FANNIE MAE AND FREDDIE MAC SINGLE-FAMILY GUARANTEE FEES IN 2022

May 2024

TABLE OF CONTENTS

Executive Summary

Fannie Mae and Freddie Mac (the Enterprises) were chartered by Congress to provide stability and liquidity to the nation's secondary mortgage market, as well as to promote broad access to mortgage credit. They do so, in large part, by acquiring mortgage loans from lenders (often referred to as "sellers"), issuing securities backed by these mortgage loans, and guaranteeing to investors the timely payment of principal and interest on these securities. Through these functions, the Enterprises enable funds from the global capital markets to be channeled more effectively into the domestic mortgage market, making mortgage credit more accessible and affordable for American homebuyers.

The Enterprises charge guarantee fees to cover the expected credit losses, administrative costs, and cost of capital associated with their guarantees. These guarantee fees serve as the primary source of revenue for the Enterprises. The revenue collected by the Enterprises in excess of their costs in recent years has allowed them to build capital, thereby better protecting taxpayers and increasing the Enterprises' safety and soundness.

There are two types of guarantee fees: ongoing and upfront. Ongoing fees are factored into each loan's interest rate and collected each month over the life of a loan. Upfront fees are one-time payments made by sellers upon delivery of a loan to an Enterprise, and these fees also typically are factored into the interest rate paid by the borrower.

Upfront guarantee fees are determined based on various risk attributes, such as the loan-to-value (LTV) ratio, the borrower's credit score, the property type, and the occupancy type. Loans with riskier attributes feature higher upfront fees. This is the primary manner by which the Enterprises implement risk-based pricing. Risk-based pricing has been in effect at the Enterprises since 2008 and remains in place.

For most borrowers, these fees represent a small portion of their total monthly mortgage payment. In 2022, the average guarantee fee across the Enterprises' single-family loan acquisitions was 61 basis points – or 0.61 percent of the loan amount. Mortgage interest rates for 30-year fixed-rate mortgages ranged from 3.2 percent to 7.1 percent during 2022. Average guarantee fees increased slightly in 2022 relative to 2021, driven largely by increases in upfront guarantee fees, which in turn were driven by the shift from a predominantly refinance market to a predominantly purchase market.

The shift to a predominantly purchase market in 2022, along with higher interest rates and home prices, led to a modest increase in the aggregate risk profile of the Enterprises' loan acquisitions relative to the prior year – largely due to higher average LTV ratios. Purchase mortgages generally have higher LTV ratios than refinance mortgages because borrowers refinancing their mortgages have typically accrued additional equity in the home after purchase.

In 2022, the Enterprises transitioned to measuring their costs of holding capital for single-family loans using the Enterprise Regulatory Capital Framework (ERCF), which is an updated set of capital requirements implemented by the Federal Housing Finance Agency (FHFA) through multiple notice-and-comment rulemakings. Concurrently, FHFA established a minimum rate of return intended to ensure stable guarantee fees and safe operations.

The transition to the ERCF increased the aggregate amount of required capital for the Enterprises, relative to the Conservatorship Capital Framework (CCF) previously in effect. The implementation of the ERCF also changed the capital requirements associated with various risk attributes. A credit risk-weight floor of 20 percent on single-family mortgage exposures, for example, increased the minimum capital required for loans with lower risk attributes relative to those with higher risk attributes.

Beginning in 2021, FHFA undertook a comprehensive review of the Enterprises' single-family pricing framework. Such a review had not taken place in many years and had not occurred since the ERCF was finalized in December 2020. The objectives of this review included increasing pricing support for many creditworthy homebuyers limited by wealth or income, ensuring a level playing field for small and large sellers, fostering capital accumulation at the Enterprises, and achieving viable returns on capital at the Enterprises.

FHFA announced updates to the Enterprises' single-family pricing framework in three stages. In January 2022, FHFA announced targeted upfront fee increases for certain high balance loans and second home loans. In October 2022, FHFA announced the elimination of upfront fees for mortgage loans for many creditworthy low- and moderate-income first-time homebuyers, loans originated through the Enterprises' flagship affordable housing programs (HomeReady and Home Possible), loans originated through the Enterprises' affordable housing programs for housing finance agencies (HFA Preferred and HFA Advantage), and loans supporting purchases of homes in rural communities or manufactured housing and preservation of affordable housing through the Duty to Serve program. At that time, FHFA also announced increases to upfront fees for certain cash-out refinances.

In January 2023, FHFA announced a recalibration of the upfront fees for most purchase and rate-term refinance loans to align the fee structure more closely with the risk factors utilized in the ERCF and the level of capital required by the ERCF. The recalibrated fees included separate base grids across three loan purposes (i.e., purchase loans, rate-term refinance loans, and cash-out refinance loans) and more granular categories across the spectrum of borrower credit scores. The new upfront fee grids maintain risk-based pricing and continue to reflect other relevant factors impacting pricing, such as the required credit enhancement (typically mortgage insurance) on loans with LTV ratios above 80 percent.

Following extensive engagement with a variety of stakeholders, in May 2023, FHFA rescinded an upfront fee, scheduled to take effect later in the year, that was based on borrowers' debt-to-income (DTI) ratios. In May 2023, FHFA also published a request for input (RFI) on the Enterprises' single-family pricing framework to gather further feedback regarding the goals and policy priorities FHFA should pursue in its oversight of this framework. Together, these steps will strengthen safety and soundness, better ensure the Enterprises fulfill their statutory missions, and more accurately align pricing with the expected financial performance and risks of the underlying loans.

This report provides information on guarantee fees charged by the Enterprises in 2022. The targeted increases to upfront fees for certain high balance and second home loans took effect for acquisitions beginning April 1, 2022. The elimination of upfront fees for certain borrowers limited by wealth or income and certain affordable mortgage products took effect for acquisitions beginning December 1, 2022. The remaining components of the updated pricing framework did not take effect until 2023 and therefore are not reflected in the data presented in this report.

Finally, FHFA continues to ensure that the Enterprises' single-family pricing framework does not permit differential guarantee fees based on a seller's size, charter type, or volume of business. This condition was added to the Senior Preferred Stock Purchase Agreements by letter agreements executed in January 2021. The prohibition on differential guarantee fees based on these seller characteristics promotes a level playing field across sellers operating in the primary market, which encourages robust competition and benefits borrowers.

The following sections provide an analysis of the guarantee fees charged by the Enterprises in 2022, as well as a comparison to guarantee fees charged in 2021, as required by the Housing and Economic Recovery Act of 2008 (HERA).[1]

[1] See Section 1601 of the Housing and Economic Recovery Act of 2008, Public Law 110-289, 122 Stat 2824 at https://www.congress.gov/110/plaws/publ289/PLAW-110publ289.pdf.

Guarantee Fees: Background

Guarantee fees are intended to cover the expected credit losses, administrative costs, and the cost of capital associated with guaranteeing single-family loans. The Enterprises acquire loans through two channels. A seller[2] may exchange or swap a group of loans for a Fannie Mae- or Freddie Mac-guaranteed mortgage-backed security (MBS), which the seller may then sell into the secondary market. This is known as the MBS swap acquisition channel. Alternatively, a seller may deliver loans to an Enterprise in return for a cash payment. The Enterprises bundle these loans into MBS and sell the MBS into the secondary market. This is known as the cash window acquisition or whole loan conduit channel. Larger sellers tend to exchange loans for MBS, while smaller sellers tend to sell loans for cash.

The Enterprises acquire loans through two channels, MBS swap and cash window.

While the private holders of MBS assume market risk (the risk that the price of the security may fall due to changes in market interest rates), the Enterprises assume the credit risk on the loans, guaranteeing that investors receive scheduled principal and interest payments.[3] The Enterprises charge a guarantee fee in exchange for providing this guarantee. Investors are generally willing to pay a higher price for Enterprise MBS than for private-label MBS because of the guarantee of principal and interest, and because of the liquidity of the Enterprise MBS market.

There are two types of guarantee fees: ongoing and upfront. Ongoing fees are factored into each loan's interest rate and collected each month over the life of a loan. Upfront fees are one-time payments made by sellers upon loan delivery to an Enterprise that can be similarly factored into the interest rate paid by the borrower and thus recouped by the seller. In this report, FHFA presents the upfront fees in an annualized form.[4]

---

[2] The term "seller" refers to an entity that is the ultimate seller of a loan to the Enterprises, which may include mortgage originators that sell directly to the Enterprises or mortgage aggregators that purchase mortgages from other financial institutions and resell the loans to the Enterprises.

[3] Although the Enterprises are always the ultimate guarantors of their MBS, they may choose to retain the full credit risk or, through their credit risk transfer (CRT) programs, pay private entities to bear some of the credit risk.

[4] For the purposes of reporting to FHFA, the Enterprises annualize upfront fees by dividing the upfront fee for a given loan by that loan's specific present value multiplier (PVM). For example, a loan with an upfront fee of 72 basis points and a PVM of 6 would have an annualized upfront fee of 72/6 = 12 basis points. PVMs are modeled by the Enterprises, based on interest rates and loan characteristics.

Ongoing fees are based primarily on the product type, such as whether the loan is a 30-year fixed-rate or a 15-year fixed-rate loan. Ongoing fees presented in this report include the net gain or loss generated from buy-up/buy-down transactions, in which the Enterprise buys from or sells to the seller a portion of the loan's ongoing interest to allow for loans to be pooled more flexibly during the creation of MBS.

Ongoing fees are based primarily on the product type, such as whether the loan is a 30-year fixed-rate or a 15-year fixed-rate loan.

Upfront fees are based primarily on specific risk attributes.

Upfront fees are aligned fees (across the Enterprises) charged on loans with specific attributes.[5] Specific risk attributes include but are not limited to the following:

- High-LTV ratio adjustable-rate mortgages
- LTV ratio
- Borrower credit score
- Certain occupancy types (investment properties or second homes)
- Cash-out refinances
- Certain property types (condominiums, multi-unit properties, manufactured homes)
- Level of mortgage insurance coverage relative to requirements
- Whether the loan exceeds the baseline conforming loan limit
- Whether and how much subordinate financing (second liens) was used

The risk attributes present in the mix of loan acquisitions is reflected in the level of the Enterprises' total upfront fees. Acquisition years that reflect significant refinance activity tend to have lower upfront fees because refinance loans tend to have lower LTV ratios.

[5] See Enterprise upfront fees at https://www.fanniemae.com/content/pricing/llpa-matrix.pdf and https://guide.freddiemac.com//euf/assets/pdfs/Exhibit_19.pdf.

Costs of Providing the Guarantee

FHFA's analysis of the Enterprises' costs of providing their guarantee centers on estimates of the Enterprises' profitability gaps, or the differences between an Enterprise's revenue (guarantee fees) received and its estimated total costs. The Enterprises' revenues include their upfront and ongoing guarantee fees. The Enterprises' total costs include: (1) the expected default costs that result from the failure of some borrowers to make their payments during expected economic conditions; (2) the cost of holding capital to protect against unexpected losses that result from the failure of some borrowers to make their payments in a severe stress environment; (3) general and administrative expenses; and (4) 10 basis points allocated to the U.S. Department of the Treasury as required by the Temporary Payroll Tax Cut Continuation Act of 2011 (TCCA).[6] The TCCA fee was extended to 2032 by the Infrastructure Investment and Jobs Act in November 2021.

Using regulatory capital requirements and the Enterprise's estimated expected default costs, each Enterprise estimates a profitability gap on its newly acquired loans. The profitability gap serves as the measure of estimated profitability given a minimum return on capital. If the profitability gap on a loan is positive or zero, the Enterprise expects to achieve at least its minimum return on capital. A negative profitability gap does not imply a product is unprofitable. If the profitability gap is negative, the Enterprise expects to earn a return on capital on the loan that is below its overall minimum return on capital.

FHFA defines profitability gap as the difference between the revenue (guarantee fees) received and the estimated total cost. The profitability gap serves as the measure of estimated profitability relative to the minimum rate of return on capital.

The Enterprises limit guarantee fees on certain loans to fulfill their housing mission. Such pricing is consistent with the Safety and Soundness Act and the Enterprises' charter acts, which provide that Enterprise activities include purchases of mortgages on housing for low- and moderate- income families that may feature lower returns than the returns earned on other activities. However, FHFA expects each Enterprise to earn a minimum annual return on capital on its overall single-family acquisitions.

[6] Please see the following section, "Changes in Guarantee Fees: 2008 to 2022," for a brief introduction to the cost component related to the TCCA.

Two main factors contribute to the movement in profitability gaps over time. The first is yearly changes to each Enterprise's cost estimation model and capital-related assumptions. The second is changes in loan mix, as the Enterprises acquire a greater or fewer number of loans in different risk categories each year.

Transition to the Enterprise Regulatory Capital Framework

In 2022, the Enterprises transitioned to measuring their costs of holding capital for single-family loans using: (i) capital requirements and buffers under the ERCF, and (ii) a minimum target rate of return set by FHFA.

The ERCF is intended to ensure that the Enterprises operate in a safe and sound manner and are positioned to fulfill their statutory mission to provide stability and liquidity to the secondary mortgage market across the economic cycle, particularly during periods of financial stress. The Enterprises began reporting on and managing to the ERCF's requirements in 2022.

In contrast, FHFA's 2021 Guarantee Fee Report utilized the CCF for estimating capital costs because the Enterprises managed their businesses to the CCF in 2021. The CCF was an aligned risk management framework developed to better inform each Enterprise's business decisions during conservatorship. The Enterprises began using the CCF in 2017. During 2021, both Enterprises used the CCF to inform their business decisions and FHFA used the framework in its role as conservator to assess Enterprise guarantee fees, activities, and operations, and to ensure the Enterprises did not make competitive decisions that could adversely impact safety and soundness. To create a comparison year for this year's report, FHFA required the Enterprises to recalculate their capital costs from 2021 using the ERCF.

The transition to the ERCF increased the aggregate amount of capital required compared to the CCF. The aggregate increase reflects the following components of the ERCF: (i) a risk-weight floor that prescribes a minimum amount of required capital for all single-family mortgage exposures, (ii) a countercyclical adjustment to single-family credit risk capital requirements that elevates capital requirements when real single-family house prices are significantly above their long-run trend, and (iii) capital buffers, which include capital buffers for stability and stress, that establish capital cushions above and beyond the minimum capital requirements.

The transition to the ERCF also changed capital requirements across credit characteristics. The credit risk-weight floor of 20 percent on single-family mortgage exposures in the ERCF increased capital for loans with lower credit risk characteristics (e.g., lower LTV ratios, higher credit scores, lower DTI ratios, and 15/20-year fixed-rate products). For example, consider the following single-family loan that reflects a relatively low credit risk profile:

- Original LTV ratio of 60 percent,
- Borrower's original credit score of 780,
- 30-year, fixed-rate, rate-term refinance,
- Owner occupied single unit, and
- Borrower's original DTI ratio of 30 percent.

In this example, the ERCF's base risk weight for the loan is 7 percent and its risk multiplier is 1.3. Therefore, the ERCF's pre-floor risk weight for this loan would be 9.1 percent, or 7 percent multiplied by 1.3. The ERCF's credit risk-weight floor increases this loan's risk weight to the minimum of 20 percent, which in turn increases the capital that must be held against this exposure.

Changes in Guarantee Fees: 2008 to 2022

The Enterprises' guarantee fees have changed significantly since 2008. This section provides a narrative of the major changes to ongoing and upfront fees over the past 15 years.

Faced with deteriorating conditions in the housing market, each Enterprise implemented a guarantee fee increase in March 2008 to better align fees with credit risk. Specifically, the Enterprises increased ongoing fees and introduced the following two new upfront fees: (1) a fee based on a borrower's LTV ratio and credit score, and (2) an adverse market charge. Later in 2008, the Enterprises refined their LTV ratio- and credit score-based upfront fees, and in subsequent years gradually raised their fees to better reflect credit risk.

The Temporary Payroll Tax Cut Continuation Act of 2011 funded an extension of the payroll tax cut. To comply with the TCCA, in late December 2011, FHFA directed the Enterprises to increase the ongoing fees for all loans by 10 basis points effective with April 2012 deliveries.[7]

In August 2012, FHFA directed the Enterprises to increase their guarantee fees by an additional 10 basis points on average to compensate taxpayers more fully for bearing credit risk. The increase was allocated in a way that more closely aligned the profitability gaps of 15-year and 30-year loans and reduced differences in the ongoing fees of small volume sellers and large volume sellers. This change was effective with December 2012 deliveries.

FHFA announced another guarantee fee change in December 2013 that would have increased ongoing fees by 10 basis points and made other changes to the fee structure. However, in January 2014, FHFA suspended implementation of the change pending further review. In April 2015, FHFA completed its further review of the adequacy of the Enterprises' guarantee fees and found no compelling economic reason to change the overall level of fees. However, FHFA directed the Enterprises to make certain minor and targeted fee adjustments effective with September 2015 deliveries:

[7] The Enterprises collect the TCCA fee and pass it through to the U.S. Department of the Treasury. For the purposes of reporting to FHFA, the Enterprises include the 10-basis point TCCA fee in both the guarantee fee and model fee (estimated total cost). The profitability gaps shown in this report do not reflect the benefit of the 10-basis point fee because it is both an income and an expense item.

- Due to improvements in the housing market, in April 2015, FHFA removed the 25-basis point upfront adverse market charge, in place since 2008.

- To offset the revenue lost from the removal of the adverse market charge, FHFA made targeted increases in upfront fees for a subset of loans, including some higher-risk loan segments (cash-out refinances, jumbo conforming loans, investment properties, and loans with secondary financing) and those with both high credit scores and low LTV ratios. The net effect of these targeted fee increases and the removal of the upfront adverse market charge on high credit score, low LTV ratio loans was approximately revenue neutral and resulted in little or no change in loan interest rates for most borrowers.

In 2016, as part of its regular monitoring of guarantee fees, FHFA observed that the average ongoing fees charged by the two Enterprises were declining. FHFA directed the Enterprises in July 2016 to set minimum ongoing guarantee fees by product type, effective in November 2016, consistent with its responsibility to ensure the safety and soundness of the Enterprises. Between September 2018 and February 2019, both Enterprises implemented a 25-basis point upfront fee on second home loans.

In April 2020, following the start of the COVID-19 pandemic, FHFA allowed the Enterprises to purchase loans already in forbearance, which previously would not have been deliverable, with an upfront fee add-on of 500 basis points for first-time homebuyers and 700 basis points for all others. After multiple extensions, this provision expired with loans closed through December 31, 2020. In August 2020, FHFA directed the Enterprises to introduce a 50-basis point upfront Adverse Market Refinance Fee (AMRF) on cash-out and rate-term refinances, effective on December 1, 2020. The intent of this fee was to cover projected COVID-19 losses of at least $6 billion at the Enterprises. The Enterprises excluded from the fee loans with a principal balance at or below $125,000, those associated with Fannie Mae's HomeReady and Freddie Mac's Home Possible offerings (low down payment financing products), and construction-to-permanent loans meeting certain criteria.[8]

In July 2021, FHFA announced that the Enterprises would eliminate the AMRF for loan deliveries effective August 1, 2021, because of the success of FHFA's and the Enterprises' COVID-19 policies in reducing the negative financial impact of the pandemic on the Enterprises. In November 2021, the Infrastructure Investment and Jobs Act extended to 2032 the existing 10-

[8] See the descriptions for HomeReady and Home Possible at https://singlefamily.fanniemae.com/originating-underwriting/mortgage-products/homeready-mortgage and https://sf.freddiemac.com/working-with-us/origination-underwriting/mortgage-products/home-possible, respectively.

basis point ongoing TCCA fee. This fee was previously due to expire in 2022. The Enterprises continue to remit the proceeds from this fee to the U.S. Department of the Treasury.

In January 2022, FHFA announced targeted increases to upfront fees for certain high balance loans and second home loans. These increases became effective on April 1, 2022.

In October 2022, FHFA announced the elimination of upfront fees for certain homebuyers and affordable products. Upfront fees were eliminated for first-time homebuyers at or below 100 percent of area median income, and below 120 percent in high-cost areas; HomeReady and Home Possible loans; HFA Advantage and HFA Preferred loans; and single-family loans supporting the Duty to Serve program. Targeted increases to upfront fees for cash-out refinances were also announced, to become effective on February 1, 2023. The reduced revenue from the elimination of upfront fees for certain homebuyers and affordable products was primarily offset by the targeted fee increases on certain high balance loans, second home loans, and cash-out refinances.

Market Overview for 2022

Total Enterprise loan acquisitions in 2022 were considerably lower than the levels of 2021. Acquisition activity declined due to higher mortgage interest rates resulting from interest rates rising through much of 2022. The Enterprises acquired 3.8 million mortgages for a total dollar volume of $1.1 trillion, accounting for an estimated 61 percent of the total mortgage market in 2022. This compares to 9.0 million mortgages acquired by the Enterprises in 2021 with a total dollar volume of $2.6 trillion. Of the Enterprise acquisitions in 2022, 63 percent were purchase mortgages, 12 percent were rate-term refinances, and 25 percent were cash-out refinances.

Guarantee Fee and Profitability Gap Results for 2022

This report compares average guarantee fees and average profitability gaps on Enterprise loan acquisitions from 2021 to 2022. The report includes breakouts by year, product type, and loan purpose; risk class (LTV ratio and credit score); and seller delivery volume. The breakouts allow for attribution of changes in the average guarantee fee and the average profitability gap to changes over time in the acquisition composition. Because this report uses economic concepts rather than accounting data to analyze guarantee fees, certain metrics in this report differ from similar metrics reported in the published financial statements of the Enterprises, which are prepared in accordance with Generally Accepted Accounting Principles.

I. Study Population

The study population consists of single-family mortgages acquired by the Enterprises under their standard underwriting and delivery guidelines from January 1, 2021 through December 31, 2022. Loan counts and acquisition dollar volumes fell sharply in 2022 compared to 2021, largely due to rising mortgage interest rates in 2022 (see Table 1). Rising mortgage interest rates also contributed to a shift in loan purpose and product mix across the two years. The Enterprises' 2022 acquisitions featured a greater proportion of home purchase loans and a lower proportion of refinance loans compared to 2021.

Table 1: Total Study Population – Dollar and Loan Volume

	2021	2022	Change 2021 to 2022
Dollars (in Billions)	**$2,555**	**$1,145**	**($1,411)**
Loans (in Millions)	**9.0**	**3.8**	**(5.2)**

II. Average Guarantee Fees by Year, Product, and Purpose

The average total guarantee fee was 61 basis points in 2022, up from 57 basis points in 2021 (see Table 2). The increase is largely due to the change in loan purpose and product mix across the two years. The Enterprises' 2022 acquisitions featured higher shares of home purchase loans and 30-year fixed-rate loans compared to 2021. Guarantee fees on home purchase loans tend to be higher on average compared to guarantee fees on refinance loans. Similarly, guarantee fees on 30-year fixed-rate mortgages tend to be higher than guarantee fees on 15-year and 20-year fixed-rate mortgages.

Table 2: Average Guarantee Fees by Year

	2021	2022
Total G-Fee (bps)	57	61
Ongoing Fee (bps)	43	44
Upfront Fee (bps)	14	17
Total Gap (bps)	5	3

The shift towards home purchase loans and 30-year fixed-rate mortgages was also reflected in changes to average ongoing and upfront guarantee fees. Additionally, the increase in mortgage interest rates in 2022 compared to 2021 affected the level of the Enterprises' annualized upfront guarantee fees. The Enterprises' ongoing fees increased to 44 basis points in 2022, from 43 basis points in 2021. Their non-annualized upfront fees charged were also up slightly to 94 basis points in 2022, from 92 basis points in 2021. However, the expected life of the Enterprises' acquisitions declined to 5.8 years in 2022, from 6.9 years in 2021. The decline in expected life, coupled with the modest increase in non-annualized guarantee fees, resulted in a more significant increase of annualized upfront fees to 17 basis points in 2022, compared with 14 basis points in 2021. This meaningful shift helps to explain why the Enterprises' average total guarantee fees (reflecting the combination of ongoing and annualized upfront fees) in 2022 exceed those in 2021.

Table 3: Average Guarantee Fees by Year, Product, and Purpose

	2021 UPB Share	2021 G-Fee (bps)	2021 Gap (bps)	2022 UPB Share	2022 G-Fee (bps)	2022 Gap (bps)
By Product Type						
30-year Fixed	78%	60	5.2	87%	63	2.6
15-year Fixed	14%	42	-0.6	8%	42	-0.7
Fixed Other Terms	7%	53	8.6	4%	54	7.9
ARM Loans	0%	57	9.7	1%	59	5.9
By Loan Purpose						
Purchase	34%	55	-0.3	62%	59	0.2
Rate-Term Refinance	41%	53	3.4	13%	50	-1.5
Cash-Out Refinance	24%	66	13.6	25%	69	10.2

The average profitability gap in 2022 was 2 basis points lower than the average profitability gap in 2021. However, the positive profitability gap indicates that the expected profitability on new loans remained above the Enterprises' minimum return on capital thresholds.

Two main factors contribute to the movement in profitability gaps over time. First, yearly changes to the cost estimation model and capital-related assumptions affect the profitability gaps. Second, changes in the loan mix affect the profitability gaps, as the Enterprises acquire more or fewer loans in different risk categories each year.

From 2021 to 2022, the share of the study population accounted for by 30-year fixed-rate loans increased by 9 percentage points. This increased demand for 30-year mortgages was driven largely by the higher mortgage interest rates in 2022, which challenged affordability for many consumers.

From 2021 to 2022, the average guarantee fee on 30-year fixed-rate loans increased from 60 to 63 basis points, driven by a lower proportion of refinance loans, particularly rate-term refinance loans, which tend to have lower guarantee fees. The average fee on 15-year fixed-rate loans was unchanged at 42 basis points. The average fee on adjustable-rate mortgages increased by 2 basis points to 59 basis points.

Profitability gaps declined across product types for 2022. Expected profitability declined by 2.6 basis points to 2.6 basis points for 30-year fixed-rate loans, by 0.1 basis points to -0.7 basis points for 15-year fixed-rate loans, and by 3.8 basis points to 5.9 basis points for adjustable-rate mortgages.

The average fee on home purchase loans increased by 4 basis points in 2022 to 59 basis points. The average fee on rate-term refinances decreased by 3 basis points to 50 basis points, in part due to the elimination of the AMRF. The average fee on cash-out refinances increased by 3 basis points to 69 basis points.

The profitability gap on home purchase loans increased by 0.5 basis points to 0.2 basis points. The profitability gap on rate-term refinances decreased by 4.9 basis points to -1.5 basis points, in part due to the elimination of the AMRF. The profitability gap on cash-out refinances decreased by 3.4 basis points to 10.2 basis points.

Mortgage interest rates increased steeply in 2022, as 30-year fixed-rate mortgage interest rates reached a 20-year high of nearly 7.1 percent late in the year. Rising interest rates led to a sharp decline in refinances, and a corresponding increase in the percentage of home purchase loans. Home purchase borrowers tend to have lower credit scores than refinance borrowers which has led, during this period, to a decrease in the ratio of high credit score borrowers. Similarly, home purchase loans tend to have higher LTV ratios than refinance loans, which resulted in an increased share of high LTV ratio loans. Both changes resulted in more capital being required to guarantee these loans and a corresponding decrease in profitability for the Enterprises. The transition to the ERCF also increased capital more significantly for 15-year fixed-rate loans, primarily due to the risk-weight floor.

III. Average Guarantee Fees by Risk Class

Table 4: Average Guarantee Fees by Risk Class

	UPB Share	2021 G-Fee (bps)	Gap (bps)	UPB Share	2022 G-Fee (bps)	Gap (bps)
By LTV Ratio						
<=80	79%	57	7.0	68%	62	6.7
80-90*	9%	55	-4.7	12%	59	-5.0
>90*	12%	54	-4.4	20%	56	-7.5
By Credit Score						
<660	3%	79	9.5	4%	85	7.8
660-719	17%	66	2.7	21%	71	0.1
>=720	80%	54	4.8	76%	57	2.9

*Loans with LTV ratios greater than 80 percent require credit enhancement, which often takes the form of private mortgage insurance.

As discussed previously, rising interest rates in 2022 led to a sharp decline in refinances, and a corresponding increase in the percentage of home purchase loans. Home purchase borrowers tend to have lower credit scores than refinance borrowers, so the ratio of high credit score borrowers decreased. Similarly, home purchase loans tend to have higher LTV ratios than refinance loans, so the ratio of high LTV ratio loans increased.

Guarantee fees increased for all LTV ratio categories in 2022. The average fees increased by 5 basis points, to 62 basis points, for loans with an LTV ratio less than or equal to 80 percent. The average fees increased by 4 basis points, to 59 basis points, for loans with an LTV ratio greater than 80 percent but less than or equal to 90 percent. The average fees increased by 2 basis points, to 56 basis points, on loans with an LTV ratio greater than 90 percent.

The Enterprises' charters require credit enhancement on single-family acquisitions when a loan's original loan-to-value ratio exceeds 80 percent. In practice, the Enterprises typically fulfill this requirement by acquiring loans with mortgage insurance provided by approved private mortgage insurers. The private mortgage insurers absorb losses before the Enterprises, reducing the credit risk taken on by the Enterprises. As a result, the Enterprises' guarantee fees on loans with original loan-to-value ratios exceeding 80 percent are lower than they would be absent this credit enhancement, because credit losses are first borne by the private mortgage insurers.

Profitability gaps decreased by 0.3 basis points on loans with an LTV ratio less than or equal to 80 percent. Profitability gaps decreased by 0.3 basis points on loans with an LTV ratio greater than 80 percent but less than or equal to 90 percent. Profitability gaps decreased by 3.1 basis points on loans with an LTV ratio greater than 90 percent.

Guarantee fees increased for all credit score categories. Average fees increased by 6 basis points, to 85 basis points, for loans with credit scores under 660. Average fees increased by 5 basis points, to 71 basis points, for loans with credit scores greater than or equal to 660 and below 720. Average fees increased by 3 basis points, to 57 basis points, for loans with credit scores greater than or equal to 720.

Profitability decreased for all credit score groups. Profitability gaps decreased by 1.7 basis points, to 7.8 basis points, for loans with credit scores under 660. Profitability gaps decreased by 2.6 basis points, to 0.1 basis points, for loans with credit scores greater than or equal to 660 and below 720. Profitability gaps decreased by 1.9 basis points, to 2.9 basis points, for loans with credit scores greater than or equal to 720.

IV. Average Guarantee Fees by Seller Volume

Table 5: Average Guarantee Fees by Seller Volume

		2021 UPB Share	2021 G-Fee (bps)	2021 Gap (bps)	2022 UPB Share	2022 G-Fee (bps)	2022 Gap (bps)
By Seller Volume							
MBS Swap	Small	1%	50	-0.5	1%	51	-6.8
	Medium	24%	57	4.4	17%	61	2.2
	Large	76%	57	5.1	82%	62	3.3
Cash Window	Small	34%	56	4.3	39%	58	1.8
	Medium	48%	56	3.8	60%	60	1.4
	Large	18%	55	5.4	1%	56	-4.8

Together, the Enterprises acquired loans from 1,764 sellers in the study population in 2022, with each Enterprise individually acquiring loans from about 1,000 sellers. FHFA divided these sellers into three groups based on their share of total Enterprise acquisition volume. The seller volume groups are comprised of those sellers with a share of total Enterprise acquisition volume at or above 2 percent (Large), greater than or equal to 0.1 percent and less than 2 percent (Medium), and below 0.1 percent (Small), within each year studied. Generally, smaller sellers tend to sell loans for cash, and larger sellers exchange loans for MBS. The cash window provides a service for small sellers, as it allows for smaller transaction sizes. Large sellers tend to prefer MBS swaps, as this provides them with liquid, marketable securities.

Across both MBS swap and cash window channels combined, the average guarantee fee by seller size was 58 basis points for the small seller group, 60 basis points for the medium seller group, and 62 basis points for the large seller group.

In the cash window channel, the Enterprises hold the acquired loans in portfolio until they can be securitized. In the process, the Enterprises take on additional risk and costs, including but not limited to liquidity risk and hedging costs. The Enterprises also receive additional non-guarantee fee compensation for these risks and costs. Therefore, guarantee fees through the cash window channel are not directly comparable to guarantee fees through the MBS swap channel.

Fees increased across all channels and seller sizes in 2022, as there were fewer rate-term refinance loans, which tend to have lower fees. The relatively high profitability gaps on rate-term refinance loans also led to profitability gaps decreasing for all channels and seller sizes. For the MBS swap channel, guarantee fees increased for all seller volume groups. Average fees increased by 5 basis points, to 62 basis points, for large sellers. Average fees increased by 4 basis points, to 61 basis points, for medium sellers. Average fees increased by 1 basis point, to 51 basis points, for small sellers.

For the MBS swap channel, profitability gaps fell across all seller volume groups. Profitability gaps decreased by 1.8 basis points, to 3.3 basis points, for large sellers. Profitability gaps decreased by 2.2 basis points, to 2.2 basis points, for medium sellers. Profitability gaps decreased by 6.3 basis points, to -6.8 basis points, for small sellers. Small sellers do not typically deliver loans through MBS swaps, so these loans represent atypical deliveries.

For the cash window channel, average fees increased by 1 basis point, to 56 basis points, for large sellers. Average fees increased by 4 basis points, to 60 basis points, for medium sellers. Average fees increased by 2 basis points, to 58 basis points, for small sellers. Because large sellers deliver the vast majority of their loans through MBS swaps, the loans delivered through the cash window tend to be outliers in terms of pricing.

For the cash window channel, profitability gaps fell across all seller volume groups. Profitability gaps decreased by 10.2 basis points, to -4.8 basis points, for large sellers. Profitability gaps decreased by 2.4 basis points, to 1.4 basis points, for medium sellers. Profitability gaps decreased by 2.5 basis points, to 1.8 basis points, for small sellers. Large sellers do not typically deliver loans through the cash window, so these loans represent atypical deliveries.

Appendix: Timeline of Changes in Guarantee Fees from 2008 to 2022

Date	Change
March 2008	The Enterprises increased ongoing fees and added two new upfront fees: a fee based on the borrower's LTV ratio and credit score, and a 25-basis point adverse market fee.
Late 2008 through 2011	The Enterprises gradually raised fees and refined their upfront fee schedules.
December 2011	Pursuant to the Temporary Payroll Tax Cut Continuation Act of 2011, FHFA directed the Enterprises to increase the ongoing fee for all loans by 10 basis points. The Enterprises pay this fee to the U.S. Department of the Treasury. This fee increase was effective with April 2012 deliveries and was set to expire after 10 years.
August 2012	FHFA directed the Enterprises to raise fees by an additional 10 basis points on average to better compensate for credit risk exposure. FHFA directed the Enterprises to raise fees more on loans with terms longer than 15 years than on shorter-term loans to better align the profitability gaps and to make fees more uniform across sellers with varying loan delivery volumes. These changes were effective with December 2012 MBS deliveries.
December 2013	FHFA directed the Enterprises to increase ongoing fees by 10 basis points, change upfront fees to better align pricing with credit risk characteristics, and remove the 25-basis point adverse market fee for loans in all but four states. However, in January 2014, FHFA suspended the implementation of these changes pending review.
April 2015	FHFA completed its fee review and directed the Enterprises to eliminate the adverse market fee in all markets and add targeted increases for specific loan groups effective with September 2015 deliveries. These changes were approximately revenue-neutral with little or no impact for most borrowers.
July 2016	Based on findings from FHFA's quarterly guarantee fee reviews, the Agency directed the Enterprises to set minimum ongoing guarantee fees by product type, effective in November 2016, consistent with FHFA's responsibility to ensure the safety and soundness of the Enterprises.
September 2018 & March 2019	The Enterprises implemented a 25-basis point upfront fee for loans on second homes where the LTV ratio exceeds 85 percent.
April 2020	FHFA allowed the Enterprises to purchase loans in forbearance, with an upfront fee add-on of 500 basis points for first-time homebuyers and 700 basis points for all others, effective for loans closed through December 31, 2020, following multiple extensions.

August 2020	FHFA directed the Enterprises to introduce a 50-basis point upfront adverse market refinance fee, effective December 1, 2020, for cash-out and rate-term refinances. The Enterprises excluded loans with a principal balance less than or equal to $125,000, those associated with HomeReady/Home Possible, and construction-to-permanent loans meeting certain criteria.
July 2021	FHFA announced that the Enterprises would eliminate the adverse market refinance fee for loan deliveries effective August 1, 2021.
November 2021	The Infrastructure Investment and Jobs Act extended to 2032 the existing 10-basis point ongoing fee arising from the Temporary Payroll Tax Cut Continuation Act of 2011, which was due to expire in 2022. The Enterprises remit the proceeds from this fee to the U.S. Department of the Treasury.
January 2022	FHFA announced targeted increases to upfront fees for certain high balance loans and second home loans, effective April 1, 2022.
October 2022	FHFA announced the elimination of upfront fees for certain homebuyers and affordable products. Upfront fees were eliminated for first-time homebuyers at or below 100 percent of area median income, and below 120 percent in high-cost areas; HomeReady and Home Possible loans; HFA Advantage and HFA Preferred loans; and single-family loans supporting the Duty to Serve program. Targeted increases to upfront fees for cash-out refinances were announced, effective February 1, 2023.