

# MGIC

**MGIC Investment Corporation**  
**Annual Report**



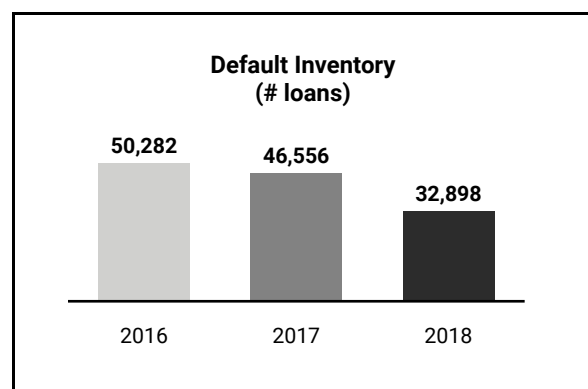
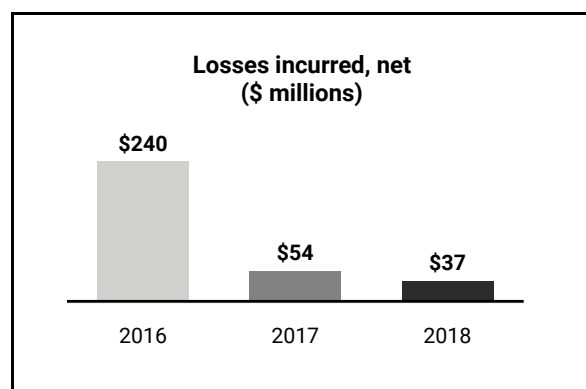
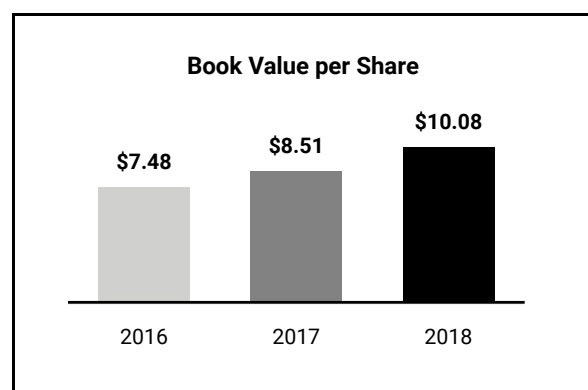
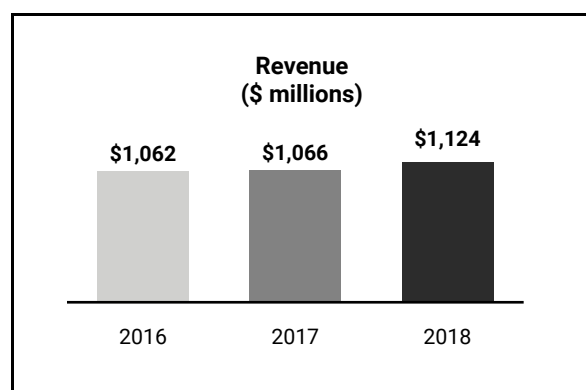
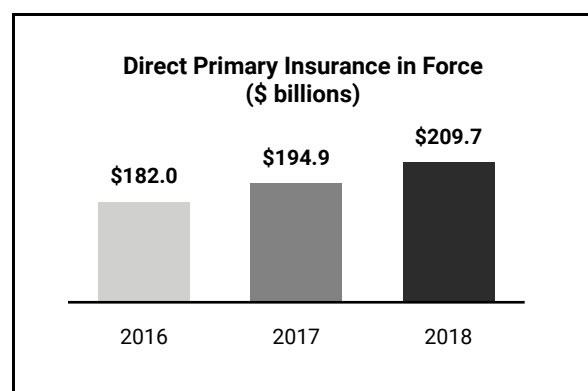
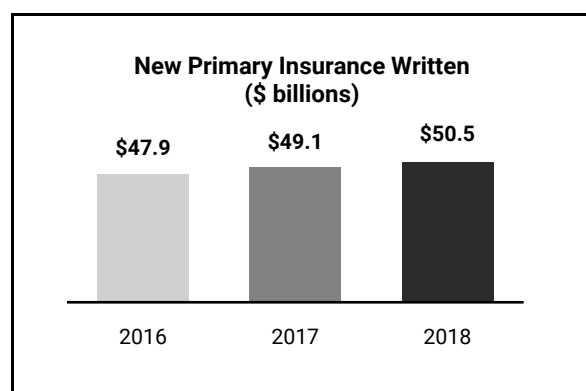
*Oscar Lopez*

Cover Design: Oscar Lopez  
Senior at Cristo Rey Jesuit High School Milwaukee

# 2018

# Financial Summary

	2016	2017	2018
Net income (\$ millions)	\$ 342.5	\$ 355.8	\$ 670.1
Diluted income per share (\$)	\$ 0.86	\$ 0.95	\$ 1.78
Net operating income <sup>(1)</sup> (\$ millions)	\$ 396.3	\$ 517.7	\$ 668.7
Net operating income per diluted share (1) (\$)	\$ 0.99	\$ 1.36	\$ 1.78



<sup>(1)</sup> We believe that use of the Non-GAAP measures of net operating income and net operating income per diluted share facilitate the evaluation of the company's core financial performance thereby providing relevant information. For a description of how we calculate these measures and for a reconciliation of these measure to their nearest comparable GAAP measures, see "Explanation and Reconciliation of our use of Non-GAAP Financial Measures" in Management's Discussion and Analysis of Financial Condition and Results of Operations.

## Dear Fellow Shareholders:



I am pleased to report that in 2018, we produced exceptional financial results and we continued to make great progress in furthering each of our five business strategies. The strategies continue to be to: 1) prudently grow insurance in force, 2) pursue new business opportunities that meet our return objectives, 3) preserve and expand the role of MGIC and private mortgage insurance (PMI) 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. Specifically, in 2018 we:

- Earned \$670.1 million of GAAP Net Income and \$668.7 million of Adjusted Net Operating Income compared to \$355.8 million of GAAP Net Income and \$517.7 million of Adjusted Net Operating Income for 2017. Adjusted Net Operating Income is a non-GAAP measure of performance. For a description of how we calculate this measure and for a reconciliation of this measure to its nearest comparable GAAP measure, see "Explanation and reconciliation of our use of non-GAAP financial measures" in Management's Discussion and Analysis of Financial Condition and Results of Operations (the "MD&A").
- Wrote \$50.5 billion of new insurance that is consistent with the Company's risk and return goals. This contributed to a 7.6% increase in insurance in force.
- Generated a 21.2% return on beginning shareholders' equity.
- Increased book value per outstanding share by 18.4%.
- Repurchased approximately 16 million shares of common stock.
- Exceeded the Minimum Required Assets of the GSEs' private mortgage insurer eligibility requirements, or PMIERs, by \$1.4 billion and the statutory capital requirement of the State of Wisconsin by \$2.6 billion. Effective March 31, 2019 revised PMEIRS will be effective. If the revised PMERS had been effective at December 31, 2018, we estimate that MGIC's pro forma excess would have been approximately \$1 billion.
- Improved our capital profile, including: 1) lowering our debt to capital ratio to 19%, 2) increasing dividend payments from our writing company, MGIC, to our holding company (\$220 million for 2018 compared to \$140 million in 2017) and 3) receiving an A- rating from A.M. Best for MGIC.
- Were recognized, for the 10th consecutive year, as a top workplace in southeastern Wisconsin
- Maintained our low expense ratio while investing in co-worker development and our operating platforms.

The increase in net income primarily reflects decreases in our provision for income taxes (discussed in more detail in the MD&A) and losses incurred (discussed later in this letter).

The growth in insurance in force reflects the expanding purchase mortgage market, increasing persistency, and the hard work and dedication of my fellow co-workers to deliver stellar customer service. It also reflects the value proposition we offer to both lenders (ease of execution and ancillary services) and borrowers (faster equity buildup and ability to cancel, when compared to FHA execution). As reported by *Inside Mortgage Finance*, the PMI industry's 2018 market share of total mortgage originations increased to 17.9% from 14.9% in 2017 and, MGIC's 2018 market share within the PMI industry, excluding the U.S. Treasury's Home Affordable Refinance Program, was 17.4% in 2018. The increasing size and quality of our insurance in force, the runoff of our older insurance books, and our improved capital structure, position us well to provide credit enhancement and low down payment solutions to lenders, GSEs and borrowers.

In 2019, we expect to write approximately the same level of new insurance as we did in 2018, as we expect the total mortgage origination market to be similar to 2018. Home purchase activity is expected to remain strong. This is a net positive for us, as we estimate that our industry's market share is approximately 3-4 times higher for purchase loans than refinances. Among the factors influencing increased purchase activity are: 1) consumer confidence remaining strong, 2) household formations continuing to modestly increase, 3) the national homeownership rate remaining stable to modestly higher, and 4) mortgage interest rates remaining relatively affordable. Our expectations for the amount of new insurance written in 2019, combined with strong persistency, should lead to another increase in our insurance in force.

As of December 31, 2018, our insurance book years beginning in 2009 account for approximately 83% of our primary risk in force. Our book years of 2005 - 2008, which have experienced higher incurred losses, now account for just 14% of primary risk in force. The quality and profitability of the book years beginning in 2009 are best captured by the following statistics:

- approximately 22% of the delinquent notices at year-end 2018 are from those book years, and
- at December 31, 2018, the ever-to-date incurred loss and delinquency ratios of the 2009-16 books were:

Book Year	2009	2010	2011	2012	2013	2014	2015	2016
Ever to Date Loss Ratio	13.8%	6.9%	4.3%	2.8%	3.4%	5.2%	4.4%	4.4%
Delinquency Ratio (Based on Loan Count)	3.2%	3.3%	2.2%	1.3%	1.4%	1.7%	1.2%	0.9%

2017 and 2018 are not displayed because not enough aging has occurred to draw meaningful conclusions.

The books of business we wrote after 2008 have performed exceptionally well, in part due to improved credit profiles of the insured loans and the strong economy, with its low unemployment and solid home price appreciation. However, we know that economic cycles change over time and we have in place risk management tools to prepare for such changes. One such tool is reinsurance. For several years, we have been purchasing quota share reinsurance for new insurance written and at the end of 2018, it covered nearly 78% of our insurance in force. In 2018, we participated in our first insurance linked note transaction in more than a decade. That transaction provides excess of loss coverage on the substantial majority of the risk in force from our books written in 2017 and the 2nd half of 2016 that remains after considering quota share reinsurance. Quota share and excess of loss reinsurance reduce potential earnings volatility and are very capital efficient. Risk management may also be performed through pricing and underwriting. In early 2019, we launched MiQ™, our loan level pricing system that establishes our premium rates based on more borrower and loan attributes than were considered in 2018.

Net losses incurred were 32% lower in 2018 than 2017, primarily due to a decrease in net losses related to delinquencies reported in 2018, offset in part by a decrease in favorable loss reserve development on prior-year delinquencies. Favorable loss reserve development on prior-year delinquencies was primarily the result of a lower estimated claim rate for those delinquencies. The lower estimated claim rate reflects better cure rates than our estimates. In 2018, we received 20% fewer delinquency notices than in 2017, in part because 2017 notices were elevated due to the major hurricanes that occurred that year. The primary delinquency rate ended 2018 at 3.11% compared to 4.55% at year-end 2017. The number of loans in the primary delinquency inventory decreased 29.3% from year-end 2017 to year-end 2018, in part because many of the delinquency notices resulting from the 2017 hurricanes have cured. In 2019, we expect to receive fewer new delinquency notices than in 2018 and expect the delinquent inventory to end 2019 lower than at year-end 2018.

Our total debt to capital ratio declined to approximately 19% at December 31, 2018 from approximately 21% at December 31, 2017, primarily due to the level of our 2018 net income. Reflecting our improved financial condition, in 2018, our Board of Directors authorized a \$200 million share repurchase plan. We utilized \$175 million of that authorization, repurchasing approximately 16 million shares or 4.3% of our common stock outstanding as of December 31, 2017. In addition, our main operating subsidiaries earned an A- rating from A.M. Best in 2018. While credit ratings are not inhibiting our ability to write new primary business, we think that long-term, they will become more relevant as we participate in the credit risk transactions that the GSEs are executing.

Regarding housing finance reform, we remain optimistic about the role that our company and industry can play, but it continues to be very difficult to gauge what actions may be taken and the timing of any such actions. We continue to be actively engaged on this topic in Washington. A new acting director heads the FHFA while the nominated director awaits confirmation. Exactly what will unfold and how the roles of the GSEs and private capital play out remains to be seen. However, we are encouraged by talk that both the acting and nominated directors view the private sector as part of the solution for transferring credit risk away from taxpayers.

Regarding the FHA, we continue to think it is unlikely that the FHA will reduce its MI premiums, or expand its footprint in mortgage finance in the foreseeable future. We believe that the FHA is primarily focused on improving its operational policies and procedures and the reverse mortgage business.

In addition to offering a compelling business proposition for its customers, MGIC also offers a compelling value proposition for its employees. This enables us to maintain a low co-worker turnover rate, be a preferred employer, and keep our expense ratio low. This is also why we invest in co-worker development programs that promote accountability and a continuous-improvement culture and that address issues arising from the changing workforce, evolving work environment, and ever-changing competitive landscape.

2018 was indeed a good year. We achieved strong financial results and continued to position our company for further success. 2019 marks the 62<sup>nd</sup> year that MGIC has been supporting the U.S. housing market and helping individuals and families to find a better way to affordable and sustainable homeownership. I am very excited and confident about the opportunities MGIC has to continue to serve the housing market.

Our long-term strategy is fairly straightforward: remain a relevant business partner with our customers, in order to prudently grow insurance in force, generate long-term premium flows, and grow book value for our shareholders. In 2019, we will continue to focus our energies on the business strategies outlined at the beginning of this letter. I continue to believe that there are greater opportunities available for us to provide access to credit for consumers, reduce GSE credit risk and generate good returns for shareholders and we are committed to pursuing them. That is why when I look ahead, I am very excited and confident about the future of our company.

I would like to thank our shareholders and customers for their support and my fellow co-workers for the hard work and dedication that enabled our company to accomplish all that it did in 2018.

Respectfully,



Patrick Sinks  
President and Chief Executive Officer

Our actual results may differ materially from those contemplated by any forward looking statements in the letter above. We are not undertaking any obligation to update such statements. See "Risk Factors" in this Annual Report for a discussion of factors that could cause such a difference in our actual results.



Standing from left: **Paula Maggio**, Executive Vice President, General Counsel and Secretary  
**Sal Miosi**, Executive Vice President - Business Strategies and Operations  
Seated from left: **Pat Sinks**, President and Chief Executive Officer  
**Steve Mackey**, Executive Vice President and Chief Risk Officer  
**Jay Hughes**, Executive Vice President - Sales and Business Development  
**Tim Mattke**, Executive Vice President and Chief Financial Officer

## Five-Year Summary of Financial Information

### Summary of operations

<i>(In thousands, except per share data)</i>	As of and for the Years Ended December 31,				
	2018	2017	2016	2015	2014
<b>Revenues:</b>					
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
<b>Total revenues</b>	<b>1,123,848</b>	<b>1,066,054</b>	<b>1,062,483</b>	<b>1,041,288</b>	<b>942,634</b>
<b>Losses and expenses:</b>					
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
<b>Total losses and expenses</b>	<b>279,698</b>	<b>281,558</b>	<b>547,769</b>	<b>553,601</b>	<b>687,911</b>
Income before tax	844,150	784,496	514,714	487,687	254,723
Provision for (benefit from) income taxes <sup>(1)</sup>	174,053	428,735	172,197	(684,313)	2,774
<b>Net income</b>	<b>\$ 670,097</b>	<b>\$ 355,761</b>	<b>\$ 342,517</b>	<b>\$ 1,172,000</b>	<b>\$ 251,949</b>
Weighted average common shares outstanding	386,078	394,766	431,992	468,039	413,547
<b>Diluted income per share</b>	<b>\$ 1.78</b>	<b>\$ 0.95</b>	<b>\$ 0.86</b>	<b>\$ 2.60</b>	<b>\$ 0.64</b>
<b>Balance sheet data</b>					
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
<b>Total assets</b>	<b>5,677,802</b>	<b>5,619,499</b>	<b>5,734,529</b>	<b>5,868,343</b>	<b>5,251,414</b>
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
<b>Book value per share</b>	<b>10.08</b>	<b>8.51</b>	<b>7.48</b>	<b>6.58</b>	<b>3.06</b>

<sup>(1)</sup> 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 for a discussion of tax matters and their impact on our consolidated financial statements.

**Other data**

	Years Ended December 31,				
	2018	2017	2016	2015	2014
<b>New primary insurance written</b> (\$ millions)	\$ 50,526	\$ 49,123	\$ 47,875	\$ 43,031	\$ 33,439
<b>New primary risk written</b> (\$ millions)	\$ 12,657	\$ 12,217	\$ 11,831	\$ 10,824	\$ 8,530
<b>IIF (at year-end)</b> (\$ millions)					
Direct primary IIF	\$ 209,707	\$ 194,941	\$ 182,040	\$ 174,514	\$ 164,919
<b>RIF (at year-end)</b> (\$ 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
<b>Primary loans in default ratios</b>					
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%
<b>Insurance operating ratios (GAAP)</b>					
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%
<b>Risk-to-capital ratio (statutory)</b>					
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

# Management's Discussion and Analysis of Financial Condition and Results of Operations

We have reproduced below the "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors" that appeared in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission on February 22, 2019. Except for various cross-references, we have not changed what appears below from what was in our Form 10-K. As a result, the Management's Discussion and Analysis and Risk Factors are not updated to reflect any events or changes in circumstances that have occurred since our Annual Report on Form 10-K was filed with the SEC.

## 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 discuss trends and uncertainties affecting us and are an integral part of the MD&A.

### Forward Looking and Other Statements

As discussed under "Risk Factors" in this Annual 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 our Annual Report on Form 10-K for the year ended December 31, 2018 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 December 31,		
	2018	2017	Change
<b>Selected statement of operations data</b>			
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)%
<b>Net income</b>	<b>670.1</b>	<b>355.8</b>	<b>88 %</b>
<b>Diluted income per share</b>	<b>\$ 1.78</b>	<b>\$ 0.95</b>	<b>87 %</b>
<b>Non-GAAP Financial Measures <sup>(1)</sup></b>			
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 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.

### *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.

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.

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.

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."

**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 modifications 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 <sup>(1)</sup> 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%

<sup>(1)</sup> 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. 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.

## Management's Discussion and Analysis

- Losses ceded under reinsurance agreements. See [Note 9 – “Reinsurance”](#) to our consolidated financial statements for a discussion of our reinsurance agreements.

### 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.

## 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.

- (1) *Net realized investment gains (losses)*. The recognition of net realized investment gains or losses can vary 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.
- (2) *Gains and losses on debt extinguishment*. Gains and losses on debt extinguishment result from discretionary activities that are undertaken to enhance our capital position, improve our debt profile, and/or reduce potential dilution from our outstanding convertible debt.
- (3) *Net impairment losses recognized in earnings*. The recognition of net impairment losses on investments can vary significantly in both size and timing, depending on market credit cycles, individual issuer performance, and general economic conditions.
- (4) *Infrequent or unusual non-operating items*. Our income tax expense for 2017 reflects the remeasurement of our net 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.



**Non-GAAP reconciliations**
**Reconciliation of Income before tax / Net income to Adjusted pre-tax operating income / Adjusted net operating income:**

<i>(in thousands)</i>	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:**

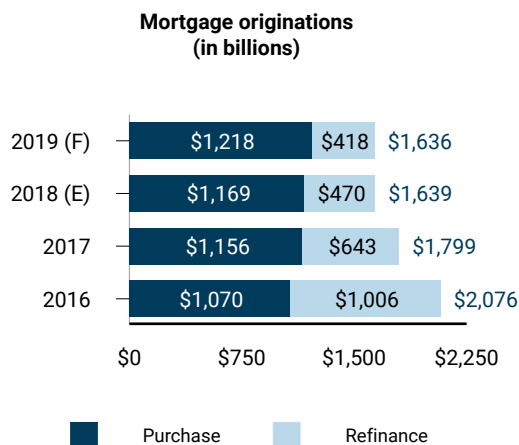
Weighted average diluted shares outstanding	386,078	394,766	431,992
Net income per diluted share	\$ 1.78	\$ 0.95	\$ 0.86
Additional income tax (provision) related to the rate decrease included in the Tax Act	—	0.34	—
Additional income tax (benefit) provision related to IRS litigation	(0.01)	0.07	—
Net realized investment losses (gains)	—	—	(0.01)
Loss on debt extinguishment	—	—	0.14
Adjusted net operating income per diluted share <sup>(1)</sup>	\$ 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.

## 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.

**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**

(% of primary NIW)	Years Ended December 31,		
	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**

(% of primary NIW)	Years Ended December 31,		
	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**

(% of primary NIW)	Years Ended December 31,		
	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%.

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**

(% of primary NIW)	Years Ended December 31,		
	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**

(% of primary NIW)	Years Ended December 31,		
	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**

(\$ in billions)	Years Ended December 31,		
	2018	2017	2016
NIW	\$ 50.5	\$ 49.1	\$ 47.9
Cancellations	(35.7)	(36.2)	(40.4)
Increase in primary IIF	\$ 14.8	\$ 12.9	\$ 7.5
Direct primary IIF as of December 31,	\$ 209.7	\$ 194.9	\$ 182.0
Direct primary RIF as of December 31,	\$ 54.1	\$ 50.3	\$ 47.2

## 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

(\$ in millions)	December 31, 2018		December 31, 2017		December 31, 2016	
	RIF	% of RIF	RIF	% of RIF	RIF	% of RIF
2009+	\$ 45,083	83%	\$ 39,248	78%	\$ 33,368	71%
2005 - 2008 (HARP)	3,109	5%	3,773	7%	4,489	9%
Other years (HARP)	229	1%	308	1%	396	1%
Subtotal	48,421	89%	43,329	86%	38,253	81%
2005-2008 (Non-HARP)	4,796	9%	5,894	12%	7,467	16%
Other years (Non-HARP)	846	2%	1,095	2%	1,475	3%
Subtotal	5,642	11%	6,989	14%	8,942	19%
<b>Total Primary RIF</b>	<b>\$ 54,063</b>	<b>100%</b>	<b>\$ 50,318</b>	<b>100%</b>	<b>\$ 47,195</b>	<b>100%</b>

## 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.

## 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

Revenues	Year Ended December 31,		
	2018	2017	2016
(In millions)			
<b>Net premiums written</b>	<b>\$ 992.3</b>	\$ 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
<b>Total revenues</b>	<b>\$ 1,123.8</b>	\$ 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	2018	2017
(In basis points)		
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."

**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.

- 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).
- 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).
- 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:**

- The 2018 transaction excluded loans with LTV ratios of 85% and below.
- 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:**

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

<i>(Dollars in thousands)</i>	As of and For the Years Ended December 31,		
	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 <i>(in millions)</i>	\$ 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 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.

<b>Captive reinsurance</b>			
<i>(Dollars in thousands)</i>	As of and For the Years Ended December 31,		
	2018	2017	2016
IIF subject to captive reinsurance agreements	—%	1%	2%
<b>Statements of operations:</b>			
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

<i>(In millions)</i>	Year Ended December 31,		
	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
<b>Total losses and expenses</b>	<b>\$ 279.7</b>	<b>\$ 281.6</b>	<b>\$ 547.8</b>

### 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 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

<i>(In millions)</i>	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
New notices	54,448	68,268	67,434
Claim rate <sup>(1)</sup>	9%	10%	12%

<sup>(1)</sup> 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



## Management's Discussion and Analysis

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.

### 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).

The length of time a loan is in the delinquent inventory can differ from the number of payments that the borrower has not made or is considered delinquent. These differences typically result from a borrower making monthly payments that do not result in the loan becoming fully current. The number of payments that a borrower is delinquent is shown in the following table.

Primary delinquent inventory - number of payments delinquent	December 31,		
	2018	2017	2016
3 payments or less	15,519	21,678	18,419
4 - 11 payments	8,842	12,446	12,892
12 payments or more <sup>(1)</sup>	8,537	12,432	18,971
<b>Total</b>	<b>32,898</b>	<b>46,556</b>	<b>50,282</b>
3 payments or less	47%	46%	36%
4 - 11 payments	27%	27%	26%
12 payments or more	26%	27%	38%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>(1)</sup> Approximately 38%, 43%, and 46% of the primary delinquent inventory with 12 payments or more delinquent has at least 36 payments delinquent as of December 31, 2018, 2017 and 2016, respectively.

### NET LOSSES AND LAE PAID

This section provides information on our claim payment trends and exposure on our outstanding RIF for each of the three years in the period ended December 31, 2018. The table below presents our net losses and LAE paid for each of those years.

Net losses and LAE paid			
(in millions)	2018	2017	2016
Total primary (excluding settlements)	\$ 282	\$ 446	\$ 599
Claims paying practices and NPL settlements <sup>(1)</sup>	50	54	53
Pool <sup>(2)</sup>	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

<sup>(1)</sup> See [Note 8 - "Loss Reserves"](#) for additional information on our settlements of disputes for claims paying practices and commutations of NPLs.

<sup>(2)</sup> 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.

## Management's Discussion and Analysis

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

<i>(In millions)</i>	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.

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.

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
<b>Primary:</b>			
Direct loss reserves ( <i>In millions</i> )	\$ 610	\$ 913	\$ 1,334
IBNR and LAE	50	58	79
<b>Total primary loss reserves</b>	<b>660</b>	<b>971</b>	<b>1,413</b>
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
<b>Pool <sup>(1)</sup>:</b>			
Direct loss reserves ( <i>In millions</i> ):			
With aggregate loss limits	10	10	18
Without aggregate loss limits	3	4	7
<b>Total pool direct loss reserves</b>	<b>13</b>	<b>14</b>	<b>25</b>
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
<b>Other gross reserves (<i>In millions</i>)</b>	<b>1</b>	<b>1</b>	<b>1</b>

<sup>(1)</sup> 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.

## Management's Discussion and Analysis

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
<b>Total</b>	<b>32,898</b>	<b>46,556</b>	<b>50,282</b>

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
<i>2004 and prior %:</i>	<b>18%</b>	<b>19%</b>	<b>22%</b>
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
<i>2005 - 2008 %</i>	<b>60%</b>	<b>62%</b>	<b>70%</b>
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	—	—
<i>2009 and later %:</i>	<b>22%</b>	<b>19%</b>	<b>8%</b>
<b>Total</b>	<b>32,898</b>	<b>46,556</b>	<b>50,282</b>

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.

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
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-preferred 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.

## BALANCE SHEET REVIEW

### Shareholders' equity

(In millions)	As of December 31,		
	2018	2017	\$ Change
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
<b>Total</b>	<b>\$ 3,582</b>	<b>\$ 3,155</b>	<b>\$ 427</b>

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 <sup>(1)</sup>	Holding Company
→ Preserve PMIERS assets	→ Provide liquidity with minimized realized loss
→ Maximize total return with emphasis on yield, subject to our other objectives	→ Maintain highly liquid, low volatility assets
→ Limit portfolio volatility	→ Maintain high credit quality
→ Duration 3.5 to 5.5 years	→ Duration maximum of 2.5 years

<sup>(1)</sup> Primarily MGIC

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:

- economic and market outlooks;
- diversification effects;
- 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 <sup>(1)</sup>	3.1%	2.7%	2.6%
After-tax yield <sup>(1)</sup>	2.6%	2.0%	1.9%

<sup>(1)</sup> 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

Period	Security Ratings <sup>(1)</sup>			
	AAA	AA	A	BBB
<b>December 31, 2018</b>	<b>19%</b>	<b>23%</b>	<b>33%</b>	<b>25%</b>
December 31, 2017	21%	26%	36%	17%

<sup>(1)</sup> 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 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 225-250 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.



## 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.

**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:

- influence and ensure compliance with capital requirements,
- manage relationships to foster access to capital and reinsurance markets,
- size our capital to balance competitive needs, handle contingencies and create shareholder value, including analyzing the size and form of capital return to shareholders
- 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
- 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.

**Capital Structure**

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

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

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.

## 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

<i>(In millions, except ratio)</i>	December 31,	
	2018	2017
RIF - net <sup>(1)</sup>	\$ 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

<sup>(1)</sup> 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

<i>(In millions, except ratio)</i>	December 31,	
	2018	2017
RIF - net <sup>(1)</sup>	\$ 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

<sup>(1)</sup> RIF – net, as shown in the table above, is net of quota share reinsurance and exposure on policies currently 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."

## 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."

### MAC financial strength ratings

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

## 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 millions)	Payments due by period				
	Total	Less than			More than 5 years
		1 year	1-3 years	3-5 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

## Management's Discussion and Analysis

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.

## 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

<i>(In thousands)</i>	Losses incurred related to prior years <sup>(1)</sup>	Reserve at end of prior year
2018	\$ (167,366)	\$ 985,635
2017	(231,204)	1,438,813
2016	(147,658)	1,893,402
2015	(110,302)	2,396,807
2014	(100,359)	3,061,401

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



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 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.
- 
- 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.
- 

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:

- 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;
- the present value of the discounted cash flows we expect to collect compared to the amortized cost basis of the security;
- extent and duration of the decline;
- failure of the issuer to make scheduled interest or principal payments;
- change in rating below investment grade; and
- 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 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.

# 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

**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

#### **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

## 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.

**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.](#)"

## 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



## Risk Factors

concentration of our 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 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,
- 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

## Risk Factors

- 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.

- 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.

## Risk Factors

### ***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 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 the Business Section of our Annual Report on Form 10-K for the year ended December 31, 2018. 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 the Business Section of our Annual Report on Form 10-K for the year ended December 31, 2018, 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 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

## Risk Factors

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.

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, 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



## Risk Factors

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>.

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 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 OCl 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

## Risk Factors

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.

***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. 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.

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.*"

## Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f)). Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, however, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our internal control over financial reporting using the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on such evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2018.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the consolidated financial statements and effectiveness of internal control over financial reporting as of December 31, 2018, as stated in their report which appears herein.

# Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of  
MGIC Investment Corporation

## **Opinions on the Financial Statements and Internal Control over Financial Reporting**

We have audited the accompanying consolidated balance sheets of MGIC Investment Corporation and its subsidiaries as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and financial statement schedules listed in the index appearing under Item 15 (a)(2) (collectively referred to as the "consolidated financial statements") in the Annual Report on Form 10-K. We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

## **Basis for Opinions**

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material

respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

## **Definition and Limitations of Internal Control over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.



Milwaukee, Wisconsin  
February 22, 2019

We have served as the Company's auditor since 1985.

## MGIC INVESTMENT CORPORATION AND SUBSIDIARIES

### CONSOLIDATED BALANCE SHEETS

(In thousands)	Note	December 31,	
		2018	2017
<b>Assets</b>			
Investment portfolio:	5 / 6		
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	—
<b>Total investment portfolio</b>		<b>5,159,019</b>	<b>4,990,561</b>
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	9	33,328	48,474
Reinsurance recoverable on paid losses	9	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	12	69,184	234,381
Other assets		85,572	78,478
<b>Total assets</b>		<b>\$ 5,677,802</b>	<b>\$ 5,619,499</b>
<b>Liabilities and shareholders' equity</b>			
Liabilities:			
Loss reserves	8	\$ 674,019	\$ 985,635
Unearned premiums		409,985	392,934
FHLB Advance	7	155,000	155,000
Senior notes	7	419,713	418,560
Convertible junior subordinated debentures	7	256,872	256,872
Other liabilities		180,322	255,972
<b>Total liabilities</b>		<b>2,095,911</b>	<b>2,464,973</b>
Contingencies	17		
Shareholders' equity:			
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	10	(124,214)	(43,783)
Retained earnings		1,647,275	977,160
<b>Total shareholders' equity</b>		<b>3,581,891</b>	<b>3,154,526</b>
<b>Total liabilities and shareholders' equity</b>		<b>\$ 5,677,802</b>	<b>\$ 5,619,499</b>

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
<b>Revenues:</b>				
Premiums written:				
Direct		\$ 1,103,332	\$ 1,121,776	\$ 1,107,923
Assumed		271	1,905	1,053
Ceded	9	(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	9	975,162	934,747	925,226
Investment income, net of expenses	5	141,331	120,871	110,666
Net realized investment (losses) gains	5	(1,353)	231	8,921
Other revenue		8,708	10,205	17,670
<b>Total revenues</b>		<b>1,123,848</b>	<b>1,066,054</b>	<b>1,062,483</b>
<b>Losses and expenses:</b>				
Losses incurred, net	8 / 9	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	7	52,993	57,035	56,672
Loss on debt extinguishment	13	—	65	90,531
<b>Total losses and expenses</b>		<b>279,698</b>	<b>281,558</b>	<b>547,769</b>
Income before tax		844,150	784,496	514,714
Provision for income taxes	12	174,053	428,735	172,197
<b>Net income</b>		<b>\$ 670,097</b>	<b>\$ 355,761</b>	<b>\$ 342,517</b>
Earnings per share:				
Basic	4	\$ 1.83	\$ 0.98	\$ 1.00
Diluted		\$ 1.78	\$ 0.95	\$ 0.86
Weighted average common shares outstanding - basic	4	365,406	362,380	342,890
Weighted average common shares outstanding - diluted	4	386,078	394,766	431,992

See accompanying notes to consolidated financial statements.



**MGIC INVESTMENT CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

<i>(In thousands)</i>	Note	Years Ended December 31,		
		2018	2017	2016
Net income		\$ 670,097	\$ 355,761	\$ 342,517
Other comprehensive (loss) income, net of tax:	10			
Change in unrealized investment gains and losses	5	(64,646)	47,547	(3,649)
Benefit plans adjustment	11	(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)
<b>Comprehensive income</b>		<b>\$ 589,684</b>	<b>\$ 397,500</b>	<b>\$ 328,297</b>

See accompanying notes to consolidated financial statements.

**MGIC INVESTMENT CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**

<i>(In thousands)</i>	Note	Years Ended December 31,		
		2018	2017	2016
<b>Common stock</b>				
Balance, beginning of year		\$ 370,567	\$ 359,400	\$ 340,097
Issuance of common stock	13	—	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
<b>Paid-in capital</b>				
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	13	—	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	13	—	—	(6,337)
Balance, end of year		1,862,536	1,850,582	1,782,337
<b>Treasury stock</b>				
Balance, beginning of year		—	(150,359)	(3,362)
Purchases of common stock	13	(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)
<b>Accumulated other comprehensive loss</b>				
Balance, beginning of year		(43,783)	(75,100)	(60,880)
Cumulative effect of financial instruments accounting standard update	3	(18)	—	—
Other comprehensive (loss) income	10	(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)
<b>Retained earnings</b>				
Balance, beginning of year		977,160	632,564	290,047
Cumulative effect of financial instruments accounting standard update	3	18	—	—
Cumulative effect of share-based compensation accounting standard update		—	153	—
Net income		670,097	355,761	342,517
Reissuance of treasury stock, net	13	—	(21,740)	—
Cumulative effect to reclassify certain tax effects from accumulated other comprehensive loss	13	—	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

See accompanying notes to consolidated financial statements.

## MGIC INVESTMENT CORPORATION AND SUBSIDIARIES

### CONSOLIDATED STATEMENTS OF CASH FLOWS

<i>(In thousands)</i>	Years Ended December 31,		
	2018	2017	2016
<b>Cash flows from operating activities:</b>			
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
<b>Cash flows from investing activities:</b>			
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)
<b>Cash flows from financing activities:</b>			
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
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.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### 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. 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 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:

- 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;
- the present value of the discounted cash flows we expect to collect compared to the amortized cost basis of the security;
- extent and duration of the decline;
- failure of the issuer to make scheduled interest or principal payments;
- change in rating below investment grade; and
- 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 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.”](#))

### 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	
	• <i>ASU 2016-18 - Restricted Cash</i>	January 1, 2018
ASC 718	Compensation - Stock Compensation	
	• <i>ASU 2017-09 - Scope of Modification Accounting</i>	January 1, 2018
ASC 310	Receivables - Nonrefundable Fees and Other Costs	
	• <i>ASU 2017-08 - Premium Amortization on Purchased Callable Debt Securities</i>	January 1, 2019
ASC 715	Compensation - Retirement Benefits	
	• <i>ASU 2017-07 - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost</i>	January 1, 2018
ASC 825	Financial Instruments - Overall	
	• <i>ASU 2016-01 - Recognition and Measurement of Financial Assets and Financial Liabilities</i>	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.

→ *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.*

## 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"> <li>ASU 2016-13 - Measurement of Credit Losses on Financial Instruments</li> </ul>	January 1, 2020
ASC 820 Fair Value Measurement	
<ul style="list-style-type: none"> <li>ASU 2018-13 - Changes to the Disclosure Requirements for Fair Value Measurements</li> </ul>	January 1, 2020
ASC 715 Compensation - Retirement Benefits	
<ul style="list-style-type: none"> <li>ASU 2018-14 - Changes to the Disclosure Requirements for Defined Benefit Plans</li> </ul>	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

## Notes

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.

### NOTE 4 Earnings Per Share

Table 4.1 reconciles basic and diluted EPS amounts:

Earnings per share	Years Ended December 31,		
	2018	2017	2016
<i>(In thousands, except per share data)</i>			
<b>Basic earnings per share:</b>			
Net income	\$ 670,097	\$ 355,761	\$ 342,517
Weighted average common shares outstanding - basic	365,406	362,380	342,890
Basic earnings per share	\$ 1.83	\$ 0.98	\$ 1.00
<b>Diluted earnings per share:</b>			
Net income	\$ 670,097	\$ 355,761	\$ 342,517
Interest expense, net of tax <sup>(1)</sup> :			
2% Notes	—	907	6,111
5% Notes	—	1,709	6,362
9% Debentures	18,264	15,027	15,893
Diluted income available to common shareholders	\$ 688,361	\$ 373,404	\$ 370,883
Weighted-average shares - basic	365,406	362,380	342,890
Effect of dilutive securities:			
Unvested restricted stock units	1,644	1,493	1,470
2% Notes	—	8,317	54,450
5% Notes	—	3,548	13,107
9% Debentures	19,028	19,028	20,075
Weighted average common shares outstanding - diluted	386,078	394,766	431,992
Diluted income per share	\$ 1.78	\$ 0.95	\$ 0.86

<sup>(1)</sup> 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.

**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**

<i>(In thousands)</i>	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses <sup>(1)</sup>	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**

<i>(In thousands)</i>	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses <sup>(1)</sup>	Fair Value
U.S. Treasury securities and obligations of U.S. government corporations and agencies	\$ 179,850	\$ 274	\$ (1,278)	\$ 178,846
Obligations of U.S. states and political subdivisions	2,105,063	56,210	(8,749)	2,152,524
Corporate debt securities	2,065,475	10,532	(9,169)	2,066,838
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

<sup>(1)</sup> 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.

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

(In thousands)	December 31, 2018	
	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.

**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

(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	\$ 23,710	\$ (15)	\$ 69,146	\$ (1,061)	\$ 92,856	\$ (1,076)
Obligations of U.S. states and political subdivisions	316,655	(3,875)	358,086	(7,110)	674,741	(10,985)
Corporate debt securities	1,272,279	(18,130)	785,627	(22,384)	2,057,906	(40,514)
ABS	51,324	(146)	—	—	51,324	(146)
RMBS	24	—	178,573	(10,309)	178,597	(10,309)
CMBS	65,704	(1,060)	163,272	(8,520)	228,976	(9,580)
CLOs	296,497	(5,294)	—	—	296,497	(5,294)
Total	\$ 2,026,193	\$ (28,520)	\$ 1,554,704	\$ (49,384)	\$ 3,580,897	\$ (77,904)

### Unrealized loss aging for securities by type and length of time as of December 31, 2017

(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.

## Notes

The source of net investment income is shown in table 5.5 below.

<b>Net investment income</b>			
<b>Table 5.5</b>			
<i>(In thousands)</i>	<b>2018</b>	2017	2016
Fixed income securities	<b>\$ 140,539</b>	\$ 122,105	\$ 112,513
Equity securities	<b>228</b>	206	182
Cash equivalents	<b>3,423</b>	1,447	754
Other	<b>816</b>	620	433
Investment income	<b>145,006</b>	124,378	113,882
Investment expenses	<b>(3,675)</b>	(3,507)	(3,216)
Net investment income	<b>\$ 141,331</b>	\$ 120,871	\$ 110,666

The change in unrealized gains (losses) of investments is shown in table 5.6 below.

<b>Change in unrealized gains (losses)</b>			
<b>Table 5.6</b>			
<i>(In thousands)</i>	<b>2018</b>	2017	2016
Fixed income securities	<b>\$ (81,834)</b>	\$ 69,026	\$ (5,403)
Equity securities	<b>—</b>	39	(36)
Other	<b>—</b>	(13)	14
Change in unrealized gains/losses	<b>\$ (81,834)</b>	\$ 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 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

<i>(In thousands)</i>	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 securities	2,400,762	—	2,400,762	—
ABS	112,033	—	112,033	—
RMBS	178,961	—	178,961	—
CMBS	267,660	—	267,660	—
CLOs	305,295	—	305,295	—
Total fixed income securities	5,151,987	42,264	5,109,710	13
Equity securities	3,932	3,932	—	—
Other <sup>(1)</sup>	96,403	96,403	—	—
Real estate acquired <sup>(2)</sup>	14,535	—	—	14,535
Total	\$ 5,266,857	\$ 142,599	\$ 5,109,710	\$ 14,548



## Notes

### 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 <sup>(3)</sup>	7,246	2,978	—	4,268
Real estate acquired <sup>(2)</sup>	12,713	—	—	12,713
Total	\$ 5,003,274	\$ 84,576	\$ 4,901,446	\$ 17,252

(1) 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.

**Fair value roll-forward for financial instruments classified as Level 3 for the year ended December 31, 2018**

<i>(In thousands)</i>	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)
<b>Balance at December 31, 2018</b>	<b>\$ 13</b>	<b>\$ —</b>	<b>\$ 13</b>	<b>\$ 14,535</b>

**Fair value roll-forward for financial instruments classified as Level 3 for the year ended December 31, 2017**

<i>(In thousands)</i>	Debt Securities	Equity Securities	Total Investments	Real Estate Acquired
Balance at December 31, 2016	\$ 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	\$ 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**

<i>(In thousands)</i>	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	—	3,579	3,579	—
Included in earnings and reported as losses incurred, net	—	—	—	(1,142)
Purchases	—	4,258	4,258	36,859
Sales	(537)	(6,424)	(6,961)	(36,118)
Balance at December 31, 2016	\$ 691	\$ 4,268	\$ 4,959	\$ 11,748

Additional fair value disclosures related to our investment portfolio are included in [Note 5 – “Investments.”](#)

**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

(In thousands)	December 31, 2018		December 31, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
<b>Liabilities</b>				
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.

## 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

(In millions)	December 31,	
	2018	2017
FHLB Advance - 1.91%, due February 2023	\$ 155.0	\$ 155.0
5.75% Notes, due August 2023 (par value: \$425 million)	419.7	418.5
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.

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.

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 <sup>(1)</sup>	(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	333,032	504,868	700,752
Net reserve at end of year	640,691	937,161	1,388,320
Plus reinsurance recoverables	33,328	48,474	50,493
Reserve at end of year	\$ 674,019	\$ 985,635	\$ 1,438,813

<sup>(1)</sup> 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 <sup>(1)</sup>	\$ (167)	\$ (231)	\$ (148)

<sup>(1)</sup> A negative number for prior year loss development indicates a redundancy of prior year loss reserves.

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

	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	32,898	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

	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 <sup>(1)</sup>	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 delinquent inventory	809	954	1,385

- <sup>(1)</sup> Approximately 38%, 45%, and 47% of the primary delinquent inventory delinquent for 12 consecutive months or more has been delinquent for at least 36 consecutive months as of December 31, 2018, 2017 and 2016, respectively.

## 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.

<b>Reinsurance</b>		Years ended December 31,		
Table 9.1	2018	2017	2016	
(In thousands)				
<b>Premiums earned:</b>				
Direct	<b>\$1,084,748</b>	\$ 1,059,973	\$ 1,058,545	
Assumed	<b>1,805</b>	509	662	
Ceded	<b>(111,391)</b>	(125,735)	(133,981)	
Net premiums earned	<b>\$ 975,162</b>	\$ 934,747	\$ 925,226	
<b>Losses incurred:</b>				
Direct	<b>\$ 43,060</b>	\$ 74,727	\$ 273,207	
Assumed	<b>331</b>	183	1,138	
Ceded	<b>(6,829)</b>	(21,201)	(34,188)	
Net losses incurred	<b>\$ 36,562</b>	\$ 53,709	\$ 240,157	

### 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%.

**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 (In thousands)	Years ended December 31,		
	2018	2017	2016
Ceded premiums written and earned, net of profit commission <sup>(1)</sup>	\$108,337	\$120,974	\$125,460
Ceded losses incurred	6,543	22,336	30,201
Ceding commissions <sup>(2)</sup>	51,201	49,321	47,629
Profit commission	147,667	125,629	112,685

<sup>(1)</sup> Under our QSR Transactions, premiums are ceded on an earned and received basis as defined in our agreements.

<sup>(2)</sup> 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 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

<i>(In thousands)</i>	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.

**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) benefit	—	(14)	512
Net of taxes	—	31	(951)
Total other comprehensive (loss) income	(101,792)	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 <sup>(1)</sup>	\$ (7,037)	\$ (2,580)	\$ 6,207
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 obligations <sup>(2)</sup>	(2,232)	906	1,480
Income tax benefit (expense)	469	(317)	(518)
Net of taxes	(1,763)	589	962
Reclassification adjustment related to foreign currency <sup>(3)</sup>	—	—	1,467
Income tax (expense)	—	—	(513)
Net of taxes	—	—	954
Total reclassifications	(9,269)	(1,674)	9,154
Total income tax benefit (expense), net	1,946	586	(3,081)
Total reclassifications, net of tax	\$ (7,323)	\$ (1,088)	\$ 6,073

(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.

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

<i>(In thousands)</i>	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 corporate tax rate	(2,525)	12,947	—	10,422
Balance, December 31, 2017, net of tax	29,275	(73,058)	—	(43,783)
Cumulative effect of adopting the accounting standard update for financial instruments	(18)	—	—	(18)
Other comprehensive income (loss) before reclassifications	(70,206)	(17,530)	—	(87,736)
Less: Amounts reclassified from AOCL	(5,560)	(1,763)	—	(7,323)
<b>Balance, December 31, 2018, net of tax</b>	<b>\$ (35,389)</b>	<b>\$ (88,825)</b>	<b>\$ —</b>	<b>\$ (124,214)</b>

### 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.

## Notes

### 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)
7. Cost of settlements	—	—	1,277	—	—	—
8. Total Expense for Year	\$ 9,961	\$ 10,675	\$ 11,974	\$ (8,719)	\$ (10,378)	\$ (10,080)

### Development of funded status

Table 11.2

(In thousands)	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
	12/31/2018	12/31/2017	12/31/2018	12/31/2017
<b>Actuarial Value of Benefit Obligations</b>				
1. Measurement Date	12/31/2018	12/31/2017	12/31/2018	12/31/2017
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

### Accumulated other comprehensive income (loss)

Table 11.3

(In thousands)	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
	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

(In thousands)	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
	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 <sup>(1)</sup>	(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

<sup>(1)</sup> 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.

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

(In thousands)	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
	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

## Notes

### Change in accumulated other comprehensive income (loss) ("AOCI")

Table 11.6	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
	12/31/2018	12/31/2017	12/31/2018	12/31/2017
<i>(In thousands)</i>				
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 Plans		Other Postretirement Benefits	
	12/31/2018		12/31/2018	
<i>(In thousands)</i>				
1. Amortization of Net Transition Obligation/(Asset)	\$ —	\$ —	\$ —	\$ —
2. Amortization of Prior Service Cost/(Credit)		(280)		(34)
3. Amortization of Net Losses/(Gains)		8,271		—

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	
	12/31/2018	12/31/2017	12/31/2018	12/31/2017
<u>Weighted-Average Assumptions Used to Determine Benefit Obligations at year end</u>				
1. Discount Rate	4.40%	3.75%	4.25%	3.55%
2. Rate of Compensation Increase	3.00%	3.00%	N/A	N/A
<u>Weighted-Average Assumptions Used to Determine Net Periodic Benefit Cost for Year</u>				
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
<u>Assumed Health Care Cost Trend Rates at year end</u>				
1. Health Care Cost Trend Rate Assumed for Next Year	N/A	N/A	6.25%	6.50%
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	
	12/31/2018	12/31/2017	12/31/2018	12/31/2017
1. Equity Securities	23%	21%	100%	100%
2. Debt Securities	77%	79%	—%	—%
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.

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
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%.

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	<ul style="list-style-type: none"> <li>Global quality growth</li> <li>Global low volatility</li> </ul>
Return seeking bridge	Downside protection in the event of a declining equity market	<ul style="list-style-type: none"> <li>Enduring asset</li> <li>Durable company</li> </ul>

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**

	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**

	Level 1	Total
Domestic Mutual Funds	\$ 64,489	\$ 64,489
International Mutual Funds	20,814	20,814
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:

- Total return should exceed growth in the Consumer Price Index by 5.75% annually
- 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**

	Pension and Supplemental Executive Retirement Plans	Other Postretirement Benefits
	12/31/2018	12/31/2018
Company Contributions for the Year Ending:		
1. Current	\$ 10,908	\$ —
2. Current + 1	10,650	—

**Benefits payments - total**

Table 11.13

(In thousands)	Pension and Supplemental Executive Retirement Plans		Other Postretirement Benefits	
	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 + 1		33,258		1,352
3. Current + 2		28,688		1,650
4. Current + 3		30,574		1,916
5. Current + 4		30,490		2,386
6. Current + 5		30,510		2,613
7. Current + 6 - 10		143,389		14,065

**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

(In thousands)	1-Percentage Point Increase		1-Percentage Point Decrease	
	Effect on total service and interest cost components	\$	327	\$
Effect on postretirement benefit obligation		3,221		(2,866)

**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
Loss reserves	3,113	4,994
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.

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	— %	17.0 %	— %
Additional income tax provision related to IRS litigation	(0.3)%	3.7 %	0.1 %
Tax exempt municipal bond interest	(0.7)%	(1.4)%	(1.9)%
Other, net	0.6 %	0.4 %	0.3 %
Effective tax rate	20.6 %	54.7 %	33.5 %

As previously disclosed, the Internal Revenue Service ("IRS") completed examinations of our federal income tax returns for the years 2000 through 2007 and issued proposed assessments for taxes, interest and penalties related to our treatment of the flow-through income and loss from an investment in a portfolio of residual interests of Real Estate Mortgage Investment Conduits ("REMICs").

In 2014, we received Notices of Deficiency (commonly referred to as "90 day letters") from the IRS. We filed a petition with the U.S. Tax Court contesting most of the IRS' proposed adjustments reflected in the Notices of Deficiency. In July 2018, we finalized an agreement with the IRS to settle all issues in the examinations and related U.S. Tax Court case; the settlement was approved by the U.S. Tax Court on July 26, 2018. As a result of our settlement, we made federal tax and interest payments of \$14.8 million during 2018. We also made state tax and interest payments of \$36.8 million during 2018. The impact of the agreed upon settlement was previously reflected in our consolidated statements of operations.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is shown in table 12.7.

#### Unrecognized tax benefits reconciliation

Table 12.7	2018	2017	2016
<i>(In thousands)</i>			
Balance at beginning of year	\$ 142,821	\$ 108,245	\$ 107,120
Additions for tax positions of prior years	—	35,003	1,125
Reductions for tax positions of prior years	(3,070)	(427)	—
Settlements	(139,751)	—	—
Balance at end of year	\$ —	\$ 142,821	\$ 108,245

With the approval of our settlement by the U.S. Tax Court, we have no unrecognized tax benefits at December 31, 2018. We recognize interest accrued and penalties related to unrecognized tax benefits in income taxes. During 2018, we recognized an interest benefit of \$3.1 million. As of December 31, 2017, we had \$52.0 million of accrued interest related to uncertain tax positions. The statute of limitations related to the consolidated federal income tax return is closed for all years prior to 2015.

#### NOTE 13 Shareholders' Equity

##### CHANGE IN ACCOUNTING PRINCIPLE

As of January 1, 2018, the updated guidance of "Recognition and Measurement of Financial Assets and Financial Liabilities" became effective. The application 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 securities.

As of January 1, 2017, we adopted the updated guidance of "Improvements to Employee Share-Based Compensation Accounting." The adoption of this guidance resulted in an immaterial cumulative effect adjustment to our 2017 beginning retained earnings. For the year ending December 31, 2017, we adopted the updated guidance of "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." The adoption of this guidance resulted in a \$10.4 million reclassification from accumulated other comprehensive loss to retained earnings in the fourth quarter of 2017.

**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 repurchased approximately 16.0 million shares of our common stock at a weighted average cost per share of \$10.95, which included commissions. As of December 31, 2018, the authorized share repurchase program had approximately \$25 million remaining.

**2017 CAPITAL TRANSACTIONS****2% Notes**

In April 2017, holders of approximately \$202.5 million of the outstanding principal amount of our 2% Notes exercised their rights to convert their notes into shares of our common stock resulting in the delivery of approximately 29.1 million shares of our common stock to the holders. The transactions included the delivery of approximately 18.7 million from our treasury stock and an additional 10.4 million of newly issued shares. Shareholders' equity was increased by the carrying value of the notes at the time of conversion.

**2016 CAPITAL TRANSACTIONS****5% Notes**

In 2016, we repurchased \$188.5 million in aggregate principal of our 5% Notes at a purchase price of \$195.5 million, plus accrued interest using funds held at our holding company. The excess of the purchase price over carrying value was reflected as a loss on debt extinguishment of \$7.9 million on our consolidated statement of operations.

**2% Notes**

In 2016, we entered into privately negotiated agreements to repurchase \$292.4 million in aggregate principal of our outstanding 2% Notes at a purchase price of \$362.1 million, plus accrued interest. We funded the purchases with \$230.7 million of cash, using proceeds from the issuance of our 5.75% Notes, and by issuing to certain sellers approximately 18.3 million shares of our common stock. The excess of the purchase price over carrying value is reflected as a loss of debt extinguishment of \$74.3 million on our consolidated statement of operations for the year ended December 31, 2016. As of December 31, 2016, we had repurchased all of the shares issued as partial consideration for our 2% Notes repurchases. The weighted average cost per share was \$8.03, which included commissions, and the aggregate purchase amount was \$147.1 million.

**9% Debentures**

In 2016, MGIC purchased \$132.7 million in aggregate principal of our outstanding 9% Debentures at a purchase price of \$150.7 million, plus accrued interest. 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. The accounting standards applicable to extinguishment of debt with a cash conversion feature require the consideration paid to be allocated between the extinguishment of the liability component and reacquisition of the equity component. The purchase of the 9% Debentures resulted in an \$8.3 million loss on debt extinguishment on the consolidated statement of operations for the year ended December 31, 2016, which represents the difference between the fair value and the carrying value of the liability component on the purchase date. In addition, our shareholders' equity was separately reduced by \$6.3 million as of December 31, 2016. This reduction represents the allocated portion of the consideration paid to reacquire the equity component of the 9% Debentures, net of tax.

**NOTE 14 Statutory Information****STATUTORY ACCOUNTING PRINCIPLES**

The statutory financial statements of our insurance companies are presented on the basis of accounting principles prescribed, or practices permitted, by the Office of the Commissioner of Insurance of the State of Wisconsin (the "OCI"), which has adopted the National Association of Insurance Commissioners ("NAIC") Statements of Statutory Accounting Principles ("SSAP") as the basis of its statutory accounting principles. In converting from statutory to GAAP, typical adjustments include deferral of policy acquisition costs, the inclusion of net unrealized holding gains or losses in shareholders' equity relating to fixed income securities and the inclusion of statutory non-admitted assets.

In addition to the typical adjustments from statutory to GAAP, mortgage insurance companies are required to maintain contingency loss reserves equal to 50% of premiums earned under SSAP and principles prescribed by the OCI, and such amounts cannot be withdrawn for a period of ten 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 the year ended 2018, MGIC's losses incurred were 4% of net premiums earned. Changes in contingency loss reserves impact the statutory statement of operations. Contingency loss reserves are not

reflected as liabilities under GAAP and changes in contingency loss reserves do not impact the GAAP statements of operations.

The statutory net income loss, policyholders' surplus and contingency reserve liability of the insurance subsidiaries of our holding company are shown in table 14.1 below. The surplus amounts included in the following table are the combined policyholders' surplus of our insurance operations as utilized in our risk-to-capital calculations.

#### Statutory financial information of holding company and insurance subsidiaries

Table 14.1

(In thousands)	As of and for the Years Ended December 31,		
	2018	2017	2016
Statutory net income	\$ 375,484	\$ 310,776	\$ 106,326
Statutory policyholders' surplus	1,683,058	1,622,115	1,506,475
Contingency reserve	2,442,996	1,896,701	1,360,088

The surplus contributions made to MGIC, dividends paid by MGIC, and distributions from other insurance subsidiaries to us, are shown in table 14.2 below.

#### Surplus contributions and dividends of insurance subsidiaries

Table 14.2

(In thousands)	Years Ended December 31,		
	2018	2017	2016
Additions to the surplus of MGIC from parent company funds	\$ —	—	36,025
Dividends paid by MGIC to the parent company	\$ 220,000	140,000	64,000
Distributions from other insurance subsidiaries to the parent company	\$ —	—	52,001

### STATUTORY CAPITAL REQUIREMENTS

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" and, together with the GSE Financial Requirements, the "Financial 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. In calculating our risk-to-capital ratio and MPP, we are allowed 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 agreement, 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 financial statement footnotes 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. 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 the more restrictive capital requirements than the draft Mortgage Guaranty Insurance Model Act in most circumstances.

While MGIC currently meets 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 all jurisdictions, 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. 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 IIF on a timely basis, you should read the rest of these financial statement footnotes for information about matters that could negatively affect MGIC's claims paying resources.

#### **DIVIDEND RESTRICTIONS**

In 2018, MGIC paid a total of \$220 million in dividends to our holding company, and we expect MGIC to continue to pay quarterly dividends. In 2016, distributions of \$52 million were paid to our holding company from other insurance subsidiaries. These distributions were completed in conjunction with the transfer of risk and the final dissolution of those insurance entities during 2016. Our holding company subsequently contributed the majority of the funds to MGIC in relation to the transfer of risk.

MGIC is subject to statutory regulations as to payment of dividends. The maximum amount of dividends that MGIC may pay in any twelve-month period without regulatory approval by the OCI is the lesser of adjusted statutory net income or 10% of statutory policyholders' surplus as of the preceding calendar year end. Adjusted statutory net income is defined for this purpose to be the greater of statutory net income, net of realized investment gains, for the calendar year preceding the date of the dividend or statutory net income, net of realized investment gains, for the three calendar years preceding the date of the dividend less dividends paid within the first two of the preceding three calendar years. The OCI recognizes only statutory accounting principles prescribed, or practices permitted, by the State of Wisconsin for determining and reporting the financial condition and results of operations of an insurance company. The OCI has adopted certain prescribed accounting practices that differ from those found in other states. Specifically, Wisconsin domiciled companies record changes in the contingency reserves through the income statement as a change in underwriting deduction. As a result, in periods in which MGIC is increasing contingency reserves, statutory net income

is reduced. For the year ended December 31, 2018, MGIC's increase in contingency reserves was \$484 million and statutory net income was \$325 million. As of December 31, 2018, MGIC's statutory policyholders' surplus was \$1,682 million.

#### **NOTE 15 Share-based Compensation Plans**

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.

We have an omnibus incentive plan that was adopted on April 23, 2015. The purpose of the 2015 plan is to motivate and incent performance by, and to retain the services of, key employees and non-employee directors through receipt of equity-based and other incentive awards under the plan. The maximum number of shares of stock that can be awarded under the 2015 plan is 10.0 million. Awards issued under the plan that are subsequently forfeited will not count against the limit on the maximum number of shares that may be issued under the plan. The 2015 plan provides for the award of stock options, stock appreciation rights, restricted stock and restricted stock units, as well as cash incentive awards. No awards may be granted after April 23, 2025 under the 2015 plan. The vesting provisions of options, restricted stock and restricted stock units are determined at the time of grant. At December 31, 2018, 5.1 million shares were available for future grant under the 2015 plan.

The compensation cost that has been charged against income for share-based plans was \$20.9 million, \$14.9 million, and \$11.4 million for the years ended December 31, 2018, 2017 and 2016, respectively. The related income tax benefit recognized for share-based plans was \$3.0 million, \$5.2 million, and \$4.0 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Table 15.1 summarizes restricted stock or restricted stock unit (collectively called “restricted stock”) activity during 2018.

<b>Restricted stock</b>			
<b>Table 15.1</b>		Weighted Average Grant Date Fair Market Value	Shares
Restricted stock outstanding at December 31, 2017	\$	8.78	3,300,609
Granted		15.69	1,685,264
Vested		7.81	(1,371,063)
Forfeited		13.28	(31,304)
<b>Restricted stock outstanding at December 31, 2018</b>	<b>\$</b>	<b>12.27</b>	<b>3,583,506</b>

At December 31, 2018, the 3.6 million shares of restricted stock outstanding consisted of 2.7 million shares that are subject to performance conditions (“performance shares”) and 0.9 million shares that are subject only to service conditions (“time vested shares”). The weighted-average grant date fair value of restricted stock granted during 2017 and 2016 was \$10.41 and \$5.66, respectively. The fair value of restricted stock granted is the closing price of the common stock on the New York Stock Exchange on the date of grant. The total fair value of restricted stock vested during 2018, 2017 and 2016 was \$19.1 million, \$15.3 million, and \$12.2 million, respectively.

As of December 31, 2018, there was \$18.0 million of total unrecognized compensation cost related to non-vested share-based compensation agreements granted under the plans. Of this total, \$12.4 million of unrecognized compensation costs relate to performance shares and \$5.6 million relates to time vested shares. A portion of the unrecognized costs associated with the performance shares may or may not be recognized in future periods, depending upon whether or not the performance and service conditions are met. The cost associated with the time vested shares is expected to be recognized over a weighted-average period of 1.8 years.

#### **NOTE 16** Leases

We lease certain office space as well as data processing equipment and autos under operating leases that expire during the next four years. Generally, rental payments are fixed.

Table 16.1 shows minimum the future operating lease payments as of December 31, 2018.

#### **Minimum future operating lease payments**

<b>Table 16.1</b>	<b>Amount</b>	
<i>(In thousands)</i>		
2019	\$	<b>1,406</b>
2020		<b>1,069</b>
2021		<b>371</b>
2022		<b>161</b>
2023 and thereafter		<b>—</b>
<b>Total</b>	<b>\$</b>	<b>3,007</b>

Total rental expense under operating leases was \$1.9 million in 2018, \$2.0 million in 2017, and \$2.1 million in 2016.

#### **NOTE 17** Litigation and Contingencies

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. 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



## Notes

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.

Through a non-insurance subsidiary, we utilize our underwriting skills to provide an outsourced underwriting service to our customers known as contract underwriting. As part of the contract underwriting activities, that subsidiary is responsible for the quality of the underwriting decisions in accordance with the terms of the contract underwriting agreements with customers. That subsidiary may be required to provide certain remedies to its 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. Claims for remedies may be made

a number of years after the underwriting work was performed. 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.

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 consolidated results of operations.

**NOTE 18** Unaudited Quarterly Financial Data**Unaudited quarterly financial data - current year:**

Table: 18.1a	Quarter				Full
2018:					Year
<i>(In thousands, except per share data)</i>	First	Second	Third	Fourth	
Net premiums earned	\$ 232,107	\$ 246,964	\$ 250,426	\$ 245,665	\$ 975,162
Investment income, net of expenses	32,121	34,502	36,380	38,328	141,331
Realized (losses) gains	(329)	(1,897)	1,114	(241)	(1,353)
Other revenue	1,871	2,431	2,525	1,881	8,708
Loss incurred, net	23,850	(13,455)	(1,518)	27,685	36,562
Underwriting and other expenses, net	61,895	57,933	60,069	63,239	243,136
Provision for income tax	36,388	50,708	49,994	36,963	174,053
Net income	143,637	186,814	181,900	157,746	670,097
Income per share <sup>(a) (b)</sup> :					
Basic	0.39	0.51	0.50	0.44	1.83
Diluted	0.38	0.49	0.49	0.43	1.78

**Unaudited quarterly financial statements - prior year:**

Table: 18.1b	Quarter				Full
2017:					Year
<i>(In thousands, except per share data)</i>	First	Second	Third	Fourth	
Net premiums earned	\$ 229,103	\$ 231,136	\$ 237,083	\$ 237,425	\$ 934,747
Investment income, net of expenses	29,477	29,716	30,402	31,276	120,871
Realized gains (losses)	(125)	(52)	(50)	458	231
Other revenue	2,425	2,512	2,925	2,343	10,205
Loss incurred, net	27,619	27,339	29,747	(30,996)	53,709
Underwriting and other expenses, net	59,304	55,292	56,146	57,042	227,784
Loss on debt extinguishment	—	65	—	—	65
Provision for income tax	84,159	61,994	64,440	218,142	428,735
Net income	89,798	118,622	120,027	27,314	355,761
Income per share <sup>(a) (b)</sup> :					
Basic	0.26	0.32	0.32	0.07	0.98
Diluted	0.24	0.31	0.32	0.07	0.95

(a) Due to the use of weighted average shares outstanding when calculating earnings per share, the sum of the quarterly per share data may not equal the per share data for the year.

(b) In periods where convertible debt instruments are dilutive to earnings per share the "if-converted" method of computing diluted EPS requires an interest expense adjustment, net of tax, to net income available to shareholders. See [Note 4 – "Earnings Per Share"](#) for further discussion on our calculation of diluted EPS.

## Directors

### MGIC Investment Corporation

<p><b>Daniel A. Arrigoni</b>  <i>Former President &amp; Chief Executive Officer</i>            U.S. Bank Home Mortgage Corp.            Home loan originator and servicer</p>	<p><b>Timothy A. Holt</b>  <i>Former Senior Vice President &amp; Chief Investment Officer</i>            Aetna, Inc.            Diversified health care benefits company</p>	<p><b>Michael E. Lehman</b>  <i>Special Advisor to the Chancellor</i>            University of Wisconsin</p>
<p><b>Cassandra C. Carr</b>  <i>Consultant; Former Global Vice Chair of Talent</i>            Hill+Knowlton Strategies            Public relations consulting firm</p>	<p><b>Kenneth M. Jastrow, II</b>  <i>Corporate Director &amp; Private Investor</i>  <i>Former Chairman &amp; Chief Executive Officer</i>            Temple-Inland Inc.            Paper &amp; forest products company with financial services and real estate interests</p>	<p><b>Melissa B. Lora</b>  <i>Former President</i>            Taco Bell International            Restaurant company</p>
<p><b>C. Edward Chaplin</b>  <i>Former President &amp; CFO</i>            MBIA Inc.            Provider of financial guarantee insurance</p>	<p><b>Jodeen A. Kozlak</b>  <i>Founder and CEO</i>            Kozlak Capital Partners, LLC  <i>Former Senior Vice President of Human Resources</i>            Alibaba Group            Multinational Conglomerate</p>	<p><b>Gary A. Poliner</b>  <i>Former President</i>            Northwestern Mutual Life Ins. Co.            Financial services company</p>
<p><b>Curt S. Culver</b>  <i>Chairman</i>  <i>Former Chief Executive Officer</i>            MGIC Investment Corporation</p>		<p><b>Patrick Sinks</b>  <i>President &amp; Chief Executive Officer</i>            MGIC Investment Corporation</p>
		<p><b>Mark M. Zandi</b>  <i>Chief Economist</i>            Moody's Analytics, Inc.            Risk measurement and management firm</p>

## Officers

### MGIC Investment Corporation

<p><b>President &amp; Chief Executive Officer</b>            Patrick Sinks</p>	<p><b>Vice Presidents</b>            Heidi A. Heyrman  <i>Assistant Secretary</i></p>	<p>Paul A. Spiroff  <i>Assistant Treasurer</i></p>
<p><b>Executive Vice Presidents</b>            Stephen C. Mackey  <i>Chief Risk Officer</i></p>	<p>Lisa M. Pendergast  <i>Treasurer</i></p>	<p>Martha F. Tsuchihashi  <i>Assistant Secretary</i></p>
<p>Paula C. Maggio  <i>General Counsel and Secretary</i></p>	<p>Brian M. Remington  <i>Assistant Secretary</i></p>	
<p>Timothy J. Mattke  <i>Chief Financial Officer</i></p>	<p>Julie K. Sperber  <i>Controller &amp; Chief Accounting Officer</i></p>	

# Officers

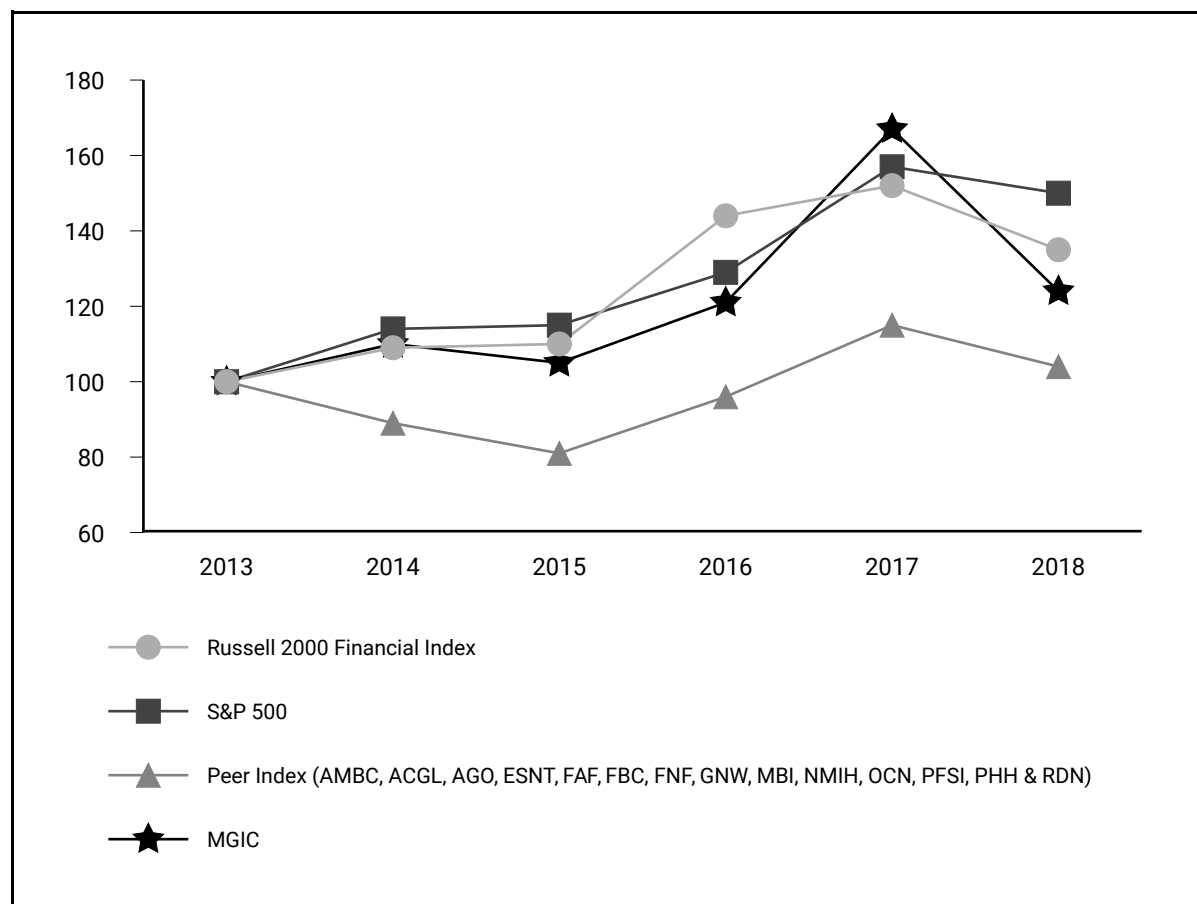
## Mortgage Guaranty Insurance Corporation

<b>President &amp; Chief Executive Officer</b> Patrick Sinks	Margaret M. Crowley <i>Marketing and Customer Experience</i>	Christopher T. Perry <i>Sales</i>
<b>Executive Vice Presidents</b> James J. Hughes <i>Sales and Business Development</i>	Dean D. Dardzinski <i>Managing Director</i>	W. Todd Pittman <i>Managing Director</i>
Stephen C. Mackey <i>Chief Risk Officer</i>	Stephen M. Dempsey <i>Managing Director</i>	Tara E. Radman <i>Business Automation</i>
Paula C. Maggio <i>General Counsel and Secretary</i>	Hans F. DeSelms <i>Loss Forecasting &amp; Analytics</i>	Brian M. Remington <i>Loss Mitigation, Assistant General Counsel and Assistant Secretary</i>
Timothy J. Mattke <i>Chief Financial Officer</i>	Edward G. Durant <i>Model Development and Portfolio Analytics</i>	David H. Schroeder <i>Claims</i>
Salvatore A. Miosi <i>Business Strategies and Operations</i>	Mary L. Elkins <i>Systems Development</i>	John R. Schroeder <i>Corporate Development</i>
<b>Senior Vice Presidents</b> Robert J. Candelmo <i>Chief Information Officer</i>	David A. Greco <i>Operational Risk</i>	Peter A. Semenak <i>Underwriting</i>
Sean A. Dilweg <i>Government Relations</i>	Heidi A. Heyrman <i>Regulatory Relations, Assistant General Counsel and Assistant Secretary</i>	Bryan D. Specht <i>Policy Acquisition &amp; Servicing</i>
Kurt J. Thomas <i>Chief Human Resources Officer</i>	Dianna L. Higgins <i>Internal Audit</i>	Julie K. Sperber <i>Controller and Chief Accounting Officer</i>
Michael J. Zimmerman <i>Investor Relations</i>	Michael E. Jacobson <i>Corporate Development</i>	Paul A. Spiroff <i>Investments</i>
<b>Vice Presidents</b> Terry A. Aikin <i>Managing Director</i>	Mark J. Krauter <i>National Accounts</i>	Steven M. Thompson <i>Credit Policy and Pricing</i>
Robert K. Bates <i>Sales Strategy</i>	Michael L. Kull <i>Managing Director</i>	Martha F. Tsuchihashi <i>Securities Law, Assistant General Counsel and Assistant Secretary</i>
Jane S. Coleman <i>National Accounts</i>	Elyse M. Mitchell <i>National Accounts</i>	Sean R. Valcamp <i>Chief Technology Officer</i>
Nathaniel H. Colson <i>Finance</i>	Jerome J. Murphy <i>Business Process Transformation</i>	Kathleen E. Valenti <i>Chief Compliance Officer</i>
Luis A. Contreras <i>National Accounts</i>	Stacey B. Murphy <i>Talent Management</i>	Jerry L. Wormmeester <i>National Accounts</i>
Geoffrey F. Cooper <i>Product Development</i>	Jeffrey N. Nielsen <i>Financial Planning/Analysis</i>	
	Lisa M. Pendergast <i>Treasurer &amp; Investments</i>	

## Performance Graph

The graph below compares the cumulative total return on (a) our Common Stock, (b) a composite peer group index selected by us, (c) the Russell 2000 Financial Services Index and (d) the S&P 500.

Our peer group index consists of the peers against which we analyzed our 2018 executive compensation: Ambac Financial Group, Inc., Arch Capital Group Ltd., Assured Guaranty Ltd., Essent Group Ltd., Fidelity National Financial Inc., First American Financial Corp., Flagstar Bancorp Inc., Genworth Financial Inc., MBIA Inc., NMI Holdings Inc., Ocwen Financial Corp., PennyMac Financial Services Inc., PHH Corporation (prior to its acquisition by Ocwen Financial Corp.) and Radian Group. We selected this peer group because it includes all of our direct competitors that were public companies in 2018 and whose mortgage insurance operations are a significant part of their overall business, financial guaranty insurers, and other financial services companies focused on the residential real estate industry that are believed to be potential competitors for executive talent.



	2013	2014	2015	2016	2017	2018
Russell 2000 Financial Index	100	109	110	144	152	135
S&P 500	100	114	115	129	157	150
Peer Index (AMBC, ACGL, AGO, ESNT, FAF, FBC, FNF, GNW, MBI, NMIH, OCN, PFSI, PHH & RDN)	100	89	81	96	115	104
MGIC	100	110	105	121	167	124

## Shareholder Information

### The Annual Meeting

The Annual Meeting of Shareholders of MGIC Investment Corporation will convene at 4 p.m. Central Time on April 24, 2019, at the Corporation's headquarters, 270 East Kilbourn Avenue, Milwaukee, Wisconsin.

### **10-K Report**

**Copies of the Annual Report on Form 10-K for the year ended December 31, 2018, filed with the Securities and Exchange Commission, are available without charge to shareholders on request from:**

**Secretary**

**MGIC Investment Corporation**

**P. O. Box 488**

**Milwaukee, WI 53201**

The Annual Report on Form 10-K referred to above includes as exhibits certifications from the Company's Chief Executive Officer and Chief Financial Officer under Section 302 of the Sarbanes-Oxley Act. Following the 2018 Annual Meeting of Shareholders, the Company's Chief Executive Officer submitted a Written Affirmation to the New York Stock Exchange that he was not aware of any violation by the Company of the corporate governance listing standards of Exchange.

### Transfer Agent and Registrar

American Stock Transfer & Trust Company, LLC  
6201 15th Avenue  
Brooklyn, NY 11219  
800-937-5549

### Corporate Headquarters

MGIC Plaza  
270 East Kilbourn Avenue  
Milwaukee, Wisconsin 53202

### Mailing Address

P. O. Box 488  
Milwaukee, Wisconsin 53201

### Shareholder Services

(414) 347-6596

### MGIC Stock

MGIC Investment Corporation Common Stock is listed on the New York Stock Exchange under the symbol MTG. At March 7, 2019, 355,925,173 shares of our common stock were entitled to vote.

The payment of dividends is subject to the discretion of our Board and will depend on many factors, including our operating results, financial condition and capital position. See Note 7 - "Debt" to our consolidated financial statements for dividend restrictions that apply when we elect to defer interest on our Convertible Junior Debentures.

The Company is a holding company and the payment of dividends from its insurance subsidiaries is restricted by insurance regulations. For a discussion of these restrictions, see Note 14 - "Statutory Information, Dividend Restrictions" to our consolidated financial statements.

As of March 7, 2019, the number of shareholders of record was 265. In addition, we estimate that there are approximately 46,000 beneficial owners of shares held by brokers and fiduciaries.

**MGIC Investment Corporation**

MGIC Plaza  
Milwaukee, WI 53202  
[mtg.mgic.com](http://mtg.mgic.com)

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71-43823 3/19