FEDERAL HOME LOAN MORTGAGE CORP
Form 10-K
February 16, 2017
UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K
ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016
Commission File Number: 001-34139
Federal Home Loan Mortgage Corporation
(Exact name of registrant as specified in its charter)
Freddie Mac

Federally chartered corporation	8200 Jones Branch Drive McLean, Virginia 22102-3110	52-0904874	(703) 903-2000
(State or other jurisdiction of incorporation or organization)	(Address of principal executive offices, including zip code)	(I.R.S. Employer Identification No.)	(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None
Securities registered pursuant to Section 12(g) of the Act:
Voting Common Stock, no par value per share (OTCQB: FMCC)
Variable Rate, Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCI)
5% Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCKK)
Variable Rate, Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCG)
5.1% Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCH)
5.79% Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCK)
Variable Rate, Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCL)
Variable Rate, Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCM)
Variable Rate, Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCN)
5.81% Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCO)
6% Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCP)
Variable Rate, Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCCJ)
5.7% Non-Cumulative Preferred Stock, par value $1.00 per share (OTCQB: FMCKP)
Variable Rate, Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCCS)
6.42% Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCCT)
5.9% Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCKO)
5.57% Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCKM)
5.66% Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCKN)
6.02% Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCKL)
6.55% Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCKI)
Fixed-to-Floating Rate Non-Cumulative Perpetual Preferred Stock, par value $1.00 per share (OTCQB: FMCKJ)
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes [ ] No [X]
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes [ ] No [X]
Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer [X]	Accelerated filer [ ]
Non-accelerated filer (Do not check if a smaller reporting company) [ ]	Smaller reporting company [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [ ] No [X]

The aggregate market value of the common stock held by non-affiliates computed by reference to the price at which the common equity was last sold on June 30, 2016 (the last business day of the registrant's most recently completed second fiscal quarter) was $1.2 billion.

As of February 2, 2017, there were 650,053,863 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE: None

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INTRODUCTION

This Annual Report on Form 10-K includes forward-looking statements that are based on current expectations and are subject to significant risks and uncertainties. These forward-looking statements are made as of the date of this Form 10-K. We undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date of this Form 10-K. Actual results might differ significantly from those described in or implied by such statements due to various factors and uncertainties, including those described in the "Forward-Looking Statements" and "Risk Factors" sections of this Form 10-K.

Throughout this Form 10-K, we use certain acronyms and terms that are defined in the "Glossary."

ABOUT FREDDIE MAC

Freddie Mac is a GSE chartered by Congress in 1970. Our public mission is to provide liquidity, stability, and affordability to the U.S. housing market. We do this primarily by purchasing residential mortgage loans originated by lenders. In most instances, we package these loans into mortgage-related securities, which are guaranteed by us and sold in the global capital markets. We also invest in mortgage loans and mortgage-related securities. We do not originate loans or lend money directly to borrowers.

We support the U.S. housing market and the overall economy by enabling America's families to access mortgage loan funding with better terms and by providing consistent liquidity to the multifamily mortgage market, which we do primarily by providing financing for workforce housing. We have helped many distressed borrowers keep their homes or avoid foreclosure. We are working with FHFA, our customers and the industry to build a better housing finance system for the nation.

CONSERVATORSHIP AND GOVERNMENT SUPPORT FOR OUR BUSINESS

Since September 2008, we have been operating in conservatorship, with FHFA acting as our Conservator. The conservatorship and related matters significantly affect our management, business activities, financial condition, and results of operations. Our future is uncertain, and the conservatorship has no specified termination date. We do not know what changes may occur to our business model during or following conservatorship, including whether we will continue to exist.

Our Purchase Agreement with Treasury and the terms of the senior preferred stock we issued to Treasury constrain our business activities. However, the support provided by Treasury pursuant to the Purchase Agreement also enables us to have adequate liquidity to conduct our normal business activities. The Purchase Agreement requires our future profits to be distributed to Treasury, and we cannot retain capital from the earnings generated by our business operations (other than a limited amount that will decrease to zero in 2018) or return capital to stockholders other than Treasury. Consequently, our ability to access funds from Treasury under the Purchase Agreement is critical to keeping us solvent and avoiding the appointment of a receiver by FHFA under statutory mandatory receivership provisions.

For more information on the conservatorship and government support for our business, see "MD&A - Conservatorship and Related Matters" and Note 2.

The tables and graphs below show our cumulative draws from Treasury and cumulative dividend payments to Treasury under the Purchase Agreement. The Treasury draw amounts shown are the total draws requested based on our quarterly net deficits for the periods presented. Draw requests are funded

in the quarter subsequent to any net deficit. Under the Purchase Agreement, the payment of dividends does not reduce the outstanding liquidation preference of the senior preferred stock, which remains $72.3 billion. The amount of available funding remaining under the Purchase Agreement is $140.5 billion, and would be reduced by any future draws.

Draws From Treasury

(In billions)	Total
Total Senior Preferred Stock Outstanding	$72.3
Less: Initial Liquidation Preference	1.0
Treasury Draws	$71.3

Dividend Payments to Treasury

(In billions)	Total
Dividend Payments as of 12/31/16	$101.4
Scheduled Q1 2017 Dividend Obligation	4.5
Total Dividend Payments	$105.9

CONSOLIDATED FINANCIAL RESULTS

Comprehensive Income

Our comprehensive income for 2016 increased compared to 2015, primarily as a result of the following items:

- Lower derivative fair value losses due to an increase in longer-term interest rates during 2016 compared to 2015 when longer-term interest rates declined slightly;
- Higher other income primarily as a result of improved pricing on K Certificates and SB Certificates, coupled with increased fair value gains on multifamily mortgage loans for which we have elected the fair value option and multifamily mortgage loan purchase commitments for which we newly elected the fair value option beginning in 2016, due to market spread tightening in 2016 compared to widening in 2015; partially offset by the following:
- Lower net interest income due primarily to continued reduction in the balance of our mortgage-related investments portfolio; and
- Increased losses on investment securities primarily as a result of an increase in interest rates during 2016 compared to 2015 when longer-term interest rates declined slightly, coupled with a decrease in realized gains in 2016 as we sold fewer non-agency securities in an unrealized gain position.

Our comprehensive income for 2015 declined compared to 2014, primarily as a result of the following items:

- Lower other income, as we did not have any significant litigation settlements in 2015 related to our investments in non-agency mortgage-related securities. By comparison, we had a number of favorable significant litigation settlements in 2014;
- We recorded fair value losses in 2015 on certain mortgage loans and mortgage-related securities that are measured at fair value due to market spread widening, while in 2014 we recorded gains due to market spread tightening; partially offset by
- Lower derivative fair value losses in 2015 than in 2014. Longer-term interest rates declined less in 2015 than in 2014, when the yield curve also flattened, leading to lower losses.

Variability of Earnings

Our financial results are subject to significant earnings variability from period to period. This variability is primarily driven by:

- Interest-Rate Volatility — We hold assets and liabilities that expose us to interest-rate risk. Through our use of derivatives, we manage our exposure to interest-rate risk on an economic basis to a low level as measured by our models. However, the way we account for our financial assets and liabilities (i.e., some are measured at amortized cost, while others are measured at fair value), including derivatives, creates volatility in our GAAP earnings when interest rates fluctuate. Based upon the composition of our financial assets and liabilities, including derivatives, at December 31, 2016, we generally recognize fair value losses in earnings when interest rates decline. This volatility generally is not indicative of the underlying economics of our business. For information about our interest-rate risk management activities and the sensitivity of our financial results to interest-rate volatility, see "MD&A - Consolidated Results of Operations - Derivative Gains (Losses) - Explanation of Key Drivers of Derivative Gains (Losses)", "MD&A - Consolidated Results of Operations - Other Key Drivers - Items Affecting Multiple Lines - Debt Funding Strategies and Interest-Rate Risk Management Activities," and "MD&A - Risk Management - Market Risk."
- Spread Volatility — The volatility of market spreads (i.e., credit spreads, liquidity spreads, risk premiums, etc.), or OAS, is the risk associated with changes in the excess of market interest rates over benchmark rates. We hold assets and liabilities that expose us to spread volatility, which may contribute to significant GAAP earnings volatility. For financial assets measured at fair value, we generally recognize fair value losses when market spreads widen. Conversely, for financial liabilities measured at fair value, we generally recognize fair value gains when market spreads widen.

The variability of GAAP earnings and the declining capital reserve required under the terms of the Purchase Agreement (ultimately reaching zero in 2018) increase the risk of our having a negative net worth and thus being required to draw from Treasury. We could face a risk of a draw for a variety of reasons, including if we were to experience a large decrease in interest rates, which would result in GAAP losses due to measurement differences, coupled with a large widening of market spreads.

In an effort to reduce the probability of a draw due to changes in interest rates, we entered into certain transactions, including structured transactions, during 2016 that have resulted in additional financial assets being recognized and measured at fair value, which will help to reduce the measurement differences. In addition, in the first quarter of 2017, we began using hedge accounting for certain single-family mortgage loans, which is intended to partially reduce the interest-rate volatility in our GAAP earnings by eliminating a portion of the measurement differences between our GAAP financial results and the underlying economics of our business.

OUR BUSINESS
PRIMARY BUSINESS STRATEGIES

Our primary business strategies describe how we plan to pursue our Charter Mission over a timeframe of two to four years, or approximately through 2018 to 2020. Our core assumption is that the conservatorship will continue with no material changes during that period. These strategies complement FHFA's annual Conservatorship Scorecards.

Charter Mission

We are a GSE with a specific and limited corporate purpose (i.e., “Charter Mission”) to support the liquidity, stability and affordability of U.S. housing mortgage markets as a participant in the secondary mortgage market, while operating as a commercial enterprise earning an appropriate return. Everything we do must be done within the specific constraints of our Charter Mission.

Our Twin Goals

We established overarching twin goals to enable us to reach our Charter Mission:

- A Better Freddie Mac; and
- A Better Housing Finance System

Our Key Strategies

A Better Freddie Mac

We are focused on operating as a very well-run large financial institution by:

- Being a very effective operating organization;
- Being a market leader through customer focus and innovation; and
- Managing risk and economic capital for quality risk-adjusted returns.

A Better Housing Finance System

We are focused on providing leadership, through innovation and constructive forward-looking engagement with FHFA, to improve the liquidity, stability, and affordability of the U.S. housing markets by:

- Modernizing and improving the functioning of the mortgage markets;
- Developing greater responsible access to housing finance; and
- Reducing taxpayer exposure to mortgage risks.

For further information on our goals and detailed strategies for each of our business segments, see "MD&A — Our Business Segments."

OUR CHARTER

Our Charter forms the framework for our business activities. Our Charter Mission is to:

- Provide stability in the secondary market for residential loans;
- Respond appropriately to the private capital market;
- Provide ongoing assistance to the secondary market for residential loans (including activities relating to loans for low- and moderate-income families, involving a reasonable economic return that may be less than the return earned on other activities) by increasing the liquidity of mortgage investments and improving the distribution of investment capital available for residential mortgage financing; and
- Promote access to mortgage loan credit throughout the U.S. (including central cities, rural areas, and other underserved areas) by increasing the liquidity of mortgage investments and improving the distribution of investment capital available for residential mortgage financing.

Our Charter permits us to purchase first-lien single-family loans with LTV ratios at the time of our purchase of less than or equal to 80%. Our Charter also permits us to purchase first-lien single-family loans that do not meet this criterion if we have certain specified credit protections, which include mortgage insurance on the portion of the UPB of the loan that exceeds an 80% LTV ratio, a seller's agreement to repurchase or replace a defaulted loan, or the retention by the seller of at least a 10% participation interest in the loan.

This Charter requirement does not apply to multifamily loans or to loans that have the benefit of any guarantee, insurance or other obligation by the U.S. or any of its agencies or instrumentalities (e.g., the FHA, the VA, or the USDA Rural Development). Additionally, as part of HARP, we purchase single-family loans that refinance loans we currently own or guarantee without obtaining additional credit enhancement in excess of that already in place for any such loan, even when the LTV ratio of the new loan is above 80%.

Our Charter does not permit us to originate loans or lend money directly to borrowers in the primary mortgage market.

Our Charter limits our purchase of single-family loans to the conforming loan market, which consists of loans originated with UPBs at or below limits determined annually based on changes in FHFA’s housing price index. The base conforming loan limit for a one-family residence has been set at $424,100 for 2017, and was set at $417,000 from 2006 to 2016. Higher limits have been established in certain “high-cost” areas (for 2017, up to $636,150 for a one-family residence). Higher limits also apply to two- to four-family residences and to loans secured by properties in Alaska, Guam, Hawaii, and the U.S. Virgin Islands.

BUSINESS SEGMENTS

We have three reportable segments: Single-family Guarantee, Multifamily, and Investments. Certain activities that are not part of a reportable segment are included in the All Other category. For more information on our segments, see "MD&A - Our Business Segments" and Note 11.

EMPLOYEES

At February 2, 2017, we had 5,959 full-time and 45 part-time employees.

PROPERTIES

Our principal offices consist of four office buildings we own in McLean, Virginia, comprising approximately 1.3 million square feet. We operate our business in the United States and its territories, and accordingly, we generate no revenue from and have no long-lived assets, other than financial instruments, in geographic locations other than the United States and its territories.

AVAILABLE INFORMATION

We file reports and other information with the SEC. In view of the Conservator's succession to all of the voting power of our stockholders, we have not prepared or provided proxy statements for the solicitation of proxies from stockholders since we entered into conservatorship, and do not expect to do so while we remain in conservatorship. Pursuant to SEC rules, our annual reports on Form 10-K contain certain information typically provided in an annual proxy statement.

We make available, free of charge through our website at www.freddiemac.com, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all other SEC reports and amendments to those reports as soon as reasonably practicable after we electronically file the material with the SEC. In addition, materials that we file with the SEC are available for review and copying at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet site (www.sec.gov) that contains reports, proxy and information statements, and other information regarding companies that file electronically with the SEC. We are providing our website addresses and the website address of the SEC here and elsewhere in this Form 10-K solely for your information. Information appearing on our website or on the SEC's website is not incorporated into this Form 10-K.

Pursuant to SEC regulations, public companies are required to disclose certain information when they incur a material direct financial obligation or become directly or contingently liable for a material obligation under an off-balance sheet arrangement. The disclosure must be made in a current report on Form 8-K under Item 2.03 or, if the obligation is incurred in connection with certain types of securities offerings, in prospectuses for that offering that are filed with the SEC.

Freddie Mac's securities offerings are exempted from SEC registration requirements. As a result, we do not file registration statements or prospectuses with the SEC with respect to our securities offerings. To comply with the disclosure requirements of Form 8-K relating to the incurrence of material financial

obligations, we report these types of obligations either in offering circulars or supplements thereto that we post on our website or in a current report on Form 8-K, in accordance with a “no-action” letter we received from the SEC staff. In cases where the information is disclosed in an offering circular, the document will be posted on our website within the same time period that a prospectus for a non-exempt securities offering would be required to be filed with the SEC. The website address for disclosure about our debt securities is www.freddiemac.com/debt. From this address, investors can access the offering circular and related supplements for debt securities offerings under Freddie Mac’s global debt facility, including pricing supplements for individual issuances of debt securities. Similar information about our STACR and SCR debt notes is available at www.freddiemac.com/creditriskofferings and www.freddiemac.com/multifamily/investors/structured-credit-risk, respectively.

Disclosure about the mortgage-related securities we issue, some of which are off-balance sheet obligations (e.g., K Certificates), can be found at www.freddiemac.com/mbs. From this address, investors can access information and documents about our mortgage-related securities, including offering circulars and related offering circular supplements.

FORWARD-LOOKING STATEMENTS

We regularly communicate information concerning our business activities to investors, the news media, securities analysts, and others as part of our normal operations. Some of these communications, including this Form 10-K, contain "forward-looking statements." Examples of forward-looking statements include, but are not limited to, statements pertaining to the conservatorship, our current expectations and objectives for the Single-family Guarantee, Multifamily, and Investments segments of our business, our efforts to assist the housing market, our liquidity and capital management, economic and market conditions and trends, our market share, the effect of legislative and regulatory developments and new accounting guidance, the credit quality of loans we own or guarantee, the costs and benefits of our credit risk transfer transactions, and our results of operations and financial condition on a GAAP, Segment Earnings and fair value basis. Forward-looking statements involve known and unknown risks and uncertainties, some of which are beyond our control. Forward-looking statements are often accompanied by, and identified with, terms such as "objective," "expect," "possible," "trend," "forecast," "anticipate," "believe," "intend," "could," "may," "will," and similar phrases. These statements are not historical facts, but rather represent our expectations based on current information, plans, judgments, assumptions, estimates, and projections. Actual results may differ significantly from those described in or implied by such forward-looking statements due to various factors and uncertainties, including those described in the "Risk Factors" section of this Form 10-K, and:

- The actions the U.S. government (including FHFA, Treasury, and Congress) may take, or require us to take, including to support the housing markets or to implement FHFA's Conservatorship Scorecards and other objectives for us;
- The effect of the restrictions on our business due to the conservatorship and the Purchase Agreement, including our dividend obligation on the senior preferred stock;
- Changes in our Charter or in applicable legislative or regulatory requirements (including any legislation affecting the future status of our company);
- Changes in the fiscal and monetary policies of the Federal Reserve, including any changes to its policy of maintaining sizable holdings of mortgage-related securities and any future sales of such securities;
- Changes in economic and market conditions, including changes in employment rates, interest rates, spreads, and home prices;
- Changes in the U.S. residential mortgage market, including changes in the supply and type of loan products (e.g., refinance versus purchase, and fixed-rate versus ARM);
- The success of our efforts to mitigate our losses on our Legacy single-family book and our investments in non-agency mortgage-related securities;
- The success of our strategy to transfer mortgage credit risk through STACR debt note, ACIS, K Certificate and other credit risk transfer transactions;
- Our ability to maintain adequate liquidity to fund our operations;
- Our ability to maintain the security of our operating systems and infrastructure (e.g., against cyberattacks);
- Our ability to effectively execute our business strategies, implement new initiatives, and improve efficiency;
- The adequacy of our risk management framework;
- Our ability to manage mortgage credit risks, including the effect of changes in underwriting and servicing practices;
- Our ability to limit or manage our economic exposure and GAAP earnings exposure to interest-rate

volatility and spread volatility, including the availability of derivative financial instruments needed for interest-rate risk management purposes;

- Changes or errors in the methodologies, models, assumptions, and estimates we use to prepare our financial statements, make business decisions, and manage risks;
- Changes in investor demand for our debt or mortgage-related securities (e.g., single-family PCs and multifamily K Certificates);
- Changes in the practices of loan originators, investors and other participants in the secondary mortgage market; and
- Other factors and assumptions described in this Form 10-K, including in the "MD&A" section.

Forward-looking statements are made only as of the date of this Form 10-K, and we undertake no obligation to update any forward-looking statements we make to reflect events or circumstances occurring after the date of this Form 10-K.

Selected Financial Data

SELECTED FINANCIAL DATA

The selected financial data presented below should be reviewed in conjunction with MD&A and our consolidated financial statements and accompanying notes.

	At or For the Year Ended December 31,				
(Dollars in millions, except share-related amounts)	2016	2015	2014	2013	2012
Statements of Comprehensive Income Data					
Net interest income	$14,379	$14,946	$14,263	$16,468	$17,611
Benefit (provision) for credit losses	803	2,665	(58)	2,465	(1,890)
Non-interest income (loss)	500	(3,599)	(113)	8,519	(4,083)
Non-interest expense	(4,043)	(4,738)	(3,090)	(2,089)	(2,193)
Income tax (expense) benefit	(3,824)	(2,898)	(3,312)	23,305	1,537
Net income	7,815	6,376	7,690	48,668	10,982
Comprehensive income	7,118	5,799	9,426	51,600	16,039
Net income (loss) attributable to common stockholders	97	(23)	(2,336)	(3,531)	(2,074)
Net income (loss) per common share - basic and diluted	0.03	(0.01)	(0.72)	(1.09)	(0.64)
Cash dividends per common share	—	—	—	—	—
Weighted average common shares outstanding - basic and diluted (in millions)	3,234	3,235	3,236	3,238	3,240
Balance Sheets Data					
Loans held-for-investment, at amortized cost by consolidated trusts (net of allowances for loan losses)	$1,690,218	$1,625,184	$1,558,094	$1,529,905	$1,495,932
Real estate owned, net	1,198	1,725	2,558	4,551	4,378
Total assets	2,023,376	1,985,892	1,945,360	1,965,831	1,989,557
Debt securities of consolidated trusts held by third parties	1,648,683	1,556,121	1,479,473	1,433,984	1,419,524
Other Debt	353,321	414,148	449,890	506,537	547,219
All other liabilities	16,297	12,683	13,346	12,475	13,987
Total stockholders' equity	5,075	2,940	2,651	12,835	8,827
Portfolio Balances - UPB					
Mortgage-related investments portfolio	$298,426	$346,911	$408,414	$461,024	$557,544
Total Freddie Mac mortgage-related securities	1,832,810	1,729,493	1,637,086	1,592,511	1,562,040
Total mortgage portfolio	2,011,414	1,941,587	1,910,106	1,914,661	1,956,276
TDRs on accrual status	77,399	82,347	82,908	78,708	66,590
Non-accrual loans	16,272	22,649	33,130	43,457	63,005
Ratios					
Return on average assets	0.4%	0.3%	0.4%	2.5%	0.5%
Allowance for loan losses as percentage of loans, held-for-investment	0.7	0.9	1.3	1.4	1.8
Equity to assets	0.2	0.1	0.4	0.5	0.2

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

KEY ECONOMIC INDICATORS

The following graphs and related discussion present certain macroeconomic indicators that can significantly affect our business and financial results.

SINGLE-FAMILY HOME PRICES

NATIONAL HOME PRICES

(December 2000 = 100)

EFFECT ON FINANCIAL RESULTS

- Changes in home prices affect the amount of equity that borrowers have in their homes. Borrowers with less equity typically have higher delinquency rates.
- As home prices decline, the severity of losses we incur on defaulted loans that we hold or guarantee increases because the amount we can recover from the property securing the loan decreases. Increases in home prices lower the losses we incur on defaulted loans.
- Declines in home prices typically result in increases in expected credit losses on the mortgage-related securities we hold.
- Declines in home prices may result in declines in the value of our non-agency mortgage-related securities as lower home values may increase default rates and affect the prepayment activities of the borrowers.

COMMENTARY

- Home prices continued to appreciate during 2016, increasing 6.5%, compared to an increase of 6.2% during 2015, based on our own non-seasonally adjusted price index of single-family homes funded by loans owned or guaranteed by us or Fannie Mae.
- National home prices at the end of 2016 surpassed their pre-financial crisis peak reached in June 2006, based on our index.
- We expect near-term home price growth rates to moderate gradually and return to growth rates consistent with long-term historical averages of approximately 2% to 5% per year.

INTEREST RATES
KEY MARKET INTEREST RATES

EFFECT ON FINANCIAL RESULTS

- The 30-year Primary Mortgage Market Survey ("PMMS") interest rate is indicative of what a consumer could expect to be offered on a first-lien, prime, home purchase mortgage with an LTV of 80%. Increases in the PMMS rate typically result in decreases in refinance activity and originations. Decreases in the PMMS rate typically result in increases in refinancing activity and originations.
- Changes in interest rates affect the fair value of certain of our assets and liabilities, including derivatives, measured at fair value on a recurring basis on our consolidated balance sheets.
- For additional information on the effect of LIBOR swap rates on our financial results, see "Our Business Segments - Investments - Market Conditions."

COMMENTARY

- Mortgage interest rates for 30-year fixed-rate loans are typically closely related to other long-term interest rates such as the 10-year Treasury rate and the 10-year LIBOR rate. When these rates increase, mortgage interest rates for 30-year fixed-rate loans usually also increase. When these rates decline, mortgage interest rates for 30-year fixed-rate loans usually also decline.
- Longer-term interest rates, as indicated by the 10-year LIBOR rate and the 10-year Treasury rate, and mortgage interest rates, as indicated by the 30-year PMMS rate, both increased significantly during the fourth quarter of 2016, which caused rates to be higher at the end of 2016 than the end of 2015. However, average interest rates were lower in 2016 compared to 2015 and lower in 2015 compared to 2014.
- The Federal Reserve raised short-term interest rates in December 2015 and again in December 2016.

UNEMPLOYMENT RATE

UNEMPLOYMENT RATE AND JOB CREATION

Source: U.S. Bureau of Labor Statistics

EFFECT ON FINANCIAL RESULTS

- Changes in the unemployment rate can affect several market factors, including the demand for both single-family and multifamily housing and the level of loan delinquencies.
- Decreases in the unemployment rate typically result in lower levels of delinquencies, which often result in a decrease in expected credit losses on our total mortgage portfolio.
- Increases in the unemployment rate typically result in higher levels of delinquencies, which often result in an increase in expected credit losses on our total mortgage portfolio.

COMMENTARY

- Monthly net new job growth decreased during 2016.
- The unemployment rate declined slightly in 2016.

CONSOLIDATED RESULTS OF OPERATIONS

You should read this discussion of our consolidated results of operations in conjunction with our consolidated financial statements and accompanying notes.

The table below compares our consolidated results of operations for the past three years.

	Year Ended December 31,			Change 2016-2015		Change 2015-2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Net interest income	$14,379	$14,946	$14,263	($567)	(4)%	$683	5%
Benefit (provision) for credit losses	803	2,665	(58)	(1,862)	(70)%	2,723	4,695%
Net interest income after benefit (provision) for credit losses	15,182	17,611	14,205	(2,429)	(14)%	3,406	24%
Non-interest income (loss):							
Gains (losses) on extinguishment of debt	(211)	(240)	(422)	29	12%	182	43%
Derivative gains (losses)	(274)	(2,696)	(8,291)	2,422	90%	5,595	67%
Net impairment of available-for-sale securities recognized in earnings	(191)	(292)	(938)	101	35%	646	69%
Other gains (losses) on investment securities recognized in earnings	(78)	508	1,494	(586)	(115)%	(986)	(66)%
Other income (loss)	1,254	(879)	8,044	2,133	243%	(8,923)	(111)%
Total non-interest income (loss)	500	(3,599)	(113)	4,099	114%	(3,486)	(3,085)%
Non-interest expense:							
Administrative expense	(2,005)	(1,927)	(1,881)	(78)	(4)%	(46)	(2)%
REO operations expense	(287)	(338)	(196)	51	15%	(142)	(72)%
Temporary Payroll Tax Cut Continuation Act of 2011 expense	(1,152)	(967)	(775)	(185)	(19)%	(192)	(25)%
Other expense	(599)	(1,506)	(238)	907	60%	(1,268)	(533)%
Total non-interest expense	(4,043)	(4,738)	(3,090)	695	15%	(1,648)	(53)%
Income before income tax expense	11,639	9,274	11,002	2,365	26%	(1,728)	(16)%
Income tax expense	(3,824)	(2,898)	(3,312)	(926)	(32)%	414	13%
Net income	7,815	6,376	7,690	1,439	23%	(1,314)	(17)%
Total other comprehensive income (loss), net of taxes and reclassification adjustments	(697)	(577)	1,736	(120)	(21)%	(2,313)	(133)%
Comprehensive income	$7,118	$5,799	$9,426	$1,319	23%	($3,627)	(38)%

See “Critical Accounting Policies and Estimates” for information concerning certain significant accounting policies and estimates applied in determining our reported results of operations and Note 1 for information on our accounting policies and a summary of other significant accounting policies and the related notes in which information about them can be found.

NET INTEREST INCOME
EXPLANATION OF KEY DRIVERS OF NET INTEREST INCOME

Net interest income consists of several primary components:

- Contractual net interest income - consists of two primary components:
  - Guarantee fees on debt securities issued by consolidated trusts. We record interest income on loans held by consolidated trusts and interest expense on the debt securities issued by the trusts. The difference between the interest income on the loans and the interest expense on the debt represents the guarantee fee income we receive as compensation for our guarantee of the principal and interest payments of the issued debt securities. This difference includes the legislated 10 basis point increase in guarantee fees that is remitted to Treasury as part of the Temporary Payroll Tax Cut Continuation Act of 2011; and
  - The difference between the interest income earned on all other interest-earning assets, excluding loans held by consolidated trusts, and the interest expense incurred on the liabilities used to fund those assets.

Contractual net interest income is primarily driven by the volume of assets in the mortgage-related investments portfolio and the interest rate differential between those interest-earning assets and the related interest-bearing liabilities.

- Amortization of cost basis adjustments - consists of cost basis adjustments, such as premiums and discounts on loans, investment securities, and debt that are amortized into interest income or interest expense based on the effective yield over the contractual life of the associated financial instrument.

The largest portion of our total net amortization relates to loans and debt securities of consolidated trusts. Amortization related to investment securities, other debt, and other assets and liabilities makes up a smaller portion. Net amortization of loans and debt securities of consolidated trusts generally increases net interest income as it includes amortization of the upfront delivery fees we receive when we acquire a loan.

The net amortization of loans and debt securities of consolidated trusts is primarily driven by actual prepayments on the underlying loans. Increases in actual prepayments result in higher net amortization, while decreases in actual prepayments result in lower net amortization. The timing of amortization of loans may differ from the timing of amortization of the securities backed by the loans, as the proceeds from the loans backing these securities are remitted to the security holders at a date subsequent to the date these proceeds are received by us.

- Expense related to derivatives - consists of deferred gains and losses on closed cash flow hedges related to forecasted debt issuances that are reclassified from AOCI to net interest income when the related forecasted transaction affects net interest income.

NET INTEREST YIELD ANALYSIS

The table below presents an analysis of interest-earning assets and interest-bearing liabilities. To calculate the average balances, we generally use a daily weighted average of amortized cost. When daily average balance information is not available, such as for mortgage loans, we use monthly averages. Mortgage loans on non-accrual status, where interest income is generally recognized when collected, are included in the average balances.

	Year Ended December 31,								
	2016			2015			2014		
(Dollars in millions)	Average Balance	Interest Income (Expense)	Average Rate	Average Balance	Interest Income (Expense)	Average Rate	Average Balance	Interest Income (Expense)	Average Rate
Interest-earning assets:									
Cash and cash equivalents	$16,932	$42	0.25 %	$12,482	$8	0.06 %	$13,889	$4	0.03 %
Securities purchased under agreements to resell	59,639	217	0.36	51,219	58	0.11	42,905	28	0.06
Advances to lenders	484	11	2.28	161	4	2.48	—	—	—
Mortgage-related securities:									
Mortgage-related securities	189,982	7,262	3.82	226,162	8,706	3.85	256,548	10,027	3.91
Extinguishment of PCs held by Freddie Mac	(94,624)	(3,509)	(3.71)	(107,986)	(3,929)	(3.64)	(111,545)	(4,190)	(3.76)
Total mortgage-related securities, net	95,358	3,753	3.94	118,176	4,777	4.04	145,003	5,837	4.03
Non-mortgage-related securities	15,734	102	0.65	10,699	17	0.16	9,983	6	0.06
Loans held by consolidated trusts[(1)]	1,649,727	55,417	3.36	1,590,768	55,867	3.51	1,540,570	57,036	3.70
Loans held by Freddie Mac[(1)]	135,882	5,623	4.14	157,261	6,359	4.04	170,017	6,569	3.86
Total interest-earning assets	$1,973,756	$65,165	3.30	$1,940,766	$67,090	3.46	$1,922,367	$69,480	3.61
Interest-bearing liabilities:									
Debt securities of consolidated trusts including PCs held by Freddie Mac	$1,674,474	($48,108)	(2.87)	$1,611,388	($49,465)	(3.07)	$1,557,895	($52,193)	(3.35)
Extinguishment of PCs held by Freddie Mac	(94,624)	3,509	3.71	(107,986)	3,929	3.64	(111,545)	4,190	3.76

Total debt securities of consolidated trusts held by third parties	1,579,850	(44,599)	(2.82)	1,503,402	(45,536)	(3.03)	1,446,350	(48,003)	(3.32)
Other debt:									
Short-term debt	86,284	(350)	(0.41)	108,096	(173)	(0.16)	118,211	(145)	(0.12)
Long-term debt	298,040	(5,646)	(1.89)	313,502	(6,207)	(1.98)	331,887	(6,768)	(2.04)
Total other debt	384,324	(5,996)	(1.56)	421,598	(6,380)	(1.51)	450,098	(6,913)	(1.54)
Total interest-bearing liabilities	1,964,174	(50,595)	(2.57)	1,925,000	(51,916)	(2.70)	1,896,448	(54,916)	(2.89)
Expense related to derivatives	—	(191)	(0.01)	—	(228)	(0.01)	—	(301)	(0.02)
Impact of net non-interest-bearing funding	9,582	—	0.01	15,766	—	0.02	25,919	—	0.04
Total funding of interest-earning assets	$1,973,756	($50,786)	(2.57)	$1,940,766	($52,144)	(2.69)	$1,922,367	($55,217)	(2.87)
Net interest income/yield		$14,379	0.73 %		$14,946	0.77 %		$14,263	0.74 %

(1) Loan fees, primarily consisting of amortization of delivery fees, included in interest income were $2.6 billion, $2.0 billion, and $1.4 billion for loans held by consolidated trusts and $215 million, $383 million, and $373 million for loans held by Freddie Mac during 2016, 2015, and 2014, respectively.

NET INTEREST INCOME RATE / VOLUME ANALYSIS

The table below presents a rate and volume analysis of our net interest income. Our net interest income reflects the reversal of interest income accrued, net of interest received on a cash basis, related to mortgage loans that are on non-accrual status.

	2016 vs. 2015 Variance Due to			2015 vs. 2014 Variance Due to		
(Dollars in millions)	Rate	Volume	Total Change	Rate	Volume	Total Change
Interest-earning assets:						
Cash and cash equivalents	$34	$—	$34	$6	($2)	$4
Securities purchased under agreements to resell	147	12	159	24	6	30
Advances to lenders	—	7	7	—	4	4
Mortgage-related securities:						
Mortgage-related securities	(61)	(1,383)	(1,444)	(149)	(1,172)	(1,321)
Extinguishment of PCs held by Freddie Mac	(74)	494	420	129	132	261
Total mortgage-related securities, net	(135)	(889)	(1,024)	(20)	(1,040)	(1,060)
Non-mortgage-related securities	74	11	85	11	—	11
Loans held by consolidated trusts	(2,479)	2,029	(450)	(2,991)	1,822	(1,169)
Loans held by Freddie Mac	146	(882)	(736)	297	(507)	(210)
Total interest-earning assets	($2,213)	$288	($1,925)	($2,673)	$283	($2,390)
Interest-bearing liabilities:						
Debt securities of consolidated trusts including PCs held by Freddie Mac	$3,246	($1,889)	$1,357	$4,476	($1,748)	$2,728
Extinguishment of PCs held by Freddie Mac	74	(494)	($420)	(129)	(132)	($261)
Total debt securities of consolidated trusts held by third parties	3,320	(2,383)	$937	4,347	(1,880)	2,467
Other debt:						
Short-term debt	(218)	41	(177)	(41)	13	(28)
Long-term debt	262	299	561	193	368	561
Total other debt	44	340	384	152	381	533
Total interest-bearing liabilities	3,364	(2,043)	1,321	4,499	(1,499)	3,000
Expense related to derivatives	37	—	37	73	—	73
Total funding of interest-earning assets	$3,401	($2,043)	$1,358	$4,572	($1,499)	$3,073
Net interest income	$1,188	($1,755)	($567)	$1,899	($1,216)	$683

COMPONENTS OF NET INTEREST INCOME

The table below presents the components of net interest income.

	Year Ended December 31,			Change 2016-2015		Change 2015-2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Contractual net interest income:							
Guarantee fee income	$2,997	$2,722	$2,399	$275	10 %	$323	13 %
Guarantee fee income related to the Temporary Payroll Tax Cut Continuation Act of 2011	1,142	957	759	185	19 %	198	26 %
Other contractual net interest income	6,896	8,106	9,070	(1,210)	(15)%	(964)	(11)%
Total contractual net interest income	11,035	11,785	12,228	(750)	(6)%	(443)	(4)%
Net amortization - loans and debt securities of consolidated trusts	3,333	2,883	1,913	450	16 %	970	51 %
Net amortization - other assets and debt	202	506	423	(304)	(60)%	83	20 %
Expense related to derivatives	(191)	(228)	(301)	37	16 %	73	24 %
Net interest income	$14,379	$14,946	$14,263	($567)	(4)%	$683	5 %

Key Drivers:

- Guarantee fee income (contractual)

2016 vs. 2015 and 2015 vs. 2014 - increased during both comparative periods as a result of higher average contractual guarantee fee rates, reflecting continued growth in the size of the Core single-family book, and a larger overall single-family credit guarantee portfolio. Average contractual guarantee fees are generally higher on mortgage loans in our Core single-family book compared to those in our Legacy single-family guarantee book. See "Our Business Segments - Single-Family Guarantee" for additional discussion.

- Other contractual net interest income

2016 vs. 2015 and 2015 vs. 2014 - decreased during both comparative periods primarily due to the continued reduction in the balance of our mortgage-related investments portfolio, as we continue to manage the size and composition of this portfolio pursuant to the limits established by the Purchase Agreement and FHFA. We expect this trend to continue in the future as we reduce our mortgage-related investments portfolio. See "Conservatorship and Related Matters - Limits on Our Mortgage-Related Investments Portfolio and Indebtedness" for additional discussion of the limits on the mortgage-related investments portfolio.

- Net amortization of loans and debt securities of consolidated trusts

2016 vs. 2015 and 2015 vs. 2014 - increased during both comparative periods primarily due to an increase in the amortization of upfront delivery fees and basis adjustments on debt securities of consolidated trusts. The increase in amortization was primarily driven by higher prepayment rates on single-family loans during 2016 compared to 2015 and 2015 compared to 2014.

- Net amortization of other assets and debt

2016 vs. 2015 - decreased primarily due to less accretion of previously recognized other-than-temporary impairments. The decrease in accretion is due to a decline in the population of impaired securities as a result of our active disposition of these securities and a decline in new other-than-temporary impairments recognized.

BENEFIT (PROVISION) FOR CREDIT LOSSES

EXPLANATION OF KEY DRIVERS OF PROVISION FOR CREDIT LOSSES

The benefit (provision) for credit losses predominantly relates to single-family loans and includes components for both collectively impaired loans and individually impaired loans.

- Collectively impaired loans - The provision for collectively impaired loans is primarily driven by the volume of newly delinquent loans and changes in estimated probabilities of default and estimated loss severities for the loans. Estimated probabilities of default and estimated loss severities are based on current conditions and historical data and are heavily influenced by changes in home prices, but are also affected by a number of other factors, such as local and regional economic conditions, changes in reperformance and default rates, and the success of our borrower assistance programs.
- Individually impaired loans - The provision for individually impaired loans is primarily driven by the volume of our loss mitigation activity (e.g., loan modifications) that results in loans being considered TDRs, the payment performance of our individually impaired mortgage portfolio, and changes in estimated probabilities of default and estimated loss severities, which affect the future cash flows we expect to receive from these loans. Estimated probabilities of default and estimated loss severities for individually impaired loans are based on the same current conditions and historical data and are affected by the same factors noted above for collectively impaired loans.

As we continue to perform loss mitigation activities that result in loans being considered individually impaired, the portion of our allowance for loan losses and provision for credit losses related to collectively impaired loans continues to decline.

Our allowance for loan losses and provision for credit losses are significantly affected by the "interest rate concessions" we make on loans that we have modified (i.e., reductions in the contractual interest rate). When a loan is modified and considered individually impaired, we generally measure impairment based on the present value of the expected future cash flows discounted at the loan’s original effective interest rate. Under this methodology, we record a loss at the time a loan is modified equal to the difference in the present value of expected future cash flows resulting from the change in the modified loan’s contractual interest rate, which increases the provision for credit losses in that period. An increase in mortgage interest rates lengthens the expected life of individually impaired loans, which increases the impairment on these loans and results in an increase in the provision for credit losses. When a modified loan subsequently performs according to its new contractual terms and we receive the new contractual cash flows (i.e., principal and interest payments), a portion of the discount that was previously applied to those cash flows is amortized into earnings each period and is recognized as a reduction in the provision for credit losses in the period in which the cash flows are received. We refer to this reduction in the provision for credit losses as the "amortization of interest rate concessions."

Our provision for credit losses and the amount of charge-offs that we record in the future will be affected by a number of factors, such as the actual level of loan defaults; the effect of loss mitigation efforts; any government actions or programs that affect the ability of borrowers to refinance loans with an LTV ratio greater than 100% or obtain modifications; changes in property values; regional economic conditions, including unemployment rates; additional delays in the foreclosure process; and third-party mortgage insurance coverage and recoveries. Management adjustments may be necessary to take into consideration external factors and current economic events that have occurred but that are not yet

reflected in the factors used to derive the model outputs. Significant judgment is exercised in making these adjustments.
The amount of our benefit (provision) for credit losses may also vary from period to period based on additional factors such as reclassification of loans from held-for-investment to held-for-sale.

BENEFIT (PROVISION) FOR CREDIT LOSSES

The table below presents the components of our benefit (provision) for credit losses.

	Year Ended December 31,			Change 2016-2015		Change 2015-2014	
(Dollars in billions)	2016	2015	2014	$	%	$	%
Provision for newly impaired loans	($0.8)	($0.9)	($1.7)	$0.1	11 %	$0.8	47 %
Amortization of interest rate concessions	0.9	1.2	1.4	(0.3)	(25)%	(0.2)	(14)%
Reclassifications of held-for-investment loans to held-for-sale loans	0.8	2.3	0.1	(1.5)	(65)%	2.2	2,200 %
Other, including changes in estimated default probability and loss severity	(0.1)	0.1	0.1	(0.2)	(200)%	—	—
Benefit (provision) for credit losses	$0.8	$2.7	($0.1)	($1.9)	(70)%	$2.8	2,800 %

Key Drivers:

- 2016 vs. 2015 - benefit for credit losses declined in 2016 compared to 2015 primarily due to a decrease in the number of seasoned single-family loans reclassified from held-for-investment to held-for sale in 2016. During 2016, $4.7 billion in UPB of single-family loans was reclassified to held-for-sale, compared to $13.6 billion during 2015. See "Effect of Loan Reclassifications" for the effect of these loan reclassifications on pre-tax net income.
- 2015 vs. 2014 - changed to a benefit in 2015 from a (provision) in 2014 primarily due to:

An increase in the number of seasoned single-family loans reclassified from held-for-investment to held-for-sale in 2015. During 2014, $0.7 billion in UPB of seasoned single-family loans were reclassified to held-for-sale.
A decrease in the provision for newly impaired loans in 2015 compared to 2014 due to a decline in the volume of newly delinquent single-family loans.

DERIVATIVE GAINS (LOSSES)
EXPLANATION OF KEY DRIVERS OF DERIVATIVE GAINS (LOSSES)

Derivative instruments are a key component of our interest-rate risk management strategy. We use derivatives to economically hedge our interest-rate risk exposure. We primarily use interest-rate swaps, option-based derivatives such as swaptions, and futures to manage our exposure to changes in interest-rates. We consider the cost of derivatives used in interest-rate risk management to be an inherent part of the cost of funding our mortgage-related investments portfolio.

In addition, we routinely enter into commitments to purchase and sell loans and mortgage-related securities. The majority of these commitments are accounted for as derivative instruments.

We continue to align our derivative portfolio with the changing duration of our hedged assets and liabilities. Although our use of derivatives creates volatility in our GAAP earnings, we manage our exposure to interest-rate risk on an economic basis to a low level as measured by our models. Therefore, we believe the impact of derivatives on our GAAP financial results should be considered in the context of our overall interest-rate risk profile, including our PMVS and duration gap results. For more information about our interest-rate risk management activities and the sensitivity of reported GAAP earnings to those activities, see “Risk Management - Market Risk.”

Derivative gains (losses) consist of both fair value changes and accrual of periodic cash settlements:

- Fair value changes - Represent changes in the fair value of our derivatives based on market conditions at the end of the period or at the time the derivative instrument is terminated. These amounts may or may not be realized over time, depending on future changes in market conditions and the terms of our derivative instruments.
- Accrual of periodic cash settlements - Consists of the net amount we accrue during a period for interest-rate swap payments that we will make or receive. This accrual represents the ongoing cost of our hedging activities, and is economically equivalent to interest expense.

Gains and losses on derivatives are affected by a number of factors, including:

- Changes in interest rates - Our primary derivative instruments are interest-rate swaps, including pay-fixed and receive-fixed interest-rate swaps. With a pay-fixed interest-rate swap, we pay a fixed rate of interest and receive a variable rate of interest based on a specified notional balance (the notional balance is for calculation purposes only). As interest rates decline, we recognize derivative losses, as the amount of interest we pay remains fixed, and the amount of interest we receive declines. As rates rise, we recognize derivative gains, as the amount of interest we pay remains fixed, but the amount of interest we receive increases. With a receive-fixed interest-rate swap, the opposite results occur.
- Implied volatility - Many of our assets and liabilities have embedded prepayment options. We use option-based derivatives, including swaptions, to economically hedge the prepayment options embedded in our mortgage assets and callable debt. Fair value gains and losses on swaptions are sensitive to changes in both interest rates and implied volatility, which reflects the market’s expectation of future changes in interest rates. Assuming all other factors are unchanged, including

interest rates, purchased swaptions generally become more valuable as implied volatility increases and less valuable as implied volatility decreases, with the opposite being true for written swaptions.

- Changes in the shape of the yield curve - We own assets and have outstanding debt with different cash flows along the yield curve. We use derivatives to hedge the yield exposure of assets and debt, resulting in derivatives with different maturities. As a result, changes in the shape of the yield curve will affect our derivative gains (losses).
- Changes in the composition of our derivative portfolio - The mix and balance of our derivative portfolio changes from period to period as we enter into or terminate derivative instruments to respond to changes in interest rates and changes in the balances and modeled characteristics of our assets and liabilities. Changes in the composition of our derivative portfolio will affect the derivative gains and losses we recognize in a given period, thereby affecting the volatility of comprehensive income.

COMPONENTS OF DERIVATIVE GAINS (LOSSES)

The table below presents the components of derivative gains (losses).

	Year Ended December 31,			Change 2016-2015		Change 2015-2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Fair value change in interest-rate swaps	$178	($778)	($7,294)	$956	123%	$6,516	89%
Fair value change in option-based derivatives	421	258	1,437	163	63%	(1,179)	(82)%
Fair value change in other derivatives	887	22	191	865	3,932%	(169)	(88)%
Accrual of periodic cash settlements	(1,760)	(2,198)	(2,625)	438	20%	427	16%
Derivative gains (losses)	($274)	($2,696)	($8,291)	$2,422	90%	$5,595	67%

Key Drivers:

- 2016 vs. 2015 - derivative losses declined during 2016 primarily due to an increase in longer-term interest rates during the fourth quarter of 2016 resulting in an improvement in the fair value of our pay-fixed interest-rate swaps and forward commitments to issue PC debt. This improvement in fair value was partially offset by losses in our receive-fixed-interest-rate swaps. The 10-year par swap rate increased 13 basis points during 2016, while the 10-year par swap rate declined 10 basis points during 2015.
- 2015 vs. 2014 - derivative losses declined during 2015 primarily due to a smaller decline in interest rates in 2015 than in 2014. We recognized larger derivative losses during 2014 primarily as a result of the impact of a flattening yield curve as shorter-term interest rates increased and longer-term interest rates declined. The 10-year par swap rate declined 78 basis points during 2014.
- See "Our Business Segments - Investments - Market Conditions" for more information about par swap rates.

OTHER COMPREHENSIVE INCOME (LOSS)

EXPLANATION OF KEY DRIVERS OF OTHER COMPREHENSIVE INCOME (LOSS)

Our investments in securities classified as available-for-sale are measured at fair value on our consolidated balance sheets. The fair value of these securities is primarily affected by changes in interest rates, market spreads, and the movement of these securities towards maturity. All unrealized gains and losses on these securities are excluded from earnings and reported in other comprehensive income until realized. We reclassify our unrealized gains and losses from AOCI to earnings upon the sale of the securities or if the securities are determined to be other-than-temporarily impaired.

If, subsequent to the recognition of other-than-temporary impairment, our expectation of the cash flows we will receive on a previously impaired security has significantly increased, we will accrete that increase in cash flows into earnings. The accretion into earnings will generally reduce the amount of unrealized gains that we would have otherwise recognized if not for the accretion.

The following table presents the attribution of the other comprehensive income (loss) reported in our consolidated statements of comprehensive income.

	Year Ended December 31,			Change 2016 - 2015		Change 2015 - 2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Other comprehensive income, excluding reclassifications	($29)	$374	$2,563	($403)	(108)%	($2,189)	(85)%
Reclassifications from AOCI:							
Accretion due to significant increases in expected cash flows on previously-impaired available-for-sale securities	(299)	(449)	(519)	150	33%	70	13%
Realized gains (losses) reclassified from AOCI	(369)	(502)	(308)	133	26%	(194)	(63)%
Total reclassifications from AOCI	(668)	(951)	(827)	283	30%	(124)	(15)%
Total other comprehensive income (loss)	($697)	($577)	$1,736	($120)	(21)%	($2,313)	(133)%

Key Drivers:

- Other comprehensive income, excluding reclassifications

2016 vs. 2015 - was a loss in 2016 compared to income in 2015, primarily due to unrealized losses resulting from an increase in longer-term interest rates, coupled with a decrease in unrealized gains as our non-agency securities portfolio continues to decline consistent with the reduction of our mortgage-related investments portfolio pursuant to the limits established by the Purchase Agreement and FHFA.

2015 vs. 2014 - decreased primarily due to less market spread tightening for our non-agency securities.

Reclassifications from AOCI

- Accretion due to significant increases in expected cash flows on previously impaired available-for-sale securities

2016 vs. 2015 and 2015 vs. 2014 - decreased during both comparative periods primarily due to a decline in the population of impaired securities as a result of our active dispositions of these securities, coupled with a decline in new other-than-temporary impairments.

- Realized gains (losses) reclassified from AOCI

2016 vs. 2015 - decreased primarily due to a decline in sales of non-agency securities in an unrealized gain position. Our sales of non-agency securities will continue to vary as the portion of our portfolio that we are able to sell, based on a variety of criteria, has decreased.

2015 vs. 2014 - increased primarily due to greater sales of agency and non-agency securities in an unrealized gain position. The increase in sales was a result of improved pricing due to declining longer-term interest rates and stabilized collateral performance.

OTHER KEY DRIVERS

Key drivers for other line items for 2016 vs. 2015 and 2015 vs. 2014 include:

- Gains (losses) on extinguishment of debt

2016 vs. 2015 - losses decreased primarily due to an increase in longer-term interest rates during the fourth quarter of 2016, coupled with a decline in our repurchase of single-family PCs. The increase in longer-term interest rates resulted in net extinguishment gains for PCs repurchased during the fourth quarter, which partially offset the net extinguishment losses recognized for PCs repurchased during the nine months ended September 30, 2016. The amount of extinguishment gains or losses may vary, as the type and amount of PCs selected for repurchase are based on our investment and funding strategies, including our efforts to support the liquidity and price performance of our PCs.

2015 vs. 2014 - losses decreased primarily due to a significant decline in our repurchase of single-family PCs, coupled with a smaller decline in longer-term interest rates in 2015 compared to 2014.

- Net impairments of available-for-sale securities recognized in earnings

2016 vs. 2015 - decreased primarily due to a decline in the population of non-agency securities, including those non-agency securities that we intend to sell. Our intent to sell population declined, as the portion of our non-agency securities that we are able to sell, based on a variety of criteria, has decreased.

2015 vs. 2014 - decreased as the unrealized losses associated with securities we intend to sell were lower due to improvements in forecasted home prices, a smaller decline in market interest rates in 2015 compared to 2014, and continued tightening of market spreads for our non-agency securities. Furthermore, the portion of the net impairment related to additional credit losses declined as a result of improved security pricing, stabilized collateral performance, and our efforts to sell certain of the previously impaired non-agency securities. See "Conservatorship And Related Matters - Limits On Our Mortgage-Related Investments Portfolio And Indebtedness" for additional information concerning our efforts to reduce our less liquid assets.

- Other gains (losses) on investment securities recognized in earnings

2016 vs. 2015 - decreased as we recognized net losses during 2016 compared to net gains during 2015, primarily due to losses on our mortgage-related and non-mortgage-related securities as a result of increasing longer-term interest rates, coupled with less realized gains from our available-for-sale securities, as we sold fewer non-agency securities in an unrealized gain position.

2015 vs. 2014 - decreased primarily due to a decline in sales of our agency mortgage-related securities.

- Other income (loss)

2016 vs. 2015 - other income (loss) improved reflecting:

Decreased lower-of-cost-or-fair-value adjustments as we reclassified fewer seasoned single-family loans from held-for-investment to held-for-sale during 2016; and

Increased gains on multifamily mortgage loans and commitments for which we have elected the fair value option, due to increased market spread-related fair value gains. K Certificate benchmark spreads tightened during 2016 compared to these spreads widening during 2015.

2015 vs. 2014 - other income (loss) declined reflecting:
Decreased income from non-agency mortgage-related securities litigation settlements;
Increased write-downs due to lower-of-cost-or-fair-value adjustments for seasoned single-family loans reclassified from held-for-investment to held-for-sale; and
Decreased fair value of multifamily mortgage loans for which we have elected the fair value option, due to the widening of K Certificate benchmark spreads observed in the market.

- REO operations expense

2016 vs. 2015 - decreased resulting from a decline in REO inventory due to a decline in the number of seriously delinquent loans as the housing market and economy continued to improve.
2015 vs. 2014 - increased due to a decrease in gains on the disposition of REO properties and recoveries from mortgage insurance.

- Temporary Payroll Tax Cut Continuation Act of 2011 expense

2016 vs. 2015 and 2015 vs. 2014 - continued to increase as a result of the increase in the population of loans subject to this expense. As of December 31, 2016 and 2015, respectively, $1.3 trillion and $1.1 trillion of UPB of loans (or 72% and 63% of the single-family credit guarantee portfolio) were subject to these fees. We expect the amount of these fees will continue to increase as we add new business and the population of loans subject to these fees increases.

- Other expense

2016 vs. 2015 - decreased primarily driven by property taxes and insurance costs associated with seasoned single-family loans reclassified from held-for-investment to held-for-sale as we reclassified fewer loans in 2016 compared to 2015. These costs are considered part of the loan loss reserves while the loans are classified as held-for-investment. See "Single-Family Loan Reclassifications" for more information.
2015 vs. 2014 - increased primarily driven by property taxes and insurance costs associated with seasoned single-family loans reclassified from held-for-investment to held-for-sale as we reclassified more loans in 2015 compared to 2014. These costs are considered part of the loan loss reserves while the loans are classified as held-for-investment. In addition, beginning January 1, 2015, FHFA directed us to set aside funds that will be distributed to certain housing funds pursuant to the GSE Act. During 2015, we completed $393.8 billion of new business purchases subject to this requirement and accrued $165 million of related expense. See "MD&A - Regulation and Supervision - Affordable Housing Fund Allocations" for more information.

- Income tax expense

2016 vs. 2015 - increased in 2016 compared to 2015 primarily due to an increase in pre-tax income.
2015 vs. 2014 - decreased in 2015 compared to 2014 primarily due to a decrease in pre-tax income.

ITEMS AFFECTING MULTIPLE LINES

The following items affected multiple lines on our consolidated results of operations.

Single-Family Loan Reclassifications

During 2016, 2015, and 2014, we reclassified $4.7 billion, $13.6 billion, and $0.7 billion, respectively, in UPB of seasoned seriously delinquent as well as reperforming single-family mortgage loans from held-for-investment to held-for-sale. The initial reclassifications of these loans affected several line items on our consolidated results of operations, as shown in the table below.

	Year Ended December 31,		
(Dollars in millions)	2016	2015	2014
Benefit for credit losses	$812	$2,314	$147
Other income (loss) - lower-of-cost-or-fair-value adjustment	(1,005)	(2,193)	(195)
Other (expense) - property taxes and insurance associated with these loans	(195)	(1,178)	(62)
Effect on income before income tax (expense) benefit	($388)	($1,057)	($110)

Debt Funding Strategies and Interest-Rate Risk Management Activities

We issue debt based on a variety of factors including market conditions and our liquidity requirements.

We use derivatives to economically hedge interest-rate sensitivity mismatches between our assets and liabilities. For example, depending on our strategic objectives and the duration of our mortgage-related assets, we may fund our business using longer-term debt or using a mix of derivatives and shorter- and medium-term debt. Through our use of derivatives, we manage our exposure to interest-rate risk on an economic basis to a low level as measured by our models.

We currently favor a mix of derivatives and shorter- and medium-term debt to fund our business and manage interest-rate risk. This funding mix is a less expensive method than relying more extensively on long-term debt, and it provides greater flexibility and opportunity to match the duration of our assets and liabilities in the future as we reduce the mortgage-related investments portfolio in accordance with the requirements of the Purchase Agreement and FHFA.

While our interest-rate risk management activities reduce our economic exposure to interest-rate risk to a low level, as measured by our models, the accounting treatment for our assets and liabilities, including derivatives, creates volatility in our GAAP earnings when interest rates fluctuate. Some assets and liabilities are measured at amortized cost and some are measured at fair value, while all derivatives are measured at fair value. These measurement differences create volatility in our GAAP earnings that generally is not indicative of the underlying economics of our business. In order to help reduce the measurement differences, we entered into certain transactions, including structured transactions, during 2016 that have resulted in additional financial assets being recognized and measured at fair value. In addition, in the first quarter of 2017, we began using hedge accounting for certain single-family mortgage loans, which is intended to partially reduce the interest-rate volatility in our GAAP earnings by eliminating a portion of the measurement differences between our GAAP financial results and the underlying economics of our business.

The table below presents the effect of derivatives used in our interest-rate risk management activities on our comprehensive income, after considering the accrual of periodic cash settlements (which is the economic equivalent of interest expense), the non-interest rate effect (e.g., market spread effect) on derivative fair values, and any offsetting interest rate effect related to financial instruments measured at fair value. The estimated net interest rate effect on comprehensive income is essentially the derivative gains (losses) attributable to financial instruments that are not measured at fair value on a recurring basis .

	Year Ended December 31,		
(Dollars in billions)	2016	2015	2014
Derivative gains (losses)	($0.3)	($2.7)	($8.3)
Less:			
Accrual of periodic cash settlements	(1.8)	(2.2)	(2.6)
Non-interest rate effect on derivative fair values	(0.1)	—	(0.2)
Interest rate effect on derivative fair values	1.6	(0.5)	(5.5)
Add:			
Estimate of offsetting interest rate effect related to financial instruments measured at fair value[1]	(1.2)	0.2	2.0
Income tax benefit (expense)	(0.1)	0.1	1.2
Estimated Net Interest Rate Effect on Comprehensive income	$0.3	($0.2)	($2.3)

(1) Includes the interest-rate effect on our trading securities, available-for-sale securities, mortgage loans held-for-sale, and other assets and debt for which we elected the fair value option, which is reflected in other non-interest income (loss) and total other comprehensive income (loss) on our consolidated statements of comprehensive income.

As this table demonstrates, the estimated net effect of derivatives on our comprehensive income is volatile, and can be significant. For more information about our interest-rate risk management activities and the sensitivity of reported GAAP earnings to these activities, see "Risk Management - Market Risk."

Changes in Market Spreads

Our financial results and net worth can be significantly affected by changes in market spreads, especially results driven by financial instruments that are measured at fair value. We have limited ability to mitigate exposure to such changes. These instruments include trading securities, available-for-sale securities, mortgage loans held-for-sale, and other assets and debt for which we elected the fair value option.

During the fourth quarter of 2016, we began purchasing certain swaptions on credit indices that provide protection against adverse movements in multifamily market spreads. While these swaptions mitigate a portion of our exposure to changes in multifamily market spreads, they do not mitigate our exposure to changes in other market spreads.

Comprehensive income (loss) was affected by changes in market spreads in amounts estimated to be $0.1 billion, $(0.3) billion, and $1.9 billion (after-tax) during 2016, 2015, and 2014, respectively. During 2016, market spread tightening on our agency and non-agency mortgage-related securities and multifamily mortgage loans and commitments measured at fair value resulted in an increase in comprehensive income. During 2015, market spread widening on our agency mortgage-related securities and multifamily mortgage loans measured at fair value resulted in a decrease in comprehensive income. During 2014, the impact of market spread tightening on mortgage-related securities and mortgage loans

measured at fair value resulted in an increase in comprehensive income. In the fourth quarter of 2016, we separated the market spread related gains (losses) on held-for-sale multifamily mortgage loans and commitments from the effect of improved pricing on K Certificates and SB Certificates. The effect of this improved pricing is now excluded from the estimated spread change effect.

CONSOLIDATED BALANCE SHEETS ANALYSIS

The table below compares our summarized consolidated balance sheets.

	December 31,			
(Dollars in millions)	2016	2015	$ Change	% Change
Assets:				
Cash and cash equivalents	$12,369	$5,595	$6,774	121 %
Restricted cash and cash equivalents	9,851	14,533	(4,682)	(32)%
Securities purchased under agreements to resell	51,548	63,644	(12,096)	(19)%
Subtotal	73,768	83,772	(10,004)	(12)%
Investments in securities, at fair value	111,547	114,215	(2,668)	(2)%
Mortgage loans, net	1,803,003	1,754,193	48,810	3 %
Accrued interest receivable	6,135	6,074	61	1 %
Derivative assets, net	747	395	352	89 %
Deferred tax assets, net	15,818	18,205	(2,387)	(13)%
Other assets	12,358	9,038	3,320	37 %
Total assets	$2,023,376	$1,985,892	$37,484	2 %
Liabilities and Equity:				
Liabilities:				
Accrued interest payable	$6,015	$6,183	($168)	(3)%
Debt, net	2,002,004	1,970,269	31,735	2 %
Derivative liabilities, net	795	1,254	(459)	(37)%
Other liabilities	9,487	5,246	4,241	81 %
Total liabilities	2,018,301	1,982,952	35,349	2 %
Total equity	5,075	2,940	2,135	73 %
Total liabilities and equity	$2,023,376	$1,985,892	$37,484	2 %

Key Drivers:

As of December 31, 2016 compared to December 31, 2015:

- Cash and cash equivalents, restricted cash and cash equivalents, and securities purchased under agreements to resell affect one another, so the changes in the balances should be viewed together. For example, cash and cash equivalents and restricted cash and cash equivalents can be invested in securities purchased under agreements to resell or other investments in securities (i.e., non-mortgage-related securities). The decrease in the combined balance was due to lower near-term cash needs for upcoming maturities and anticipated calls of other debt at the end of 2016 compared to the end of 2015.
- Deferred tax assets, net decreased primarily due to an increase in longer-term interest rates during 2016, which caused the difference between the GAAP and tax basis of derivative instruments to decline.
- Other assets increased primarily because of higher receivables from servicers and an increase in current income tax receivable. Lower average mortgage interest rates during 2016 caused an increase in prepayments, and thus, an increase in receivables from servicers. The increase in the current income tax receivable is primarily due to an increase in estimated tax payments on account with the IRS.

- Other liabilities increased primarily due to purchases of non-mortgage-related securities that were traded prior to December 31, 2016 and recognized on the consolidated balance sheets, but settled after December 31, 2016.
- Total equity increased as a result of higher comprehensive income in the fourth quarter of 2016 compared to the fourth quarter of 2015 and was partially offset by dividends paid related to the $600 million decline in the Capital Reserve Amount in 2016.

OUR BUSINESS SEGMENTS

As shown in the table below, we have three reportable segments, which are based on the way we manage our business. Certain activities that are not part of a reportable segment are included in the All Other category.

Segment	Description	Primary Income Drivers	Primary Expense Drivers
Single-family Guarantee	Reflects results from our purchase, securitization, and guarantee of single-family loans and the management of single-family credit risk	• Guarantee fee income • Net interest income	• Credit-related expenses • Administrative expenses • Credit risk transfer expenses • Losses on loans
Multifamily	Reflects results from our purchase, securitization, and guarantee of multifamily loans and securities, our investments in those loans and securities, and the management of multifamily mortgage credit risk and mortgage market spread risk	• Guarantee fee income • Gains on loans • Investment gains • Derivative gains	• Investment losses • Derivative losses • Administrative expenses • Credit-related expenses
Investments	Reflects results from managing the company's mortgage-related investments portfolio (excluding Multifamily segment investments, single-family seriously delinquent loans, and the credit risk of single-family performing loans), treasury function, and interest-rate risk	• Net interest income • Investment gains • Derivative gains	• Investment losses • Derivative losses • Other-than-temporary impairments on non-agency mortgage-related securities • Administrative expenses
All Other		N/A	N/A

Consists of material corporate level activities that are infrequent in nature and based on decisions outside the control of the management of our reportable segments

SEGMENT EARNINGS

We evaluate segment performance and allocate resources based on a Segment Earnings approach:

- We make significant reclassifications among certain line items in our GAAP financial statements to reflect measures of guarantee fee income on guarantees, net interest income on investments, and benefit (provision) for credit losses on loans that are in line with how we manage our business.
- We allocate certain revenues and expenses, including certain returns on assets and funding costs, and all administrative expenses to our three reportable segments.
- The sum of Segment Earnings for each segment and the All Other category equals GAAP net income (loss) and the sum of comprehensive income (loss) for each segment and the All Other category equals GAAP comprehensive income (loss).

During the first and third quarters of 2016, we changed how we calculate certain components of our Segment Earnings for our Single-family Guarantee, Multifamily, and Investments segments. Prior period results have been revised to conform to the current period presentation. See Note 11 for more information on these changes.
Segment Earnings differs significantly from, and should not be used as a substitute for, net income (loss) as determined in accordance with GAAP. Our definition of Segment Earnings may differ from similar measures used by other companies. We believe that Segment Earnings provides us with meaningful metrics to assess the financial performance of each segment and our company as a whole. See Note 11 for additional details on Segment Earnings, including additional financial information for our segments.

SEGMENT COMPREHENSIVE INCOME

The table below shows our comprehensive income by segment, including the All Other category.

SINGLE-FAMILY GUARANTEE
BUSINESS OVERVIEW

In our Single-family Guarantee segment, we purchase, securitize, and guarantee single-family loans originated by seller/servicers and we manage our single-family credit risk. The U.S. residential mortgage market consists of a primary mortgage market that links homebuyers and lenders and a secondary mortgage market that links lenders and investors. We participate only in the secondary mortgage market. The size of the U.S. residential mortgage market is affected by many factors, including changes in interest rates, unemployment rates, homeownership rates, housing prices, the supply of housing, lender preferences regarding credit risk, and borrower preferences regarding mortgage debt. The amount of residential mortgage debt available for us to purchase and the mix of available loan products are also affected by several factors, including the volume of loans meeting the requirements of our Charter, our own preference for credit risk reflected in our purchase standards, and the loan purchase and securitization activity of other financial institutions.

Our Single-family Guarantee segment supports our primary business strategies by creating:

A Better Freddie Mac:

- Providing market leadership by delivering quality offerings, programs, and services to an increasingly diversified customer base and an evolving mortgage market;
- Improving the customer experience through continued enhancement of our products, programs, processes, and technology; and
- Establishing effective risk management activities that are appropriate for the expected level of risk.

A Better Housing Finance System:

- Developing innovative technology platforms to provide sellers and Freddie Mac with better methods of assessing and managing single-family mortgage credit risk;
- Developing and implementing initiatives to reduce taxpayer exposure and offer private investors new and innovative ways to share in the credit risk of the Core single-family book;
- Expanding access to mortgage credit in a responsible manner to support our Charter Mission as well as to meet specific mandated goals;
- Working with FHFA, Fannie Mae, and CSS on the development of a new common securitization platform; and
- Implementing the single (common) security initiative for Freddie Mac and Fannie Mae, which is intended to increase the liquidity of the TBA market and to reduce the disparities in trading value between our PCs and Fannie Mae's single-class mortgage-related securities.

Products and Activities

Securitization and Guarantee Products

In a typical loan securitization, we purchase loans that lenders originate and then pool those loans into mortgage-related securities that can be sold in the capital markets. In order to issue the mortgage-related securities, we establish trusts pursuant to our Master Trust Agreements and serve as the trustee of those trusts. We administer the collection of borrowers' payments on their loans and the distribution of payments to the investors in the mortgage-related securities, net of any applicable guarantee fees. We

typically guarantee the payment of principal and interest on these mortgage-related securities and generally retain the guarantee fee income.

When a borrower prepays a loan that we have securitized, the outstanding balance of the security owned by investors is reduced by the amount of the prepayment. If the borrower becomes delinquent, we continue to make the applicable payments to the investors in the mortgage-related securities pursuant to our guarantee until we purchase the loan out of the trust. We have the option to purchase specified loans, including certain delinquent loans, from the trusts at a purchase price equal to the current UPB of the loan, less any outstanding advances of principal that have been previously distributed. After a loan is purchased, we work with the borrowers to mitigate our losses through our loan workout programs, which are discussed in more detail in "Risk Management." If we are unable to achieve a successful loan workout, we either sell the loan to a third party or pursue foreclosure of the underlying property. The purchase of delinquent loans and the sale of loans are done in conjunction with the Investments segment.

The guarantee fee we charge on new acquisitions generally consists of a combination of upfront delivery fees and a base contractual monthly fee paid as a percentage of the UPB of the underlying loan. We may also make upfront payments to buy up the monthly guarantee fee rate ("buy-up fees"), or receive upfront payments to buy down the monthly guarantee fee rate (“buy-down fees”). These fees are paid in conjunction with the formation of a PC to provide for a uniform coupon rate for the mortgage pool underlying the PC. The payments made to buy up the guarantee fee rate are not considered compensation for the credit risk assumed for purposes of our financial statements. Consequently, these amounts are allocated to the Investments segment.

We enter into loan purchase agreements with many of our single-family customers that outline the terms under which we agree to purchase loans from them over a period of time. For the majority of the loans we purchase, the guarantee fees are not specified contractually. Instead, we bid for some or all of the lender's loan volume on a monthly basis at a guarantee fee rate that we specify. As a result, our loan purchase volumes from individual customers can fluctuate significantly.

We seek to issue guarantees with fee terms that are commensurate with the risks assumed and that will, over the long-term, provide guarantee fee income that exceeds the credit-related and administrative expenses on the underlying loans and provide a return on the capital that would be needed to support the related credit risk. To compensate us for higher levels of risk in some loan products, we charge upfront delivery fees above our contractual base fees, which are calculated based on credit risk factors such as the loan product type, loan purpose, LTV ratio, and credit score. While we vary our guarantee and, in certain cases, delivery fee pricing for different customers, loan products, and loan or borrower underwriting characteristics based on our assessment of credit risk, the seller may elect to retain loans with better credit characteristics. The sellers' decisions with respect to loan retention, or sale to us, could result in our purchases having a more adverse credit profile.

We must obtain FHFA's approval to implement across-the-board increases in our guarantee fees. In addition, from time to time, FHFA issues directives or guidance to us affecting the levels of guarantee fees that we may charge for various types of loans. In July 2016, FHFA issued a directive that addressed the safety and soundness risk that could arise if our guarantee fees were not sufficient to compensate us adequately for the credit risks we are taking. This directive allows us to continue to charge guarantee fees generally in line with the levels we had been charging at the time it was issued, but for many types of loans it prohibits reductions significantly below those levels.

In 2012, at FHFA's direction, we increased guarantee fees by 10 basis points. Under the Temporary Payroll Tax Cut Continuation Act of 2011, the proceeds from this increase are being remitted to Treasury on a quarterly basis to fund the payroll tax cut. We refer to this fee increase as the legislated 10 basis point increase in guarantee fees.

We issue the types of guarantee and securitization products described below. In these securitization products, Freddie Mac functions in its capacity as depositor, guarantor, administrator, and trustee. While the Single-family Guarantee segment is responsible for the guarantee of our securities, the Investments segment manages the securitization and resecuritization processes.

- PCs - our primary single-family mortgage securitization and guarantee process involves our issuance of single-class PCs, which are pass-through securities that represent undivided beneficial interests in trusts that hold pools of loans. For our fixed-rate PCs, we guarantee the timely payment of principal and interest. For our ARM PCs, we guarantee the timely payment of the weighted average coupon interest rate for the underlying loans. We also guarantee the full and final payment of principal, but not the timely payment of principal, on ARM PCs.
- Guarantor Swap PCs - we issue most of our PCs in guarantor swap transactions in which our customers provide us with loans in exchange for PCs, as shown in the diagram below:
- Cash PCs - we also issue PCs in transactions in which we purchase performing loans (which we sometimes refer to as a securitization pipeline) for cash and securitize them for retention in our mortgage-related investments portfolio or for sale to third parties, as shown in the diagram below. We also use this process to securitize reperforming loans. The purchase of loans and sale of PCs are managed by the Investments segment.

Resecuritization Products - our resecuritization products represent beneficial interests in pools of PCs and certain other types of mortgage assets. We create these securities primarily by using PCs or our previously issued resecuritization products as the underlying collateral. We believe our issuance of these securities expands the range of investors in our mortgage-related securities to include those seeking specific security attributes. Similar to our PCs, we guarantee the payment of principal and interest to the investors in our resecuritization products. We do not charge a guarantee fee for these securities if the underlying collateral is already guaranteed by us since no additional credit risk is introduced, although we typically receive a transaction fee as compensation for creating the security and future administrative responsibilities. All of the cash flows from the collateral underlying our resecuritization products are generally passed through to investors in these securities. We do not issue resecuritization products that have concentrations of credit risk beyond those embedded in the underlying assets. In many of our resecuritization transactions, securities dealers or investors deliver mortgage assets in exchange for the resecuritization product. In certain cases, we may also exchange our own mortgage assets for the resecuritization product. The resecuritization activities are managed by the Investments segment. The following diagram provides a general example of how we create resecuritization products:

We issue the following types of resecuritization products:

- Giant PCs - Giant PCs are resecuritizations of previously issued PCs or Giant PCs. Giant PCs are single-class securities that involve the straight pass through of all of the cash flows of the underlying collateral to holders of the beneficial interests.
- Stripped Giant PCs - Stripped Giant PCs are multiclass securities that are formed by resecuritizing previously issued PCs or Giant PCs and issuing principal-only and interest-only securities backed by the cash flows from the underlying collateral.
- REMICs - REMICs are resecuritizations of previously issued PCs, Giant PCs, Stripped Giant PCs, or REMICs. REMICs are multiclass securities that divide all of the cash flows of the underlying collateral into two or more classes with varying maturities, payment priorities and coupons.
- Other securitization products - From time to time, we may issue guaranteed mortgage-related securities collateralized by non-Freddie Mac mortgage-related securities. However, we have not entered into these types of transactions as part of our Single-family Guarantee business in several years.

Long-term standby commitments - we provide a guarantee on mortgage assets held by third parties, in exchange for guarantee fees, without securitizing those assets. Long-term standby commitments obligate us to purchase seriously delinquent loans that are covered by those commitments. From time to time, we have consented to the termination of our long-term standby commitments and simultaneously entered into guarantor swap transactions with the same counterparty, issuing PCs backed by many of the same loans.

Common Securitization Platform and the Single (Common) Security

In accordance with FHFA's 2014 Strategic Plan and the Conservatorship Scorecards, we continue to work with FHFA, Fannie Mae, and CSS on the development of a new common securitization platform and the implementation of the single (common) security initiative for Freddie Mac and Fannie Mae.

In December 2016, we and FHFA announced the implementation of Release 1 of the common securitization platform. Under Release 1, we began using the common securitization platform for data acceptance, issuance support, and bond administration activities related to certain Freddie Mac single-family fixed-rate mortgage-related securities.

FHFA expects to announce a timeframe for implementation of Release 2 of the common securitization platform in the first quarter of 2017. Release 2 involves the issuance by Freddie Mac and Fannie Mae of a single (common) mortgage-related security, to be called the Uniform Mortgage-Backed Security ("UMBS"). Release 2 will add to the functionality of Release 1, including commingling of Freddie Mac and Fannie Mae UMBS and UMBS disclosures.

Credit Risk Transfer Transactions

Most of our credit risk transfer transactions are designed to transfer a portion of the expected credit losses and a significant portion of credit losses in a stressed economic environment on groups of previously acquired loans to third-party investors. These transactions have termination dates that are earlier than the maturities of the related loans, and losses on the loans occurring beyond the terms of the transactions are not covered. The following strategic considerations were incorporated into the design of our credit risk transfer transactions:

- Repeatable and scalable execution with a broad appeal to diversified investors;
- Execution at a cost that is economically sensible;
- Minimal effect on the TBA market;
- Minimize changes required of, and effects on, sellers and servicers by having Freddie Mac serve as the credit manager for investors; and
- Avoid or seek to mitigate the risk that our losses are not reimbursed timely and in full.

The value of these transactions to us is dependent on various economic scenarios, and we will primarily benefit from these transactions if we experience significant loan defaults. Our credit risk transfer transactions include:

- STACR debt notes - In this transaction, we create a reference pool of loans from our Core single-family book and an associated securitization structure with notional credit risk positions (e.g., first loss, mezzanine, and senior positions). In certain of our STACR debt note transactions to date, we transferred risk in both first loss and mezzanine notional credit risk positions while in other transactions we only transferred risk in the mezzanine notional credit risk positions. The notional amounts of the credit risk positions are reduced when certain specified credit events occur on the loans in the reference pool. Generally, the notional amounts of the credit risk positions will be reduced based on scheduled and unscheduled principal payments that occur on the loans in the reference pool.

In STACR debt note transactions, losses may be allocated to the notional balances based on

calculated losses using a predefined formula or based on the actual losses on the loans in the reference pool. For loans that are covered by credit risk transfer transactions based on calculated losses, we may write down STACR debt notes or receive reimbursement of losses when the loans experience a credit event, which predominantly includes a loan becoming 180 days delinquent. For loans that are covered by credit risk transfer transactions based on actual losses, we may write down STACR debt notes or receive reimbursement of losses once an actual loss event (e.g., third-party foreclosure sale, short sale or REO disposition) occurs.

We issue STACR debt notes related to certain notional credit risk positions to third-party investors and retain the remaining credit risk. We make payments of principal and interest on the issued notes, but are not required to repay principal to the extent that the notional credit risk position is reduced as a result of a specified credit event. The interest rate on STACR debt notes is generally higher than on our other unsecured debt securities due to the potential for reductions to their principal balance. The amount of risk transferred in each transaction affects the interest rate we pay on the notes. The following diagram illustrates a typical STACR debt note transaction:

- ACIS insurance policies - In a typical ACIS transaction, we purchase insurance policies, generally underwritten by a group of insurers and reinsurers, that provide credit protection for certain specified credit events that occur and are allocated to the non-issued notional credit risk positions of a STACR debt note transaction (i.e., the risk positions that Freddie Mac retains). Under each insurance policy, we pay monthly premiums that are determined based on the outstanding balance of the reference pool. We may also enter into ACIS transactions that provide credit protection for certain specified

credit events on loans not included in a reference pool created for a STACR debt note transaction. When specific credit events occur, we receive compensation from the insurance policy up to an aggregate limit based on a predefined formula or based on actual losses. We require our counterparties to partially collateralize their exposure to reduce the risk that we will not be reimbursed for our claims under the policies.

- Deep mortgage insurance credit risk transfer, or Deep MI - In this transaction, we purchase a credit enhancement from affiliates of mortgage insurance companies that takes effect immediately upon the sale of the mortgage loan to Freddie Mac. Deep MI provides additional coverage beyond primary mortgage insurance. We require our counterparties to collateralize their exposure to reduce the risk that we will not be reimbursed for our claims under the policies.
- Whole loan securities - In this transaction, we issue guaranteed senior securities and unguaranteed subordinated securities backed by single-family loans. The unguaranteed subordinated securities will absorb first losses on the related loans. In these transactions, the loans are serviced in accordance with our Guide and we control the servicing.
- Senior subordinate securitization structures - In this structure, we issue guaranteed senior securities and unguaranteed subordinated securities backed by single-family loans. The collateral for these structures consists of seasoned performing modified and reperforming loans. The unguaranteed subordinated securities will absorb first losses on the related loans. In these transactions, the loans are not serviced in accordance with our Guide and we do not control the servicing.
- Seller indemnification agreement - In this transaction, we enter into an agreement upon loan acquisition with a seller under which the seller will absorb a portion of losses on the related single-family loans in exchange for a fee or a reduction in our guarantee fee. The indemnification amount may be fully or partially collateralized.

We also use other types of credit enhancements, such as primary mortgage insurance, to mitigate our credit risk exposure. See “Risk Management” for additional information on our credit risk transfer transactions, as well as the other types of credit enhancements we use.

Customers

Our customers in the Single-family Guarantee segment are predominantly financial institutions that originate, sell and perform the ongoing servicing of loans for new or existing homeowners. These companies include mortgage banking companies, commercial banks, community banks, credit unions, other non-depository financial institutions, HFAs, and savings institutions. Many of these companies are both sellers and servicers for us. In addition, our customers include investors and dealers in our guaranteed mortgage-related securities and investors and counterparties in credit risk transfer transactions.

We acquire a significant portion of our loans from several lenders that are among the largest originators in the U.S. In addition, a significant portion of our single-family loans is serviced by several large servicers. The graphs below present the concentration of our single-family purchase volume for 2016 and our loan servicing as of December 31, 2016 among our top five customers.

Percentage of Single-Family Purchase Volume

Percentage of Single-Family Servicing Volume

For additional information about seller/servicer concentration risk and our relationships with our seller/servicer customers, see “Risk Management - Credit Risk - Counterparty Credit Risk - Sellers and Servicers.”

Competition

Our principal competitors in the Single-family Guarantee segment are Fannie Mae, FHA/VA (with Ginnie Mae securitization), and other financial institutions that retain or securitize loans, such as commercial and investment banks, dealers, and savings institutions. We compete on the basis of price, products, securities structure, and service. Competition to acquire single-family loans can also be significantly affected by changes in our credit standards. The conservatorship, including direction provided to us by our Conservator, may affect our ability to compete. For more information, see “Risk Factors - Other Risks - Competition from banking and non-banking institutions (including Fannie Mae and FHA/VA with Ginnie Mae securitization) may harm our business. FHFA’s actions as Conservator of both companies could affect competition between us and Fannie Mae."

Our Segment Earnings guarantee fee income is influenced by our PC price performance because we adjust our fees based on the price performance of our PCs relative to comparable Fannie Mae securities (we refer to this as market-adjusted pricing).

From time to time, we undertake a variety of actions in an effort to support the liquidity and price performance of our PCs relative to comparable Fannie Mae securities. These actions may include:

- Resecuritizing PCs;
- Encouraging sellers to pool loans that they deliver to us into PC pools with a larger and more diverse population of loans; and
- Influencing the volume and characteristics of loans delivered to us by tailoring our loan eligibility guidelines and by other means.

For additional information about our efforts to support the liquidity and relative price performance of our PCs, see “Investments - Market Conditions” and “Risk Factors - Other Risks - A significant decline in the price performance of or demand for our PCs could have an adverse effect on the volume and/or profitability of our new single-family guarantee business.”

MARKET CONDITIONS

The graphs and related discussion below present certain single-family market indicators, for the most recent five years, that can significantly affect the business and financial results of our Single-family Guarantee segment.
U.S. Single-Family Originations

Source: Inside Mortgage Finance dated January 27, 2017.

U.S. Single-Family Home Sales
Source: National Association of Realtors news release dated January 24, 2017 and U.S. Census Bureau news release dated January 26, 2017.

Commentary

- Single-family loan origination volumes in the U.S. increased in 2016, driven by an increase in refinancing activity as a result of lower average mortgage interest rates.
- If average mortgage interest rates continue to move higher in 2017, we would anticipate lower origination activity compared to 2016 as refinance activity and home sales would likely decline.

Single-Family Mortgage Debt Outstanding as of December 31,
Source: Federal Reserve Financial Accounts of the United States of America dated December 8, 2016. For 2016, the amount is as of September 30, 2016 (latest available information).

Single-Family Serious Delinquency Rates as of December 31,
Source: National Delinquency Survey from the Mortgage Bankers Association. For 2016, the rates (excluding Freddie Mac) are as of September 30, 2016 (latest available information).

Commentary

- The U.S. single-family mortgage debt outstanding increased in 2016 compared to 2015, which resulted in an increase in the supply of loans available for us to purchase.
- Single-family serious delinquency rates in the U.S. continued to decline due to macroeconomic factors, such as decreased unemployment rates and continued home price appreciation. We expect our single-family serious delinquency rate to decline below 1.00% in 2017.
- As reported by the U.S. Census Bureau, the U.S. homeownership rate was 63.7% in the fourth quarter of 2016, compared to a high point of 69.2% in the fourth quarter of 2004, and the average of 66.2% since 1990.

BUSINESS RESULTS

The graphs and related discussion below present the business results of our Single-family Guarantee segment.

New Business Activity

Single-Family Loan Purchases and Guarantees

Number of Families Helped to Own a Home

Commentary

- We maintain a consistent market presence by providing lenders with a constant source of liquidity for conforming loan products. We have funded approximately 14.2 million single-family homes since 2009 and purchased approximately 1.4 million HARP loans since the initiative began in 2009, including over 25,000 during 2016.
- Our overall loan purchase activity increased in 2016 compared to 2015, due to higher refinance loan purchase volume as average mortgage interest rates were lower in 2016 compared to 2015. Our overall loan purchase activity increased significantly in 2015 compared to 2014, due to higher volumes of home sales and home price appreciation.
- We continued working to improve access to affordable mortgage credit, including through our Home Possible® loan initiatives. Our Home Possible® loan initiatives offer down payment options as low as

3% and are designed to help qualified borrowers with limited savings buy a home. We purchased nearly 34,000 loans under these initiatives in 2016. We also continue to explore the feasibility of:

- Increasing our purchases of loans securitized by permanently affixed manufactured housing;
- Improving the effectiveness of pre-purchase and early delinquency counseling for borrowers;
- Utilizing alternative credit score models and credit history standards in loan eligibility decisions; and
- Increasing support for first-time home buyers.

While we are responsibly expanding our programs and outreach capabilities to better serve low- and moderate-income borrowers and underserved markets, these loans result in increased credit risk. Expanding access to affordable mortgage credit will continue to be a top priority in 2017. See "Regulation and Supervision - Legislative and Regulatory Developments - Final Rule on Duty to Serve Underserved Market" for more information.

- If average mortgage interest rates continue to move higher in 2017, we would anticipate lower purchase volume compared to 2016 as refinance activity and home sales would likely decline.

Single-family Credit Guarantee Portfolio

Single-Family Credit Guarantee Portfolio as of December 31,

Single-Family Loans as of December 31,

Commentary

- The single-family credit guarantee portfolio grew to $1,755 billion in 2016 from $1,702 billion in 2015, an increase of approximately 3%.

- The Core single-family book grew to 73% of the single-family credit guarantee portfolio at December 31, 2016. We exclude HARP and other relief refinance loans from the Core single-family book because such loans generally reflect credit risk attributes of the original loans (many of which were originated between 2005 and 2008).
- The HARP and other relief refinance book represented an additional 15% of the single-family credit guarantee portfolio at December 31, 2016.
- The Legacy single-family book declined to 12% of the single-family credit guarantee portfolio at December 31, 2016.

Guarantee Fees

The average portfolio Segment Earnings guarantee fee rate recognizes upfront delivery fee income over the contractual life of the related loans (usually 30 years). If the related loans prepay, the remaining upfront delivery fee income is recognized immediately. In addition, the average portfolio Segment Earnings guarantee fee rate reflects an average of our total mortgage portfolio and is not limited to purchases in the applicable year.

The average guarantee fee rate charged on new acquisitions recognizes upfront delivery fee income over the estimated life of the related loans using our expectations of prepayments and other liquidations. Loans acquired prior to 2012 have lower contractual guarantee fee rates than loans we have acquired since that time.

Average Portfolio Segment Earnings Guarantee Fee Rate[1] for the Year Ended December 31,

Average Guarantee Fee Rate[1] Charged on New Acquisitions for the Year Ended December 31,

(1) Excludes the legislated 10 basis point increase in guarantee fees.

Commentary

- Average portfolio Segment Earnings guarantee fees
  2016 vs. 2015 and 2015 vs. 2014 - increased due to higher amortization of upfront delivery fees, driven by higher loan liquidations resulting from a lower average interest rate environment, as well as the acquisition of new loans with higher guarantee fee rates.
- Guarantee fees charged on new acquisitions
  2016 vs. 2015 - increased primarily due to changes in the product mix of our single-family new business purchases as new acquisitions have included a relatively higher proportion of 30-year fixed-rate mortgages, which generally have higher guarantee fee rates than most other mortgage

products, combined with decreased market-adjusted pricing costs based on the price performance of our PCs relative to Fannie Mae securities.

2015 vs. 2014 - decreased due to a combination of competitive pricing and increased market-adjusted pricing costs based on the price performance of our PCs relative to Fannie Mae securities.

Credit Risk Transfer Activity

Since 2013, STACR debt note and ACIS transactions have been our principal method of transferring a portion of the expected credit losses and a significant portion of credit losses in a stressed economic environment subsequent to loan acquisition in our Core single-family book. The following charts present amounts for the STACR and ACIS transactions that occurred in 2016 and the cumulative amount of such transactions at December 31, 2016.

New STACR Debt Note and ACIS Transactions for the Year Ended December 31, 2016[1]

(In billions)

Freddie Mac

Senior

$200.0

ACIS

Freddie Mac $2.4 STACR Debt Notes Reference Pool

Mezzanine

$0.4 $5.3 $210.1

First Loss

Freddie Mac ACIS STACR Debt Notes

$1.4 $0.2 $0.2

Cumulative STACR Debt Note and ACIS Transactions as of December 31, 2016[1][2]

(In billions)

Freddie Mac

Senior

$565.6

Mezzanine Freddie Mac ACIS STACR Debt Notes Reference Pool

$1.4 $594.8

$5.6 $17.3

	Freddie Mac	ACIS	STACR Debt Notes
First Loss	$3.3	$0.6	$1.0

(1) The amounts represent the UPB upon issuance of STACR debt notes and execution of ACIS transactions.
(2) For the current outstanding coverage provided by our STACR debt note and ACIS transactions, see "Risk Management - SF Credit Risk - Offering Private Investors New and Innovative Ways to Share in the Credit Risk of the Core Single-Family Book."

Commentary

- We continued to transfer a portion of the expected credit losses and a significant portion of credit losses in a stressed economic environment to third-party investors, insurers, and selected sellers through credit risk transfer transactions.
- In 2016, we transferred credit losses associated with $215.2 billion in UPB of loans in our Core single-family book through STACR debt note, ACIS, seller indemnification, whole loan security, senior subordinate securitization structures, and Deep MI transactions. Significant developments in 2016 include the following:
  - We developed a new ACIS transaction using collateral other than 30-year fixed-rate mortgages. Also, unlike prior ACIS transactions, this transaction does not involve loans in a reference pool created for a STACR debt note transaction.

We executed our first Deep MI transaction. The pilot transaction provided additional coverage beyond primary mortgage insurance on 30-year fixed-rate mortgages with LTV ratios between 80% and 95%.

- Since 2013, we have completed 57 credit risk transfer transactions that, upon execution of the transaction, covered $601.9 billion in principal of loans in our Core single-family book.
- The interest and premiums we pay on our issued STACR debt note and ACIS transactions to transfer credit risk effectively reduce the guarantee fee income we earn on the PCs within the respective pools. Our expected guarantee fee income on the loans within the STACR and ACIS reference pools has been effectively reduced by approximately 34%, on average, for transactions executed as of December 31, 2016. The amount of effective reduction to our overall guarantee fee income could change over time as we continue our credit risk transfer activities or if there are changes in the economic or regulatory environment that affect the cost of executing these transactions. We expect that the aggregate cost of our credit risk transfer activity will continue to increase as we enter into additional transactions.
- As of December 31, 2016 there has not been a significant number of loans in our STACR debt note reference pools that have experienced a credit event. As a result of the credit performance of these loans, we have only recognized small write-downs on our STACR debt notes and have begun to make claims for reimbursement of losses under our ACIS transactions.
- The 2017 Conservatorship Scorecard sets a goal for us to transfer a meaningful portion of credit risk on at least 90% of the UPB of certain categories of newly acquired single-family loans, such as non-HARP and non-high LTV refinance fixed-rate loans with terms greater than 20 years and LTV ratios above 60%.

Loss Mitigation Activities

Number of Families Helped to Avoid Foreclosure

Loan Workout Activity

Commentary

- We continue to help struggling families retain their homes or otherwise avoid foreclosure through loan workouts, helping approximately 1.2 million borrowers since 2009. Our loan workout activity has declined over the last several years, along with a decline in the size of our seriously delinquent single-family loan portfolio.
- When a home retention solution is not practicable, we require our servicers to pursue foreclosure alternatives, such as short sales, before initiating foreclosure. When foreclosure is unavoidable and we acquire the property as REO, we have helped to stabilize communities by focusing on REO sales to owner-occupants, who have made up 67% of purchasers since the beginning of 2009.
- As part of our strategy to mitigate losses and reduce our holdings of less liquid assets, we sold seriously delinquent loans totaling $3.1 billion in UPB during 2016. Of the $2.1 billion in UPB of single-family loans classified as held-for-sale at December 31, 2016, $1.6 billion related to loans that were seriously delinquent. We believe selling these loans provides better economic returns than continuing to hold them.

- HAMP ended in December 2016. The relief refinance program (including HARP) will end in September 2017 and is expected to be replaced by a new program. See "Risk Management" for additional information on our loan workout activities.

FINANCIAL RESULTS

The table below presents the components of the Segment Earnings and comprehensive income for our Single-family Guarantee segment.

	Year Ended December 31,			Change 2016-2015		Change 2015-2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Guarantee fee income	$6,091	$5,152	$4,094	$939	18 %	$1,058	26 %
Provision for credit losses	(517)	(283)	(1,129)	(234)	(83)%	846	75 %
Other non-interest income	447	136	952	311	229 %	(816)	(86)%
Administrative expense	(1,323)	(1,285)	(1,170)	(38)	(3)%	(115)	(10)%
REO operations expense	(298)	(341)	(213)	43	13 %	(128)	(60)%
Other non-interest expense	(1,169)	(794)	(387)	(375)	(47)%	(407)	(105)%
Segment Earnings before income tax expense	3,231	2,585	2,147	646	25 %	438	20 %
Income tax expense	(1,061)	(807)	(600)	(254)	(31)%	(207)	(35)%
Segment Earnings, net of taxes	2,170	1,778	1,547	392	22 %	231	15 %
Total other comprehensive income (loss), net of tax	(9)	12	(10)	(21)	(175)%	22	220 %
Total comprehensive income	$2,161	$1,790	$1,537	$371	21 %	$253	16 %

Key Drivers:

- Guarantee fee income

2016 vs. 2015 and 2015 vs. 2014 - increased primarily due to higher amortization of upfront delivery fees resulting from increased loan liquidations. Higher average contractual guarantee fee rates, reflecting the growth in the Core single-family book, also contributed.

- Provision for credit losses

2016 vs. 2015 - increased primarily due to higher total interest rate concessions resulting from the longer expected life of certain modified loans driven by rising mortgage interest rates in the fourth quarter of 2016.

2015 vs. 2014 - decreased primarily due to a lower volume of newly impaired loans as the housing market and economy continued to improve.

- Other non-interest income

2016 vs. 2015 - increased due to fewer seasoned single-family loans reclassified from held-for-investment to held-for-sale in 2016 compared to 2015 due to a smaller inventory of certain seasoned single-family loans available for reclassification, partially offset by increased fair value losses on STACR debt notes, as market spreads between STACR yields and LIBOR tightened more in 2016 than in 2015.

2015 vs. 2014 - decreased primarily due to more seasoned single-family loans reclassified from held-for-investment to held-for-sale in 2015 compared to 2014; as we accelerated our program to sell certain seasoned single-family loans, fair value losses on STACR debt notes, as market spreads between STACR yields and LIBOR tightened in 2015, compared to fair value gains on STACR debt notes in 2014 when market spreads widened, and higher expenses related to CSS.

- Other non-interest expense
  - 2016 vs. 2015 and 2015 vs. 2014 - increased primarily due to higher credit risk transfer expense (interest expense on STACR debt notes and premiums paid to ACIS counterparties) reflecting higher outstanding cumulative volumes of credit risk transfer transactions in the respective comparable periods.

MULTIFAMILY
BUSINESS OVERVIEW

The Multifamily segment provides liquidity to the multifamily market and supports a consistent supply of workforce housing by purchasing and securitizing loans secured by properties with five or more units. The Multifamily segment reflects results from our purchase, securitization, and guarantee of multifamily loans and securities, our investments in those loans and securities, and the management of multifamily mortgage credit risk and mortgage market spread risk.
The Multifamily segment supports our primary business strategies by creating:
A Better Freddie Mac:

- Continuing to provide financing to the multifamily mortgage market and expanding our market presence for workforce housing in line with our mission;
- Improving our risk-adjusted returns by leveraging private capital in our credit risk transfer transactions; and
- Maintaining strong credit and capital management discipline.

A Better Housing Finance System:

- Operating in a customer focused manner, in an effort to build value and support the creation of a strong, long-lasting rental housing system;
- Identifying new opportunities beyond our existing K Certificate and SB Certificate transactions to transfer credit risk to third parties and reduce taxpayer exposure; and
- Fostering innovation of products that expand the availability of workforce housing in the marketplace.

We use a prior-approval underwriting approach for multifamily loans, in contrast to the delegated underwriting approach used in our Single-family Guarantee segment. Under this approach, we maintain credit discipline by completing our own underwriting and credit review for each new loan prior to issuance of a loan commitment, including review of third-party appraisals and cash flow analysis.
Multifamily loans are typically without recourse to the borrower, making repayment dependent on cash flows generated by the underlying property. Cash flows generated by a property are significantly influenced by vacancy and rental rates, as well as conditions in the local rental market, the physical condition of the property, the quality of property management, and the level of operating expenses.
Multifamily property markets are affected by local and regional economic factors, such as employment rates, construction cycles, preferences for homeownership versus renting, and relative affordability of single-family home prices, all of which influence the supply and demand for multifamily properties and pricing for apartment rentals.

Products and Activities

Securitization, Guarantee, and Credit Risk Transfer Products

In our Multifamily segment, we issue various types of securitization, guarantee, and credit risk transfer products. These products, with the exception of other credit risk transfer products (i.e., SCR debt notes), make up our guarantee portfolio.

- Primary Securitization and Credit Risk Transfer Products - Our primary business model is to acquire loans for aggregation and then to securitize the loans through the issuance of K Certificates or SB Certificates, as discussed below.

K Certificates - We purchase multifamily loans for aggregation and securitization through the issuance of multifamily K Certificates, which allows us to transfer a large majority of expected and stress credit losses of the loans to third-party investors. As shown in the diagram below, in a K Certificate transaction, we sell multifamily loans to a non-Freddie Mac securitization trust that issues senior and subordinated securities, and simultaneously purchase and place the senior securities into a Freddie Mac securitization trust that issues guaranteed K Certificates. In these transactions, we guarantee the senior securities and do not issue or guarantee the subordinated securities. As a result, a large majority of expected and stress credit risk is sold to the third-party investors in the subordinated securities, thereby reducing our credit risk exposure. We receive a guarantee fee in exchange for guaranteeing the K Certificates. Profitability on our K Certificates is evaluated in terms of guarantee fee income and gains on the sales of loans. We attempt to maximize our returns by optimizing the combination of gains we earn when we sell the loans for securitization and the guarantee fees we will earn over time.

We may purchase or retain a portion of the K Certificates or the unguaranteed subordinated securities, and, from time to time, we may undertake other activities to support the liquidity of K Certificates. For more information, see “Risk Factors - Other Risks - The profitability of our multifamily business could be adversely affected by a significant decrease in demand for our K Certificates and SB Certificates."

SB Certificates - We also purchase small balance multifamily loans for aggregation and securitization through the issuance of multifamily SB Certificates. Occasionally, we also issue SB Certificates backed by small balance multifamily loans which were underwritten by Freddie Mac after (rather than at) origination and were not purchased by Freddie Mac prior to securitization. Small balance loans typically are between $1.0 million and $6.0 million in size. SB Certificate transactions are structured in a manner generally similar to our K Certificate transactions, and this

allows us to transfer a large majority of expected and stress credit losses of the small balance loans to third-party investors.

Similar to our K Certificates, we may purchase or retain a portion of the SB Certificates or the unguaranteed subordinated securities, and, from time to time, we may undertake other activities to support the liquidity of SB Certificates.

- Other securitization products - We also issue other securitization products including:

PCs - We securitize multifamily loans into fixed-rate pass-through securities that are similar in structure to our Single-family Guarantee segment fixed-rate PCs. We guarantee the timely payment of the principal and interest on our multifamily fixed-rate PCs.

K Certificates without subordination - We securitize multifamily loans and issue K Certificates without subordination using a transaction structure that is similar to our K Certificates. However, unlike K Certificates, K Certificates without subordination are fully guaranteed and no subordinate or mezzanine securities are issued.

Q Certificates - We securitize multifamily loans, excluding small balance multifamily loans, and issue Q Certificates using a transaction structure that is similar to our K Certificates. However, unlike K Certificates, the multifamily loans backing the Q Certificate trusts are underwritten by Freddie Mac after (rather than at) origination and are not purchased by Freddie Mac prior to securitization.

M Certificates - We securitize pools of tax-exempt or taxable multifamily housing revenue bonds and loans and issue both guaranteed senior M Certificates and unguaranteed subordinated M Certificates.

- Other mortgage-related guarantees - We guarantee mortgage-related assets held by third parties in exchange for guarantee fee income without securitizing those assets. For example, we provide guarantees on certain tax-exempt multifamily housing revenue bonds secured by low- and moderate-income multifamily loans.
- Other credit risk transfer products (i.e., SCR debt notes) - We began issuing our SCR debt notes in 2016 in order to transfer a portion of credit risk on the loans underlying certain of our other mortgage-related guarantees. The interest we pay on our SCR debt notes effectively reduces the guarantee fee income we would otherwise earn on the other mortgage-related guarantees. SCR debt notes are generally similar in structure to STACR debt notes.

Investing and Risk Management Activities

- Mortgage loans - Our primary business model is to acquire loans for aggregation and then to securitize the loans through the issuance of K Certificates or SB Certificates. However, we also hold a portfolio of multifamily mortgage loans as part of a buy-and-hold investment strategy. Although we continue to purchase small amounts of new multifamily mortgage loans for this portfolio, the size of the portfolio is declining over time.
- Agency mortgage-related securities - We may purchase or retain a portion of the K Certificates or SB Certificates and other types of multifamily securitization products we issue, depending on market conditions, and we may also buy or sell these securities in the secondary market.
- Non-agency mortgage-related securities - We may purchase a portion of the unguaranteed subordinated securities related to our securitization transactions, depending on market conditions. To

date, we have not purchased any of the unguaranteed securities that are in the first loss position nor do we currently hold any in our portfolio.

- CMBS - We are not currently an active purchaser of CMBS. However, we continue to hold a portfolio of CMBS and other multifamily investment securities that we acquired under a prior buy-and-hold investment strategy. This portfolio is declining over time.
- Swaptions on credit indices - We purchase swaptions on credit indices in order to obtain protection against adverse movements in market spreads which may affect the profitability of our K Certificate or SB Certificate transactions.

Customers

Our multifamily loan volume is sourced through our approved lenders, who are primarily non-bank real estate finance companies and banks. We generally provide post-construction financing to apartment project operators with established performance records. The following graphs show the concentration of our 2016 multifamily new business volume by our largest sellers and loan servicing by our largest servicers as of December 31, 2016. Any seller or servicer with a 10% or greater share is listed separately.

Percentage of Multifamily New Business Volume

Percentage of Multifamily Servicing Volume
Note: Excludes loans underlying securitizations where we are not in first loss position, primarily K Certificates and SB Certificates.

Competition

We compete on the basis of price, service, and products, including our use of certain securitization structures. Our principal competitors in the Multifamily segment are Fannie Mae, FHA, commercial and investment banks, CMBS conduits, dealers, savings institutions, and life insurance companies.

MARKET CONDITIONS

The graphs and related discussion below present certain multifamily market indicators, for the most recent five years, that can significantly affect the business and financial results of our Multifamily segment.
Change in Effective Rents for Period Ending December 31,
Source: REIS, Inc.

Apartment Vacancy Rates as of December 31,
Source: REIS, Inc.

Commentary

- The increase in effective rents (i.e., the average rent paid by the tenant over the term of the lease, adjusted for concessions by the landlord and costs borne by the tenant) declined in 2016 but remains strong relative to long-term averages. In 2017, we expect the increase in effective rents to remain in line with the 2016 increase.
- Vacancy rates decreased slightly in 2016, remaining well below long-term averages, but are expected to increase during 2017 at a moderate pace.
- Multifamily property prices have been especially strong, with 12% annualized growth through November 2016. Multifamily property price growth may slow with the expected leveling-off in the rate of effective rent growth, an environment of increasing vacancy rates and interest rates, as well as improving returns for other investment types.

Apartment Completions and Net Absorption

Source: REIS, Inc.

K Certificate Benchmark Spreads as of December 31,

Source: Independent Dealers

Commentary

- Apartment completions are an indication of the supply of rental housing. Net absorption, which is a measurement of the rate at which available apartments are occupied, is an indication of demand for rental housing.
- Completions and net absorption were roughly equal during 2016. We expect them to remain in balance in 2017.
- The K Certificate benchmark spread represents the market spread of a typical 10-year senior K Certificate over the U.S. swap curve.
- The profitability of our K Certificate transactions (as measured by gains and losses on sales of mortgage loans) is affected by the change in the K Certificate benchmark spreads during the period between loan purchase and execution of the K Certificate transaction. These market spread impacts contribute to our earnings volatility, which we try to manage through the size of our securitization pipeline of held-for-sale mortgage loans and through our purchase of swaptions on credit indices.
- During 2016, K Certificate benchmark spreads tightened due to a reduction in macroeconomic market volatility compared to 2015. This tightening had a positive effect on K Certificate profitability.

Multifamily Mortgage Debt Outstanding as of December 31,

Source: Federal Reserve Financial Accounts of the United States of America. For 2016, the amount is as of September 30, 2016 (latest available information).

Multifamily Delinquency Rates as of December 31,
Source: Freddie Mac, FDIC Quarterly Banking Profile, Trepp, LLC. (MF CMBS market, excluding REOs), American Council of Life Insurers (ACLI). For 2016, the amounts for FDIC insured institutions and ACLI investment bulletin are as of September 30, 2016 (latest available information).

Commentary

- There was significant growth in the multifamily market during 2016, driven by increasing property prices, a continued elevated construction pipeline, and low interest rates. As reported by the Federal Reserve, total multifamily mortgage debt outstanding was approximately $1.2 trillion at September 30, 2016 (the latest available information), representing an increase of $63.5 billion (or 6%) since December 31, 2015.
- Our share of multifamily mortgage debt outstanding has remained relatively stable over the past several years in the 13-15% range.
- Our multifamily delinquency rates during 2016 remained among the lowest in the industry, ending the year at 3 bps, primarily due to our prior-approval underwriting approach discussed earlier.
- We expect continued growth in the multifamily mortgage market due to increasing property prices and new completions, along with favorable investment opportunities. We also expect to maintain our share of multifamily mortgage debt outstanding in 2017.
- We expect the credit losses and delinquency rates for the multifamily mortgage portfolio to remain low in the near term.

BUSINESS RESULTS

The graphs and related discussion below present the business results of our Multifamily segment.

New Business Activity

New Business Activity for the Year Ended December 31,

Acquisition of Units by Area Median Income (AMI) for the Year Ended December 31,

Commentary

- The dollar volume of capped multifamily new business activity transacted during 2016 was $36.5 billion. The 2016 scorecard production cap was increased to $36.5 billion by FHFA during 2016 from an original amount of $31 billion. Business activity associated with certain targeted loan types is excluded and is considered uncapped for purposes of determining the dollar volume of multifamily new business.

- Approximately two-thirds of our multifamily new business activity during 2016 counted towards the 2016 scorecard production cap, and the remaining one-third was uncapped.
- Nearly 90% of the eligible units we financed during 2016 were affordable to families earning at or below the median income in their area (eligible units are multifamily units that qualify towards our affordable housing goal). We continued our support of workforce housing in the multifamily mortgage market during 2016 through our purchases of manufactured housing community loans and small balance loans.
- Our multifamily new business activity outstanding commitments were $12.4 billion and $15.0 billion, as of December 31, 2016 and December 31, 2015, respectively. The December 31, 2016 amount includes loan purchase commitments for which we have elected the fair value option.
- The growth in our new business activity during 2016 was driven by the overall increase in multifamily mortgage debt outstanding.
- We expect our overall new business volume to increase in 2017; however, we expect our volume in the capped categories to be at or below the 2017 Conservatorship Scorecard cap, which is currently set at $36.5 billion. We also expect to introduce new initiatives to support liquidity and workforce housing in the multifamily mortgage markets.
- We expect the increased competition from other market participants, particularly banking institutions, to continue.

Multifamily Portfolio

Multifamily Portfolio as of December 31,

Multifamily Investments Portfolio as of December 31,

Commentary

- Our multifamily portfolio grew in 2016 due to an increase in the guarantee portfolio, which was primarily attributable to our securitization of loans in K Certificate and SB Certificate transactions. This growth was driven by the overall increase in multifamily new business activity in 2016.
- The decline in less liquid assets in our multifamily investments portfolio during 2016 was primarily due to continued runoff of our held-for-investment mortgage loan and CMBS portfolios.
- We expect a continued increase in the size of our guarantee portfolio as a result of ongoing K Certificate and SB Certificate transactions. We also expect a continued reduction in our held-for-investment mortgage loan and CMBS portfolios due to ongoing principal repayments and maturities, which will serve to reduce our less liquid assets.

Net Interest Yield Earned For the Year Ended December 31,

Commentary

- Our portfolio of interest-earning assets continued to decline in 2016 primarily as a result of reductions in our held-for-investment loan and CMBS portfolios, consistent with our plans to reduce our holdings of less liquid assets. The interest earning assets that liquidated had lower net interest yields relative to the average portfolio, resulting in an increase in net interest yields in 2016.

Guarantee Fees

Average Guarantee Fee Rate Charged on New K Certificates, K Certificates without Subordination, and SB Certificates for the Year Ended December 31,

Average Portfolio Guarantee Fee Rate as of December 31,

Commentary

- The guarantee portfolio increased in 2016 primarily as a result of our ongoing issuance of K Certificates and SB Certificates.
- The average guarantee fee rate on both the overall guarantee portfolio and on newly issued K Certificates, K Certificates without subordination, and SB Certificates increased in 2016, primarily as a result of increased securitizations of products for which we charge higher fees, such as those with lower subordination rates.
- The average guarantee fee rate charged on K Certificates and SB Certificates is generally lower than the average guarantee fee rate charged on our other multifamily securitization products and other mortgage-related guarantees. The lower guarantee fee rate on K Certificates and SB Certificates is driven by higher levels of subordination that absorb the large majority of the expected and stress credit losses.

Credit Risk Transfer Activity

New K Certificate and SB Certificate Issuances for the Year Ended December 31,

Cumulative K Certificate and SB Certificate Issuances as of December 31,

Note: The charts above do not include certain SB Certificates where the underlying loans were underwritten by Freddie Mac after (rather than at) origination and were not purchased by Freddie Mac prior to securitization.

Commentary

- The number and dollar volume of our K Certificate and SB Certificate issuances increased during 2016 as a result of our strong new business volume during the year. We expect these issuances to continue at similar levels during 2017.
- Nearly 90% of the loans we purchased in 2016 were designated for securitization.
- While we expect to use K Certificates and SB Certificates as the primary methods to transfer multifamily credit risk in 2017, we also expect to introduce new initiatives to transfer credit risk.

FINANCIAL RESULTS

The table below presents the components of the Segment Earnings and comprehensive income for our Multifamily segment.

	Year Ended December 31,			Change 2016 - 2015		Change 2015 - 2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Net interest income	$1,022	$1,049	$948	($27)	(3)%	$101	11%
Guarantee fee income	511	339	254	172	51%	85	33%
Benefit (provision) for credit losses	22	26	55	(4)	(15)%	(29)	(53)%
Gains (losses) on loans and other non-interest income	1,166	(198)	1,104	1,364	689%	(1,302)	(118)%
Derivative gains (losses)	407	372	335	35	9%	37	11%
Administrative expense	(362)	(325)	(274)	(37)	(11)%	(51)	(19)%
Other non-interest expense	(58)	(60)	(14)	2	3%	(46)	(329)%
Segment Earnings before income tax expense	2,708	1,203	2,408	1,505	125%	(1,205)	(50)%
Income tax expense	(890)	(376)	(772)	(514)	(137)%	396	51%
Segment Earnings, net of taxes	1,818	827	1,636	991	120%	(809)	(49)%
Total other comprehensive income (loss), net of tax	(236)	(261)	(177)	25	10%	(84)	(47)%
Total comprehensive income (loss)	$1,582	$566	$1,459	$1,016	180%	($893)	(61)%

Key Drivers:

- Net interest income

2016 vs. 2015 - declined primarily due to lower balances of interest earning assets, as we reduce our less liquid assets, and lower net prepayment fee income in 2016.

2015 vs. 2014 - increased primarily due to changes in the composition of our multifamily portfolio, as lower yielding legacy loans and securities were replaced during 2015 with purchases of higher-yielding loans to support future securitizations.

- Guarantee fee income

2016 vs. 2015 and 2015 vs. 2014 - increased primarily due to higher average multifamily guarantee portfolio balances as a result of ongoing issuances of K Certificates and SB Certificates.

- Gains (losses) on loans and other non-interest income, derivative gains (losses), and total other comprehensive income (loss) are evaluated together as they are collectively driven by a combination of market spread-related and interest rate-related fair value changes. We use derivatives in the Multifamily segment to economically offset interest rate-related fair value changes of certain assets. The fair value changes of these economically hedged assets are included in gains (losses) on loans and other non-interest income and total other comprehensive income (loss). The interest rate-related portion of these changes and the interest rate-related derivative fair value changes that are included in derivative gains (losses) largely offset each other and, as a result, there is minimal net impact on total comprehensive income for the Multifamily segment from interest rate-related derivatives. We also recently began using derivatives in the Multifamily segment to economically offset a portion of the market spread-related fair value changes of certain assets.

2016 vs. 2015 - gains in these items increased, in the aggregate, primarily due to improved pricing on K Certificates and SB Certificates, as well as improved market spread-related fair value

changes. K Certificate benchmark spreads tightened during 2016, resulting in gains, compared to spread widening during 2015, which resulted in losses.

2015 vs. 2014 - gains in these items decreased, in the aggregate, due to market spread-related fair value changes. The widening of K Certificate benchmark spreads during 2015 resulted in losses while the spread tightening during 2014 resulted in gains.

INVESTMENTS
BUSINESS OVERVIEW

The Investments segment reflects results from three primary activities:

- Managing the company's mortgage-related investments portfolio, excluding Multifamily segment investments, single-family seriously delinquent loans, and the credit risk of single-family performing loans;
- Managing the treasury function for the company, including funding and liquidity; and
- Managing interest-rate risk for the company.

The objectives of our Investments segment are to make appropriate risk and capital management decisions, effectively execute our strategy and be responsive to market conditions. The Investments segment supports our primary business strategies by creating:

A Better Freddie Mac:

- Engaging in economically sensible transactions to reduce our less liquid assets, including non-agency mortgage-related securities, and to reduce the balance of our reperforming loans and our performing modified loans;
- Managing the mortgage-related investments portfolio's risk-versus-return profile based on our internal economic capital framework;
- Enhancing the liquidity of our issued securities in the secondary mortgage market to support our business needs;
- Responding to market opportunities by efficiently funding the company's business activities; and
- Managing the company's economic interest-rate risk through the use of derivatives and other debt.

A Better Housing Finance System:

- Expanding and improving the delivery of mortgage capital markets services through our cash loan purchase program, in conjunction with the Single-family Guarantee segment; and
- Implementing the single (common) security initiative for Freddie Mac and Fannie Mae, which is intended to increase the liquidity of the TBA market and to reduce the disparities in trading value between our PCs and Fannie Mae's single-class mortgage-related securities.

Although we manage our business on an economic basis, we have executed certain transactions in an effort to reduce the probability of a draw due to changes in interest rates. Also, we may forgo certain investment opportunities for a variety of reasons, including the limit on the size of our mortgage-related investments portfolio or the risk that a particular accounting treatment may create earnings volatility as well as result in a future draw from Treasury. For additional information on the limits on the mortgage-related investments portfolio established by the Purchase Agreement and by FHFA, see "Conservatorship and Related Matters - Limits on Our Mortgage-Related Investments Portfolio and Indebtedness."

Products and Activities

Investing and Related Activities

In our Investments segment, we manage the following types of products:

- Agency mortgage-related securities - We primarily invest in Freddie Mac mortgage-related securities, but may also invest in Fannie Mae and Ginnie Mae mortgage-related securities from time to time. Our activities with respect to this product may include purchases and sales, dollar roll transactions, and structuring activities (e.g., resecuritizing existing agency securities into REMICs and selling some or all of the resulting REMIC tranches).
- Non-agency mortgage-related securities - We generally no longer purchase non-agency mortgage-related securities that have not been guaranteed by a GSE, but continue to have a large portfolio of non-agency mortgage-related securities that we acquired in prior years. We are working, in some cases in conjunction with other investors, to mitigate or recover losses we recognized in prior years. In recent years, we and FHFA reached settlements with a number of institutions. Lawsuits against other institutions are currently pending. Our activities with respect to this product are primarily sales but could include other disposition strategies in the future.
- Single-family unsecuritized loans - Single-family unsecuritized loans are classified into three categories:

Loans acquired through our cash loan purchase program that are awaiting securitization;
Reperforming loans and performing modified loans; and
Seriously delinquent loans that we have removed from PC pools (this loan category is managed by both the Investments and Single-family Guarantee segments, but is included in the Single-family Guarantee segment's investment portfolio and financial results).

The strategies employed to manage each category may differ. We securitize a majority of the loans acquired through our cash loan purchase program into Freddie Mac mortgage-related securities, primarily PCs, which may be sold to investors or retained in our mortgage-related investments portfolio. As part of the Retained Portfolio plan, we are reducing the balance of our reperforming loans and performing modified loans through a variety of methods, including the following:

Securitization into Freddie Mac PCs, with all of the resulting mortgage-related securities initially being retained. We may resecuritize a portion of the retained mortgage-related securities, with some of the resulting interests being sold to third parties;
Direct loan sales; and
Sales and securitization using a senior subordinate securitization structure, in which we guarantee the resulting senior securities.

In the future, we may pursue other disposition strategies. Seriously delinquent loans continue to be reduced through loss mitigation and foreclosure activities, as well as through sales of certain non-performing loans.

- Other investments and cash portfolio - This portfolio is principally used for short-term liquidity management and consists of: (i) the Liquidity and Contingency Operating Portfolio, (ii) cash and other investments held by consolidated trusts, (iii) collateral pledged by derivative and other counterparties; (iv) investments in unsecured agency debt, and (v) advances to lenders. In our advances to lenders program, we provide funds to lenders in exchange for Freddie Mac PCs that are created through the securitization of mortgage loans that have been pledged as collateral for the secured lending. In the future, we may execute certain secured financing transactions using various types of collateral.

We evaluate the liquidity of our mortgage-related assets based on three categories (in order of liquidity):

- Liquid: single-class and multi-class agency securities, excluding certain structured agency securities collateralized by non-agency mortgage-related securities. Also includes certain non-agency mortgage-related securities guaranteed by a GSE;
- Securitization Pipeline: performing single-family loans purchased for cash and primarily held for a short period until securitized, with the resulting Freddie Mac issued securities being sold or retained; and
- Less Liquid: assets that are less liquid than both agency securities and loans in the securitization pipeline (e.g., reperforming loans, performing modified loans, and non-agency mortgage-related securities not guaranteed by a GSE).

As a well-established disposition path exists for our single-family loans included in the securitization pipeline, we consider those assets to be more liquid than non-agency securities and reperforming loans and performing modified loans, but less liquid than single-class and multi-class agency securities.

As part of our Retained Portfolio plan, we are focused on reducing the balance of less liquid assets that we hold in the mortgage-related investments portfolio through a combination of repayments, sales and securitizations.

We may undertake various activities in an effort to support our presence in the agency securities market or to support the liquidity of our PCs, including their price performance relative to comparable Fannie Mae securities. These activities may include the purchase and sale of agency securities, the purchase of loans, dollar roll transactions, and structuring activities, such as resecuritization of existing agency securities and the sale of some or all of the resulting securities. Depending upon market conditions, there may be substantial variability in any period in the total amount of securities we purchase or sell. In some cases, the purchase or sale of agency securities could adversely affect the price performance of our PCs relative to comparable Fannie Mae securities.

We incur costs in connection with our efforts to support our presence in the agency securities market and to support the liquidity and price performance of our PCs, including by engaging in transactions that yield less than our target rate of return. For more information, see “Risk Factors - Other Risks - A significant decline in the price performance of or demand for our PCs could have an adverse effect on the volume and/or profitability of our new single-family guarantee business.”

Funding and Liquidity Management Activities

Our Treasury function manages the funding needs of the company, including the Investments segment, primarily through the issuance of unsecured other debt. The type and term of debt issued is based on a variety of factors and is designed to efficiently meet our ongoing cash needs and to comply with our Liquidity Management Framework. This Framework provides a mechanism for us to sustain significant periods of market illiquidity, while being able to maintain certain business activities and remain current on our obligations. See "Liquidity and Capital Resources - Liquidity Management Framework" for additional discussion of our Liquidity Management Framework.

We primarily use the following types of products as part of our funding and liquidity management activities:

- Securities sold under agreements to repurchase - Collateralized short-term borrowings where we sell securities to a counterparty with an agreement to repurchase those securities at a future date.

- Discount Notes and Reference Bills - We issue short-term instruments with maturities of one year or less. These products are generally sold on a discounted basis, paying principal only at maturity. Reference Bills are auctioned to dealers on a regular schedule, while discount notes are issued in response to investor demand and our cash needs.
- Medium-term Notes - We issue a variety of fixed-rate and variable-rate medium-term notes, including callable and non-callable securities, and zero-coupon securities, with various maturities.
- Reference Notes Securities - Reference Notes securities are non-callable fixed-rate securities, which we currently issue with original maturities greater than or equal to two years.

In addition, proceeds from the issuance of STACR and SCR debt notes are used to meet the funding needs of the company. We consider the issuance of these debt notes when managing the treasury function for the company. For a description of the STACR debt notes, see “Our Business Segments - Single-Family Guarantee - Business Overview - Products and Activities,” and for a description of the SCR debt notes, see “Our Business Segments - Multifamily - Business Overview - Products and Activities.”

To maintain sufficient short-term liquidity, we may hold a combination of cash, cash-equivalent, and non-mortgage-related investments in our Liquidity and Contingency Operating Portfolio. These instruments are limited to those we expect to be liquid and readily convertible into cash. We also lend available cash on a short-term basis through transactions where we purchase securities under agreements to resell. This portfolio is designed to allow us to meet all of our obligations in the event that we lose access to the unsecured debt markets for a period of time. See "Liquidity and Capital Resources" for a further discussion of our funding and liquidity management activities.

Interest-Rate Risk Management Activities

Our goal is to manage the economic interest-rate risk for the company within management approved levels, as measured by our models. See "Risk Management - Market Risk” for additional information, including the measurement of the interest rate sensitivity of our financial assets and liabilities.

Typically there is an interest rate risk mismatch between our financial assets and the other debt that we use to fund those assets. We typically use interest-rate derivatives to reduce the economic risk exposure due to this mismatch. Using our risk management practices described in the "Risk Management - Market Risk" section, we seek to reduce this impact to low levels.

We also could consider the expected holding periods of our financial assets and liabilities. Our debt terms are generally shorter than our assets' projected life. As a result, we will likely have to reissue debt to continue to hold the assets. Changes in market spreads on future debt issuances may affect the future cash flows of our portfolio. We at times attempt to manage the impact of interest rates on future debt issuance. Additionally, financial assets that are likely to be sold prior to their final maturity may have a different debt and derivative mix than financial assets that we plan to hold for a longer period. As a result, interest rate risk measurements for those assets may include additional assumptions (such as a view on expected changes in market spreads) concerning their price sensitivity rather than just a longer-term view of cash flows.

To manage our interest rate risk, we primarily use interest rate swaps, options, swaptions, and futures. When we use derivatives to mitigate our risk exposures, we consider a number of factors, including cost, exposure to counterparty risk, and our overall risk management strategy.

Securitization Activities

We manage the company's securitization and resecuritization activities related to single-family loans. See "Our Business Segments - Single-Family Guarantee" for a discussion of our single-family securitization and guarantee products.

Customers

Our unsecured other debt securities and structured mortgage-related securities are initially purchased by dealers and redistributed to their customers. The customers for these securities generally include state and local governments, insurance companies, money managers, central banks, depository institutions, and pension funds. Our customers under our loan cash purchase program are a variety of lenders, as discussed in “Our Business Segments - Single-Family Guarantee - Business Overview - Customers.”

Competition

Our competitors in the Investments segment are firms that invest in loans and mortgage-related assets, and issue corporate debt, including Fannie Mae, REITs, supranationals (international institutions that provide development financing for member countries), commercial and investment banks, dealers, savings institutions, insurance companies, the Federal Farm Credit Banks, and the FHLBs.

MARKET CONDITIONS

The following graph and related discussion presents the par swap rate curve for the most recent three years. Changes in par swap rates can significantly affect the fair value of our debt, derivatives, and mortgage and non-mortgage-related securities. As a result, changes in par swap rates will affect the business and financial results of our Investments segment.

Par Swap Rates as of December 31,

Sources: Bloomberg, ICAP

Commentary

- We primarily, but not exclusively, use LIBOR-based derivatives and fixed-rate debt to hedge our interest rate risk. The mortgage-related investments portfolio's exposure to interest rate risk is calculated by our models that project loan and security cash flows over a variety of scenarios. For additional information on our exposure to interest rate risk, see "Risk Management - Market Risk."

- 2016 vs. 2015

The 2-year and 10-year swap rates increased, resulting in gains for our pay-fixed interest rate swaps and losses for our receive-fixed interest rate swaps, certain of our option contracts, and the vast majority of our investments in securities.
3-month LIBOR increased during the fourth quarter of 2016, resulting in higher yields for our short-term interest-earning assets, higher costs for our short-term interest-bearing liabilities, and interest-rate related losses for certain of our shorter duration trading securities.

- 2015 vs. 2014

The 10-year and 30-year swap rates declined during both periods, resulting in losses for our pay-fixed interest rate swaps and gains for our receive-fixed interest rate swaps, certain of our option contracts, and the vast majority of our investments in securities.
As the 10-year and 30-year swap rates declined less in 2015 than in 2014 and the yield curve did not flatten as much, the impact of interest rates on our financial instruments and financial results was less significant during 2015 as compared to 2014.
In December 2015, the Federal Reserve raised short-term interest rates. As a result, shorter-term interest rates, including the 3-month LIBOR rate, increased in December 2015. The increase in 3-month LIBOR resulted in higher yields for our short-term interest-earning assets, higher costs for our short-term interest-bearing liabilities, and interest-rate related losses for certain of our shorter duration trading securities.

BUSINESS RESULTS

The graphs and related discussion below present the business results of our Investments segment.

Investing Activity

The following graphs presents the Investments segment's total investments portfolio and the composition of its mortgage investments portfolio by liquidity category.

Investments Portfolio

Mortgage Investments Portfolio

Commentary

- We continue to reduce the size of our mortgage investments portfolio in order to comply with the mortgage-related investments portfolio's year-end limits. The balance of our mortgage investments portfolio declined 11.5% between December 31, 2015 and December 31, 2016.
- The balance of our other investments and cash portfolio decreased 5.4% primarily due to lower near-term cash needs for upcoming maturities and anticipated calls of other debt at the end of 2016 compared to the end of 2015.
- The percentage of less liquid assets relative to our total mortgage investments portfolio declined to 34.4% at December 31, 2016 from 38.8% at December 31, 2015, primarily due to repayments, sales and securitizations of our less liquid assets.
- The overall liquidity of our mortgage investments portfolio continued to improve as our less liquid assets decreased at a faster pace than the overall decline of our mortgage investments portfolio.

Reduction In Less Liquid Assets

Securitizations of Reperforming Loans and Performing Modified Loans into Freddie Mac PCs

Sales of Less Liquid Assets

Commentary

- Since 2013, we have focused on reducing, in an economically sensible manner, our holdings of certain less liquid assets, including single-family reperforming loans and performing modified loans and non-agency mortgage-related securities. Our disposition strategies for our less liquid assets include securitizations and sales.
- Our principal strategy related to the securitization of reperforming loans and performing modified loans is to create Freddie Mac PCs and initially retain all of the resulting mortgage-related securities. This strategy also includes the resecuritization of a portion of the retained mortgage-related securities, with some of the resulting interests being sold to third parties.
- During 2016, our sales of less liquid assets included $8.1 billion in UPB of non-agency mortgage-related securities and $1.1 billion of reperforming loans and performing modified loans. Our sales of reperforming loans and performing modified loans involved securitization of the loans using a senior subordinate securitization structure, in which we guaranteed the resulting senior securities. As part of these transactions, we retained certain of the guaranteed senior securities for our mortgage-related investments portfolio.

Net Interest Yield and Average Balances

Net Interest Yield & Average Investments Portfolio Balance
Commentary

- Net Interest Yield
2016 vs. 2015 - declined 37 basis points, primarily due to a reduction in the balance of our higher yielding mortgage-related assets due to repayments, coupled with higher hedging costs from an increase in amortization of upfront cash paid for swaptions. The upfront cash paid for swaptions is amortized on a straight-line basis and reclassified from derivative gains (losses) into net interest income for purposes of segment earnings. The increase in amortization is due to an increase in upfront cash paid for swaptions to hedge our increased exposure to mortgage prepayment risk due to the continued low interest rate environment in 2016.
2015 vs. 2014 - declined 5 basis points, primarily due to a decline in the average yield earned from the mortgage-related assets that we manage. This decline was primarily driven by the repayment of certain higher-yielding agency securities. Although we acquired additional agency securities to replace certain of those securities that were repaid, the new securities had lower yields due to an overall lower interest rate environment.
- Average Investments Portfolio Balance
  2016 vs. 2015 and 2015 vs. 2014 - declined in each period primarily due to the repayment and sale of non-agency mortgage-related securities and certain reperforming loans and performing

modified loans. This decline was partially offset by an increase in our purchase of single-family loans for our securitization pipeline, and in our purchase of U.S. Treasury securities, which are included in the other investments and cash portfolio. The overall decline in our average investments portfolio balance is consistent with our efforts to comply with the year-end limits on the mortgage-related investments portfolio established by the Purchase Agreement and FHFA.

- We expect our average investments portfolio balance to continue to decline in 2017 as we manage the size of our mortgage-related investments portfolio pursuant to the portfolio limit.

FINANCIAL RESULTS

The table below presents the components of the Segment Earnings and comprehensive income for our Investments segment.

	Year Ended December 31,			Change 2016 - 2015		Change 2015 - 2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Net interest income	$2,464	$3,902	$4,381	($1,438)	(37)%	($479)	(11)%
Net impairment of available-for-sale securities recognized in earnings	269	420	(140)	(151)	(36)%	560	400%
Derivative gains (losses)	2,499	(70)	(5,158)	2,569	3,670%	5,088	99%
Gains (losses) on trading securities	(1,077)	(737)	(276)	(340)	(46)%	(461)	(167)%
Other non-interest income	1,865	2,288	8,095	(423)	(18)%	(5,807)	(72)%
Administrative expense	(320)	(317)	(437)	(3)	(1)%	120	27%
Segment Earnings before income tax (expense) benefit	5,700	5,486	6,465	214	4%	(979)	(15)%
Income tax (expense) benefit	(1,873)	(1,715)	(1,945)	(158)	(9)%	230	12%
Segment Earnings, net of taxes	3,827	3,771	4,520	56	1%	(749)	(17)%
Total other comprehensive income (loss), net of tax	(452)	(356)	1,951	(96)	(27)%	(2,307)	(118)%
Total comprehensive income (loss)	$3,375	$3,415	$6,471	($40)	(1)%	($3,056)	(47)%

The Investments segment manages the interest-rate risk for the company. As a result, substantially all of the net interest rate effect of the company's interest-rate risk management activities is recognized in our Segment Earnings. The volatility in our Segment Earnings created by our interest-rate risk management activities is generally not indicative of the underlying economics of our business. See "Consolidated Results of Operations - Other Key Drivers - Items Affecting Multiple Lines - Debt Funding Strategies and Interest-Rate Risk Management Activities" for additional information on our interest-rate risk management activities and their impact on consolidated financial results.

Key Drivers:

- Net interest income

2016 vs. 2015 - decreased primarily due to a reduction in the balance of our higher yielding mortgage-related assets due to repayments, coupled with higher hedging costs from an increase in amortization of upfront cash paid for swaptions used to hedge our increased exposure to mortgage prepayment risk due to the continued low interest rate environment in 2016.

2015 vs. 2014 - decreased primarily due to the continued reduction in the balance of our mortgage-related assets. The decline in our mortgage-related assets balance during 2015 was due to repayments, sales, and other active dispositions.

- Net impairment of available-for-sale securities recognized in earnings

2016 vs. 2015 - was in a net recovery position, as accretion of previously recognized other-than-temporary impairments exceeded new other-than-temporary impairments. The decrease in net recovery position was primarily due to less accretion of previously recognized other-than-temporary impairments, as the population of impaired securities continued to decline. The decrease in the population of impaired securities is due to our active disposition of these securities and a decrease in new other-than-temporary impairments due to improved security pricing and stabilized collateral performance.

2015 vs. 2014 - was in a net recovery position during 2015 compared to a net impairment position in 2014, primarily due to the accretion of previously recognized other-than-temporary impairments exceeding new other-than-temporary impairments. New other-than-temporary impairments significantly declined during 2015 as a result of improved security pricing, stabilized collateral performance, and our efforts to sell certain of the previously impaired non-agency mortgage-related securities in prior periods.

- Derivative gains (losses)

2016 vs. 2015 - improved as we recognized derivative gains during 2016 due to an increase in long-term interest rates during the fourth quarter of 2016, compared to recognizing derivative losses during 2015 due to decreasing long-term interest rates. See "Consolidated Results of Operations - Derivative Gains (Losses)" for additional information.

2015 vs. 2014 - improved as we recognized less derivative losses as a result of a smaller decline in longer-term interest rates during 2015 compared to 2014. See "Consolidated Results of Operations - Derivative Gains (Losses)" for additional information.

- Gains (losses) on trading securities

2016 vs. 2015 - losses increased primarily due to interest-rate related losses from an increase in longer-term interest rates in the fourth quarter of 2016.

2015 vs. 2014 - losses increased primarily due to interest-rate related losses. While longer-term interest rates decreased, we recognized interest-rate losses due to our purchase of certain securities during the year when rates were lower than rates at December 31, 2015. In addition, we recognized losses due to an increase in short-term interest rates as our trading portfolio contained shorter duration investments, coupled with agency spread widening.

- Other non-interest income

2016 vs. 2015 - decreased primarily due to a decline in sales of available-for-sale agency and non-agency mortgage-related securities in an unrealized gain position.

2015 vs. 2014 - decreased primarily due to a decline in proceeds received from the settlement of non-agency mortgage-related securities litigation, as most of this litigation settled during prior periods, including 2014. In 2015, we entered into one small settlement to resolve a claim with respect to certain non-agency mortgage-related securities that we held, while we reached settlements with 10 institutions during 2014. We continue to have ongoing litigation with respect to certain other non-agency mortgage-related securities.

- Other comprehensive income

2016 vs. 2015 - was a loss during both periods. The increase in the loss position was primarily due to unrealized losses on agency securities resulting from an increase in longer-term interest rates, coupled with a decrease in unrealized gains as our non-agency securities portfolio continued to decline consistent with the reduction of our mortgage-related investments portfolio. These changes were partially offset by larger unrealized gains due to greater market spread tightening for our agency securities and a decline in sales of available-for-sale non-agency mortgage-related securities in an unrealized gain position, which resulted in less unrealized gains being reclassified from AOCI to other non-interest income.

2015 vs. 2014 - was a loss during 2015 compared to income during 2014, primarily due to less market spread tightening for our non-agency mortgage-related securities and less impairment-related reclassifications from AOCI to earnings. Other comprehensive income in both periods reflects the reversals of unrealized losses due to the accretion of other-than-temporary impairments in earnings and the reclassification of unrealized gains and losses related to available-for-sale securities that were sold during the respective periods.

ALL OTHER
COMPREHENSIVE INCOME

The table below shows our comprehensive income (loss) for the All Other category.

	Year Ended December 31,			Change 2016-2015		Change 2015-2014	
(Dollars in millions)	2016	2015	2014	$	%	$	%
Comprehensive income (loss) - All Other	$—	$28	($41)	($28)	(100)%	$69	168 %

RISK MANAGEMENT

OVERVIEW

Risk is an inherent part of our business activities. We are exposed to four main categories of risk: credit risk, market risk, liquidity risk, and operational risk. We primarily discuss credit risk, market risk, and operational risk in this section. See "Liquidity and Capital Resources" for a discussion of liquidity risk.

Credit risk is the risk associated with the inability or failure of a borrower, issuer or counterparty to meet its financial and/or contractual obligations.

Market risk is the economic risk associated with adverse changes in interest rates, volatility, and spreads.

Liquidity risk is the risk associated with the inability to meet the liquidity needs of the company.

Operational risk is the risk of direct or indirect loss resulting from inadequate or failed internal processes, people, or systems or from external events.

For more discussion of these and other risks facing our business, see "Risk Factors."

RISK MANAGEMENT FRAMEWORK AND GOVERNANCE STRUCTURE

We manage risk using a three-lines-of-defense risk management framework and governance structure that includes enterprise-wide oversight by the Board and its committees, CERO, CCO, and our corporate ERC. These roles and responsibilities continue to evolve.

The discussion and diagram below present the responsibilities associated with our three-lines-of-defense risk management framework and our governance structure.

We have made considerable enhancements to our risk management framework in recent years, including:

- Revising our integrated enterprise risk management framework to enable us to place more focus on high risk business processes and activities; and
- Leveraging our enterprise risk management framework to implement a redesigned and enhanced three-lines-of-defense methodology.

We use our three-lines-of-defense methodology to both strengthen risk ownership in our business units and add clarity to risk management roles and responsibilities. Our framework focuses on balancing ownership of risk by our business units with corporate oversight and independent assurance of the design and effectiveness of our risk management activities. For more information on the role of the Board and its committees, see "Directors, Corporate Governance, and Executive Officers - Board and Committee Information."

ECONOMIC CAPITAL

We use an internal economic capital framework as a component in our risk management process, which includes a risk-based measurement of capital adjusted for relevant interest rate and other market, credit, and operational risks. We assign economic capital internally to asset classes based on their respective risks. Economic capital is a factor we consider when we make economic decisions, establish risk limits, and measure profitability. We and Fannie Mae are working with FHFA to develop an overall risk measurement framework for evaluating Freddie Mac's and Fannie Mae's risk management and business decisions during conservatorship, known as the Conservator Capital Framework ("CCF"). FHFA is finalizing key inputs to the CCF, and we expect to begin making risk management and business decisions using the CCF in 2017. We currently expect this will result in limited change to our decision making.

CREDIT RISK

OVERVIEW

We are exposed to both mortgage credit risk and counterparty credit risk. Mortgage credit risk is the risk that a borrower will fail to make timely payments on a loan that we own or guarantee. Counterparty credit risk is the risk that a counterparty (other than a mortgage borrower) that has entered into a business contract or arrangement with us will fail to meet its obligations.

We are exposed to three types of mortgage credit risk:

- Single-family mortgage (SF) credit risk, through our ownership or guarantee of loans in the single-family credit guarantee portfolio;
- Multifamily mortgage (MF) credit risk, through our ownership or guarantee of loans in the multifamily mortgage portfolio; and
- Mortgage-related securities (MRS) credit risk, through our ownership of non-Freddie Mac mortgage-related securities in the mortgage-related investments portfolio.

We also hold investments in certain non-mortgage-related securities. As of December 31, 2016, 2015, and 2014, the fair value of our investments in these securities was $21.1 billion, $17.2 billion and $6.7 billion, respectively, and primarily consisted of investments in U.S. Treasury securities. As U.S. Treasury securities are backed by the full faith and credit of the U.S. government, we consider these securities to be free of credit risk. Our investment in other non-mortgage-related securities exposes us to counterparty credit risk. However, we believe such risk exposure is minimal, as the issuers of these securities are primarily major financial institutions, including other GSEs, highly-rated supranational institutions, and government money market funds.

In the sections below, we provide a general discussion of our risk management framework and current risk environment for each of the three types of mortgage credit risk and for counterparty credit risk.

SINGLE-FAMILY MORTGAGE CREDIT RISK

We manage our exposure to single-family mortgage credit risk, which is a type of consumer credit risk, using the following principal strategies:

- Maintaining policies and procedures for new business activity, including prudent underwriting standards;
- Offering private investors new and innovative ways to share in the credit risk of the Core single-family book;
- Monitoring loan performance and characteristics of the single-family credit guarantee portfolio and individual sellers and servicers;
- Engaging in loss mitigation activities; and
- Managing foreclosure and REO activities.

Maintaining Policies and Procedures for New Business Activity, Including Prudent Underwriting Standards

We use a delegated underwriting process in connection with our acquisition of single-family loans whereby we set eligibility and underwriting standards and sellers represent and warrant to us that loans they sell to us meet these standards. Our eligibility and underwriting standards evaluate loans based on a number of characteristics.

Limits are established on the purchase of loans with certain higher risk characteristics. These limits are designed to balance our credit risk exposure with the facilitation of affordable housing in a responsible manner. Our purchase guidelines generally provide for a maximum original LTV ratio of 95%, a maximum LTV ratio of 80% for cash-out refinance loans, and no maximum LTV ratio for fixed-rate HARP loans. In March 2015, we began to purchase certain loans with LTV ratios up to 97% under an initiative designed to serve a targeted segment of creditworthy borrowers. We fully discontinued purchases of Alt-A loans in 2009, interest-only loans in 2010, and option ARM loans in 2007.

The majority of our purchase volume is evaluated using our own proprietary underwriting software (Loan Product Advisor ("LPA")), the seller's software, or Fannie Mae's comparable software. The performance of non-LPA loans is monitored to ensure compliance with our risk appetite.

We employ a quality control process to review loan underwriting documentation for compliance with our standards using both random and targeted samples. We also perform quality control reviews of many delinquent loans and review all loans that have resulted in credit losses before the representations and warranties are relieved. Sellers may appeal ineligible loan determinations prior to repurchase of the loan. Our reviews of 2015 originations are largely complete, while our reviews of 2016 originations are ongoing. The average aggregate ineligible loan rate across all sellers for loans funded during 2015, 2014, and 2013, excluding HARP and other relief refinance loans, was approximately 0.8%, 1.1%, and 1.4%, respectively. The most common underwriting defect found in our review of loans funded during 2015 related to the delivery of insufficient income documentation.

We made changes in recent periods to standardize our quality control process and facilitate more timely reviews. These changes allow us to identify breaches of representations and warranties early in the life of

the loan. We also implemented new tools, such as our proprietary Quality Control Information Manager, to provide greater transparency into our customer quality control reviews. In January 2015, we launched Loan Coverage Advisor, a new tool that allows our sellers to track significant events for the loans they sell us, including when the seller obtains relief from its obligation to repurchase loans due to breach of certain representations and warranties. In July 2016, we launched our Loan Advisor Suite, which is a set of integrated software applications designed to give lenders a way to originate and deliver high quality mortgage loans to us and to actively monitor representation and warranty relief earlier in the mortgage loan production process. Further enhancements to this suite of tools are expected in 2017.

If we discover that the representations or warranties related to a loan were breached (i.e., that contractual standards were not followed), we can exercise certain contractual remedies to mitigate our actual or potential credit losses. These contractual remedies include the ability to require the seller/servicer to repurchase the loan at its current UPB, reimburse us for losses realized with respect to the loan after consideration of any other recoveries, and/or indemnify us. At the direction of FHFA, we implemented a new remedies framework for the categorization of loan origination defects for loans with settlement dates on or after January 1, 2016. Among other items, the framework provides that "significant defects" will result in a repurchase request or a repurchase alternative, such as recourse or indemnification.

At the direction of FHFA, we have made a number of changes to our selling and servicing representation and warranty framework for our mortgage loans. FHFA may require further changes to the framework in the future. Under the revised selling framework, sellers are relieved of repurchase obligations for breaches of certain selling representations and warranties for certain types of loans, including:

- Loans with 36 months (12 months for relief refinance loans) of consecutive, on-time payments after purchase, subject to certain exclusions;
- Loans that have established an acceptable payment history; and
- Loans that have satisfactorily completed a quality control review.

As part of the revised framework, we also made changes that provide additional clarity on life-of-mortgage loan exclusions from repurchase relief for breaches of certain selling representations and warranties. These changes are designed to provide sellers with a higher degree of certainty regarding their repurchase exposure and liability on loans sold to us.

In February 2016, at the direction of FHFA, we published guidelines for a new independent dispute resolution process for alleged breaches of selling or servicing representations and warranties on our loans. Under the new process, a neutral third party renders a decision on demands that remain unresolved after the existing appeal and escalation processes have been exhausted.

We recently announced that we expect to offer representation and warranty relief for certain mortgage loans in early 2017 through our Loan Advisor Suite technology solution. Customer adoption of our technology solution is critical to our ability to expand mortgage access responsibly.

The credit quality of our single-family loan purchases remained strong during the past several years. The tables below show the credit profile of the single-family loans we purchased or guaranteed in the last three years.

Weighted Average Original LTV Ratio

Weighted Average Credit Score

The table below contains additional information about the single-family loans we purchased or guaranteed in the last three years.

	Year Ended December 31,					
	2016		2015		2014	
(Dollars in millions)	Amount	% of Total	Amount	% of Total	Amount	% of Total
30-year or more amortizing fixed-rate	$307,572	78 %	$262,209	75 %	$192,458	75 %
20-year amortizing fixed-rate	17,011	4	16,470	5	8,677	4
15-year amortizing fixed-rate	61,223	16	58,958	17	38,200	15
Adjustable-rate	6,555	2	12,760	3	15,711	6
FHA/VA and other governmental	146	—	163	—	207	—
Total	$392,507	100%	$350,560	100%	$255,253	100%
Percentage of purchases:						
With credit enhancements		26 %		23 %		25 %
Detached/townhome property type		92 %		92 %		92 %
Primary residence		90 %		90 %		88 %
Loan purpose:						
Purchase		45 %		44 %		52 %
Cash-out refinance		22 %		21 %		17 %
Other refinance		33 %		35 %		31 %

The table below contains additional detail on the relief refinance loans we purchased.

	Year Ended December 31,					
	2016			2015		
(UPB in millions)	UPB	Loan Count	Average Loan Size	UPB	Loan Count	Average Loan Size
Above 125% Original LTV	$271	1,799	$151,000	$569	3,766	$151,000
Above 100% to 125% Original LTV	1,107	6,220	178,000	2,043	11,784	173,000
Above 80% to 100% Original LTV	3,034	17,277	176,000	4,938	28,999	170,000
80% and below Original LTV	8,562	60,353	142,000	11,980	85,677	140,000
Total	$12,974	85,649	$151,000	$19,530	130,226	$150,000

Offering Private Investors New and Innovative Ways to Share in the Credit Risk of the Core Single-Family Book

Our Charter requires coverage by specified credit enhancements or participation interests on single-family loans with LTV ratios above 80% at the time of purchase. In addition to obtaining credit enhancements required by our Charter, we also enter into various other types of transactions in which we transfer mortgage credit risk to third parties.

We use the following types of credit enhancements to transfer a portion of the credit risk on a loan or group of loans at the time we acquire the loan.

- Primary mortgage insurance - Primary mortgage insurance provides loan-level protection against loss up to a specified amount and the premium is typically paid by the borrower. Generally, an insured loan must be in default and the borrower’s interest in the underlying property must have been extinguished, such as through a short sale or foreclosure sale, before a claim can be filed under a primary mortgage insurance policy. The mortgage insurer has a prescribed period of time within which to process a claim and make a determination as to its validity and amount. Most of our loans with LTV ratios above 80% are protected by primary mortgage insurance.
- Seller indemnification agreement - Requires the seller to absorb a portion of the losses on the related single-family loans in exchange for a fee or a guarantee fee reduction. The indemnification amount may be fully or partially collateralized.
- Deep MI - Provides additional coverage beyond primary mortgage insurance. Deep MI is a credit enhancement we purchase from affiliates of mortgage insurance companies. Deep MI covers a pool of loans and takes effect immediately upon sale of the mortgage loans to us over a pre-defined loan aggregation period. We require our counterparties to collateralize their exposure to reduce the risk that we will not be reimbursed for our claims under the policies.
- Lender recourse and indemnification agreements - Require a lender to repurchase a loan upon default or to reimburse us for realized credit losses. Lender recourse and lender indemnification agreements are entered into as an alternative to requiring primary mortgage insurance or in exchange for a lower guarantee fee. We have not used lender recourse or lender indemnification agreements on a broad basis in recent years.
- Pool insurance - Provides insurance on a group of loans up to a stated aggregate loss limit. We have not purchased pool insurance policies since 2008, and the majority of our pool insurance policies will expire in the next four years.

We also enter into the following types of credit risk transfer transactions subsequent to our purchase or guarantee of loans.

- STACR debt notes - Unsecured debt obligations that we issue to third-party investors related to certain notional credit risk positions. We make payments of principal and interest on the issued notes. The amount of principal that we are required to pay the STACR debt note investors is linked to the credit performance of certain loans (referred to as a reference pool) that we have previously guaranteed. As a result, we are not required to repay principal to the extent that the notional credit risk position is reduced as a result of a specified credit event.
- ACIS insurance policies - Policies that provide credit protection on a portion of the non-issued notional credit risk positions we retain in a STACR debt note transaction. We also enter into ACIS transactions that provide credit protection for certain specified credit events on loans not included in a reference pool created for a STACR debt note transaction. We receive compensation from the insurance policy up to an aggregate limit when specified credit events occur.
- Whole loan securities - Guaranteed senior securities and unguaranteed subordinated securities that we issue which are backed by certain single-family loans that we purchased previously. The unguaranteed subordinated securities will absorb first losses on the related loans. We retain a portion of the subordinated securities. In these transactions, the loans are serviced in accordance with our servicing guide and we control the servicing.
- Senior subordinate securitization structures - Guaranteed senior securities and unguaranteed subordinated securities that we issue which are backed by seasoned performing modified and reperforming single-family loans that we purchased previously. The unguaranteed subordinated securities will absorb first losses on the related loans. We retain a portion of the subordinated securities. In these transactions, the loans are not serviced in accordance with our servicing guide and we do not control the servicing.

See "Our Business Segments - Single-Family Guarantee" for additional information on these credit risk transfer transactions.

The table below provides information on the credit-enhanced loans in our single-family credit guarantee portfolio. The credit enhanced categories are not mutually exclusive as a single loan may be covered by both primary mortgage insurance and other credit protection.

	As of December 31,					
	2016		2015		2014	
(Percentage of portfolio based on UPB)	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate
Non-credit-enhanced	64 %	1.02%	70 %	1.30%	77 %	1.74%
Credit-enhanced:						
Primary mortgage insurance	17 %	1.46%	15 %	2.06%	14 %	3.10%
Other	27 %	0.43%	20 %	0.58%	12 %	1.21%
Total	N/A	1.00%	N/A	1.32%	N/A	1.88%

The table below provides information on the credit enhanced loans in our single-family credit guarantee portfolio as of December 31, 2016 and 2015, respectively. The table includes all types of single-family credit enhancements.

(Dollars in millions)	As of December 31, 2016 Total Current and Protected UPB	Coverage Remaining	Collateralized Coverage Remaining [1]	2015 Total Current and Protected UPB	Coverage Remaining	Collateralized Coverage Remaining [1]
Credit enhancements at the time we acquire the loan:						
Primary mortgage insurance	$291,217	$74,345	$—	$257,063	$65,760	$—
Seller indemnification[2]	1,030	10	10	1,095	11	7
Deep MI[2]	3,067	81	—	—	—	—
Lender recourse and indemnification agreements	5,247	4,911	—	5,902	5,385	—
Pool insurance	1,719	618	—	2,140	753	—
Other						
HFA Indemnifications	1,747	1,747	—	2,599	2,599	—
Subordination	1,874	230	—	2,127	278	—
Other credit enhancements	17	6	—	23	10	—
Credit enhancements subsequent to our purchase or guarantee of the loan:						
STACR debt note[2]	427,978	14,507	14,507	328,872	11,551	11,551
ACIS transactions[2]	453,670	5,355	877	328,872	3,365	311
Whole loan security and senior subordinate securitization structures[2]	2,494	375	375	893	58	58
Less: UPB with more than one type of credit enhancement	(559,400)	—	—	(417,393)	—	—
Single-family book with credit enhancement	630,660	102,185	15,769	512,193	89,770	11,927
Single-family book without credit enhancement	1,124,066	—	—	1,189,694	—	—
Total	$1,754,726	$102,185	$15,769	$1,701,887	$89,770	$11,927

(1) Collateralized coverage includes cash received by Freddie Mac upon issuance of STACR debt notes and unguaranteed whole loan securities, as well as cash and securities pledged for our benefit primarily related to ACIS transactions.

(2) Credit risk transfer transactions. The substantial majority of single-family loans covered by these transactions were acquired after 2012.

We had coverage remaining of $102.2 billion and $89.8 billion on our single-family credit guarantee portfolio as of December 31, 2016 and 2015, respectively. Credit risk transfer transactions provided 19.9% and 16.7% of the coverage remaining at those dates.

The table below provides information on estimated recoveries we could receive from our most significant credit risk transfer transactions (i.e., STACR debt notes and ACIS insurance policies) under various home price scenarios. The timing of our recognition of the recoveries in our statements of comprehensive income will depend on the type of credit risk transfer transaction and whether we are reimbursed based

on calculated losses or actual losses, which may result in timing differences between the recognition of recoveries and the related credit event. We recognize losses on the loans in the reference pool when losses are incurred. Recoveries from credit risk transfer transactions based on actual losses are recognized when the loss confirming event occurs (i.e., foreclosure, deed in lieu of foreclosure, short sale, etc.), which may be several years after the related losses are incurred. Credit risk transfer transactions based on calculated losses are measured at fair value through earnings, so the change in fair value may be recognized prior to the incurrence of the loss.

We estimate the potential recoveries from our STACR debt note and ACIS transactions using a sensitivity analysis that utilizes our historical loss and prepayment experience related to loans originated during periods that experienced above average home price appreciation, moderate home price appreciation, and severe home price depreciation. We match these loans to similar groups within the reference pools (related to our STACR debt note and ACIS transactions) using LTV ratios and FICO scores. Our recoveries were estimated based on loan losses, net of mortgage insurance claim amounts. These are estimated projections. Our actual losses under the chosen scenarios could differ materially from these estimates. In addition, these estimates do not include interest expense and transaction costs we incur to issue our STACR debt notes, and premiums we pay on ACIS transactions.

(Dollars in millions)	As of December 31, 2016
UPB of loans covered by STACR debt notes and ACIS insurance policies	$427,978

	Performance Under Home Price Scenarios at December 31, 2016					
	Above Average Home Price Appreciation (47%)[1]		Moderate Home Price Appreciation (7%)[1]		Severe Home Price Depreciation (-24%)[1]	
	Amount	bps	Amount	bps	Amount	bps
Estimated credit losses	$273	6	$1,845	43	$11,003	257
Estimated recoveries from STACR debt notes and ACIS insurance policies	$77	2	$609	14	$7,423	173
Loss coverage ratio	28 %	N/A	33 %	N/A	68 %	N/A

(1) Home price change is over a four-year period.

Monitoring Loan Performance and Characteristics of the Single-Family Credit Guarantee Portfolio and Individual Sellers and Servicers

We review loan performance, including delinquency statistics and related loan characteristics in conjunction with housing market and economic conditions, to determine if our pricing and eligibility standards reflect the risk associated with the loans we purchase and guarantee. We review the payment performance of our loans to facilitate early identification of potential problem loans, which could inform our loss mitigation strategies. We also review performance metrics for additional loan characteristics that may expose us to concentrations of credit risk, including:

- Higher risk loan attributes and attribute combinations;
- Higher risk loan product types; and
- Geographic concentrations.

We actively monitor seller and servicer performance, including compliance with our standards, and periodically review their operational processes. We also periodically change seller/servicer guidelines based on the results of our mortgage portfolio monitoring, if warranted.

Single-Family Credit Guarantee Portfolio

Serious delinquency rates continued to decline across our total single-family credit guarantee portfolio in 2016 as economic conditions in many parts of the U.S. continued to improve. Improvement in home prices in many areas of the U.S. during 2016 generally led to improved current LTV ratios of the loans in our single-family credit guarantee portfolio as of December 31, 2016, which contributed to lower credit losses.

The improvement in our serious delinquency rate in 2016 is primarily due to the better performance of newly acquired loans in the Core single-family book, continued loss mitigation and foreclosure activities for loans in the Legacy single-family book as well as sales of certain seriously delinquent loans. The performance of our Core single-family book has benefited from significant home price increases since 2009. As these home price increases moderate and return to long-term historical averages, we expect the performance of our Core single-family book will also moderate. The gradual reduction of our Legacy single-family book also contributed to the improvement in the serious delinquency rate.

Our loss mitigation activities may create fluctuations in our delinquency statistics. For example, loans in modification trial periods, loans subject to forbearance agreements, and loans in repayment plans continue to be reported as seriously delinquent. There may also be temporary lags in the reporting of payment status and modification completion due to differing practices of our servicers that can affect our delinquency statistics.

The charts below show the credit losses and serious delinquency rates for each of our single-family books. Our Core single-family book and our HARP and other relief refinance book continue to perform well and account for a small percentage of our credit losses, as shown below. Our Legacy single-family book continues to decline as a percentage of our overall portfolio, but continues to account for the majority of our credit losses.

Portfolio Composition and Credit Losses

Serious Delinquency Rates as of December 31,

The tables below provide credit quality information about our single-family books.

(Dollars in billions)	December 31, 2016						
	UPB	Average Credit Score	Original LTV Ratio	Current LTV Ratio	Current LTV Ratio >100%	Foreclosure and Short Sale Rate[1]	Alt-A %
Core single-family book	$1,275	752	72 %	60 %	— %	0.15 %	— %
HARP and other relief refinance book	265	729	88 %	65 %	7 %	1.14 %	— %
Legacy single-family book	215	700	75 %	62 %	8 %	4.26 %	15 %
Total	$1,755	743	75 %	61 %	2 %	N/A	2 %

(Dollars in billions)	December 31, 2015						
	UPB	Average Credit Score	Original LTV Ratio	Current LTV Ratio	Current LTV Ratio >100%	Foreclosure and Short Sale Rate[1]	Alt-A %
Core single-family book	$1,129	754	72 %	61 %	— %	0.15 %	— %
HARP and other relief refinance book	303	731	89 %	70 %	10 %	0.95 %	— %
Legacy single-family book	270	702	75 %	66 %	12 %	4.09 %	15 %
Total	$1,702	741	75 %	63 %	4 %	N/A	2 %

(1) The foreclosure and short sale rate presented for the Legacy single-family book represents the rate associated with loans originated in 2000 through 2008.

The table below contains a description of some of the loan characteristics we monitor in our single-family credit guarantee portfolio.

Characteristic	Description	Impact on Credit Quality
LTV Ratio	Ratio of the UPB of the loan to the value of the underlying property collateralizing the loan. Original LTV ratio is measured at loan origination; while current LTV (CLTV) ratio is defined as the ratio of the current loan UPB to the estimated current property value.	• Measures ability of the underlying property to cover our exposure on the loan • Higher LTV ratios indicate higher risk, as proceeds from sale of the property may not cover our exposure on the loan
Credit Score	Statistically-derived number used by lenders to assess a borrower's likelihood to repay debt. We primarily use FICO scores, which are currently the most commonly used credit scores.	• Borrowers with higher credit scores are generally more likely to repay or have the ability to refinance their loans than those with lower scores • Credit scores presented in this Form 10-K are at the time of origination and may not be indicative of the borrowers' current creditworthiness
Loan Purpose	Indicates how the borrower intends to use the proceeds from a loan (i.e., purchase, cash-out refinance, or other refinance)	• Cash-out refinancings generally have had a higher risk of default than loans originated in purchase or other refinance transactions
Property Type	Indicates whether the property is a detached single-family house, townhouse, condominium, or co-op	• Detached single-family houses and townhouses are the predominant type of single-family property • Condominiums historically have experienced greater volatility in home prices than detached single-family houses, which may expose us to more risk
Occupancy Type	Indicates whether the borrower intends to use the property as a primary residence, second home, or investment property	• Loans on primary residence properties tend to have lower credit risk than loans on second homes or investment properties
Product Type	Indicates the type of loan based on key loan terms, such as the contractual maturity, type of interest rate, and payment characteristics of the loan	• Loan products that contain terms which result in scheduled changes in monthly payments may result in higher risk • Shorter loan terms result in faster repayment of principal and may indicate lower risk
Second Liens	Indicates whether the underlying property is covered by more than one loan	• Second liens can increase the risk of default • Borrowers are free to obtain second-lien financing after origination, and we are not entitled to receive notification when a borrower does so

The table below contains details on characteristics of the loans in our single-family credit guarantee portfolio as of December 31, 2016, 2015, and 2014.

	December 31,		
(Percentage of portfolio based on UPB)	2016	2015	2014
Original LTV Ratio Range			
60% and below	20 %	20 %	21 %
Above 60% to 80%	53 %	53 %	52 %
Above 80% to 100%	23 %	22 %	21 %
Above 100%	4 %	5 %	6 %
Portfolio weighted average original LTV ratio	75 %	75 %	75 %
Current LTV Ratio Range			
60% and below	45 %	43 %	39 %
Above 60% to 80%	38 %	37 %	37 %
Above 80% to 100%	15 %	16 %	18 %
Above 100%	2 %	4 %	6 %
Portfolio weighted average current LTV ratio	61 %	63 %	66 %
Credit Score			
740 and above	60 %	59 %	58 %
700 to 739	21 %	21 %	20 %
660 to 699	12 %	13 %	13 %
620 to 659	5 %	5 %	6 %
Less than 620	2 %	2 %	3 %
Portfolio weighted average credit score	743	741	740
Loan Purpose			
Purchase	35 %	32 %	30 %
Cash-out refinance	21 %	21 %	21 %
Other refinance	44 %	47 %	49 %

In addition, at December 31, 2016, 2015, and 2014:

- More than 90% of our loans were secured by detached homes or townhomes;
- Approximately 90% of our loans were secured by properties used as the borrower’s primary residence at origination; and
- More than 90% of our loans were fixed-rate.

At December 31, 2016, approximately 11% of our loans had second-lien financing by the originator or other third party at origination, and these loans comprised approximately 17% of our seriously delinquent loan population. It is likely that additional borrowers have post-origination second-lien financing.

Higher Risk Loan Attributes and Attribute Combinations

Certain of the loan attributes shown above may indicate a higher risk of default. In particular, loans with original LTV ratios over 90% and/or credit scores below 620 at origination may be higher risk. The table below provides information on loans in our portfolio with these characteristics. The table includes a presentation of each higher risk category in isolation. A single loan may fall within more than one category.

	December 31, 2016			
(Dollars in billions)	UPB	CLTV	% Modified	SDQ Rate
Original LTV ratio greater than 90%, HARP loans	$115.1	83 %	1.8 %	1.07 %
Original LTV ratio greater than 90%, all other loans	$169.4	82 %	7.2 %	1.92 %
Loans with credit scores below 620 at origination	$37.5	69 %	21.7 %	5.73 %

	December 31, 2015			
(Dollars in billions)	UPB	CLTV	% Modified	SDQ Rate
Original LTV ratio greater than 90%, HARP loans	$134.2	89 %	1.3 %	1.16 %
Original LTV ratio greater than 90%, all other loans	$144.8	84 %	8.4 %	2.72 %
Loans with credit scores below 620 at origination	$41.3	74 %	20.7 %	6.67 %

In addition, certain combinations of loan attributes can indicate an even higher degree of credit risk, such as loans with both higher LTV ratios and lower credit scores. The following tables show the combination of credit score and CLTV ratio attributes of loans in our single-family credit guarantee portfolio.

	December 31, 2016								
	CLTV ≤ 80		CLTV > 80 to 100		CLTV > 100		All Loans		
(Credit score)	% Portfolio	SDQ Rate[(1)]	% Portfolio	SDQ Rate[(1)]	% Portfolio	SDQ Rate[(1)]	% Portfolio	SDQ Rate[(1)]	% Modified[(1)]
Core single-family book:									
< 620	0.2 %	2.18 %	— %	NM	— %	NM	0.2 %	2.45 %	3.0 %
620 to 659	1.6	1.02 %	0.3	1.30 %	—	NM	1.9	1.07 %	1.3 %
≥ 660	60.9	0.15 %	9.7	0.22 %	0.1	1.88 %	70.7	0.16 %	0.2 %
Not available	—	NM	—	NM	—	NM	—	NM	NM
Total	62.7 %	0.18 %	10.0 %	0.27 %	0.1 %	3.29 %	72.8 %	0.20 %	0.2 %
Relief refinance book:									
< 620	0.5 %	1.72 %	0.2 %	3.44 %	0.1 %	4.50 %	0.8 %	2.30 %	4.5 %
620 to 659	0.8	1.11 %	0.3	2.25 %	0.1	3.54 %	1.2	1.55 %	2.6 %
≥ 660	10.1	0.32 %	2.2	1.08 %	0.8	1.92 %	13.1	0.52 %	0.8 %
Not available	—	NM	—	NM	—	NM	—	NM	NM
Total	11.4 %	0.44 %	2.7 %	1.37 %	1.0 %	2.31 %	15.1 %	0.69 %	1.1 %
Legacy single-family book:									
< 620	0.8 %	6.23 %	0.2 %	12.70 %	0.1 %	20.28 %	1.1 %	8.05 %	33.7 %
620 to 659	1.3	4.41 %	0.3	9.75 %	0.3	16.40 %	1.9	5.83 %	27.8 %
≥ 660	7.0	1.92 %	1.4	6.65 %	0.6	11.79 %	9.0	2.63 %	13.3 %
Not available	0.1	4.90 %	—	NM	—	NM	0.1	5.58 %	15.8 %
Total	9.2 %	2.65 %	1.9 %	8.04 %	1.0 %	14.14 %	12.1 %	3.59 %	17.1 %

	December 31, 2015								
	CLTV ≤ 80		CLTV > 80 to 100		CLTV > 100		All Loans		
(Credit score)	% Portfolio	SDQ Rate[1]	% Portfolio	SDQ Rate[1]	% Portfolio	SDQ Rate[1]	% Portfolio	SDQ Rate[1]	% Modified[1]
Core single-family book:									
< 620	0.2 %	2.32 %	— %	NM	— %	NM	0.2 %	2.74 %	2.9 %
620 to 659	1.3	1.05 %	0.2	1.49 %	—	NM	1.5	1.13 %	1.2 %
≥ 660	55.8	0.15 %	8.7	0.28 %	0.1	1.85 %	64.6	0.17 %	0.2 %
Not available	—	NM	0.1	4.41 %	—	NM	0.1	3.41 %	3.1 %
Total	57.3 %	0.18 %	9.0 %	0.34 %	0.1 %	3.49 %	66.4 %	0.21 %	0.2 %
Relief refinance book:									
< 620	0.6 %	1.65 %	0.2 %	3.06 %	0.1 %	4.65 %	0.9 %	2.38 %	3.4 %
620 to 659	0.7	1.03 %	0.4	2.12 %	0.2	3.31 %	1.3	1.60 %	2.0 %
≥ 660	10.7	0.29 %	3.4	1.02 %	1.5	1.85 %	15.6	0.56 %	0.6 %
Not available	—	NM	—	NM	—	NM	—	NM	NM
Total	12.0 %	0.40 %	4.0 %	1.25 %	1.8 %	2.20 %	17.8 %	0.72 %	0.8 %
Legacy single-family book:									
< 620	0.8 %	6.57 %	0.3 %	13.74 %	0.2 %	21.39 %	1.3 %	9.09 %	30.7 %
620 to 659	1.5	4.73 %	0.5	10.85 %	0.4	17.73 %	2.4	6.82 %	25.0 %
≥ 660	8.5	1.99 %	2.2	7.26 %	1.2	12.84 %	11.9	3.08 %	11.6 %
Not available	0.2	5.12 %	—	NM	—	NM	0.2	5.95 %	13.5 %
Total	11.0 %	2.74 %	3.0 %	8.66 %	1.8 %	15.03 %	15.8 %	4.12 %	14.9 %

(1) NM - not meaningful due to the percentage of the portfolio rounding to zero.

Higher Risk Loan Product Types

There are several types of loan products that contain terms which result in scheduled changes in the borrower's monthly payments after specified initial periods, such as interest-only and option ARM loans. These products may result in higher credit risk because the payment changes may increase the borrower's monthly payment, resulting in a higher risk of default. The majority of these loans are in our Legacy single-family book. Only a small percentage of our Core single-family book consists of ARM loans.

The balance of interest-only and option ARM loans declined significantly in recent years as many of these borrowers have repaid or refinanced their loans, received loan modifications, or completed foreclosure alternatives or foreclosure transfers.

While we have not categorized option ARM loans as either subprime or Alt-A for presentation in this Form 10-K and elsewhere in our reporting, they could exhibit similar credit performance to collateral sometimes referred to as subprime or Alt-A by market participants. For reporting purposes, loans within the option ARM category continue to be presented in that category following a modification of the loan, even though the modified loan no longer provides for optional payment provisions.

The table below provides credit characteristic information on higher risk loan product types.

	December 31, 2016			
(Dollars in billions)	UPB	CLTV	% Modified	SDQ Rate
Amortizing ARM and option ARM[1]	$60.5	53 %	1.7 %	1.20%
Interest-only	$16.6	73 %	0.1 %	4.34%
Step-rate modified	$32.0	78 %	100 %	6.37%

	December 31, 2015			
(Dollars in billions)	UPB	CLTV	% Modified	SDQ Rate
Amortizing ARM and option ARM[1]	$71.5	56 %	1.6 %	1.61%
Interest-only	$22.0	80 %	0.1 %	6.02%
Step-rate modified	$38.3	85 %	100 %	7.34%

(1) Includes $4.1 billion and $5.0 billion in UPB of option ARM loans as of December 31, 2016 and 2015, respectively. As of December 31, 2016 and 2015, the option ARM loans had: (a) current LTV ratios of 64% and 71%, (b) loan modification percentages of 14.6% and 14.0%; and (c) serious delinquency rates of 5.24% and 8.01%, respectively.

The table below shows the timing of scheduled payment changes for certain types of loans within our single-family credit guarantee portfolio. The amounts in the table below are aggregated by product type and categorized by the year in which the loan will experience a payment change. The timing of the actual payment change may differ from that presented in the table due to a number of factors, including if the borrower refinances the loan. Loans where the year of first payment change is 2016 or prior have already had one or more payment changes as of December 31, 2016; loans where the year of first payment change is 2017 or later have not had a payment change as of December 31, 2016 and will not experience a payment change until a future period. Step-rate modified loans are shown in each year that the borrower will experience a scheduled interest-rate increase; therefore, a single loan may be included in multiple periods. However, the total of step-rate loans in the table reflects the ending UPB of such loans as of December 31, 2016.

	December 31, 2016							
(Dollars in millions)	2016 and Prior	2017	2018	2019	2020	2021	Thereafter	Total[1]
ARM/amortizing	$15,024	$2,652	$3,443	$6,282	$7,704	$7,122	$13,861	$56,088
ARM/interest-only	9,013	3,888	1,572	89	200	—	—	14,762
Fixed/interest-only	270	1,201	269	4	2	17	72	1,835
Step-rate modified	20,071	21,347	14,855	5,517	4,124	2,937	435	32,035
Total	$44,378	$29,088	$20,139	$11,892	$12,030	$10,076	$14,368	$104,720

(1) Excludes loans underlying certain other securitization products, since the payment change information is not available to us for these loans.

We believe that the performance of these types of loans has been more affected by macroeconomic conditions, such as unemployment rates and cumulative home price declines in many geographic areas since 2006, than by the increase in the borrower’s monthly payment. However, we continue to monitor the performance of these loans as many have experienced a payment change or are scheduled to have a payment change in 2017 or 2018, which is likely to subject the borrowers to higher monthly payments. Since a substantial portion of these loans were originated in 2005 through 2008 and are located in geographic areas that were most affected by declines in home prices that began in 2006, we believe that the serious delinquency rate for these types of loans will remain high in 2017.

Other Higher Risk Loans - Alt-A and Subprime Loans

While we have referred to certain loans as subprime or Alt-A for purposes of the discussion below and elsewhere in this Form 10-K, there is no universally accepted definition of subprime or Alt-A, and the classification of such loans may differ from company to company. For example, some financial institutions may use credit scores to delineate certain residential loans as subprime. We do not rely on these loan classifications to evaluate the credit risk exposure relating to such loans in our single-family credit guarantee portfolio.

Participants in the mortgage market may characterize single-family loans based upon their overall credit quality at the time of origination, generally considering them to be prime or subprime. While we have not historically characterized the loans in our single-family credit guarantee portfolio as either prime or subprime, we monitor the amount of loans we have guaranteed with characteristics that indicate a higher degree of credit risk. In addition, we estimate that approximately $1.3 billion and $1.5 billion of security collateral underlying our other securitization products at December 31, 2016 and 2015, respectively, were identified as subprime based on information provided to us when we entered into these transactions.

Many mortgage market participants classify single-family loans with credit characteristics that range between their prime and subprime categories as Alt-A because these loans have a combination of characteristics of each category, may be underwritten with lower or alternative income or asset documentation requirements compared to a full documentation loan, or both. Although we have discontinued new purchases of loans with lower documentation standards, we continued to purchase certain amounts of such loans in cases where the loan was either purchased pursuant to a previously issued guarantee, part of our relief refinance initiative, or part of another refinance loan initiative and the pre-existing loan was originated under less than full documentation standards. In the event we purchase a refinance loan and the original loan had been previously identified as Alt-A, such refinance loan may no longer be categorized or reported as an Alt-A loan in this Form 10-K and our other financial reports because the new refinance loan replacing the original loan would not be identified by the seller/servicer as an Alt-A loan. As a result, our reported Alt-A balances may be lower than would otherwise be the case had such refinancing not occurred. From the time the relief refinance initiative began in 2009 to December 31, 2016, we have purchased approximately $34.4 billion of relief refinance loans that were previously categorized as Alt-A loans in our portfolio, including $1.6 billion in 2016.

The table below contains information on Alt-A loans in our single-family credit guarantee portfolio.

	December 31, 2016				December 31, 2015			
(Dollars in billions)	UPB	CLTV	% Modified	SDQ Rate	UPB	CLTV	% Modified	SDQ Rate
Alt-A	$32.6	72 %	25.9 %	5.21%	$40.2	77 %	23.1 %	6.32%

The UPB of Alt-A loans in our single-family credit guarantee portfolio declined during 2016 primarily due to borrowers refinancing into other mortgage products, foreclosure transfers, and other liquidation events. Significant portions of the Alt-A loans in our portfolio are concentrated in Arizona, California, Florida, and Nevada.

Geographic Concentrations

We purchase mortgage loans from across the U.S. and maintain a geographically diverse portfolio. However, local economic conditions can affect borrowers' ability to repay and the value of the underlying collateral, leading to concentrations of credit risk in certain geographic areas.

The following table presents certain geographic concentrations in our single-family credit guarantee portfolio. The states presented below had the largest number of seriously delinquent loans as of December 31, 2016. See Note 12 for additional information on the concentration of credit risk in our single-family credit guarantee portfolio.

	As of December 31, 2016			Full Year 2016	As of December 31, 2015			Full Year 2015	As of December 31, 2014			Full Year 2014
(Dollars in millions)	SDQ Loan Count	% of SDQ Loans	SDQ Rate	Credit Losses	SDQ Loan Count	% of SDQ Loans	SDQ Rate	Credit Losses	SDQ Loan Count	% of SDQ Loans	SDQ Rate	Credit Losses
New York	9,574	9 %	2.05%	$163	13,981	10 %	2.94%	$557	19,462	10 %	4.06%	$167
Florida	9,355	9	1.42%	157	14,070	10	2.16%	850	25,656	13	3.92%	1,057
Illinois	7,291	7	1.34%	170	8,841	6	1.62%	381	11,902	6	2.17%	395
New Jersey	6,913	7	2.26%	204	11,978	9	3.90%	689	16,960	8	5.49%	239
California	5,992	6	0.46%	83	7,669	5	0.60%	215	11,386	6	0.92%	197
All Others	66,809	62	0.90%	951	83,182	60	1.12%	1,996	112,700	57	1.52%	1,784
Total	105,934	100%	1.00%	$1,728	139,721	100%	1.32%	$4,688	198,066	100%	1.88%	$3,839

The following table presents our single-family charge-offs and recoveries in each geographic region. See "Single-Family Credit Guarantee Portfolio" in Note 12 for a description of these regions.

	Year Ended December 31,								
	2016			2015			2014		
(Dollars in millions)	Charge-offs, gross (1)	Recoveries	Charge-offs, net	Charge-offs, gross(1)	Recoveries	Charge-offs, net	Charge-offs, gross(1)	Recoveries	Charge-offs, net
Northeast	$752	($188)	$564	$2,056	($207)	$1,849	$1,120	($238)	$882
North Central	425	(94)	331	854	(149)	705	1,001	(259)	742
Southeast	401	(121)	280	1,270	(204)	1,066	1,676	(393)	1,283
West	247	(58)	189	688	(105)	583	861	(284)	577
Southwest	113	(36)	77	203	(52)	151	234	(84)	150
Total	$1,938	($497)	$1,441	$5,071	($717)	$4,354	$4,892	($1,258)	$3,634

(1) Does not include lower-of-cost-or-fair value adjustments and other expenses related to property taxes and insurance recognized when we transfer loans from held-for-investment to held-for-sale, which totaled $1.2 billion, $3.4 billion, and $0.3 billion during 2016, 2015, and 2014, respectively.

The tables below present the concentration of loans in each geographic region by CLTV ratio.

	December 31, 2016							
	CLTV <= 80%		CLTV > 80% to 100%		CLTV > 100%		All Loans	
	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate
North Central	13%	0.67%	3 %	1.53%	—%	6.36 %	16 %	0.93%
Northeast	20	1.04%	4	2.35%	1	10.92%	25	1.45%
Southeast	12	0.92%	3	1.95%	1	6.35 %	16	1.19%
Southwest	11	0.71%	2	1.13%	—	6.75 %	13	0.78%
West	27	0.43%	3	1.38%	—	5.00 %	30	0.57%
Total	83%	0.74%	15%	1.75%	2%	7.43 %	100%	1.00%

	December 31, 2015							
	CLTV <= 80%		CLTV > 80% to 100%		CLTV > 100%		All Loans	
	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate	% of Portfolio	SDQ Rate
North Central	13%	0.73%	3 %	1.91%	1%	6.23 %	17 %	1.13%
Northeast	20	1.28%	5	3.55%	1	13.35%	26	2.04%
Southeast	12	1.08%	3	2.54%	1	7.15 %	16	1.57%
Southwest	10	0.76%	2	1.45%	—	6.47 %	12	0.88%
West	25	0.52%	3	1.96%	1	5.34 %	29	0.79%
Total	80%	0.87%	16%	2.41%	4%	8.08 %	100%	1.32%

Credit Losses and Recoveries

Charge-offs were higher in 2015 than in 2016 primarily due to our adoption on January 1, 2015 of an FHFA advisory bulletin that changed when we deem a loan to be uncollectible. We expect the level of charge-offs in 2017 to be lower than in 2016 as we continue our loss mitigation activities and our efforts to sell certain seriously delinquent single-family loans. See "Change in Estimate" in Note 1 for information about our adoption of the FHFA advisory bulletin and its effect on charge-offs and credit losses.

The tables below contain certain credit performance metrics of our single-family credit guarantee portfolio.

	Year Ended December 31,		
(Dollars in millions)	2016	2015	2014
Charge-offs, gross[1][2]	$1,938	$5,071	$4,892
Recoveries	(497)	(717)	(1,258)
Charge-offs, net	1,441	4,354	3,634
REO operations expense	287	334	205
Total credit losses	$1,728	$4,688	$3,839
Total credit losses (in bps)	9.9	27.6	22.9
Ratio of total loan loss reserves (excluding reserves for TDR concessions) to net charge-offs for single-family loans[3]	3.9	3.0	2.5
Ratio of total loan loss reserves to net charge-offs for single-family loans[3]	10.5	9.2	5.2

	As of December 31,		
	2016	2015	2014
Payment Status:			
One month past due	1.37 %	1.37 %	1.52 %
Two months past due	0.40 %	0.42 %	0.49 %
Seriously delinquent	1.00 %	1.32 %	1.88 %

(1) For 2015, includes $1.9 billion due to the adoption of Advisory Bulletin 2012-02 ("AB 2012-02") Framework for Adversely Classifying Loans, Other Real Estate Owned, and Other Assets and Listing Assets for Special Mention.

(2) Does not include lower-of-cost-or-fair value adjustments and other expenses related to property taxes and insurance recognized when we transfer loans from held-for-investment to held-for-sale, which totaled $1.2 billion, $3.4 billion, and $0.3 billion during 2016, 2015, and 2014, respectively.

(3) Calculated using annualized net charge-offs from the fourth quarter of each respective year.

Credit loss recoveries during 2016, 2015, and 2014 included $14 million, $17 million, and $349 million, respectively, related to settlement agreements with certain sellers that released specified loans from certain repurchase obligations in exchange for one-time cash payments. We recognized recoveries from primary mortgage insurance (excluding recoveries that represent reimbursements for our expenses, such as REO operations expenses) of $0.3 billion, $0.5 billion, and $0.7 billion that reduced our charge-offs of single-family loans during 2016, 2015, and 2014, respectively. We also recognized recoveries from primary mortgage insurance of $47 million, $76 million, and $180 million during 2016, 2015, and 2014, respectively, as part of REO operations (expense) income.

Our credit losses and seriously delinquent loan population are concentrated in the Legacy single-family book. In addition, our credit losses and seriously delinquent loan population are also concentrated within loans having certain characteristics, as shown in the table below. These categories are not mutually exclusive; for example, an Alt-A loan can be associated with a property located in a judicial foreclosure state and/or have a CLTV ratio of greater than 100%. Additional detail on loans in judicial foreclosure states is presented in the “Managing Foreclosure and REO Activities” section.

	December 31, 2016		Year Ended December 31, 2016	December 31, 2015		Year Ended December 31, 2015
	% of Portfolio	SDQ Rate	% of Credit Losses	% of Portfolio	SDQ Rate	% of Credit Losses
CLTV > 100%	2 %	7.43 %	34 %	4 %	8.08 %	49 %
Alt-A loans	2 %	5.21 %	15 %	2 %	6.32 %	23 %
Judicial foreclosure states	38 %	1.36 %	62 %	39 %	1.84 %	70 %

Loan Loss Reserves

Our loan loss reserves continued to decline in recent years, consistent with the decline in our serious delinquency rate. Although the housing market continued to improve in many geographic areas in 2016, we expect that our loan loss reserves may remain elevated for an extended period because a significant portion of our reserves is associated with interest rate concessions related to performing TDRs. Additionally, the resolution of certain seriously delinquent loans takes considerable time, often several years in the case of foreclosure.

The table below summarizes our single-family loan loss reserves activity.

	Year Ended December 31,				
(Dollars in millions)	2016	2015	2014	2013	2012
Beginning balance	$15,348	$21,793	$24,578	$30,508	$38,916
Provision (benefit) for credit losses	(781				