

MGIC INVESTMENT CORP
Form 10-K
February 22, 2019

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, 2018
OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

For the transition period from ____ to ____

Commission file number 1-10816

MGIC INVESTMENT CORPORATION

(Exact name of registrant as specified in its charter)

WISCONSIN

39-1486475

(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)

MGIC PLAZA, 250 EAST KILBOURN AVENUE,

MILWAUKEE, WISCONSIN

53202

(Address of principal executive offices)

(Zip Code)

(414) 347-6480

(Registrant's telephone number, including area code)

Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class: Common Stock, Par Value \$1 Per Share
Common Share Purchase Rights

Name of Each Exchange on Which Registered: New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

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

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 No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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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.

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," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer

Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

State the aggregate market value of the voting common stock held by non-affiliates of the Registrant as of June 30, 2018: Approximately \$3.9 billion*

* Solely for purposes of computing such value and without thereby admitting that such persons are affiliates of the Registrant, shares held by directors and executive officers of the Registrant are deemed to be held by affiliates of the Registrant. Shares held are those shares beneficially owned for purposes of Rule 13d-3 under the Securities Exchange Act of 1934 but excluding shares subject to stock options.

Indicate the number of shares outstanding of each of the Registrant's classes of common stock as of February 15, 2019:
355,636,284

The following documents have been incorporated by reference in this Form 10-K, as indicated:

Document	Part and Item Number of Form 10-K Into Which Incorporated*
Proxy Statement for the 2018 Annual Meeting of Shareholders, provided such Proxy Statement is filed within 120 days after December 31, 2018. If not so filed, the information provided in Items 10 through 14 of Part III will be included in an amended Form 10-K filed within such 120 day period.	Items 10 through 14 of Part III

* In each case, to the extent provided in the Items listed.

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Glossary of terms and acronyms

/ A

ARMs

Adjustable rate mortgages

ABS

Asset-backed securities

ASC

Accounting Standards Codification

Available Assets

Assets, as designated under the PMIERS, that are readily available to pay claims, and include the most liquid investments

/ B

Book or book year

A group of loans insured in a particular calendar year

BPMI

Borrower-paid mortgage insurance

/ C

CECL

Current expected credit losses

CFPB

Consumer Financial Protection Bureau

CLO

Collateralized loan obligations

CMBS

Commercial mortgage-backed securities

/ D

DAC

Deferred insurance policy acquisition costs

Debt-to-income ("DTI") ratio

The ratio, expressed as a percentage, of a borrower's total debt payments to gross income

Direct

When referring to insurance or risk written or in force, "direct" means before giving effect to reinsurance

/ E

ETFs

Exchange traded funds

/ F

Fannie Mae
Federal National Mortgage Association

FCRA
Fair Credit Reporting Act

FEMA
Federal Emergency Management Agency

FHA
Federal Housing Administration

FHFA
Federal Housing Finance Agency

FHLB
Federal Home Loan Bank of Chicago, of which MGIC is a member

FICO score
A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus

FOMC
Federal Open Market Committee

Freddie Mac
Federal Home Loan Mortgage Corporation

/ G
GAAP
Generally Accepted Accounting Principles in the United States

GSEs
Collectively, Fannie Mae and Freddie Mac

/ H
HAMP
Home Affordable Modification Program

HARP
Home Affordable Refinance Program

Home Re
Home Re 2018-1, Ltd., an unaffiliated special purpose insurer domiciled in Bermuda

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HOPA

Homeowners Protection Act

/ I

IADA

Individual Assistance Disaster Area

IBNR

Losses incurred but not reported

IIF

Insurance in force, which for loans insured by us, is equal to the unpaid principal balance, as reported to us

/ L

LAE

Loss adjustment expenses

Legacy book

Mortgage insurance policies written prior to 2009

Loan-to-value ("LTV") ratio

The ratio, expressed as a percentage, of the dollar amount of the first mortgage loan to the value of the property at the time the loan became insured and does not reflect subsequent housing price appreciation or depreciation. Subordinate mortgages may also be present

Long-term debt:

5% Notes

5% Convertible Senior Notes due on May 1, 2017, with interest payable semi-annually on May 1 and November 1 of each year

2% Notes

2% Convertible Senior Notes due on April 1, 2020, with interest payable semi-annually on April 1 and October 1 of each year

5.75% Notes

5.75% Senior Notes due on August 15, 2023, with interest payable semi-annually on February 15 and August 15 of each year

9% Debentures

9% Convertible Junior Subordinated Debentures due on April 1, 2063, with interest payable semi-annually on April 1 and October 1 of each year

FHLB Advance or the Advance

1.91% Fixed rate advance from the FHLB due on February 10, 2023, with interest payable monthly

Loss ratio

The ratio, expressed as a percentage, of the sum of incurred losses and loss adjustment expenses to NPE

Low down payment loans or mortgages

Loans with less than 20% down payments

LPMI

Lender-paid mortgage insurance

/ M

MBA

Mortgage Bankers Association

MBS

Mortgage-backed securities

MD&A

Management's discussion and analysis of financial condition and results of operations

MGIC

Mortgage Guaranty Insurance Corporation, a subsidiary of MGIC Investment Corporation

MAC

MGIC Assurance Corporation, a subsidiary of MGIC

Minimum Required Assets

The greater of \$400 million or the total of the minimum amount of Available Assets that must be held under the PMIERS based upon a percentage of RIF weighted by certain risk attributes

MPP

Minimum Policyholder Position, as required under certain state requirements. The "policyholder position" of a mortgage insurer is its net worth or surplus, contingency reserve and a portion of the reserves for unearned premiums

/ N

N/A

Not applicable for the period presented

NAIC

The National Association of Insurance Commissioners

NIW

New Insurance Written, is the aggregate original principal amount of the mortgages that are insured during a period

N/M

Data, or calculation, deemed not meaningful for the period presented

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NPE

The amount of premiums earned, net of premiums assumed and ceded under reinsurance agreements

NPL

Non-performing loan, which is a delinquent loan, at any stage in its delinquency

NPW

The amount of premiums written, net of premiums assumed and ceded under reinsurance agreements

/ O

OCI

Office of the Commissioner of Insurance of the State of Wisconsin

/ P

Persistency

The percentage of our insurance remaining in force from one year prior

PMI

Private Mortgage Insurance (as an industry or product type)

PMIERS

Private Mortgage Insurer Eligibility Requirements issued by the GSEs

Premium Yield

The ratio of NPE divided by the average IIF outstanding for the period measured

Primary

Insurance written on a flow and bulk basis

/ Q

QSR Transaction

Quota share reinsurance transaction

/ R

REMIC

Real Estate Mortgage Investment Conduit

RESPA

Real Estate Settlement Procedures Act

RIF

Risk in force, which for an individual loan insured by us, is equal to the unpaid loan principal balance, as reported to us, multiplied by the insurance coverage percentage. RIF is sometimes referred to as exposure

Risk-to-capital

Under certain state regulations, the ratio of RIF, net of quota share reinsurance and exposure on policies currently in default and for which loss reserves have been established, to the level of statutory capital

RMBS

Residential mortgage-backed securities

/ S

State Capital Requirements

Under certain state regulations, the minimum amount of statutory capital relative to risk in force (or similar measure)

/ T

Tax Act

The U.S. tax reform enacted on December 22, 2017 and commonly referred to as the "Tax Cuts and Jobs Act"

/ U

Underwriting Expense Ratio

The ratio, expressed as a percentage, of the underwriting and operating expenses, net and amortization of DAC of our combined insurance operations (which excludes underwriting and operating expenses of our non-insurance subsidiaries) to NPW

Underwriting profit

NPE minus incurred losses and underwriting expenses

USDA

U.S. Department of Agriculture

/ V

VA

U.S. Department of Veterans Affairs

VIE

Variable interest entity

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PART I

Item 1. Business

See the "[Glossary of terms and acronyms](#)" for definitions and descriptions of terms used throughout this annual report.

A. General

We are a holding company and through wholly-owned subsidiaries we provide private mortgage insurance, other mortgage credit risk management solutions, and ancillary services. In 2018, our net premiums written were \$1.0 billion and our primary NIW was \$50.5 billion. As of December 31, 2018, our direct primary IIF was \$209.7 billion and our direct primary RIF was \$54.1 billion. For further information about our results of operations, see our consolidated financial statements in Item 8 and our MD&A in Item 7. As of December 31, 2018, our principal mortgage insurance subsidiary, MGIC, was licensed in all 50 states of the United States, the District of Columbia, Puerto Rico and Guam. During 2018, we wrote new insurance in each of those jurisdictions.

BUSINESS STRATEGIES

Our business strategies are to 1) prudently grow IIF, 2) pursue new business opportunities that meet our return objectives, 3) preserve and expand our role and that of the PMI industry in housing finance policy, 4) manage and deploy capital to optimize the creation of shareholder value and 5) expand and develop the talents of our co-workers.

Following are several of our 2018 accomplishments that furthered our business strategies.

- Increased primary NIW from \$49.1 billion in 2017 to \$50.5 billion in 2018 and increased primary IIF by more than 7.6% year-over-year. The NIW is consistent with the Company's risk and return goals.

- Held leadership roles in key trade associations.

- Continued to enhance the reputation of the Company and the industry relative to changing housing finance policy and a broader role for PMI.

- Positioned ourselves for a successful launch in the first quarter 2019 of MiQ™, our loan level pricing system that establishes our premium rates based on a borrower's individual risk profile and loan attributes, and considers more attributes than were considered in 2018.

- Executed a \$318 million insurance linked note transaction, which allows the Company to better manage its risk profile and provides a new source of capital.

- Increased dividends from MGIC to our holding company from \$140 million in 2017 to \$220 million in 2018.

- Initiated ratings from A.M. Best and received an A- rating.

- Executed \$175 million in share repurchases for more than 4% of our common stock outstanding.

OVERVIEW OF THE PRIVATE MORTGAGE INSURANCE INDUSTRY AND ITS OPERATING ENVIRONMENT

We established the PMI industry in 1957 to provide a private market alternative to federal government insurance programs. PMI covers losses from homeowner defaults on residential mortgage loans, reducing, and in some instances eliminating, the loss to the insured institution.

Fannie Mae and Freddie Mac have been the major purchasers of the mortgage loans underlying new insurance written by private mortgage insurers. The GSEs purchase residential mortgage loans as part of their governmental mandate to provide liquidity in the secondary mortgage market. The GSEs cannot buy low down payment mortgage loans without certain forms of credit enhancement. Lenders generally have used private mortgage insurance to satisfy this credit

enhancement requirement. Therefore, PMI facilitates the sale of low down payment mortgages in the secondary mortgage market to the GSEs and plays an important role in the housing finance system by assisting consumers, especially first-time and lower net-worth homebuyers, to finance homes with low down payment mortgages. PMI also reduces the regulatory capital that depository institutions are required to hold against certain low down payment mortgages that they hold as assets. (GSE programs initiated in 2018 that provide loan level default coverage by various (re)insurers (which may include affiliates of private mortgage insurers) are discussed below.)

Because the GSEs have been the major purchasers of the mortgages underlying new insurance written by private mortgage insurers, the PMI industry in the U.S. is defined in large part by the requirements and practices of the GSEs. These requirements and practices, as well as those of the federal regulators that oversee the GSEs and lenders, impact the operating results and financial performance of private mortgage insurers. In 2008, the federal government took control of the GSEs through a conservatorship process. The FHFA is the conservator

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of the GSEs and has the authority to control and direct their operations. In the past, members of Congress have introduced several bills intended to change the business practices of the GSEs and the FHA, however, no legislation has been enacted.

The Administration issued a June 2018 report indicating that the conservatorship of the GSEs should end and that the GSEs should transition to fully private entities. It is unclear whether and when that would occur and how that would impact us. As a result of the matters referred to above, it is uncertain what role the GSEs, FHA and private capital, including private mortgage insurance, will play in the domestic residential housing finance system in the future. The timing and impact on our business or any resulting changes is uncertain. Some changes would require Congressional action to implement and it is difficult to estimate when any action would be final and how long any associated phase-in period may last. See our risk factor titled “Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses” in [Item 1A](#).

The GSEs have private mortgage insurer eligibility requirements, or PMIERS, for private mortgage insurers that insure loans delivered to or purchased by the GSEs. The financial requirements of the PMIERS require a mortgage insurer’s Available Assets to equal or exceed its Minimum Required Assets. While on an overall basis, the amount of Available Assets MGIC must hold in order to continue to insure GSE loans is greater under the PMIERS than the amount state regulation currently requires, our reinsurance transactions mitigate the negative effect of the PMIERS on our returns. See "Regulation – Direct Regulation" below for information about our compliance with the financial requirements of the PMIERS.

The private mortgage insurance industry is greatly impacted by macroeconomic conditions that affect home loan originations and credit performance of home loans, including unemployment rates, home prices, restrictions on mortgage credit due to underwriting standards, interest rates, household formations and homeownership rates. During the last several years preceding the financial crisis, the mortgage lending industry increasingly made home loans with higher risk profiles. In certain sections of this Annual Report, we discuss our insurance written in 2005-2008 separately from our insurance written in earlier and later years. Beginning in 2007, job creation slowed and the housing markets began slowing in certain areas, with declines in certain other areas. In 2008 and 2009, employment in the U.S. decreased substantially and nearly all geographic areas in the U.S. experienced home price declines. Together, these conditions resulted in significant adverse developments for us and our industry. The operating environment for private

mortgage insurers has materially improved in recent years as the economy has recovered.

During 2018, \$292 billion of mortgages were insured with primary coverage by private mortgage insurers, compared to, \$270 billion in each of 2017 and 2016. Although the 2018 volume was significantly greater than the recent low in 2010 of \$70 billion, it remains below the volumes of 2001 through 2007 when, on average, approximately \$311 billion of mortgages were insured with primary coverage by private mortgage insurers.

For most of our business, we and other private mortgage insurers compete directly with federal and state governmental and quasi-governmental agencies that sponsor government-backed mortgage insurance programs, principally the FHA, VA and USDA. The publication *Inside Mortgage Finance* estimates that in 2018, the FHA accounted for 29.9% of low down payment residential mortgages that were subject to FHA, VA, USDA or primary private mortgage insurance, compared to 33.9% in 2017. In the prior ten years, the FHA’s market share has been as low as 29.9% in 2018 and as high as 66.8% in 2009. Factors that influence the FHA’s market share include relative rates and fees, underwriting guidelines and loan limits of the FHA, VA, USDA, private mortgage insurers and the

GSEs; lenders' perceptions of legal risks under FHA versus GSE programs; flexibility for the FHA to establish new products as a result of federal legislation and programs; returns obtained by lenders for Ginnie Mae securitization of FHA-insured loans compared to those obtained from selling loans to Fannie Mae or Freddie Mac for securitization; and differences in policy terms, such as the ability of a borrower to cancel insurance coverage under certain circumstances. We cannot predict how the factors listed above or the FHA's share of NIW will change in the future.

Inside Mortgage Finance estimates that in 2018, the VA accounted for 24.4% of all low down payment residential mortgages that were subject to FHA, VA, USDA or primary private mortgage insurance, compared to 24.7% in 2017. In the prior ten years, the VA's market share has been as high as 27.2% in 2016 and as low as 14.3% in 2009. We believe that the VA's market share has generally been increasing because of an increase in the number of borrowers that are eligible for the VA's program, which offers 100% LTV loans and charges a one-time funding fee that can be included in the loan amount, and because eligible borrowers have opted to use the VA program when refinancing their mortgages.

The private mortgage insurance industry also competes with alternatives to mortgage insurance, such as investors using risk mitigation and credit risk transfer techniques other than PMI, investors willing to hold credit risk on their own balance sheets without credit enhancement, and "piggyback loans," which combine a first lien loan with a second lien loan.

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In 2018, the GSE initiated programs with loan level mortgage default coverage provided by various (re)insurers that are not mortgage insurers governed by PMIERS, and that are not selected by the lenders. While we view these programs as competing with traditional private mortgage insurance, we have participated in them and may participate in future GSE or other programs.

The GSEs (and other investors) have also used other forms of credit enhancement that did not involve traditional private mortgage insurance, such as engaging in credit-linked note transactions executed in the capital markets, or using other forms of debt issuances or securitizations that transfer credit risk directly to other investors, including competitors and an affiliate of MGIC; and using other risk mitigation techniques in conjunction with reduced levels of private mortgage insurance coverage.

In addition to the FHA, VA, other governmental agencies and the alternatives to mortgage insurance discussed above, we also compete with other mortgage insurers. The level of competition, including price competition, within the private mortgage insurance industry has intensified over the past several years. See "Our Products and Services – Sales and Marketing and Competition – Competition" below for more information about the impact on our business of competition in the private mortgage insurance industry.

In addition to being subject to the requirements and practices of the GSEs, private mortgage insurers are subject to comprehensive, detailed regulation by state insurance departments. The insurance laws of 16 jurisdictions, including Wisconsin, MGIC's domiciliary state, require a mortgage insurer to maintain a minimum amount of statutory capital relative to the RIF (or a similar measure) in order for the mortgage insurer to continue to write new business. The NAIC plans to revise the minimum capital and surplus requirements for mortgage insurers that are provided for in its Mortgage Guaranty Insurance Model Act. A working group of state regulators has been considering since 2016 a risk-based capital framework to establish capital requirements for mortgage insurers, although no date has been established by which the NAIC must propose revisions to the capital requirements.

Due to the changing environment described above, as well as other factors discussed below, at this time the greatest uncertainty we face is whether private mortgage insurance will remain a significant credit enhancement alternative for low down payment single family mortgages. An increase in the use of alternatives to private mortgage insurance, such as GSE programs with loan level default coverage provided by (re)insurers that are not mortgage insurers subject to PMIERS, or a possible restructuring or change in the charters of the GSEs, could significantly affect our business. For additional information about this uncertainty, see our

risk factors titled "The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance" and "Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses" in [Item 1A](#).

GENERAL INFORMATION ABOUT OUR COMPANY

We are a Wisconsin corporation organized in 1984. Our principal office is located at MGIC Plaza, 250 East Kilbourn Avenue, Milwaukee, Wisconsin 53202 (telephone number (414) 347-6480). As used in this annual report, "we," "our" and "us" refer to MGIC Investment Corporation's consolidated operations or to MGIC Investment Corporation, as a separate entity, as the context requires, and "MGIC" refers to Mortgage Guaranty Insurance Corporation.

Our revenues and losses may be materially affected by the risk factors that are included in [Item 1A](#) of this annual report. These risk factors are an integral part of this annual report. These risk factors may also cause actual results to differ materially from the results contemplated by forward looking statements that we may make. Forward looking

statements consist of statements which relate to matters other than historical fact. Among others, statements that include words such as we “believe,” “anticipate” or “expect,” or words of similar import, are forward looking statements. We are not undertaking any obligation to update any forward looking statements or other statements we may make even though these statements may be affected by events or circumstances occurring after the forward looking statements or other statements were made. No reader of this annual report should rely on these statements being current at any time other than the time at which this annual report was filed with the Securities and Exchange Commission.

B. Our Products and Services

MORTGAGE INSURANCE

In general, there are two principal types of private mortgage insurance: “primary” and “pool.”

Primary Insurance. Primary insurance provides mortgage default protection on individual loans and covers a percentage of the unpaid loan principal, delinquent interest and certain expenses associated with the default and subsequent foreclosure or sale approved by us (collectively, the “claim amount”). In addition to the loan principal, the claim amount is affected by the mortgage note rate and the time necessary to complete the foreclosure or sale process. The insurer generally pays the coverage percentage of the claim amount specified in the primary policy, but has the option to pay 100% of the claim amount and acquire title to the property. Primary insurance is generally written on first mortgage loans secured by owner

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occupied "single-family" homes, which are one-to-four family homes and condominiums. Primary insurance can be written on first liens secured by non-owner occupied single-family homes, which are referred to in the home mortgage lending industry as investor loans, and on vacation or second homes. Primary coverage can be used on any type of residential mortgage loan instrument approved by the mortgage insurer.

References in this document to amounts of insurance written or in force, risk written or in force and other historical data related to our insurance refer only to direct (before giving effect to reinsurance) primary insurance, unless otherwise indicated. Primary insurance may be written on a flow basis, in which loans are insured in individual, loan-by-loan transactions, or may be written on a bulk basis, in which each loan in a portfolio of loans is individually insured in a single, bulk transaction. Our new primary insurance written was \$50.5 billion in 2018, compared to \$49.1 billion in 2017 and \$47.9 billion in 2016. The 2018 increase compared to 2017 reflects an increase in the purchase mortgage originations we insured offsetting a decrease in the refinance originations we insured.

The following charts show, on a direct basis, our primary IIF and primary RIF as of December 31 for the years indicated.

Primary insurance and risk in force

(In billions)	2018	2017	2016	2015	2014
Primary IIF	\$209.7	\$194.9	\$182.0	\$174.5	\$164.9
Primary RIF	54.1	50.3	47.2	45.5	42.9

For loans sold to Fannie Mae or Freddie Mac, the coverage percentage must comply with the requirements established by the particular GSE to which the loan is delivered. The GSEs have different loan purchase programs that allow different levels of mortgage insurance coverage. Under the "charter coverage" program, on certain loans lenders may choose a mortgage insurance coverage percentage that is less than the GSEs' "standard coverage" and only the minimum required by the GSEs' charters, with the GSEs paying a lower price for such loans. In 2018, nearly all of our volume was on loans with GSE standard or higher coverage.

For loans that are not sold to the GSEs, the lender determines the coverage percentage from those that we offer. Higher coverage percentages generally result in increased severity, which is the amount paid on a claim. We charge higher premium rates for higher coverage percentages. However, there can be no assurance that the higher premium rates adequately reflect the risks associated with higher coverage percentages. In accordance with GAAP for the mortgage insurance industry, reserves for losses are only established for delinquent loans. Because, historically, relatively few

delinquencies occur in the early years of a book of business, the higher premium revenue from higher coverage has historically been recognized before any significant higher losses resulting from that higher coverage may be incurred. For more information, see "– Exposure to Catastrophic Loss; Defaults; Claims; Loss Mitigation – Claims."

In general, mortgage insurance coverage cannot be terminated by the insurer. However, subject to certain restrictions as are specified in our insurance policy, we may terminate or rescind coverage for, among other reasons, non-payment of premium, certain material misrepresentations made in connection with the application for the insurance policy or if the loan was never eligible for coverage under our policy. Mortgage insurance coverage is renewable at the option of the insured lender, at the renewal rate fixed when the loan was initially insured. Lenders may cancel insurance written on a flow basis at any time at their option or because of mortgage repayment, which may be accelerated because of the refinancing of mortgages. In the case of a loan purchased by Freddie Mac or Fannie Mae, a borrower meeting certain conditions may require the mortgage servicer to cancel insurance upon the borrower's request, generally when the

principal balance of the loan is 80% or less of the home's current value.

Mortgage insurance for loans secured by one-family, primary residences can be canceled under HOPA. In general, HOPA requires a servicer to cancel the mortgage insurance if a borrower requests cancellation when the principal balance of the loan is first scheduled to reach 80% of the original value, or reaches that percentage through payments, if 1) the borrower is current on the loan and has a "good payment history" (as defined by HOPA), 2) the borrower provides evidence as and if required by the mortgage owner that the value of the property has not declined below the original value, and 3) if required by the mortgage owner, the borrower's equity in the property is not subject to a subordinate lien. Additionally, HOPA requires mortgage insurance to terminate automatically when the principal balance of the loan is first scheduled to reach 78% of the original value and the borrower is current on loan payments or thereafter becomes current. Annually, servicers must inform borrowers of their right to cancel or terminate mortgage insurance. The provisions of HOPA described above apply only to borrower paid mortgage insurance, which is described below.

Coverage tends to continue for borrowers experiencing economic difficulties or living in areas experiencing home price depreciation. The persistency of coverage for those borrowers coupled with cancellation of coverage for other borrowers can increase the percentage of an insurer's portfolio covering loans with more credit risk. This development can also occur during periods of heavy mortgage refinancing because borrowers experiencing property value appreciation are less likely to require mortgage insurance at the time of

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refinancing, while borrowers not experiencing property value appreciation are more likely to continue to require mortgage insurance at the time of refinancing or not qualify for refinancing at all (including if they have experienced economic difficulties) and thus remain subject to the mortgage insurance coverage.

The percentage of NIW on loans representing refinances was 7% for 2018, compared to 11% for 2017 and 20% for 2016. When a borrower refinances a mortgage loan insured by us by paying it off in full with the proceeds of a new mortgage that is also insured by us, the insurance on that existing mortgage is cancelled, and insurance on the new mortgage is considered to be NIW. Therefore, continuation of our coverage from a refinanced loan to a new loan results in both a cancellation of insurance and NIW. When a lender and borrower modify a loan rather than replace it with a new one, or enter into a new loan pursuant to a loan modification program, our insurance continues without being cancelled, assuming that we consent to the modification or new loan. As a result, such modifications or new loans, including those modified under HARP, are not included in our NIW.

In addition to varying with the coverage percentage, our premium rates for insurance have varied depending upon the perceived risk of a claim on the insured loan and thus taken into account, among other things, the LTV ratio, the borrower's credit score and DTI ratio, whether the loan is a fixed payment loan or a non-fixed payment loan (a non-fixed payment loan is referred to in the home mortgage lending industry as an ARM), the number of borrowers the mortgage term and whether the property is the borrower's primary residence. We generally utilized a national, rather than a regional or local, premium rate policy. However, depending upon regional economic conditions, we have made, and may make, changes to our underwriting requirements to implement more restrictive standards in certain markets and for loan characteristics that we categorize as higher risk. In the first quarter of 2019 we introduced MiQ™, our loan level pricing system that establishes our premium rates based on more risk attributes than were considered in 2018. Premium rates cannot be changed after the issuance of coverage.

The borrower's mortgage loan instrument may require the borrower to pay the mortgage insurance premium. Our industry refers to the related mortgage insurance as "borrower-paid." If the borrower is not required to pay the premium and mortgage insurance is required in connection with the origination of the loan, then the premium is paid by the lender, who may recover the premium through an increase in the note rate on the mortgage or higher origination fees. Our industry refers to the related mortgage insurance as "lender-paid." Most of our primary IIF is borrower-paid mortgage insurance.

There are several payment plans available to the borrower, or lender, as the case may be. Under the single premium plan, the borrower or lender pays us in advance a single payment covering a specified term exceeding twelve months. Under the monthly premium plan, the borrower or lender pays us a monthly premium payment to provide only one month of coverage. Under the annual premium plan, an annual premium is paid to us in advance, with annual renewal premiums paid in advance thereafter.

During 2018, 2017 and 2016, the single premium plan represented approximately 17%, 19% and 19%, respectively, of our NIW. The monthly premium plan represented approximately 83%, 81% and 81%, respectively. The annual premium plan represented less than 1% of NIW in each of those years. Depending on the actual life of a single premium policy and its premium rate relative to that of a monthly premium policy, a single premium policy may generate more or less premium than a monthly premium policy over its life.

Pool and Other Insurance. Pool insurance is generally used as an additional "credit enhancement" for certain secondary market mortgage transactions. Pool insurance generally covers the amount of the loss on a defaulted mortgage loan that exceeds the claim payment under the primary coverage, if primary insurance is required on that mortgage loan, as

well as the total loss on a defaulted mortgage loan which did not require primary insurance. Pool insurance may have a stated aggregate loss limit for a pool of loans and may also have a deductible under which no losses are paid by the insurer until losses on the pool of loans exceed the deductible. As of December 31, 2018, less than 1% of our RIF was pool insurance.

In connection with the GSEs' credit risk transfer programs, we provide insurance and reinsurance covering portions of the credit risk related to certain reference pools of mortgages acquired by the GSEs.

GEOGRAPHIC DISPERSION

The following tables reflect the percentage of primary RIF in the top 10 jurisdictions and top 10 core-based statistical areas for the MGIC Book at December 31, 2018. We refer to the insurance that has been written by MGIC (including MGIC Indemnity Corporation, a subsidiary of MGIC, for portions of 2012 and 2013) as the "MGIC Book."

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Dispersion of Primary Risk in Force

Top 10 jurisdictions

California	8.6 %
Florida	7.0 %
Texas	6.2 %
Pennsylvania	5.2 %
Ohio	4.5 %
Illinois	4.2 %
Virginia	3.5 %
Georgia	3.3 %
Michigan	3.3 %
Minnesota	3.1 %
Total	48.9%

Top 10 core-based statistical areas

Chicago-Naperville-Arlington Heights	2.8 %
Washington-Arlington-Alexandria	2.6 %
Atlanta-Sandy Springs-Roswell	2.5 %
Minneapolis-St. Paul-Bloomington	2.1 %
Houston-Woodlands-Sugar Land	1.9 %
Philadelphia	1.9 %
Los Angeles-Long Beach-Glendale	1.9 %
Phoenix-Mesa-Scottsdale	1.9 %
Riverside-San Bernardino-Ontario	1.4 %
Cincinnati	1.3 %
Total	20.3%

The percentages shown above for various core-based statistical areas can be affected by changes, from time to time, in the federal government's definition of a core-based statistical area.

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INSURANCE IN FORCE BY POLICY YEAR

The following table sets forth for the MGIC Book the dispersion of our primary IIF and RIF as of December 31, 2018, by year(s) of policy origination since we began operations in 1985.

Primary insurance in force and risk in force by policy year

Policy Year	Insurance in Force		Risk in Force	
	Total (In millions)	Percent of Total	Total (In millions)	Percent of Total
2004 and prior	\$3,575	1.7 %	\$995	1.8 %
2005	3,408	1.6 %	969	1.8 %
2006	6,361	3.0 %	1,753	3.2 %
2007	14,052	6.7 %	3,619	6.7 %
2008	6,128	2.9 %	1,564	2.9 %
2009	812	0.4 %	186	0.3 %
2010	528	0.2 %	152	0.3 %
2011	1,089	0.5 %	314	0.6 %
2012	4,186	2.0 %	1,194	2.2 %
2013	7,256	3.5 %	2,048	3.8 %
2014	12,943	6.2 %	3,459	6.4 %
2015	23,408	11.2 %	6,138	11.4 %
2016	35,712	17.0 %	9,047	16.7 %
2017	43,325	20.7 %	10,853	20.1 %
2018	46,924	22.4 %	11,771	21.8 %
Total	\$209,707	100.0%	\$54,063	100.0%

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PRODUCT CHARACTERISTICS

The following table reflects, at the dates indicated and by the categories indicated, the total dollar amount of primary RIF for the MGIC Book and the percentage of that primary RIF, as determined on the basis of information available on the date of mortgage origination.

Characteristics of primary risk in force

	December 31, 2018	December 31, 2017		
Primary RIF (In millions):	\$54,063	\$50,319		
Loan-to-value ratios:				
95.01% and above	14.8	% 13.8	%	
90.01 - 95.00%	52.2	% 52.0	%	
85.01 - 90.00%	27.5	% 28.3	%	
80.01 - 85.00%	4.8	% 4.9	%	
80% and below	0.7	% 1.0	%	
Total	100.0	% 100.0	%	
Debt-to-income ratios:				
45.01% and above	14.3	% 12.6	%	
38.01% - 45.00%	33.3	% 33.3	%	
38% and below	52.4	% 54.1	%	
Total	100.0	% 100.0	%	
Loan Type:				
Fixed ⁽¹⁾	98.7	% 98.2	%	
ARMs ⁽²⁾	1.3	% 1.8	%	
Total	100.0	% 100.0	%	
Original Insured Loan Amount: ⁽³⁾				
Conforming loan limit and below	97.5	% 97.6	%	
Non-conforming	2.5	% 2.4	%	
Total	100.0	% 100.0	%	
Mortgage Term:				
15-years and under	1.6	% 2.1	%	
Over 15 years	98.4	% 97.9	%	
Total	100.0	% 100.0	%	
Property Type:				
Single-family detached	87.5	% 87.6	%	
Condominium/Townhouse/Other attached	11.7	% 11.7	%	
Other ⁽⁴⁾	0.8	% 0.7	%	
Total	100.0	% 100.0	%	
Occupancy Status:				
Owner occupied	97.5	% 97.3	%	
Second home	2.0	% 2.0	%	
Investor property	0.5	% 0.7	%	
Total	100.0	% 100.0	%	
Documentation:				
Reduced: ⁽⁵⁾				
Stated	1.5	% 2.0	%	

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No	0.3	%	0.4	%
Full documentation	98.2	%	97.6	%
Total	100.0	%	100.0	%

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Characteristics of primary risk in force

	December 31, 2018		December 31, 2017	
FICO Score: ⁽⁶⁾				
760 and greater	37.7	%	36.6	%
740 - 759	15.6	%	15.0	%
720 - 739	13.9	%	13.6	%
700 - 719	11.3	%	11.2	%
680 - 699	8.6	%	9.0	%
660 - 679	4.8	%	5.2	%
640 - 659	3.3	%	3.7	%
639 and less	4.8	%	5.7	%
Total	100.0	%	100.0	%

(1) Includes fixed rate mortgages with temporary buydowns (where in effect, the applicable interest rate is typically reduced by one or two percentage points during the first two years of the loan), ARMs in which the initial interest rate is fixed for at least five years, and balloon payment mortgages (a loan with a maturity, typically five to seven years, that is shorter than the loan's amortization period).

(2) Includes ARMs where payments adjust fully with interest rate adjustments. Also includes pay option ARMs and other ARMs with negative amortization features, which collectively at December 31, 2018 and 2017, represented 0.3% and 0.5%, respectively, of primary RIF. As indicated in note (1), does not include ARMs in which the initial interest rate is fixed for at least five years. As of December 31, 2018 and 2017, ARMs with LTV ratios in excess of 90% represented 0.3% and 0.4%, respectively, of primary RIF.

(3) Loans within the conforming loan limit have an original principal balance that does not exceed the maximum original principal balance of loans that the GSEs will purchase. The conforming loan limit for one unit properties was \$417,000 from 2007 through 2016, \$424,100 for 2017, \$453,100 for 2018 and \$484,350 for 2019. The limit for high cost communities has been higher and is \$726,525 for 2019. Non-conforming loans are loans with an original principal balance above the conforming loan limit.

(4) Includes cooperatives and manufactured homes deemed to be real estate.

(5) Reduced documentation loans were originated prior to 2009 under programs in which there was a reduced level of verification or disclosure compared to traditional mortgage loan underwriting, including programs in which the borrower's income and/or assets were disclosed

in the loan application but there was no verification of those disclosures ("stated" documentation) and programs in which there was no disclosure of income or assets in the loan application ("no" documentation). In accordance with industry practice, loans approved by GSE and other automated underwriting (AU) systems under "doc waiver" programs that did not require verification of borrower income are classified by us as "full documentation." Based in part on information provided by the GSEs, we estimate full documentation loans of this type were approximately 4% of 2007 NIW. Information for other periods is not available. We understand these AU systems granted such doc waivers for loans they judged to have higher credit quality. We also understand that the GSEs terminated their "doc waiver" programs in the second half of 2008.

- (6) Represents the FICO score at loan origination. The weighted average “decision FICO score” at loan origination for NIW in 2018 and 2017 was 745. The FICO score for a loan with multiple borrowers is the lowest of the borrowers’ decision FICO scores. A borrower’s “decision FICO score” is determined as follows: if there are three FICO scores available, the middle FICO score is used; if two FICO scores are available, the lower of the two is used; if only one FICO score is available, it is used. A FICO score is a score based on a borrower’s credit history generated by a model developed by Fair Isaac Corporation.

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OTHER PRODUCTS AND SERVICES

Contract Underwriting. A non-insurance subsidiary of ours performs contract underwriting services for lenders, underwriting loans to conform to prescribed guidelines. The guidelines might be the lender's own guidelines or the guidelines of Fannie Mae, Freddie Mac or a non-GSE investor. These services are provided for loans that require private mortgage insurance as well as for loans that do not require private mortgage insurance.

Under our contract underwriting agreements, we may be required to provide certain remedies to our customers if certain standards relating to the quality of our underwriting work are not met, and we have an established reserve for such future obligations. The related contract underwriting remedy expense for each of the years ended December 31, 2018, 2017 and 2016, was immaterial to our consolidated financial statements. Claims for remedies may be made a number of years after the underwriting work was performed.

Other. We provide various fee-based services for the mortgage finance industry, such as analysis of loan originations and portfolios, and mortgage lead generation.

We provide insurance and reinsurance related to certain mortgages under Fannie Mae and Freddie Mac credit risk transfer programs. The amount of risk associated with these transactions is currently \$53 million.

REINSURANCE AGREEMENTS

Quota Share Transactions. At each of December 31, 2018 and 2017, approximately 78% of our IIF was subject to quota share reinsurance transactions. In 2018, approximately 75% of our NIW was subject to quota share reinsurance transactions, compared to 84% in 2017.

We have in place QSR transactions with unaffiliated reinsurers that covers most of our insurance written from 2013 through 2018, and a portion of our insurance written prior to 2013. The structure of the transactions is a 30% quota share for all policies covered, with a 20% ceding commission as well as a profit commission. Generally, under the transactions, we will receive a profit commission provided that the loss ratio on the loans covered under the transactions remains below 60% (62% for the transaction covering 2018 NIW). We expect that in the first quarter of 2019, we will enter into a similar agreement covering most of our NIW in 2019, on terms no less favorable than our existing transactions. Although reinsuring against possible loan losses does not discharge us from liability to a policyholder, it reduces the amount of capital we are required to retain against potential future losses for PMIERS, rating agency and insurance regulatory purposes. The GSEs' approvals of the reinsurance transactions are subject to

several conditions and the transactions will be reviewed under the PMIERS at least annually by the GSEs. We may not receive full credit under the PMIERS for the risk ceded under our quota share reinsurance transactions.

Excess of Loss Transaction. On October 30, 2018, MGIC entered into a fully collateralized reinsurance agreement with an unaffiliated special purpose insurer that provides for up to \$318.6 million of aggregate excess-of-loss reinsurance coverage on a portfolio of mortgage insurance policies with in force dates on or after July 1, 2016 and before January 1, 2018. MGIC will retain the first layer of \$168.7 million of aggregate losses, and the reinsurer will then provide second layer coverage up to the outstanding reinsurance coverage amount. The aggregate coverage decreases over a ten-year period as the underlying covered mortgages amortize, principal is prepaid or mortgage insurance losses are paid. For further information about our reinsurance agreements, including the Company's early termination rights, see [Note 9 – “Reinsurance,”](#) to our consolidated financial statements in Item 8.

CUSTOMERS

Originators of residential mortgage loans such as savings institutions, commercial banks, mortgage brokers, credit unions, mortgage bankers and other lenders have historically determined the placement of mortgage insurance written on a flow basis and as a result are our customers. To obtain primary insurance from us written on a flow basis, a mortgage lender must first apply for and receive a mortgage guaranty master policy from us. Our top 10 customers, none of whom represented more than 10% of our consolidated revenues, generated 24% of our NIW on a flow basis in 2018, compared to 23% in 2017 and 24% in 2016. Our largest customer accounted for approximately 5%, 4% and 5% of our flow NIW in 2018, 2017 and 2016, respectively. Our relationships with our customers could be adversely affected by a variety of factors, including if our premium rates are higher than those of our competitors, our underwriting requirements result in our declining to insure some of the loans originated by our customers and our insurance policy rescissions and claim curtailments that affect the customer. Information about some of the other factors that can affect a mortgage insurer's relationship with its customers can be found in our risk factor titled "Competition or changes in our relationships with our customers could reduce our revenues, reduce our premium yields and/or increase our losses" in Item 1A.

SALES AND MARKETING AND COMPETITION

Sales and Marketing. Our employees sell our insurance products throughout all regions of the United States and in Puerto Rico and Guam.

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Competition. Our competition includes other mortgage insurers, governmental agencies and products designed to eliminate the need to purchase private mortgage insurance. For flow business, we and other private mortgage insurers compete directly with federal and state governmental and quasi-governmental agencies, principally the FHA and the VA. The FHA, VA and USDA sponsor government-backed mortgage insurance programs, and it is estimated that during 2018, 2017 and 2016, they accounted for a combined approximately 56.8%, 61.4% and 63.9%, respectively, of the total low down payment residential mortgages which were subject to FHA, VA, USDA or primary private mortgage insurance. For more information about the market share of the FHA and the VA, see “Overview of the Private Mortgage Insurance Industry and its Operating Environment” above.

In addition to competition from the FHA, VA and USDA, we and other private mortgage insurers face competition from state-supported mortgage insurance funds in several states. From time to time, other state legislatures and agencies consider expanding the authority of their state governments to insure residential mortgages.

The PMI industry is highly competitive. We believe that we currently compete with other private mortgage insurers based on premium rates, underwriting requirements, financial strength (including based on creditor financial strength ratings), customer relationships, name recognition, reputation, the strength of our management team and field organization, the ancillary products and services provided to lenders, and the effective use of technology and innovation in the delivery and servicing of our mortgage insurance products.

The U.S. PMI industry currently consists of six active mortgage insurers and their affiliates. The names of these mortgage insurers can be found in our risk factor titled “Competition or changes in our relationships with our customers could reduce our revenues, reduce our premium yields and/or increase our losses” in Item 1A. Until 2010, the PMI industry had not had new entrants in many years. Since 2010, two public companies have been formed and begun writing business and a worldwide insurer and reinsurer with mortgage insurance operations in Europe completed the purchase of two competitors. Our market share (as measured by NIW) was 17.4% in 2018, compared to 18.3% in 2017 and 17.9% in 2016, in each case excluding HARP refinances. (source: Inside Mortgage Finance). If we are unable to compete effectively in the current or any future markets as a result of the financial strength ratings assigned to our insurance subsidiaries, our future new insurance written could be negatively affected. Substantially all of our insurance written since 2008 has been for loans purchased by the GSEs. The

GSEs' current PMIERS do not require an insurer to maintain minimum financial strength ratings. However, depending on the evolution of housing finance reform, the level of issuances of non-GSE MBS may increase in the future. Financial strength ratings may be considered by issuers of non-GSE MBS in determining whether to purchase private mortgage insurance for loans supporting such securities. In assigning financial strength ratings, in addition to considering the adequacy of the mortgage insurer's capital to withstand very high claim scenarios under assumptions determined by the rating agency, we believe rating agencies review a mortgage insurer's historical and projected operating performance, franchise risk, business outlook, competitive position, management, corporate strategy, and other factors. The rating agency issuing the financial strength rating can withdraw or change its rating at any time. At the time that this annual report was finalized, the financial strength of MGIC was rated Baa2 (with a stable outlook) by Moody's Investors Service, BBB+ (with a stable outlook) by Standard & Poor's Rating Services and A- (with a stable outlook) by A.M. Best.

RISK MANAGEMENT

Enterprise Risk Management. The Company has an enterprise risk management (“ERM”) framework that it believes is commensurate with the size, nature and complexity of the Company's business activities (all of which relate to insuring or reinsuring mortgage credit risk) and strategies. Among the key objectives of the ERM framework are to

have a clear and well documented shared understanding, by senior management and the Board, of the Company's risk management philosophy and overall appetite for risk, and that there are appropriate monitoring, management and reporting mechanisms to support the framework.

Risk Governance. The Company maintains a Senior Management Oversight Committee ("SMOC") that, at the management level, serves as its primary risk management governance organization. The SMOC seeks to maintain an enterprise-wide view of risk. The SMOC oversees the Company's ERM framework; oversees the risks associated with strategic and business issues critical to the Company, monitoring the Company's risk profile across the set of identified key risks (see "Risk Identification and Assessment" below); and supports the Risk Management Committee of the Company's Board of Directors ("RMC"). The SMOC, of which the CEO is a member, is chaired by the Company's Executive Vice President and Chief Risk Officer, who is the principal management liaison to the RMC.

Risk Management and Controls. The Company's management of risk uses the "three lines of defense" model. The front-line business units, whose activities create inherent risk exposures, represent the "first line of defense." Front-line business units are responsible for ensuring risks are taken and managed within the

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guidelines established by the Company's Risk Management ("RM") group.

RM, along with the Company's separate compliance program, comprise the "second line of defense" and are management and oversight functions that are primarily responsible for many aspects of the management of risk. RM is generally responsible for the ERM framework, for policies and metrics that dimension the risk tolerances of the Company's business activities and for measurement and assessment of all key risks and reporting of those risks to the SMOC and the RMC.

Internal Audit forms the "third line of defense" and serves in an independent assurance capacity. It reports to senior management and the Audit Committee of the Board regarding the effectiveness of the first and second lines of defense. Internal Audit is responsible for establishing a comprehensive audit plan that covers all functions and identified material risks of the Company, communication of any material deficiencies to the SMOC and the Audit Committee, and determining whether corrective actions fully remediate any noted deficiencies.

Risk Identification and Assessment. The Company completes an annual key risk identification and assessment process that is focused on identifying and assessing those risks with the potential to have the greatest impact on the Company's ability to accomplish its strategic goals. These key risks include both risks that are, at least in part, internal to the Company (e.g., mortgage credit risk) and therefore, at least in part, within management's direct control, as well as, risks that are external to the Company (e.g., business risk) and outside of management's direct control. The results of the identification and assessment are reviewed and approved annually by both the SMOC and the RMC.

Risk Appetite. The Company has established risk appetite statements for each of its key risks, as well as quantitative or qualitative metrics used as thresholds for dimensioning the risk appetite for each key risk. The resulting risk appetite statements and associated metrics are reviewed and approved annually by the SMOC and the RMC.

Risk Reporting and Communication. RM produces various analyses, reports and key risk indicators ("KRIs") that are reported to the SMOC, the RMC and the Board quarterly. For our largest risk exposure, mortgage credit risk, these KRIs include risk factors for the Company's NIW, IIF, quality control and claim activity.

Although the Company has in place the ERM framework discussed above, it may not be effective in identifying, or adequate in controlling or mitigating, the risks we face. For more information, see our Risk Factor titled "If our risk management programs are not effective in identifying, or adequate in controlling or mitigating, the risks we face, or if the models used in our businesses

are inaccurate, it could have a material adverse impact on our business, results of operations and financial condition" in Item 1A.

MORTGAGE CREDIT RISK

We believe that mortgage credit risk is materially affected by:

- the condition of the economy, including the direction of change in home prices and employment, in the area in which the property is located;
- the borrower's credit profile, including the borrower's credit history, DTI ratio and cash reserves, and the willingness of a borrower with sufficient resources to make mortgage payments when the mortgage balance exceeds the value of the home;
-

the loan product, which encompasses the LTV ratio, the type of loan instrument, including whether the instrument provides for fixed or variable payments and the amortization schedule, the type of property and the purpose of the loan;

• origination practices of lenders and the percentage of coverage on insured loans; and
• the size of insured loans.

We believe that, excluding other factors, claim incidence increases:

- during periods of economic contraction and home price depreciation, including when these conditions may not be nationwide, compared to periods of economic expansion and home price appreciation;
- for loans to borrowers with lower FICO scores compared to loans to borrowers with higher FICO scores;
- for loans to borrowers with higher DTI ratios compared to loans to borrowers with lower DTI ratios;
- for loans with less than full underwriting documentation compared to loans with full underwriting documentation;
- for loans with higher LTV ratios compared to loans with lower LTV ratios;
- for ARMs when the reset interest rate significantly exceeds the interest rate at the time of loan origination;
- for loans that permit the deferral of principal amortization compared to loans that require principal amortization with each monthly payment;

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for loans in which the original loan amount exceeds the conforming loan limit compared to loans below that limit; and for cash out refinance loans compared to rate and term refinance loans.

Other types of loan characteristics relating to the individual loan or borrower may also affect the risk potential for a loan. The presence of a number of higher-risk characteristics in a loan materially increases the likelihood of a claim on such a loan unless there are other characteristics to mitigate the risk.

We charge higher premium rates to reflect the increased risk of claim incidence that we perceive is associated with a loan. Not all higher risk characteristics are reflected in our premium rates; however, in the first quarter of 2019 we introduced MiQ™, our loan level pricing system that establishes our premium rates based on more risk attributes than were considered in 2018. There can be no assurance that our premium rates adequately reflect the increased risk, particularly in a period of economic recession, high unemployment, slowing home price appreciation or home price declines. For additional information, see our risk factors in [Item 1A](#), including the one titled “The premiums we charge may not be adequate to compensate us for our liabilities for losses and as a result any inadequacy could materially affect our financial condition and results of operations.”

Underwriting Insurance Applications. Applications for mortgage insurance are submitted to us through both our delegated and non-delegated options. Under the delegated option, applications are submitted to us electronically and we rely upon the lender’s representations and warranties that the data submitted is true, accurate and consistent with the documents in the lender’s loan origination file, when making our insurance decision. If the loan data submitted meets the underwriting requirements, a commitment to insure the loan is immediately issued. If the requirements are not met, the loan is reviewed by one of our underwriters. Non-delegated applications are submitted with documents from the lender’s loan origination file. During loan set-up, data is entered from those application documents and electronically evaluated against our

underwriting requirements. An internally generated feedback report guides the mortgage insurance review as a full review of the mortgage documents is performed by one of our underwriters. If the loan meets the underwriting requirements, a commitment to insure the loan is issued.

Beginning in 2013, we aligned most of our underwriting requirements with Fannie Mae and Freddie Mac for loans that receive and are processed in accordance with certain approval recommendations from a GSE automated underwriting system. Our underwriting requirements are available on our website at <http://www.mgic.com/underwriting/index.html>. Our underwriters are authorized to approve loans that do not meet all of our underwriting requirements provided appropriate offsetting factors can be identified.

EXPOSURE TO CATASTROPHIC LOSSES; DELINQUENCIES; CLAIMS; LOSS MITIGATION

Exposure to Catastrophic Losses. The PMI industry experienced catastrophic losses in the mid-to-late 1980s, similar to the losses we experienced in 2007-2013. For background information about such losses in 2007-2013, refer to “General – Overview of Private Mortgage Insurance Industry and its Operating Environment” above.

Delinquencies. The claim cycle on PMI generally begins with the insurer’s receipt of notification of a delinquency on an insured loan from the loan servicer. We consider a loan to be delinquent when it is two or more payments past due. Most servicers report delinquent loans to us within this two month period. The incidence of delinquency is affected by a variety of factors, including the level of borrower income growth, unemployment, health issues, family status, the level of interest rates, rates of home price appreciation or depreciation and general borrower creditworthiness. Delinquencies that are not cured result in a claim to us. See “– Claims.” Delinquencies may be cured by the borrower

bringing current the delinquent loan payments or by a sale of the property and the satisfaction of all amounts due under the mortgage. In addition, when a policy is rescinded or a claim is denied we remove the loan from our delinquency inventory.

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The following table shows the number of insured primary and pool loans in the MGIC Book, the related number of delinquent loans and the percentage of delinquent loans, or delinquency rate, as of December 31, 2014-2018.

Delinquency statistics for the MGIC book

	December 31,				
	2018	2017	2016	2015	2014
Primary Insurance:					
Insured loans in force	1,058,292	1,023,951	998,294	992,188	968,748
Delinquent loans	32,898	46,556	50,282	62,633	79,901
Delinquency rate – all loans	3.1%	4.6%	5.0%	6.3%	8.3%
Defaulted loans in our claims received inventory	809	954	1,385	2,769	4,746
Pool Insurance:					
Insured loans in force	23,675	31,364	39,071	52,189	62,869
Delinquent loans	859	1,309	1,883	2,739	3,797
Delinquency rate	3.6%	4.2%	4.8%	5.3%	6.0%

Different geographical areas may experience different delinquency rates due to varying localized economic conditions from year to year and the amount of time it takes for foreclosures to be completed for uncured delinquencies. The following table shows the percentage of primary loans we insured that were delinquent as of December 31, 2018, 2017 and 2016 for the 15 jurisdictions for which we paid the most claims during 2018.

Jurisdiction delinquency rates

	December 31,		
	2018	2017	2016
New Jersey*	4.6 %	7.3 %	11.3 %
New York*	6.1	8.0	10.5
Florida*	3.9	9.5	6.6
Illinois*	3.3	4.1	5.5
Maryland	4.1	5.4	7.4
Pennsylvania*	3.2	4.2	5.3
California	2.2	2.6	3.1
Puerto Rico*	10.3	24.2	10.7
Ohio*	2.6	3.2	4.2
Massachusetts	3.2	4.1	6.1
Connecticut*	3.5	4.4	5.6
Virginia	2.1	2.8	3.8
Georgia	3.4	4.5	5.5
Texas	3.6	6.0	4.8
Michigan	2.3	2.9	3.4
All other jurisdictions	2.6	3.3	4.2

Note: Asterisk denotes jurisdictions in the table above that predominantly use a judicial foreclosure process, which generally increases the amount of time for a foreclosure to be completed.

We believe the increase in delinquency rates from 2016 to 2017 in Florida, Puerto Rico and Texas reflect the impact of the 2017 hurricanes experienced in those areas. Based on our analysis and past experience, we do not expect the

2017 hurricane activity to result in a material increase in our incurred losses or paid claims.

The primary delinquency inventory in those same jurisdictions as of December 31, 2018, 2017 and 2016 appears in a table found in “Management’s Discussion and Analysis – Consolidated Results of Operations – Losses and expenses – Loss Reserves,” in Item 7.

Claims. Claims result from delinquencies that are not cured or a short sale that we approve. Whether a claim results from an uncured delinquency depends, in large part, on the borrower’s equity in the home at the time of delinquency, the borrower’s or the lender’s ability to sell the home for an amount sufficient to satisfy all amounts due under the mortgage and the willingness and ability of the borrower and lender to enter into a loan modification that provides for a cure of the delinquency. Various factors affect the frequency and amount of claims, including local home prices and employment levels, and interest rates. If a delinquency goes to claim, any premium collected from the time of delinquency to the time of claim payment is returned to the servicer along with the claim payment.

Under the terms of our master policy, the lender is required to file a claim for primary insurance with us within 60 days after it has acquired title to the underlying property (typically through foreclosure). For the past several years, the average time it took to receive a claim associated with a delinquency increased significantly from our historical experience of approximately twelve months, in part, due to new loss mitigation protocols established by servicers and to changes in some state foreclosure laws that may include, for example, a requirement for additional review and/or mediation processes. Recently, the average time

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for servicers to process foreclosures has decreased, which has reduced the average time to receive a claim associated with new delinquent notices that do not cure. It is difficult to estimate how long it may take for current and future delinquencies that do not cure to develop into paid claims.

Within 60 days after a claim has been filed and all documents required to be submitted to us have been delivered, we have the option of either (1) paying the coverage percentage specified for that loan, with the insured retaining title to the underlying property and receiving all proceeds from the eventual sale of the property (we have elected this option for the vast majority of claim payments in the recent past), or (2) paying 100% of the claim amount in exchange for the lender's conveyance to us of good and marketable title to the property. After we receive title to a property, we sell it for our own account. If we fail to pay a claim timely, we would be subject to additional interest expense.

Claim activity is not evenly spread throughout the coverage period of a book of primary business. Relatively few claims are typically received during the first two years following issuance of coverage on a loan. This is typically followed by a period of rising claims which, based on industry experience, has historically reached its highest level in the third and fourth years after the year of loan origination. Thereafter, the number of claims typically received has historically declined at a gradual rate, although the rate of decline can be affected by conditions in the economy, including slowing home price appreciation or home price depreciation. Moreover, when a loan is refinanced, because the new loan replaces, and is a continuation of, an earlier loan, the pattern of claims frequency for that new loan may be different from the historical pattern for other loans. Persistency, the condition of the economy, including unemployment, and other factors can affect the pattern of claim activity. For example, a weak economy can lead to claims from older books of business increasing, continuing at stable levels or experiencing a lower rate of decline. As of December 31, 2018, 59% of our primary RIF was written subsequent to December 31, 2015, 70% of our primary RIF was written subsequent to December 31, 2014, and 76% of our primary RIF was written subsequent to December 31, 2013. See "Our Products and Services – Mortgage Insurance – Primary Insurance In Force and Risk In Force by Policy Year" above.

Another important factor affecting MGIC Book losses is the amount of the average claim size, which is generally referred to as claim severity. The main determinants of claim severity are the amount of the mortgage loan, the coverage percentage on the loan, loss mitigation efforts and local market conditions. For information about our primary average claim paid, see "Management's Discussion and Analysis – Consolidated Results of Operations – Net Losses and LAE Paid," in [Item 7](#).

Net losses paid and primary losses paid for the top 15 jurisdictions and all other jurisdictions for 2018, 2017 and 2016 appear in tables found in "Management's Discussion and Analysis – Consolidated Results of Operations – Losses and expenses – Net Losses and LAE Paid," in [Item 7](#).

Loss Mitigation.

Before paying a claim, we review the loan and servicing files to determine the appropriateness of the claim amount. Our insurance policies generally provide that we can reduce or deny a claim if the servicer did not comply with its obligations under our insurance policy, including the requirement to mitigate our loss by performing reasonable loss mitigation efforts or, for example, diligently pursuing a foreclosure or bankruptcy relief in a timely manner. We call such reduction of claims submitted to us "curtailments." In each of 2018 and 2017, curtailments reduced our average claim paid by approximately 5.8% and 5.6%, respectively.

When reviewing the loan file associated with a claim, we may determine that we have the right to rescind coverage on the loan. In our SEC reports, we refer to insurance rescissions and denials of claims as "rescissions" and variations of

this term. The circumstances in which we are entitled to rescind coverage narrowed under more restrictive policy terms beginning in 2012. As of December 31, 2018, approximately 82% of our IIF was written under the more restrictive terms. We expect a new version of our master policy, containing more restrictive terms to be effective for business beginning in the third or fourth quarter of 2019. For more information, see our Risk Factor titled "The mix of business we write affects our Minimum Required Assets under the PMIERS, our premium yields and the likelihood of losses occurring" in Item 1A. In recent quarters, an immaterial percentage of claims received in a quarter have been resolved by rescissions. We do not expect future rescissions will be a significant portion of the claims we resolve over the next few years.

Our loss reserving methodology incorporates our estimates of future rescissions, curtailments, and reversals of rescissions and curtailments. When we rescind coverage, we return all premiums previously paid to us under the policy and are relieved of our obligation to pay a claim under the policy. A variance between ultimate actual rescission, curtailment or reversal rates and our estimates, as a result of the outcome of litigation, settlements or other factors, could materially affect our losses.

When the insured disputes our right to rescind coverage or curtail a claim, we generally engage in discussions in an attempt to settle the dispute. If we are unable to reach a settlement, the outcome of a dispute ultimately may be determined by legal proceedings. Under ASC 450-20, until a liability associated with settlement discussions or legal proceedings becomes probable and

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can be reasonably estimated, we consider our claim payment or rescission resolved for financial reporting purposes and do not accrue an estimated loss. Where we have determined that a loss is probable and can be reasonably estimated, we have recorded our best estimate of our probable loss.

In addition to matters for which we have recorded a probable loss, we are involved in other discussions and/or proceedings with insureds with respect to our claims paying practices. Although it is reasonably possible that when these matters are resolved we will not prevail in all cases, we are unable to make a reasonable estimate or range of estimates of the potential liability. We estimate the maximum exposure associated with matters where a loss is reasonably possible to be approximately \$279 million, although we believe (but can give no assurance that) we will ultimately resolve these matters for significantly less than this amount. This estimate of our maximum exposure does not include interest or consequential or exemplary damages.

Although loan modification programs continued to mitigate our losses in 2018, their impact has decreased significantly from the impact we experienced in 2008-2012.

LOSS RESERVES

A significant period of time typically elapses between the time when a borrower becomes delinquent on a mortgage payment, which is the event triggering a potential future claim payment by us, the reporting of the delinquency to us, the acquisition of the property by the lender (typically through foreclosure) or the sale of the property with our approval, and the eventual payment of the claim related to the uncured delinquency or a rescission. To recognize the estimated liability for losses related to outstanding reported delinquencies, or delinquency inventory, we establish loss reserves. Loss reserves are established by estimating the number of loans in our delinquency inventory that will result in a claim payment, which is referred to as the claim rate, and further estimating the amount of the claim payment, which is referred to as claim severity. Our loss reserve estimates are established based upon historical experience, including rescission and curtailment activity. In accordance with GAAP for the mortgage insurance industry, we generally do not establish loss reserves for future claims on insured loans that are not currently delinquent.

We also establish reserves to provide for the estimated costs of settling claims, general expenses of administering the claims settlement process, legal fees and other fees (“loss adjustment expenses”), and for losses and loss adjustment expenses from delinquencies that have occurred, but which have not yet been reported to us.

Our reserving process bases our estimates of future events on our past experience. However, estimation of loss reserves is inherently judgmental and conditions that have affected the development of the loss reserves in the past may not necessarily affect development patterns in the future, in either a similar manner or degree. For further information, see our risk factors in [Item 1A](#), including the ones titled “Because we establish loss reserves only upon a loan delinquency rather than based on estimates of our ultimate losses on risk in force, losses may have a disproportionate adverse effect on our earnings in certain periods,” and “Because loss reserve estimates are subject to uncertainties, paid claims may be substantially different than our loss reserves.”

Our losses incurred from our RIF have declined in recent years in part due to the improving economy, the run-off of the insurance policies we wrote before the financial crisis and the credit quality of insurance policies written since the financial crisis. These factors resulted in fewer delinquent loans, as well as an improved cure rate on delinquent loans. Our losses incurred were \$36.6 million in 2018, compared to \$53.7 million in 2017 and \$240.2 million in 2016. For information about the decrease in losses incurred from 2016 to 2018, see “Management’s Discussion and Analysis – Consolidated Results of Operations – Losses and expenses – Losses incurred, net,” in [Item 7](#).

C. Investment Portfolio
POLICY AND STRATEGY

At December 31, 2018, the fair value of our investment portfolio was approximately \$5.2 billion. In addition, at December 31, 2018, our total assets included approximately \$152 million of cash and cash equivalents. At December 31, 2018, approximately \$248 million of investments and cash and cash equivalents was held by our parent company, and the remainder was held by our subsidiaries, primarily MGIC.

As of December 31, 2018, approximately 77% of our investment portfolio (excluding cash and cash equivalents) was managed by Wellington Management Company, LLP, although we maintain overall control of investment policy and strategy. We maintain direct management of the remainder of our investment portfolio. Unless otherwise indicated, the remainder of the discussion regarding our investment portfolio refers to our investment portfolio only and not to cash and cash equivalents.

The investment policy of our operating companies (primarily MGIC) emphasizes preservation of PMIERS assets, limiting portfolio volatility and maximizing total return with an emphasis on yield (subject to the other objectives). Our holding company investment policy emphasizes providing liquidity with minimal realized losses through holding high credit quality, low volatility

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assets. Consequently, our investment portfolio consists almost entirely of high-quality, investment grade, fixed income securities. Our investment portfolio strategy considers tax efficiency. The mix of tax-exempt municipal securities in our investment portfolio will be dependent upon their value, relative to taxable equivalent securities, determined in part by federal statutory tax rates. Our investment policies and strategies are subject to change depending upon regulatory, economic and market conditions and our existing or anticipated financial condition and operating requirements.

Our investment policies in effect at December 31, 2018 limit investments in the securities of a single issuer, other than the U.S. government, and generally limit the purchase of fixed income securities to those that are rated investment grade by at least one rating agency. They also limit the amount of investment in foreign governments and foreign domiciled securities and in any individual foreign country. In addition, the guidelines require maintenance of weighted average credit quality of at least an "A" rating.

The aggregate market value of the holdings of a single obligor, or type of investment, as applicable, is limited to:

U.S. government and GNMA securities	No limit
Pre-refunded municipals escrowed in Treasury securities	No limit
Individual U.S. government agencies ⁽¹⁾	10% of portfolio market value
Individual securities rated "AAA" or "AA"	3% of portfolio market value
Individual securities rated "BBB" or "A"	2% of portfolio market value
Foreign governments & foreign domiciled securities (in total) ⁽³⁾	20% of portfolio market value

(1) As used with respect to our investment portfolio, U.S. government agencies include all GSEs and Federal Home Loan Banks.

(2) For the holding company, individual securities with a rating of "AA" or "AAA" may represent a maximum 10% of the portfolio market value and individual securities with a rating of "BBB" or "A" may represent a maximum 5%.

(3) For the holding company, there is no maximum aggregate limit for foreign government or foreign domiciled securities.

For information about the credit ratings of securities in our investment portfolio, see "[Balance Sheet Review](#)" in [Item 7](#).

Investment Operations

At December 31, 2018, the sectors of our investment portfolio were as shown in the table below:

Investment portfolio - sectors

	Percentage of Portfolio's Fair Value
1. Corporate	47%
2. Tax-Exempt Municipals	22
3. Asset-Backed	14
4. Taxable Municipals	11
5. U.S. government and agency debt	3
6. GNMA and other agency mortgage-backed securities	3
	100%

We had no derivative financial instruments in our investment portfolio. Securities with stated maturities due within up to one year, after one year and up to five years, after five years and up to ten years, and after ten years, represented

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9%, 32%, 19% and 23%, respectively, of the total fair value of our investment in fixed income debt securities. Asset-backed and mortgage-backed securities are not included in these maturity categories as the expected maturities may be different from the stated maturities depending on the periodic payments during the life of the security. Asset-backed securities represent 14% of the investment portfolio (CLOs represent 6%, CMBS represent 5% and other asset-backed securities represent 3%). GNMA and other agency mortgage-backed securities represent 3% of the investment portfolio. Our pre-tax yield was 3.1%, 2.7% and 2.6% for 2018, 2017, and 2016, respectively, and our after-tax yield was 2.6%, 2.0% and 1.9% for 2018, 2017, and 2016, respectively.

Our ten largest holdings at December 31, 2018 appear in the table below:

Investment portfolio - top ten largest holdings

	Fair Value (In thousands)
1. New York St Dorm Auth Rev	\$ 57,035
2. Goldman Sachs Group	51,400
3. JP Morgan Chase	38,678
4. Wells Fargo and Company	36,698
5. Chicago Ill Tran Auth and O Hare Apt	35,894
6. Pennsylvania St Turnpike Comm	35,033
7. Citigroup Inc	33,212
8. New York City NY Transitional	32,113
9. Metropolitan Trans Auth NY	31,459
10. Bank of America Corp	31,438
	\$ 382,960

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Note: This table excludes securities issued by the U.S. government or U.S. government agencies.

For further information concerning investment operations, see [Note 5 – “Investments,”](#) to our consolidated financial statements in Item 8.

D. Regulation

Direct Regulation

We are subject to comprehensive, detailed regulation by state insurance departments. These regulations are principally designed for the protection of our insured policyholders, rather than for the benefit of investors. Although their scope varies, state insurance laws generally grant broad supervisory powers to agencies or officials to examine insurance companies and enforce rules or exercise discretion affecting almost every significant aspect of the insurance business.

In general, regulation of our subsidiaries' businesses relates to:

- licenses to transact businesses;
- policy forms;
- premium rates;
- insurable loans;
- annual and other reports on financial condition;
- the basis upon which assets and liabilities must be stated;
- requirements regarding contingency reserves equal to 50% of premiums earned;
- minimum capital levels and adequacy ratios;
- reinsurance requirements;
- limitations on the types of investment instruments which may be held in an investment portfolio;
- privacy;
- deposits of securities;
- transactions among affiliates;
- cybersecurity
- limits on dividends payable;
- suitability of officers and directors; and
- claims handling.

Wisconsin has adopted the Risk Management and Own Risk and Solvency Assessment Act, which requires, among other things, that we:

- no less than annually, conduct an Own Risk and Solvency Assessment ("ORSA") to assess the material risks associated with our business and our current and estimated projected future solvency position;
- maintain a risk management framework to assess, monitor, manage and report on material risks;
- provide a confidential high-level ORSA Summary Report annually to the OCI; and
- Provide an Enterprise Risk Management Report annually to the OCI.

The insurance laws of 16 jurisdictions, including Wisconsin, our domiciliary state, require a mortgage insurer to maintain a minimum amount of statutory capital relative to the RIF (or a similar measure) in order for the mortgage insurer to continue to write new business. We refer to these requirements as the “State Capital Requirements.” While they vary among jurisdictions, currently the most common State Capital Requirements allow for a maximum risk-to-capital ratio of 25 to 1. Wisconsin does not regulate capital by using a risk-to-capital measure but instead requires a minimum policyholder position. The “policyholder position” of a mortgage insurer is its net worth or surplus,

contingency reserve and a portion of the reserves for unearned premiums.

At December 31, 2018, MGIC's risk-to-capital ratio was 9.0 to 1, below the maximum allowed by the jurisdictions with State Capital Requirements, and its policyholder position was \$2.6 billion above the required MPP of \$1.3 billion.

The NAIC plans to revise the minimum capital and surplus requirements for mortgage insurers that are provided for in its Mortgage Guaranty Insurance Model Act. A working group of state regulators has been considering since 2016 a risk-based framework to establish capital requirements for mortgage insurers, although no date has been established by which the NAIC must propose revisions to the capital requirements. See our risk factors "We may not continue to meet the GSEs' mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain significantly more capital in order to maintain our eligibility" and "State Capital requirements may prevent us from continuing to write new insurance on an uninterrupted basis" in Item 1A, for information about regulations governing our capital adequacy and our expectations regarding our future capital position. See "Management's Discussion and Analysis – Liquidity and Capital Resources – Capital Adequacy" in Item 7 for information about our current capital position.

Most states also regulate transactions between insurance companies and their parents or affiliates and have restrictions on transactions that have the effect of inducing lenders to place business with the insurer. For a description of limits on dividends payable to us from MGIC, see Note 14 – "Statutory Information," to our consolidated financial statements in Item 8.

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Mortgage insurance premium rates are also subject to state regulation to protect policyholders against the adverse effects of excessive, inadequate or unfairly discriminatory rates and to encourage competition in the insurance marketplace. Any increase in premium rates must be justified, generally on the basis of the insurer's loss experience, expenses and future trend analysis. The general mortgage default experience may also be considered. Premium rates are subject to review and challenge by state regulators.

We are required to establish statutory accounting contingency loss reserves in an amount equal to 50% of net earned premiums. These amounts cannot be withdrawn for a period of 10 years, except as permitted by insurance regulations. With regulatory approval a mortgage guaranty insurance company may make early withdrawals from the contingency reserve when incurred losses exceed 35% of net premiums earned in a calendar year. For further information, see [Note 14 – "Statutory Information,"](#) to our consolidated financial statements in Item 8.

Mortgage insurers are generally single-line companies, restricted to writing residential mortgage insurance business only. Although we, as an insurance holding company, are prohibited from engaging in certain transactions with MGIC or our other insurance subsidiaries without submission to and, in some instances, prior approval by applicable insurance departments, we are not subject to insurance company regulation on our non-insurance businesses.

Wisconsin's insurance regulations generally provide that no person may acquire control of us unless the transaction in which control is acquired has been approved by the OCI. The regulations provide for a rebuttable presumption of control when a person owns or has the right to vote more than 10% of the voting securities. In addition, the insurance regulations of other states in which MGIC is licensed require notification to the state's insurance department a specified time before a person acquires control of us. If regulators in these states disapprove the change of control, our licenses to conduct business in the disapproving states could be terminated. For further information about regulatory proceedings applicable to us and our industry, see "We are involved in legal proceedings and are subject to the risk of additional legal proceedings in the future" in [Item 1A](#).

The CFPB was established by the Dodd-Frank Act to regulate the offering and provision of consumer financial products or services under federal law. The CFPB's rules implementing laws that require mortgage lenders to make ability-to-pay determinations prior to extending credit affect the characteristics of loans being originated and the volume of loans available to be insured. We are uncertain whether the CFPB will issue any other rules or regulations that affect our business.

Such rules and regulations could have a material adverse effect on us.

As the most significant purchasers and sellers of conventional mortgage loans and beneficiaries of private mortgage insurance, Freddie Mac and Fannie Mae impose financial and other requirements on private mortgage insurers in order for them to be eligible to insure loans sold to the GSEs (these requirements are referred to as the "PMIERS", as discussed above). These requirements are subject to change from time to time. Based on our interpretation of the financial requirements of the PMIERS, as of December 31, 2018, MGIC's Available Assets totaled \$4.8 billion, or \$1.4 billion in excess of its Minimum Required Assets. MGIC is in compliance with the requirements of the PMIERS and eligible to insure loans purchased by the GSEs. If MGIC ceases to be eligible to insure loans purchased by one or both of the GSEs, it would significantly reduce the volume of our new business writings. For information about matters that could negatively affect our compliance with the PMIERS, see our risk factor titled "We may not continue to meet the GSEs' mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain significantly more capital in order to maintain our eligibility" in [Item 1A](#).

Revised PMIERS were published in September 2018 and will become effective March 31, 2019. If the revised PMIERS had been effective as of December 31, 2018, we estimate that MGIC's pro forma excess of Available Assets over Minimum Required Assets would have been approximately \$1 billion. The decrease in the pro forma excess from the reported excess of \$1.4 billion is primarily due to the elimination of any credit for future premiums that had previously been allowed for certain insurance policies.

The FHFA is the conservator of the GSEs and has the authority to control and direct their operations. The increased role that the federal government has assumed in the residential mortgage market through the GSE conservatorship may increase the likelihood that the business practices of the GSEs change, including through administrative action, in ways that have a material adverse effect on us and that the charters of GSEs are changed by new federal legislation. In the past, members of Congress introduced several bills intended to scale back the GSEs; however, no legislation has been enacted. The Administration issued a June 2018 report indicating that the conservatorship of the GSEs should end and that the GSEs should transition to fully private entities, competing on a level playing field with private issuers of mortgage-backed securities ("MBS") (such issuers, collectively with the GSEs, referred to in the report as the "guarantors"). The report further indicated that a federal entity should regulate the guarantors, including their capital adequacy, and that guarantors should have access to an explicit federal guarantee on the MBS that is exposed only after substantial losses

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are incurred by the private market, including the guarantors. It is unclear whether and when that would occur and how that would impact us. As a result of the matters referred to above, it is uncertain what role the GSEs, FHA and private capital, including private mortgage insurance, will play in the domestic residential housing finance system in the future or the impact of any such changes on our business. In addition, the timing of the impact of any resulting changes on our business is uncertain. Most meaningful changes would require Congressional action to implement and it is difficult to estimate when Congressional action would be final and how long any associated phase-in period may last. For additional information about the potential impact that any such changes in the GSE's roles may have on us, see the risk factor titled "Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses" in [Item 1A](#).

In December 2013, the U.S. Treasury Department's Federal Insurance Office released a report that calls for federal standards and oversight for mortgage insurers to be developed and implemented. It is uncertain if and when the standards and oversight will become effective and what form they will take.

Indirect Regulation

We are also indirectly, but significantly, impacted by regulations affecting purchasers of mortgage loans, such as Freddie Mac and Fannie Mae, and regulations affecting governmental insurers, such as the FHA and the VA, and lenders. See our risk factor titled "Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses" in Item 1A for a discussion of how potential changes in the GSEs' business practices could affect us. Private mortgage insurers, including MGIC, are highly dependent upon federal housing legislation and other laws and regulations to the extent they affect the demand for private mortgage insurance and the housing market generally. From time to time, those laws and regulations have been amended in ways that affect competition from government agencies. Proposals are discussed from time to time by Congress and certain federal agencies to reform or modify the FHA and the Government National Mortgage Association, which securitizes mortgages insured by the FHA.

Subject to certain exceptions, in general, RESPA prohibits any person from giving or receiving any "thing of value" pursuant to an agreement or understanding to refer settlement services.

The Office of the Comptroller of the Currency, the Federal Reserve Board, and the Federal Deposit Insurance Corporation have uniform guidelines on real estate lending by insured lending institutions under their

supervision. The guidelines specify that a residential mortgage loan originated with a loan-to-value ratio of 90% or greater should have appropriate credit enhancement in the form of mortgage insurance or readily marketable collateral, although no depth of coverage percentage is specified in the guidelines.

Lenders are subject to various laws, including the Home Mortgage Disclosure Act, the Community Reinvestment Act, the Equal Credit Opportunity Act, the Truth in Lending Act, the Fair Credit Reporting Act, the Gramm-Leach-Bliley Act, and the Fair Housing Act, and Fannie Mae and Freddie Mac are subject to various laws, including laws relating to government sponsored enterprises, which may impose obligations or create incentives for increased lending to low and moderate income persons, or in targeted areas.

There can be no assurance that other federal laws and regulations affecting these institutions and entities will not change, or that new legislation or regulations will not be adopted which will adversely affect the private mortgage insurance industry. In this regard, see the risk factor titled "Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses"

in Item 1A.

E. Employees

At December 31, 2018, we had 793 full- and part-time employees, approximately 34% of whom were assigned to our field offices. The number of employees given above does not include “on-call” employees. The number of “on-call” employees can vary substantially, primarily as a result of changes in demand for contract underwriting services. In recent years, the number of “on-call” employees has ranged from fewer than 40 to more than 110.

F. Website Access

We make available, free of charge, through our Internet website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file these materials with the Securities and Exchange Commission. The address of our website is <http://mtg.mgic.com>, and such reports and amendments are accessible through the “Reports & Filings” link at such address. The inclusion of our website address in this report is an inactive textual reference only and is not intended to include or incorporate by reference the information on our website into this report.

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Item 1A. Risk Factors

As used below, “we,” “our” and “us” refer to MGIC Investment Corporation’s consolidated operations or to MGIC Investment Corporation, as the context requires; and “MGIC” refers to Mortgage Guaranty Insurance Corporation.

Our actual results could be affected by the risk factors below. These risk factors are an integral part of this annual report. These risk factors may also cause actual results to differ materially from the results contemplated by forward looking statements that we may make. Forward looking statements consist of statements which relate to matters other than historical fact, including matters that inherently refer to future events. Among others, statements that include words such as “believe,” “anticipate,” “will” or “expect,” or words of similar import, are forward looking statements. We are not undertaking any obligation to update any forward looking statements or other statements we may make even though these statements may be affected by events or circumstances occurring after the forward looking statements or other statements were made. No reader of this annual report should rely on these statements being current at any time other than the time at which this annual report was filed with the Securities and Exchange Commission.

Competition or changes in our relationships with our customers could reduce our revenues, reduce our premium yields and / or increase our losses.

Our private mortgage insurance competitors include:

▲ Arch Mortgage Insurance Company,

◆ Essent Guaranty, Inc.,

Ⓒ Genworth Mortgage Insurance Corporation,

Ⓔ National Mortgage Insurance Corporation, and

Ⓓ Radian Guaranty Inc.

The private mortgage insurance industry is highly competitive and is expected to remain so. We believe that we currently compete with other private mortgage insurers based on premium rates, underwriting requirements, financial strength (including based on credit or financial strength ratings), customer relationships, name recognition, reputation, the strength of our management team and field organization, the ancillary products and services provided to lenders and the effective use of technology and innovation in the delivery and servicing of our mortgage insurance products.

Much of the competition in the industry in the last few years has centered on pricing practices which have included: (i) reductions in standard filed rates for borrower-paid mortgage insurance policies (“BPMI”); (ii) use by competitors of a spectrum of filed rates to allow for formulaic, risk-based pricing that may be adjusted more frequently within certain parameters (referred to as “loan level pricing systems”); and (iii) use of customized rates (discounted from standard rates) that are made available to lenders that meet certain criteria.

We monitor various competitive and economic factors while seeking to balance both profitability and market share considerations in developing our pricing strategies. We reduced certain of our rates in 2018, which will reduce our premium yield (net premiums earned divided by the average insurance in force) over time as older insurance policies with higher premium rates run off and new insurance policies with lower premium rates are written.

In 2018, we continued to evolve our pricing from a standard rate card approach, where premium rates vary based on relatively few attributes, to a more granular approach, where more attributes are considered. In the first quarter of 2019, we introduced MiQ™, our loan level pricing system that establishes our premium rates based on more risk attributes than were considered in 2018. The widespread use of loan level pricing systems by the private mortgage industry will make it more difficult to compare our rates to those offered by our competitors. We may not be aware of industry changes until we observe that our volume of new insurance written (“NIW”) has changed and our volume may fluctuate more as a result.

There can be no assurance that our premium rates adequately reflect the risk associated with the underlying mortgage insurance policies. For additional information, see our risk factors titled “The premiums we charge may not be

adequate to compensate us for our liabilities for losses and as a result any inadequacy could materially affect our financial condition and results of operations" and "If our risk management programs are not effective in identifying, or adequate in controlling or mitigating, the risks we face, or if the models used in our businesses are inaccurate, it could have a material adverse impact on our business, results of operations and financial condition."

Our relationships with our customers, which may affect the amount of our new business written, could be adversely affected by a variety of factors, including if our premium rates are higher than those of our competitors, our underwriting requirements result in our declining to insure some of the loans originated by our customers, or our insurance policy rescissions and claim curtailments affect the customer. Regarding the concentration of our

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new business, our largest customer accounted for approximately 4% and 5% of our NIW in each of 2017 and 2018, respectively, and our top ten customers accounted for approximately 23% and 24% of our NIW, in each of 2017 and 2018, respectively.

Certain of our competitors have access to capital at a lower cost than we do (including, through off-shore reinsurance vehicles, which are tax-advantaged). As a result, they may be able to achieve higher after-tax rates of return on their NIW compared to us, which could allow them to leverage reduced premium rates to gain market share, and they may be better positioned to compete outside of traditional mortgage insurance, including by participating in alternative forms of credit enhancement pursued by Fannie Mae and Freddie Mac (the "GSEs") discussed in our risk factor titled "The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance."

Substantially all of our insurance written since 2008 has been for loans purchased by the GSEs. The current private mortgage insurer eligibility requirements ("PMIERS") of the GSEs require a mortgage insurer to maintain a minimum amount of assets to support its insured risk, as discussed in our risk factor titled "We may not continue to meet the GSEs' private mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain more capital in order to maintain our eligibility." The PMIERS do not require an insurer to maintain minimum financial strength ratings; however, our financial strength ratings can affect us in the following ways:

- A downgrade in our financial strength ratings could result in increased scrutiny of our financial condition by the GSEs and/or our customers, potentially resulting in a decrease in the amount of our new insurance written.

- Our ability to participate in the non-GSE mortgage market (which has been limited since 2008, but may grow in the future), could depend on our ability to maintain and improve our investment grade ratings for our mortgage insurance subsidiaries. We could be competitively disadvantaged with some market participants because the financial strength ratings of our insurance subsidiaries are lower than those of some competitors. MGIC's financial strength rating from Moody's is Baa2 (with a stable outlook), from Standard & Poor's is BBB+ (with a stable outlook) and from A.M. Best is A- (with a stable outlook).

Financial strength ratings may also play a greater role if the GSEs no longer operate in their current capacities, for example, due to legislative or regulatory action. In addition, although the PMIERS do not require minimum financial strength ratings,

the GSEs consider financial strength ratings to be important when using forms of credit enhancement other than traditional mortgage insurance, as discussed in our risk factor titled "The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance."

If we are unable to compete effectively in the current or any future markets as a result of the financial strength ratings assigned to our insurance subsidiaries, our future new insurance written could be negatively affected.

The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance.

Alternatives to private mortgage insurance include:

- lenders using FHA, VA and other government mortgage insurance programs,
- investors using risk mitigation and credit risk transfer techniques other than private mortgage insurance,
- lenders and other investors holding mortgages in portfolio and self-insuring, and
- lenders originating mortgages using piggyback structures to avoid private mortgage insurance, such as a first mortgage with an 80% loan-to-value ratio and a second mortgage with a 10%, 15% or 20% loan-to-value ratio (referred to as 80-10-10, 80-15-5 or 80-20 loans, respectively) rather than a first mortgage with a 90%, 95% or 100% loan-to-value ratio that has private mortgage insurance.

In 2018, Freddie Mac and Fannie Mae initiated programs with loan level mortgage default coverage provided by various (re)insurers that are not mortgage insurers governed by PMIERS, and that are not selected by the lenders. Due to differences in policy terms, these programs offer premium rates that are generally below prevalent single premium

lender paid mortgage insurance ("LPMI") rates. While we view these programs as competing with traditional private mortgage insurance, we have participated in them and may participate in future GSE or other programs. The GSEs (and other investors) have also used other forms of credit enhancement that did not involve traditional private mortgage insurance, such as engaging in credit-linked note transactions executed in the capital markets, or using other forms of debt issuances or securitizations that transfer credit risk directly to other investors, including competitors and an affiliate of MGIC; using other risk mitigation techniques in conjunction with reduced levels of private mortgage insurance

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coverage; or accepting credit risk without credit enhancement.

The FHA's share of the low down payment residential mortgages that were subject to FHA, VA, USDA or primary private mortgage insurance was 29.9% in 2018, 33.9% in 2017 and 34.2% in 2016 (these figures exclude FHA's home equity conversion mortgages, or HECMs). In the past ten years, the FHA's share has been as low as 29.9% in 2018 and as high as 66.8% in 2009. Factors that influence the FHA's market share include relative rates and fees, underwriting guidelines and loan limits of the FHA, VA, private mortgage insurers and the GSEs; lenders' perceptions of legal risks under FHA versus GSE programs; flexibility for the FHA to establish new products as a result of federal legislation and programs; returns expected to be obtained by lenders for Ginnie Mae securitization of FHA-insured loans compared to those obtained from selling loans to the GSEs for securitization; and differences in policy terms, such as the ability of a borrower to cancel insurance coverage under certain circumstances. We cannot predict how the factors that affect the FHA's share of new insurance written will change in the future.

The VA's share of the low down payment residential mortgages that were subject to FHA, VA, USDA or primary private mortgage insurance was 24.4% in 2018, 24.7% in 2017 and 27.2% in 2016. In the past ten years, the VA's share has been as low as 14.3% in 2009 and as high as 27.2% in 2016. We believe that the VA's market share has generally been increasing because of an increase in the number of borrowers that are eligible for the VA's program, which offers 100% loan-to-value ratio ("LTV") loans and charges a one-time funding fee that can be included in the loan amount, and because eligible borrowers have opted to use the VA program when refinancing their mortgages. Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses.

The GSEs' charters generally require credit enhancement for a low down payment mortgage loan (a loan amount that exceeds 80% of a home's value) in order for such loan to be eligible for purchase by the GSEs. Lenders generally have used private mortgage insurance to satisfy this credit enhancement requirement. (For information about GSE programs initiated in 2018 that provide loan level default coverage by various (re)insurers (which may include affiliates of private mortgage insurers), see our risk factor titled "The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance.") Because low down payment mortgages purchased by the GSEs have generally been insured with private mortgage insurance, the business

practices of the GSEs greatly impact our business and include:

- private mortgage insurer eligibility requirements of the GSEs, the financial requirements of which are discussed in our risk factor titled "We may not continue to meet the GSEs' private mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain more capital in order to maintain our eligibility,"
- the capital and collateral requirements for participants in the GSEs' alternative forms of credit enhancement discussed in our risk factor titled "The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance,"
- the level of private mortgage insurance coverage, subject to the limitations of the GSEs' charters, when private mortgage insurance is used as the required credit enhancement on low down payment mortgages,
- the amount of loan level price adjustments and guaranty fees (which result in higher costs to borrowers) that the GSEs assess on loans that require private mortgage insurance,
- whether the GSEs influence the mortgage lender's selection of the mortgage insurer providing coverage,
 - the underwriting standards that determine which loans are eligible for purchase by the GSEs, which can affect the quality of the risk insured by the mortgage insurer and the availability of mortgage loans,
- the terms on which mortgage insurance coverage can be canceled before reaching the cancellation thresholds established by law,
- the programs established by the GSEs intended to avoid or mitigate loss on insured mortgages and the circumstances in which mortgage servicers must implement such programs,
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the terms that the GSEs require to be included in mortgage insurance policies for loans that they purchase, including limitations on the rescission rights of mortgage insurers, the extent to which the GSEs intervene in mortgage insurers' claims paying practices, rescission practices or rescission settlement practices with lenders, and

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the maximum loan limits of the GSEs compared to those of the FHA and other investors.

The Federal Housing Finance Agency ("FHFA") has been the conservator of the GSEs since 2008 and has the authority to control and direct their operations. The increased role that the federal government has assumed in the residential housing finance system through the GSE conservatorship may increase the likelihood that the business practices of the GSEs change, including through administrative action, in ways that have a material adverse effect on us and that the charters of the GSEs are changed by new federal legislation. In the past, members of Congress have introduced several bills intended to change the business practices of the GSEs and the FHA; however, no legislation has been enacted. The Administration issued a June 2018 report indicating that the conservatorship of the GSEs should end and that the GSEs should transition to fully private entities, competing on a level playing field with private issuers of mortgage-backed securities ("MBS") (such issuers, collectively with the GSEs, referred to in the report as the "guarantors"). The report further indicated that a federal entity should regulate the guarantors, including their capital adequacy, and that guarantors should have access to an explicit federal guarantee on the MBS that is exposed only after substantial losses are incurred by the private market, including the guarantors. The report also indicated that a fee on the outstanding volume of MBS would be transferred to the Department of Housing and Urban Development (of which the FHA is a part) to be used for affordable housing purposes. As a result of the matters referred to above, it is uncertain what role the GSEs, FHA and private capital, including private mortgage insurance, will play in the residential housing finance system in the future. The timing and impact on our business of any resulting changes is uncertain. Most meaningful changes would require Congressional action to implement and it is difficult to estimate when Congressional action would be final and how long any associated phase-in period may last.

We may not continue to meet the GSEs' private mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain more capital in order to maintain our eligibility.

We must comply with the PMIERS to be eligible to insure loans delivered to or purchased by the GSEs. The PMIERS include financial requirements, as well as business, quality control and certain transaction approval requirements. The financial requirements of the PMIERS require a mortgage insurer's "Available Assets" (generally only the most liquid assets of an insurer) to equal or exceed its "Minimum Required Assets" (which are based on an insurer's book of insurance in force and are calculated from tables of factors with several risk dimensions and are subject to a floor amount).

Based on our interpretation of the PMIERS, as of December 31, 2018, MGIC's Available Assets totaled \$4.8 billion, or \$1.4 billion in excess of its Minimum Required Assets. MGIC is in compliance with the PMIERS and eligible to insure loans purchased by the GSEs. Revised PMIERS were published in September 2018 and will become effective March 31, 2019. If the revised PMIERS had been effective as of December 31, 2018, we estimate that MGIC's pro forma excess of Available Assets over Minimum Required Assets would have been approximately \$1 billion. The decrease in the pro forma excess from the reported excess of \$1.4 billion is primarily due to the elimination of any credit for future premiums that had previously been allowed for certain insurance policies.

In calculating our "Minimum Required Assets," we are allowed full credit for the risk ceded under our quota share reinsurance transactions with unaffiliated reinsurers and expect to be allowed full credit for our excess-of-loss reinsurance transaction entered into on October 30, 2018, discussed in our risk factor titled "The mix of business we write affects our Minimum Required Assets under the PMIERS, our premium yields and the likelihood of losses occurring." Our reinsurance transactions will be reviewed under the PMIERS at least annually and there is a risk we will not receive full credit in future periods for the risk ceded under them. If MGIC is not allowed certain levels of credit under the PMIERS, under certain circumstances, MGIC may terminate the reinsurance transactions, without penalty.

If MGIC ceases to be eligible to insure loans purchased by one or both of the GSEs, it would significantly reduce the volume of our new business writings. Factors that may negatively impact MGIC's ability to continue to comply with the financial requirements of the PMIERS include the following:

The GSEs may amend the PMIERS at any time and may make the PMIERS more onerous in the future. In June 2018, the FHFA issued a proposed rule on regulatory capital requirements for the GSEs ("Enterprise Capital Requirements"), which included a framework for determining the capital relief allowed to the GSEs for loans with private mortgage insurance. The GSEs have indicated that there may be potential future implications for PMIERS based upon feedback the FHFA receives on its proposed rule on Enterprise Capital Requirements (public comments were due by November 16, 2018). In addition, the PMIERS provide that the factors that determine Minimum Required Assets will be updated every two years and may be updated more frequently to reflect changes in macroeconomic conditions or loan performance. The GSEs have indicated that they will generally provide notice 180 days prior to the effective date of such updates.

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Our future operating results may be negatively impacted by the matters discussed in the rest of these risk factors. Such matters could decrease our revenues, increase our losses or require the use of assets, thereby creating a shortfall in Available Assets.

Should capital be needed by MGIC in the future, capital contributions from our holding company may not be available due to competing demands on holding company resources, including for repayment of debt.

While on an overall basis, the amount of Available Assets MGIC must hold in order to continue to insure GSE loans is greater under the PMIERS than what state regulation currently requires, our reinsurance transactions mitigate the negative effect of the PMIERS on our returns. However, reinsurance may not always be available to us or available on similar terms, it subjects us to counterparty credit risk and the GSEs may change the credit they allow under the PMIERS for risk ceded under our reinsurance transactions.

We are involved in legal proceedings and are subject to the risk of additional legal proceedings in the future.

Before paying an insurance claim, we review the loan and servicing files to determine the appropriateness of the claim amount. When reviewing the files, we may determine that we have the right to rescind coverage on the loan. In our SEC reports, we refer to insurance rescissions and denials of claims collectively as “rescissions” and variations of that term. In addition, our insurance policies generally provide that we can reduce or deny a claim if the servicer did not comply with its obligations under our insurance policy. We call such reduction of claims “curtailments.” In recent quarters, an immaterial percentage of claims received in a quarter have been resolved by rescissions. In 2017 and 2018, curtailments reduced our average claim paid by approximately 5.6% and 5.8%, respectively.

Our loss reserving methodology incorporates our estimates of future rescissions, curtailments, and reversals of rescissions and curtailments. A variance between ultimate actual rescission, curtailment and reversal rates and our estimates, as a result of the outcome of litigation, settlements or other factors, could materially affect our losses.

When the insured disputes our right to rescind coverage or curtail claims, we generally engage in discussions in an attempt to settle the dispute. If we are unable to reach a settlement, the outcome of a dispute ultimately may be determined by legal proceedings.

Under ASC 450-20, until a liability associated with settlement discussions or legal proceedings becomes probable and can be reasonably estimated, we consider

our claim payment or rescission resolved for financial reporting purposes and do not accrue an estimated loss. Where we have determined that a loss is probable and can be reasonably estimated, we have recorded our best estimate of our probable loss.

In addition to matters for which we have recorded a probable loss, we are involved in other discussions and/or proceedings with insureds with respect to our claims paying practices. Although it is reasonably possible that when these matters are resolved we will not prevail in all cases, we are unable to make a reasonable estimate or range of estimates of the potential liability. We estimate the maximum exposure associated with matters where a loss is reasonably possible to be approximately \$279 million. This estimate of maximum exposure is based upon currently available information and is subject to significant judgment, numerous assumptions and known and unknown uncertainties. The matters underlying the estimate of maximum exposure will change from time to time. This estimate of our maximum exposure does not include interest or consequential or exemplary damages.

Mortgage insurers, including MGIC, have been involved in litigation and regulatory actions related to alleged violations of the anti-referral fee provisions of the Real Estate Settlement Procedures Act, which is commonly known as RESPA, and the notice provisions of the Fair Credit Reporting Act, which is commonly known as FCRA. While these proceedings in the aggregate have not resulted in material liability for MGIC, there can be no assurance that the outcome of future proceedings, if any, under these laws would not have a material adverse effect on us. In addition, various regulators, including the CFPB, state insurance commissioners and state attorneys general may bring other actions seeking various forms of relief in connection with alleged violations of RESPA. The insurance law provisions of many states prohibit paying for the referral of insurance business and provide various mechanisms to enforce this

prohibition. While we believe our practices are in conformity with applicable laws and regulations, it is not possible to predict the eventual scope, duration or outcome of any such reviews or investigations nor is it possible to predict their effect on us or the mortgage insurance industry.

In addition to the matters described above, we are involved in other legal proceedings in the ordinary course of business. In our opinion, based on the facts known at this time, the ultimate resolution of these ordinary course legal proceedings will not have a material adverse effect on our financial position or results of operations.

We are subject to comprehensive regulation and other requirements, which we may fail to satisfy.

We are subject to comprehensive, detailed regulation by state insurance departments. These regulations are

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principally designed for the protection of our insured policyholders, rather than for the benefit of investors. Although their scope varies, state insurance laws generally grant broad supervisory powers to agencies or officials to examine insurance companies and enforce rules or exercise discretion affecting almost every significant aspect of the insurance business. State insurance regulatory authorities could take actions, including changes in capital requirements, that could have a material adverse effect on us. For more information about state capital requirements, see our risk factor titled “State capital requirements may prevent us from continuing to write new insurance on an uninterrupted basis.” To the extent that we are construed to make independent credit decisions in connection with our contract underwriting activities, we also could be subject to increased regulatory requirements under the Equal Credit Opportunity Act, commonly known as ECOA, FCRA, and other laws. For more details about the various ways in which our subsidiaries are regulated, see “Business - Regulation” in Item 1. In addition to regulation by state insurance regulators, the CFPB may issue additional rules or regulations, which may materially affect our business.

In December 2013, the U.S. Treasury Department’s Federal Insurance Office released a report that calls for federal standards and oversight for mortgage insurers to be developed and implemented. It is uncertain if and when the standards and oversight will become effective and what form they will take.

If our risk management programs are not effective in identifying, or adequate in controlling or mitigating, the risks we face, or if the models used in our businesses are inaccurate, it could have a material adverse impact on our business, results of operations and financial condition.

Our enterprise risk management program, described in "Business - Our Products and Services - Risk Management" in Item 1, may not be effective in identifying, or adequate in controlling or mitigating, the risks we face in our business. We employ proprietary and third party models to project returns, price products (including through our new loan level pricing system), calculate reserves, generate projections used to estimate future pre-tax income and to evaluate loss recognition testing, evaluate risk, determine internal capital requirements, perform stress testing, and for other uses. These models rely on estimates and projections that are inherently uncertain and may not operate as intended. In addition, from time to time we seek to improve certain models, and the conversion process may result in material changes to assumptions, including those about returns and financial results. The models we employ are complex, which increases our risk of error in their design, implementation or use. Also, the associated input data,

assumptions and calculations may not be correct, and the controls we have in place to mitigate that risk may not be effective in all cases. The risks related to our models may increase when we change assumptions and/or methodologies, or when we add or change modeling platforms. We have enhanced, and we intend to continue to enhance, our modeling capabilities. Moreover, we may use information we receive through enhancements to refine or otherwise change existing assumptions and/or methodologies.

Because we establish loss reserves only upon a loan delinquency rather than based on estimates of our ultimate losses on risk in force, losses may have a disproportionate adverse effect on our earnings in certain periods.

In accordance with accounting principles generally accepted in the United States, commonly referred to as GAAP, we establish reserves for insurance losses and loss adjustment expenses only when notices of default on insured mortgage loans are received and for loans we estimate are in default but for which notices of default have not yet been reported to us by the servicers (this is often referred to as “IBNR”). Because our reserving method does not take account of losses that could occur from loans that are not delinquent, such losses are not reflected in our financial statements, except in the case where a premium deficiency exists. As a result, future losses on loans that are not currently delinquent may have a material impact on future results as such losses emerge.

Because loss reserve estimates are subject to uncertainties, paid claims may be substantially different than our loss reserves.

When we establish reserves, we estimate the ultimate loss on delinquent loans using estimated claim rates and claim amounts. The estimated claim rates and claim amounts represent our best estimates of what we will actually pay on the loans in default as of the reserve date and incorporate anticipated mitigation from rescissions and curtailments.

The establishment of loss reserves is subject to inherent uncertainty and requires judgment by management. The actual amount of the claim payments may be substantially different than our loss reserve estimates. Our estimates could be affected by several factors, including a change in regional or national economic conditions, and a change in the length of time loans are delinquent before claims are received. The change in conditions may include changes in unemployment, affecting borrowers' income and thus their ability to make mortgage payments, and changes in home prices, which may affect borrower willingness to continue to make mortgage payments when the value of the home is below the mortgage balance. Changes to our estimates could have a material impact on our future results, even in a stable economic environment. In addition, historically, losses incurred have followed a

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seasonal trend in which the second half of the year has weaker credit performance than the first half, with higher new default notice activity and a lower cure rate.

We rely on our management team and our business could be harmed if we are unable to retain qualified personnel or successfully develop and/or recruit their replacements.

Our success depends, in part, on the skills, working relationships and continued services of our management team and other key personnel. The unexpected departure of key personnel could adversely affect the conduct of our business. In such event, we would be required to obtain other personnel to manage and operate our business. In addition, we will be required to replace the knowledge and expertise of our aging workforce as our workers retire. In either case, there can be no assurance that we would be able to develop or recruit suitable replacements for the departing individuals; that replacements could be hired, if necessary, on terms that are favorable to us; or that we can successfully transition such replacements in a timely manner. We currently have not entered into any employment agreements with our officers or key personnel. Volatility or lack of performance in our stock price may affect our ability to retain our key personnel or attract replacements should key personnel depart. Without a properly skilled and experienced workforce, our costs, including productivity costs and costs to replace employees may increase, and this could negatively impact our earnings.

If the volume of low down payment home mortgage originations declines, the amount of insurance that we write could decline.

The factors that may affect the volume of low down payment mortgage originations include:

- restrictions on mortgage credit due to more stringent underwriting standards, liquidity issues or risk-retention and/or capital requirements affecting lenders,
- the level of home mortgage interest rates,
- the health of the domestic economy as well as conditions in regional and local economies and the level of consumer confidence,
- housing affordability,
- new and existing housing availability,
- the rate of household formation, which is influenced, in part, by population and immigration trends,

- the rate of home price appreciation, which in times of heavy refinancing can affect whether refinanced loans have loan-to-value ratios that require private mortgage insurance, and
- government housing policy encouraging loans to first-time homebuyers.

A decline in the volume of low down payment home mortgage originations could decrease demand for mortgage insurance and decrease our new insurance written. For other factors that could decrease the demand for mortgage insurance, see our risk factor titled “The amount of insurance we write could be adversely affected if lenders and investors select alternatives to private mortgage insurance.”

State capital requirements may prevent us from continuing to write new insurance on an uninterrupted basis.

The insurance laws of 16 jurisdictions, including Wisconsin, MGIC's domiciliary state, require a mortgage insurer to maintain a minimum amount of statutory capital relative to its risk in force (or a similar measure) in order for the mortgage insurer to continue to write new business. We refer to these requirements as the “State Capital Requirements.”

While they vary among jurisdictions, the most common State Capital Requirements allow for a maximum risk-to-capital ratio of 25 to 1. A risk-to-capital ratio will increase if (i) the percentage decrease in capital exceeds the percentage decrease in insured risk, or (ii) the percentage increase in capital is less than the percentage increase in insured risk. Wisconsin does not regulate capital by using a risk-to-capital measure but instead requires a minimum policyholder position (“MPP”). The “policyholder position” of a mortgage insurer is its net worth or surplus, contingency reserve and a portion of the reserves for unearned premiums.

At December 31, 2018, MGIC's risk-to-capital ratio was 9.0 to 1, below the maximum allowed by the jurisdictions with State Capital Requirements, and its policyholder position was \$2.6 billion above the required MPP of \$1.3

billion. Our risk-to-capital ratio and MPP reflect full credit for the risk ceded under our quota share reinsurance transactions with unaffiliated reinsurers. It is possible that under the revised State Capital Requirements discussed below, MGIC will not be allowed full credit for the risk ceded under such transactions. If MGIC is not allowed an agreed level of credit under the State Capital Requirements, MGIC may terminate the reinsurance transactions, without penalty. At this time, we expect MGIC to continue to comply with the current State Capital Requirements; however, you should read the rest of these risk factors for information about matters that could negatively affect such compliance.

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At December 31, 2018, the risk-to-capital ratio of our combined insurance operations (which includes a reinsurance affiliate) was 9.8 to 1. Reinsurance transactions with our affiliate permit MGIC to write insurance with a higher coverage percentage than it could on its own under certain state-specific requirements.

The NAIC plans to revise the minimum capital and surplus requirements for mortgage insurers that are provided for in its Mortgage Guaranty Insurance Model Act. In May 2016, a working group of state regulators released an exposure draft of a risk-based capital framework to establish capital requirements for mortgage insurers, although no date has been established by which the NAIC must propose revisions to the capital requirements and certain items have not yet been completely addressed by the framework, including the treatment of ceded risk, minimum capital floors, and action level triggers. Currently we believe that the PMIERS contain more restrictive capital requirements than the draft Mortgage Guaranty Insurance Model Act in most circumstances.

While MGIC currently meets, and expects to continue to meet, the State Capital Requirements of Wisconsin and all other jurisdictions, it could be prevented from writing new business in the future in all jurisdictions if it fails to meet the State Capital Requirements of Wisconsin, or it could be prevented from writing new business in a particular jurisdiction if it fails to meet the State Capital Requirements of that jurisdiction, and in each case MGIC does not obtain a waiver of such requirements. It is possible that regulatory action by one or more jurisdictions, including those that do not have specific State Capital Requirements, may prevent MGIC from continuing to write new insurance in such jurisdictions. If we are unable to write business in a particular jurisdiction, lenders may be unwilling to procure insurance from us anywhere. In addition, a lender's assessment of the future ability of our insurance operations to meet the State Capital Requirements or the PMIERS may affect its willingness to procure insurance from us. In this regard, see our risk factor titled "Competition or changes in our relationships with our customers could reduce our revenues, reduce our premium yields and/or increase our losses." A possible future failure by MGIC to meet the State Capital Requirements or the PMIERS will not necessarily mean that MGIC lacks sufficient resources to pay claims on its insurance liabilities. While we believe MGIC has sufficient claims paying resources to meet its claim obligations on its insurance in force on a timely basis, you should read the rest of these risk factors for information about matters that could negatively affect MGIC's claims paying resources.

Downturns in the domestic economy or declines in the value of borrowers' homes from their value at the time their loans closed may result in more homeowners defaulting and our losses increasing, with a corresponding decrease in our returns.

Losses result from events that reduce a borrower's ability or willingness to continue to make mortgage payments, such as unemployment, health issues, family status, and whether the home of a borrower who defaults on his mortgage can be sold for an amount that will cover unpaid principal and interest and the expenses of the sale. In general, favorable economic conditions reduce the likelihood that borrowers will lack sufficient income to pay their mortgages and also favorably affect the value of homes, thereby reducing and in some cases even eliminating a loss from a mortgage default. A deterioration in economic conditions, including an increase in unemployment, generally increases the likelihood that borrowers will not have sufficient income to pay their mortgages and can also adversely affect home prices, which in turn can influence the willingness of borrowers with sufficient resources to make mortgage payments to do so when the mortgage balance exceeds the value of the home. Home prices may decline even absent a deterioration in economic conditions due to declines in demand for homes, which in turn may result from changes in buyers' perceptions of the potential for future appreciation, restrictions on and the cost of mortgage credit due to more stringent underwriting standards, higher interest rates generally, changes to the deductibility of mortgage interest for income tax purposes, decreases in the rate of household formations, or other factors. Changes in home prices and unemployment levels are inherently difficult to forecast given the uncertainty in the current market environment, including uncertainty about the effect of actions the federal government has taken and may take with respect to tax policies, mortgage finance programs and policies, and housing finance reform.

The mix of business we write affects our Minimum Required Assets under the PMIERS, our premium yields and the likelihood of losses occurring.

The Minimum Required Assets under the PMIERS are, in part, a function of the direct risk-in-force and the risk profile of the loans we insure, considering loan-to-value ratio, credit score, vintage, Home Affordable Refinance Program ("HARP") status and delinquency status; and whether the loans were insured under lender-paid mortgage insurance policies or other policies that are not subject to automatic termination consistent with the Homeowners Protection Act requirements for borrower paid mortgage insurance. Therefore, if our direct risk-in-force increases through increases in new insurance written, or if our mix of business changes to include loans with higher loan-to-value ratios or lower FICO scores, for example, or if we insure a higher percentage of loans under lender-paid mortgage insurance policies,

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all other things equal, we will be required to hold more Available Assets in order to maintain GSE eligibility. The minimum capital required by the risk-based capital framework contained in the exposure draft released by the NAIC in May 2016 would be, in part, a function of certain loan and economic factors, including property location, loan-to-value ratio and credit score; general underwriting quality in the market at the time of loan origination; the age of the loan; and the premium rate we charge. Depending on the provisions of the capital requirements when they are released in final form and become effective, our mix of business may affect the minimum capital we are required to hold under the new framework.

The percentage of our NIW from all single-premium policies (LPMI and BPMI, combined) has ranged from approximately 10% in 2013 to 19% in 2017 and was 17% in 2018. Depending on the actual life of a single premium policy and its premium rate relative to that of a monthly premium policy, a single premium policy may generate more or less premium than a monthly premium policy over its life.

We have in place quota share reinsurance ("QSR") transactions with unaffiliated reinsurers that cover most of our insurance written from 2013 through 2018, and a portion of our insurance written prior to 2013. Although the transactions reduce our premiums, they have a lesser impact on our overall results, as losses ceded under the transactions reduce our losses incurred and the ceding commissions we receive reduce our underwriting expenses. The blended pre-tax cost of reinsurance under our different transactions is less than 6% (but will decrease if losses are materially higher than we expect). This blended pre-tax cost is derived by dividing the reduction in our pre-tax income on loans covered by reinsurance by our direct (that is, without reinsurance) premiums from such loans. Although the pre-tax cost of the reinsurance under each transaction is generally constant, the effect of the reinsurance on the various components of pre-tax income will vary from period to period, depending on the level of ceded losses. We expect that in the first quarter of 2019, we will enter into an agreement covering most of our new insurance written in 2019, on terms no less favorable than our existing transactions.

On October 30, 2018, MGIC entered into a reinsurance agreement that provides for up to \$318.6 million of aggregate excess-of-loss reinsurance coverage for a portion of the risk associated with certain mortgage insurance policies having an insurance coverage in force date on or after July 1, 2016 and before January 1, 2018. For the reinsurance coverage period, MGIC will retain the first layer of \$168.7 million of aggregate losses, and the reinsurer will provide second layer coverage up to the outstanding reinsurance coverage amount. The reinsurance premiums ceded under this reinsurance

agreement reduced our net premiums by \$2.8 million in the fourth quarter of 2018.

In addition to the effect of reinsurance on our premiums, we expect a decline in our premium yield resulting from the premium rates themselves. An increasing percentage of our insurance in force is from book years with lower premium rates because premium rates have trended lower in recent periods and are expected to continue to trend lower into 2019.

The circumstances in which we are entitled to rescind coverage have narrowed for insurance we have written in recent years. During the second quarter of 2012, we began writing a portion of our new insurance under an endorsement to our then existing master policy (the "Gold Cert Endorsement"), which limited our ability to rescind coverage compared to that master policy. To comply with requirements of the GSEs, we introduced our current master policy in 2014. Our rescission rights under our current master policy are comparable to those under our previous master policy, as modified by the Gold Cert Endorsement. As of December 31, 2018, approximately 82% of our flow, primary insurance in force was written under our Gold Cert Endorsement or our current master policy. The revised PMIERS, which become effective March 31, 2019, include rescission relief principles that were provided as guidance to be used when drafting our new master policy. The principles will, among other things, further limit the circumstances under which we may rescind coverage, potentially resulting in higher losses than would be the case under our existing master policies. We expect a new version of our master policy, incorporating these rescission relief principles, to be effective for business written beginning in the third or fourth quarter of 2019, subject to state statutory approvals.

From time to time, in response to market conditions, we change the types of loans that we insure and the requirements under which we insure them. We also change our underwriting guidelines, in part through aligning some of them with Fannie Mae and Freddie Mac for loans that receive and are processed in accordance with certain approval recommendations from a GSE automated underwriting system. We also make exceptions to our underwriting requirements on a loan-by-loan basis and for certain customer programs. As a result of changes to our underwriting guidelines and requirements (including those related to debt to income ("DTI") ratios, credit scores, and the manner in which income levels and property values are determined) and other factors, our business written beginning in the second half of 2013 is expected to have a somewhat higher claim incidence than business written in 2009 through the first half of 2013, but materially below that on business written in 2005-2008. However, we believe this business presents an acceptable level of risk. Our underwriting requirements are available on our website at <http://www.mgic.com/underwriting/index.html>.

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Even when home prices are stable or rising, mortgages with certain characteristics have higher probabilities of claims. These characteristics include higher LTV ratios, lower FICO scores, limited underwriting, including limited borrower documentation, or higher DTI ratios, as well as loans having combinations of higher risk factors. As of December 31, 2018, mortgages with these characteristics in our primary risk in force included mortgages with LTV ratios greater than 95% (14.8%), loans with borrowers having FICO scores below 620 (2.3%), mortgages with borrowers having FICO scores of 620-679 (10.3%), mortgages with limited underwriting, including limited borrower documentation (2.2%), and mortgages with borrowers having DTI ratios greater than 45% (or where no ratio is available) (14.3%), each attribute as determined at the time of loan origination. An individual loan may have more than one of these attributes.

Beginning in 2017, the percentage of NIW that we have written on mortgages with LTV ratios greater than 95% and mortgages with DTI ratios greater than 45% has increased. In 2018, we started considering DTI ratios when setting our premium rates, and we changed our methodology for calculating DTI ratios for pricing and eligibility purposes to exclude the impact of mortgage insurance premiums. As a result of this change, we expect to insure certain loans that would not have previously met our guidelines and to offer premium rates for certain loans lower than would have been offered under our previous methodology.

Until our loan level pricing system (discussed in our risk factor titled "Competition or changes in our relationships with our customers could reduce our revenues, reduce our premium yields and / or increase our losses") is more broadly adopted by customers, we will be unable to adjust our rates as quickly as those competitors using loan level pricing systems for the majority of their business. During that time, there is an increased risk that we are adversely selected by lenders to insure certain loans, which may result in an increase in the credit risk we bear and/or a decrease in the volume of loans we insure.

As of December 31, 2018, approximately 1% of our primary risk in force consisted of adjustable rate mortgages which allow for adjustment of the initial interest rate during the five years after the mortgage closing ("ARMs"). We classify as fixed rate loans adjustable rate mortgages with an initial interest rate that is fixed during the five years after the mortgage closing and loans with temporary interest rate adjustments during the initial five years, commonly referred to as "buydowns," that convert to a fixed rate for the duration of the loan term. If interest rates should rise between the time of origination of such loans and when their interest rates may be reset, claim rates on such loans may be substantially higher than for loans without variable interest rate features. In addition, prior to 2011,

we insured "interest-only" loans, which may also be ARMs, and loans with negative amortization features, such as pay option ARMs. We believe claim rates on these loans will be substantially higher than on loans without scheduled payment increases that are made to borrowers of comparable credit quality.

If state or federal regulations or statutes are changed in ways that ease mortgage lending standards and/or requirements, or if lenders seek ways to replace business in times of lower mortgage originations, it is possible that more mortgage loans could be originated with higher risk characteristics than are currently being originated, such as loans with lower FICO scores and higher DTIs. Lenders could pressure mortgage insurers to insure such loans, which are expected to experience higher claim rates. Although we attempt to incorporate these higher expected claim rates into our underwriting and pricing models, there can be no assurance that the premiums earned and the associated investment income will be adequate to compensate for actual losses even under our current underwriting requirements. We do, however, believe that our insurance written beginning in the second half of 2008 will generate underwriting profits.

The premiums we charge may not be adequate to compensate us for our liabilities for losses and as a result any inadequacy could materially affect our financial condition and results of operations.

We set premiums at the time a policy is issued based on our expectations regarding likely performance of the insured risks over the long term. Our premiums are subject to approval by state regulatory agencies, which can delay or limit our ability to increase our premiums. Generally, we cannot cancel mortgage insurance coverage or adjust renewal

premiums during the life of a mortgage insurance policy. As a result, higher than anticipated claims generally cannot be offset by premium increases on policies in force or mitigated by our non-renewal or cancellation of insurance coverage. The premiums we charge, the investment income we earn and the amount of reinsurance we carry may not be adequate to compensate us for the risks and costs associated with the insurance coverage provided to customers. An increase in the number or size of claims, compared to what we anticipate, could adversely affect our results of operations or financial condition. Our premium rates are also based in part on the amount of capital we are required to hold against the insured risk. If the amount of capital we are required to hold increases from the amount we were required to hold when a policy was written, we cannot adjust premiums to compensate for this and our returns may be lower than we assumed.

The losses we have incurred on our 2005-2008 books of business have exceeded our premiums from those books. The incurred losses from those books, although declining, continue to generate a material portion of our

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total incurred losses. The ultimate amount of these losses will depend in part on general economic conditions, including unemployment, and the direction of home prices.

We are susceptible to disruptions in the servicing of mortgage loans that we insure.

We depend on reliable, consistent third-party servicing of the loans that we insure. Over the last several years, the mortgage loan servicing industry has experienced consolidation and an increase in the number of specialty servicers servicing delinquent loans. The resulting change in the composition of servicers could lead to disruptions in the servicing of mortgage loans covered by our insurance policies. Further changes in the servicing industry resulting in the transfer of servicing could cause a disruption in the servicing of delinquent loans which could reduce servicers' ability to undertake mitigation efforts that could help limit our losses. Future housing market conditions could lead to additional increases in delinquencies and transfers of servicing.

Changes in interest rates, house prices or mortgage insurance cancellation requirements may change the length of time that our policies remain in force.

The premium from a single premium policy is collected upfront and generally earned over the estimated life of the policy. In contrast, premiums from a monthly premium policy are received and earned each month over the life of the policy. In each year, most of our premiums earned are from insurance that has been written in prior years. As a result, the length of time insurance remains in force, which is generally measured by persistency (the percentage of our insurance remaining in force from one year prior), is a significant determinant of our revenues. Future premiums on our monthly premium policies in force represent a material portion of our claims paying resources and a low persistency rate will reduce those future premiums. In contrast, a higher than expected persistency rate will decrease the profitability from single premium policies because they will remain in force longer than was estimated when the policies were written.

Our persistency rate was 81.7% at December 31, 2018, 80.1% at December 31, 2017 and 76.9% at December 31, 2016. Since 2000, our year-end persistency ranged from a high of 84.7% at December 31, 2009 to a low of 47.1% at December 31, 2003.

Our persistency rate is primarily affected by the level of current mortgage interest rates compared to the mortgage coupon rates on our insurance in force, which affects the vulnerability of the insurance in force to refinancing. Our persistency rate is also affected by the mortgage insurance cancellation policies of mortgage investors along with the current value of the homes underlying the mortgages in the insurance in force. In

2018, the GSEs announced changes to various mortgage insurance termination requirements that are intended to further simplify the process of evaluating borrower-initiated requests for mortgage insurance termination and may reduce our persistency rate in the future.

Our holding company debt obligations materially exceed our holding company cash and investments.

At December 31, 2018, we had approximately \$248 million in cash and investments at our holding company and our holding company's debt obligations were \$815 million in aggregate principal amount, consisting of \$425 million of 5.75% Senior Notes due in 2023 ("5.75% Notes") and \$390 million of 9% Debentures (of which approximately \$133 million was purchased, and is held, by MGIC, and is eliminated on the consolidated balance sheet). Annual debt service on the 5.75% Notes and 9% Debentures outstanding as of December 31, 2018, is approximately \$60 million (of which approximately \$12 million will be paid to MGIC and will be eliminated on the consolidated statement of operations).

The 5.75% Senior Notes and 9% Debentures are obligations of our holding company, MGIC Investment Corporation, and not of its subsidiaries. The payment of dividends from our insurance subsidiaries which, other than investment income and raising capital in the public markets, is the principal source of our holding company cash inflow, is restricted by insurance regulation. MGIC is the principal source of dividend-paying capacity. In 2018 and 2017, MGIC paid a total of \$220 million and \$140 million, respectively, in dividends to our holding company. We expect MGIC to continue to pay quarterly dividends of at least the \$60 million amount paid in the fourth quarter of 2018,

subject to approval by its Board of Directors. We ask the OCI not to object before MGIC pays dividends. On April 26, 2018, our Board of Directors authorized a share repurchase program under which we may repurchase up to \$200 million of our common stock through the end of 2019. During 2018, we repurchased approximately 16.0 million shares of our common stock using approximately \$175 million of holding company resources. Repurchases may be made from time to time on the open market or through privately negotiated transactions. The repurchase program may be suspended for periods or discontinued at any time. If any additional capital contributions to our subsidiaries were required, such contributions would decrease our holding company cash and investments. As described in our Current Report on Form 8-K filed on February 11, 2016, MGIC borrowed \$155 million from the Federal Home Loan Bank of Chicago. This is an obligation of MGIC and not of our holding company.

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Your ownership in our company may be diluted by additional capital that we raise or if the holders of our outstanding convertible debt convert that debt into shares of our common stock.

As noted above under our risk factor titled “We may not continue to meet the GSEs’ private mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain more capital in order to maintain our eligibility,” although we are currently in compliance with the requirements of the PMIERS, there can be no assurance that we would not seek to issue non-dilutive debt capital or to raise additional equity capital to manage our capital position under the PMIERS or for other purposes. Any future issuance of equity securities may dilute your ownership interest in our company. In addition, the market price of our common stock could decline as a result of sales of a large number of shares or similar securities in the market or the perception that such sales could occur.

At December 31, 2018, we had outstanding \$390 million principal amount of 9% Convertible Junior Subordinated Debentures due in 2063 (“9% Debentures”) (of which approximately \$133 million was purchased, and is held, by MGIC, and is eliminated on the consolidated balance sheet). The principal amount of the 9% Debentures is currently convertible, at the holder’s option, at an initial conversion rate, which is subject to adjustment, of 74.0741 common shares per \$1,000 principal amount of debentures. This represents an initial conversion price of approximately \$13.50 per share. We may redeem the 9% Debentures in whole or in part from time to time, at our option, at a redemption price equal to 100% of the principal amount of the 9% Debentures being redeemed, plus any accrued and unpaid interest, if the closing sale price of our common stock exceeds \$17.55 for at least 20 of the 30 trading days preceding notice of the redemption.

We have the right, and may elect, to defer interest payable under the debentures in the future. If a holder elects to convert its debentures, the interest that has been deferred on the debentures being converted is also convertible into shares of our common stock. The conversion rate for such deferred interest is based on the average price that our shares traded at during a 5-day period immediately prior to the election to convert the associated debentures. We may elect to pay cash for some or all of the shares issuable upon a conversion of the debentures.

For a discussion of the dilutive effects of our convertible securities on our earnings per share, see Note 4 – “Earnings Per Share” to our consolidated financial statements in Item 8. As noted above, during 2018, we repurchased shares of our common stock and may do so in the future. In addition, we have in the past, and may in the future, purchase our debt securities.

We could be adversely affected if personal information on consumers that we maintain is improperly disclosed and our information technology systems may become outdated and we may not be able to make timely modifications to support our products and services.

As part of our business, we maintain large amounts of personal information on consumers. While we believe we have appropriate information security policies and systems to prevent unauthorized disclosure, there can be no assurance that unauthorized disclosure, either through the actions of third parties or employees, will not occur. Unauthorized disclosure could adversely affect our reputation, result in a loss of business and expose us to material claims for damages.

We rely on the efficient and uninterrupted operation of complex information technology systems. All information technology systems are potentially vulnerable to damage or interruption from a variety of sources, including through the actions of third parties. Due to our reliance on our information technology systems, their damage or interruption could severely disrupt our operations, which could have a material adverse effect on our business, business prospects and results of operations.

In addition, we are in the process of upgrading certain of our information systems that have been in place for a number of years and are implementing our loan level pricing system. The implementation of these technological improvements, as well as their integration with customer systems when applicable, is complex, expensive and time consuming. If we fail to timely and successfully implement and integrate the new technology systems, or if the systems do not operate as expected, it could have an adverse impact on our business, business prospects and results of

operations.

Our success depends, in part, on our ability to manage risks in our investment portfolio.

Our investment portfolio is an important source of revenue and is our primary source of claims paying resources.

Although our investment portfolio consists mostly of highly-rated fixed income investments, our investment portfolio is affected by general economic conditions and tax policy, which may adversely affect the markets for credit and interest-rate-sensitive securities, including the extent and timing of investor participation in these markets, the level and volatility of interest rates and credit spreads and, consequently, the value of our fixed income securities, and as such, we may not achieve our investment objectives. Volatility or lack of liquidity in the markets in which we hold securities has at times reduced the market value of some of our investments, and if this worsens substantially it could have a material adverse effect on our liquidity, financial condition and results of operations.

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For the significant portion of our investment portfolio that is held by MGIC, to receive full capital credit under insurance regulatory requirements and under the PMIERS, we generally are limited to investing in investment grade fixed income securities whose yields reflect their lower credit risk profile. Our investment income depends upon the size of the portfolio and its reinvestment at prevailing interest rates. A prolonged period of low investment yields would have an adverse impact on our investment income as would a decrease in the size of the portfolio.

In addition, we structure our investment portfolio to satisfy our expected liabilities, including claim payments in our mortgage insurance business. If we underestimate our liabilities or improperly structure our investments to meet these liabilities, we could have unexpected losses resulting from the forced liquidation of fixed income investments before their maturity, which could adversely affect our results of operations.

Our financial results may be adversely impacted by natural disasters; certain hurricanes may impact our incurred losses, the amount and timing of paid claims, our inventory of notices of default and our Minimum Required Assets under PMIERS.

Natural disasters, such as hurricanes, tornadoes, wildfires and floods, could trigger an economic downturn in the affected areas, which could result in a decline in our business and an increased claim rate on policies in those areas. Natural disasters could lead to a decrease in home prices in the affected areas, which could result in an increase in claim severity on policies in those areas. If we were to attempt to limit our new insurance written in disaster-prone areas, lenders may be unwilling to procure insurance from us anywhere.

Natural disasters could also lead to increased reinsurance rates or reduced availability of reinsurance. This may cause us to retain more risk than we otherwise would retain and could negatively affect our compliance with the financial requirements of the PMIERS.

We insure mortgages for homes in areas that have been impacted by recent natural disasters, including 2017 and 2018 hurricanes. We do not expect those hurricanes to result in a material increase in our incurred losses or paid claims. However, the following factors could cause our actual results to differ from our expectation in the forward looking statement in the preceding sentence:

- Home values in hurricane-affected areas may decrease at the time claims are filed from their current levels thereby adversely affecting our ability to mitigate loss.

- Hurricane-affected areas may experience deteriorating economic conditions resulting in more borrowers defaulting on their loans in the future (or

failing to cure existing defaults) than we currently expect.

If an insured contests our claim denial or curtailment, there can be no assurance we will prevail. We describe how claims under our policy are affected by damage to the borrower's home in our Current Report on Form 8-K filed with the SEC on September 14, 2017.

Due to the suspension of certain foreclosures by the GSEs from time-to-time, our receipt of claims associated with foreclosed mortgages in hurricane-affected areas may be delayed.

The PMIERS require us to maintain significantly more "Minimum Required Assets" for delinquent loans than for performing loans; however, the increase in Minimum Required Assets is not as great for certain delinquent loans in areas that the Federal Emergency Management Agency has declared major disaster areas. An increase in delinquency notices resulting from hurricanes may result in an increase in "Minimum Required Assets" and a decrease in the level of our excess "Available Assets" which is discussed in our risk factor titled "We may not continue to meet the GSEs' private mortgage insurer eligibility requirements and our returns may decrease as we are required to maintain more capital in order to maintain our eligibility."

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Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

At December 31, 2018, we leased office space in various cities throughout the United States under leases expiring between 2019 and 2021 and which required monthly rental payments that in the aggregate are immaterial.

We own our headquarters facility and an additional office/warehouse facility, both located in Milwaukee, Wisconsin, which contain an aggregate of approximately 310,000 square feet of space.

Item 3. Legal Proceedings

Certain legal proceedings arising in the ordinary course of business may be filed or pending against us from time to time. For information about such legal proceedings, you should review our risk factor titled “We are involved in legal proceedings and are subject to the risk of additional legal proceedings in the future” in Item 1A.

Item 4. Mine Safety Disclosures

Not Applicable.

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Executive Officers of the Registrant

Certain information with respect to our executive officers as of February 22, 2019 is set forth below:

Executive officers of the registrant

Name and Age	Title
Patrick Sinks, 62	President and Chief Executive Officer of MGIC Investment Corporation and MGIC; Director of MGIC Investment Corporation and MGIC
Timothy J. Mattke, 43	Executive Vice President and Chief Financial Officer of MGIC Investment Corporation and MGIC
James J. Hughes, 56	Executive Vice President – Sales and Business Development of MGIC
Stephen C. Mackey, 58	Executive Vice President and Chief Risk Officer of MGIC Investment Corporation and MGIC
Paula C. Maggio, 50	Executive Vice President, General Counsel and Secretary of MGIC Investment Corporation and MGIC
Salvatore A. Miosi, 52	Executive Vice President – Business Strategy and Operations of MGIC
Gregory A. Chi, 59	Senior Vice President – Information Services and Chief Information Officer of MGIC, until retirement in March 2019
Robert J. Candelmo, 55	Vice President – Chief Technology Officer of MGIC until March 2019. Senior Vice President and Chief Information Officer of MGIC, effective upon Mr. Chi’s retirement in March 2019

Mr. Sinks has served as our Chief Executive Officer since March 2015 and has been our and MGIC’s President since January 2006. He was Executive Vice President – Field Operations of MGIC from January 2004 to January 2006 and was Senior Vice President – Field Operations of MGIC from July 2002 to January 2004. From March 1985 to July 2002, he held various positions within MGIC’s finance and accounting organization, the last of which was Senior Vice President, Controller and Chief Accounting Officer. Mr. Sinks has been a director of MGIC Investment Corporation and MGIC since July 2014.

Mr. Mattke has been the Company’s Chief Financial Officer since March 2014. He served as the Company’s Controller from 2009 through March 2014. He joined the Company in 2006. Prior to his becoming Controller, he was Assistant Controller of MGIC beginning in August 2007 and prior to that was a manager in MGIC’s accounting department. Before joining MGIC, Mr. Mattke was an audit manager and an auditor with PricewaterhouseCoopers LLP, the Company’s independent registered accounting firm.

Mr. Hughes has served as Executive Vice President – Sales and Business Development of MGIC since January 2017. He served as Senior Vice President –

Sales and Business Development of MGIC from 2015 to January 2017, and Vice President, Managing Director in the sales area from 2001 to 2015. He joined MGIC in 1987 and prior to becoming Vice President, Managing Director, he had been an Account Manager and a Sales Manager.

Mr. Mackey joined MGIC in June 2015 and has served as Executive Vice President and Chief Risk Officer since September 2015. Before joining MGIC, Mr. Mackey was with JP Morgan Chase & Company from March 2011 until June 2015, where he held a number of senior leadership positions, including Managing Director, Firmwide Market Risk, Senior Vice President and Risk Management Executive in Mortgage Banking and Senior Vice President and

Controller in Mortgage Banking. He has a diverse professional background prior to JP Morgan that includes 13 years with Fannie Mae where he had been a Vice President.

Ms. Maggio joined the Company in July 2018 and has served as Executive Vice President, General Counsel and Secretary since July 2018. Prior to joining the Company, Ms. Maggio had been Executive Vice President, General Counsel and Secretary of Retail Properties of America, Inc. from 2016 to 2018, Executive Vice President, General Counsel and Secretary of Strategic Hotels & Resorts, Inc. (SHR) from 2012 to 2015, and in various other leadership roles with SHR since joining that firm in 2000. Prior to joining SHR, Ms. Maggio had been in private legal practice from 1994-2000.

Mr. Miosi has served as Executive Vice President – Business Strategy and Operations since January 2017. He served as Senior Vice President – Business Strategy and Operations of MGIC from 2015 to January 2017, and Vice President - Marketing from 2004 to 2015. Mr. Miosi joined the company in 1988 and has also held a variety of leadership positions in the operations, technology and marketing divisions.

Mr. Chi joined MGIC in February 2012, has served as MGIC's Senior Vice President – Information Services and Chief Information Officer since March 2012 and will retire in March 2019. Prior to joining MGIC, Mr. Chi had been Senior Vice President of Enterprise Delivery Services with SunTrust Bank since 2008. Prior to joining SunTrust, Mr. Chi held various senior management positions in the financial services industry.

Mr. Candelmo joined MGIC in October 2014 as its Vice President – Chief Technology Officer and will become its Senior Vice President and Chief Information Officer in March 2019, upon the retirement of Mr. Chi. Prior to joining MGIC, Mr. Candelmo had been Senior Vice President of Enterprise Information Services with SunTrust Bank since 2008. Prior to joining SunTrust, Mr. Candelmo had held various other leadership roles within the information technology discipline.

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PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

(a) Our Common Stock is listed on the New York Stock Exchange under the symbol “MTG.”

As of February 15, 2019, the number of shareholders of record was 294. In addition, we estimate there are approximately 46,000 beneficial owners of shares held by brokers and fiduciaries.

Information regarding equity compensation plans is contained in [Item 12](#).

(b) Not applicable.

(c) Issuer Purchases of Equity Securities

The following table provides information about purchases of MGIC Investment Corporation common stock by us during the three months ended December 31, 2018.

Share repurchases

Period Beginning	Period Ending	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Approximate dollar value of shares that may yet be purchased under the program ⁽¹⁾
October 1, 2018	October 31, 2018	565,061	\$ 11.67	565,061	\$93,345,524
November 1, 2018	November 30, 2018	3,739,659	\$ 11.61	3,739,659	\$49,940,971
December 1, 2018	December 31, 2018	2,478,919	\$ 10.09	2,478,919	\$24,940,973
		6,783,639	\$ 11.06	6,783,639	

(1) On April 26, 2018, our Board of Directors authorized a share repurchase program under which we may repurchase up to \$200 million of common stock through the end of 2019. Repurchases may be made from time to time on the open market or through privately negotiated transactions. The repurchase program may be suspended for periods or discontinued at any time.

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Item 6. Selected Financial Data

Summary of operations

(In thousands, except per share data)	As of and for the Years Ended December 31,				
	2018	2017	2016	2015	2014
Revenues:					
Net premiums written	\$992,262	\$997,955	\$975,091	\$1,020,277	\$881,962
Net premiums earned	975,162	934,747	925,226	896,222	844,371
Investment income, net	141,331	120,871	110,666	103,741	87,647
Realized investment (losses) gains, net including net impairment losses	(1,353	) 231	8,921	28,361	1,357
Other revenue	8,708	10,205	17,670	12,964	9,259
Total revenues	1,123,848	1,066,054	1,062,483	1,041,288	942,634
Losses and expenses:					
Losses incurred, net	36,562	53,709	240,157	343,547	496,077
Change in premium deficiency reserve	—	—	—	(23,751	) (24,710
Underwriting and other expenses	190,143	170,749	160,409	164,366	146,059
Interest expense	52,993	57,035	56,672	68,932	69,648
Loss on debt extinguishment	—	65	90,531	507	837
Total losses and expenses	279,698	281,558	547,769	553,601	687,911
Income before tax	844,150	784,496	514,714	487,687	254,723
Provision for (benefit from) income taxes ⁽¹⁾	174,053	428,735	172,197	(684,313	) 2,774
Net income	\$670,097	\$355,761	\$342,517	\$1,172,000	\$251,949
Weighted average common shares outstanding	386,078	394,766	431,992	468,039	413,547
Diluted income per share	\$1.78	\$0.95	\$0.86	\$2.60	\$0.64
Balance sheet data					
Total investments	\$5,159,019	\$4,990,561	\$4,692,350	\$4,663,206	\$4,612,669
Cash and cash equivalents	151,892	99,851	155,410	181,120	197,882
Total assets	5,677,802	5,619,499	5,734,529	5,868,343	5,251,414
Loss reserves	674,019	985,635	1,438,813	1,893,402	2,396,807
Premium deficiency reserve	—	—	—	—	23,751
Short- and long-term debt	574,713	573,560	572,406	—	61,883
Convertible senior notes	—	—	349,461	822,301	830,015
Convertible junior subordinated debentures	256,872	256,872	256,872	389,522	389,522
Shareholders' equity	3,581,891	3,154,526	2,548,842	2,236,140	1,036,903
Book value per share	10.08	8.51	7.48	6.58	3.06

In 2017, we remeasured our net deferred tax assets at the lower enacted corporate income tax rate under the Tax Act. In 2015 we reversed the valuation allowance against our deferred tax assets. See Note 12 – "Income Taxes" to our consolidated financial statements in Item 8 for a discussion of tax matters and their impact on our consolidated financial statements.

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Other data

	Years Ended December 31,					
	2018	2017	2016	2015	2014	
New primary insurance written (\$ millions)	\$50,526	\$49,123	\$47,875	\$43,031	\$33,439	
New primary risk written (\$ millions)	\$12,657	\$12,217	\$11,831	\$10,824	\$8,530	
IIF (at year-end) (\$ millions)						
Direct primary IIF	\$209,707	\$194,941	\$182,040	\$174,514	\$164,919	
RIF (at year-end) (\$ millions)						
Direct primary RIF	\$54,063	\$50,319	\$47,195	\$45,462	\$42,946	
Direct pool RIF						
With aggregate loss limits	228	236	244	271	303	
Without aggregate loss limits	191	235	303	388	505	
Primary loans in default ratios						
Policies in force	1,058,292	1,023,951	998,294	992,188	968,748	
Loans in default	32,898	46,556	50,282	62,633	79,901	
Percentage of loans in default	3.11	% 4.55	% 5.04	% 6.31	% 8.25	%
Insurance operating ratios (GAAP)						
Loss ratio	3.7	% 5.7	% 26.0	% 38.3	% 58.8	%
Underwriting Expense ratio	18.2	% 16.0	% 15.3	% 14.9	% 14.7	%
Risk-to-capital ratio (statutory)						
Mortgage Guaranty Insurance Corporation	9.0:1	9.5:1	10.7:1	12.1:1	14.6:1	
Combined insurance companies	9.8:1	10.5:1	12.0:1	13.6:1	16.4:1	

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

INTRODUCTION

As used below, "we" and "our" refer to MGIC Investment Corporation's consolidated operations or to MGIC Investment Corporation, as a separate entity, as the context requires. References to "we" and "our" in the context of debt obligations refer to MGIC Investment Corporation. See the ["Glossary of terms and acronyms"](#) for definitions and descriptions of terms used throughout this annual report. The Risk Factors contained in Item 1A discuss trends and uncertainties affecting us and are an integral part of the MD&A.

Forward Looking and Other Statements

As discussed under "Forward Looking Statements and Risk Factors" in Item 1A of Part 1 of this Report, actual results may differ materially from the results contemplated by forward looking statements. We are not undertaking any obligation to update any forward looking statements or other statements we may make in the following discussion or elsewhere in this document even though these statements may be affected by events or circumstances occurring after the forward looking statements or other statements were made. Therefore, no reader of this document should rely on these statements being current as of any time other than the time at which this document was filed with the Securities and Exchange Commission.

OVERVIEW

This Overview of the MD&A highlights selected information and may not contain all of the information that is important to readers of this Annual Report. Hence, this Overview is qualified by the information that appears elsewhere in this Annual Report, including the other portions of the MD&A.

Through our subsidiary, MGIC, we are a leading provider of PMI in the United States, as measured by \$209.7 billion of primary IIF on a consolidated basis at December 31, 2018.

Summary of financial results of MGIC Investment Corporation

(in millions, except per share data)	Year Ended		
	2018	2017	Change
Selected statement of operations data			
Total revenues	\$1,123.8	\$1,066.1	5 %
Losses incurred, net	36.6	53.7	(32)%
Other operating and underwriting expenses, net	178.2	159.6	12 %
Income before tax	844.2	784.5	8 %
Provision for income taxes	174.1	428.7	(59)%
Net income	670.1	355.8	88 %
Diluted income per share	\$1.78	\$0.95	87 %

Non-GAAP Financial Measures ⁽¹⁾

Adjusted pre-tax operating income	\$845.5	\$784.3	8 %
Adjusted net operating income	668.7	517.7	29 %
Adjusted net operating income per diluted share	\$1.78	\$1.36	31 %

⁽¹⁾ See ["Explanation and Reconciliation of our use of Non-GAAP Financial Measures."](#)

SUMMARY OF 2018 FINANCIAL RESULTS

Net income of \$670.1 million for 2018 increased by \$314.3 million when compared to the prior year, and diluted income per share of \$1.78 increased by 87% when compared to the prior year. These increases primarily reflect decreases in our provision for income taxes and losses incurred associated with delinquency notices received in the current year, partially offset by a decrease in favorable loss reserve development associated with delinquency notices received in prior

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years. Adjusted net operating income of \$668.7 million for 2018 (2017: \$517.7 million) and adjusted net operating income per diluted share of \$1.78 (2017: \$1.36) each increased from the prior year primarily for the same reasons.

The decrease in our tax provision reflects the lower corporate income tax rate in 2018 under the Tax Act, the 2017 remeasurement of our deferred tax assets and an additional tax provision recorded in 2017 for the settlement of our IRS litigation, partially offset by the tax associated with a 2018 increase in income before tax.

Losses incurred, net were \$36.6 million, down 32% when compared to the prior year. The decrease was driven by a 20% decline in new delinquency notices compared to the prior year, along with a lower estimated claim rate on new notices (approximately 9%, down from approximately 10% in the prior year). The decline in new delinquency notices reflected, in part, that 2017 notices included an elevated level of notices associated with major hurricanes. The estimated claim rate on 2017 notices, excluding those associated with hurricanes, was 10.5%. The decrease in our estimated claim rate on new notices reflects improved cure activity due to the current economic environment. Favorable loss reserve development associated with delinquency notices received in prior years was \$167 million and \$231 million, in 2018 and 2017, respectively, due to a lower estimated claim rate in each year compared to the prior year-end.

During 2018, MGIC paid \$220 million in dividends to our holding company. During 2018, we repurchased approximately 16.0 million shares of our common stock for approximately \$175 million.

BUSINESS ENVIRONMENT

Economic conditions

Current U.S. economic conditions continue to support favorable housing fundamentals, such as low unemployment, strong consumer confidence, increasing household formations, and appreciating home values. We benefit from favorable housing fundamentals that increase home purchase activity and provide borrowers reliable, or increasing, financial resources.

As a result of the current and expected economic conditions, mortgage interest rates have been higher on average in 2018 compared to 2017. The increase in mortgage interest rates did not materially impact home purchasing activity in 2018. Despite the impact of rising rates on housing affordability, the homeownership rate continued to edge up in 2018. In particular, the homeownership rate of those 35 and younger (which likely includes many first time homebuyers that require mortgage insurance) is indicated to be at levels last seen in 2013. The increase in purchase mortgage originations, and first-time homebuyer activity, resulted

in a modest increase in our NIW in 2018 when compared to 2017.

The level of unemployment, interest rates, and home prices may change in the future. For the possible effects of such changes, see our risk factors titled "If the volume of low down payment home mortgage originations declines, the amount of insurance that we write could decline," "Downturns in the domestic economy or declines in the value of borrowers' homes from their value at the time their loans closed may result in more homeowners defaulting and our losses increasing, with a corresponding decrease in our returns," and "Changes in interest rates, house prices or mortgage insurance cancellation requirements may change the length of time that our policies remain in force."

Mortgage lending

These recent years of favorable housing fundamentals and in our view, favorable risk characteristics of insured loans, has provided a favorable credit backdrop for the business we have written in recent years. In that regard, we have experienced a declining delinquent inventory, and lower losses incurred and claims paid. Our most recent book years

continue to experience a low level of losses.

Although we generally view the risk characteristics of 2018 insured loans to be favorable, lending standards did ease in 2018. The percentage of our NIW with DTI ratios over 45% increased significantly in 2018 compared to recent years. The increase was primarily driven by adjustments to GSE underwriting guidelines for loans with DTI ratios over 45%. The rising cost of homeownership and a decrease in the percentage of our NIW from refinance transactions also resulted in an increasing percentage of our NIW with LTV ratios over 95%.

Refer to "Mortgage Insurance Portfolio" for additional discussion of changes in our NIW mix during 2018 and our efforts to mitigate our risk from the increase in NIW with DTI ratios over 45%.

Competition

PMI. The private mortgage insurance industry is highly competitive and is expected to remain so. We believe that we currently compete with other private mortgage insurers based on premium rates, underwriting requirements, financial strength (including based on credit or financial strength ratings), customer relationships, name recognition, reputation, the strength of our management team and field organization, the ancillary products and services provided to lenders and the effective use of technology and innovation in the delivery and servicing of our mortgage insurance products.

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Pricing practices

Much of the competition in the industry in the last few years has centered on pricing practices which have included: (i) reductions in standard filed rates for borrower-paid mortgage insurance policies ("BPMI"); (ii) use by competitors of a spectrum of filed rates to allow for formulaic, risk-based pricing that may be adjusted more frequently within certain parameters (referred to as "loan level pricing systems"); and (iii) use of customized rates (discounted from standard rates) that are made available to lenders that meet certain criteria.

In response to industry competition, and changing customer preferences, the delivery of premium rates has continued to migrate from standard rate cards, to use of loan level pricing systems; and use of customized rates (discounted from standard rates) that are made available to lenders that meet certain criteria. Loan level pricing systems incorporate more loan attributes than standard rate cards. They are considered more dynamic pricing models that can react faster to changing market conditions, including those conditions that increase or decrease risk, and they assist in managing risk and shaping the insured portfolio. We expect the adoption of mortgage insurers' loan level pricing systems by lenders to continue to increase.

Our pricing approach continues to evolve with the industry. In the first quarter of 2019 we introduced MiQ™, our loan level pricing system. We expect adoption of MiQ™ to increase during 2019 and the pace of adoption will be driven primarily by customer demand.

GSE Risk Share Transactions

In 2018, the GSEs initiated programs with loan level mortgage default coverage provided by various (re)insurers that are not mortgage insurers governed by PMIERS, and that are not selected by the lenders. Due to differences in policy terms, these programs offer premium rates that are generally below prevalent single premium LPMI rates. While we view these programs as competing with traditional private mortgage insurance, we have participated in them and may participate in future GSE or other programs.

The GSEs (and other investors) have also used other forms of credit enhancement that did not involve traditional private mortgage insurance, such as engaging in credit-linked note transactions executed in the capital markets, or using other forms of debt issuances or securitizations that transfer credit risk directly to other investors, including competitors and an affiliate of MGIC; using other risk mitigation techniques in conjunction with reduced levels of private mortgage insurance coverage; or accepting credit risk without credit enhancement.

Government programs. PMI also competes against government mortgage insurance programs such as the FHA, VA, and USDA, primarily for lower FICO score business. The market share of primary mortgage insurance written by government programs continued to exceed that written by PMI in 2018, however PMI recaptured share from those programs due in part to a reduction in refinance originations in 2018. Generally, PMI industry share is 3-4 times higher for purchase originations than refinance originations. The increase in the percentage of originations from purchase transactions along with the PMI premium rate reductions, have contributed to a PMI market share at its highest level since the financial crisis.

Refer to "[Mortgage Insurance Portfolio](#)" for additional discussion of the 2018 business environment and the impact it had on operating measures including NIW, IIF and RIF.

PMIERS

Since December 31, 2015 we have operated under the requirements of the PMIERS of the GSEs in order to insure loans delivered to or purchased by them. The PMIERS include financial requirements that require an approved mortgage insurer to have Available Assets that meet or exceed its Minimum Required Assets. MGIC's Available

Assets under PMIERS totaled \$4.8 billion, an excess of \$1.4 billion over its Minimum Required Assets at December 31, 2018.

Revised PMIERS were published in September 2018 and will become effective March 31, 2019. See "Revised PMIERS" below for additional information on the changes made to the PMIERS and their impact on MGIC's excess of Available Assets over its Minimum Required Assets.

BUSINESS OUTLOOK FOR 2019

Our outlook for 2019 should be viewed against the backdrop of the business environment discussed above.

NIW

We expect our 2019 NIW to be relatively flat with 2018. Our NIW is affected by total mortgage originations, the percentage of total mortgage originations utilizing private mortgage insurance (the "PMI penetration rate"), and our market share within the PMI industry. As of late January 2019, total mortgage origination forecasts indicate relatively flat origination volume in 2019 compared to 2018, with a slight increase in purchase originations offsetting a decline in refinance originations. We expect the PMI penetration rate to remain strong in part because the PMI industry's share of purchase originations has historically been 3-4 times greater than its share of refinance originations.

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The widespread use of loan level pricing systems by the PMI industry will make it more difficult to compare our rates to those offered by our competitors. We may not be aware of industry changes until we observe that our volume of NIW has changed and our volume may fluctuate more as a result.

IIF and RIF

Our IIF increased 7.6% in 2018 and we expect our IIF to increase in 2019. Our book of IIF is the main driver of our revenues and earnings, and its growth is driven by our ability to generate NIW and retain existing policies in force, as measured by our persistency. Interest rates influence both our NIW and persistency. In a rising rate environment, total mortgage originations may decline, however, we would also expect policy cancellation rates to decline, and in turn increase persistency, although the impact generally lags the change in interest rates.

Results of operations

Premiums. We believe that in 2019, growth in our earned premiums (on a direct basis) will continue to be slower than the growth of our IIF. Overall, our premium rates have been trending down in recent years, including in 2018, and the affected books of business represent an increasing percentage of our total IIF.

Our 2019 direct premiums written and net premiums earned are expected to be comparable to 2018. Our net premiums earned will be impacted by the decrease in premium rates noted above and by the amount of premiums we cede under our quota share and excess of loss reinsurance transactions. The amount of profit commission we receive, which reduces the amount of premiums we cede, is variable year-to-year and is dependent on the amount of losses ceded. Our profit commission in recent years has benefited from favorable loss reserve development associated with delinquency notices received in prior years. Further, 2019 will include a full year of premiums ceded under our excess of loss reinsurance transaction that went into effect in the fourth quarter of 2018. The actual amount of premiums we cede in 2019 will also be affected by any changes in the structure of our reinsurance coverage, such as termination of existing quota share reinsurance or additional excess of loss coverage.

Factors that affect the amount of premiums we earn from our IIF are further discussed in our "[Consolidated Results of Operations - Premium yield.](#)"

Investment income. Net investment income is a material contributor to our results of operations. We expect an increase in our net investment income in 2019 compared to 2018 primarily due to an increase in our invested assets. The amount of investment income will also be impacted by the yield we can earn on investments.

Losses. We expect 2019 losses incurred with respect to delinquency notices received in 2019 to be lower than the comparable amount for 2018 as we expect to receive fewer new delinquency notices in 2019. Overall, however, 2019 losses incurred, net are expected to increase compared to 2018 if we experience no favorable loss reserve development associated with delinquency notices received in prior years.

Income taxes. We expect our 2019 effective tax rate to be approximately 21%.

Revised PMIERS

The primary change included in the financial requirements of the revised PMIERS published in September 2018 and effective March 31, 2019, is the elimination of any credit for future premiums that had previously been allowed for certain insurance policies. As a result, upon their effectiveness, MGIC's excess of Available Assets over its Minimum Required Assets will decrease. See "GSEs" below for the expected impact of the revised PMIERS.

CAPITAL

Share repurchase program

On April 26, 2018, our board of directors authorized a share repurchase program under which we may repurchase up to \$200 million of our common stock through the end of 2019. Repurchases may be made from time to time on the open market or through privately negotiated transactions. The repurchase program may be suspended for periods or discontinued at any time. During 2018, we utilized approximately \$175 million (of which \$12 million settled in January 2019) of cash at our holding company to repurchase approximately 16.0 million shares of our common stock.

GSEs

We must comply with the PMIERS to be eligible to insure loans delivered to or purchased by the GSEs. The PMIERS include financial requirements, as well as business, quality control and certain transaction approval requirements. The financial requirements of the PMIERS require a mortgage insurer's "Available Assets" (generally only the most liquid assets of an insurer) to equal or exceed its "Minimum Required Assets" (which are based on an insurer's book of insurance in force and are calculated from tables of factors with several risk dimensions and are subject to a floor amount).

Based on our interpretation of the PMIERS, as of December 31, 2018, MGIC's Available Assets totaled \$4.8 billion, or \$1.4 billion in excess of its Minimum Required Assets. If the revised PMIERS discussed above had been effective as of December 31, 2018, we estimate that MGIC's pro forma excess of Available Assets over Minimum Required Assets would have been approximately \$1 billion.

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If MGIC ceases to be eligible to insure loans purchased by one or both of the GSEs, it would significantly reduce the volume of our new business writings. Factors that may negatively impact MGIC's ability to continue to comply with the financial requirements of the PMIERS include the following:

The GSEs may amend the PMIERS at any time and may make the PMIERS more onerous in the future. In June 2018, the FHFA issued a proposed rule on regulatory capital requirements for the GSEs ("Enterprise Capital Requirements"), which included a framework for determining the capital relief allowed to the GSEs for loans with PMI. The GSEs have indicated that there may be potential future implications for PMIERS based upon feedback the FHFA receives on its proposed rule on Enterprise Capital Requirements (public comments were due by November 16, 2018). In addition, the PMIERS provide that the factors that determine Minimum Required Assets will be updated every two years and may be updated more frequently to reflect changes in macroeconomic conditions or loan performance. The GSEs have indicated that they will generally provide notice 180 days prior to the effective date of such updates.

Our future operating results may be negatively impacted by the matters discussed in our risk factors. Such matters could decrease our revenues, increase our losses or require the use of assets, thereby creating a shortfall in Available Assets.

Should capital be needed by MGIC in the future, capital contributions from our holding company may not be available due to competing demands on holding company resources, including for repayment of debt.

While on an overall basis, the amount of Available Assets MGIC must hold in order to continue to insure GSE loans is greater under the PMIERS than what state regulation currently requires, our reinsurance transactions mitigate the negative effect of the PMIERS on our returns.

State Regulations

The insurance laws of 16 jurisdictions, including Wisconsin, our domiciliary state, require a mortgage insurer to maintain a minimum amount of statutory capital relative to its RIF (or a similar measure) in order for the mortgage insurer to continue to write new business. We refer to these requirements as the "State Capital Requirements." While they vary among jurisdictions, the most common State Capital Requirements allow for a maximum risk-to-capital ratio of 25 to 1. A risk-to-capital ratio will increase if (i) the percentage decrease in capital exceeds the percentage decrease in insured risk, or (ii) the percentage increase in capital is less than the percentage increase in insured risk. Wisconsin does not regulate capital by using a risk-to-capital measure but instead requires an MPP.

At December 31, 2018, MGIC's risk-to-capital ratio was 9.0 to 1, below the maximum allowed by the jurisdictions with State Capital Requirements, and its policyholder position was \$2.6 billion above the required MPP of \$1.3 billion. Our risk-to-capital ratio and MPP reflect full credit for the risk ceded under our quota share reinsurance transactions with unaffiliated reinsurers. It is possible that under the revised State Capital Requirements discussed below, MGIC will not be allowed full credit for the risk ceded to the reinsurers. If MGIC is not allowed an agreed level of credit under either the State Capital Requirements or the PMIERS, MGIC may terminate the reinsurance transactions, without penalty. At this time, we expect MGIC to continue to comply with the current State Capital Requirements; however, you should read our risk factors for information about matters that could negatively affect such compliance.

At December 31, 2018, the risk-to-capital ratio of our combined insurance operations (which includes a reinsurance affiliate) was 9.8 to 1. Reinsurance transactions with our affiliate permit MGIC to write insurance with a higher coverage percentage than it could on its own under certain state-specific requirements.

The NAIC plans to revise the minimum capital and surplus requirements for mortgage insurers that are provided for in its Mortgage Guaranty Insurance Model Act. A working group of state regulators has been considering since 2016 a risk-based capital framework to establish capital requirements for mortgage insurers, although no date has been established by which the NAIC must propose revisions to the capital requirements and certain items have not yet been

completely addressed by the framework, including the treatment of ceded risk, minimum capital floors, and action level triggers. Currently we believe that the PMIERS contain the more restrictive capital requirements in most circumstances.

GSE REFORM

The FHFA has been the conservator of the GSEs since 2008 and has the authority to control and direct their operations. The increased role that the federal government has assumed in the residential housing finance system through the GSE conservatorship may increase the likelihood that the business practices of the GSEs change, including through administrative action, in ways that have a material adverse effect on us and that the charters of the GSEs are changed by new federal legislation. In the past, members of Congress have introduced several bills intended to change the business practices of the GSEs and the FHA; however, no legislation has been enacted.

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The Administration issued a June 2018 report indicating that the conservatorship of the GSEs should end and that the GSEs should transition to fully private entities, competing on a level playing field with private issuers of MBS (such issuers, collectively with the GSEs, referred to in the report as the "guarantors"). The report further indicated that a federal entity should regulate the guarantors, including their capital adequacy, and that guarantors should have access to an explicit federal guarantee on the MBS that is exposed only after substantial losses are incurred by the private market, including the guarantors. The report also indicated that a fee on the outstanding volume of MBS would be transferred to the Department of Housing and Urban Development (of which the FHA is a part) to be used for affordable housing purposes. As a result of the matters referred to above, it is uncertain what role the GSEs, FHA and private capital, including private mortgage insurance, will play in the residential housing finance system in the future. The timing and impact on our business of any resulting changes is uncertain. Most meaningful changes would require Congressional action to implement and it is difficult to estimate when Congressional action would be final and how long any associated phase-in period may last.

For additional information about the business practices of the GSEs, see our risk factor titled "Changes in the business practices of the GSEs, federal legislation that changes their charters or a restructuring of the GSEs could reduce our revenues or increase our losses" in [Item 1A](#).

LOAN MODIFICATIONS AND OTHER SIMILAR PROGRAMS

The federal government, including through the U.S. Department of the Treasury and the GSEs, and several lenders have modification and refinance programs to make outstanding loans more affordable to borrowers with the goal of reducing the number of foreclosures. These programs included HAMP, which expired at the end of 2016, and HARP, which expired at the end of 2018. The GSEs have introduced other loan modification programs to replace HAMP and HARP.

From 2008 through 2012, we were notified of modifications that cured delinquencies that, had they become paid claims, would have resulted in a material increase in our incurred losses. Nearly all of the reported loan modifications were for loans insured in 2009 and prior.

We cannot determine the total benefit we may derive from loan modification programs, particularly given the uncertainty around the re-default rates for defaulted loans that have been modified. Our loss reserves do not account for potential re-defaults of current loans.

The following table shows the percentage of our primary RIF that has been modified as of December 31, 2018. Modifications

Policy Year	HARP ⁽¹⁾ Modifications	HAMP & Other Modifications
2003 and Prior	10.5%	45.1%
2004	18.1%	48.3%
2005	25.6%	46.5%
2006	28.7%	43.3%
2007	40.5%	33.3%
2008	56.7%	20.5%
2009	42.5%	7.6%
2010 - 2018	—%	0.5%

Total 6.2% 6.4%

(1) Includes proprietary programs that are substantially the same as HARP.

Approximately 12.6% of our total primary RIF has been modified as of December 31, 2018. Based on loan count at December 31, 2018, the loans associated with 97.6% of all HARP modifications and 79.6% of HAMP and other modifications were current.

FACTORS AFFECTING OUR RESULTS

Our results of operations are affected by:

Premiums written and earned

Premiums written and earned in a year are influenced by:

NIW, which increases IIF. Many factors affect NIW, including the volume of low down payment home mortgage originations and competition to provide credit enhancement on those mortgages from the FHA, the VA, other mortgage insurers, GSE programs that may reduce or eliminate the demand for mortgage insurance and other alternatives to mortgage insurance. NIW does not include loans previously insured by us that are modified, such as loans modified under HARP.

Cancellations, which reduce IIF. Cancellations due to refinancings are affected by the level of current mortgage interest rates compared to the mortgage coupon rates throughout the in force book, current home values compared to values when the loans in the in force book were insured and the terms on which mortgage credit is available. Home price appreciation can give homeowners the right to cancel mortgage insurance on their loans if sufficient home equity is achieved. Cancellations also result from policy rescissions, which require us to return any premiums received on the rescinded policies, and claim payments, which require us to return any premium received on the related policies from the date of default on the insured loans.

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Cancellations of single premium policies, which are generally non-refundable, result in immediate recognition of any remaining unearned premium.

Premium rates, which are affected by product type, competitive pressures, the risk characteristics of the insured loans and the percentage of coverage on the insured loans. The substantial majority of our monthly and annual mortgage insurance premiums are under premium plans for which, for the first ten years of the policy, the amount of premium is determined by multiplying the initial premium rate by the original loan balance; thereafter, the premium rate resets to a lower rate used for the remaining life of the policy. However, for loans that have utilized HARP, the initial ten-year period resets as of the date of the HARP transaction. The remainder of our monthly and annual premiums are under premium plans for which premiums are determined by a fixed percentage of the loan's amortizing balance over the life of the policy.

Premiums ceded, net of a profit commission, under our quota share reinsurance transactions, and premiums ceded under our excess of loss reinsurance transaction. See [Note 9 – "Reinsurance"](#) to our consolidated financial statements for a discussion of our reinsurance transactions.

Premiums earned are generated by the insurance that is in force during all or a portion of the period. A change in the average IIF in the current period compared to an earlier period is a factor that will increase (when the average in force is higher) or reduce (when it is lower) premiums earned in the current period, although this effect may be enhanced (or mitigated) by differences in the average premium rates between the two periods, as well as by premiums that are returned or expected to be returned in connection with claim payments and rescissions, and premiums ceded under reinsurance transactions. Also, NIW and cancellations during a period will generally have a greater effect on premiums earned in subsequent periods than in the period in which these events occur.

Investment income

Our investment portfolio is composed principally of investment grade fixed income securities. The principal factors that influence investment income are the size of the portfolio and its yield. As measured by amortized cost (which excludes changes in fair value, such as from changes in interest rates), the size of the investment portfolio is mainly a function of cash generated from (or used in) operations, such as NPW, investment income, net claim payments and expenses, and cash provided by (or used for) non-operating activities, such as debt or stock issuances or repurchases.

Losses incurred

Losses incurred are the current expense that reflects estimated payments that will ultimately be made as a result of delinquencies on insured loans. As explained under ["Critical Accounting Policies"](#) below, we recognize an estimate of this expense only for delinquent loans. The level of new delinquencies has historically followed a seasonal pattern, with new delinquencies in the first part of the year lower than new delinquencies in the latter part of the year, though this pattern can be affected by the state of the economy and local housing markets. Losses incurred are generally affected by:

• The state of the economy, including unemployment and housing values, each of which affects the likelihood that loans will become delinquent and whether loans that are delinquent cure their delinquency.

• The product mix of the in force book, with loans having higher risk characteristics generally resulting in higher delinquencies and claims.

• The size of loans insured, with higher average loan amounts tending to increase losses incurred.

The percentage of coverage on insured loans, with deeper average coverage tending to increase incurred losses.

The rate at which we rescind policies or curtail claims. Our estimated loss reserves incorporate our estimates of future rescissions of policies and curtailments of claims, and reversals of rescissions and curtailments. We collectively refer to such rescissions and denials as “rescissions” and variations of this term. We call reductions to claims “curtailments.”

The distribution of claims over the life of a book. Historically, the first few years after loans are originated are a period of relatively low claims, with claims increasing substantially for several years subsequent and then declining, although persistency, the condition of the economy, including unemployment and housing prices, and other factors can affect this pattern. For example, a weak economy or housing value declines can lead to claims from older books increasing, continuing at stable levels or experiencing a lower rate of decline. See further information under “Mortgage insurance earnings and cash flow cycle” below.

Losses ceded under reinsurance agreements. See Note 9 – “Reinsurance” to our consolidated financial statements for a discussion of our reinsurance agreements.

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Underwriting and other expenses

Underwriting and other expenses includes items such as employee compensation, fees for professional services, depreciation and maintenance expense, and premium taxes, and are reported net of ceding commissions associated with our reinsurance agreements. Employee compensation expenses are variable due to share-based compensation, changes in benefits, and headcount (which can fluctuate due to volume). See [Note 9 – “Reinsurance”](#) to our consolidated financial statements for a discussion of our reinsurance agreements.

Interest expense

Interest expense reflects the interest associated with our outstanding debt obligations and credit facility discussed in [Note 7 – “Debt”](#) to our consolidated financial statements and under [“Liquidity and Capital Resources”](#) below.

Other

Certain activities that we do not consider being part of our fundamental operating activities may also impact our results of operations and are described below.

Net realized investment gains (losses)

Fixed income securities. Realized investment gains and losses are a function of the difference between the amount received on the sale of a fixed income security and the fixed income security's cost basis, as well as any “other than temporary” impairments (“OTTI”) recognized in earnings. The amount received on the sale of fixed income securities is affected by the coupon rate of the security compared to the yield of comparable securities at the time of sale.

Equity securities. Effective January 1, 2018, realized investment gains and losses are accounted for as a function of the periodic change in fair value. For 2017 and 2016, realized investment gains and losses were accounted for as a function of the difference between the amount received on the sale of an equity security and the equity security's cost basis, as well as any OTTI recognized in earnings.

Loss on debt extinguishment

At times, we may undertake activities to enhance our capital position, improve our debt profile and/or reduce potential dilution from our outstanding convertible debt. Extinguishing our outstanding debt obligations early through these discretionary activities may result in losses primarily driven by the payment of consideration in excess of our carrying value.

Refer to [“Explanation and reconciliation of our use of Non-GAAP financial measures”](#) below to understand how these items impact our evaluation of our core financial performance.

MORTGAGE INSURANCE EARNINGS AND CASH FLOW CYCLE

In general, the majority of any underwriting profit that a book generates occurs in the early years of the book, with the largest portion of any underwriting profit realized in the first year following the year the book was written. Subsequent years of a book may result in either underwriting profit or underwriting losses. This pattern of results typically occurs because relatively few of the claims that a book will ultimately experience typically occur in the first few years of the book, when premium revenue is highest, while subsequent years are affected by declining premium revenues, as the number of insured loans decreases (primarily due to loan prepayments) and increasing losses. The typical pattern is also a function of premium rates generally resetting to lower levels after ten years.

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EXPLANATION AND RECONCILIATION OF OUR USE OF NON-GAAP FINANCIAL MEASURES

NON-GAAP FINANCIAL MEASURES

We believe that use of the Non-GAAP measures of adjusted pre-tax operating income (loss), adjusted net operating income (loss) and adjusted net operating income (loss) per diluted share facilitate the evaluation of the company's core financial performance thereby providing relevant information to investors. These measures are not recognized in accordance with GAAP and should not be viewed as alternatives to GAAP measures of performance. Other companies may calculate these measures differently. Therefore, their measures may not be comparable to those used by us.

Adjusted pre-tax operating income (loss) is defined as GAAP income (loss) before tax, excluding the effects of net realized investment gains (losses), gain (loss) on debt extinguishment, net impairment losses recognized in income (loss) and infrequent or unusual non-operating items, where applicable.

Adjusted net operating income (loss) is defined as GAAP net income (loss) excluding the after-tax effects of net realized investment gains (losses), gain (loss) on debt extinguishment, net impairment losses recognized in income (loss), and infrequent or unusual non-operating items, where applicable, which include the effects of changes in our deferred tax valuation allowance. The amounts of adjustments to components of pre-tax operating income (loss) are tax effected using a federal statutory income tax rate of 21% for 2018 and 35% for 2017 and 2016.

Adjusted net operating income (loss) per diluted share is calculated in a manner consistent with the accounting standard regarding earnings per share, by dividing (i) adjusted net operating income (loss) after making adjustments for interest expense on convertible debt, whenever the impact is dilutive, by (ii) diluted weighted average common shares outstanding, which reflects share dilution from unvested restricted stock units and from convertible debt when dilutive under the "if-converted" method.

Although adjusted pre-tax operating income (loss) and adjusted net operating income (loss) exclude certain items that have occurred in the past and are expected to occur in the future, the excluded items represent items that are: (1) not viewed as part of the operating performance of our primary activities; or (2) impacted by both discretionary and other economic or regulatory factors and are not necessarily indicative of operating trends, or both. These excluded items, along with the reasons for their treatment, are described below. Trends in the profitability of our fundamental operating activities can be more clearly identified without the fluctuations of these excluded items.

Net realized investment gains (losses). The recognition of net realized investment gains or losses can vary (1) significantly across periods as the timing of individual securities sales is highly discretionary and is influenced by such factors as market opportunities, our tax and capital profile, and overall market cycles.

Gains and losses on debt extinguishment. Gains and losses on debt extinguishment result from discretionary (2) activities that are undertaken to enhance our capital position, improve our debt profile, and/or reduce potential dilution from our outstanding convertible debt.

Net impairment losses recognized in earnings. The recognition of net impairment losses on investments can vary (3) significantly in both size and timing, depending on market credit cycles, individual issuer performance, and general economic conditions.

Infrequent or unusual non-operating items. Our income tax expense for 2017 reflects the remeasurement of our net (4) deferred tax assets to reflect the lower corporate income tax rate under the Tax Act. Our 2018, 2017 and 2016 income tax expense also includes amounts related to our IRS dispute and is related to past transactions which are non-recurring in nature and are not part of our primary operating activities.

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Non-GAAP reconciliations

Reconciliation of Income before tax / Net income to Adjusted pre-tax operating income / Adjusted net operating income:

(in thousands)	Years Ended December 31, 2018			2017			2016		
	Pre-tax	Tax Effect	Net (after-tax)	Pre-tax	Tax Effect	Net (after-tax)	Pre-tax	Tax Effect	Net (after-tax)
Income before tax / Net income	\$844,150	\$174,053	\$670,097	784,496	428,735	355,761	514,714	172,197	342,517
Adjustments:									
Additional income tax (provision) related to the rate decrease included in the Tax Act	—	—	—	—	(132,999)	132,999	—	—	—
Additional income tax benefit (provision) related to IRS litigation	—	2,462	(2,462)	—	(29,039)	29,039	—	(731)	731
Net realized investment losses (gains)	1,353	284	1,069	(231)	(81)	(150)	(8,921)	(3,122)	(5,799)
Loss on debt extinguishment	—	—	—	65	23	42	90,531	31,686	58,845
Adjusted pre-tax operating income / Adjusted net operating income	\$845,503	\$176,799	\$668,704	\$784,330	\$266,639	\$517,691	\$596,324	\$200,030	\$396,294

Reconciliation of Net income per diluted share to Adjusted net operating income per diluted share:

Weighted average diluted shares outstanding	386,078	394,766	431,992
Net income per diluted share	\$1.78	\$0.95	\$0.86

Additional income tax (provision) related to the rate decrease included in the Tax Act	—	0.34	—
Additional income tax (benefit) provision related to IRS litigation	(0.01)	0.07	—
Net realized investment losses (gains)	—	—	(0.01)
Loss on debt extinguishment	—	—	0.14
Adjusted net operating income per diluted share ⁽¹⁾	\$1.78	\$1.36	\$0.99

(1) For the Year Ended December 31, 2018, the Reconciliation of Net income per diluted share to Adjusted net operating income per diluted share does not foot due to rounding of the adjustments.

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MORTGAGE INSURANCE PORTFOLIO

MORTGAGE ORIGINATIONS

The primary mortgage insurance market is affected by total mortgage originations and PMI's market share. Total originations are estimated to have declined in 2018, due to lower refinance originations, offset only in part by higher purchase originations. Refinance originations fell as a result of higher mortgage interest rates on average; while continued solid housing fundamentals, such as household formations, low unemployment, and attractive mortgage rates supported the increase in purchase originations. Total mortgage originations in 2019 are forecast to be similar to 2018 estimated levels, with a continued decline in refinance originations offset by an increase in purchase originations. We expect PMI's market share to remain strong in part because the PMI industry's share of purchase originations has historically been 3-4 times higher than its share of refinance originations. Competition from government mortgage insurance programs and GSE alternative risk share transactions will also continue to impact the PMI's market share. In consideration of these factors, and our market share within the PMI industry, our 2019 NIW is expected to be relatively flat with that of 2018.

E - Estimated, F- Forecast

Source: GSEs and MBA estimates/forecasts as of January 2019. Amounts represent the average of all sources.

Estimated total of PMI, FHA, USDA, and VA
 primary mortgage insurance

(in billions)	2018	2017	2016
Primary mortgage insurance	\$675	\$701	\$748

Source: Inside Mortgage Finance - February 15, 2019 or SEC filings. Includes HARP NIW.

MORTGAGE INSURANCE INDUSTRY

We compete against five other private mortgage insurers, as well as government mortgage insurance programs, including those offered by the FHA, VA, and USDA. Refer to "[Overview - Business Environment - Competition](#)" for a discussion of our competitive position.

The PMI industry increased its share of the primary mortgage insurance market in 2018 and 2017, each when compared to the respective prior year. PMI's share increased primarily due to a higher percentage of purchase originations; an increase in 97% LTV loan offerings from lenders that sell loans to the GSEs, which provided an alternative to similar FHA loan programs for qualified borrowers; and PMI premium rate reductions in recent periods, which increases PMI's competitiveness compared to government programs.

Estimated primary MI market share

(% of total primary MI volume)	2018	2017	2016
PMI	43.2%	38.6%	36.1%
FHA	29.9%	33.9%	34.2%
VA	24.4%	24.7%	27.2%
USDA	2.5%	2.8%	2.5%

Source: Inside Mortgage Finance - February 15, 2019. Includes HARP NIW.

Our estimated market share within the PMI industry declined in 2018 when compared to 2017, due to the competitive dynamics in the industry, including, but not limited to, the migration to a more dynamic pricing approach across the industry. For additional discussion of the competitive landscape of the industry refer to "[Overview - Business Environment - Competition](#)."

Estimated MGIC market share

(% of total primary private MI volume)	2018	2017	2016
MGIC	17.4%	18.3%	17.9%

Source: Inside Mortgage Finance - February 15, 2019 or SEC filings. Excludes HARP NIW.

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NEW INSURANCE WRITTEN

NIW for 2018 continued to have what we believe are favorable risk characteristics. The following tables provide information about characteristics of our NIW.

Primary NIW by FICO score

	Years Ended		
	December 31,		
(% of primary NIW)	2018	2017	2016
760 and greater	42.2%	41.8%	43.0%
740 - 759	17.1%	16.8%	16.1%
720 - 739	14.5%	14.1%	14.1%
700 - 719	11.9%	11.9%	11.4%
680 - 699	7.2 %	8.1 %	8.4 %
660 - 679	3.8 %	4.0 %	3.9 %
640 - 659	2.3 %	2.3 %	2.2 %
639 and less	1.0 %	1.0 %	1.0 %
Total	100 %	100 %	100 %

Primary NIW by loan-to-value

	Years Ended		
	December 31,		
(% of primary NIW)	2018	2017	2016
95.01% and above	16.0%	10.7%	5.8 %
90.01% to 95.00%	43.3%	46.5%	47.8%
85.01% to 90.00%	28.7%	29.5%	31.7%
80.01% to 85%	12.0%	13.3%	14.7%

An increase in the percentage of purchase originations, discussed above, an increase in 97% LTV programs offered by lenders, and home price appreciation, have increased the percentage of our NIW with LTV ratios greater than 95% in 2018 compared to 2017.

Primary NIW by debt-to-income ratio

	Years Ended		
	December 31,		
(% of primary NIW)	2018	2017	2016
45.01% and above	19.6%	10.4%	4.9 %
38.01% to 45.00%	33.1%	35.8%	35.3%
38.00% and below	47.3%	53.8%	59.8%

In 2018, the percentage of our NIW with DTI ratios over 45% was 20%, up significantly from 10% in 2017. The increase was primarily driven by adjustments to GSE underwriting guidelines for loans with DTI ratios over 45%. Under our 2018 QSR Transaction, we may cede risk for loans insured with DTI ratios below 50%; however, the amount of risk we may cede for loans insured with DTI ratios over 45% in any quarter is limited to a percentage of all risk written that is materially below the percentage of our risk written in 2018 associated with loans with DTI ratios over 45%.

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To mitigate our risk from the increase in NIW written on loans with DTI ratios over 45%, effective in March 2018 we changed our underwriting guidelines to generally require such loans to have a FICO score of at least 700. Further, effective in July 2018, we added risk-based adjustments to our premium rates for loans with DTI ratios greater than 45%. We are continuing to monitor our exposure to such loans and may take further action.

Primary NIW by policy payment type

	Years Ended December 31,		
(% of primary NIW)	2018	2017	2016
Monthly premiums	83.0%	80.8%	80.6%
Single premiums	16.8%	19.0%	19.1%
Annual Premiums	0.2 %	0.2 %	0.3 %

Primary NIW by type of mortgage

	Years Ended December 31,		
(% of primary NIW)	2018	2017	2016
Purchases	93.2%	88.6%	80.4%
Refinances	6.8 %	11.4%	19.6%

IIF AND RIF

Our IIF grew 7.6% in 2018, compared to growth of 7.1% in 2017, as NIW more than offset policy cancellations. Cancellations are primarily due to refinances, but also result from rescissions, claim payments, and policy cancellations when borrowers achieve the required amount of home equity. Refinancing activity has historically been affected by the level of mortgage interest rates and the level of home price appreciation. Cancellations generally move inversely to the change in the direction of interest rates, although they generally lag a change in direction.

Persistency. Our persistency at December 31, 2018 was 81.7% compared to 80.1% at December 31, 2017. Since 2000, our year-end persistency ranged from a high of 84.7% at December 31, 2009 to a low of 47.1% at December 31, 2003. Insurance in force and risk in force

	Years Ended December 31,		
(\$ in 2018 billions)	2017	2016	
NIW	\$50.5	\$49.1	\$47.9
Cancellations	(\$6.2)		(40.4)
Increase in primary IIF	\$14.8	\$12.9	\$7.5

Direct
primary
IIF
as \$209.7 \$194.9 \$182.0
of
December
31,

Direct
primary
RIF
as \$54.1 \$50.3 \$47.2
of
December
31,

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CREDIT PROFILE OF OUR PRIMARY RIF

The proportion of our total primary RIF written after 2008 has been steadily increasing in proportion to our total primary RIF. Our 2009 and later books possess significantly improved risk characteristics when compared to our 2005-2008 origination years. The credit profile of our pre-2009 RIF has benefited from modification programs such as HARP. HARP allowed borrowers who were not delinquent, but who may not otherwise have been able to refinance their loans under the current GSE underwriting standards due to, for example, the current LTV exceeding 100%, to refinance and lower their note rate. Loans associated with 97.6% of all our HARP modifications were current as of December 31, 2018. The aggregate of our 2009-2018 books and our HARP modifications accounted for approximately 89% of our total primary RIF at December 31, 2018.

The composition of our primary RIF as of December 31, 2018, 2017, and 2016 is shown below.

Primary risk in force

	December 31, 2018	% of RIF	December 31, 2017	% of RIF	December 31, 2016	% of RIF
(\$ in RIF millions)						
2009-2018	\$45,083	83 %	\$39,248	78 %	\$33,368	71 %
2005-2008	-					
(HARP)	3,109	5 %	3,773	7 %	4,489	9 %
Other	229	1 %	308	1 %	396	1 %
Subtotal	48,421	89 %	43,329	86 %	38,253	81 %
2005-2008	4,796	9 %	5,894	12 %	7,467	16 %
(Non-HARP)						
Other	246	2 %	1,095	2 %	1,475	3 %
(Non-HARP)						
Subtotal	5,042	11 %	6,989	14 %	8,942	19 %
Total	\$54,063	100 %	\$50,318	100 %	\$47,195	100 %
Primary RIF						

POOL AND OTHER INSURANCE

MGIC has written no new pool insurance since 2008, however, for a variety of reasons, including responding to capital market alternatives to private mortgage insurance and customer demands, MGIC may write pool risk in the future. Our direct pool RIF was \$419 million (\$228 million on pool policies with aggregate loss limits and \$191 million on pool policies without aggregate loss limits) at December 31, 2018 compared to \$471 million (\$236 million on pool policies with aggregate loss limits and \$235 million on pool policies without aggregate loss limits) at December 31, 2017. If claim payments associated with a specific pool reach the aggregate loss limit, the remaining RIF within the pool would be cancelled and any remaining defaults under the pool would be removed from our default inventory.

In connection with the GSEs' credit risk transfer programs, an insurance subsidiary of MGIC provides insurance and reinsurance covering portions of the credit risk related to certain reference pools of mortgages acquired by the GSEs. Our RIF, as reported to us, related to these programs was approximately \$53 million as of December 31, 2018.

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CONSOLIDATED RESULTS OF OPERATIONS

The following section of the MD&A provides a comparative discussion of our Consolidated Results of Operations for the three-year period ended December 31, 2018. For a discussion of the Critical Accounting Policies used by us that affect the Consolidated Results of Operations, see "[Critical Accounting Policies](#)" below.

Revenues

(In millions)	Year Ended December 31,		
	2018	2017	2016
Net premiums written	\$992.3	\$998.0	\$975.1
Net premiums earned	\$975.2	\$934.7	\$925.2
Investment income, net of expenses	141.3	120.9	110.7
Net realized investment (losses) gains	(1.4)	0.2	8.9
Other revenue	8.7	10.2	17.7
Total revenues	\$1,123.8	\$1,066.0	\$1,062.5

NET PREMIUMS WRITTEN AND EARNED

2018 compared to 2017. NPW was relatively flat compared to the prior year. NPE increased 4% compared to the prior year primarily due to lower ceded premiums, net, as the increase in profit commission more than offset the increase in gross ceded premiums. The profit commission increased due to a decrease in ceded losses. The increase in NPE also reflects an increase in our IIF compared to the prior year, however this impact is being offset in part by a lower premium yield.

2017 compared to 2016. NPW increased 2% from the prior year, due to an increase in our average IIF, a decline in premium refunds and lower ceded premiums, net as the increase in profit commission more than offset the increase in gross ceded premiums. Premium refunds declined due to lower claim activity and our profit commission increased due a decrease in ceded losses. NPE increased slightly from the prior year due to the decline in premium refunds and lower ceded premiums, net, which offset lower earned premiums from our IIF during the year as our premium yield decreased.

Premium yield

Premium yield is NPE divided by average IIF during the year and is influenced by a number of key drivers, which have a varying impact from period to period. The following table reconciles the change in our premium yield for the years ended 2018 and 2017 from the respective prior years.

Premium yield

(In basis points)	2018	2017
Premium yield - prior year	49.6	51.9
Reconciliation:		
Change in premium rates	(2.8)	(3.8)
Change in premium refunds and accruals	0.6	1.3

Single premium policy persistency	(0.4)	(0.6)
Reinsurance	1.2	0.8
Premium yield - end of year	48.2	49.6

The declines in our premium yield in each of 2018 and 2017 compared to the respective prior years reflect:

Negative drivers:

A larger percentage of our IIF from book years with lower premium rates due to a decline in premium rates in recent years resulting from insuring mortgages with lower risk characteristics and pricing competition, and certain policies undergoing premium rate resets on their ten-year anniversaries, and lower amounts of accelerated earned premium from cancellations on single premium policies prior to their estimated policy life, primarily due to less refinancing activity.

Positive drivers:

less of an adverse impact from our reinsurance due to lower ceded losses, which resulted in a higher profit commission, and less of an adverse impact from premium refunds primarily due to lower claim activity.

We expect our premium yield to further decline in 2019, primarily due to lower average premium rates on our IIF.

See "Overview – Factors Affecting Our Results" above for additional factors that also influence the amount of net premiums written and earned in a year. Our reinsurance affects premiums, underwriting expenses and losses incurred and should be analyzed by reviewing its total effect on our statements of operations, as discussed below under "Reinsurance agreements."

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REINSURANCE AGREEMENTS

Quota share reinsurance

Our quota share reinsurance affects various lines of our statements of operations and therefore we believe it should be analyzed by reviewing its effect on our pre-tax net income, as described below.

è We cede a fixed percentage of premiums earned and received on insurance covered by the transactions.

We receive the benefit of a profit commission through a reduction in the premiums we cede. The profit commission varies directly and inversely with the level of losses on a "dollar for dollar" basis and is eliminated at levels of losses that we do not expect to occur. This means that lower levels of losses result in a higher profit commission and less benefit from ceded losses; higher levels of losses result in more benefit from ceded losses and a lower profit commission (or for levels of losses we do not expect, its elimination).

è We receive the benefit of a ceding commission through a reduction in underwriting expenses equal to 20% of premiums ceded (before the effect of the profit commission).

è We cede a fixed percentage of losses incurred on insurance covered by the transactions.

The blended pre-tax cost of reinsurance under our different quota share transactions is less than 6% (but will decrease if losses are materially higher than we expect). This blended pre-tax cost is derived by dividing the reduction in our pre-tax net income on loans covered by reinsurance by our direct (that is, without reinsurance) premiums from such loans. Although the pre-tax cost of the reinsurance under each transaction is generally constant, the effect of the quota share reinsurance on the various components of pre-tax income discussed above will vary from period to period, depending on the level of ceded losses.

Covered Risk

The amount of our NIW (and, consequently, our NIW) subject to our QSR transactions as shown in the following table will vary from period to period in part due to coverage limits that may be triggered depending on the mix of our risk written during the period.

The percentage of our 2018 NIW covered by our 2018 QSR Transaction decreased when compared to the percentage of 2017 and 2016 NIW covered by our 2017 QSR Transaction and 2015 QSR Transaction, respectively, primarily due to the following factors.

2018 compared to 2017:

è The 2018 transaction excluded loans with LTV ratios of 85% and below.

è Despite the 2018 transaction's increased coverage limit for risk written on loans with (1) LTV ratios of 95% and greater, and (2) DTI ratios greater than 45%, the risk written in 2018 exceeded these coverage limits.

2017 compared to 2016:

è The 2017 transaction excluded loans with amortization terms equal to or less than 20 years.

è Despite the 2017 transaction allowing some risk written on loans with DTI ratios greater than 45%; the percentage of such risk written in 2017 exceeded the coverage limit.

2019 QSR Transaction. The transaction covering our 2019 NIW will include increased coverage limits for risk written on loans with LTV ratios of 95% or greater and loans with DTI ratios greater than 45%, each when compared to our 2018 QSR Transaction.

The following table provides information related to our quota share reinsurance agreements for 2018, 2017, and 2016.
Quota share reinsurance

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As of and For the Years Ended
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(Dollars in thousands)	2018	2017	2016	
NIW subject to QSR Transactions	75.1	% 84.0	% 89.2	%
IIF subject to QSR Transactions	77.5	% 78.0	% 76.3	%

Statements of operations:

Ceded premiums written and earned, net of profit commission	\$108,337	\$120,974	\$125,460	
% of direct premiums written	10	% 11	% 11	%
% of direct premiums earned	10	% 11	% 12	%
Profit commission	\$147,667	\$125,629	\$112,685	
Ceding commissions	\$51,201	\$49,321	\$47,629	
Ceded losses incurred	\$6,543	\$22,336	\$30,201	

Mortgage insurance portfolio:

Ceded RIF (in millions)	\$12,839	\$11,849	\$10,764	
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Excess of loss reinsurance

Our excess of loss reinsurance transaction entered into October 30, 2018, which covers losses beginning August 1, 2018, provides up to \$318.6 million of loss coverage on an existing portfolio of in force policies having an in force date on or after July 1, 2016 and before January 1, 2018. The initial aggregate exposed principal balance was approximately \$7.5 billion, which takes into account the unpaid principal balance, mortgage insurance coverage percentage, net retained quota share percentage, and the reinsurance inclusion percentage.

The premiums ceded to the reinsurer, Home Re, are composed of coverage premiums, initial expense and supplemental premiums. The coverage premiums are

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generally calculated as the difference between the amount of interest payable by Home Re on the notes it issued to raise funds to collateralize its reinsurance obligations to us, and the investment income collected on the collateral assets. Total ceded premiums for the year ended December 31, 2018 were \$2.8 million. The amount of coverage premium due will vary each month due to changes in interest rates and the outstanding reinsurance coverage amount.

Captive reinsurance

The following table provides information related to our captive reinsurance agreements for 2018, 2017, and 2016.

Captive reinsurance

(Dollars in thousands)	As of and For the Years Ended December 31,			
	2018	2017	2016	
IIF subject to captive reinsurance agreements	—	% 1	% 2	%

Statements of operations:

Ceded premiums written	\$125	\$4,467	\$7,987	
% of direct premiums written	—	% 0.4	% 0.7	%
Ceded premiums earned	\$174	\$4,476	\$8,090	
% of direct premiums earned	—	% 0.4	% 0.8	%
Ceded losses incurred	\$286	\$(1,135)	\$3,994	

INVESTMENT INCOME, NET

2018 compared to 2017. Net investment income increased 17% to \$141 million in 2018 compared to \$121 million in 2017. The increase in investment income was due to higher average investment yields, as well as a higher average investment portfolio balance.

2017 compared to 2016. Net investment income increased 9% to \$121 million in 2017 compared to \$111 million in 2016. The increase in investment income was due to higher average investment yields, as well as a higher average investment portfolio balance.

See "[Balance Sheet Review](#)" in this MD&A for further discussion regarding our investment portfolio.

NET REALIZED INVESTMENT GAINS (LOSSES)

Net realized investment losses in 2018, and gains in 2017, and 2016 were \$1 million, \$231 thousand and \$9 million, respectively.

OTHER REVENUE

2018 compared to 2017. Other revenue decreased to \$9 million in 2018 from \$10 million in 2017, primarily due to lower contract underwriting revenues.

2017 compared to 2016. Other revenue decreased to \$10 million in 2017 from \$18 million in 2016, due to lower contract underwriting revenues and a non-recurring gain in 2016 of approximately \$4 million related to changes in foreign currency exchange rates upon our substantial liquidation of our Australian operations.

Losses and expenses

Losses and expenses

(In millions)	Year Ended December		
	2018	2017	2016
Losses incurred, net	\$36.6	\$53.7	\$240.2
Amortization of deferred policy acquisition costs	11.9	11.1	9.6
Other underwriting and operating expenses, net	178.2	159.6	150.8
Interest expense	53.0	57.0	56.7
Loss on debt extinguishment	—	0.1	90.5
Total losses and expenses	\$279.7	\$281.6	\$547.8

LOSSES INCURRED, NET

As discussed in “Critical Accounting Policies” below and consistent with industry practices, we establish loss reserves for future claims only for loans that are currently delinquent. The terms “delinquent” and “default” are used interchangeably by us. We consider a loan delinquent when it is two or more payments past due. Loss reserves are established based on estimating the number of loans in our default inventory that will result in a claim payment, which is referred to as the claim rate, and further estimating the amount of the claim payment, which is referred to as claim severity.

Estimation of losses is inherently judgmental. The conditions that affect the claim rate and claim severity include the current and future state of the domestic economy, including unemployment and the current and future strength of local housing markets. The actual amount of the claim payments may be substantially different than our loss reserve estimates. Our estimates could be adversely affected by several factors, including a deterioration of regional or national economic conditions, including unemployment, leading to a reduction in borrower income and thus their ability to make mortgage payments, and a drop in housing values, that could result in, among other things, greater losses on loans, and may affect borrower willingness to continue to make mortgage payments when the value of the home is below the mortgage balance. Historically, losses incurred have followed a seasonal trend in which the second half of the year has weaker credit performance than the first half, with higher new notice activity and a lower cure rate. Our estimates are also affected by any agreements we enter into regarding our claims paying practices, such as the settlement agreements discussed in [Note 17 – “Litigation and](#)

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Contingencies” to our consolidated financial statements. Changes to our estimates could result in a material impact to our consolidated results of operations and financial position, even in a stable economic environment.

2018 compared to 2017. Losses incurred, net decreased 32% to \$37 million compared to \$54 million in 2017. The decrease was due to a decrease in losses and LAE incurred in respect to delinquencies reported in 2018, offset in part by a decrease in favorable development on prior year delinquencies. New delinquency notices declined 20% when compared to 2017, in part due to elevated 2017 notice activity associated with 2017 hurricanes, and the estimated claim rate on new notices also declined. Favorable development on prior year delinquencies occurred in 2018 due to a lower estimated claim rate on previously reported delinquencies, partially offset by increases in our expected severity assumption on previously reported delinquencies. During 2018, cure activity on loans that were delinquent twelve months or more was significantly higher than our previous estimates.

2017 compared to 2016. Losses incurred, net decreased 78% to \$54 million compared to \$240 million in 2016. The decrease was due to both a decrease in losses and LAE incurred in respect to delinquencies reported in 2017 and favorable development on prior year delinquencies. Losses incurred with respect to delinquencies reported in 2017 declined as we estimated a lower claim rate on new notices in 2017, which offset the slight increase in new notices received. The increase in new notices was caused by hurricane activity in the third quarter of 2017. Favorable development on prior year delinquencies occurred in 2017 and 2016 due to a lower estimated claim rate on previously reported delinquencies, partially offset by increases in our expected severity assumption on previously reported delinquencies. During 2017, cure activity on loans that were delinquent twelve months or more was significantly higher than our previous estimates.

See "New notice claim rate" and "Claims severity" below for additional factors and trends that impact these loss reserve assumptions.

Composition of losses incurred

(In millions)	Year Ended		
	December 31,		
	2018	2017	2016
Current year / New notices	\$204	\$285	\$388
Prior year reserve development	(167)	(231)	(148)
Losses incurred, net	\$37	\$54	\$240

Loss ratio

The loss ratio is the ratio, expressed as a percentage, of the sum of incurred losses and LAE, net to net premiums earned. The decline in the loss ratio in 2018 when compared to 2017, and in 2017 compared to 2016, reflects the lower level of losses incurred, net and an increase in earned premiums.

	Year Ended		
	December 31,		
	2018	2017	2016
Loss ratio	3.7%	5.7%	26.0%

New notice claim rate

New notice claim rate - total

Year Ended December 31,		
2018	2017	2016

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New notices 54,448 68,268 67,434
 Claim rate ⁽¹⁾ 9 % 10 % 12 %

⁽¹⁾ Claim rate is the respective full year weighted average rate and is rounded to the nearest whole percent.

New notices - loans insured 2008 and prior

	Year Ended December 31,			
	2018	2017	2016	
New notices	38,897	52,313	59,004	
Previously delinquent	93	% 90	% 90	%

New notices declined in 2018 compared to 2017 due to favorable economic conditions and an improving risk profile of our RIF; however, 2017 new notice activity also includes the impact of hurricane activity. The increase in new notices in 2017 compared to 2016 was driven by the 2017 hurricane activity.

Our estimated claim rate on new notices declined in 2018 compared to 2017, and in 2017 compared to 2016, in each case reflecting the economic environment and our expectation of cure activity on the new notices received. We also estimated a materially lower new notice claim rate for those notices received in the fourth quarter of 2017 that we estimated to have been caused by hurricane activity that occurred in the third quarter of 2017. When excluding our estimate of new notices caused by hurricanes, our 2017 new notice claim rate approximated 10.5%, marginally higher than the actual full-year rate.

New notice activity continues to be primarily driven by loans insured in 2008 and prior, which continue to experience a cycle whereby many loans become delinquent, cure, and become delinquent again. As a result of this cycle significant judgment is required in establishing the estimated claim rate.

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Claims severity

Factors that impact claim severity include:

- exposure on the loan, which is the unpaid principal balance of the loan times our insurance coverage percentage,
- length of time between delinquency and claim filing (which impacts the amount of interest and expenses, with a longer period between default and claim filing generally increasing severity), and
- curtailments.

As discussed in [Note 8 - "Loss Reserves,"](#) the average time for servicers to process foreclosures has recently shortened. Therefore, we expect the average number of missed payments at the time a claim is received to be approximately 18 to 24 for new notices we have recently received, and expect to receive in 2019, compared to an average of 40 missed payments for claims received in 2018. Our loss reserves estimates take into consideration trends over time, because the development of the delinquencies may vary from period to period without establishing a meaningful trend.

The majority of loans from 2005 through 2008 (which represent 60% of the loans in the delinquent inventory) are covered by master policy terms that, except under certain circumstances, do not limit the number of years that an insured can include interest when filing a claim. Under our current master policy terms, an insured can include accumulated interest when filing a claim only for the first three years the loan is delinquent. In each case, the insured must comply with its obligations under the terms of the applicable master policy.

The quarterly trend in claims severity for each of the three years in the period ended December 31, 2018 is shown in the following table.

Claims severity trend

Period	Average exposure on claim paid	Average claim paid	% Paid to exposure	Average number of missed payments at claim received date
Q4 2018	\$ 45,366	\$47,980	105.8 %	41
Q3 2018	43,290	47,230	109.1 %	42
Q2 2018	44,522	50,175	112.7 %	39
Q1 2018	45,597	51,069	112.0 %	38
Q4 2017	44,437	49,177	110.7 %	36
Q3 2017	43,313	46,389	107.1 %	35
Q2 2017	44,747	49,105	109.7 %	35
Q1 2017	44,238	49,110	111.0 %	35
Q4 2016	43,200	48,297	111.8 %	35
Q3 2016	43,747	48,050	109.8 %	34
Q2 2016	43,709	47,953	109.7 %	35
Q1 2016	44,094	49,281	111.8 %	34

Note: Table excludes material settlements.
 Settlements include amounts paid in settlement of disputes for claims paying practices and NPL

commutations.

Our estimate of loss reserves is sensitive to the underlying factors; it is possible that even a relatively small change in our estimated claim rate or severity could have a material impact on reserves and, correspondingly, on our consolidated results of operations even in a stable economic environment. For example, as of December 31, 2018, assuming all other factors remain constant, a \$1,000 increase/decrease in the average severity reserve factor would change the reserve amount by approximately +/- \$12 million. A 1 percentage point increase/decrease in the average claim rate reserve factor would change the reserve amount by approximately +/- \$19 million.

See Note 8 – “Loss Reserves” to our consolidated financial statements and “Critical Accounting Policies” below for a discussion of our losses incurred and claims paying practices (including curtailments).

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Total primary (excluding settlements)	\$282	\$446	\$599
Claims paying practices and NPL settlements ⁽¹⁾	50	54	53
Pool ⁽²⁾	6	10	56
Other	—	—	(1)
Direct losses paid	338	510	707
Reinsurance	(19)	(23)	(23)
Net losses paid	319	487	684
LAE	16	18	20
Net losses and LAE paid before terminations	335	505	704
Reinsurance terminations	(2)	—	(3)
Net losses and LAE paid	\$333	\$505	\$701

(1) See Note 8 - "Loss Reserves" for additional information on our settlements of disputes for claims paying practices and commutations of NPLs.

(2) 2016 included \$42 million paid under the terms of our settlement with Freddie Mac as discussed in Note 8 - "Loss Reserves" to our consolidated financial statements.

Net losses and LAE paid decreased 34% in 2018 compared to 2017 primarily due to lower claim activity on our primary business. Net losses and LAE paid decreased 28% in 2017 compared to 2016 due to lower claim activity on our primary business and the completion of our settlement payments to Freddie Mac in 2016 related to our pool business. During each of 2018, 2017 and 2016, losses paid included settlement payments under commutations of coverage on pools of NPLs and/or related to disputes concerning our claims paying practices. We believe losses and LAE paid will be lower in 2019 compared to 2018.

Primary losses paid for the top 15 jurisdictions (based on 2018 losses paid, excluding settlement amounts) and all other jurisdictions for each of the three years in the period ended December 31, 2018 appears in the table below.

Primary paid losses by jurisdiction

(In millions)	2018	2017	2016
New Jersey*	\$42	\$61	\$60
New York*	32	37	35
Florida*	29	49	85
Illinois*	19	28	43
Maryland	18	23	29
Pennsylvania*	12	22	26
California	11	17	27
Puerto Rico*	9	18	17
Ohio*	8	16	21
Massachusetts	8	13	14
Connecticut*	7	11	14
Virginia	6	10	15
Georgia	5	10	13
Texas	5	8	10
Michigan	4	7	14
All other jurisdictions	67	116	176
Total primary (excluding settlements)	\$282	\$446	\$599

Note: Asterisk denotes jurisdictions in the table above that predominately use a judicial foreclosure process, which generally increases the amount of time it takes for a foreclosure to be completed.

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The primary average claim paid for the top 5 jurisdictions (based on 2018 losses paid, excluding settlement amounts) for each of the three years in the period ended December 31, 2018 appears in table below. The primary average claim paid can vary materially from period to period based upon a variety of factors, including the local market conditions, average loan amount, average coverage percentage, time between default and claim payment and loss mitigation efforts on loans for which claims are paid.

Primary average claim paid

	2018	2017	2016
New Jersey*	\$89,504	\$87,333	\$81,955
New York*	98,026	81,043	70,869
Florida*	59,320	62,751	60,737
Illinois*	44,379	46,089	50,047
Maryland	72,966	73,569	72,396
All other jurisdictions	37,743	39,146	40,828
All jurisdictions	49,218	48,476	48,416

Note: Asterisk denotes jurisdictions in the table above that predominately use a judicial foreclosure process, which generally increases the amount of time it takes for a foreclosure to be completed.

The primary average RIF on delinquent loans as of December 31, 2018, 2017 and 2016 and for the top 5 jurisdictions (based on 2018 losses paid, excluding settlement amounts) appears in the following table.

Primary average exposure - delinquent loans

	2018	2017	2016
New Jersey	\$65,521	\$65,684	\$65,196
New York	71,795	71,260	68,729
Florida	53,371	54,872	54,018
Illinois	39,753	40,794	41,765
Maryland	65,421	66,266	66,005
All other jurisdictions	40,136	39,848	39,287
All jurisdictions	44,584	45,153	44,520

LOSS RESERVES

Our primary default rate at December 31, 2018 was 3.11% (2017: 4.55%, 2016: 5.04%). Our primary delinquent inventory was 32,898 loans at December 31, 2018, representing a decrease of 29% from 2017 and 35% from 2016. The reduction in our primary delinquent inventory is the result of the total number of delinquent loans: (1) that have cured; (2) for which claim payments have been made; or (3) that have resulted in rescission, claim denial, or removal from inventory due to settlements of claims paying disputes or commutations of coverage of pools of NPLs, collectively, exceeding the total number of new delinquencies on insured loans. In recent periods, we have experienced improved cure rates and the number of delinquencies in the inventory with twelve or more missed payments has been declining. Generally, the fewer missed payments associated with a delinquent loan, the lower the likelihood it will result in a claim. Our commutations of coverage on pools of NPLs have each been completed with amounts paid approximating the loss reserves previously established on the delinquent loans. We expect our

delinquent inventory to decline in 2019 from 2018 levels.

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The primary and pool loss reserves as of December 31, 2018, 2017 and 2016 appear in table below.
Gross reserves

	December 31,		
	2018	2017	2016
Primary:			
Direct loss reserves (In millions)	\$610	\$913	\$1,334
IBNR and LAE	50	58	79
Total primary loss reserves	660	971	1,413
Ending delinquent inventory	32,898	46,556	50,282
Percentage of loans delinquent (default rate)	3.11 %	4.55 %	5.04 %
Average direct reserve per default	\$20,077	\$20,851	\$28,104
Primary claims received inventory included in ending delinquent inventory	809	954	1,385
Pool ⁽¹⁾ :			
Direct loss reserves (In millions):			
With aggregate loss limits	10	10	18
Without aggregate loss limits	3	4	7
Total pool direct loss reserves	13	14	25
Ending delinquent inventory:			
With aggregate loss limits	595	952	1,382
Without aggregate loss limits	264	357	501
Total pool ending delinquent inventory	859	1,309	1,883
Pool claims received inventory included in ending delinquent inventory	24	42	72
Other gross reserves (In millions)	1	1	1

⁽¹⁾ Since a number of our pool policies include aggregate loss limits and/or deductibles, we do not disclose an average direct reserve per default for our pool business.

The average direct reserve per default as of December 31, 2017 included the impact of delinquencies we estimated to be caused by hurricane activity that remained in our ending delinquent inventory at December 31, 2017, which had a materially lower new notice claim rate than other new notices received. When excluding the estimated hurricane delinquencies, the average direct reserve per default was \$24,000. The average direct reserve per default as of December 31, 2018 declined when compared to the average as of December 31, 2017 and December 31, 2016 because the estimated claim rates on loans that remain in our delinquent inventory were lower as of December 31, 2018.

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The primary default inventory for the top 15 jurisdictions (based on 2018 losses paid, excluding settlement amounts) at December 31, 2018, 2017 and 2016 appears in table the below.

Primary delinquent inventory by jurisdiction

	2018	2017	2016
New Jersey*	1,151	1,749	2,586
New York*	1,855	2,387	3,171
Florida*	2,853	6,501	4,150
Illinois*	1,781	2,136	2,649
Maryland	842	1,026	1,312
Pennsylvania*	1,929	2,403	2,984
California	1,260	1,402	1,590
Puerto Rico*	1,503	3,761	1,844
Ohio*	1,627	2,025	2,614
Massachusetts	596	759	1,108
Connecticut*	480	574	690
Virginia	588	731	885
Georgia	1,220	1,550	1,853
Texas	2,369	3,975	3,201
Michigan	1,041	1,260	1,482
All other jurisdictions	11,803	14,317	18,163
Total	32,898	46,556	50,282

Note: Asterisk denotes jurisdictions in the table above that predominately use a judicial foreclosure process, which generally increases the amount of time it takes for a foreclosure to be completed.

Florida, Puerto Rico, and Texas each experienced an increase in their delinquent inventory as of December 31, 2017 compared to December 31, 2016. The increases were driven by hurricanes in the third quarter of 2017, which resulted in significant new notice activity in the fourth quarter of 2017. Primarily due to 2018 cure activity on hurricane-related notices, each of those jurisdictions had significant reductions in their delinquent inventory in 2018.

The primary default inventory by policy year at December 31, 2018, 2017 and 2016 appears in the table below.
 Primary delinquent inventory by policy year

	2018	2017	2016
2004 and prior	6,061	8,739	11,116
2004 and prior %:	18 %	19 %	22 %
2005	3,340	4,916	5,826
2006	5,299	7,719	9,267
2007	8,702	12,807	15,816
2008	2,369	3,455	4,140
2005 - 2008 %	60 %	62 %	70 %
2009	172	315	421

2010	121	199	222	
2011	159	266	246	
2012	312	549	364	
2013	592	957	686	
2014	1,264	1,757	1,142	
2015	1,418	1,992	814	
2016	1,459	1,930	222	
2017	1,282	955	—	
2018	348	—	—	
2009 and later %:	22	% 19	% 8	%
Total	32,898	46,556	50,282	

The delinquent inventory as of December 31, 2017 for most policy years included new notices from hurricane impacted areas that had not cured. As a result, delinquencies, including in the most recent policy years, were greater than they otherwise would have been as of December 31, 2017. The majority of the notices received in the hurricane impacted areas cured during 2018.

The losses we have incurred on our 2005 through 2008 books have exceeded our premiums from those books. Although uncertainty remains with respect to the ultimate losses we will experience on these books of business, as we continue to write new insurance on high-quality loans, those books are a declining percentage of our total mortgage insurance portfolio. Our 2005 through 2008 books of business represented approximately 15% and 19% of our total primary RIF at December 31, 2018 and 2017, respectively. Approximately 39% of the remaining primary RIF on our 2005 through 2008 books of business benefited from HARP as of both December 31, 2018 and 2017.

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On our primary business, the highest claim frequency years have typically been the third and fourth year after the year of loan origination. However, the pattern of claims frequency can be affected by many factors, including persistency and deteriorating economic conditions. Low persistency can accelerate the period in the life of a book during which the highest claim frequency occurs. Deteriorating economic conditions can result in increasing claims following a period of declining claims. As of December 31, 2018, 59% of our primary RIF was written subsequent to December 31, 2015, 70% of our primary RIF was written subsequent to December 31, 2014, and 76% of our primary RIF was written subsequent to December 31, 2013.

UNDERWRITING AND OTHER EXPENSES, NET

2018 compared to 2017. Underwriting and other expenses for 2018 increased when compared to 2017 primarily due to higher compensation expenses.

2017 compared to 2016. Underwriting and other expenses for 2017 increased when compared to 2016, primarily due to higher compensation, professional services, and depreciation expenses.

Underwriting expense ratio

The underwriting expense ratio is the ratio, expressed as a percentage, of the underwriting and operating expenses, net and amortization of DAC of our combined insurance operations (which excludes underwriting and operating expenses of our non-insurance operations) to NPW, and is presented in the table below for the past three years.

	Year Ended		
	December 31,		
	2018	2017	2016
Underwriting expense ratio	18.2%	16.0%	15.3%

The increase in the underwriting expense ratio in 2018 when compared to 2017 was due to an increase in expenses and a decrease in our NPW. The increase in the underwriting expense ratio in 2017 when compared to 2016 was due to an increase in expenses, offset in part by an increase in our NPW.

INTEREST EXPENSE

2018 compared to 2017. Interest expense for 2018 decreased 7% to \$53 million compared to \$57 million in 2017 as our previously outstanding 5% Notes matured and our 2% Notes were extinguished, each during 2017.

2017 compared to 2016. Interest expense for 2017 was relatively flat with 2016 as a full-year of interest on our 5.75% Notes issued in August 2016 offset lower interest due to the maturity of our 5% Notes and extinguishment of our 2% Notes.

LOSS ON DEBT EXTINGUISHMENT

Loss on debt extinguishment in 2016 reflects the repurchases of a portion of our outstanding 2% and 5% Notes at amounts above our carrying values. The loss on debt extinguishment from MGIC's purchase of a portion of our 9% Debentures represents the difference between the fair value and carrying value of the liability component on the purchase date.

INCOME TAX EXPENSE AND EFFECTIVE TAX RATE

Income tax provision and effective tax rate

(In millions, except rate)	2018	2017	2016
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Income before tax	\$844,150	\$784,496	\$514,714
Provision for income taxes	174,053	428,735	172,197
Effective tax rate	20.6	% 54.7	% 33.5

2018 compared to 2017. The decrease in income tax expense for 2018 compared to 2017 reflects the lower 2018 federal statutory income tax rate under the Tax Act, the remeasurement of our deferred tax assets in 2017, as well as an additional tax provision recorded in 2017 for the settlement of our IRS litigation, partially offset by a 2018 increase in income before tax. Our 2018 effective tax rate was below the federal statutory income tax rate of 21% primarily due to the benefits of tax-preferenced securities.

2017 compared to 2016. The increase in income tax expense in 2017 compared to 2016 was due to the 2017 remeasurement of net deferred tax assets at the lower corporate income tax rate under the Tax Act, the 2017 increase in income before tax, and an additional tax provision recorded for the expected settlement of our IRS litigation. The difference between the federal statutory income tax rate of 35% and our effective tax provision rate of 54.7% in 2017 was primarily due to the remeasurement of deferred tax assets at the lower corporate tax rate and the additional tax provision recorded for the settlement of our IRS litigation. The difference between the federal statutory income tax rate of 35% and our effective tax provision rate of 33.5% in 2016 was primarily due to the benefits of tax preferred securities.

See Note 12 – “Income Taxes” to our consolidated financial statements for a discussion of our tax position.

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BALANCE SHEET REVIEW

Shareholders' equity
 Shareholders' equity

(In millions)	As of December 31,		\$ Change
	2018	2017	
Shareholders' equity			
Common stock	\$371	\$371	\$ —
Paid-in capital	1,863	1,851	12
Treasury stock	(175)	—	(175)
AOCL, net of tax	(124)	(44)	(80)
Retained earnings	1,647	977	670
Total	\$3,582	\$3,155	\$ 427

The increase in shareholders' equity was due to net income during 2018, offset in part by a decrease in the fair value of our investment portfolio and the repurchase of shares of our common stock.

Total assets and total liabilities

As of December 31, 2018, total assets were \$5.7 billion and total liabilities were \$2.1 billion. Compared to year-end 2017, total assets increased by \$58.3 million and total liabilities decreased by \$369.1 million.

The following sections focus on the assets and liabilities experiencing major developments in 2018.

INVESTMENT PORTFOLIO

The investment portfolio increased 3%, to \$5.2 billion as of December 31, 2018 (2017: \$5.0 billion), as net cash from operations was used in part for additional investment.

The return we generate on our investment portfolio is an important component of our consolidated financial results. Our investment portfolio primarily consists of a diverse mix of highly rated fixed income securities.

The investment portfolio is designed to achieve the following objectives:

Operating Companies ⁽¹⁾

è Preserve PMIERs assets

è Maximize total return with emphasis on yield, subject to our other objectives

è Limit portfolio volatility

è Duration 3.5 to 5.5 years

⁽¹⁾ Primarily MGIC

Holding Company

è Provide liquidity with minimized realized loss

è Maintain highly liquid, low volatility assets

è Maintain high credit quality

è Duration maximum of 2.5 years

To achieve our portfolio objectives, our asset allocation considers the risk and return parameters of the various asset classes in which we invest. This asset allocation is informed by, and based on the following factors:

è economic and market outlooks;

è diversification effects;

è security duration;

liquidity;
 capital considerations; and
 income tax rates.

The average duration and embedded investment yield of our investment portfolio as of December 31, 2018, 2017, and 2016 is shown in the following table.

Portfolio duration
 and embedded
 investment yield

	December 31, 2018	2017	2016
Duration (in years)	4.1	4.3	4.6
Pre-tax yield ⁽¹⁾	3.1%	2.7%	2.6%
After-tax yield ⁽¹⁾	2.6%	2.0%	1.9%

⁽¹⁾ Embedded investment yield is calculated on a yield-to-worst basis.

The credit risk of a security is evaluated through analysis of the security's underlying fundamentals, including the issuer's sector, scale, profitability, debt coverage, and ratings. The investment policy guidelines limit the amount of our credit exposure to any one issue, issuer and type of instrument. The following table shows the security ratings of our fixed income investments as of December 31, 2018 and 2017.

Fixed income security ratings

% of fixed income securities at fair value	Security Ratings ⁽¹⁾			
	AAA	AA	A	BBB
December 2018	19%	23%	33%	25%
December 2017	11%	26%	36%	17%

⁽¹⁾ Ratings are provided by one or more of: Moody's, Standard & Poor's and Fitch Ratings. If three ratings are available, the middle rating is utilized; otherwise the lowest rating is utilized.

Our investment portfolio as of December 31, 2018 had a greater proportion of its invested value in corporate and loan-backed fixed income securities when compared to December 31, 2017. This shift in investment mix through new investments during 2018 resulted in a higher investment yield, but also increased the

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percentage of "BBB" rated securities when compared to the prior year.

See [Note 5 – "Investments"](#) to our consolidated financial statements for additional disclosure on our investment portfolio.

Investments outlook

The U.S. economy continued to grow in 2018 and is expected to continue to grow in 2019. Against this positive macroeconomic backdrop, which includes very low unemployment, the FOMC has increased its benchmark interest rate to a range of 2.25-2.50 basis points as of December 31, 2018, up 100 basis points from the prior year end. Continued economic growth may result in additional increases to the FOMC benchmark interest rate in 2019. Our investment portfolio of fixed income securities is subject to interest rate risk and its fair value is likely to decline in a rising interest rate environment. We seek to manage our exposure to interest rate risk and volatility by maintaining a diverse mix of high quality securities with an intermediate duration profile. While higher interest rates may adversely impact the fair values of our fixed income securities, they present an opportunity to reinvest investment income and proceeds from security maturities into higher yielding securities. In light of the corporate income tax rate reduction in the fourth quarter of 2017, we reduced the percentage of our investments in tax-exempt securities during 2018 and increased our corporate and CLO concentrations. We will continue to evaluate the relative value of tax-exempt versus taxable fixed income securities during 2019, and our investment allocations may shift over time.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents increased 52%, to \$152 million as of December 31, 2018 (2017: \$100 million), as net cash generated from operating activities was only partly offset by net cash used in investing and financing activities.

DEFERRED INCOME TAXES

Deferred income taxes, net decreased 70%, to \$69 million as of December 31, 2018 (2017: \$234 million), primarily through the continued use of our net operating loss carryforwards to offset taxable income. We had no remaining net operating loss carryforwards as of December 31, 2018.

LOSS RESERVES

Loss reserves, which represent our estimated liability for losses and settlement expenses under our mortgage guaranty insurance policies, net of related reinsurance balances recoverable, decreased 32% to \$641 million as of December 31, 2018 from \$937 million as of December 31, 2017. This decrease was driven by the payment of claims during 2018 and favorable development on previously received delinquencies, offset in part by losses incurred on new delinquency notices received in 2018 that remain in inventory.

OTHER LIABILITIES

Other liabilities decreased 30% to \$180 million as of December 31, 2018 (2017: \$256 million), primarily due to a decrease in our income taxes payable due to payments associated with the settlement of our IRS litigation and a decline in our premium refund accrual due to lower estimated claim rates.

Off-balance sheet arrangements

Home Re is a special purpose VIE that is not consolidated in our consolidated financial statements because we do not have the unilateral power to direct those activities that are significant to its economic performance. See [Note 9 - "Reinsurance,"](#) to our consolidated financial statements for additional information.

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LIQUIDITY AND CAPITAL RESOURCES

CONSOLIDATED CASH FLOW ANALYSIS

We have three primary types of cash flows: (1) operating cash flows, which consist mainly of cash generated by our insurance operations and income earned on our investment portfolio, less amounts paid for claims, interest expense and operating expenses, (2) investing cash flows related to the purchase, sale and maturity of investments and purchases of property and equipment and (3) financing cash flows generally from activities that impact our capital structure, such as changes in debt and shares outstanding. The following table summarizes these three cash flows on a consolidated basis for the last three years.

Summary of consolidated cash flows

(In thousands)	Years ended December 31,		
	2018	2017	2016
Total cash provided by (used in):			
Operating activities	\$544,517	\$406,657	\$224,760
Investing activities	(317,780)	(303,641)	(93,392)
Financing activities	(171,550)	(158,575)	(157,078)
Increase (decrease) in cash and cash equivalents and restricted cash	\$55,187	\$(55,559)	\$(25,710)

Operating activities

The following list highlights the major sources and uses of cash flow from operating activities:

Sources

- +Premiums received
- +Loss payments from reinsurers
- +Investment income

Uses

- Claim payments
- Premium ceded to reinsurers
- Interest expense
- Operating expenses
- IRS litigation settlement payments

Our largest source of cash is from premiums received from our insurance policies, which we receive on a monthly installment basis for most policies. Premiums are received at the beginning of the coverage period for single premium and annual premium policies. Our largest cash outflow is for claims that arise when a delinquency results in an insured loss. We invest our claims paying resources from premiums and other sources in various investment securities that earn interest. We also use cash to pay for our ongoing expenses such as salaries, debt interest, and rent.

In connection with the reinsurance we use to manage the risk associated with our insurance policies, we cede, or pay out, part of the premiums we receive to our reinsurers and collect cash back when claims subject to our reinsurance coverage are paid.

Net cash provided by operating activities in 2018 increased compared to 2017 primarily due to a lower level of losses paid, net and an increase in investment income, offset in part by payments made in connection with our IRS litigation settlement.

Net cash provided by operating activities in 2017 increased compared to 2016 primarily due to a lower level of losses paid and an increase in net premiums written, offset in part by increases in payments for interest and other expenses.

Investing activities

The following list highlights the major sources and uses of cash flow from investing activities:

Sources

- +Proceeds from sales of investments
- +Proceeds from maturity of fixed income securities

Uses

- Purchases of investments
- Purchases of property and equipment

We maintain an investment portfolio that is primarily invested in a diverse mix of fixed income securities. As of December 31, 2018, our portfolio had a fair value of \$5.2 billion, an increase of \$168.5 million, or 3.4% from December 31, 2017. In addition to investment portfolio activities, our investing activities included additions to property and equipment. Beginning in 2016, we began an initiative to update our corporate headquarters building, which is substantially complete, and continued our investment in our technology infrastructure to enhance our ability to conduct business and execute our strategies.

Net cash flows used in investing activities in 2018, 2017, and 2016 primarily reflect purchasing fixed income securities in an amount that exceeded our proceeds from sales and maturities of fixed income securities during the year as cash from operations was available for additional investment. In addition, cash was used in each of 2018, 2017, and 2016 to make additions to property and equipment.

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Financing activities

The following list highlights the major sources and uses of cash flow from financing activities:

Sources

+Proceeds from debt and/or common stock issuances

Uses

- Repayment/repurchase of debt
- Repurchase of common stock
- Payment of debt issuance costs
- Payment of withholding taxes related to share-based compensation net share settlement

Net cash flows used in financing activities in 2018 reflect repurchases of our common stock and the payment of withholding taxes related to share-based compensation net share settlement.

Net cash flows used in financing activities for 2017 included the repayment at maturity of our 5% Notes, redemption of a portion of our 2% Notes, expenses paid to establish our revolving credit facility and payment of withholding taxes related to share-based compensation net share settlement.

Cash flows used in financing activities for 2016 included the repurchase of a portion of the outstanding principal on our 5% Notes and 2% Notes, the purchase by MGIC of a portion of the outstanding principal on our 9% Debentures, and payment of withholding taxes related to share-based compensation net share settlement. MGIC's ownership of our 9% Debentures is eliminated in consolidation. These transactions were offset in part by cash inflows from the issuance of long-term debt, including an FHLB borrowing and our 5.75% Notes, net of related issuance fees.

* * *

For a further discussion of matters affecting our cash flows, see "[Balance Sheet Review](#)" and "Debt at our Holding Company and Holding Company Liquidity" below.

CAPITALIZATION

Capital Risk

Capital risk is the risk of adverse impact on our ability to comply with capital requirements (regulatory and GSE) and to maintain the level, structure and composition of capital required for meeting financial performance objectives.

A strong capital position is essential to our business strategy and is important to maintain a competitive position in our industry. Our capital strategy focuses on long-term stability, which enables us to build and invest in our business, even in a stressed environment.

Our capital management objectives are to:

- è influence and ensure compliance with capital requirements,
- è manage relationships to foster access to capital and reinsurance markets,
- è size our capital to balance competitive needs, handle contingencies and create shareholder value, including analyzing the size and form of capital return to shareholders
- è position our mix of debt, equity and/or reinsurance to support our business strategy while considering the competing needs of credit ratings agencies, regulators and shareholders, and
- è

support business opportunities by efficiently using company resources, aligning legal structure and enabling capital flexibility.

These objectives are achieved through ongoing monitoring and management of our capital position, mortgage insurance portfolio stress modeling, and a capital governance framework. Capital management is intended to be flexible in order to react to a range of potential events. The focus we place on any individual objective may change over time due to factors that include, but are not limited to, economic conditions, changes at the GSEs, competition, and alternative transactions to transfer mortgage risk.

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Capital Structure

The following table summarizes our capital structure as of December 31, 2018, 2017, and 2016.

(In thousands, except ratio)	2018	2017	2016	
Common stock, paid-in capital, retained earnings, less treasury stock	\$3,706,105	\$3,198,309	\$2,623,942	
Accumulated other comprehensive loss, net of tax	(124,214)	(43,783)	(75,100)	
Total shareholders' equity	3,581,891	3,154,526	2,548,842	
Long-term debt, par value	836,872	836,872	1,189,472	
Total capital resources	\$4,418,763	\$3,991,398	\$3,738,314	
Ratio of long-term debt to shareholders' equity	23.4	% 26.5	% 46.7	%

The increase in total shareholders' equity in 2018 from 2017 was primarily due to net income during 2018, offset by our repurchases of our common stock and the increase in unrealized investment losses. The increase in shareholders' equity in 2017 from 2016 was primarily due to net income in 2017 and conversion of substantially all of our then-remaining 2% Notes into shares of common stock. See [Note 13 - "Shareholders' Equity"](#) for further information on the 2% Note conversion.

DEBT AT OUR HOLDING COMPANY AND HOLDING COMPANY LIQUIDITY

Debt obligations - holding company

The 5.75% Notes and 9% Debentures are obligations of our holding company, MGIC Investment Corporation, and not of its subsidiaries. We have no debt obligations due within the next twelve months. As of December 31, 2018, our 5.75% Note had \$425 million of outstanding principal, due in August 2023, and our 9% Debentures had \$389.5 million of outstanding principal, due in April 2063. MGIC's ownership of \$132.7 million of our holding company's 9% Debentures is eliminated in consolidation, but they remain outstanding obligations owed by our holding company to MGIC. The 9% Debentures are a convertible debt issuance. Subject to certain limitations and restrictions, holders of the 9% Debentures may convert their notes into shares of our common stock at their option prior to certain dates prescribed under the terms of their issuance, in which case our corresponding obligation will be eliminated prior to the scheduled maturity.

See [Note 7 - "Debt"](#) for further information on our outstanding debt obligations and transactions impacting our consolidated financial statements in 2018 and 2017.

Liquidity analysis - holding company

As of December 31, 2018, we had approximately \$248 million in cash and investments at our holding company. These resources are maintained primarily to service our debt interest expense, pay debt maturities, and to settle intercompany obligations. While these assets are held, we generate investment income that serves to offset a

portion of our interest expense. Investment income and the payment of dividends from our insurance subsidiaries are the principal sources of holding company cash inflow. MGIC is the principal source of dividends, and their payment is restricted by insurance regulation. See [Note 14 - "Statutory Information"](#) to our consolidated financial statements for additional information about MGIC's dividend restrictions. The payment of dividends from MGIC is also influenced by our view of the appropriate level of PMIERS Available Assets to maintain an excess of Minimum Required Assets. Other sources of holding company cash inflow include any unused capacity on our unsecured revolving credit facility and raising capital in the public markets. The ability to raise capital in the public markets is subject to prevailing market conditions, investor demand for the securities to be issued, and our deemed creditworthiness.

Over the next twelve months the principal demand on holding company resources will be interest payments on our 5.75% Notes and 9% Debentures approximating \$60 million. We expect MGIC will continue to pay dividends of at least \$60 million per quarter in 2019. Our unsecured revolving credit facility provides \$175 million of borrowing capacity, of which no amount is currently drawn. We believe our holding company has sufficient sources of liquidity to meet its payment obligations for the foreseeable future.

During 2018, we used approximately \$175 million (of which \$12 million settled in January 2019) of available holding company cash to repurchase shares of our common stock. We may use additional holding company cash to repurchase additional shares or to repurchase our outstanding debt obligations. Such repurchases may be material, may be made for cash, including with funds provided by debt, and/or exchanges for other securities, and may be made in open market purchases, privately negotiated acquisitions or other transactions. See "[Overview-Capital](#)" of this MD&A for a discussion of the share repurchase program authorized on April 26, 2018.

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In 2018, our holding company cash and investments increased by \$32 million, to \$248 million as of December 31, 2018. Cash inflows included \$220 million of dividends received from MGIC and \$35 million of other inflows, which included intercompany activity. Cash outflows included \$163 million used to repurchase shares of our common stock and \$60 million of interest payments, of which approximately \$12 million was paid to MGIC for the portion of our 9% Debentures owned by MGIC.

The net unrealized losses on our holding company investment portfolio were approximately \$2.2 million at December 31, 2018 and the portfolio had a modified duration of approximately 1.4 years.

Scheduled debt maturities beyond the next twelve months include \$425 million of our 5.75% Notes in 2023 and \$389.5 million of our 9% Debentures in 2063, of which MGIC owns \$132.7 million. The principal amount of the 9% Debentures is currently convertible, at the holder's option, at an initial conversion rate, which is subject to adjustment, of 74.0741 common shares per \$1,000 principal amount of debentures. This represents an initial conversion price of approximately \$13.50 per share. We may redeem the 9% Debentures in whole or in part from time to time, at our option, at a redemption price equal to 100% of the principal amount of the 9% Debentures being redeemed, plus any accrued and unpaid interest, if the closing sale price of our common stock exceeds \$17.55 for at least 20 of the 30 trading days preceding notice of the redemption.

See [Note 7 – “Debt”](#) to our consolidated financial statements for additional information about the conversion terms of our 9% Debentures and the terms of our indebtedness, including our option to defer interest. The description in [Note 7 - “Debt”](#) to our consolidated financial statements is qualified in its entirety by the terms of the notes and debentures. The terms of our 9% Debentures are contained in the Indenture dated as of March 28, 2008, between us and U.S. Bank National Association filed as an exhibit to our Form 10-Q filed with the SEC on May 12, 2008. The terms of our 5.75% Notes are contained in a Supplemental Indenture, dated as of August 5, 2016, between us and U.S. Bank National Association, as trustee, which is included as an exhibit to our 8-K filed with the SEC on August 5, 2016, and in the Indenture dated as of October 15, 2000 between us and the trustee.

Although not anticipated in the near term, we may also contribute funds to our insurance operations to comply with the PMIERS or the State Capital Requirements. See [“Overview – Capital”](#) above for a discussion of these requirements. See the discussion of our non-insurance contract underwriting services in [Note 17 – “Litigation and Contingencies”](#) to our consolidated financial statements for other possible uses of holding company resources.

DEBT AT SUBSIDIARIES

MGIC is a member of the FHLB. Membership in the FHLB provides MGIC access to an additional source of liquidity via a secured lending facility. MGIC has outstanding a \$155.0 million fixed rate advance from the FHLB. Interest on the advance is payable monthly at a fixed annual rate of 1.91%. The principal of the advance matures on February 10, 2023, but may be prepaid at any time. Such prepayment would be below par if interest rates have risen after the advance was originated, or above par if interest rates have declined. The advance is secured by eligible collateral in the form of pledged securities from the investment portfolio, whose market value must be maintained at a minimum of 102% of the principal balance of the advance.

Capital Adequacy PMIERS

We operate under the PMIERS of the GSEs that became effective December 31, 2015. Revised PMIERS were published in September 2018 and will become effective March 31, 2019. Refer to [“Overview - Capital - GSEs”](#) of this MD&A for further discussion of PMIERS.

As of December 31, 2018, MGIC's Available Assets under PMIERS totaled approximately \$4.8 billion, an excess of approximately \$1.4 billion over its Minimum Required Assets; and MGIC is in compliance with the requirements of the PMIERS and eligible to insure loans delivered to or purchased by the GSEs. If the revised PMIERS had been effective as of December 31, 2018, we estimate that MGIC's pro forma excess of Available Assets over Minimum Required Assets would have been approximately \$1.0 billion. The decrease in the pro forma excess from the reported excess of \$1.4 billion is primarily due to the elimination of any credit for future premiums that had previously been allowed for certain insurance policies.

Maintaining a sufficient level of excess Available Assets will allow MGIC to remain in compliance with the PMIERS financial requirements. Our reinsurance transactions provided an aggregate of approximately \$1.2 billion of PMIERS capital credit as of December 31, 2018. Our 2019 QSR transaction terms are expected to be no less favorable than our existing QSR transactions and will also provide PMIERS capital credit. Refer to Note 9 - "Reinsurance" to our consolidated financial statements for additional information on our reinsurance transactions.

We plan to continuously comply with the PMIERS through our operational activities or through the contribution of funds from our holding company, subject to demands on the holding company's resources, as outlined above.

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RISK-TO-CAPITAL

We compute our risk-to-capital ratio on a separate company statutory basis, as well as on a combined insurance operations basis. The risk-to-capital ratio is our net RIF divided by our policyholders' position. Our net RIF includes both primary and pool RIF, and excludes risk on policies that are currently in default and for which loss reserves have been established and the risk covered by quota share reinsurance. The risk amount includes pools of loans with contractual aggregate loss limits and without these limits. Policyholders' position consists primarily of statutory policyholders' surplus (which increases as a result of statutory net income and decreases as a result of statutory net loss and dividends paid), plus the statutory contingency reserve and a portion of the reserves for unearned premiums. The statutory contingency reserve is reported as a liability on the statutory balance sheet. A mortgage insurance company is required to make annual additions to a contingency reserve of approximately 50% of net earned premiums. These contributions must generally be maintained for a period of ten years. However, with regulatory approval a mortgage insurance company may make early withdrawals from the contingency reserve when incurred losses exceed 35% of net earned premiums in a calendar year.

The table below presents MGIC's separate company risk-to-capital calculation.

Risk-to-capital - MGIC separate company

	December 31,	
(In millions, except ratio)	2018	2017
RIF - net ⁽¹⁾	\$34,502	\$31,144
Statutory policyholders' surplus	\$1,682	\$1,620
Statutory contingency reserve	2,138	1,654
Statutory policyholders' position	\$3,820	\$3,274
Risk-to-capital	9.0:1	9.5:1

⁽¹⁾ RIF – net, as shown in the table above, is net of quota share reinsurance and exposure on policies currently in default and for which loss reserves have been established.

The table below presents our combined insurance companies' risk-to-capital calculation (which includes a reinsurance affiliate). Reinsurance transactions with our affiliate permit MGIC to write insurance with a higher coverage percentage than it could on its own under certain state-specific requirements.

Risk-to-capital - Combined insurance companies

	December 31,	
(In millions, except ratio)	2018	2017
RIF - net ⁽¹⁾	\$40,239	\$36,818
Statutory policyholders' surplus	\$1,683	\$1,622
Statutory contingency reserve	2,443	1,897
Statutory policyholders' position	\$4,126	\$3,519
Risk-to-capital	9.8:1	10.5:1

RIF – net, as shown in the table above, is net of quota share reinsurance and exposure on policies currently ⁽¹⁾ delinquent (\$1.6 billion at December 31, 2018 and \$2.3 billion at December 31, 2017) and for which loss reserves have been established.

The 2018 reductions in the risk-to-capital of MGIC and our combined insurance companies were due to an increase in statutory policyholders' position, primarily due to an increase in statutory contingency reserves, partially offset by an increase in net RIF. Our RIF, net of reinsurance, increased in 2018, due to an increase in our IIF. Our risk-to-capital ratio will decrease if the percentage increase in capital exceeds the percentage increase in insured risk.

For additional information regarding regulatory capital see Note 14 – “Statutory Information” to our consolidated financial statements as well as our risk factor titled “State capital requirements may prevent us from continuing to write new insurance on an uninterrupted basis” in Item 1A.

Financial Strength Ratings

MGIC financial strength ratings

Rating Agency	Rating Outlook
Moody's Investor Services	Baa2 Stable
Standard and Poor's Rating Services	BBB+ Stable
A.M. Best	A- Stable

For further information about the importance of MGIC's ratings, see our risk factor titled “Competition or changes in our relationships with our customers could reduce our revenues, reduce our premium yields and/or increase our losses” in Item 1A.

MAC financial strength ratings

Rating Agency	Rating Outlook
A.M. Best	A- Stable

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Contractual Obligations

The following table summarizes, as of December 31, 2018, the approximate future payments under our contractual obligations and estimated claim payments on established loss reserves.

Contractual obligations

(In Total millions)	Payments due by period				
	Less than 1 year	1-3 years	3-5 years	More than 5 years	
Long-term debt obligations	\$2,001.1	\$51.3	\$101.3	\$678.4	\$1,170.1
Operating lease obligations	3.0	1.4	1.4	0.2	—
Purchase obligations	10.2	7.4	2.3	0.5	—
Other long-term liabilities	674.1	252.8	306.0	115.3	—
Total	\$2,688.4	\$312.9	\$411.0	\$794.4	\$1,170.1

Our long-term debt obligations as of December 31, 2018 include their related interest and are discussed in [Note 7 – “Debt”](#) to our consolidated financial statements and under [“Liquidity and Capital Resources”](#) above. Our operating lease obligations include operating leases on certain office space, data processing equipment and autos, as discussed in [Note 16 – “Leases”](#) to our consolidated financial statements. Purchase obligations consist primarily of agreements to purchase items related to our ongoing infrastructure projects and information technology investments in the normal course of business.

Our other long-term liabilities represent the loss reserves established to recognize the liability for losses and LAE related to existing defaults on insured mortgage loans. The timing of the future claim payments associated with the established loss reserves was determined primarily based on two key assumptions: the length of time it takes for a notice of delinquency to develop into a received claim and the length of time it takes for a received claim to be paid. The future claim payment periods are estimated based on historical experience, and could emerge differently than this estimate, in part, due to uncertainty regarding the effect of certain factors, such as loss mitigation protocols established by servicers and changes in some state foreclosure laws that may include, for example, a requirement for additional review and/or mediation process. See [Note 8 – “Loss Reserves”](#) to our consolidated financial statements and [“Critical Accounting Policies”](#) below for additional information on our loss reserves. In accordance with GAAP for the mortgage insurance industry, we establish loss reserves only for delinquent loans. Because our reserving method does not take account of the impact of future losses that could occur from loans that are not delinquent, our obligation for ultimate losses that we expect to occur under our policies in force at any period end is not reflected in our consolidated financial statements or in the table above.

Benefit Plans

We have a non-contributory defined benefit pension plan covering substantially all domestic employees, as well as a supplemental executive retirement plan. Retirement benefits are based on compensation and years of service. We maintain plan assets to fund our defined benefit pension plan obligations. We do not have a minimum funding

requirement for the defined benefit pension plan for 2019 and do not anticipate having a minimum funding requirement in 2020. We have significant discretion in making contributions above those necessary to satisfy the minimum funding requirements. In 2018, 2017, and 2016, there was no minimum funding requirement for the defined benefit pension plan. In 2018, 2017, and 2016, we voluntarily made contributions totaling \$10.0 million, \$9.1 million, and \$8.7 million, respectively. We plan on making a voluntary contribution of approximately \$7 million to the defined benefit pension plan in 2019. In determining future contributions, we will consider the performance of the plan's investment portfolio, the effects of interest rates on the projected benefit obligation of the plan and our other capital requirements. As of December 31, 2018, we had accrued a liability of \$7.4 million related to our defined benefit pension plan as the projected obligation was in excess of plan assets. The supplemental executive retirement plan benefits are accrued for and are paid from MGIC assets following employee retirements. We plan on paying benefits of approximately \$4 million under the supplemental executive retirement plan in 2019.

Our projected benefit obligations under these plans are subject to numerous actuarial assumptions that may change in the future and as a result could substantially increase or decrease our obligations. Plan assets held to pay our defined benefit pension plan obligations are primarily invested in a portfolio of debt securities to preserve capital and to provide monthly cash flows aligned with the liability component of our obligations, with a lesser percentage invested in a mix of equity securities. If the performance of our invested plan assets differs from our expectations, the funded status of the benefit pension plan may decline, even with no significant change in the obligations. See Note 11 - "Benefit Plans" to our consolidated financial statements for a complete discussion of these plans and their effect on the consolidated financial statements.

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CRITICAL ACCOUNTING POLICIES

The accounting policies described below require significant judgments and estimates in the preparation of our consolidated financial statements.

LOSS RESERVES

Reserves are established for estimated insurance losses and LAE based on when notices of delinquency on insured mortgage loans are received. For reporting purposes, we consider a loan delinquent when it is two or more payments past due. Even though the accounting standard, ASC 944, regarding accounting and reporting by insurance entities specifically excluded mortgage insurance from its guidance relating to loss reserves, we establish loss reserves using the general principles contained in the insurance standard. However, consistent with industry standards for mortgage insurers, we do not establish loss reserves for future claims on insured loans which are not currently delinquent.

We establish reserves using estimated claim rates and claim severities in estimating the ultimate loss.

The estimated claim rates and claim severities are used to determine the amount we estimate will actually be paid on the delinquent loans as of the reserve date. If a policy is rescinded we do not expect that it will result in a claim payment and thus the rescission generally reduces the historical claim rate used in establishing reserves. In addition, if a loan cures its delinquency, including through a successful loan modification, the cure reduces the historical claim rate used in establishing reserves. Our methodology to estimate claim rates and claim severities is based on our review of recent trends in the delinquent inventory. To establish reserves, we utilize a reserving model that continually incorporates historical data into the estimated claim rate. The model also incorporates an estimate for the amount of the claim we will pay, or severity. The severity is estimated using the historical percentage of our claims paid compared to our loan exposures, as well as the RIF of the loans currently in default. We do not utilize an explicit rescission rate in our reserving methodology, but rather our reserving methodology incorporates the effects rescission activity has had on our historical claim rate and claim severities. We review recent trends in the claim rate, severity, levels of defaults by geography and average loan exposure. As a result, the process to determine reserves does not include quantitative ranges of outcomes that are reasonably likely to occur.

The claim rates and claim severities are affected by external events, including actual economic conditions such as changes in unemployment rates, interest rates or housing values; and natural disasters. Our estimation process does not include a correlation between claim

rates and claim severities to projected economic conditions such as changes in unemployment rates, interest rates or housing values. Our experience is that analysis of that nature would not produce reliable results as the change in one economic condition cannot be isolated to determine its specific effect on our ultimate paid losses because each economic condition is also influenced by other economic conditions. Additionally, the changes and interactions of these economic conditions are not likely homogeneous throughout the regions in which we conduct business. Each economic condition influences our ultimate paid losses differently, even if apparently similar in nature. Furthermore, changes in economic conditions may not necessarily be reflected in our loss development in the quarter or year in which the changes occur. Actual claim results often lag changes in economic conditions by at least nine to twelve months.

Our estimates are also affected by any agreements we enter into regarding our claims paying practices, such as the settlement agreements discussed in [Note 17 – “Litigation and Contingencies”](#) to our consolidated financial statements.

Our estimate of loss reserves is sensitive to changes in claim rate and claim severity; it is possible that even a relatively small change in our estimated claim rate or severity could have a material impact on reserves and, correspondingly, on our consolidated results of operations even in a stable economic environment. For example, as of December 31, 2018, assuming all other factors remain constant, a \$1,000 increase/decrease in the average severity reserve factor would change the reserve amount by approximately +/- \$12 million. A 1 percentage point increase/decrease in the average claim rate reserve factor would change the reserve amount by approximately +/- \$19 million. Historically, it has not been uncommon for us to experience variability in the development of the loss reserves through the end of the following year at this level or higher, as shown by the historical development of our loss reserves in the table below:

Historical development
of loss reserves

Losses incurred (In thousands) related to prior years (1)	Reserve at end of prior year
2018 (\$167,366)	\$985,635
2017 (231,204)	1,438,813
2016 (167,658)	1,893,402
2015 (110,302)	2,396,807
2014 (100,359)	3,061,401

(1) A negative number for a prior year indicates a redundancy of loss reserves.

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See [Note 8 – “Loss Reserves”](#) to our consolidated financial statements for a discussion of recent loss development.

IBNR Reserves

Reserves are established for estimated IBNR, which results from delinquencies occurring prior to the close of an accounting period, but which have not been reported to us. Consistent with reserves for reported delinquencies, IBNR reserves are established using estimated claim rates and claim severities for the estimated number of delinquencies not reported. As of December 31, 2018 and 2017, we had IBNR reserves of approximately \$29 million and \$35 million, respectively.

The actual amount of the claim payments may be substantially different than our loss reserve estimates. Our estimates could be adversely affected by several factors, including a deterioration of regional or national economic conditions, including unemployment, leading to a reduction in borrower income and thus their ability to make mortgage payments, and a drop in housing values, that could result in, among other things, greater losses on loans, and may affect borrower willingness to continue to make mortgage payments when the value of the home is below the mortgage balance.

LAE

Reserves are established for the estimated costs of settling claims, including legal and other expenses and general expenses of administering the claims settlement process.

REVENUE RECOGNITION

When a policy term ends, the primary mortgage insurance written by us is renewable at the insured's option through continued payment of the premium in accordance with the schedule established at the inception of the policy life. We are generally obligated to renew the policies and have no ability to reunderwrite or reprice these policies after issuance. Premiums written under policies having single and annual premium payments are initially deferred as unearned premium reserve and earned over the policy life. Premiums written on policies covering more than one year are amortized over the policy life based on historical experience, which includes the anticipated incurred loss pattern.. Premiums written on annual policies are earned on a monthly pro rata basis. Premiums written on monthly policies are earned as the monthly coverage is provided. When a policy is cancelled, all premium that is non-refundable is immediately earned. Any refundable premium is returned to the servicer or borrower. Policies may be cancelled by the insured, or due to rescissions or claim payments. When a policy is rescinded, all previously collected premium is returned to the servicer and when a claim is paid, all premium collected since the date of default is returned. The liability associated with our estimate of premium to be returned is accrued for separately and this liability is included in “Other

liabilities” on our consolidated balance sheets. Changes in these liabilities and the actual return of premium affect premiums written and earned.

Fee income of our non-insurance subsidiaries is earned and recognized as the services are provided and the customer is obligated to pay.

DEFERRED INSURANCE POLICY ACQUISITION COSTS

Costs directly associated with the successful acquisition of mortgage insurance business, consisting of employee compensation and other policy issuance and underwriting expenses, are initially deferred and reported as deferred insurance policy acquisition costs (“DAC”). The deferred costs are net of any ceding commissions received associated with our reinsurance transactions. For each underwriting year of business, these costs are amortized to income in proportion to estimated gross profits over the estimated life of the policies. We utilize anticipated investment income

in our calculation. This includes accruing interest on the unamortized balance of DAC. The estimates for each underwriting year are reviewed quarterly and updated when necessary to reflect actual experience and any changes to key variables such as persistency or loss development.

Because our insurance premiums are earned over time, changes in persistency result in DAC being amortized against revenue over a longer or shorter period of time. However, even a 10% change in persistency would not have a material effect on the amortization of DAC in the subsequent year.

FAIR VALUE MEASUREMENTS

Investment Portfolio

Fixed income securities. Our fixed income securities are classified as available-for-sale and are reported at fair value. The related unrealized investment gains or losses are, after considering the related tax expense or benefit, recognized as a component of accumulated other comprehensive income (loss) in shareholders' equity. Realized investment gains and losses on fixed income securities are reported in income based upon specific identification of securities sold, as well as any "other than temporary" impairments ("OTTI") recognized in earnings.

Equity securities. At December 31, 2017, equity securities were classified as available-for-sale and were reported at fair value, except for certain equity securities that were carried at cost, for which the amount reported approximated fair value. These equity securities carried at cost were reported as Other invested assets at December 31, 2018, as required under ASU 2016-01, discussed in "Recent Accounting and Reporting Developments" in Note 3 - "Significant Accounting Policies." The updated guidance also requires, effective January 1, 2018, the periodic change in fair value of equity securities to be recognized as realized

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investment gains and losses. For periods prior, realized investment gains and losses on equity securities were a function of the difference between the amount received on the sale of an equity security and the equity security's cost basis, as well as any OTTI recognized in earnings.

Other invested assets. Other invested assets are carried at cost. These assets represent our investment in FHLB stock, which due to restrictions, is required to be redeemed or sold only to the security issuer at par value.

In accordance with fair value guidance, we applied the following fair value hierarchy in order to measure fair value for assets and liabilities:

- Level 1 Quoted prices for identical instruments in active markets that we can access. Financial assets using Level 1 inputs primarily include U.S. Treasury securities, money market funds, and certain equity securities. Quoted prices for similar instruments in active markets that we can access; quoted prices for identical or similar instruments in markets that are not active; and inputs, other than quoted prices, that are observable in the marketplace for the instrument. The observable inputs are used in valuation models to calculate the fair value of the instruments. Financial assets using Level 2 inputs primarily include obligations of U.S. government corporations and agencies, corporate bonds, mortgage-backed securities, asset-backed securities, and most municipal bonds.

The independent pricing sources used for our Level 2 investments vary by type of investment. See Note 6 - "Fair Value Measurements" for further information.

- Level 3 Valuations derived from valuation techniques in which one or more significant inputs or value drivers are unobservable or, from par values due to restrictions on certain securities that require them to be redeemed or sold only to the security issuer at par value. The inputs used to derive the fair value of Level 3 securities reflect our own assumptions about the assumptions a market participant would use in pricing an asset or liability. Financial assets using Level 3 inputs include obligations of U.S. states and political subdivisions and certain equity securities (2017 only). Our non-financial assets that are classified as Level 3 securities consist of real estate acquired through claim settlement. The fair value of real estate acquired is the lower of our acquisition cost or a percentage of the appraised value. The percentage applied to the appraised value is based upon our historical sales experience adjusted for current trends.

To determine the fair value of securities available-for-sale in Level 1 and Level 2 of the fair value hierarchy, independent pricing sources have been utilized. One price is provided per security based on observable market data. To ensure securities are appropriately classified in the fair value hierarchy, we review the

pricing techniques and methodologies of the independent pricing sources and believe that their policies adequately consider market activity, either based on specific transactions for the issue valued or based on modeling of securities with similar credit quality, duration, yield and structure that were recently traded. A variety of inputs are utilized; in approximate order of priority, they are: benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two sided markets, benchmark securities, bids, offers and reference data including data published in market research publications.

Market indicators, industry and economic events are also considered. This information is evaluated using a multidimensional pricing model. This model combines all inputs to arrive at a value assigned to each security. Quality controls are performed by the independent pricing sources throughout this process, which include reviewing tolerance reports, data changes, and directional moves compared to market moves. In addition, on a quarterly basis, we perform quality controls over values received from the pricing sources which also include reviewing tolerance reports, trading information, data changes, and directional moves compared to market moves. We have not made any adjustments to

the prices obtained from the independent pricing sources.

Unrealized losses and OTTI

Each quarter we perform reviews of our investments in order to determine whether declines in fair value below amortized cost were considered other-than-temporary. In evaluating whether a decline in fair value is other-than-temporary, we consider several factors including, but not limited to:

- è our intent to sell the security or whether it is more likely than not that we will be required to sell the security before recovery of its amortized cost basis;
- è the present value of the discounted cash flows we expect to collect compared to the amortized cost basis of the security;
- è extent and duration of the decline;
- è failure of the issuer to make scheduled interest or principal payments;
- è change in rating below investment grade; and
- è adverse conditions specifically related to the security, an industry, or a geographic area.

Based on our evaluation, we will record an OTTI adjustment on a security if we intend to sell the impaired security, if it is more likely than not that we will be required to sell the impaired security prior to recovery of its amortized cost basis, or if the present value of the discounted cash flows we expect to collect is less than the amortized costs basis of the security. If the fair value of a security is below its amortized cost at the time of our intent to sell, the security is classified as other-than-temporarily impaired and the full amount of

MGIC Investment Corporation and Subsidiaries
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the impairment is recognized as a loss in the statement of operations. Otherwise, when a security is considered to be other-than-temporarily impaired, the losses are separated into the portion of the loss that represents the credit loss; and the portion that is due to other factors. The credit loss portion is recognized as a loss in the statement of operations, while the loss due to other factors is recognized in accumulated other comprehensive income (loss), net of taxes. A credit loss is determined to exist if the present value of the discounted cash flows, using the security's original yield, expected to be collected from the security is less than the cost basis of the security.

Fair Value Option

For the years ended December 31, 2018, 2017, and 2016, we did not elect the fair value option for any financial instruments acquired, or issued, such as our outstanding debt obligations, for which the primary basis of accounting is not fair value.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our investment portfolio is essentially a fixed income portfolio and is exposed to market risk. Important drivers of the market risk are credit spread risk and interest rate risk.

Credit spread risk is the risk that we will incur a loss due to adverse changes in credit spreads. Credit spread is the additional yield on fixed income securities above the risk-free rate (typically referenced as the yield on U.S. Treasury securities) that market participants require to compensate them for assuming credit, liquidity and/or prepayment risks.

We manage credit risk via our investment policy guidelines which primarily place our investments in investment grade securities and limit the amount of our credit exposure to any one issue, issuer and type of instrument. Guideline and investment portfolio detail is available in "Business – Section C, Investment Portfolio" in [Item 1](#).

Interest rate risk is the risk that we will incur a loss due to adverse changes in interest rates relative to the characteristics of our interest bearing assets.

One of the measures used to quantify interest rate this exposure is modified duration. Modified duration measures the price sensitivity of the assets to the changes in spreads. At December 31, 2018, the modified duration of our fixed income investment portfolio was 4.1 years, which means that an instantaneous parallel shift in the yield curve of 100 basis points would result in a change of 4.1% in the fair value of our fixed income portfolio. For an upward shift in the yield curve, the fair value of our portfolio would decrease and for a downward shift in the yield curve, the fair value would increase. A discussion of portfolio strategy appears in "[Management's Discussion and Analysis – Balance Sheet Review– Investment Portfolio](#)" in [Item 7](#).

Item 8. Financial Statements and Supplementary Data

The following consolidated financial statements are filed pursuant to this Item 8:

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MGIC INVESTMENT CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In thousands)	Note	December 31,	
		2018	2017
Assets			
Investment portfolio:	<u>5 / 6</u>		
Fixed income, available-for-sale, at fair value (amortized cost, 2018 - \$5,196,784; 2017 - \$4,946,278)		\$5,151,987	\$4,983,315
Equity securities, at fair value (cost, 2018 - \$3,993; 2017 - \$7,223)		3,932	7,246
Other invested assets, at cost		3,100	—
Total investment portfolio		5,159,019	4,990,561
Cash and cash equivalents		151,892	99,851
Restricted cash and cash equivalents		3,146	—
Accrued investment income		48,001	46,060
Reinsurance recoverable on loss reserves	<u>9</u>	33,328	48,474
Reinsurance recoverable on paid losses	<u>9</u>	2,948	3,872
Premiums receivable		55,090	54,045
Home office and equipment, net		51,734	44,936
Deferred insurance policy acquisition costs		17,888	18,841
Deferred income taxes, net	<u>12</u>	69,184	234,381
Other assets		85,572	78,478
Total assets		\$5,677,802	\$5,619,499
Liabilities and shareholders' equity			
Liabilities:			
Loss reserves	<u>8</u>	\$674,019	\$985,635
Unearned premiums		409,985	392,934
FHLB Advance	<u>7</u>	155,000	155,000
Senior notes	<u>7</u>	419,713	418,560
Convertible junior subordinated debentures	<u>7</u>	256,872	256,872
Other liabilities		180,322	255,972
Total liabilities		2,095,911	2,464,973
Contingencies	<u>17</u>		
Shareholders' equity:	<u>13</u>		
Common stock (one dollar par value, shares authorized 1,000,000; shares issued 2018 - 371,353; 2017 - 370,567; outstanding 2018 - 355,371; 2017 - 370,567)		371,353	370,567
Paid-in capital		1,862,536	1,850,582
Treasury stock (shares at cost 2018 - 15,982)		(175,059)	—
Accumulated other comprehensive loss, net of tax	<u>10</u>	(124,214)	(43,783)
Retained earnings		1,647,275	977,160
Total shareholders' equity		3,581,891	3,154,526
Total liabilities and shareholders' equity		\$5,677,802	\$5,619,499
See accompanying notes to consolidated financial statements.			

MGIC INVESTMENT CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share data)	Note	Years Ended December 31,		
		2018	2017	2016
Revenues:				
Premiums written:				
Direct		\$ 1,103,332	\$ 1,121,776	\$ 1,107,923
Assumed		271	1,905	1,053
Ceded	<u>9</u>	(111,341)	(125,726)	(133,885)
Net premiums written		992,262	997,955	975,091
Increase in unearned premiums		(17,100)	(63,208)	(49,865)
Net premiums earned	<u>9</u>	975,162	934,747	925,226
Investment income, net of expenses	<u>5</u>	141,331	120,871	110,666
Net realized investment (losses) gains	<u>5</u>	(1,353)	231	8,921
Other revenue		8,708	10,205	17,670
Total revenues		1,123,848	1,066,054	1,062,483
Losses and expenses:				
Losses incurred, net	<u>8 / 9</u>	36,562	53,709	240,157
Amortization of deferred policy acquisition costs		11,932	11,111	9,646
Other underwriting and operating expenses, net		178,211	159,638	150,763
Interest expense	<u>7</u>	52,993	57,035	56,672
Loss on debt extinguishment	<u>13</u>	—	65	90,531
Total losses and expenses		279,698	281,558	547,769
Income before tax		844,150	784,496	514,714
Provision for income taxes	<u>12</u>	174,053	428,735	172,197
Net income		\$670,097	\$355,761	\$342,517
Earnings per share:				
Basic	<u>4</u>	\$ 1.83	\$ 0.98	\$ 1.00
Diluted		\$ 1.78	\$ 0.95	\$ 0.86
Weighted average common shares outstanding - basic	<u>4</u>	365,406	362,380	342,890
Weighted average common shares outstanding - diluted	<u>4</u>	386,078	394,766	431,992

See accompanying notes to consolidated financial statements.

MGIC INVESTMENT CORPORATION AND SUBSIDIARIES
 CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In thousands)	Note	Years Ended December 31,		
		2018	2017	2016
Net income		\$670,097	\$355,761	\$342,517
Other comprehensive (loss) income, net of tax:	<u>10</u>			
Change in unrealized investment gains and losses	<u>5</u>	(64,646)	47,547	(3,649)
Benefit plans adjustment	<u>11</u>	(15,767)	(5,839)	(9,620)
Foreign currency translation adjustment		—	31	(951)
Other comprehensive (loss) income, net of tax		(80,413)	41,739	(14,220)
Comprehensive income		\$589,684	\$397,500	\$328,297

See accompanying notes to consolidated financial statements.

MGIC INVESTMENT CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(In thousands)	Note	Years Ended December 31,		
		2018	2017	2016
Common stock				
Balance, beginning of year		\$370,567	\$359,400	\$340,097
Issuance of common stock	<u>13</u>	—	10,386	18,313
Net common stock issued under share-based compensation plans		786	781	990
Balance, end of year		371,353	370,567	359,400
Paid-in capital				
Balance, beginning of year		1,850,582	1,782,337	1,670,238
Cumulative effect of share-based compensation accounting standard update		—	49	—
Issuance of common stock	<u>13</u>	—	60,903	113,146
Net common stock issued under share-based compensation plans		(8,917)	(7,602)	(6,020)
Reissuance of treasury stock, net under share-based compensation plans		—	—	(130)
Tax benefit from share-based compensation		—	—	67
Equity compensation		20,871	14,895	11,373
Reacquisition of convertible junior subordinated debentures-equity component	<u>13</u>	—	—	(6,337)
Balance, end of year		1,862,536	1,850,582	1,782,337
Treasury stock				
Balance, beginning of year		—	(150,359)	(3,362)
Purchases of common stock	<u>13</u>	(175,059)	—	(147,127)
Reissuance of treasury stock, net		—	150,359	—
Reissuance of treasury stock, net under share-based compensation plans		—	—	130
Balance, end of year		(175,059)	—	(150,359)
Accumulated other comprehensive loss				
Balance, beginning of year		(43,783)	(75,100)	(60,880)
Cumulative effect of financial instruments accounting standard update	<u>3</u>	(18)	—	—
Other comprehensive (loss) income	<u>10</u>	(80,413)	41,739	(14,220)
Cumulative effect to reclassify certain tax effects from accumulated other comprehensive loss		—	(10,422)	—
Balance, end of year		(124,214)	(43,783)	(75,100)
Retained earnings				
Balance, beginning of year		977,160	632,564	290,047
Cumulative effect of financial instruments accounting standard update	<u>3</u>	18	—	—
Cumulative effect of share-based compensation accounting standard update		—	153	—
Net income		670,097	355,761	342,517
Reissuance of treasury stock, net	<u>13</u>	—	(21,740)	—
Cumulative effect to reclassify certain tax effects from accumulated other comprehensive loss	<u>13</u>	—	10,422	—
Balance, end of year		1,647,275	977,160	632,564

Total shareholders' equity	\$3,581,891	\$3,154,526	\$2,548,842
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See accompanying notes to consolidated financial statements.

MGIC INVESTMENT CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)	Years Ended December 31,		
	2018	2017	2016
Cash flows from operating activities:			
Net income	\$670,097	\$355,761	\$342,517
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and other amortization	58,215	64,430	61,342
Deferred tax expense	186,572	355,044	162,356
Net realized investment losses (gains)	1,353	(231)	(8,921)
Loss on debt extinguishment	—	65	90,531
Change in certain assets and liabilities:			
Accrued investment income	(1,941)	(1,987)	(3,849)
Reinsurance recoverable on loss reserves	15,146	2,019	(6,006)
Reinsurance recoverable on paid losses	924	1,092	(1,645)
Premiums receivable	(1,045)	(1,653)	(3,923)
Deferred insurance policy acquisition costs	953	(1,082)	(2,518)
Profit commission receivable	(5,479)	(2,844)	(747)
Loss reserves	(311,616)	(453,178)	(454,589)
Unearned premiums	17,051	63,197	49,764
Return premium accrual	(22,900)	(25,400)	(18,800)
Current income taxes	(77,551)	51,296	4,941
Other, net	14,738	128	14,307
Net cash provided by operating activities	544,517	406,657	224,760
Cash flows from investing activities:			
Purchases of investments	(1,459,473)	(1,293,695)	(1,363,583)
Proceeds from sales of investments	370,449	246,908	733,299
Proceeds from maturity of fixed income securities	785,175	759,212	547,444
Net increase in payables for securities	307	—	—
Additions to property and equipment	(14,238)	(16,066)	(10,552)
Net cash used in investing activities	(317,780)	(303,641)	(93,392)
Cash flows from financing activities:			
Proceeds from revolving credit facility	—	150,000	—
Repayment of revolving credit facility	—	(150,000)	—
Proceeds from issuance of long-term debt	—	—	573,094
Purchase or repayment of convertible senior notes	—	(145,620)	(363,778)
Payment of original issue discount - convertible senior notes	—	(4,504)	(11,250)
Purchase of convertible junior subordinated debentures	—	—	(100,860)
Payment of original issue discount-convertible junior subordinated debentures	—	—	(41,540)
Cash portion of loss on debt extinguishment	—	—	(59,460)
Repurchase of common stock	(163,419)	—	(147,127)
Payment of debt issuance costs	—	(1,630)	(1,127)
Payment of withholding taxes related to share-based compensation net share settlement	(8,131)	(6,821)	(5,030)
Net cash used in financing activities	(171,550)	(158,575)	(157,078)
Net increase (decrease) in cash and cash equivalents and restricted cash and cash equivalents	55,187	(55,559)	(25,710)
Cash and cash equivalents and restricted cash and cash equivalents at beginning of year	99,851	155,410	181,120

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Cash and cash equivalents and restricted cash and cash equivalents at end of year \$155,038 \$99,851 \$155,410
See accompanying notes to consolidated financial statements.

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NOTE 1 Nature of Business

MGIC Investment Corporation is a holding company which, through Mortgage Guaranty Insurance Corporation ("MGIC"), is principally engaged in the mortgage insurance business. We provide mortgage insurance to lenders throughout the United States and to government sponsored entities to protect against loss from defaults on low down payment residential mortgage loans. Primary mortgage insurance provides mortgage default protection on individual loans and covers unpaid loan principal, delinquent interest and certain expenses associated with the default and subsequent foreclosure or sale approved by us. Through certain non-insurance subsidiaries, we also provide various services for the mortgage finance industry, such as contract underwriting, analysis of loan originations and portfolios, and mortgage lead generation. MGIC Assurance Corporation ("MAC"), an insurance subsidiary of MGIC provides insurance for certain mortgages under Fannie Mae and Freddie Mac (the "GSEs") credit risk transfer programs and is a participant in the Fannie Mae Enterprise-Paid Mortgage Insurance program.

At December 31, 2018, our direct domestic primary insurance in force ("IIF") was \$209.7 billion, which represents the principal balance in our records of all mortgage loans that we insure, and our direct domestic primary risk in force ("RIF") was \$54.1 billion, which represents the IIF multiplied by the insurance coverage percentage.

Substantially all of our insurance written since 2008 has been for loans purchased by the GSEs. We operate under the Private Mortgage Insurer Eligibility Requirements ("PMIERs") of the GSEs that became effective December 31, 2015 and which have been amended from time to time. The financial requirements of the PMIERs require a mortgage insurer's "Available Assets" (generally only the most liquid assets of an insurer) to equal or exceed its "Minimum Required Assets" (which are based on an insurer's book, calculated from tables of factors with several risk dimensions and subject to a floor amount). Based on our interpretation of the PMIERs, as of December 31, 2018, MGIC's Available Assets are in excess of its Minimum Required Assets; and MGIC is in compliance with the financial requirements of the PMIERs and eligible to insure loans purchased by the GSEs.

NOTE 2 Basis of Presentation

BASIS OF PRESENTATION

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"), as codified in the Accounting

Standards Codification ("ASC"). Our consolidated financial statements include the accounts of MGIC Investment Corporation and its majority-owned subsidiaries. Intercompany transactions and balances have been eliminated. In accordance with GAAP, we are required to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates. We have considered subsequent events through the date of this filing.

RECLASSIFICATIONS

Certain reclassifications to 2017 and 2016 amounts have been made in the accompanying consolidated financial statements to conform to the 2018 presentation. See Note 3 - "Significant Accounting Policies" for a discussion of our adoption of accounting guidance in 2018 that resulted in other reclassifications.

NOTE 3 Significant Accounting Policies

CASH AND CASH EQUIVALENTS

We consider money market funds and investments with original maturities of three months or less to be cash equivalents.

RESTRICTED CASH AND CASH EQUIVALENTS

Restricted cash and cash equivalents consists of cash and money market funds held in trusts for the benefit of contractual counterparties under reinsurance agreements.

FAIR VALUE MEASUREMENTS

We carry certain financial instruments at fair value and disclose the fair value of all financial instruments. Our financial instruments carried at fair value are predominantly measured on a recurring basis. Financial instruments measured on a nonrecurring basis are subject to fair value adjustments only in certain circumstances (for example, when there is evidence of impairment).

The fair value of an asset or liability is defined as the price that would be received upon a sale of an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. Fair value is based on quoted market prices or inputs, where available. If prices or quotes are not available, fair value is based on valuation models or other valuation techniques that consider relevant transaction characteristics (such as maturity) and use as inputs observable or unobservable market parameters including yield curves, interest rates, volatilities, equity or debt prices, foreign exchange rates and credit curves.

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Valuation adjustments may be made to ensure that financial instruments are recorded at fair value, as described below.

Valuation process

We use independent pricing sources to determine the fair value of a substantial majority of our financial instruments, which primarily consist of assets in our investment portfolio, but also includes amounts included in cash and cash equivalents and restricted cash. A variety of inputs are used; in approximate order of priority, they are: benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data including market research publications.

Market indicators, industry and economic events are also considered. This information is evaluated using a multidimensional pricing model. This model combines all inputs to arrive at a value assigned to each security. Quality controls are performed by the independent pricing sources throughout this process, which include reviewing tolerance reports, trading information, data changes, and directional moves compared to market moves.

On a quarterly basis, we perform quality controls over values received from the pricing sources which also include reviewing tolerance reports, data changes, and directional moves compared to market moves. We have not made any adjustments to the prices obtained from the independent pricing sources.

Valuation hierarchy

A three-level valuation hierarchy has been established under GAAP for disclosure of fair value measurements. The valuation hierarchy is based on the transparency of inputs to the valuation of a financial instrument as of the measurement date. To determine the fair value of securities available-for-sale in Level 1 and Level 2 of the fair value hierarchy, independent pricing sources, as described in "Valuation process," have been utilized. One price is provided per security based on observable market data. To ensure securities are appropriately classified in the fair value hierarchy, we review the pricing techniques and methodologies of the independent pricing sources and believe that their policies adequately consider market activity, either based on specific transactions for the issue valued or based on modeling of securities with similar credit quality, duration, yield and structure that were recently traded.

The three levels are defined as follows.

- Level 1 Quoted prices for identical instruments in active markets that we can access. Financial assets using Level 1 inputs primarily include U.S. Treasury securities, money market funds, and certain equity securities.
- Level 2 Quoted prices for similar instruments in active markets that we can access; quoted prices for identical or similar instruments in markets that are not active; and inputs, other than quoted prices, that are observable in the marketplace for the instrument. The observable inputs are used in valuation models to calculate the fair value of the instruments. Financial assets using Level 2 inputs primarily include obligations of U.S. government corporations and agencies, corporate bonds, mortgage-backed securities, asset-backed securities, and most municipal bonds.

The independent pricing sources used for our Level 2 investments vary by type of investment. See Note 6 - "Fair Value Measurements" for further information.

- Level 3 Valuations derived from valuation techniques in which one or more significant inputs or value drivers are unobservable or, from par values due to restrictions on certain securities that require them to be redeemed or sold only to the security issuer at par value. The inputs used to derive the fair value of Level 3 securities reflect our own assumptions about the assumptions a market participant would use in pricing an asset or liability. Financial assets using Level 3 inputs include obligations of U.S. states and political subdivisions and certain

equity securities (2017 only). Our non-financial assets that are classified as Level 3 securities consist of real estate acquired through claim settlement. The fair value of real estate acquired is the lower of our acquisition cost or a percentage of the appraised value. The percentage applied to the appraised value is based upon our historical sales experience adjusted for current trends.

INVESTMENTS

Fixed income securities. Our fixed income securities are classified as available-for-sale and are reported at fair value. The related unrealized investment gains or losses are, after considering the related tax expense or benefit, recognized as a component of accumulated other comprehensive income (loss) in shareholders' equity. Realized investment gains and losses on fixed income securities are reported in income based upon specific identification of securities sold, as well as any "other than temporary" impairments ("OTTI") recognized in earnings.

Equity securities. At December 31, 2017, equity securities were classified as available-for-sale and were reported at fair value, except for certain equity securities that were carried at cost, for which the amount reported approximated fair value. These equity securities carried at cost are reported as Other invested assets at

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December 31, 2018, as required under ASU 2016-01, discussed in "Recent Accounting and Reporting Developments" below. The updated guidance also requires, effective January 1, 2018, the periodic change in fair value of equity securities to be recognized as realized investment gains and losses. For periods prior, realized investment gains and losses on equity securities were a function of the difference between the amount received on the sale of an equity security and the equity security's cost basis, as well as any OTTI recognized in earnings.

Other invested assets. Other invested assets are carried at cost. These assets represent our investment in Federal Home Loan Bank of Chicago ("FHLB") stock, which due to restrictions, is required to be redeemed or sold only to the security issuer at par value.

Unrealized losses and OTTI

Each quarter we perform reviews of our investments in order to determine whether declines in fair value below amortized cost were considered other-than-temporary. In evaluating whether a decline in fair value is other-than-temporary, we consider several factors including, but not limited to:

- è our intent to sell the security or whether it is more likely than not that we will be required to sell the security before recovery of its amortized cost basis;
- è the present value of the discounted cash flows we expect to collect compared to the amortized cost basis of the security;
- è extent and duration of the decline;
- è failure of the issuer to make scheduled interest or principal payments;
- è change in rating below investment grade; and
- è adverse conditions specifically related to the security, an industry, or a geographic area.

Based on our evaluation, we will record an OTTI adjustment on a security if we intend to sell the impaired security, if it is more likely than not that we will be required to sell the impaired security prior to recovery of its amortized cost basis, or if the present value of the discounted cash flows we expect to collect is less than the amortized cost basis of the security. If the fair value of a security is below its amortized cost at the time of our intent to sell, the security is classified as other-than-temporarily impaired and the full amount of the impairment is recognized as a loss in the statement of operations. Otherwise, when a security is considered to be other-than-temporarily impaired, the losses are separated into the portion of the loss that represents the credit loss and the portion that is due to other factors. The credit loss portion is recognized as a loss in the statement of operations, while the loss due to other factors is recognized in accumulated other comprehensive loss, net of taxes. A credit loss is determined to exist if the present value of the

discounted cash flows, using the security's original yield, expected to be collected from the security is less than the cost basis of the security.

HOME OFFICE AND EQUIPMENT

Home office and equipment is carried at cost net of depreciation. For financial reporting purposes, depreciation is determined on a straight-line basis for the home office and equipment over estimated lives ranging from 3 to 45 years. For income tax purposes, we use accelerated depreciation methods.

Home office and equipment is shown net of accumulated depreciation of \$38.1 million, \$33.9 million and \$30.6 million as of December 31, 2018, 2017 and 2016, respectively. Depreciation expense for the years ended December 31, 2018, 2017 and 2016 was \$6.0 million, \$5.4 million and \$4.6 million, respectively.

DEFERRED INSURANCE POLICY ACQUISITION COSTS

Costs directly associated with the successful acquisition of mortgage insurance business, consisting of employee compensation and other policy issuance and underwriting expenses, are initially deferred and reported as deferred insurance policy acquisition costs ("DAC"). The deferred costs are net of any ceding commissions received associated with our reinsurance agreements. For each underwriting year of business, these costs are amortized to income in proportion to estimated gross profits over the estimated life of the policies. We utilize anticipated investment income in our calculation. This includes accruing interest on the unamortized balance of DAC. The estimates for each underwriting year are reviewed quarterly and updated when necessary to reflect actual experience and any changes to key variables such as persistency or loss development.

LOSS RESERVES

Reserves are established for insurance losses and loss adjustment expenses ("LAE") when we receive notices of delinquency on insured mortgage loans. We consider a loan in default when it is two or more payments past due. Even though the accounting standard, ASC 944, regarding accounting and reporting by insurance entities specifically excludes mortgage insurance from its guidance relating to loss reserves, we establish loss reserves using the general principles contained in the insurance standard. However, consistent with industry standards for mortgage insurers, we do not establish loss reserves for future claims on insured loans which are not currently delinquent. Loss reserves are established by estimating the number of loans in our inventory of delinquent loans that will result in a claim payment, which is referred to as the claim rate, and further estimating the amount of the claim payment, which is referred to as claim severity. Our loss estimates are established based upon historical experience, including with rescissions of policies, curtailments of claims, and loan modification activity. Adjustments to

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reserve estimates are reflected in the financial statements in the years in which the adjustments are made. The liability for reinsurance assumed is based on information provided by the ceding companies.

Reserves are established for estimated losses from delinquencies occurring prior to the close of an accounting period on notices of delinquency not yet reported to us. These incurred but not reported ("IBNR") reserves are also established using estimated claim rates and claim severities.

Reserves are established for the estimated costs of settling claims, including legal and other expenses and general expenses of administering the claims settlement process. Reserves are ceded to reinsurers under our reinsurance agreements. (See Note 8 – "Loss Reserves" and Note 9 – "Reinsurance.")

PREMIUM DEFICIENCY RESERVE

After our loss reserves are initially established, we perform premium deficiency tests using our best estimate assumptions as of the testing date. Premium deficiency reserves are established, if necessary, when the present value of expected future losses and expenses exceeds the present value of expected future premium and already established reserves. Products are grouped for premium deficiency testing purposes based on similarities in the way the products are acquired, serviced and measured for profitability.

REVENUE RECOGNITION

We write policies which are guaranteed renewable contracts at the insured's option on a monthly, single, or annual premium basis. We have no ability to reunderwrite or reprice these contracts. Premiums written on monthly premium policies are earned as coverage is provided. Premiums written on single premium policies and annual premium policies are initially deferred as unearned premium reserve and earned over the estimated policy life. Premiums written on policies covering more than one year are amortized over the policy life based on historical experience, which includes the anticipated incurred loss pattern. Premiums written on annual premium policies are earned on a monthly pro rata basis. When a policy is cancelled for a reason other than rescission or claim payment, all premium that is non-refundable is immediately earned. Any refundable premium is returned to the servicer or borrower. When a policy is cancelled due to rescission, all previously collected premium is returned to the servicer and when a policy is cancelled because a claim is paid, premium collected since the date of delinquency is returned. The liability associated with our estimate of premium to be returned is accrued for separately and included in "Other liabilities" on our consolidated balance sheets. Changes in this liability, and the actual return of premiums for all periods, affects premiums written and earned.

Fee income of our non-insurance subsidiaries is earned and recognized as the services are provided and the customer is obligated to pay. Fee income consists primarily of contract underwriting and related fee-based services provided to lenders and is included in "Other revenue" on the consolidated statements of operations.

INCOME TAXES

Deferred income taxes are provided under the liability method, which recognizes the future tax effects of temporary differences between amounts reported in the consolidated financial statements and the tax bases of these items. The estimated tax effects are computed at the enacted federal statutory income tax rate. Changes in tax laws, rates, regulations, and policies or the final determination of tax audits or examinations, could materially affect our estimates and can be significant to our operating results. We evaluate the realizability of the deferred tax assets based on the weight of all available positive and negative evidence. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that all or some portion of the deferred tax assets will not be realized.

The recognition of a tax position is determined using a two-step approach, a more-likely-than-not threshold for recognition and derecognition, and a measurement attribute that is the greatest amount of benefit that is cumulatively greater than 50% likely of being realized. When evaluating a tax position for recognition and measurement, we presume that the tax position will be examined by the relevant taxing authority that has full knowledge of all relevant information. We recognize interest accrued and penalties related to unrecognized tax benefits in our provision for income taxes. (See "[Note 12 - Income Taxes.](#)")

BENEFIT PLANS

We have a non-contributory defined benefit pension plan covering substantially all domestic employees, as well as a supplemental executive retirement plan. Retirement benefits are based on compensation and years of service. We recognize these retirement benefit costs over the period during which employees render the service that qualifies them for benefits. Our policy is to fund pension cost as required under the Employee Retirement Income Security Act of 1974.

We offer both medical and dental benefits for retired domestic employees, their eligible spouses and dependents until the retiree reaches the age of 65. Under the plan retirees pay a premium for these benefits. We accrue the estimated costs of retiree medical and dental benefits over the period during which employees render the service that qualifies them for benefits. (See [Note 11 – “Benefit Plans.”](#))

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REINSURANCE

Loss reserves and unearned premiums are reported before taking credit for amounts ceded under reinsurance agreements. Ceded loss reserves are reflected as "Reinsurance recoverable on loss reserves." Ceded unearned and prepaid reinsurance premiums are included in "Other assets." Amounts due from reinsurers on paid claims are reflected as "Reinsurance recoverable on paid losses." Ceded premiums payable are included in "Other liabilities." Any profit commissions are included with "Premiums written – Ceded" and any ceding commissions are included with "Other underwriting and operating expenses, net." We remain liable for all insurance ceded. (See Note 9 – "Reinsurance.")

SHARE-BASED COMPENSATION

We have certain share-based compensation plans. Under the fair value method, compensation cost is measured at the grant date based on the fair value of the award and is recognized over the service period which generally corresponds to the vesting period. Awards under our plans generally vest over periods ranging from one to three years. (See Note 15 – "Share-based Compensation Plans.")

EARNINGS PER SHARE

Basic earnings per share ("EPS") is calculated by dividing net income by the weighted average number of shares of common stock outstanding. The computation of basic EPS includes as "participating securities" an immaterial number of unvested share-based compensation awards that contain non-forfeitable rights to dividends or dividend equivalents, whether paid or unpaid, under the "two-class" method. Our participating securities are composed of vested restricted stock and restricted stock units ("RSUs") with non-forfeitable rights to dividends (of which none have been declared since the issuance of these participating securities).

Diluted EPS includes the components of basic EPS and also gives effect to dilutive common stock equivalents. We calculate diluted EPS using the treasury stock method and if-converted method. Under the treasury stock method, diluted EPS reflects the potential dilution that could occur if our unvested restricted stock units result in the issuance of common stock. Under the if-converted method, diluted EPS reflects the potential dilution that could occur if our convertible debt instruments result in the issuance of common stock. The determination of potentially issuable shares does not consider the satisfaction of the conversion requirements and the shares are included in the determination of diluted EPS as of the beginning of the period, if dilutive. In addition to our 9% Debentures, of which a portion remain outstanding, we previously had several convertible senior note debt issuances that could have resulted in contingently issuable shares and we considered each potential issuance of shares separately to reflect the maximum potential dilution for the period the debt issuances were outstanding.

For purposes of calculating basic and diluted EPS, vested restricted stock and RSUs are considered outstanding.

RELATED PARTY TRANSACTIONS

There were no related party transactions during 2018, 2017 or 2016.

RECENT ACCOUNTING AND REPORTING DEVELOPMENTS

Accounting standards effective in 2018, or early adopted, and relevant to our financial statements

Table 3.1 shows the relevant amendments to accounting standards that have been implemented for the fiscal year beginning January 1, 2018; none had a material impact on our consolidated financial statements or disclosures.

Standard / Interpretation

Table 3.1

Amended Standards

Effective date

ASC 230	Statement of Cash Flows	
	<ul style="list-style-type: none"> ASU 2016-18 - Restricted Cash 	January 1, 2018
ASC 718	Compensation - Stock Compensation	
	<ul style="list-style-type: none"> ASU 2017-09 - Scope of Modification Accounting 	January 1, 2018
ASC 310	Receivables - Nonrefundable Fees and Other Costs	
	<ul style="list-style-type: none"> ASU 2017-08 - Premium Amortization on Purchased Callable Debt Securities 	January 1, 2019
ASC 715	Compensation - Retirement Benefits	
	<ul style="list-style-type: none"> ASU 2017-07 - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost 	January 1, 2018
ASC 825	Financial Instruments - Overall	
	<ul style="list-style-type: none"> ASU 2016-01 - Recognition and Measurement of Financial Assets and Financial Liabilities 	January 1, 2018

Statement of Cash Flows - Restricted Cash

In November 2016, the Financial Accounting Standards Board ("FASB") issued updated guidance related to the presentation of restricted cash in the statement of cash flows. The updated guidance requires that the statement of cash flows explain the change during the period in total cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The updated guidance is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods.

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Adoption impact: The statements of cash flows presented for the three years ended December 31, 2018 are in accordance with the guidance of this updated standard.

Stock Compensation - Scope of Modification Accounting

In May 2017, the FASB issued updated guidance related to a change in the terms or conditions (modification) of a share-based award. The updated guidance provides that an entity should account for the effects of a modification unless the fair value and vesting conditions of the modified award and the classification of the award (equity or liability instrument) are the same as the original award immediately before the modification. The updated guidance is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods.

Adoption impact: The adoption of this guidance had no impact on our consolidated financial statements or disclosures.

Premium Amortization on Purchased Callable Debt Securities

In March 2017, the FASB issued updated guidance to amend the amortization period for certain purchased callable debt securities held at a premium, shortening the amortization period to the earliest call date. This updated guidance aligns with how callable debt securities, in the United States, are generally quoted, priced, and traded, which incorporates consideration of calls (also referred to as “yield-to-worst” pricing). The updated guidance is effective for annual periods beginning after December 15, 2018, including interim periods within those annual periods, but allows for early adoption.

Adoption impact: We adopted this guidance as of January 1, 2018 with no impact to our consolidated financial statements or disclosures as our accounting policy adhered to the updated guidance.

Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost

In March 2017, the FASB issued updated guidance intended to improve the reporting of net benefit cost in the financial statements. The updated guidance requires that an employer report the service cost component of pension and post-retirement benefit costs in the same financial statement caption as other compensation costs arising from services rendered by employees during the period. The other components of net benefit cost are required to be presented in the statement of operations separately from the service cost component and outside a subtotal of income from operations, if one is presented. Previous guidance did not prescribe where the amount of net benefit cost should be presented in an employer’s statement of operations and did not require entities to disclose by line item the amount of net benefit cost that is included in the statement of operations. The updated guidance is effective for annual

periods beginning after December 15, 2017, including interim periods within those annual periods.

Adoption impact: The adoption of this guidance had no impact on our consolidated financial statements or disclosures as the service cost component is reported in the same financial statement caption as other compensation costs and we do not present a subtotal of income outside of income from operations. The service cost component of our benefit plans is disclosed in Note 11 - “Benefit Plans” to our consolidated financial statements.

Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB issued updated guidance to address the recognition, measurement, presentation, and disclosure of certain financial instruments. The updated guidance requires equity investments, except those accounted for under the equity method of accounting, that have a readily determinable fair value to be measured at fair value with changes in fair value recognized in net income. Equity investments that do not have readily determinable fair values may be remeasured at fair value either upon the occurrence of an observable price change or upon identification of an impairment. A qualitative assessment for impairment is required for equity investments without

readily determinable fair values. The updated guidance also eliminates the requirement to disclose the method and significant assumptions used to estimate the fair value of financial instruments measured at amortized cost on the balance sheet. Further, the updated guidance clarifies that entities should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entities' other deferred tax assets. The updated guidance is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods and requires recognition of a cumulative effect adjustment at adoption.

Adoption impact: The adoption of this guidance resulted in an immaterial cumulative effect adjustment to our 2018 beginning accumulated other comprehensive (loss) income and retained earnings to recognize unrealized gains on equity investments. At December 31, 2017, equity investments were classified as available-for-sale on the consolidated balance sheet. Upon adoption, the updated guidance eliminated the available-for-sale balance sheet classification for equity securities.

In February 2018, the FASB issued a separate update for technical corrections and improvements to clarify certain aspects of the guidance described above. This update clarifies the presentation of investments in, among other things, Federal Home Loan Bank stock and prohibits those investments from being shown with equity securities.

Adoption impact: At December 31, 2018, the value of our investment in FHLB stock, which is carried at cost, is presented within "Other invested assets" on our consolidated balance sheet.

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PROSPECTIVE ACCOUNTING STANDARDS

Table 3.2 shows the relevant new amendments to accounting standards, which are not yet effective or adopted.

Standard / Interpretation

Table 3.2

Amended Standards	Effective date
ASC 326 Financial Instruments - Credit Losses	
<ul style="list-style-type: none"> ASU 2016-13 - Measurement of Credit Losses on Financial Instruments 	January 1, 2020
ASC 820 Fair Value Measurement	
<ul style="list-style-type: none"> ASU 2018-13 - Changes to the Disclosure Requirements for Fair Value Measurements 	January 1, 2020
ASC 715 Compensation - Retirement Benefits	
<ul style="list-style-type: none"> ASU 2018-14 - Changes to the Disclosure Requirements for Defined Benefit Plans 	January 1, 2021

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued updated guidance that requires immediate recognition of estimated credit losses expected to occur over the remaining life of many financial instruments. Entities will be required to utilize a current expected credit losses (“CECL”) methodology that incorporates their forecast of future economic conditions into their loss estimate unless such forecast is not reasonable and supportable, in which case the entity will revert to historical loss experience. Any allowance for CECL reduces the amortized cost basis of the financial instrument to the amount an entity expects to collect. Credit losses relating to available-for-sale fixed maturity securities are to be recorded through an allowance for credit losses, rather than a write-down of the asset, with the amount of the allowance limited to the amount by which fair value is less than amortized cost. In addition, the length of time a security has been in an unrealized loss position will no longer impact the determination of whether a credit loss exists. The updated guidance is not prescriptive about certain aspects of estimating expected credit losses, including the specific methodology to use, and therefore will require significant judgment in application. The updated guidance is effective for annual periods beginning after December 15, 2019, including interim periods within those annual periods. Early adoption is permitted for annual and interim periods in fiscal years beginning after December 15, 2018. We are currently evaluating the impacts the adoption of this guidance will have on our consolidated financial statements, but do not expect it to have a material impact on our consolidated financial statements or disclosures.

Changes to the Disclosure Requirements for Fair Value Measurement

In August 2018, the FASB issued updated guidance that changes the disclosure requirements for fair value measurements. The updated guidance removed the requirement to disclose the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy; the policy for timing of transfers between levels; and the valuation processes for Level 3 fair value measurements. The updated guidance clarifies that the measurement uncertainty disclosure is to communicate information about the uncertainty in measurements as of the reporting date. Further, the updated guidance will require disclosure of changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period; and the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. The updated guidance is effective for annual periods beginning after December 15, 2019, including interim periods within those annual periods. Early adoption was permitted upon issuance of this update. An entity is permitted to early adopt any guidance that removed or modified disclosures upon issuance of this update and to delay

adoption of the additional disclosures until its effective date. We are currently evaluating the impacts the adoption of this guidance will have on our consolidated financial statement disclosures, but do not expect it to have a material impact.

Changes to the Disclosure Requirements for Defined Benefit Plans

In August 2018, the FASB issued amendments to modify the disclosure requirements for defined benefit plans. The updated guidance removed the requirements to identify amounts that are expected to be reclassified out of accumulated other comprehensive income and recognized as components of net periodic benefit cost in the coming year and the effects of a one-percentage-point change in assumed health care cost trend rates on service and interest cost and on the postretirement benefit obligation. The updated guidance added disclosures for the weighted-average interest crediting rates for cash balance plans and other plans with interest crediting rates and explanations for significant gains and losses related to changes in the benefit obligation for the period. The updated guidance is effective for annual periods beginning after December 15, 2020. Early adoption is permitted. An entity should apply the amendments on a retrospective basis to all periods presented. We are currently evaluating the impacts the adoption of this guidance will have on our consolidated financial statement disclosures, but do not expect it to have a material impact.

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NOTE 4 Earnings Per Share

Table 4.1 reconciles basic and diluted EPS amounts:

Earnings per share

Table 4.1

Years Ended December 31,

(In thousands, except per share data)	2018	2017	2016
Basic earnings per share:			
Net income	\$670,097	\$355,761	\$342,517
Weighted average common shares outstanding			
- basic			
Basic earnings per share	\$1.83	\$0.98	\$1.00
Diluted earnings per share:			
Net income	\$670,097	\$355,761	\$342,517
Interest expense, net of tax ⁽¹⁾ :			
2%			
Notes	—	907	6,111
5%			
Notes	—	1,709	6,362
9%			
Debentures	18,264	15,027	15,893
Diluted income available to common	\$688,361	\$373,404	\$370,883

shareholders			
Weighted-average			
shares -	365,406	362,380	342,890
basic			
Effect of			
dilutive			
securities:			
Unvested			
restricted			
stock	1,644	1,493	1,470
units			
2%			
Notes	—	8,317	54,450
5%			
Notes	—	3,548	13,107
9%			
Debentures	19,028	19,028	20,075
Weighted			
average			
common			
shares	386,078	394,766	431,992
outstanding			
- diluted			
Diluted			
income	\$1.78	\$0.95	\$0.86
per share			

(1) Interest expense for the years ended December 31, 2018, 2017 and 2016 has been tax effected at a rate of 21%, 35%, and 35%, respectively.

For the years ended December 31, 2018, 2017, and 2016, all of our then outstanding Convertible Senior Notes and Convertible Junior Subordinated Debentures are reflected in diluted earnings per share using the “if-converted” method. Under this method, if dilutive, the common stock related to the outstanding Convertible Senior Notes and/or Convertible Junior Debentures is assumed issued as of the beginning of the reporting period and the related interest expense, net of tax, is added back to earnings in calculating diluted EPS.

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NOTE 5 Investments

FIXED INCOME SECURITIES

The amortized cost, gross unrealized gains and losses and fair value of our fixed income securities as of December 31, 2018 and 2017 are shown below:

Details of fixed income investment securities by category as of December 31, 2018

Table 5.1a

(In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses ⁽¹⁾	Fair Value
U.S. Treasury securities and obligations of U.S. government corporations and agencies	\$167,655	\$ 597	\$ (1,076)	\$167,176
Obligations of U.S. states and political subdivisions	1,701,826	29,259	(10,985)	1,720,100
Corporate debt securities	2,439,173	2,103	(40,514)	2,400,762
ABS	111,953	226	(146)	112,033
RMBS	189,238	32	(10,309)	178,961
CMBS	276,352	888	(9,580)	267,660
CLOs	310,587	2	(5,294)	305,295
Total fixed income securities	\$5,196,784	\$ 33,107	\$ (77,904)	\$5,151,987

Details of fixed income investment securities by category as of December 31, 2017

Table 5.1b

(In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses ⁽¹⁾	Fair Value
U.S. Treasury securities and	\$179,850	\$ 274	\$ (1,278)	\$178,846

obligations of U.S. government corporations and agencies					
Obligations of U.S. states and political subdivisions	2,105,063	56,210	(8,749	)	2,152,524
Corporate debt	2,065,475	10,532	(9,169	)	2,066,838
securities					
ABS	4,925	—	(2	)	4,923
RMBS	189,153	60	(7,364	)	181,849
CMBS	301,014	1,204	(4,906	)	297,312
CLOs	100,798	304	(79	)	101,023
Total fixed income securities	\$4,946,278	\$ 68,584	\$ (31,547	)	\$4,983,315

⁽¹⁾ There were no OTTI losses recorded in other comprehensive (loss) income as of December 31, 2018 and 2017. We had \$13.5 million and \$13.6 million of investments at fair value on deposit with various states as of December 31, 2018 and 2017, respectively, due to regulatory requirements of those state insurance departments. In connection with our insurance and reinsurance activities, we are required to maintain assets in trusts for the benefit of contractual counterparties. The fair value of the investments on deposit in these trusts was \$26.3 million and \$7.7 million at December 31, 2018 and 2017, respectively.

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Table 5.2 compares the amortized cost and fair values of fixed income securities, by contractual maturity, as of December 31, 2018. The analysis is based upon contractual maturity. Actual maturities may differ from contractual maturities because certain borrowers have the right to call or prepay certain obligations with or without call or prepayment penalties. Because most mortgage and asset-backed securities provide for periodic payments throughout their lives, they are listed separately in the table.

Fixed income securities maturity
schedule
Table 5.2

	December 31, 2018	
(In thousands)	Amortized Cost	Fair Value
Due in one year or less	\$484,485	\$482,919
Due after one year through five years	1,652,638	1,632,494
Due after five years through ten years	1,011,237	996,335
Due after ten years	1,160,294	1,176,290
	4,308,654	4,288,038
ABS	111,953	112,033
RMBS	189,238	178,961
CMBS	276,352	267,660
CLOs	310,587	305,295
Total as of December 31, 2018	\$5,196,784	\$5,151,987

Proceeds from the sale of fixed income securities classified as available-for-sale were \$365.6 million, \$246.9 million, and \$728.0 million during the years ended December 31, 2018, 2017, and 2016, respectively. Gross gains of \$0.7 million, \$1.6 million, and \$11.9 million and gross losses of \$3.8 million, \$1.4 million and \$3.0 million were realized on those sales during the years ended December 31, 2018, 2017, and 2016, respectively.

For the year ended December 31, 2018, we recorded \$1.8 million of OTTI losses in earnings. For the years ended December 31, 2017 and 2016, there were no OTTI losses in earnings.

EQUITY SECURITIES

The cost and fair value of investments in equity securities as of December 31, 2018 and December 31, 2017 are showing in tables 5.3a and 5.3b below. As described in Note 3 - "Significant Accounting Pronouncements," under updated guidance regarding the "Recognition and Measurement of Financial Assets and Financial Liabilities" which became effective on January 1, 2018, the amount of our FHLB stock investment has been reclassified and presented in "Other invested assets" on our consolidated balance sheet as of December 31, 2018.

Details of equity investment securities
as of December 31, 2018

Table 5.3a

(In thousands)	Cost	Gross gains	Gross losses	Fair Value
Equity securities	3,993	11	(72)	3,932

Details of equity investment securities
as of December 31, 2017

Table 5.3b

(In thousands)	Cost	Gross gains	Gross losses	Fair Value
Equity securities	7,223	39	(16)	7,246

Proceeds from the sale of equity securities were \$4.9 million during the year ended December 31, 2018. Gross gains of \$3.7 million were realized on those sales during the year ended December 31, 2018. There were no sales of equity securities in 2017 or 2016. For the year ended December 31, 2018, we recognized \$84 thousand of net losses on equity securities still held as of December 31, 2018, which are reported in Net realized investment (losses) gains on our consolidated statements of operations.

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OTHER INVESTED ASSETS

Other invested assets include an investment in FHLB stock that is carried at cost, which due to its nature approximates fair value. Ownership of FHLB stock provides access to a secured lending facility, and our current FHLB Advance amount is secured by eligible collateral whose fair value is maintained at a minimum of 102% of the outstanding principal balance of the FHLB Advance. As of December 31, 2018, that collateral consisted of fixed income securities included in our total investment portfolio, and cash and cash equivalents, with a total fair value of \$168.9 million.

UNREALIZED INVESTMENT LOSSES

Tables 5.4a and 5.4b below summarize, for all available-for-sale investments in an unrealized loss position as of December 31, 2018 and 2017, the aggregate fair value and gross unrealized losses by the length of time those securities have been continuously in an unrealized loss position. Gross unrealized losses on our available-for-sale investments amounted to \$78 million and \$32 million as of December 31, 2018 and 2017, respectively. The fair value amounts reported in tables 5.4a and 5.4b below are estimated using the process described in Note 6 - "Fair Value Measurements" to these consolidated financial statements.

Unrealized loss aging for securities by type and length of time as of December 31, 2018

Table 5.4a

	Less Than 12 Months	12 Months or Greater	Total		
(In thousands)	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value
U.S. Treasury securities and obligations of U.S. government corporations and agencies	\$23,710	\$(15)	\$69,146	\$(1,061)	\$92,856
Obligations of U.S. states and political subdivisions	316,655	(3,875)	358,086	(7,110)	674,741
Corporate debt securities	1,272,279	(18,130)	785,627	(22,384)	2,057,906
ABS	51,324	(146)	—	—	51,324
RMBS	24	—	178,573	(10,309)	178,597
CMBS	65,704	(1,060)	163,272	(8,520)	228,976
CLOs	296,497	(5,294)	—	—	296,497
Total	\$2,026,193	\$(28,520)	\$1,554,704	\$(49,384)	\$3,580,897

Unrealized loss aging for securities by type and length of time as of December 31, 2017

Table 5.4b

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(In thousands)	Less Than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. Treasury securities and obligations of U.S. government corporations and agencies	\$144,042	\$(796)	\$31,196	\$(482)	\$175,238	\$(1,278)
Obligations of U.S. states and political subdivisions	505,311	(3,624)	211,684	(5,125)	716,995	(8,749)
Corporate debt securities	932,350	(4,288)	200,716	(4,881)	1,133,066	(9,169)
ABS	4,923	(2)	—	—	4,923	(2)
RMBS	14,979	(280)	166,329	(7,084)	181,308	(7,364)
CMBS	51,096	(358)	138,769	(4,548)	189,865	(4,906)
CLOs	14,243	(7)	3,568	(72)	17,811	(79)
Equity securities	226	(2)	431	(14)	657	(16)
Total	\$1,667,170	\$(9,357)	\$752,693	\$(22,206)	\$2,419,863	\$(31,563)

For those securities in an unrealized loss position, the length of time the securities were in such a position, is measured by their month-end fair values. The unrealized losses in all categories of our investments as of December 31, 2018 and 2017 were primarily caused by changes in interest rates between the time of purchase and the respective year end. There were 721 and 586 securities in an unrealized loss position as of December 31, 2018 and 2017, respectively. As of December 31, 2018, the fair value as a percent of amortized cost of the securities in an unrealized loss position was 98% and approximately 8% of the securities in an unrealized loss position were backed by the U.S. Government.

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The source of net investment income is shown in table 5.5 below.

Net investment income

Table 5.5

(In thousands)	2018	2017	2016
Fixed income securities	\$ 140,539	\$ 122,105	\$ 112,513
Equity securities	228	206	182
Cash equivalents	3,423	1,447	754
Other	816	620	433
Investment income	145,006	124,378	113,882
Investment expenses	(3,675)	(3,507)	(3,216)
Net investment income	\$ 141,331	\$ 120,871	\$ 110,666

The change in unrealized gains (losses) of investments is shown in table 5.6 below.

Change in unrealized gains (losses)

Table 5.6

(In thousands)	2018	2017	2016
Fixed income securities	\$(81,834)	\$69,026	\$(5,403)
Equity securities	—	39	(36)
Other	—	(13)	14
Change in unrealized gains/losses	\$(81,834)	\$69,052	\$(5,425)

NOTE 6 Fair Value Measurements

The following table describes the valuation methodologies generally used by the independent pricing sources, or by us, to measure financial instruments at fair value, including the general classification of such financial instruments pursuant to the valuation hierarchy.

Level 1 measurements

• Fixed income securities: Consist of primarily U.S. Treasury securities with valuations derived from quoted prices for identical instruments in active markets that we can access.

Equity securities: Consist of actively traded, exchange-listed equity securities with valuations derived from quoted prices for identical assets in active markets that we can access.

Other: Consists of money market funds with valuations derived from quoted prices for identical assets in active markets that we can access.

Level 2 measurements

Fixed income securities:

Corporate Debt & U.S. Government and Agency Bonds are valued by surveying the dealer community, obtaining relevant trade data, benchmark quotes and spreads and incorporating this information into the valuation process. Obligations of U.S. States & Political Subdivisions are valued by tracking, capturing, and analyzing quotes for active issues and trades reported via the Municipal Securities Rulemaking Board records. Daily briefings and reviews of current economic conditions, trading levels, spread relationships, and the slope of the yield curve provide further data for evaluation.

Residential Mortgage-Backed Securities ("RMBS") are valued by monitoring interest rate movements, and other pertinent data daily. Incoming market data is enriched to derive spread, yield and/or price data as appropriate, enabling known data points to be extrapolated for valuation application across a range of related securities.

Commercial Mortgage-Backed Securities ("CMBS") are valued using techniques that reflect market participants' assumptions and maximize the use of relevant observable inputs including quoted prices for similar assets, benchmark yield curves and market corroborated inputs. Evaluation uses regular reviews of the inputs for

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securities covered, including executed trades, broker quotes, credit information, collateral attributes and/or cash flow waterfall as applicable.

Asset-Backed Securities ("ABS") are valued using spreads and other information solicited from market buy-and-sell-side sources, including primary and secondary dealers, portfolio managers, and research analysts. Cash flows are generated for each tranche, benchmark yields are determined, and deal collateral performance and tranche level attributes including trade activity, bids, and offers are applied, resulting in tranche specific prices.

Collateralized loan obligations ("CLO") Collateralized Loan Obligations are valued by evaluating manager rating, seniority in the capital structure, assumptions about prepayment, default and recovery and their impact on cash flow generation. Loan level net asset values are determined and aggregated for tranches and as a final step prices are checked against available recent trade activity.

Level 3 measurements

Equity securities (2017): FHLB stock valued at par value due to restrictions that require it to be redeemed or sold only to the security issuer at par value.

RECURRING FAIR VALUE MEASUREMENTS

Assets carried at fair value included those listed, by hierarchy level, in the following tables as of December 31, 2018 and 2017:

Assets carried at fair value by hierarchy level as of December 31, 2018

Table 6.1a

(In thousands)	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Treasury securities and obligations of U.S. government corporations and agencies	\$ 167,176	\$ 42,264	\$ 124,912	\$ —
Obligations of U.S. states and political subdivisions	1,720,100	—	1,720,087	13
Corporate debt	2,400,762	—	2,400,762	—

securities				
ABS	112,033	—	112,033	—
RMBS	178,961	—	178,961	—
CMBS	267,660	—	267,660	—
CLOs	305,295	—	305,295	—
Total				
fixed				
income	5,151,987	42,264	5,109,710	13
securities				
Equity				
securities	3,932	3,932	—	—
Other ⁽¹⁾	96,403	96,403	—	—
Real				
estate				
acquired	14,535	—	—	14,535
⁽²⁾				
Total	\$5,266,857	\$142,599	\$5,109,710	\$ 14,548

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Assets carried at fair value by hierarchy level as of December 31, 2017

Table 6.1b

(In thousands)	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Treasury securities and obligations of U.S. government corporations and agencies	\$ 178,846	\$ 81,598	\$ 97,248	\$ —
Obligations of U.S. states and political subdivisions	2,152,524	—	2,152,253	271
Corporate debt securities	2,066,838	—	2,066,838	—
ABS	4,923	—	4,923	—
RMBS	181,849	—	181,849	—
CMBS	297,312	—	297,312	—
CLOs	101,023	—	101,023	—
Total fixed income securities	4,983,315	81,598	4,901,446	271
Equity securities (3)	7,246	2,978	—	4,268
Real estate acquired (2)	12,713	—	—	12,713
Total (1)	\$ 5,003,274	\$ 84,576	\$ 4,901,446	\$ 17,252

Consists of money market funds included in "Cash and Cash Equivalents" and "Restricted Cash and Cash Equivalents" on the consolidated balance sheet.

- (2) Real estate acquired through claim settlement, which is held for sale, is reported in "Other assets" on the consolidated balance sheets.

- (3) Equity securities in Level 3 are carried at cost, which approximates fair value. See "Reconciliation of Level 3 assets" below for information regarding a change in presentation of amounts previously included in Level 3 Equity securities.

Certain financial instruments, including insurance contracts, are excluded from fair value disclosure requirements. The carrying values of cash and cash equivalents (Level 1) and accrued investment income (Level 2) approximated their fair values.

RECONCILIATIONS OF LEVEL 3 ASSETS

For assets and liabilities measured at fair value using significant unobservable inputs (Level 3), a reconciliation of the beginning and ending balances for the years ended December 31, 2018, 2017, and 2016 is shown in tables 6.2a, 6.2b and 6.2c below. As described in Note 3 - "Significant Accounting Policies." under updated guidance regarding the "Recognition and Measurement of Financial Assets and Financial Liabilities" which became effective on January 1, 2018, our investment in FHLB stock is no longer presented with equity securities. Prior to the updated guidance, the FHLB stock was included in our Level 3 equity securities. As shown in table 6.2a below, for the year ended December 31, 2018, we have transferred the FHLB stock out of Level 3 assets, and it is carried at cost, which approximates fair value, on our consolidated balance sheet in "Other invested assets" as of December 31, 2018. There were no transfers into or out of Level 3 for the years ending December 31, 2017 and 2016. There were no losses included in earnings for the years ended December 31, 2018, 2017, and 2016 attributable to the change in unrealized losses on assets still held at the end of each applicable year.

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Fair value roll-forward for financial instruments classified
as Level 3 for the year ended December 31, 2018

Table 6.2a

(In thousands)	Debt Securities	Equity Securities	Total Investments	Real Estate Acquired
Balance at December 31, 2017	\$ 271	\$ 4,268	\$ 4,539	\$ 12,713
Transfers out of Level 3	—	(3,100)	(3,100)	—
Total realized/unrealized gains (losses):				
Included in earnings and reported as net realized investment gains	—	3,663	3,663	—
Included in earnings and reported as losses incurred, net	—	—	—	(1,995)
Purchases	—	—	—	33,912
Sales	(258)	(4,831)	(5,089)	(30,095)
Balance at December 31, 2018	\$ 13	\$ —	\$ 13	\$ 14,535

Fair value roll-forward for financial instruments classified
as Level 3 for the year ended December 31, 2017

Table 6.2b

(In thousands)	Debt Securities	Equity Securities	Total Investments	Real Estate Acquired
----------------	-----------------	-------------------	-------------------	----------------------

Balance at December 31, 2016	\$ 1,691	\$ 4,268	\$ 4,959	\$ 11,748
Total realized/unrealized gains (losses): Included in earnings and reported as losses incurred, net	—	—	—	(1,315)
Purchases	—	—	—	34,749
Sales	(420)	—	(420)	(32,469)
Balance at December 31, 2017	\$ 1,271	\$ 4,268	\$ 4,539	\$ 12,713

Fair value roll-forward for financial instruments classified as Level 3 for the year ended December 31, 2016

Table 6.2c

(In thousands)	Debt Securities	Equity Securities	Total Investments	Real Estate Acquired
Balance at December 31, 2015	\$ 1,228	\$ 2,855	\$ 4,083	\$ 12,149
Total realized/unrealized gains (losses): Included in earnings and reported as net realized investment gains Included in earnings and reported as losses incurred, net	—	3,579	3,579	—
	—	—	—	(1,142)

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Purchases	—	4,258	4,258	36,859
Sales	(537)	(6,424)	(6,961)	(36,118)
Balance				
at				
December 31,	\$ 691	\$ 4,268	\$ 4,959	\$ 11,748
2016				

Additional fair value disclosures related to our investment portfolio are included in [Note 5 – “Investments.”](#)

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FINANCIAL LIABILITIES NOT CARRIED AT FAIR VALUE

Financial liabilities are incurred in the normal course of our business. Table 6.3 compares the carrying value and fair value of our financial liabilities disclosed, but not carried, at fair value as of December 31, 2018 and 2017. The fair values of our 5.75% Notes and 9% Debentures were based on observable market prices. The fair value of the FHLB Advance was estimated using cash flows discounted at current incremental borrowing rates for similar borrowing arrangements, and in all cases they are categorized as Level 2. See Note 7 - "Debt" for a description of the financial liabilities in table 6.3.

Financial liabilities not carried at fair value

Table 6.3

	December 31, 2018		December 31, 2017	
(In thousands)	Carrying Value	Fair Value	Carrying Value	Fair Value
Liabilities				
FHLB Advance	\$ 155,000	\$ 150,551	\$ 155,000	\$ 152,124
5.75% Notes	419,713	425,791	418,560	465,473
9% Debentures	256,872	338,069	256,872	353,507
Total financial liabilities	\$ 831,585	\$ 914,411	\$ 830,432	\$ 971,104

The 5.75% Notes and 9% Debentures are obligations of our holding company, MGIC Investment Corporation, and not of its subsidiaries.

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NOTE 7 Debt

DEBT OBLIGATIONS

Table 7.1 shows the carrying value of our long-term debt obligations as of December 31, 2018 and 2017.

Long-term debt obligations

Table 7.1

	December 31,	
(In millions)	2018	2017
FHLB Advance		
- 1.91%, due February 2023	\$155.0	\$155.0
5.75% Notes, due August 2023	419.7	418.5
(par value: \$425 million)		
9% Debentures, due April 2063	256.9	256.9
Long-term debt, carrying value	\$831.6	\$830.4

FHLB Advance

MGIC borrowed \$155.0 million in the form of a fixed rate advance from the Federal Home Loan Bank of Chicago ("Advance"). Interest on the Advance is payable monthly at an annual rate, fixed for the term of the Advance, of 1.91%. The principal of the Advance matures on February 10, 2023. MGIC may prepay the Advance at any time. Such prepayment would be below par if interest rates have risen after the Advance was originated, or above par if interest rates have declined. The Advance is secured by eligible collateral whose market value must be maintained at 102% of the principal balance of the Advance. MGIC provided eligible collateral from its investment portfolio.

5.75% Notes

Interest on the 5.75% Notes is payable semi-annually on February 15 and August 15 of each year, commencing on February 15, 2017. We have the option to redeem these notes, in whole or in part, at any time or from time to time prior to maturity at a redemption price equal to the greater of (i) 100% of the aggregate principal amount of the notes

to be redeemed and (ii) the make-whole amount, which is the sum of the present values of the remaining scheduled payments of principal and interest discounted at the treasury rate defined in the notes plus 50 basis points, plus, in each case, accrued interest thereon to, but excluding, the redemption date.

The 5.75% Notes have covenants customary for securities of this nature, including customary events of default, and further provide that the trustee or holders of at least 25% in aggregate principal amount of the outstanding 5.75% Notes may declare them immediately due and payable upon the occurrence of certain events of default after the expiration of the applicable grace period. In addition, in the case of an event of default arising from certain events of bankruptcy, insolvency or reorganization relating to the Company or any of its significant subsidiaries, the 5.75% Notes will become due and payable immediately. This

description is not intended to be complete in all respects and is qualified in its entirety by the terms of the 5.75% Notes, including their covenants and events of default. We were in compliance with all covenants as of December 31, 2018.

9% Debentures

The 9% Debentures are currently convertible, at the holder's option, at an initial conversion rate, which is subject to adjustment, of 74.0741 common shares per \$1,000 principal amount of the 9% Debentures at any time prior to the maturity date. This represents an initial conversion price of approximately \$13.50 per share. If a holder elects to convert their 9% Debentures, deferred interest, if any, owed on the 9% Debentures being converted is also converted into shares of our common stock. The conversion rate for any deferred interest is based on the average price that our shares traded at during a 5-day period immediately prior to the election to convert. We have 19.0 million authorized shares reserved for conversion under our 9% debentures.

The 9% Debentures include a conversion feature that allows us, at our option, to make a cash payment to converting holders in lieu of issuing shares of common stock upon conversion of the 9% Debentures. We may redeem the 9% Debentures in whole or in part from time to time, at our option, at a redemption price equal to 100% of the principal amount of the 9% Debentures being redeemed, plus any accrued and unpaid interest, if the closing sale price of our common stock exceeds \$17.55 for at least 20 of the 30 trading days preceding notice of the redemption.

Interest on the 9% Debentures is payable semi-annually in arrears on April 1 and October 1 of each year. As long as no event of default with respect to the debentures has occurred and is continuing, we may defer interest, under an optional deferral provision, for one or more consecutive interest periods up to 10 years without giving rise to an event of default. Deferred interest will accrue additional interest at the rate then applicable to the debentures. During an optional deferral period we may not pay or declare dividends on our common stock.

When interest on the 9% Debentures is deferred, we are required, not later than a specified time, to use reasonable commercial efforts to begin selling qualifying securities to persons who are not our affiliates. The specified time is one business day after we pay interest on the 9% Debentures that was not deferred, or if earlier, the fifth anniversary of the scheduled interest payment date on which the deferral started. Qualifying securities are common stock, certain warrants and certain non-cumulative perpetual preferred stock. The requirement to use such efforts to sell such securities is called the Alternative Payment Mechanism.

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The net proceeds of Alternative Payment Mechanism sales are to be applied to the payment of deferred interest, including the compound portion. We cannot pay deferred interest other than from the net proceeds of Alternative Payment Mechanism sales, except at the final maturity of the debentures or at the tenth anniversary of the start of the interest deferral. The Alternative Payment Mechanism does not require us to sell common stock or warrants before the fifth anniversary of the interest payment date on which that deferral started if the net proceeds (counting any net proceeds of those securities previously sold under the Alternative Payment Mechanism) would exceed the 2% cap. The 2% cap is 2% of the average closing price of our common stock times the number of our outstanding shares of common stock. The average price is determined over a specified period ending before the issuance of the common stock or warrants being sold, and the number of outstanding shares is determined as of the date of our most recent publicly released financial statements.

We are not required to issue under the Alternative Payment Mechanism a total of more than 10 million shares of common stock, including shares underlying qualifying warrants. In addition, we may not issue under the Alternative Payment Mechanism qualifying preferred stock if the total net proceeds of all issuances would exceed 25% of the aggregate principal amount of the debentures.

The Alternative Payment Mechanism does not apply during any period between scheduled interest payment dates if there is a “market disruption event” that occurs over a specified portion of such period. Market disruption events include any material adverse change in domestic or international economic or financial conditions.

The provisions of the 9% Debentures are complex. The description above is not intended to be complete in all respects. Moreover, that description is qualified in its entirety by the terms of the 9% Debentures, including their covenants and events of default. We were in compliance with all covenants at December 31, 2018. The 9% Debentures rank junior to all of our existing and future senior indebtedness.

CREDIT FACILITY

As of December 31, 2018 and 2017, there were no amounts drawn on our unsecured revolving credit facility. The Credit Agreement with various lenders provides for a \$175 million unsecured revolving credit facility maturing on March 21, 2020. We are required under the Credit Agreement to pay commitment fees on the average daily amount of the unused revolving commitments of the lenders, and an annual administrative fee to the administrative agent. Commitment fees are recognized as interest expense.

INTEREST PAYMENTS

Interest payments were \$51.3 million during 2018, \$57.8 million during 2017, and \$49.5 million during 2016.

NOTE 8 Loss Reserves

As described in Note 3 – “Summary of Significant Accounting Policies – Loss Reserves,” we establish reserves to recognize the estimated liability for losses and loss adjustment expenses (“LAE”) related to defaults on insured mortgage loans. Loss reserves are established by estimating the number of loans in our inventory of delinquent loans that will result in a claim payment, which is referred to as the claim rate, and further estimating the amount of the claim payment, which is referred to as claim severity.

Estimation of losses is inherently judgmental. The conditions that affect the claim rate and claim severity include the current and future state of the domestic economy, including unemployment and the current and future strength of local housing markets; exposure on insured loans; the amount of time between default and claim filing; and curtailments

and rescissions. The actual amount of the claim payments may be substantially different than our loss reserve estimates. Our estimates could be adversely affected by several factors, including a deterioration of regional or national economic conditions, including unemployment, leading to a reduction in borrowers' income and thus their ability to make mortgage payments, and a drop in housing values which may affect borrower willingness to continue to make mortgage payments when the value of the home is below the mortgage balance. Changes to our estimates could result in a material impact to our consolidated results of operations and financial position, even in a stable economic environment.

LOSSES INCURRED

The "Losses incurred" section of table 8.1 below shows losses incurred on delinquencies that occurred in the current year and in prior years. The amount of losses incurred relating to delinquencies that occurred in the current year represents the estimated amount to be ultimately paid on such delinquencies. The amount of losses incurred relating to delinquencies that occurred in prior years represents the difference between the actual claim rate and severity associated with those delinquencies resolved in the current year compared to the estimated claim rate and severity at the prior year-end, as well as a re-estimation of amounts to be ultimately paid on delinquencies continuing from the end of the prior year. This re-estimation of the claim rate and severity is the result of our review of current trends in the delinquent inventory, such as percentages of delinquencies that have resulted in a claim, the amount of the claims relative to the average loan exposure, changes in the relative level of delinquencies by geography and changes in average loan exposure.

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Losses incurred on delinquencies that occurred in the current year decreased in 2018 compared to 2017 and in 2017 compared to 2016, in each case, primarily due to a decrease in the number of new delinquencies, net of cures, as well as a decrease in the estimated claim rate on recently reported delinquencies.

LOSSES PAID

The "Losses paid" section of table 8.1 below shows the amount of losses paid on delinquencies that occurred in the current year and losses paid on delinquencies that occurred in prior years. For several years, the average time it took to receive a claim associated with a delinquency had increased significantly from our historical experience of approximately twelve months. This was, in part, due to new loss mitigation protocols established by servicers and to changes in some state

foreclosure laws that may include, for example, a requirement for additional review and/or mediation processes. In recent quarters, we have experienced a decline in the average time it takes servicers to process foreclosures, which has reduced the average time to receive a claim associated with new delinquent notices that do not cure. All else being equal, the longer the period between delinquency and claim filing, the greater the severity.

Premium refunds

Our estimate of premiums to be refunded on expected claim payments is accrued for separately in "Other liabilities" on our consolidated balance sheets and approximated \$40 million and \$61 million at December 31, 2018 and 2017, respectively.

Table 8.1 provides a reconciliation of beginning and ending loss reserves for each of the past three years:

Development of reserves for losses and loss
 adjustment expenses

Table 8.1

(In thousands)	2018	2017	2016
Reserve at beginning of year	\$985,635	\$1,438,813	\$1,893,402
Less reinsurance recoverable	48,474	50,493	44,487
Net reserve at beginning of year	937,161	1,388,320	1,848,915

Losses
incurred:
Losses
and LAE
incurred

in
respect
of
delinquent
notices
received
in:

Current year	203,928	284,913	387,815
Prior years ⁽¹⁾	(167,366)	(231,204)	(147,658)
Total losses incurred	36,562	53,709	240,157

Losses
paid:
Losses
and LAE
paid in
respect
of
delinquent
notices
received
in:

Current year	7,298	11,267	14,823
Prior years	327,743	493,300	689,258
Reinsurance terminations	(2,009)	301	(3,329)
Total losses paid Net reserve at end of year	333,032	504,868	700,752
Plus reinsurance recoverables Reserve at end of year	640,691	937,161	1,388,320
	33,328	48,474	50,493
	\$674,019	\$985,635	\$1,438,813

(1) A negative number for prior year losses incurred indicates a redundancy of prior year loss reserves. See table 8.2 below for more information about prior year loss development.

Table 8.2 below shows the development of reserves in 2018, 2017 and 2016 for previously received delinquencies. Reserve development on previously received

delinquencies			
Table 8.2			
(In millions)	2018	2017	2016
Decrease in estimated claim rate on primary delinquencies	\$(213)	\$(248)	\$(148)
Increase in estimated severity on primary delinquencies	29	9	9
Change in estimates related to pool reserves, LAE reserves, reinsurance and other	17	8	(9)
Total prior year loss development	\$(167)	\$(231)	\$(148)
(1)			

(1) A negative number for prior year loss development indicates a redundancy of prior year loss reserves.

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For the years ended December 31, 2018, 2017 and 2016, we experienced favorable development on previously received delinquencies. This development was, in part, due to the resolution of approximately 73%, 67% and 63% for the years ended December 31, 2018, 2017 and 2016, respectively, of the prior year delinquent inventory, with improved cure rates. During 2018 and 2017, cure activity on loans that were delinquent twelve months or more was significantly higher than our previous estimates. The favorable development for the years ended 2018, 2017, and 2016 was offset, in part, by an increase in the estimated severity on previously reported delinquencies remaining in the delinquent inventory.

DELINQUENT INVENTORY

A roll-forward of our primary delinquent inventory for the years ended December 31, 2018, 2017, and 2016 appears in table 8.3 below. The information concerning new notices and cures is compiled from monthly reports received from loan servicers. The level of new notice and cure activity reported in a particular month can be influenced by, among other things, the date on which a servicer generates its report, the number of business days in a month and transfers of servicing between loan servicers.

Primary delinquent inventory
roll-forward

Table 8.3

	2018	2017	2016
Beginning delinquent inventory	46,556	50,282	62,633
New Notices	54,448	68,268	67,434
Cures	(60,511)	(61,094)	(65,516)
Paid claims	(5,750)	(9,206)	(12,367)
Rescissions and denials	(267)	(357)	(629)
Other items removed from inventory	(1,578)	(1,337)	(1,273)
Ending delinquent inventory	62,898	46,556	50,282

Hurricane activity

New delinquent notice activity increased in 2017 compared to 2016 (particularly in the fourth quarter) because of hurricane activity that primarily impacted Puerto Rico, Texas, and Florida in the third quarter of 2017. In response to the hurricanes, the Federal Emergency Management Agency declared Individual Assistance Disaster Areas ("IADA") which we used to identify new notices of delinquency for reserving and loss mitigation purposes. We received 9,294 new notices of delinquency on loans in the IADAs in the fourth quarter of 2017, which compares to 1,968 new notices in the same areas in the fourth quarter of 2016. Loans in our ending delinquent inventory within the IADAs were 12,446 and 7,162 as of December 31, 2017 and 2016, respectively. The majority of notices of delinquency received

from the IADAs due to the hurricane activity cured during 2018.

Other items removed from inventory

During 2018, 2017, and 2016 our losses paid included amounts paid upon commutation of coverage on pools of non-performing loans ("NPLs"), and in 2016 our losses paid also included amounts paid in connection

with settlements for disputes concerning our claims paying practices. The impacts of the commutations of coverage on NPLs and/or settlements in each of the past three years were as follows:

2018 - 1,578 notices removed from delinquent inventory with an amount paid of \$50 million,

2017 - 1,337 notices removed from delinquent inventory with an amount paid of \$54 million,

2016 - 1,273 notices removed from delinquent inventory with an amount paid of \$53 million. In addition, we made a final payment of \$42 million in connection with a 2012 settlement agreement with Freddie Mac regarding the aggregate loss limit under certain pool insurance policies.

Aging of delinquent inventory

Historically as a delinquency ages it becomes more likely to result in a claim. The new notice activity from hurricane impacted areas in the fourth quarter of 2017 increased the percentage of our delinquent inventory that has been delinquent for three months or less (table 8.4) as of December 31, 2017 when compared to December 31, 2016.

The number of consecutive months that a borrower has been delinquent is shown in the table below.

Primary delinquent inventory -

consecutive months delinquent

Table 8.4

	December 31,			
	2018	2017	2016	
3 months or less	9,829	17,119	12,194	
4 - 11 months	9,655	12,050	13,450	
12 months or more ⁽¹⁾	13,414	17,387	24,638	
Total	32,898	46,556	50,282	
3 months or less	30	% 37	% 24	%
4 - 11 months	29	% 26	% 27	%
12 months or more	41	% 37	% 49	%
Total	100	% 100	% 100	%
Primary claims received inventory included in ending	809	954	1,385	

delinquent
inventory

Approximately 38%, 45%, and 47% of the primary delinquent inventory delinquent for 12 consecutive months or
(1) more has been delinquent for at least 36 consecutive months as of December 31, 2018, 2017 and 2016,
respectively.

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POOL INSURANCE DEFAULT INVENTORY

Pool insurance default inventory decreased to 859 at December 31, 2018 from 1,309 at December 31, 2017 and 1,883 at December 31, 2016.

CLAIMS PAYING PRACTICES

Our loss reserving methodology incorporates our estimates of future rescissions. A variance between ultimate actual rescission rates and our estimates, as a result of the outcome of litigation, settlements or other factors, could materially affect our losses. Our estimate of premiums to be refunded on expected future rescissions is accrued for separately and is included in "Other liabilities" on our consolidated balance sheets.

For information about discussions and legal proceedings with customers with respect to our claims paying practices, including settlements that we believe are probable, as defined in ASC 450-20, see [Note 17 – “Litigation and Contingencies.”](#)

NOTE 9 Reinsurance

Our consolidated financial statements reflect the effects of assumed and ceded reinsurance transactions. Assumed reinsurance refers to the acceptance of certain insurance risks that other insurance companies have underwritten. Ceded reinsurance involves transferring certain insurance risks (along with the related earned premiums) we have underwritten to other insurance companies who agree to share these risks. The purpose of ceded reinsurance is to protect us, at a cost, against losses arising from our mortgage guaranty policies covered by the agreement and to manage our capital requirements under PMIERS. Reinsurance is currently placed on a quota-share and excess of loss basis, but we also have immaterial captive reinsurance agreements that remain in effect.

Table 9.1 below shows the effect of all reinsurance agreements on premiums earned and losses incurred as reflected in the consolidated statements of operations.

Reinsurance

Table 9.1

	Years ended December 31,		
(In thousands)	2018	2017	2016
Premiums earned:			
Direct	\$ 1,084,748	\$ 1,059,973	\$ 1,058,545
Assumed	1,805	509	662
Ceded	(111,391)	(125,735)	(133,981)
Net premiums earned	\$975,162	\$934,747	\$925,226
Losses incurred:			
Direct	\$43,060	\$74,727	\$273,207
Assumed	331	183	1,138
Ceded	(6,829)	(21,201)	(34,188)
	\$36,562	\$53,709	\$240,157

Net
losses
incurred

QUOTA SHARE REINSURANCE

Each of the reinsurers under our quota share reinsurance agreements described below has an insurer financial strength rating of A- or better by Standard and Poor's Rating Services, A.M. Best, or both.

2018 QSR Transaction. Our 2018 quota share reinsurance agreement ("2018 QSR Transaction") provides coverage on eligible new business written in 2018. Under the 2018 QSR Transaction, we cede losses incurred and premiums on or after the effective date through December 31, 2029, at which time the agreement expires. Early termination of the agreement can be elected by us effective December 31, 2021, and annually thereafter, for a fee, or under specified scenarios for no fee upon prior written notice, including if we will receive less than 90% of the full credit amount under the PMIERS for the risk ceded in any required calculation period.

The structure of the 2018 QSR Transaction is a 30% quota share for all policies covered, with a 20% ceding commission as well as a profit commission. Generally, under the 2018 QSR Transaction, we will receive a profit commission provided that the loss ratio on the loans covered under the agreement remains below 62%.

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2017 QSR Transaction. Our 2017 quota share reinsurance agreement ("2017 QSR Transaction") provides coverage on eligible new business written in 2017. Under our 2017 QSR Transaction we cede losses incurred and premiums on or after the effective date through December 31, 2028, at which time the agreement expires. Early termination of the agreement can be elected by us effective December 31, 2021 for a fee, or under specified scenarios for no fee upon prior written notice, including if we will receive less than 90% of the full credit amount under the PMIERS for the risk ceded in any required calculation period.

2015 QSR Transaction. Our 2015 quota share reinsurance agreement ("2015 QSR Transaction") provides coverage on eligible business written before 2017. Under the 2015 QSR Transaction we cede losses incurred and premiums through December 31, 2024, at which time the agreement expires. Early termination of the agreement can be elected by us for a fee on a bi-annual basis, or under specified scenarios for no fee upon prior written notice, including if we will receive less than 90% of the full credit amount under the PMIERS for the risk ceded in any required calculation period. Our next early termination option is at June 30, 2019 and requires 90 days' prior written notice.

The structure of both the 2017 QSR Transaction and 2015 QSR Transactions is a 30% quota share for all policies covered, with a 20% ceding commission as well as a profit commission. Generally, under the 2017 and 2015 QSR Transactions, we will receive a profit commission provided that the loss ratio on the loans covered under the agreement remains below 60%.

Table 9.2 provides a summary of our quota share reinsurance agreements, excluding captive agreements, for 2018, 2017 and 2016.

Quota share reinsurance

Table 9.2

	Years ended December 31,		
(In thousands)	2018	2017	2016
Ceded premiums written and earned, net of profit commission ⁽¹⁾	\$108,337	\$120,974	\$125,460
Ceded losses incurred	6,543	22,336	30,201
Ceding commissions ⁽²⁾	15,201	49,321	47,629
Profit commission	147,667	125,629	112,685

(1) Under our QSR Transactions, premiums are ceded on an earned and received basis as defined in our agreements.

(2) Ceding commissions are reported within Other underwriting and operating expenses, net on the consolidated statements of operations.

Under the terms of our QSR Transactions currently in effect, reinsurance premiums, ceding commission and profit commission are settled net on a quarterly basis. The reinsurance premium due after deducting the related ceding commission and profit commission is reported within "Other liabilities" on the consolidated balance sheets. The reinsurance recoverable on loss reserves was \$33.2 million as of December 31, 2018 and \$39.3 million as of December 31, 2017. The reinsurance recoverable balance is secured by funds on deposit from the reinsurers which are based on the funding requirements of PMIERS that address ceded risk.

2019 QSR Transaction. We have agreed to terms on a QSR Transaction with a group of unaffiliated reinsurers with an effective date of January 1, 2019 ("2019 QSR Transaction"), which provides coverage on eligible new business written in 2019. Under the 2019 QSR Transaction, we cede losses incurred and premiums on or after the effective date through December 31, 2030, at which time the agreement expires. Early termination of the agreement can be elected by us effective December 31, 2021, and bi-annually thereafter, for a fee, or under specified scenarios for no fee upon prior written notice, including if we will receive less than 90% of the full credit amount under the PMIERS for the risk ceded in any required calculation period.

The structure of the 2019 QSR Transaction is a 30% quota share, with a one-time option, elected by us, to reduce the cede rate to either 25% or 20% effective July 1, 2020, or bi-annually thereafter, for a fee, for all policies covered, with a 20% ceding commission as well as a profit commission. Generally, under the 2019 QSR Transaction, we will receive a profit commission provided that the loss ratio on the loans covered under the agreement remains below 62%.

EXCESS OF LOSS REINSURANCE

On October 30, 2018, MGIC entered into a fully collateralized reinsurance agreement with Home Re 2018-1 Ltd. ("Home Re"), an unaffiliated special purpose insurer domiciled in Bermuda, that provides for up to \$318.6 million of aggregate excess-of-loss reinsurance coverage as of August 1, 2018 on a portfolio of mortgage insurance policies having an insurance coverage in force date on or after July 1, 2016 and before January 1, 2018. For the reinsurance coverage period, MGIC will retain the first layer of \$168.7 million of aggregate losses, and Home Re will then provide second layer coverage up to the outstanding reinsurance coverage amount. The premiums ceded to the reinsurer, Home Re, are composed of coverage premiums, initial expense and supplemental premiums. The coverage premiums are generally calculated as the difference between the amount of interest payable by Home Re on the notes it issued to raise funds to

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collateralize its reinsurance obligations to us, and the investment income collected on the collateral assets.

The aggregate excess of loss reinsurance coverage decreases over a ten-year period, subject to certain conditions, as the underlying covered mortgages amortize, principal is prepaid, or mortgage insurance losses are paid. MGIC has rights to terminate the reinsurance agreement, which includes an option to terminate on or after October 25, 2025. Home Re financed the coverage by issuing mortgage insurance-linked notes in an aggregate amount of \$318.6 million to unaffiliated investors. The notes have ten-year legal maturities and are non-recourse to any assets of MGIC or its affiliates. The proceeds of the notes were deposited into a reinsurance trust for the benefit of MGIC that will be the source of reinsurance claim payments to MGIC and principal repayments on the mortgage insurance-linked notes.

The amount of monthly reinsurance coverage premium ceded will fluctuate due to change in one-month LIBOR and changes in money market rates that affect investment income collected on the assets in the reinsurance trust. As the reinsurance premium will vary based on changes in these rates, we concluded that the reinsurance agreement contains an embedded derivative that will be accounted for separately as a freestanding derivative. The fair value of the derivative at December 31, 2018, and the change in fair value from inception of the reinsurance agreement to December 31, 2018, was not material to our consolidated balance sheet and consolidated statement of operations, respectively. Total ceded premiums were \$2.8 million for the year ended December 31, 2018.

In connection with entering into the reinsurance agreement with Home Re, we concluded that the risk transfer requirements for reinsurance accounting were met as Home Re is assuming significant insurance risk and a reasonable possibility of significant loss. In addition, we assessed whether Home Re was a variable interest entity ("VIE"). A VIE is a legal entity that does not have sufficient equity at risk to finance its activities without additional subordinated financial support or is structured such that equity investors lack the ability to make sufficient decisions relating to the entity's operations through voting rights or do not substantively participate in gains and losses of the entity. We concluded that Home Re is a VIE. However, given that MGIC (1) does not have the unilateral power to direct the activities that most significantly affect Home Re's economic performance and (2) does not have the obligation to absorb losses or the right to receive benefits of Home Re, consolidation of Home Re is not required.

We are required to disclose our maximum exposure to loss, which we consider to be an amount that we could be required to record in our statement of operations, as a result of our involvement with this VIE. As of

December 31, 2018, we did not have exposure to the VIE as we have no investment in the VIE and had no reinsurance claim payments due from the VIE under our reinsurance agreement. We are unable to determine the timing or extent of losses that may be ceded under the reinsurance agreement. The VIE assets are deposited in a reinsurance trust for the benefit of MGIC that will be the source of reinsurance claim payments to MGIC. The purpose of the reinsurance trust is to provide security to MGIC for the obligations of the VIE under the reinsurance agreement. The trustee of the reinsurance trust, a recognized provider of corporate trust services, has established a segregated account within the reinsurance trust for the benefit of MGIC, pursuant to the trust agreement. The trust agreement is governed by, and construed in accordance with, the laws of the State of New York. If the trustee of the reinsurance trust failed to distribute claim payments to us as provided in the reinsurance trust, we would incur a loss related to our losses ceded under the reinsurance agreement and deemed unrecoverable. We are also unable to determine the impact such possible failure by the trustee to perform pursuant to the reinsurance trust agreement may have on our consolidated financial statements. As a result, we are unable to quantify our maximum exposure to loss related to our involvement with the VIE. MGIC has certain termination rights under the reinsurance agreement should its claims not be paid. We consider our exposure to loss from our reinsurance agreement with the VIE to be remote.

The following presents the total assets of Home Re as of December 31, 2018.

Home Re total
assets

Table 9.3

(In thousands)	Total VIE Assets
Home Re 2018-1 Ltd.	\$318,636

The reinsurance trust agreement provides that the trust assets may generally only be invested in certain money market funds that (i) invest at least 99.5% of their total assets in cash or direct U.S. federal government obligations, such as U.S. Treasury bills, as well as other short-term securities backed by the full faith and credit of the U.S. federal government or issued by an agency of the U.S. federal government, (ii) have a principal stability fund rating of “AAAm” by S&P or a money market fund rating of “Aaa-mf” by Moody’s as of the Closing Date and thereafter maintain any rating with either S&P or Moody’s, and (iii) are permitted investments under the applicable credit for reinsurance laws and applicable PMIERS credit for reinsurance requirements.

The assets of Home Re provide capital credit under the PMIERS financial requirements (see Note 1 - "Nature of Business"). A decline in the assets available to pay claims would reduce the capital credit available to MGIC.

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NOTE 10 Other Comprehensive Income (Loss)

The pretax components of our other comprehensive income (loss) and related income tax (expense) benefit for the years ended December 31, 2018, 2017 and 2016 are included in table 10.1 below.

Components of other comprehensive income (loss)

Table 10.1

(In thousands)	2018	2017	2016
Net unrealized investment (losses) gains arising during the year	\$ (81,834)	\$ 69,052	\$ (5,425)
Income tax benefit (expense)	17,188	(21,505)	1,776
Net of taxes	(64,646)	47,547	(3,649)
Net changes in benefit plan assets and obligations	(19,958)	(8,983)	(14,799)
Income tax benefit	4,191	3,144	5,179
Net of taxes	(15,767)	(5,839)	(9,620)
Net changes in unrealized foreign currency translation adjustment	—	45	(1,463)
Income tax (expense)	—	(14)	512

benefit			
Net of taxes	—	31	(951)
Total other comprehensive (loss) income	(11,792)	60,114	(21,687)
Total income tax benefit (expense), net	21,379	(18,375)	7,467
Total other comprehensive (loss) income, net of tax	\$(80,413)	\$41,739	\$(14,220)

The pretax and related income tax benefit (expense) components of the amounts reclassified from our accumulated other comprehensive loss ("AOCL") to our consolidated statements of operations for the years ended December 31, 2018, 2017 and 2016 are included in table 10.2 below.

Reclassifications from AOCL

Table 10.2

(In thousands)	2018	2017	2016
Reclassification adjustment for net realized (losses) gains included in net income ⁽¹⁾			
Income tax benefit (expense)	1,477	903	(2,050)
Net of taxes	(5,560)	(1,677)	4,157
Reclassification adjustment related to benefit plan assets and	(4,082)	906	1,480

obligations
(2)

Income tax benefit (expense)	469	(317)	(518)
Net of taxes	(1,763)	589	962

Reclassification adjustment related to foreign currency
(3)

	—	—	1,467
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Income tax (expense)	—	—	(513)
Net of taxes	—	—	954

Total reclassifications	(9,269)	(1,674)	9,154
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Total income tax benefit (expense), net	1,946	586	(3,081)
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Total reclassifications, net of tax	\$6,323	\$(1,088)	\$6,073
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(1) (Decreases) increases Net realized investment gains on the consolidated statements of operations.

(2) Decreases (increases) Other underwriting and operating expenses, net on the consolidated statements of operations.

(3) Increases (decreases) Other revenue on the consolidated statements of operations.

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A roll-forward of AOCL for the years ended December 31, 2018, 2017, and 2016, including amounts reclassified from AOCL, is included in table 10.3 below.

Roll-forward of AOCL

Table 10.3

(In thousands)	Net unrealized gains and losses on available-for-sale securities	Net benefit plan assets and obligations recognized in shareholders' equity	Net unrealized foreign currency translation	Total AOCL
Balance, December 31, 2015, net of tax	\$ (17,148)	\$ (44,652)	\$ 920	\$(60,880)
Other comprehensive income (loss) before reclassifications	508	(8,658)	3	(8,147)
Less: Amounts reclassified from AOCL	4,157	962	954	6,073
Balance, December 31, 2016, net of tax	(20,797)	(54,272)	(31)	(75,100)
Other comprehensive income (loss) before reclassifications	45,870	(5,250)	31	40,651
Less: Amounts reclassified from AOCL	(1,677)	589	—	(1,088)
Less: Amounts reclassified for lower enacted	(2,525)	12,947	—	10,422

corporate tax rate Balance, December 31, 2017,	29,275	(73,058	) —	(43,783)
net of tax Cumulative effect of adopting the accounting (18 standard update for financial instruments Other comprehensive income (loss)	(70,206	) (17,530	) —	(87,736)
before reclassifications Less: Amounts reclassified from AOCL Balance, December 31, 2018,	(5,560) (1,763) —	(7,323)
net of tax	\$ (35,389) \$ (88,825) \$ —	(124,214)

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NOTE 11 Benefit Plans

We have a non-contributory defined benefit pension plan covering substantially all domestic employees, as well as a supplemental executive retirement plan. We also offer both medical and dental benefits for retired domestic employees, their eligible spouses and dependents under a postretirement benefit plan. The following tables 11.1, 11.2, and 11.3 provide the components of aggregate annual net periodic benefit cost for each of the years ended December 31, 2018, 2017, and 2016 and changes in the benefit obligation and the funded status of the pension, supplemental executive retirement and other postretirement benefit plans as recognized in the consolidated balance sheets as of December 31, 2018 and 2017.

Components of net periodic benefit cost

Table 11.1

(In thousands)	Pension and Supplemental Executive Retirement Plans			Other Postretirement Benefits		
	12/31/2018	12/31/2017	12/31/2016	12/31/2018	12/31/2017	12/31/2016
1. Company Service Cost	\$ 10,530	\$ 9,556	\$ 9,130	\$ 1,160	\$ 813	\$ 751
2. Interest Cost	15,095	15,475	15,906	834	706	704
3. Expected Return on Assets	(22,250)	(20,099)	(19,508)	(6,359)	(5,248)	(4,886)
4. Other Adjustments	—	—	—	—	—	—
Subtotal	3,375	4,932	5,528	(4,365)	(3,729)	(3,431)
5. Amortization of:						
a. Net Transition Obligation/(Asset)	—	—	—	—	—	—
b. Net Prior Service Cost/(Credit)	(351)	(426)	(687)	(4,104)	(6,649)	(6,649)
c. Net Losses/(Gains)	6,937	6,169	5,856	(250)	—	—
Total Amortization	6,586	5,743	5,169	(4,354)	(6,649)	(6,649)
6. Net Periodic Benefit Cost	9,961	10,675	10,697	(8,719)	(10,378)	(10,080)
	—	—	1,277	—	—	—

7. Cost of settlements
 8. Total Expense \$9,961 \$ 10,675 \$ 11,974 \$(8,719) \$(10,378) \$(10,080)
 for Year

Development of funded status

Table 11.2

	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
(In thousands)	12/31/2018	12/31/2017	12/31/2018	12/31/2017
Actuarial Value of Benefit Obligations				
1. Measurement Date				
2. Accumulated Benefit Obligation	\$375,562	\$411,996	\$28,085	\$24,716
Funded Status/Asset (Liability) on the Consolidated Balance Sheet				
1. Projected Benefit Obligation	\$(376,153)	\$(417,770)	\$(28,085)	\$(24,716)
2. Plan Assets at Fair Value	359,719	401,142	77,762	85,303
3. Funded Status - Overfunded/Asset	N/A	N/A	\$49,677	\$60,587
4. Funded Status - Underfunded/Liability	(16,434)	(16,628)	N/A	N/A

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Accumulated other comprehensive income (loss)

Table 11.3

	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
(In thousands)	12/31/2018	12/31/2017	12/31/2018	12/31/2017
1. Net Actuarial (Gain)/Loss	\$ 110,321	\$ 109,904	\$ 939	\$ (10,234)
2. Net Prior Service Cost/(Credit)	(1,513)	(1,850)	2,690	(5,342)
3. Net Transition Obligation/(Asset)	—	—	—	—
4. Total at Year End	\$ 108,808	\$ 108,054	\$ 3,629	\$ (15,576)

The amortization of gains and losses resulting from actual experience different from assumed experience or changes in assumptions including discount rates is included as a component of Net Periodic Benefit Cost/(Income) for the year. The gain or loss in excess of a 10% corridor is amortized by the average remaining service period of participating employees expected to receive benefits under the plan.

Table 11.4 shows the changes in the projected benefit obligation for 2018 and 2017.

Change in projected benefit / accumulated benefit

Table 11.4

	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
(In thousands)	12/31/2018	12/31/2017	12/31/2018	12/31/2017
1. Benefit Obligation at Beginning of Year	\$ 417,770	\$ 369,808	\$ 24,716	\$ 17,378
2. Company Service Cost	10,530	9,556	1,160	813
3. Interest Cost	15,095	15,475	834	706

4. Plan Participants' Contributions	—	475	395
5. Net Actuarial (Gain)/Loss due to Assumption Changes	(36,132)	38,496	(1,209) 5,981
6. Net Actuarial (Gain)/Loss due to Plan Experience	2,487	2,338	(692) 924
7. Benefit Payments from Fund ⁽¹⁾	(32,674)	(17,578)	(1,077) (1,404)
8. Benefit Payments Directly by Company	(908)	(335)	— —
9. Plan Amendments	(15)	10	3,928 —
10. Other Adjustment	—	—	(50) (77)
11. Benefit Obligation at End of Year	\$376,153	\$417,770	\$28,085 \$24,716

⁽¹⁾ Includes lump sum payments of \$20.9 million and \$6.3 million in 2018 and 2017, respectively, from our pension plan to eligible participants, which were former employees with vested benefits.

The decrease in our pension and supplemental executive retirement plans obligation in 2018 compared to 2017 was primarily due to an increase in the discount rate used to calculate the obligation and a higher amount of benefits paid from the fund. The increase in our other postretirement plan obligation was primarily due to a plan amendment, offset by an increase in the discount rate used to calculate the obligation. Table 11.8 below includes the actuarial assumptions used to calculate the benefit obligations of our plans for 2018 and 2017.

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Tables 11.5 and 11.6 shows the changes in the fair value of the net assets available for plan benefits, and changes in other comprehensive income (loss) during 2018 and 2017.

Change in plan assets

Table 11.5

	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
(In thousands)	12/31/2018	12/31/2017	12/31/2018	12/31/2017
1. Fair Value of Plan Assets at Beginning of Year	\$401,142	\$360,900	\$85,303	\$70,408
2. Company Contributions	10,908	9,435	—	—
3. Plan Participants' Contributions	—	—	475	395
4. Benefit Payments from Fund	(32,674)	(17,578)	(1,077)	(1,404)
5. Benefit Payments paid directly by Company	(908)	(335)	—	—
6. Actual Return on Assets	(19,583)	48,720	(6,464)	16,299
7. Other Adjustment	834	—	(475)	(395)
8. Fair Value of Plan Assets at End of Year	\$359,719	\$401,142	\$77,762	\$85,303
Change in accumulated other comprehensive income (loss) ("AOCI")				

Table 11.6

	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
(In thousands)	12/31/2018	12/31/2017	12/31/2018	12/31/2017
1. AOCI in Prior Year	\$ 108,054	\$ 101,575	\$(15,576)	\$(18,079)
2. Increase/(Decrease) in AOCI				
a. Recognized during year - Prior Service (Cost)/Credit	351	426	4,104	6,649
b. Recognized during year - Net Actuarial (Losses)/Gains	(6,937)	(6,169)	250	—
c. Occurring during year - Prior Service Cost	(15)	10	3,928	—
d. Occurring during year - Net Actuarial Losses/(Gains)	7,355	12,212	10,923	(4,146)
3. AOCI in Current Year	\$ 108,808	\$ 108,054	\$ 3,629	\$(15,576)

Table 11.7 shows the amount of amortization on components of net periodic benefit costs expected to be recognized during the year ending December 31, 2019.

Amortization expected to be recognized during fiscal year ending

Table 11.7

	Pension and Supplemental Executive Retirement	Other Postretirement Benefits
--	--	-------------------------------------

	Plans	
(In thousands)	12/31/2018	12/31/2018
1.		
Amortization of Net Transition Obligation/(Asset)	\$ —	\$ —
2.		
Amortization of Prior Service Cost/(Credit)	(280)	(34)
3.		
Amortization of Net Losses/(Gains)	8,271	—

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The projected benefit obligations, net periodic benefit costs and accumulated postretirement benefit obligation for the plans were determined using the following weighted average assumptions.

Actuarial assumptions

Table 11.8

	Pension and Supplemental Executive Retirement Plans			Other Postretirement Benefits		
	12/31/2016	12/31/2017		12/31/2016	12/31/2017	
Weighted-Average Assumptions Used to Determine Benefit Obligations at year end						
1. Discount Rate	4.40%	3.75 %		4.25 %	3.55 %	
2. Rate of Compensation Increase	3.00%	3.00 %		N/A	N/A	
Weighted-Average Assumptions Used to Determine Net Periodic Benefit Cost for Year						
1. Discount Rate	3.75%	4.30 %		3.55 %	3.95 %	
2. Expected Long-term Return on Plan Assets	5.75%	5.75 %		7.50 %	7.50 %	
3. Rate of Compensation Increase	3.00%	3.00 %		N/A	N/A	

Assumed Health Care Cost Trend Rates at year end						
1. Health Care Cost Trend Rate	N/A	N/A	6.25 %	6.50 %		
Assumed for Next Year						
2. Rate to Which the Cost Trend Rate is Assumed to Decline (Ultimate Trend Rate)	N/A	N/A	5.00 %	5.00 %		
3. Year That the Rate Reaches the Ultimate Trend Rate	N/A	N/A	2024	2024		

In selecting a discount rate, we performed a hypothetical cash flow bond matching exercise, matching our expected pension plan and postretirement medical plan cash flows, respectively, against a selected portfolio of high quality corporate bonds. The modeling was performed using a bond portfolio of noncallable bonds with at least \$50 million outstanding. The average yield of these hypothetical bond portfolios was used as the benchmark for determining the discount rate. In selecting the expected long-term rate of return on assets, we considered the average rate of earnings expected on the classes of funds invested or to be invested to provide for the benefits of these plans. This included considering the trusts' targeted asset allocation for the year and the expected returns likely to be earned over the next 20 years.

The year-end asset allocations of the plans are shown in table 11.9 below.

Plan assets
Table 11.9

	Pension Plan		Other Postretirement Benefits			
	12/31/2017	12/31/2017	12/31/2017	12/31/2017	12/31/2017	12/31/2017
1. Equity Securities	23 %	21 %	100 %	100 %		
	77 %	79 %	— %	— %		

2. Debt
Securities

3. Total 100% 100 % 100 % 100 %

In accordance with fair value guidance, we applied the following fair value hierarchy in order to measure fair value of our benefit plan assets:

Level 1: Quoted prices for identical instruments in active markets that we can access. Financial assets using Level 1 inputs include equity securities, mutual funds, money market funds, certain U.S. Treasury securities and exchange traded funds ("ETFs").

Level 2: Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and inputs, other than quoted prices, that are observable in the marketplace for the instrument. The observable inputs are used in valuation models to calculate the fair value of the instruments. Financial assets using Level 2 inputs include certain municipal, corporate and foreign bonds, obligations of U.S. government corporations and agencies, and pooled equity accounts.

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To determine the fair value of securities in Level 1 and Level 2 of the fair value hierarchy, independent pricing sources have been used. One price is provided per security based on observable market data. To ensure securities are appropriately classified in the fair value hierarchy, we review the pricing techniques and methodologies of the independent pricing sources and believe that their policies adequately consider market activity, either based on specific transactions for the issue valued or based on modeling of securities with similar credit quality, duration, yield and structure that were recently traded. A variety of inputs are used by the independent pricing sources including benchmark yields, reported trades, non-binding broker/dealer quotes, issuer spreads, two sided markets, benchmark securities, bids, offers and reference data including market research publications. Inputs may be weighted differently for any security, and not all inputs are used for each security evaluation. Market indicators, industry and economic events are also considered. This information is evaluated using a multidimensional pricing model. In addition, on a quarterly basis, we perform quality controls over values received from the pricing source (the "Trustee") which include comparing values to other independent pricing sources. In addition, we review annually the Trustee's auditor's report on internal controls in order to determine that their controls around valuing securities are operating effectively. We have not made any adjustments to the prices obtained from the independent sources.

Tables 11.10a and 11.10b set forth by level, within the fair value hierarchy, the pension plan assets and related accrued investment income at fair value as of December 31, 2018 and 2017. There were no securities that used Level 3 inputs.

Pension plan assets at fair value as of
December 31, 2018

Table 11.10a

(In thousands)	Level 1	Level 2	Total
Domestic Mutual Funds	\$ 13,744	\$—	\$ 13,744
Corporate Bonds	—	181,363	181,363
U.S. Government Securities	19,904	1,324	21,228
Municipal Bonds	—	43,424	43,424
Foreign Bonds	—	30,113	30,113
ETFs	5,241	—	5,241
Pooled Equity Accounts	—	64,606	64,606
Total Assets at fair value	\$ 38,889	\$ 320,830	\$ 359,719

Pension plan assets at fair value as of
December 31, 2017

Table 11.10b

(In thousands)	Level 1	Level 2	Total
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Domestic Mutual Funds	\$1,006	\$—	\$1,006
Corporate Bonds	—	202,840	202,840
U.S. Government Securities	17,996	1,400	19,396
Municipal Bonds	—	62,293	62,293
Foreign Bonds	—	32,949	32,949
ETFs	5,734	—	5,734
Pooled Equity Accounts	—	76,924	76,924
Total Assets at fair value	\$24,736	\$376,406	\$401,142

The pension plan has implemented a strategy to reduce risk through the use of a targeted funded ratio. The liability driven component is key to the asset allocation. The liability driven component seeks to align the duration of the fixed income asset allocation with the expected duration of the plan liabilities or benefit payments. Overall asset allocation is dynamic and specifies target allocation weights and ranges based on the funded status.

An improvement in funded status results in the de-risking of the portfolio, allocating more funds to fixed income and less to equity. A decline in funded status would result in a higher allocation to equity. The maximum equity allocation is 40%.

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The equity investments use combinations of mutual funds, ETFs, and pooled equity account structures focused on the following strategies:

Strategy	Objective	Investment types
Return seeking growth	Funded ratio improvement over the long term	Global quality growth Global low volatility Enduring asset
Return seeking bridge	Downside protection in the event of a declining equity market	Durable company

The fixed income objective is to preserve capital and to provide monthly cash flows for the payment of plan liabilities. Fixed income investments can include government, government agency, corporate, mortgage-backed, asset-backed, and municipal securities, and other classes of bonds. The duration of the fixed income portfolio has an objective of being within one year of the duration of the accumulated benefit obligation. The fixed income investments have an objective of a weighted average credit of A3/A-/A- by Moody's, S&P, and Fitch, respectively.

Tables 11.11a and 11.11b set forth the other postretirement benefits plan assets at fair value as of December 31, 2018 and 2017. All are Level 1 assets.

Other postretirement benefits plan assets at fair value as of December 31, 2018

Table 11.11a

(In thousands)	Level 1	Total
Domestic Mutual Funds	\$60,405	\$60,405
International Mutual Funds	17,357	17,357
Total Assets at fair value	\$77,762	\$77,762

Other postretirement benefits plan assets at fair value as of December 31, 2017

Table 11.11b

(In thousands)	Level 1	Total
Domestic Mutual Funds	\$64,489	\$64,489
International Mutual	20,814	20,814

Funds

Total Assets at fair value \$85,303 \$85,303

Our postretirement plan portfolio is designed to achieve the following objectives over each market cycle and for at least 5 years:

- è Total return should exceed growth in the Consumer Price Index by 5.75% annually
- è Achieve competitive investment results

The primary focus in developing asset allocation ranges for the portfolio is the assessment of the portfolio's investment objectives and the level of risk that is acceptable to obtain those objectives. To achieve these objectives the minimum and maximum allocation ranges for fixed income securities and equity securities are:

	Minimum		Maximum	
Equities (long only)	70	%	100	%
Real estate	0	%	15	%
Commodities	0	%	10	%
Fixed income/Cash	0	%	10	%

Given the long term nature of this portfolio and the lack of any immediate need for significant cash flow, it is anticipated that the equity investments will consist of growth stocks and will typically be at the higher end of the allocation ranges above.

Investment in international mutual funds is limited to a maximum of 30% of the equity range. The allocation as of December 31, 2018 included 3% that was primarily invested in equity securities of emerging market countries and another 19% was invested in securities of companies primarily based in Europe and the Pacific Basin.

Tables 11.12 and 11.13 show the current and estimated future contributions and benefit payments.

Company contributions

Table 11.12

	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
(In thousands)	12/31/2018	12/31/2018		
Company Contributions for the Year Ending:				
1. Current	\$ 10,908	\$	—	
2. Current + 1	10,650	—		

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Benefits payments - total

Table 11.13

	Pension and Supplemental Executive Retirement Plans	Other Postretirement Benefits
(In thousands)	12/31/2018	12/31/2018
Actual Benefit Payments for the Year Ending:		
1. Current	\$ 33,582	\$ 652
Expected Benefit Payments for the Year Ending:		
2. Current	33,258	1,352
+ 1		
3. Current	28,688	1,650
+ 2		
4. Current	30,574	1,916
+ 3		
5. Current	30,490	2,386
+ 4		
6. Current	30,510	2,613
+ 5		
7. Current	143,389	14,065
+ 6 - 10		

HEALTH CARE SENSITIVITIES

Assumed health care cost trend rates have a significant effect on the amounts reported for the other postretirement benefits plan. A 1 percentage point change in the health care trend rate assumption would have the following effects on other postretirement benefits:

Health care trend rate assumption

Table 11.14

	1-Percentage Point Increase	1-Percentage Point Decrease
(In thousands) Effect on total	\$ 327	\$ (282)

service and
interest
cost
components
Effect on
postretirement
benefit 3,221 (2,866)
obligation

PROFIT SHARING AND 401(K)

We have a profit sharing and 401(k) savings plan for employees. At the discretion of the Board of Directors, we may make a contribution to the plan of up to 5% of each participant's eligible compensation. We provide a matching 401(k) savings contribution for employees on their before-tax contributions at a rate of 80% of the first \$1,000 contributed and 40% of the next \$2,000 contributed. For employees hired after January 1, 2014, the match is 100% up to 4% contributed. We recognized expenses related to these plans of \$6.0 million, \$6.0 million and \$5.9 million in 2018, 2017 and 2016, respectively.

NOTE 12 Income Taxes

Net deferred tax assets and liabilities as of December 31, 2018 and 2017 are as follows:

Deferred tax assets and
liabilities

Table 12.1

(In thousands)	2018	2017
Total deferred tax assets	\$83,082	\$258,663
Total deferred tax liabilities	(13,898)	(24,282)
Net deferred tax asset	\$69,184	\$234,381

Table 12.2 includes the components of the net deferred tax asset as of December 31, 2018 and 2017.

Deferred tax components

Table 12.2

(In thousands)	2018	2017
Unearned premium reserves	\$31,808	\$29,196
Benefit plans	(5,047)	(7,162)
Federal net operating loss	—	155,839
	3,113	4,994

Loss reserves		
Unrealized depreciation (appreciation) in investments	9,407	(7,782)
Mortgage investments	8,307	8,963
Deferred compensation	8,662	7,265
AMT credit carryforward	17,521	37,017
Other, net	(4,587)	6,051
Net deferred tax asset	\$69,184	\$234,381

We used the remaining balance of our Federal net operating loss carryforward to offset taxable income during 2018. We believe that all gross deferred tax assets at December 31, 2018 are fully realizable and no valuation allowance has been established.

Table 12.3 summarizes the components of the provision for (benefit from) income taxes:

Provision for (benefit from) income taxes

Table 12.3

(In thousands)	2018	2017	2016
Current Federal	\$(16,272)	\$73,348	\$9,470
Deferred Federal	185,598	351,677	160,657
Other	4,727	3,710	2,070
Provision for income taxes	\$174,053	\$428,735	\$172,197

Our income tax expense for 2017 reflects the remeasurement of our net deferred tax assets to reflect the lower corporate tax rate of 21% under the Tax Act. As a result of the lower tax rate, we recorded a decrease to our net deferred tax assets of \$133 million with a corresponding increase to our deferred income tax expense for the year ended December 31, 2017.

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Current federal income tax payments were \$12.2 million, \$22.0 million, and \$4.5 million in 2018, 2017 and 2016, respectively.

Table 12.6 reconciles the federal statutory income tax rate to our effective tax provision rate.

Effective tax rate reconciliation

Table 12.6

	2018	2017	2016
Federal statutory income tax rate	21.0 %	35.0 %	35.0 %
Additional income tax provision related to the rate decrease included in the Tax Act			