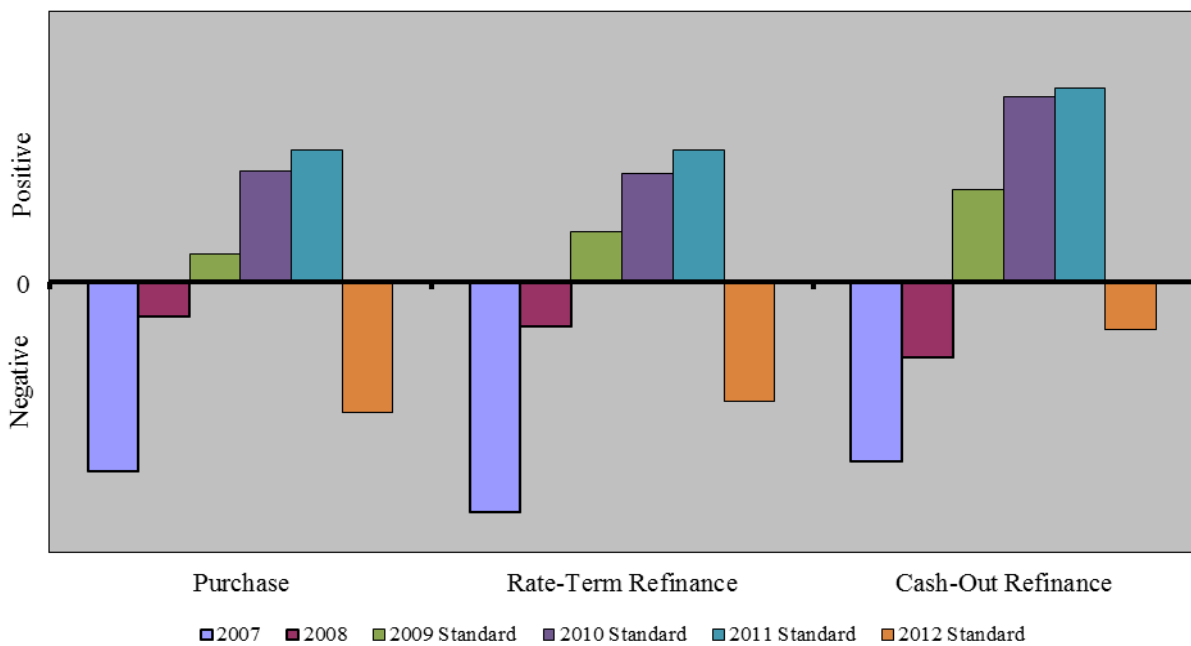
The average guarantee fee charged by the Enterprises on standard mortgages in 2012 increased for all three loan-purpose categories (see Figure 4). Purchase loans had higher fees than cash-out refinance loans for the first time in the six years for which FHFA has collected data for this report. Rate-term refinance loans continued to have the lowest average guarantee fees, due in part to their lower LTV ratios and consequently lower credit risk. Estimated fee gaps fell dramatically in 2012, becoming negative for the first time since 2008, primarily due to the changes in the Enterprise costing models (see Figure 5). Cash-out refinances continued to have the highest (least negative) gaps.

Figure 4
Estimated Single-Family Guarantee Fee by Loan Purpose, 2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Figure 5
Estimated Single-Family Guarantee Fee Gap by Loan Purpose, 2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Borrower Credit Score

The data FHFA collects from the Enterprises for this study include borrower credit scores calculated using models developed by Fair Issac, CO. The three credit score categories include loans whose borrowers have scores greater than or equal to 720, scores between 660 and 719, and scores below 660. The credit score profile for Enterprise acquisitions of standard mortgages was little changed in 2012. The majority of standard loans continued to have credit scores in the highest score category. As a share of all standard acquisitions, mortgages with scores in that category rose 17 percentage points in 2009 and have been essentially unchanged since then (see Table 7). The share of the lower credit score category slipped to 1 percent in 2012, a significant decrease from 2007, when this category accounted for 17 percent of acquisitions.

Table 7
Single-Family Acquisitions by Credit Score,
2007-2012⁽¹⁾
(share of total unpaid principal balance)

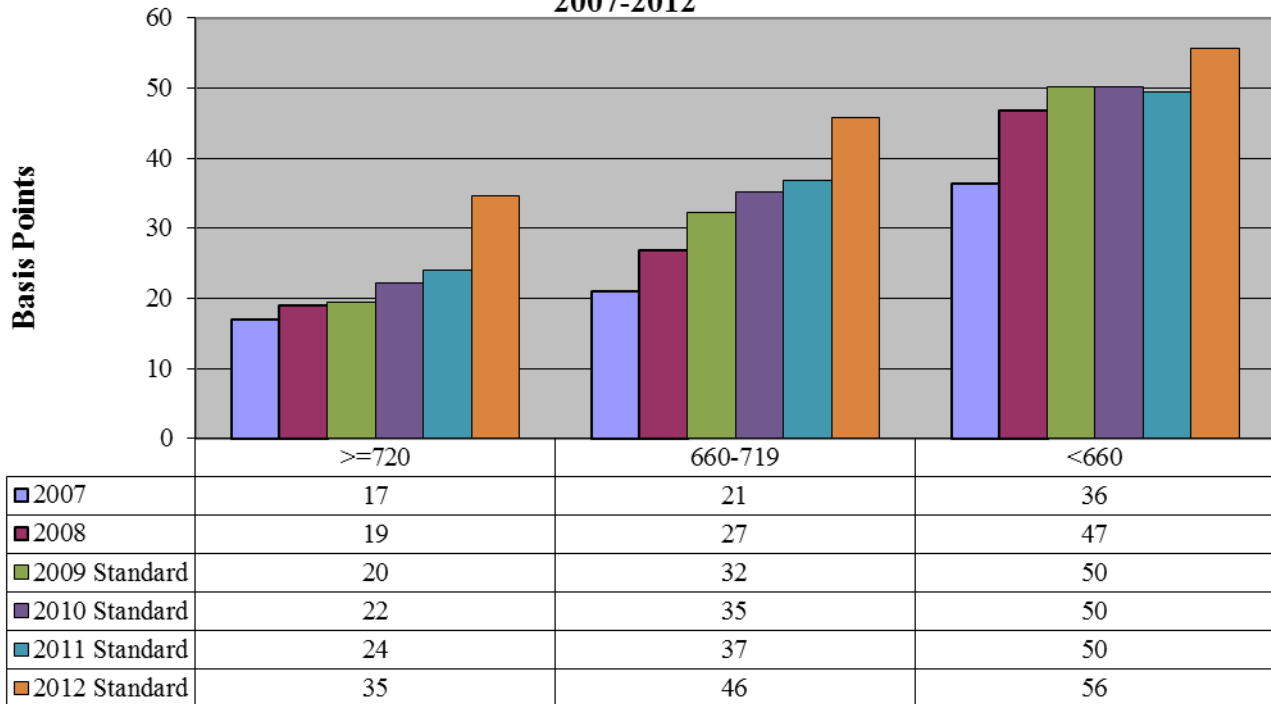
	>=720	660-719	<660
2007	55%	28%	17%
2008	68%	24%	8%
2009 Standard	85%	13%	2%
2010 Standard	86%	13%	2%
2011 Standard	85%	13%	2%
2012 Standard	87%	12%	1%
Change from 2011	1%	-1%	0%

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

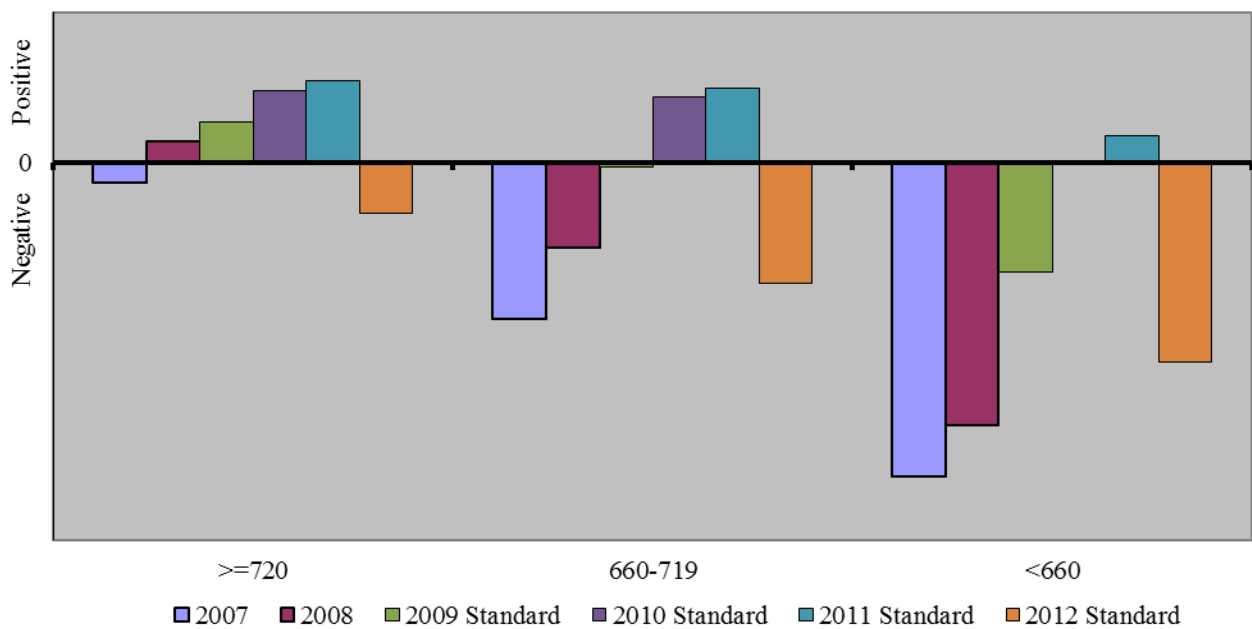
The average single-family guarantee fees charged by the Enterprises on standard mortgages rose across all credit score categories in 2012 (see Figure 6). Increases differed by category, however, as fees for loans with credit scores greater than or equal to 720 went up by 11 basis points and fees for mortgages with credit scores under 660 increased by 6 basis points. Modeled costs increased for all three categories at each Enterprise; the increases were greatest for the highest-risk category and smallest for the lowest-risk category. Guarantee fee gaps worsened in each category. The largest decline was for loans with credit scores under 660 and the smallest for mortgages with credit scores greater than or equal to 720 (see Figure 7).

Figure 6
Estimated Single-Family Guarantee Fee by Credit Score,
2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Figure 7
Estimated Single-Family Guarantee Fee Gap by Credit Score,
2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

In 2012, as in the previous five years, mortgages with the best credit scores implicitly cross-subsidized loans with lower credit scores, as indicated by the differences in the fee gaps for standard loans in the three credit score categories shown in Figure 7. The groups of loans with the lowest scores received the greatest implicit subsidies. As in recent years, the impact of those cross-subsidies on the Enterprises' overall g-fee gaps was very small, however, because loans with credit scores less than 660 comprised only 1 percent of acquisitions in 2012.

Loan-to-Value Ratio

The share of single-family mortgages acquired by Fannie Mae and Freddie Mac that had LTV ratios equal to or less than 70 percent comprised almost half of the Enterprises' standard acquisitions again in 2012 (see Table 8). The share of standard loans with LTV ratios above 90 percent increased to 6 percent in 2012. The share of standard loans with an LTV ratio above 80 percent, the level at which credit enhancement such as mortgage insurance is required, increased again from 10 percent to 12 percent. In 2007, nearly a quarter of the acquisitions had been in that category.

As the LTV ratio of a mortgage increases, the likelihood of default and the severity of expected default losses rise, resulting in a higher estimated gross cost to the Enterprises. However, the requirement in the Enterprises' charters for loans acquired with LTV ratios above 80 percent to have credit enhancements such as MI protects the Enterprises against some of the losses arising from default. Thus, the risk of mortgages with a specific LTV ratio depends heavily on the level of MI coverage that the Enterprises require for loans with that LTV ratio.

Table 8
Single-Family Acquisitions by Loan-to-Value Ratio,
2007-2012⁽¹⁾
 (share of total unpaid principal balance)

	0 - 70	70.1 - 80	80.1 - 90	>90
2007	31%	45%	9%	15%
2008	38%	40%	12%	10%
2009 Standard	52%	42%	5%	2%
2010 Standard	51%	43%	4%	2%
2011 Standard	50%	41%	5%	4%
2012 Standard	48%	40%	6%	6%
Change from 2011	-3%	-1%	1%	2%

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Table 9 shows the standard MI coverage levels applicable in 2012 to most 30-year mortgages and the degree of Enterprise protection against losses, at the time of loan origination, for each coverage

amount shown.¹⁴ The standard MI coverage levels required by the Enterprises exceed the charter requirement for 20 percent protection, based on the purchase price or the appraised value of the house. However, any HARP or flexible refinance mortgage carries forward the MI coverage, if any, applicable to the previous loan that is refinanced. As a result of house price depreciation, the LTV ratios of HARP loans generally and flexible refinance loans often are higher than those of the previous mortgages. As a result, the Enterprises' MI coverage levels for HARP and many flexible refinance loans are lower than those shown in Table 9.¹⁵

The guarantee fees charged by the Enterprises reflect the presence of any mortgage insurance. Below an LTV ratio of 80 percent—the maximum LTV ratio that, for standard loans, does not require MI coverage or other credit enhancement—the Enterprises charge higher guarantee fees as LTV ratios rise and credit risk increases. Because mortgage insurance reduces the credit risk of the loan, loans that carry MI and have LTV ratios greater than 80 percent are sometimes charged less than mortgages with lower LTV ratios but no MI coverage.

Table 9
Mortgage Insurance Coverage Levels
(Standard Loans)
30 Year Loan for \$100,000 Home

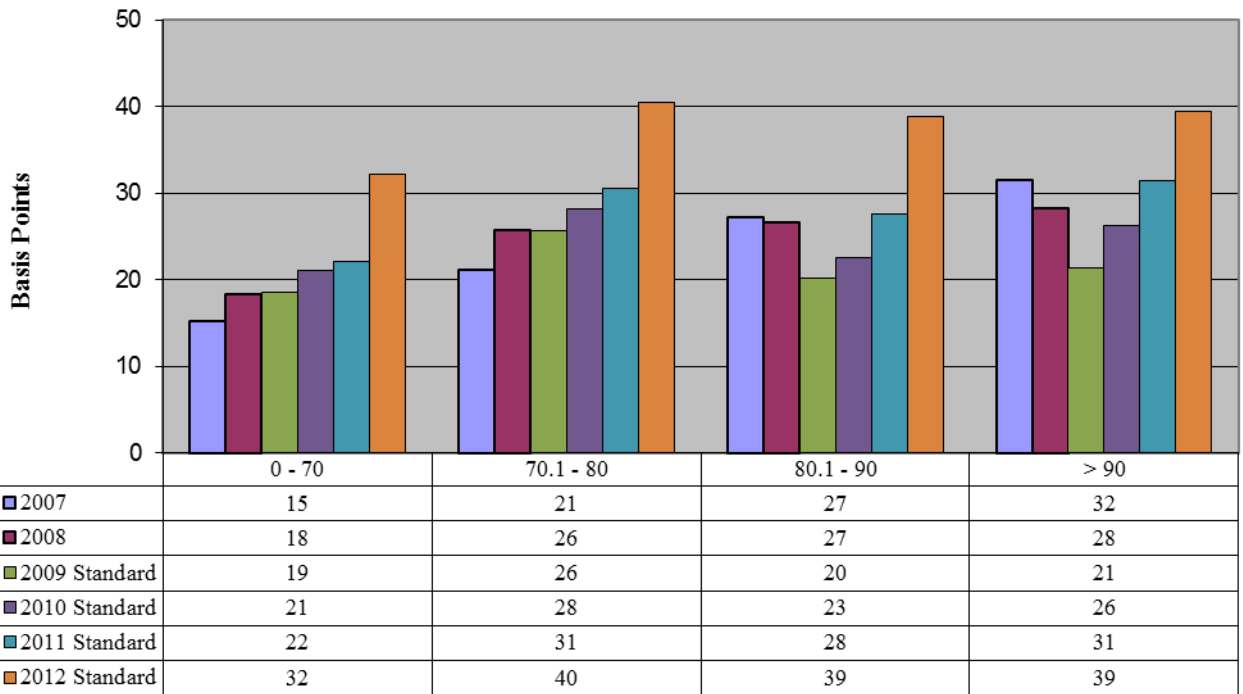
LTV Ratio	Loan Amount	MI Coverage	Protection at Origination
80	\$80,000	0%	\$20,000
85	\$85,000	12%	\$25,200
90	\$90,000	25%	\$32,500
95	\$95,000	30%	\$33,500

Source: Federal Housing Finance Agency based on
 Fannie Mae Seller Guide and Freddie Mac Seller Guide

¹⁴ The level of Enterprise protection at loan origination is equal to the down payment plus the MI coverage percentage times the loan amount. For example, the protection on a 30-year loan on a house with a purchase price of \$100,000 and 10 percent down payment is equal to the down payment of \$10,000 plus the MI coverage of 25 percent of the \$90,000 loan amount ($\$10,000 + 25 \text{ percent} \times \$90,000 = \$32,500$).

¹⁵ In September 2009, Fannie Mae announced alternative MI coverage levels. Specifically, the Enterprise would acquire mortgages with LTV ratios above 80 percent if the MI coverage limited Fannie Mae's exposure to 20 percent of the loan amount, in return for an additional upfront fee. That alternative became available for loans underwritten by Desktop Underwriter 8.0, effective December 12, 2009. Freddie Mac also allows for reduced MI coverage in return for an additional upfront fee, but not down to the 20 percent level required by its charter act.

Figure 8
Estimated Single-Family Guarantee Fee by Loan-to-Value Ratio,
2007-2012

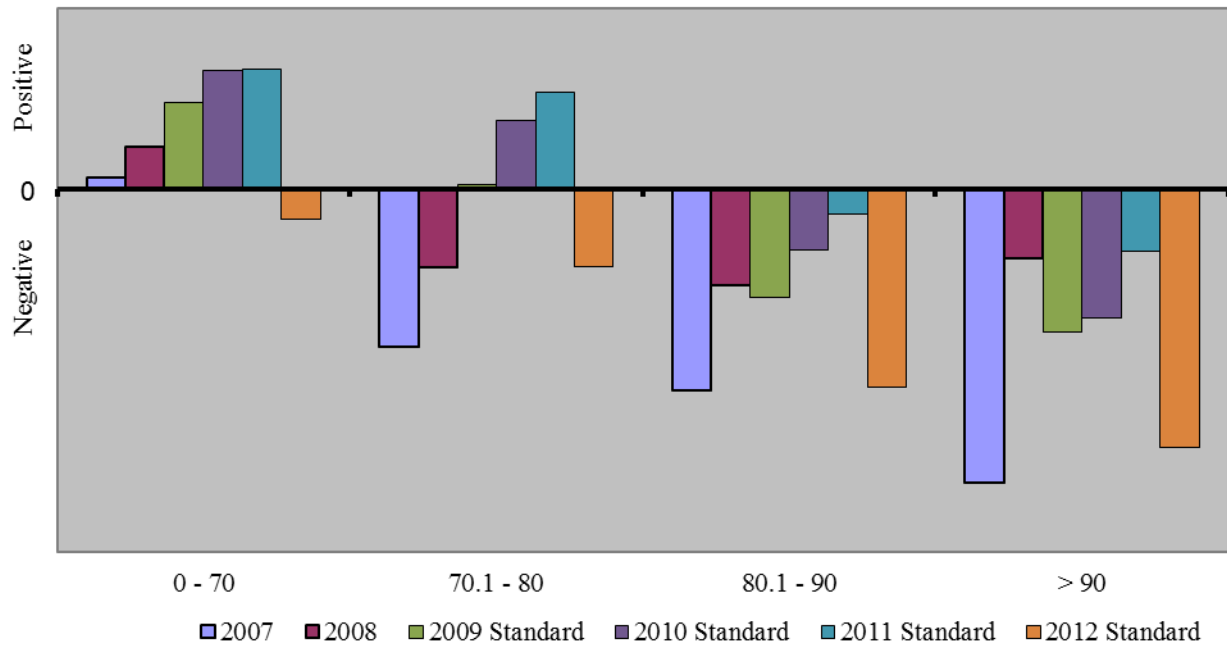


Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

The average guarantee fees charged by each Enterprise on standard mortgages increased for each LTV ratio category in 2012 (see Figure 8). For the past four years, the average charged fees for standard loans in the 70.1-80 percent LTV ratio category have been higher than those for standard loans with LTV ratios of between 80.1-90 percent. Whereas mortgages in the latter category had a higher probability of default than loans in the lower LTV-ratio categories, most of them had greater loss protection at origination due to the additional protection afforded by MI or other credit enhancement. In a falling house price environment, the Enterprises' greater exposure tended to increase estimated costs more for mortgages with lower protection levels.

Each Enterprise had negative fee gaps for standard mortgages for all the LTV ratio categories in 2012 (see Figure 9). Both Enterprises experienced declines in the gaps for standard loans in all the LTV ratio categories. As in past years, at both Enterprises gaps decreased as LTV ratio increased, implying cross-subsidization of higher LTV ratio loans by those with lower LTV ratios.

Figure 9
Estimated Single-Family Guarantee Fee Gap by Loan-to-Value Ratio, 2007-2012



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Average Guarantee Fees on HARP and Flexible Refinance Mortgages

In 2012 HARP gave owner-occupant borrowers who are current on their mortgages and have current LTV ratios of greater than 80 percent and up to 125 percent the opportunity to refinance and obtain a lower interest rate or a more stable loan product, despite a decline in their property’s value that would otherwise make them ineligible under standard Enterprise guidelines without new additional mortgage insurance. Since Fannie Mae or Freddie Mac already holds the credit risk on each loan, they provided expanded eligibility and reduced documentation requirements, which include no minimum credit scores, LTV ratios up to 125 percent, and reduced appraisal requirements. If the original loan had mortgage insurance, the prior insurance is carried over to the new loan, without the need for additional coverage to reflect the decline in the property’s value. If the original loan did not have mortgage insurance due to sufficient borrower equity at origination, no mortgage insurance or borrower equity contribution is required for the refinance. In 2011 each Enterprise provided a guarantee fee pricing discount by imposing a cap of 2 percent on the upfront fee for each HARP loan. As noted, HARP 2.0 has expanded eligibility for the program and reduced both guarantee fees and lender representations and warranties in an effort to reach more homeowners. HARP 2.0 removed the 125 percent LTV ratio ceiling for fixed-rate mortgages backed by Fannie Mae and Freddie Mac, eliminated the need for a new property appraisal where there is a reliable automated valuation model estimate provided by the Enterprises, and extended the end date for HARP until the end of 2015 for loans originally sold to the Enterprises on or before May 31, 2009.

In 2012 HARP provided the following benefits to Fannie Mae and Freddie Mac:

- Opportunity to Re-Price Mortgage Credit Risk. FHFA expects that the additional fees collected on HARP loans, together with the guarantee fees collected on the original loans that are refinanced, will, on average, cover the projected credit expenses and administrative costs associated with the mortgages. The result was a better overall alignment of guarantee fees charged to credit risk than prior to the transactions. However, the additional revenues were often substantially less than what would be collected on standard refinances due to a pricing cap, which limits the upfront fees, and because the Enterprises do not charge for the lack or inadequate extent of mortgage insurance.
- Improvement in Economic Position. The expectation is that the overall economic position of each Enterprise was improved by the transaction because a HARP mortgage is a more stable loan product and/or has a lower mortgage payment than the loan it refinances, and additional fee income was earned in 2011 through the re-pricing of the credit risk. Also, by completing the refinance process, borrowers demonstrate a commitment to homeownership, which further reduces the likelihood of default. That benefit is partially offset if borrowers capitalize closing costs, increasing LTV ratios on the new loans, or extend the loans' maturity date, both of which increase credit risk.
- Lower Costs. The costs to the Enterprises of allowing a HARP transaction are lower than the costs of providing a loan modification. The mortgages that are refinanced through HARP are not considered impaired, and Troubled Debt Restructuring (TDR) accounting treatment is not required.

This section presents combined data on HARP and flexible refinance mortgages. The latter includes any loan acquired under Fannie Mae's Refi Plus or Freddie Mac's Relief Refi program after the start date of HARP (April 2009) that was not eligible for a standard refinance and has one or more of the following characteristics: 1) the home is an investor property or second home and the LTV ratio exceeds 75 percent; 2) the property has 2-4 units and the LTV ratio is greater than 75 percent and less than 80 percent; 3) the borrower's credit score is less than 620; or 4) the combined LTV ratio exceeds 97 percent of loans that have the same objective as HARP and have similarly relaxed underwriting standards.

As a share of Enterprise single-family acquisitions, HARP and flexible refinance mortgages increased from 12 percent in 2011 to 19 percent in 2012 (see table 10). The first HARP loans were acquired in the second quarter of 2009, and activity grew over the rest of that year as lenders increased their marketing of the program. The combined HARP and flexible refinance share of acquisitions peaked at 22 percent in the second quarter of 2012 and declined in the second half of the year.

Table 10
HARP and Flexible Refinance Share of Unpaid
Principal Balance of Mortgages Acquired in
2010-2012, by Quarter

Quarter	2010	2011	2012
1	14%	13%	14%
2	13%	15%	22%
3	11%	13%	21%
4	<u>11%</u>	<u>9%</u>	<u>18%</u>
Full Year	12%	12%	19%

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

The preceding section on standard mortgages used fee gaps, which reflect estimated costs derived from the Enterprise costing models, to compare the guarantee fees Fannie Mae and Freddie Mac charge on those loans to the cost of bearing the credit risk they pose. Given the special nature of HARP and similar flexible refinance programs, the analysis now takes a different approach by comparing the interest rates of HARP and flexible refinance mortgages to those of the original loans they replaced. In order to provide a meaningful comparison, the analysis focuses on 30-year, fixed-rate loans. Thirty-year, fixed-rate HARP and flexible refinance mortgages acquired in 2012 had interest rates about 170 basis points lower on average than the interest rates on loans they refinanced (see Table 11), providing a meaningful savings to borrowers.

Table 11
Comparison of the Interest Rates of 30-Year Fixed-Rate
HARP and Flexible Refinance Mortgages Acquired
in 2009-2012 and Those of the Loans They Refinanced

	2009	2010	2011	2012
Original Loan	6.4%	6.3%	6.1%	5.9%
New Loan	5.1%	5.1%	4.9%	4.3%
Difference	-1.2%	-1.2%	-1.2%	-1.7%

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Variation in Fees by Lender Delivery Volume

In recent years, each Enterprise has acquired single-family mortgages from a group of about 1,000 lenders. Table 12 shows the number of lenders that delivered such loans to each Enterprise in 2007 through 2012.

Table 12
Number of Lenders by Enterprise,
2007-2012⁽¹⁾

	2007	2008	2009	2010	2011	2012
Fannie Mae	986	1,018	1,077	1,050	1,040	1,118
Freddie Mac	904	914	1,039	1,029	993	1,019

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

A significant proportion of each Enterprise's single-family acquisitions come from a small group of large lenders. For this study, FHFA ranked lenders by the UPB of the mortgages in the study population that they delivered to each Enterprise, creating five groups for each year: each Enterprise's top 5 lenders, each Enterprise's lenders ranking 6-15, each Enterprise's lenders ranking 16-25, each Enterprise's lenders ranking 26-100, and all others. FHFA calculated the average total guarantee fee for each acquisition-volume group by weighting the amounts for each lender in each group by the UPB for that lender. Mortgages acquired from the top five lenders at the Enterprises accounted for 50 percent of their combined business volume in 2012, down 10 percentage points from 2011 (see Table 13).¹⁶

¹⁶ Section 1601 of HERA specifies a breakdown of guarantee fees charged based on the asset size of the originator and the number of loans sold or transferred to an Enterprise. FHFA has grouped lenders by the UPB of loans delivered, consistent with Enterprise practice.

Table 13
Single-Family Acquisitions by Acquisition-Volume Group,
2007-2012⁽¹⁾

(share of total unpaid principal balance)

	XL	L	M	S	XS
	1-5	6-15	16-25	26-100	101+
2007	64%	25%	4%	5%	2%
2008	62%	26%	4%	5%	3%
2009 Standard	60%	19%	5%	8%	8%
2010 Standard	61%	19%	5%	8%	8%
2011 Standard	60%	21%	4%	8%	7%
2012 Standard	50%	15%	7%	16%	13%
Change from 2011	-10%	-6%	2%	7%	6%

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012.

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Table 14 provides the average ongoing, upfront, and total guarantee fees Fannie Mae and Freddie Mac charged on standard, single-family mortgages for loans acquired from lenders in the five acquisition-volume groups in 2007-2012. In each year average upfront fees have varied less across the groups than average ongoing fees, reflecting the similar credit risk profiles of mortgages delivered by lenders in each of the groups. Average upfront fees paid by lenders in each group have risen over the six-year period but decreased in 2012. The difference between the average upfront fees paid by lenders in the extra-small-volume and the extra-large-volume groups shows a slight downward trend over the five years, falling 1 basis point in 2012. Average ongoing fees have not shown a clear trend up or down over the five years, but rose for all acquisition-volume groups in 2012. The difference between the average ongoing fees paid by lenders in the extra-small-volume and the extra-large-volume groups rose from 2007 to 2009, declined in 2010, was essentially unchanged in 2011, and fell to 6 basis points in 2012. Overall, the difference in fees paid by the smallest lenders and those paid by the largest lenders shrank by 2 basis points in 2012, reflecting the initial impact of fee changes that took effect late in the year and were designed to eliminate the large lender advantage.

Table 14
Estimated Single-Family Guarantee Fees
by Acquisition-volume Group, 2010 - 2012 (1)

		Acquisition		Guarantee Fees		
		<u>Volume Group</u>	<u>Ongoing</u>	<u>Upfront</u>	<u>Total</u>	
2010 Standard	XL	1-5	13	10	23	
	L	6-15	14	11	25	
	M	16-25	15	10	25	
	S	26-100	17	10	27	
	XS	100 +	21	10	31	
		XL - XS Difference		(8)	0	(8)
2011 Standard	XL	1-5	14	11	25	
	L	6-15	14	11	26	
	M	16-25	15	11	27	
	S	26-100	18	12	30	
	XS	100 +	21	12	33	
		XL - XS Difference		(7)	(1)	(8)
2012 Standard	XL	1-5	24	11	35	
	L	6-15	25	10	35	
	M	16-25	26	10	36	
	S	26-100	27	11	38	
	XS	100 +	30	11	40	
		XL - XS Difference		(6)	0	(6)

(1) Based on Study Population for 2007-2008 and standard loans for 2009-2012

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Table 15
Estimated Single-Family Guarantee Fees
by Acquisition-volume Group, 2012 by Quarter

		<u>Acquisition</u>	<u>Guarantee Fees</u>		
		<u>Volume Group</u>	<u>Ongoing</u>	<u>Upfront</u>	<u>Total</u>
1Q12 Standard	XL	1-5	15	11	25
	L	6-15	15	10	25
	M	16-25	17	10	26
	S	26-100	18	10	28
	XS	100 +	21	10	30
		XL - XS Difference		(6)	1
2Q12 Standard	XL	1-5	26	11	36
	L	6-15	27	10	37
	M	16-25	27	10	37
	S	26-100	27	11	38
	XS	100 +	29	11	40
		XL - XS Difference		(4)	(0)
3Q12 Standard	XL	1-5	27	10	37
	L	6-15	28	10	38
	M	16-25	28	10	39
	S	26-100	29	10	40
	XS	100 +	31	10	42
		XL - XS Difference		(4)	0
4Q12 Standard	XL	1-5	30	11	41
	L	6-15	31	10	42
	M	16-25	31	9	41
	S	26-100	33	11	43
	XS	100 +	34	11	45
		XL - XS Difference		(4)	0

Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

Quarterly data indicate that the average guarantee fees Fannie Mae and Freddie Mac charged on standard, single-family mortgages increased for nearly all five acquisition-volume groups between the first and the fourth quarters of 2012 (see Table 15). The increases were generally higher for larger-volume lenders than for smaller-volume ones, especially for the increases that took effect late in the year. Average upfront fees remained relatively constant. As the Enterprises renegotiated expiring contracts in 2012, they increased ongoing fees more for large-volume lenders. Between the first and fourth quarters, average ongoing fees increased by 15 basis points for the extra-large-volume group and increased by 14 basis point for the extra-small-volume group. As a result, the

difference between the average ongoing fees paid by lenders in those two groups declined from 6 basis points in the first quarter to 4 basis points in the fourth quarter.

Smaller lenders primarily choose to sell whole loans for cash, since they typically lack the volume and capacity to swap mortgages for MBS (see Table 16). In contrast, larger lenders primarily swap loans for MBS under lender-specific guarantee fee contracts negotiated with each Enterprise. When lenders sell whole loans, they receive an established cash price that reflects an embedded guarantee fee. That embedded guarantee fee is not explicitly stated to the lenders, but instead is an input used by the Enterprises in setting cash prices. Smaller-volume lenders relied less on whole loan deliveries and more on swapping loans for MBS in 2012 than in the previous year.

Table 16
Whole Loan Share of Single-Family Cash Acquisitions
by Acquisition-Volume Group, 2007-2012⁽¹⁾
 (share of category unpaid principal balance)

	XL	L	M	S	XS
	1-5	6-15	16-25	26-100	101+
2007	1%	8%	11%	56%	95%
2008	3%	11%	15%	59%	94%
2009 Standard	0%	17%	32%	70%	96%
2010 Standard	0%	12%	26%	70%	94%
2011 Standard	0%	6%	27%	66%	93%
2012 Standard	0%	19%	33%	53%	91%
Change from 2011	0%	13%	5%	-13%	-2%

⁽¹⁾ Based on study population for 2007-2008 and standard loans for 2009-2012.

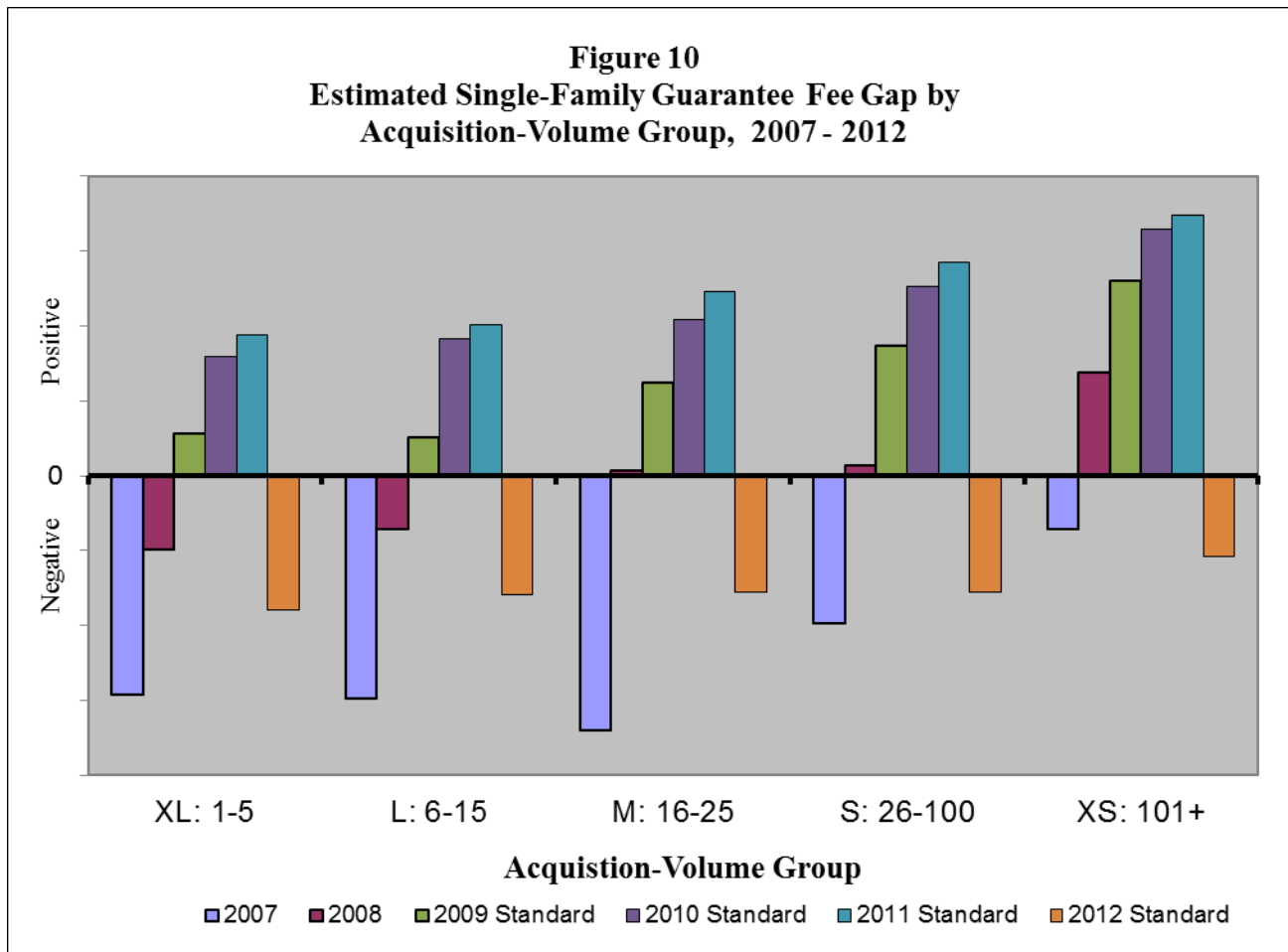
Source: Federal Housing Finance Agency based on data from Fannie Mae and Freddie Mac

The whole loan programs offer lenders faster cash proceeds and lower financing costs since there is not the intermediate step of swapping loans for MBS and then reselling the MBS to investors. Lenders also benefit from reduced hedging costs through the avoidance of the interest rate risk inherent in holding MBS. Fannie Mae and Freddie Mac finance and hedge the interest rate risk associated with holding the whole loans they acquire. Each Enterprise packages whole loans it has acquired from multiple lenders to create securities that in some cases are designed to receive attractive prices in the capital markets.

In determining the guarantee fees they charge, each Enterprise historically gave consideration to the total volume of mortgages to be delivered by each lender. They traditionally took this approach because the larger a lender's delivery volume, the more that business contributes to the liquidity that

supports the demand for the Enterprise’s outstanding MBS, which benefits to some extent all lenders that do business with the Enterprise.

In addition to MBS liquidity considerations, guarantee fee differences have existed for other reasons. First, the largest lenders historically were able to use their significant volumes to negotiate better terms of business such as lower ongoing guarantee fees and sometimes discounts in upfront fees. Second, the administrative costs of doing business with a lender are partly fixed, so the administrative cost per loan of guaranteeing a larger lender's business is lower. The Enterprises’ cost models use a fixed allocation of G&A expenses across all loans without respect to a lender’s volume. Third, counterparty risk may be less for the larger institutions that are subject to federal regulation and extensive financial disclosure requirements. However, concentrations of counterparty risk and dependence for business on the largest counterparties may more than offset such benefits. As noted, during 2012 the Enterprises increased ongoing fees more for lenders in the largest-acquisition volume groups as expiring contracts were renegotiated. And, late in the year guarantee fee increases for cash window purchases, the channel used predominantly by smaller lenders, were less than those for loan/security swaps.



Source: Federal Housing Finance Agency based on Fannie Mae and Freddie Mac data

Figure 10 presents estimated fee gaps for standard mortgages acquired in 2007 through 2012 from lenders in the five acquisition-volume groups. Between 2011 and 2012, gaps fell dramatically for

lenders in each acquisition-volume group, The estimated fee gap remained the largest for lenders in the extra-small-volume group, but the difference between the gap for that category and for the extra-large-volume group declined. Quarterly data indicate that the difference between the fee gaps for lenders in the two groups declined by two basis points between the first and fourth quarters of the year.

CONCLUSION

Although Fannie Mae and Freddie Mac consider model-derived estimates of cost in determining the single-family guarantee fees they charge, each Enterprise's pricing often subsidizes its guarantees of some mortgages using higher returns that it expects to earn on guarantees of other loans. In 2007 through 2012, cross-subsidization in single-family guarantee fees charged by the Enterprises was evident across product types, credit score categories, and LTV ratio categories. If there had been no cross subsidization, Enterprise guarantee fees would have been higher on 30-year, fixed-rate mortgages, loans to borrowers with lower credit scores, and mortgages with lower down payments; fees would have been lower on loans with a 15-year term to maturity, low LTV ratios, and those that were made to borrowers with strong credit scores. However, because the share of higher-risk loans acquired by the Enterprises was lower in 2010 and 2011 than in prior years, overall there was less cross-subsidization in Enterprise single-family guarantee fee pricing in the two later years.

Fannie Mae and Freddie Mac each responded to deteriorating housing market conditions with guarantee fee pricing increases beginning in March 2008. The main changes to pricing were the introduction of a 25 basis point upfront adverse market charge on all single-family mortgages, risk-based pricing based on LTV ratios and borrower credit scores, and various additional fees for combinations of loan attributes that increase credit risk. Those changes helped reduce instances where receipts associated with new acquisitions were expected to be less than costs (including a target rate of return on required capital). Since 2008, each Enterprise has continued to make changes to its guarantee fee pricing, both upfront fees charged for specific risk attributes and ongoing fees. In 2012 the Enterprises made sizeable increases in guarantee fees at the direction of the FHFA.

The average estimated cost of guaranteeing standard single-family mortgages acquired by Fannie Mae and Freddie, as estimated by internal Enterprise costing models at the time of acquisition, fell in 2008, 2009, and 2010 as a result of better underwriting, improvements in the credit profile of acquisitions, and improvements in the house price outlook. Costs rose slightly in 2011 due in part to an increase in acquisitions of loans with higher LTV ratios, which included HARP and flexible refinance loans and an increasing number of standard loans. Costs rose substantially in 2012 as a result of more stringent costing models implemented by the Enterprises.

As a share of total Enterprise acquisitions of single-family mortgages, HARP dollar volume increased over 50 percent to 19 percent in 2012, as the program eligibility requirements expanded. The number of flexible refinance mortgages, which are in many respects similar to HARP loans, fell slightly in 2012 to 1.6 percent of acquisitions. In 2012 HARP and flexible refinance borrowers who refinanced from a 30-year, fixed-rate mortgage into another loan of the same type were able to reduce their interest rates by about 170 basis points on average. Although HARP and flexible refinance borrowers were not required to purchase additional or new mortgage insurance on their

loans to compensate for low equity positions caused by declining property values, the loans still improved each Enterprise's economic position and reduced borrowers' monthly mortgage payments on average.