

RADIAN GROUP INC  
Form 10-K  
February 27, 2017

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2016

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_  
Commission file number 1-11356

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RADIAN GROUP INC.  
(Exact name of registrant as specified in its charter)

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Delaware	23-2691170
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1601 Market Street, Philadelphia, PA	19103
(Address of principal executive offices)	(Zip Code)
(215) 231-1000	
(Registrant's telephone number, including area code)	

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, \$.001 par value per share	New York Stock Exchange
Preferred Stock Purchase Rights	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES  NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES  NO

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES  NO

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES  NO

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

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

Large accelerated filer  Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

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

As of June 30, 2016, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$2,219,284,611 based on the closing sale price as reported on the New York Stock Exchange. Excluded from this amount is the value of all shares beneficially owned by executive officers and directors of the registrant.

These exclusions should not be deemed to constitute a representation or acknowledgment that any such individual is, in fact, an affiliate of the registrant or that there are not other persons or entities who may be deemed to be affiliates of the registrant.

The number of shares of common stock, \$.001 par value per share, of the registrant outstanding on February 23, 2017 was 215,084,611 shares.

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DOCUMENTS INCORPORATED BY REFERENCE

	Form 10-K	Reference Document
Definitive Proxy Statement for the Registrant's 2017 Annual Meeting of Stockholders	Part III (Items 10 through 14)	

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## GLOSSARY OF ABBREVIATIONS AND ACRONYMS

The list which follows includes the definitions of various abbreviations and acronyms used throughout this report, including the Business Section, Management's Discussion and Analysis of Financial Condition and Results of Operations, Consolidated Financial Statements and the Notes to Consolidated Financial Statements.

Term	Definition
1995 Equity Plan	The Radian Group Inc. 1995 Equity Compensation Plan
2008 Equity Plan	The Radian Group Inc. 2008 Equity Compensation Plan
2008 ESPP	The Radian Group Inc. 2008 Employee Stock Purchase Plan
2014 Equity Plan	The Radian Group Inc. 2014 Equity Compensation Plan
2014 Master Policy	Radian Guaranty's Master Policy that became effective October 1, 2014
ABS	Asset-backed securities
Alt-A	Alternative-A loans represent loans for which the underwriting documentation is generally limited as compared to fully documented loans (considered a non-prime loan grade)
AOCI	Accumulated other comprehensive income (loss)
Appeals	Internal Revenue Service Office of Appeals
ARR	Asset representation review, as required by Regulation AB governing asset-backed securities, to review assets for compliance with representations and warranties
ASR	Accelerated share repurchase
Assured	Assured Guaranty Corp., a subsidiary of Assured Guaranty Ltd.
Available Assets	As defined in the PMIERS, these assets primarily include the liquid assets of a mortgage insurer and its exclusive affiliated reinsurers, and exclude Unearned Premium Reserves
Basel III Board	The September 2010 update to the Basel Capital Accord Radian Group's Board of Directors
BofA Settlement Agreement	The Confidential Settlement Agreement and Release dated September 16, 2014, by and among Radian Guaranty and Countrywide Home Loans, Inc. and Bank of America, N.A., as a successor to BofA Home Loan Servicing f/k/a Countrywide Home Loan Servicing LP, entered into in order to resolve various actual and potential claims or disputes as to mortgage insurance coverage on certain Subject Loans
Bylaw Amendment	Amendments to our amended and restated bylaws
Carryforwards	Net operating loss carryforward and tax credit carryforward, collectively
CFPB	Consumer Financial Protection Bureau
Charter Amendment	Amendments to our amended and restated certificate of incorporation
Claim Curtailment	Our legal right, under certain conditions, to reduce the amount of a claim, including due to servicer negligence
Claim Denial	Our legal right, under certain conditions, to deny a claim
Claim Severity	The total claim amount paid divided by the original coverage amount
Clayton	Clayton Holdings LLC, a Delaware domiciled indirect non-insurance subsidiary of Radian Group
CMBS	Commercial mortgage-backed securities
Convertible Senior Notes due 2017	Our 3.000% convertible unsecured senior notes due November 2017 (\$450 million original principal amount)
Convertible Senior Notes due 2019	Our 2.250% convertible unsecured senior notes due March 2019 (\$400 million original principal amount)
Cures	Loans that were in default as of the beginning of a period and are no longer in default because payments were received and the loan is no longer 60 days past due
Default to Claim Rate	The assumed rate at which defaulted loans will result in a claim

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Deficiency Amount	The assessed tax liabilities, penalties and interest associated with a formal notice of deficiency letter from the IRS
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act
DTAs	Deferred tax assets
DTLs	Deferred tax liabilities
Equity Plans	The 1995 Equity Plan, the 2008 Equity Plan and the 2014 Equity Plan, together

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Term	Definition
ESPP	Employee Stock Purchase Plan
Exchange Act	Securities and Exchange Act of 1934, as amended
Extraordinary Dividend	A dividend distribution required to be approved by an insurance company's primary regulator that is greater than would be permitted as an ordinary dividend, which does not require regulatory approval
Fannie Mae	Federal National Mortgage Association
FASB	Financial Accounting Standards Board
FCRA	Fair Credit Reporting Act of 1970
FHA	Federal Housing Administration
FHFA	Federal Housing Finance Agency
FICO	Fair Isaac Corporation ("FICO") credit scores used throughout this report, for Radian's portfolio statistics, represent the borrower's credit score at origination and, in circumstances where there is more than one borrower, the FICO score for the primary borrower is utilized. With respect to mortgage insurance, includes mortgage insurance policies that are written on an individual loan basis as each loan is originated or on an aggregated basis (in which each individual loan in a group of loans is insured in a single transaction, typically shortly after the loans have been originated). Among other items, Flow Basis business excludes Pool Insurance, which we originated prior to 2009.
Flow Basis	
Foreclosure Stage Default	The Stage of Default indicating that the foreclosure sale has been scheduled or held
Freddie Mac	Federal Home Loan Mortgage Corporation
Freddie Mac Agreement	The Master Transaction Agreement between Radian Guaranty and Freddie Mac entered into in August 2013
Future Legacy Loans	With respect to the BofA Settlement Agreement, Legacy Loans where a claim decision has been or will be communicated by Radian Guaranty after February 13, 2013
GAAP	Accounting principles generally accepted in the United States of America
Green River Capital	Green River Capital LLC, a wholly-owned subsidiary of Clayton
GSEs	Government-Sponsored Enterprises (Fannie Mae and Freddie Mac)
HAMP	Homeowner Affordable Modification Program
HARP	Home Affordable Refinance Program
HARP 2	The FHFA's extension of and enhancements to HARP
HPA	Homeowners Protection Act
IBNR	Losses incurred but not reported
IIF	Insurance in force is equal to the aggregate unpaid principal balances of the underlying loans
Implementation Date	The February 1, 2015 commencement date for activities pursuant to the BofA Settlement Agreement
Initial QSR Transaction	Initial quota share reinsurance agreement entered into with a third-party reinsurance provider in the second quarter of 2012
Insureds	Insured parties with respect to the BofA Settlement Agreement, consisting of Countrywide Home Loans, Inc. and Bank of America, N.A., as a successor to BofA Home Loan Servicing f/k/a Countrywide Home Loans Servicing LP
IRS	Internal Revenue Service
JCT	Congressional Joint Committee on Taxation
LAE	Loss adjustment expenses, which includes the cost of investigating and adjusting losses and paying claims
Legacy Loans	With respect to the BofA Settlement Agreement, loans that were originated or acquired by an Insured and were insured by Radian Guaranty prior to January 1, 2009, excluding such loans that were refinanced under HARP 2 (the FHFA's extension of and enhancements to the HARP program)

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Legacy Portfolio	Mortgage insurance written during the poor underwriting years of 2005 through 2008, together with business written prior to 2005
LLPA	Loan level price adjustments, based on various risk characteristics
Loss Mitigation Activity/Activities	Activities such as Rescissions, Claim Denials, Claim Curtailments and cancellations



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Term	Definition
LTV	Loan-to-value ratio which is calculated as the percentage of the original loan amount to the original value of the property
Master Policies	The Prior Master Policy and the 2014 Master Policy, collectively
MBS	Mortgage-backed securities
MI	Mortgage insurance
Minimum Required Assets	A risk-based minimum required asset amount, as defined in the PMIERs, calculated based on net RIF (RIF, net of credits permitted for reinsurance) and a variety of measures related to credit quality and other factors
Model Act	Mortgage Guaranty Insurers Model Act
Monthly and Other	Insurance policies where premiums are paid on a monthly or other installment basis, excluding Single Premium Policies
Monthly Premium Policy/Policies	Insurance policies where premiums are paid on a monthly installment basis
Moody's	Moody's Investors Service
Mortgage Insurance	Radian's Mortgage Insurance business segment, which provides credit-related insurance coverage, principally through private mortgage insurance, to mortgage lending institutions
MPP Requirement	Certain states' statutory or regulatory risk-based capital requirement that the mortgage insurer must maintain a minimum policyholder position, which is calculated based on both risk and surplus levels
NAIC	National Association of Insurance Commissioners
NIW	New insurance written
NOL	Net operating loss, calculated on a tax basis
NPE	Net premiums earned—insurance
NRSRO	Nationally recognized statistical ratings organization
NYSE	New York Stock Exchange
Notices of Deficiency	Formal letters from the IRS informing the taxpayer of an IRS determination of tax deficiency and appeal rights
PDR	Premium deficiency reserve
Persistency Rate	The percentage of insurance in force that remains on our books over a period of time
Plan	Tax Benefit Preservation Plan
PMIERs	Private Mortgage Insurer Eligibility Requirements effective on December 31, 2015, issued by the GSEs under oversight of the FHFA to set forth requirements an approved insurer must meet and maintain to provide mortgage guaranty insurance on loans acquired by the GSEs
PMIERs Financial Requirements	Financial requirements of the PMIERs
Pool Insurance	Pool Insurance differs from primary insurance in that our maximum liability is not limited to a specific coverage percentage on an individual mortgage loan. Instead, an aggregate exposure limit, or "stop loss," is applied to the initial aggregate loan balance on a group or "pool" of mortgages.
Post-legacy	The time period subsequent to 2008
Post-legacy Portfolio	Mortgage insurance written with an underwriting year subsequent to 2008
Prior Master Policy	Radian Guaranty's master insurance policy in effect prior to the effective date of its 2014 Master Policy
QM	Qualified mortgage
QM Rule	Rule issued by the CFPB on January 10, 2013, defining qualified mortgage and ability to repay requirements
QSR	Quota share reinsurance
QSR Transactions	The Initial QSR Transaction and Second QSR Transaction, collectively

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Radian	Radian Group Inc. together with its consolidated subsidiaries
Radian Asset Assurance	Radian Asset Assurance Inc., a New York domiciled insurance company that was formerly a subsidiary of Radian Guaranty
Radian Asset Assurance Stock Purchase Agreement	The Stock Purchase Agreement dated December 22, 2014, between Radian Guaranty and Assured to sell 100% of the issued and outstanding shares of Radian Asset Assurance, Radian's financial guaranty insurance subsidiary, to Assured

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Term	Definition
Radian Group	Radian Group Inc., the registrant
Radian Guaranty	Radian Guaranty Inc., a Pennsylvania domiciled insurance subsidiary of Radian Group
Radian Insurance	Radian Insurance Inc., a Pennsylvania domiciled insurance subsidiary of Radian Group
Radian Mortgage Insurance	Radian Mortgage Insurance Inc., a Pennsylvania domiciled subsidiary of Radian Group
Radian Reinsurance	Radian Reinsurance Inc., a Pennsylvania domiciled insurance subsidiary of Radian Group
RBC States	Risk-based capital states, which are those states that currently impose a statutory or regulatory risk-based capital requirement
Red Bell	Red Bell Real Estate, LLC, a wholly-owned subsidiary of Clayton
Reinstatements	Reversals of previous Rescissions, Claim Denials and Claim Curtailments
REIT	Real Estate Investment Trust
REMIC	Real Estate Mortgage Investment Conduit
REO	Real Estate Owned
Rescission	Our legal right, under certain conditions, to unilaterally rescind coverage on our mortgage insurance policies if we determine that a loan did not qualify for insurance
RESPA	Real Estate Settlement Procedures Act of 1974
RGRI	Radian Guaranty Reinsurance Inc., a Pennsylvania domiciled insurance subsidiary of Enhance Financial Services Group Inc., a New York domiciled non-insurance subsidiary of Radian Group
RIF	Risk in force for primary insurance is equal to the underlying loan unpaid principal balance multiplied by the insurance coverage percentage; whereas for Pool Insurance it represents the remaining exposure under the agreements
Risk-to-capital	Under certain state regulations, a minimum ratio of statutory capital calculated relative to the level of net risk in force
RMAI	Radian Mortgage Assurance Inc., a Pennsylvania domiciled insurance subsidiary of Radian Group
RMBS	Residential mortgage-backed securities
RSU	Restricted stock unit
S&P	Standard & Poor's Financial Services LLC
SAFE Act	Secure and Fair Enforcement for Mortgage Licensing Act, as amended
SAPP	Statutory accounting principles and practices include those required or permitted, if applicable, by the insurance departments of the respective states of domicile of our insurance subsidiaries
SARs	Stock appreciation rights
SEC	United States Securities and Exchange Commission
Second QSR Transaction	Second Quota share reinsurance transaction entered into with a third-party reinsurance provider in the fourth quarter of 2012
Second-liens	Second-lien mortgage loans
Section 382	Section 382 of the Internal Revenue Code of 1986, as amended
Senior Notes due 2017	Our 9.000% unsecured senior notes due June 2017 (\$195.5 million principal amount)
Senior Notes due 2019	Our 5.500% unsecured senior notes due June 2019 (\$300 million principal amount)
Senior Notes due 2020	Our 5.250% unsecured senior notes due June 2020 (\$350 million principal amount)
Senior Notes due 2021	Our 7.000% unsecured senior notes due March 2021 (\$350 million principal amount)
Services	Radian's Services business segment, which provides mortgage- and real estate-related products and services to the mortgage finance market
Servicing Only Loans	With respect to the BofA Settlement Agreement, loans other than Legacy Loans that were or are serviced by the Insureds and were 90 days or more past due as of July 31, 2014, or if servicing has been transferred to a servicer other than the Insureds, 90 days or more past due as of the transfer

SFR                    date  
Single family rental  
Insurance policies where premiums are paid in a single payment and includes policies written on  
Single Premium    an individual basis (as each loan is originated) and on an aggregated basis (in which each  
Policy/Policies    individual loan in a group of loans is insured in a single transaction, typically after the loans have  
                          been originated)

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Term	Definition
Single Premium QSR	Quota share reinsurance agreement covering certain Single Premium Policies, entered into with a panel of third-party reinsurers in the first quarter of 2016
Stage of Default	The stage a loan is in relative to the foreclosure process, based on whether or not a foreclosure sale has been scheduled or held
Statutory RBC Requirement	Risk-based capital requirement imposed by the RBC States, requiring a minimum surplus level and, in certain states, a minimum ratio of statutory capital relative to the level of risk
Subject Loans	Loans covered under the BofA Settlement Agreement, comprising Legacy Loans and Servicing Only Loans
Surplus Note	An intercompany 0.000% surplus note due December 31, 2025 (\$325 million principal amount), issued by Radian Guaranty to Radian Group in December 2015 and repaid by Radian Guaranty on June 30, 2016
Tax Court	The U.S. Tax Court
TILA	Truth in Lending Act
Time in Default	The time period from the point a loan reaches default status (based on the month the default occurred) to the current reporting date
TRID	TILA-RESPA Integrated Disclosure
TSR	Total stockholder return
U.S.	The United States of America
U.S. Treasury	United States Department of the Treasury
Unearned Premium Reserves	Premiums received but not yet earned
VA	U.S. Department of Veterans Affairs
ValuAmerica	ValuAmerica, Inc., a wholly-owned subsidiary of Clayton
VIE	Variable interest entity is a legal entity subject to the variable interest entity subsections of the accounting standard regarding consolidation, and generally includes a corporation, trust or partnership in which, by design, equity investors do not have a controlling financial interest or do not have sufficient equity at risk to finance activities without additional subordinated financial support
Wisconsin OCI	Office of the Commissioner of Insurance of the State of Wisconsin

Cautionary Note Regarding Forward-Looking Statements—Safe Harbor Provisions

All statements in this report that address events, developments or results that we expect or anticipate may occur in the future are “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Exchange Act and the U.S. Private Securities Litigation Reform Act of 1995. In most cases, forward-looking statements may be identified by words such as “anticipate,” “may,” “will,” “could,” “should,” “would,” “expect,” “intend,” “plan,” “contemplate,” “believe,” “estimate,” “predict,” “project,” “potential,” “continue,” “seek,” “strategy,” “future,” “likely” or the other variations on these words and other similar expressions. These statements, which may include, without limitation, projections regarding our future performance and financial condition, are made on the basis of management’s current views and assumptions with respect to future events. Any forward-looking statement is not a guarantee of future performance and actual results could differ materially from those contained in the forward-looking statement. These statements speak only as of the date they were made, and we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. We operate in a changing environment where new risks emerge from time to time and it is not possible for us to predict all risks that may affect us. The forward-looking statements, as well as our prospects as a whole, are subject to risks and uncertainties that could cause actual results to differ materially from those set forth in the forward-looking statements. These risks and uncertainties include, without limitation:

- changes in general economic and political conditions, including unemployment rates, interest rates and changes in housing and mortgage credit markets, that impact the size of the insurable market and the credit performance of our insured portfolio;
- changes in the way customers, investors, regulators or legislators perceive the performance and financial strength of private mortgage insurers;
- Radian Guaranty’s ability to remain eligible under the PMIERS and other applicable requirements imposed by the FHFA and by the GSEs to insure loans purchased by the GSEs;
- our ability to successfully execute and implement our capital plans and to maintain sufficient holding company liquidity to meet our short- and long-term liquidity needs;
- our ability to successfully execute and implement our business plans and strategies, including plans and strategies that require GSE and/or regulatory approvals;
- our ability to maintain an adequate level of capital in our insurance subsidiaries to satisfy existing and future state regulatory requirements;
- changes in the charters or business practices of, or rules or regulations imposed by or applicable to the GSEs, including the GSEs’ interpretation and application of the PMIERS to our mortgage insurance business;
- changes in the current housing finance system in the U.S., including the role of the FHA, the GSEs and private mortgage insurers in this system;
- any disruption in the servicing of mortgages covered by our insurance policies, as well as poor servicer performance;
- a significant decrease in the Persistency Rates of our mortgage insurance policies;
- competition in our mortgage insurance business, including price competition and competition from the FHA, VA and other forms of credit enhancement;
- the effect of the Dodd-Frank Act on the financial services industry in general, and on our businesses in particular;
- the adoption of new laws and regulations, or changes in existing laws and regulations (including to the Dodd-Frank Act), or the way they are interpreted or applied;
- the outcome of legal and regulatory actions, reviews, audits, inquiries and investigations that could result in adverse judgments, settlements, fines, injunctions, restitutions or other relief that could require significant expenditures or have other effects on our business;

the amount and timing of potential payments or adjustments associated with federal or other tax examinations, including deficiencies assessed by the IRS resulting from its examination of our 2000 through 2007 tax years, which we are currently contesting;

the possibility that we may fail to estimate accurately the likelihood, magnitude and timing of losses in connection with establishing loss reserves for our mortgage insurance business;

volatility in our results of operations caused by changes in the fair value of our assets and liabilities, including a significant portion of our investment portfolio;

changes in GAAP or SAPP rules and guidance, or their interpretation;

our ability to attract and retain key employees;

legal and other limitations on dividends and other amounts we may receive from our subsidiaries; and

the possibility that we may need to impair the carrying value of goodwill established in connection with our acquisition of Clayton.

For more information regarding these risks and uncertainties as well as certain additional risks that we face, you should refer to the Risk Factors detailed in Item 1A of this Annual Report on Form 10-K. We caution you not to place undue reliance on these forward-looking statements, which are current only as of the date on which we issued this report. We do not intend to, and we disclaim any duty or obligation to, update or revise any forward-looking statements to reflect new information or future events or for any other reason.

## PART I

### Item 1. Business.

#### General

We provide mortgage insurance and products and services to the real estate and mortgage finance industries through our two business segments—Mortgage Insurance and Services. Our Mortgage Insurance segment provides credit-related insurance coverage, principally through private mortgage insurance, to mortgage lending institutions nationwide. We provide our mortgage insurance products mainly through our wholly-owned subsidiary, Radian Guaranty.

Our Services segment provides outsourced services, information-based analytics, valuations and specialized consulting and surveillance services for buyers and sellers of, and investors in, mortgage- and real estate-related loans and securities as well as other consumer ABS. The primary lines of business in our Services segment include: (i) loan review, underwriting and due diligence; (ii) surveillance, including RMBS surveillance, loan servicer oversight, loan-level servicing compliance reviews and operational reviews of mortgage servicers and originators; (iii) real estate valuation and component services providing outsourcing and technology solutions for the SFR and residential real estate markets, as well as outsourced solutions for appraisal, title and closing services; (iv) REO management services; and (v) services for the United Kingdom and European mortgage markets through our EuroRisk operations. These services and solutions are provided primarily through Clayton and its subsidiaries, including Green River Capital, Red Bell and ValuAmerica.

See Note 4 of Notes to Consolidated Financial Statements for a summary of financial information for our business segments and see “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” for additional information about the performance of our business segments, including revenue by business segment.

Radian Group serves as the holding company for our insurance and other subsidiaries and does not have any operations of its own.



Part I Item 1. Business

2016 Highlights. Below are highlights of our key accomplishments that furthered our strategic objectives and contributed to our financial and operating results during 2016.

**KEY ACCOMPLISHMENTS FOR 2016**

- Grew earnings
  - » Increased pretax income from continuing operations for 2016 by 10% over 2015, from \$437.8 million to \$483.7 million
  - » Increased adjusted pretax operating income for 2016 by 6% over 2015, from \$510.9 million to \$541.8 million (1)
- Grew book value per share by 11%
- Wrote \$50.5 billion of NIW on a flow basis, the highest flow volume in Radian’s history
  - » Represents a 22% increase over 2015
  - » NIW consisted of 100% Prime business; 62% with FICO scores of 740 or above
- Grew IIF, our primary driver of future earnings, to \$183.5 billion at December 31, 2016, from \$175.6 billion as of December 31, 2015
- Improved composition of mortgage insurance portfolio
  - » Our Post-legacy Portfolio represents 88% of primary RIF (2)
  - » Experienced 18% decline in total primary defaults in 2016 compared to 2015
- Completed a series of capital transactions to strengthen our capital and liquidity positions
  - » Improved debt maturity profile
  - » Reduced diluted shares outstanding by 9% (3)
- Entered into the Single Premium QSR program, improving our return on capital, increasing our financial flexibility and managing our MI business mix

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Adjusted pretax operating income is a non-GAAP financial measure. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Consolidated—Use of Non-GAAP Financial Measure” for a reconciliation of adjusted pretax operating income to the most comparable GAAP measure, pretax income from continuing operations.

(1) Includes HARP volume.

(2) Represents the net decrease in diluted shares resulting from our 2016 capital transactions, in each case as of the date of the completion of the respective transactions.

For additional information regarding these items as well as other factors impacting our business and financial results in 2016, see “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Business Strategy. Consistent with our long-term strategic objectives highlighted below, our business strategy is focused on growing our businesses, diversifying our revenue sources and increasing our fee-based revenues, while at the same time integrating our product offerings and processes more effectively and enhancing our operations.

**RADIAN’S LONG-TERM STRATEGIC OBJECTIVES**

- Grow and diversify earnings per share while maintaining attractive returns on equity
  - » Write high-quality and profitable NIW
  - » Grow Services fee-based revenue
  - » Diversify earnings by expanding our mortgage credit-risk products beyond traditional mortgage insurance, while balancing the appropriate risk and return profile
- Coordinate innovative product offerings and delivery to the marketplace, including integrated Mortgage Insurance and Services solutions
- Implement operational excellence initiatives to enhance our culture of continuous improvement



Part I Item 1. Business

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A key element of our business strategy is to use our Services segment to broaden our participation in the residential mortgage market value chain by offering a range of mortgage and real estate-related products and services that complement our mortgage insurance business. This strategy is designed to satisfy an increasing demand in the market, grow our fee-based revenues, strengthen our existing mortgage insurance customer relationships, attract new customers and differentiate us from our mortgage insurance peers. Our strategy for future growth includes expanding our capabilities to increase the depth and breadth of mortgage and real estate products and services we offer to the residential real estate and mortgage finance markets.

Through the combination of our Mortgage Insurance and Services business segments, our array of capabilities are illustrated below.

**Corporate Background.** Radian Group has been incorporated as a business corporation under the laws of the State of Delaware since 1991. Our principal executive offices are located at 1601 Market Street, Philadelphia, Pennsylvania 19103, and our telephone number is (215) 231-1000.

**Additional Information.** Our website address is [www.radian.biz](http://www.radian.biz). Copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, as well as any amendments to those reports, are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. In addition, our guidelines of corporate governance, code of business conduct and ethics (which includes the code of ethics applicable to our chief executive officer, principal financial officer and principal accounting officer) and the governing charters for each standing committee of our Board are available free of charge on our website, as well as in print, to any stockholder upon request.

The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC and the address of that site is [www.sec.gov](http://www.sec.gov).

The above references to our website and the SEC's website do not constitute incorporation by reference of the information contained on the websites and such information should not be considered part of this document.

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Mortgage Insurance

Mortgage Insurance Business Overview

Overview

Our Mortgage Insurance segment provides credit-related insurance coverage, principally through private mortgage insurance, to mortgage lending institutions and investors nationwide. Private mortgage insurance plays an important role in the U.S. housing finance system because it protects mortgage lenders and investors by mitigating default-related losses on residential mortgage loans. Generally, these loans are made to home buyers who make down payments of less than 20% of the home's purchase price or, in the case of refinancings, have less than 20% equity in the home. Private mortgage insurance promotes affordable home ownership by facilitating the sale of these loans in the secondary mortgage market, most of which are sold to the GSEs.

See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Results—Mortgage Insurance."

Operating Environment

We are a seller of mortgage credit protection and therefore, the demand for our products and services is largely driven by the health of the housing and mortgage finance market. Private mortgage insurance industry volumes are impacted by, among other factors, total mortgage origination volumes and the mix between mortgage originations that are for purchased homes versus refinancings. Although it is difficult to project future volumes, the overall mortgage origination market for 2017 is expected to be smaller than it was in 2016, largely due to an expected decrease in refinancings as a result of higher anticipated interest rates, partially offset by an increase in mortgage origination volume from home purchases in 2017. Historically, mortgage insurance penetration in the overall insurable mortgage market is three to four times higher for purchase originations than for refinancings. As a result of this meaningfully higher penetration for purchase originations, we expect the overall private mortgage insurance market to be only modestly smaller in 2017 compared to 2016 and we expect our NIW for 2017 to be comparable to our \$50.5 billion of NIW written in 2016.

Our mortgage insurance business is also impacted by macroeconomic conditions and specific events that impact the mortgage origination environment and the credit performance of our underlying insured assets. The macroeconomic environment has contributed to the positive credit trends in our mortgage insurance portfolio, including a low level of new defaults as well as improved cure rates. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance." At the same time, new lending laws and regulations enacted in response to the financial crisis have resulted in increased regulation and regulatory scrutiny and a more restrictive credit environment that has limited the growth of the mortgage industry.

The positive macroeconomic and credit trends, while contributing to the improved financial strength of existing private mortgage insurers, have resulted in new insurers joining the private mortgage insurance industry, and, more recently, in consolidation among industry participants. As a result, the environment for private mortgage insurers continues to be highly competitive. We compete with other private mortgage insurers primarily on the basis of price, underwriting guidelines, customer relationships, reputation, perceived financial strength and overall service. Pricing has always been competitive in the mortgage insurance industry and, with newer entrants joining the industry, price competition has continued as these newer entrants have sought to gain a greater presence in the market. In addition to other private mortgage insurers, we compete with governmental agencies, principally the FHA and the VA. See "—Competition."

Regulatory Environment

Our insurance subsidiaries are subject to comprehensive regulations and other requirements. State insurance regulators impose various capital requirements on our insurance subsidiaries. For our insurance subsidiaries, these include Risk-to-capital, other risk-based capital measures and surplus requirements. In addition, the GSEs, as the largest purchasers of conventional mortgage loans and therefore the primary beneficiaries of most of our mortgage insurance,

impose eligibility requirements that private mortgage insurers must satisfy to be approved to insure loans purchased by the GSEs. As a result, changes in the charters or business practices of the GSEs can have a significant impact on our business. In 2015, the FHFA issued the final PMIERS, which became effective on December 31, 2015 and established revised requirements for private mortgage insurers, including Radian Guaranty, to remain eligible insurers of loans purchased by the GSEs. The PMIERS Financial Requirements require private mortgage insurers to hold significantly more capital than under the previous eligibility requirements. In addition, the PMIERS requirements are comprehensive, covering virtually all aspects of the business and operations of a private mortgage insurer. See “Regulation.” Radian Guaranty currently is an approved mortgage insurer under the PMIERS and is in compliance with the PMIERS Financial Requirements.

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## Mortgage Insurance Products

Traditional types of private mortgage insurance include “primary mortgage insurance” and “Pool Insurance.”

**Traditional Risk - Primary Mortgage Insurance.** Primary mortgage insurance provides protection against mortgage defaults at a specified coverage percentage. When there is a valid claim under primary mortgage insurance, the maximum liability is determined by multiplying the claim amount, which consists of the unpaid loan principal, plus past due interest and certain expenses associated with the default, by the coverage percentage. Claims may be settled for the maximum liability or for other amounts. See “—Claims Management” below.

The terms of our primary mortgage insurance coverage are set forth in a master insurance policy that we enter into with each of our customers. Our Master Policies are filed in each of the jurisdictions in which we conduct business. Among other things, our Master Policies set forth the terms and conditions of our mortgage insurance coverage, including: loan eligibility requirements; premium payment requirements; coverage term; provisions for policy administration; exclusions or reductions in coverage; claims payment and settlement procedures; and dispute resolution procedures.

Following the financial crisis, the FHFA and the GSEs identified specific requirements to be included by all private mortgage insurers in their Master Policies for new mortgage insurance applications received on or after October 1, 2014. Among others, these included specific requirements related to loss mitigation and claims processing activities. Radian Guaranty incorporated these principles into its 2014 Master Policy. Loans that were already insured prior to the October 1, 2014 effective date of the 2014 Master Policy continue to be subject to the terms and conditions of Radian Guaranty’s Prior Master Policy. Any material changes to the 2014 Master Policy are subject to approval by the GSEs and state regulators.

One of the significant changes under the 2014 Master Policy is the inclusion of new rescission relief programs. Subject to certain limited exceptions, including fraud and misrepresentation, the 2014 Master Policy provides that we will not rescind coverage on a loan after 36 months if it meets the following criteria: no loan payment has been 60-days or more delinquent and not more than two loan payments were 30-days delinquent or more in the first 36 months; the 36<sup>th</sup> loan payment is not 30-days or more delinquent; all loan payments are made from a borrower’s own funds; and the loan is not subject to a workout. In addition, Radian Guaranty’s Confident Coverage<sup>SM</sup> program allows lenders to opt in for earlier rescission relief at 12 months if certain additional conditions are satisfied, including that the lender submits specific origination and closing loan file documents for Radian Guaranty’s review and the first 12 months of payments were timely and from the borrower’s own funds.

We generally provide primary mortgage insurance on an individual loan basis as each mortgage is originated. We also provide primary mortgage insurance on each individual loan in an aggregate group of mortgages after they have been originated. We primarily write insurance in a “first loss” position, where we are responsible for the first losses incurred on an insured loan subject to a policy limit. See “—Mortgage Insurance Portfolio—Mortgage Loan Characteristics.” We wrote \$50.5 billion and \$41.4 billion of first-lien primary mortgage insurance in 2016 and 2015, respectively. Substantially all of our primary mortgage insurance written during 2016 and 2015 was written on a Flow Basis. Primary insurance on first-lien mortgage loans made up \$46.7 billion or 98.0% of our total direct first-lien insurance RIF at December 31, 2016, compared to \$44.6 billion or 97.5% at December 31, 2015.

**Traditional Risk - Pool Insurance.** Prior to 2008, we wrote Pool Insurance on a limited basis. With respect to our Pool Insurance, an aggregate exposure limit, or “stop loss” (usually between 1% and 10%), is generally applied to the initial aggregate loan balance on a group or “pool” of mortgages. In addition, an insured pool of mortgages may contain mortgages that are already covered by primary mortgage insurance. In these transactions, Pool Insurance is secondary to any primary mortgage insurance that exists on mortgages within the pool. Stop loss and second loss features reduce our ultimate liability on individual pool transactions. The terms of our Pool Insurance policies are privately negotiated and are separate from the Master Policies that we use for our primary mortgage insurance.

Pool Insurance made up \$1.0 billion or 2.0% of our total direct first-lien insurance RIF at December 31, 2016, as compared to \$1.1 billion or 2.5% at December 31, 2015.

Non-Traditional Risk. In addition to traditional mortgage insurance, in the past, we provided other forms of credit enhancement on residential mortgage assets. Our non-traditional products included mortgage insurance on Second-liens and we also provided mortgage insurance on an international basis. We have terminated substantially all of our international mortgage insurance except for an immaterial amount remaining from our insured portfolio in Hong Kong.

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As part of our strategy to leverage our core expertise in credit risk management and expand our presence in the mortgage finance industry, during 2016 we participated in new front-end credit risk transfer pilot programs developed by Fannie Mae and Freddie Mac. These pilot programs involve participation as part of a panel of mortgage insurance company affiliates in writing credit insurance policies on loans that are to be purchased by the GSEs in the future (i.e., front-end), subject to certain pre-established credit parameters. The policies provide excess of loss coverage for losses above a retention amount, as specified by the applicable GSE, subject to an aggregate limit of liability. In addition, this coverage, while limited with respect to the Loss Mitigation Activities available to us, is in a third loss position behind standard mortgage insurance and the applicable GSE retention amount. Our current commitment level for both of these pilot programs will result in premiums and required capital that are immaterial. We may participate in other GSE credit risk transfer programs in the future.

Our total amount of non-traditional RIF as described above was \$40 million at December 31, 2016, as compared to \$49 million at December 31, 2015.

#### Premium Rates

We set our premium rates when coverage is established, which is generally at the time of origination. Premiums for our mortgage insurance products are established based on performance models that consider a broad range of borrower, loan and property characteristics. Our premium rates are generally subject to regulation, and in most states where our insurance subsidiaries are licensed, our premiums must be filed, and in some cases approved, before their use. See “Regulation—State Regulation.”

We set our premium levels to be competitive within the mortgage insurance industry and to achieve an overall risk-adjusted rate of return on capital given our modeled performance expectations. Our actual returns may differ from our expectations based on market conditions and other factors. In addition, the impact of market conditions on our returns will vary based on, among other factors, whether the insurance is borrower-paid or lender-paid, and whether the payments are made monthly or in a single premium payment at the time of origination. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Results—Mortgage Insurance—Premiums.”

Among other factors, we set our premium rates based on assumptions about policy performance, including, without limitation, our expectations and assumptions about the following factors: (i) the likelihood of default; (ii) how long the policy will remain in place; (iii) the costs of acquiring and maintaining the insurance; (iv) taxes; and (v) the capital that is required to support the insurance. Our performance assumptions for claim frequency and policy life are developed based on data regarding our own historical experience, as well as data generated from independent, third-party sources.

Premiums on our mortgage insurance products are generally paid either on a monthly installment basis (“Monthly Premiums”) or in a single payment (“Single Premiums”). In addition, premiums on our Monthly and Other policies may include premiums that are paid as a combination of up-front premium at origination plus a monthly renewal (split premium), as an annual or other periodic premium paid over multiple years or as premiums paid on mortgage loans after their origination. For Single Premium insurance, we receive a single premium payment that is generally paid at the time of loan origination and, subject to certain conditions, provides coverage for the life of the loan. There are many factors that influence the form of premiums we receive, including: (i) the percentage of mortgage originations derived from refinancing transactions versus new home purchases (refinancing transactions often are conducted with Single Premiums); (ii) the customers with whom we do business (e.g., mix of Monthly and Other policies and Single Premium policies varies by customer); and (iii) the relative premium levels we and our competitors set for the various forms of premiums offered. In 2016, 73% of our NIW was written with Monthly and Other premiums and 27% was written with Single Premiums, compared to 69% and 31%, respectively, in 2015.

Mortgage insurance premiums can be financed through a number of methods, and while the coverage remains for the benefit of the insured or third-party beneficiary, the premiums may be paid by the borrower or by the lender.

Borrower-paid mortgage insurance premiums are paid either through separate escrowed amounts or financed as a



component of the mortgage loan amount. Lender paid mortgage insurance premiums are paid by the lender and are typically passed through to the borrower in the form of additional origination fees or a higher interest rate on the mortgage note. Our Monthly and Other premiums are generally established as either: (i) a fixed percentage of the loan's amortizing balance over the life of the policy or (ii) as a fixed percentage of the initial loan balance for a set period of time (typically 10 years), after which it declines to a lower fixed percentage for the remaining life of the policy.

#### Underwriting

Mortgage loan applications are underwritten to determine whether they are eligible for our mortgage insurance. We perform this function directly or, alternatively, we delegate to our insured lenders the ability to underwrite the mortgage loans based on compliance with our underwriting guidelines.

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**Delegated Underwriting.** Through our delegated underwriting program we approve insured lenders to underwrite mortgage loan applications based on our mortgage insurance underwriting guidelines. Each lender participating in the delegated underwriting program must be approved by our risk management group. Utilization of our delegated underwriting program enables us to meet lenders' demands for immediate insurance coverage and increases the efficiency of the underwriting process. We use quality control sampling and performance monitoring to manage the risks associated with delegated underwriting. Under the terms of the program, we have certain rights to rescind coverage if there has been a deviation from our underwriting guidelines. For a discussion of these limited rescission rights, see “—Claims Management—Rescissions.” As of December 31, 2016, 68% of our total first-lien IIF had been originated on a delegated basis, compared to 70% as of December 31, 2015.

**Non-Delegated Underwriting.** In addition to our delegated underwriting program, insured lenders may also submit mortgage loan applications to us and we will perform the mortgage insurance underwriting. In general, we are less likely to exercise our rescission rights with respect to underwriting errors related to loans that we underwrite for mortgage insurance. As a result, following a period of high Rescissions after the financial crisis, many lenders have chosen to have us perform the mortgage insurance underwriting on a non-delegated basis. Given the professional resources we need to maintain to underwrite mortgage loans, an increase in non-delegated underwriting demand generally increases our operating costs to support this program.

**Contract Underwriting.** We also provide third party contract underwriting services to our mortgage insurance customers through our Services segment. See “Services—Services Business Overview—Services Offered—Loan Review, Underwriting and Due Diligence.” During 2016, mortgage loans underwritten through contract underwriting accounted for 7.1% of insurance certificates issued on a Flow Basis, as compared to 5.7% in 2015.

### Mortgage Insurance Portfolio

#### Direct Risk in Force

Our business traditionally has involved taking credit risk in various forms across a range of asset classes, products and geographies. Exposure in our mortgage insurance business is measured by RIF, which is equal to the underlying loan unpaid principal balance multiplied by the insurance coverage percentage.

The following discussion mainly focuses on our direct primary RIF, which represents 98.0% of our total mortgage insurance RIF of \$47.7 billion at December 31, 2016. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF” for additional information about the composition of our primary RIF. See “—Mortgage Insurance Business Overview—Mortgage Insurance Products” for additional information regarding our Pool Insurance and non-traditional mortgage insurance RIF.

We analyze our mortgage insurance portfolio in a number of ways to identify any concentrations or imbalances in risk dispersion. We believe that, among other factors, the credit performance of our mortgage insurance portfolio is affected significantly by:

- general economic conditions (in particular, interest rates, home prices and unemployment);
- the age of the loans insured;
- the geographic dispersion of the properties securing the insured loans and the condition of local housing markets;
- the quality of underwriting at loan origination; and
- the credit characteristics of the borrower and the characteristics of the loans insured (including LTV, FICO, purpose of the loan, type of loan instrument, source of down payment, and type of underlying property securing the loan).

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## Direct Primary RIF by Year of Policy Origination

The following table shows our direct primary mortgage insurance RIF by year of origination and selected information related to that risk as of December 31, 2016:

December 31, 2016

(\$ in millions)	RIF	Number of Defaults	Delinquency Rate	Percentage of Reserve for Losses	Average FICO (1) at Origination (2)	Original Average LTV(2)
2005 and prior	\$2,236	9,838	12.7 %	31.8 %	676	87.8 %
2006	1,369	4,272	11.9	15.6	687	89.5
2007	3,279	7,123	9.8	31.2	701	91.7
2008	2,259	2,951	6.1	10.7	726	89.8
2009	468	341	3.0	1.0	753	89.0
2010	417	143	1.6	0.4	763	91.3
2011	917	235	1.3	0.6	762	91.5
2012	3,734	595	0.9	1.4	762	91.5
2013	5,902	1,116	1.0	2.5	757	91.7
2014	5,607	1,268	1.2	2.5	746	92.0
2015	8,469	936	0.6	1.9	748	91.7
2016	12,084	287	0.1	0.4	749	91.5
Total	\$46,741	29,105		100.0 %		

(1) Represents the borrower's credit score at origination. In circumstances where there is more than one borrower, the FICO score for the primary borrower is utilized.

(2) Average FICO at origination and original average LTV are weighted averages based on the unpaid principal balances of the underlying mortgage loans.

The amount of time that our insurance certificates remain in force, which is affected by loan repayments and terminations of our insurance, can have a significant impact on our revenues and our results of operations. Our Persistency Rate is one key measure for assessing the impact that insurance terminations resulting in certificate cancellations have on our IIF. Because our insurance premiums are earned over time, higher Persistency Rates on Monthly Premium Policies increase the premiums we receive and generally result in increased profitability and returns. Conversely, assuming all other factors remain constant, higher Persistency Rates on Single Premium business lowers the overall returns from our insured portfolio, as the premium revenue for our Single Premium Policies is the same regardless of the actual life of the insurance policy and we are required to maintain regulatory capital and Available Assets supporting the insurance for the life of the policy. The Persistency Rate of our primary mortgage insurance was 76.7% at December 31, 2016, compared to 78.8% at December 31, 2015. Historically, there is a close correlation between interest rates and Persistency Rates, primarily as a result of increased refinancings (which often result in the cancellation of our insurance) in lower interest rate environments. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for the details regarding the Persistency Rates.

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## Geographic Dispersion

The following table shows, as of December 31, 2016 and 2015, the percentage of our direct primary mortgage insurance RIF and the associated percentage of our mortgage insurance reserve for losses (by location of property) for the top 10 states in the U.S. (as measured by our direct primary mortgage insurance RIF as of December 31, 2016):

	December 31,		2015	
	2016			
Top Ten States	RIF	Reserve for Losses	RIF	Reserve for Losses
California	12.4%	6.4 %	12.8%	6.5 %
Texas	7.8	4.4	7.5	3.6
Florida	6.6	11.8	6.2	13.1
Illinois	5.6	4.8	5.7	5.3
Georgia	4.1	3.5	4.2	3.5
New Jersey	3.6	11.9	3.8	12.2
Virginia	3.4	1.7	3.5	1.6
Pennsylvania	3.2	3.7	3.2	3.7
New York	3.1	12.7	3.1	12.1
Arizona	3.1	1.3	3.1	1.3
Total	52.9%	62.2 %	53.1%	62.9 %

The following table shows, as of December 31, 2016 and 2015, the percentage of our direct primary mortgage insurance RIF and the associated percentage of our mortgage insurance reserve for losses (by location of property) for the top 15 Core Based Statistical Areas, referred to as “CBSAs,” in the U.S. (as measured by our direct primary mortgage insurance RIF as of December 31, 2016):

	December 31,		2015	
	2016			
Top Fifteen CBSAs (1)	RIF	Reserve for Losses	RIF	Reserve for Losses
Chicago, IL-IN-WI	5.3 %	4.6 %	5.4 %	5.0 %
New York, NY-NJ-PA	4.7	19.5	4.9	18.8
Washington, DC-MD-VA	3.5	2.8	3.6	2.8
Los Angeles - Long Beach, CA	3.5	1.8	3.7	1.9
Atlanta, GA	3.3	2.6	3.4	2.6
Dallas, TX	3.0	1.4	2.9	1.2
Philadelphia, PA-NJ-DE-MD	2.6	3.9	2.6	3.9
Phoenix/Mesa, AZ	2.3	0.7	2.3	0.9
Houston, TX	2.1	1.5	2.0	1.2
Minneapolis-St. Paul, MN-WI	2.0	0.8	1.9	0.8
Miami, FL	2.0	4.4	1.8	4.9
Boston, MA-NH	1.9	1.7	2.0	1.6
Denver, CO	1.8	0.4	2.0	0.4
Riverside-San Bernardino, CA	1.7	1.3	1.7	1.2
Seattle, WA	1.5	1.2	1.6	1.3
Total	41.2%	48.6 %	41.8%	48.5 %

(1) CBSAs are metropolitan areas and include a portion of adjoining states as noted above.



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## Mortgage Loan Characteristics

In addition to geographic dispersion, other factors also contribute significantly to our overall risk diversification and the credit quality of our RIF, including product distribution, underwriting and our risk management practices. We consider a number of borrower and loan characteristics in evaluating the credit quality of our portfolio and developing our pricing and risk management strategies.

**LTV.** An important indicator of claim incidence in our mortgage insurance business is the relative amount of a borrower's equity that exists in a home. Generally, absent other mitigating factors such as high FICO scores and other credit factors, loans with higher LTVs at inception (i.e., smaller down payments) are more likely to result in a claim than lower LTV loans. The average LTV of our primary NIW in 2016 was 91.4%, compared to 91.5% and 91.6% in 2015 and 2014, respectively. See the "Percentage of primary NIW" table in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for a breakdown of the composition of our NIW by LTV.

**Loan Grade/FICO Score.** The risk of claim on non-prime loans is significantly higher than that on prime loans. We use our proprietary models to classify a loan as either prime or non-prime on the basis of a borrower's FICO score, the level of loan file documentation and other factors. In general we consider a loan to be a prime loan if the borrower's FICO score is 620 or higher and the loan file meets "fully documented" standards of our credit guidelines and/or the GSE guidelines for fully documented loans. Substantially all of our Post-legacy NIW has been on prime loans. See the "Improved Characteristics of MI Portfolio" table in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for a breakdown of the composition of our RIF by FICO Score and origination vintage ranges.

Loans that we categorize as Alt-A, A minus loans or B/C loans are considered non-prime loans due to lower FICO scores, reduced loan file documentation, and/or the presence of other risk characteristics. See the "Primary RIF by Risk Grade" table in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for a breakdown of the composition of our RIF by risk grade.

**Loan Purpose.** Loan purpose may also impact our risk of loss. For example, cash-out refinance loans, where a borrower receives cash in connection with refinancing a loan, have been more likely to result in a claim than new purchase loans or loans that are refinanced only to adjust rate and term. See the "Percentage of primary RIF" table in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for the percentage of our RIF comprised of refinances.

**Loan Size.** Higher-priced properties with larger mortgage loan amounts generally have experienced wider fluctuations in value than moderately priced residences and have been more likely to result in a claim. The average loan size of our direct primary mortgage IIF as of December 31, 2016, 2015 and 2014 was \$203.2 thousand, \$199.3 thousand and \$196.8 thousand, respectively.

We consider other factors, including property type and occupancy type, in assessing our risk of loss. In general, it has been our experience that our risk of claim is lower on loans secured by single family detached housing than loans on other types of properties, and is higher on non-owner occupied homes purchased for investment purposes than on either primary or second homes.

See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for additional information about the credit quality and characteristics of our direct primary mortgage insurance.

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## Defaults and Claims

Defaults. In our Mortgage Insurance segment, the default and claim cycle begins with the receipt of a default notice from the loan servicer. We consider a loan to be in default for financial statement and internal tracking purposes upon receipt of notification by servicers that a borrower has missed two monthly payments. Defaults also can occur due to a variety of specific events affecting borrowers, including death or illness, divorce or other family problems, unemployment, increases in the interest rates of adjustable rate mortgages, changes in regional economic conditions, a borrower choosing not to pay due to housing value changes that cause the outstanding mortgage amount to exceed the value of a home, or other events.

The default rate in our mortgage insurance business is subject to seasonality. Historically, our mortgage insurance business experiences a fourth quarter seasonal increase in the number of defaults and a first quarter seasonal decline in the number of defaults and increase in the number of Cures. While this historically has been the case, macroeconomic factors in any given period may influence the default rate in our mortgage insurance business more than seasonality. Since 2009, virtually all of our new mortgage insurance business production has been prime business. The loans from our 2009 and later origination years possess significantly improved credit characteristics compared to our Legacy Portfolio. For example, average FICO scores for the borrowers of these insured mortgages are higher compared to mortgages in our Legacy Portfolio. In addition, refinancings under the HARP programs have had a positive impact on the overall credit quality and composition of our mortgage insurance portfolio because the refinancing generally results in terms under which a borrower has a greater ability to pay and more financial flexibility to cover the loan obligations. Our portfolio of business written since the beginning of 2009 has been steadily increasing in proportion to our total primary RIF. The sum of our 2009 through 2016 portfolios and our HARP refinancings accounted for approximately 88% of our total primary RIF at December 31, 2016, compared to 84% at December 31, 2015. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance” for additional information about refinancings under the HARP programs.

The following table shows the states that have generated the highest number of primary insurance defaults (measured as of December 31, 2016) in our insured portfolio and the corresponding percentage of total defaults as of the dates indicated:

	December 31,					
	2016		2015		2014	
States with highest number of defaults:						
Florida	2,666	9.2%	3,571	10.1%	6,122	13.5%
New York	2,211	7.6	2,682	7.6	3,161	7.0
New Jersey	2,146	7.4	2,686	7.6	3,103	6.8
Texas	1,897	6.5	2,019	5.7	2,215	4.9
Illinois	1,534	5.3	1,894	5.4	2,600	5.7

Claims. Defaulted loans that fail to become current, or “cure,” may result in a claim under our mortgage insurance policies. Mortgage insurance claim volume is influenced by the circumstances surrounding the default. The rate at which defaults cure, or do not go to claim, depends in large part on a borrower’s financial resources and circumstances (including whether the borrower is eligible for a loan modification), local housing prices and housing supply (i.e., whether borrowers are able to cure defaults by selling the property in full satisfaction of all amounts due under the mortgage), interest rates and regional economic conditions. In our first-lien primary insurance business, the insured lender must acquire title to the property (typically through a foreclosure proceeding) before submitting a claim. The time for a lender to acquire title to a property through foreclosure varies depending on the state, and in particular whether a state requires a lender to proceed through the judicial system in order to complete the foreclosure.

Following the financial crisis, the time between a default and a request for claim payment increased, largely as a result of foreclosure delays due to, among other factors, increased scrutiny within the mortgage servicing industry and foreclosure process. While delays in foreclosures have continued to extend the timing of claim submissions, as

compared to historical experience, these delays have been modestly improving as the economy recovers from the financial crisis. For our Pool Insurance, our policies typically require the insured to not only acquire title but also to actively market and ultimately liquidate the real estate asset before filing a claim, which generally lengthens the time between a default and a claim submission.

Claim activity is not spread evenly throughout the coverage period of a book of business. Historically, for prime business relatively few claims are received during the first two years following issuance of a policy.



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See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF—Provision for Losses” for various claims paid tables, including Direct Claims Paid by Origination Year.

The following table shows the states with the highest direct claims paid (measured as of December 31, 2016) for the periods indicated:

(In millions)	Year Ended		
	December 31,		
	2016	2015	2014
States with highest direct claims paid (first-lien):			
Florida	\$59.4	\$183.4	\$166.3
New Jersey	46.1	38.5	31.4
Illinois	32.3	64.2	73.5
New York	26.6	26.2	17.8
California	23.1	52.2	80.8

In addition to claim volume, Claim Severity is another significant factor affecting losses. We calculate the Claim Severity by dividing the claim paid amount by the original coverage amount. Factors that impact the severity of a claim include, but are not limited to, the size of the loan, the amount of mortgage insurance coverage placed on the loan, the amount of time between default and claim during which we are expected to cover certain interest and expenses, and the impact of our Loss Mitigation and other loss management activities with respect to the loan. Pre-foreclosure sales, acquisitions and other early workout efforts help to reduce overall Claim Severity, as do actions we may take to reduce a claim payment due to servicer negligence, as discussed below in “Claims Management.” The average Claim Severity for loans covered by our primary insurance was 104.1% for 2016, compared to 105.8% in 2015 and 100.2% in 2014. Claim Severity remained elevated in 2016 due primarily to the continuing increased length of time between default and claim. The increase in the average Claim Severity in 2015 compared to 2014 was primarily impacted by claims paid related to the implementation of the BofA Settlement Agreement.

#### Claims Management

Our claims management process is focused on promptly analyzing and processing claims to ensure that valid claims are paid in a timely and accurate manner. In addition, our mortgage insurance claims management department pursues opportunities to mitigate losses both before and after claims are received. We dedicate significant resources to mortgage insurance claims management.

Claims. In our traditional mortgage insurance business, upon receipt of a valid claim, we generally have the following three settlement options:

- (1) pay the maximum liability and allow the insured lender to keep title to the property. The maximum liability is determined by multiplying (x) the claim amount (which consists of the unpaid loan principal, plus past due interest for a period of time specified in our Master Policies and certain expenses associated with the default) by (y) the applicable coverage percentage;
- (2) pay the amount of the claim required to make the lender whole (not to exceed our maximum liability), following an approved sale; or
- (3) pay the full claim amount and acquire title to the property.

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Approved sales in which the underlying property has been sold for less than the outstanding loan amount are commonly referred to as “short sales.” Although short sales may have the effect of reducing our ultimate claim obligation, in many cases, a short sale will result in the payment of a claim in an amount that is equal to the maximum liability amount. Under our Master Policies, we retain the right to consent prior to the consummation of any short sales. Historically, we have consented to a short sale only after reviewing various factors, including among other items, the sale price relative to market and the ability of the borrower to contribute to any shortfall in the sale proceeds as compared to the outstanding loan amount. We have entered into agreements with each of the GSEs, pursuant to which we delegated to the GSEs our prior consent rights with respect to short sales on loans owned by the GSEs, as long as the short sales meet the GSE guidelines and processes for short sales and subject to certain other factors set forth in these agreements. As a result, instead of reviewing each individual transaction prior to short sale with respect to GSE loans, we instead perform a post-claim quality review of these short sales to ensure that they met the specified requirements. We have the ability to terminate our delegated short sale agreements with the GSEs upon 60 days notice. We also provide for limited delegation authority to certain loan servicers for short sales under specific circumstances. For loans that are not owned by the GSEs and for which we have not granted specific delegation authority to the loan servicer, we perform an individual analysis of each proposed short sale and provide our consent to these sales when appropriate.

After a claim is received, our loss management specialists may focus on:

- a review to determine compliance with applicable loan origination programs and our mortgage insurance policy requirements, including: (i) whether the loan qualified for insurance at the time the certificate of coverage was issued and (ii) whether the insured has satisfied its obligation in meeting all necessary conditions in order for us to pay a claim, including submitting all necessary documentation in connection with the claim (commonly referred to as “claim perfection”);
- analysis and prompt processing to ensure that valid claims are paid in an accurate and timely manner;
- responses to loss mitigation opportunities presented by the insured; and
- management and disposal of acquired real estate.

**Claim Denials.** We have the legal right under our Master Policies to deny a claim if the loan servicer does not produce documents necessary to perfect a claim, including evidence that the insured has acquired title to the property, within the time period specified in our Master Policies. Most often, a Claim Denial is the result of a servicer’s inability to provide the loan origination file or other servicing documents for review. If, after requests by us, the loan origination file or other servicing documents are not provided to us, we generally deny the claim. If we deny a claim, we continue to allow the insured the ability to perfect the claim for a period of time specified in our Master Policies. If the insured successfully perfects the claim within our specified timelines, we will process the claim, including a review of the loan to ensure appropriate underwriting and loan servicing.

**Rescissions.** Under the terms of our Master Policies we have the legal right, under certain conditions, to unilaterally rescind coverage on our mortgage insurance policies. If we rescind coverage based on a determination that a loan did not qualify for insurance, we provide the insured with a period of time to challenge, or rebut, our decision.

Typical events that may give rise to our right to rescind coverage include: (i) we insure a loan under one of our Master Policies in reliance upon an application for insurance that contains a material misstatement, misrepresentation or omission, whether intentional or otherwise, or that was issued as a result of an act of fraud or (ii) we find that there was negligence in the origination of a loan that we insured. We also have rights of rescission arising from a breach of the insured’s representations and warranties contained in an endorsement to our Master Policies that is required with our delegated underwriting program.

If a rebuttal to our rescission is received and the insured provides additional information supporting the continuation (i.e., non-rescission) of coverage, we have the claim re-examined internally by a separate, independent investigator. If the additional information supports the continuation of coverage, the insurance is reinstated and the claim is paid.

After completion of this process, if we determine that the loan did not qualify for coverage, the insurance certificate is

rescinded (and the total premiums paid are refunded) and we consider the rescission to be final and resolved. Although we may make a final determination internally with respect to a rescission, it is possible that a legal challenge to our decision to rescind coverage may be brought after we have rescinded coverage during a period of time that is specified under the terms of our Master Policies.

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In 2012, we began offering a limited rescission waiver program under our Prior Master Policy for our delegated underwriting customers, in which we agree not to rescind coverage due to non-compliance with our underwriting guidelines so long as the borrower makes 36 consecutive payments (commencing with the initial required payment) from his or her own funds. This program does not restrict our rights to rescind coverage in the event of fraud or misrepresentation in the origination of the loans we insure. As part of our 2014 Master Policy for NIW, effective October 1, 2014, we offer 12-month and 36-month rescission relief programs in accordance with the specified terms and conditions set forth in the policy. For a discussion of the 2014 Master Policy, see “—Mortgage Insurance Business Overview—Mortgage Insurance Products—Traditional Risk.”

**Claim Curtailments.** We also have rights under our Master Policies to curtail, and in some circumstances, deny claims due to servicer negligence. Examples of servicer negligence may include, without limitation:

- a failure to report information to us on a timely basis as required under our Master Policies;
- a failure to pursue loss mitigation opportunities presented by borrowers, realtors and/or any other interested parties;
- a failure to pursue loan modifications and/or refinancings through programs available to borrowers or an undue delay in presenting claims to us (including as a result of improper handling of foreclosure proceedings), which increases the interest or other components of a claim we are required to pay; and
- a failure to initiate and diligently pursue foreclosure or other appropriate proceedings within the timeframe specified in our Master Policies.

Although we could seek post-claim recoveries from the beneficiaries of our policies if we later determine that a claim was not valid, because our loss mitigation process is designed to ensure compliance with our policies prior to payment of a claim, historically we have not sought recoveries from the beneficiaries of our mortgage insurance policies once a claim payment has been made.

#### Mortgage Insurance Risk Management

Our mortgage insurance business employs a comprehensive risk management function, which is responsible for establishing our credit and counterparty risk policies, monitoring compliance with our policies, managing our insured portfolio and communicating credit related issues to management and the Credit Committee of our Board.

**Risk Origination and Servicing.** We believe that understanding our business partners and customers is a key component of managing risk. Accordingly, we assign individual risk managers to specific customers so that they can more effectively perform ongoing business-level due diligence. This also allows us to address specific needs of individual customers. The risk managers are located across the country, and their direct interaction with our customers and their access to local markets improves our ability to observe business patterns and manage risk trends. This oversight provides us with the ability to review and study best practices throughout the industry and develop robust data management analysis.

**Portfolio Management.** We have developed risk and capital allocation models that support our mortgage insurance business. These models provide robust analysis to establish portfolio limits for product type, loan attributes, geographic concentrations and counterparties. We proactively monitor market concentrations across these and other attributes. We also identify, evaluate and negotiate potential transactions for terminating insurance risk and for distributing risk to others, including through reinsurance arrangements. See “Reinsurance—Reinsurance—Ceded” for more information about the use of reinsurance as a risk management tool in our mortgage insurance business.

As part of our portfolio management function, we monitor and analyze the performance of various risks in our mortgage portfolio. We use this information to develop our mortgage credit risk and counterparty risk policies, and as a component of our default and prepayment analytics.

We have a valuation group that analyzes the current composition of our mortgage insurance portfolio and assesses risks to the portfolio from the market (e.g., the effects of changes in home prices and interest rates) and risks from particular lenders, products and geographic locales.



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**Credit Policy.** We have developed and maintain mortgage-related credit risk policies. These policies reflect our tolerance levels with respect to accepting risk regarding counterparty, portfolio, operational, and structured risks involving mortgage collateral. Our credit policy function develops and updates our mortgage insurance eligibility and guidelines through regular monitoring of competitor offerings, customer input regarding lending needs, analysis of historical performance and portfolio trends, quality assurance results, underwriter experience and observations and risk tolerances. The credit policy function is also responsible for loan and lender-level exceptions to published guidelines as well as lender corrective action in the event we discover credit performance issues, such as high early payment defaults. The credit policy function works closely with our mortgage insurance underwriters to ensure that underwriting decisions align with risk tolerances and principles.

**Quality Assurance.** Quality assurance is a key element of our credit analytics function, and as part of our quality control program, we audit individual loan files to examine underwriting decisions for compliance with agreed-upon underwriting guidelines. These audits are conducted across loans submitted through our delegated and non-delegated underwriting channels. Our quality assurance team audits both our customers and our underwriters to ensure quality in our NIW. Observations and trends derived from our quality assurance process serve as critical inputs into portfolio monitoring, eligibility and guideline updates, and customer surveillance and also provide valuable feedback to our customers and our underwriters regarding the quality of their mortgage insurance underwriting decisions.

**Loss Mitigation.** We have a dedicated loss mitigation group that works with servicers to identify and pursue loss mitigation opportunities for loans in both our performing and non-performing (defaulted) portfolios. This includes regular surveillance and benchmarking of servicer performance with respect to default reporting, borrower retention efforts, foreclosure alternatives and foreclosure processing. Through this process, we seek to hold servicers accountable for their performance and communicate to servicers identified best practices for servicer performance.

**Risk Modeling.** We have expertise in the development and deployment of integrated credit and interest rate risk models. Using analytical techniques, we have developed loan level default and prepayment models that can be used for a wide range of risk management applications, including portfolio analysis, credit decision making, forecasting, and reserving, among others.

#### Reinsurance

We use reinsurance as a capital and risk management tool in our mortgage insurance business.

**Reinsurance—Ceded.** We have entered into third-party reinsurance transactions as part of our capital and risk management activities, including quota share transactions that are utilized to proactively manage Radian Guaranty's Risk-to-capital, manage Radian Guaranty's position under the PMIERS Financial Requirements, and manage the mix of business in our portfolio. For additional information regarding our third-party quota share transactions, see Note 8 of Notes to Consolidated Financial Statements.

**Affiliate Reinsurance.** Certain states limit the amount of risk a mortgage insurer may retain on a single loan to 25% of the total loan amount. Radian Guaranty currently uses reinsurance from an affiliated reinsurer to comply with these insurance regulations. See "Regulation—State Regulation—Reinsurance." In addition, Radian Guaranty has previously used reinsurance with its subsidiaries to reduce its net RIF and manage its Risk-to-capital position.

**Captive Reinsurance.** In the past, we and other companies in the mortgage insurance industry participated in reinsurance arrangements with mortgage lenders commonly referred to as "captive reinsurance arrangements." Under captive reinsurance arrangements, a mortgage lender typically established a reinsurance company that assumed part of the risk associated with the portfolio of that lender's mortgages insured by us on a Flow Basis. In return for the reinsurance company's assumption of a portion of the risk, we ceded to the reinsurance company a portion of the mortgage insurance premiums that otherwise would have been paid to us. Captive reinsurance typically was conducted on an "excess-of-loss" basis, with the captive reinsurer paying losses only after a certain level of losses had been incurred. In addition, on a limited basis, we participated in "quota share" captive reinsurance arrangements under which the captive reinsurance company assumed a pro rata share of all losses in return for a pro rata share of the

premiums collected.

As a result of the housing and related credit market downturn that began in 2007, most captive reinsurance arrangements have “attached,” meaning that losses have exceeded the threshold so that our captive reinsurers are required to make payments to us. Ceded losses recoverable related to captives at December 31, 2016 were \$0.4 million.

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All of our remaining captive reinsurance arrangements are operating on a run-off basis. We have not entered into any new captive reinsurance arrangements since 2007, and we have agreements with the CFPB and the Minnesota Department of Commerce that we will not enter into any new captive reinsurance arrangements until April 2023 and June 2025, respectively. See Notes 8 and 13 of Notes to Consolidated Financial Statements.

Customers

The principal customers of our mortgage insurance business are mortgage originators such as mortgage bankers, mortgage brokers, commercial banks, savings institutions, credit unions and community banks. Sources of primary NIW by type of mortgage originator for the year ended December 31, 2016 are shown in the chart below.

Our largest single mortgage insurance customer (including branches and affiliates), measured by primary NIW, accounted for 5.7% of NIW during 2016, compared to 4.6% and 4.0% in 2015 and 2014, respectively. Earned premiums attributable to Wells Fargo accounted for more than 10% of our consolidated revenues in 2016, 2015 and 2014.

In 2009, during the financial crisis, we launched an initiative to significantly diversify our customer base. As a result of this initiative, the percentage of NIW generated by our top 10 customers has decreased from 62.3% in 2009 to 31.7% in 2016. Since 2010, we have added approximately 1,000 net new customers and significantly increased the amount of business derived from mid-sized mortgage banks. We believe these efforts have helped to reduce the potential impact to our business from the loss of any one customer.



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Sales, Marketing and Customer Support

Our sales and account management team is organized in various geographic regions across the U.S. We have a business development group that is focused on developing new mortgage insurance relationships and an account management group that is responsible for supporting our existing mortgage insurance relationships. Mortgage insurance sales and account management personnel are compensated by salary, commissions for NIW and the creation or development of customer relationships and other incentive-based pay, which may be tied to the achievement of certain sales goals or the promotion of certain products. Commissions vary based on product in order to incent a sales person to achieve an appropriate mix of products in accordance with our business objectives.

A key element of our business strategy is to broaden our participation in the residential mortgage market value chain through our Services segment. We have a dedicated team that is focused on marketing our Services capabilities to our mortgage insurance customers. We expect that the continued sales of these complementary products and services to our mortgage insurance customers will strengthen our relationships with those customers and have the potential to attract new customers. We believe that offering these complementary services and products differentiates us from our mortgage insurance competitors and enhances our ability to compete in the insured market.

Additionally, we have established exclusive affiliate partnerships with a number of organizations that are focused on supporting minority homeownership, including the National Association of Hispanic Real Estate Professionals (NAHREP), the National Association of Real Estate Brokers (NAREB) and the Asian Real Estate Association of America (AREAA). We believe that these partnerships will help us establish and deepen our relationship with the growing minority segments of the population that are expected to constitute a significant portion of new household formation in the U.S. in the future.

We have developed training programs for our customers to help their employees develop the skills to respond to changing market demands and regulatory requirements. Our training is provided to customers to promote the role of private mortgage insurance in the marketplace as well as to promote Radian Guaranty's specific products and offerings. We offer training in three format options: instructor-led classroom sessions, instructor-led webinars and self-directed web-based training.

Competition

We operate in the highly competitive U.S. mortgage insurance industry. Our competitors include other private mortgage insurers and federal and state governmental and quasi-governmental agencies, principally the FHA and VA. The private mortgage insurers that are currently approved and eligible to write business for the GSEs are:

Arch U.S. MI;

Essent Guaranty Inc.;

Genworth Financial Inc.;

Mortgage Guaranty Insurance Corporation;

NMI Holdings, Inc.; and

United Guaranty Corp. (acquired by Arch Capital Group LLC in December 2016).

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We compete directly with other private mortgage insurers primarily on the basis of price, underwriting guidelines, customer relationships, reputation, perceived financial strength (including comparative credit ratings) and overall service, including services and products that complement our mortgage insurance products and that are offered through our Services business. Overall service competition is based on, among other things, effective and timely delivery of products, timeliness of claims payments, customer service, timely and accurate servicing of policies, training, loss mitigation efforts and management and field service expertise. Pricing has always been competitive in the mortgage insurance industry and with newer entrants joining the industry, price competition has continued as these newer entrants have sought to gain a greater presence in the market and more established industry participants seek to defend their market share and customer relationships. As a result of this competitive environment, recent pricing trends have included: (i) the use of a spectrum of filed rates to allow for formulaic, risk-based pricing (commonly referred to as “black-box” pricing); (ii) the use of customized (often discounted) rates on lender-paid, Single Premium Policies and to a limited extent, on borrower-paid Monthly Premium Policies; and (iii) overall reductions in standard filed rates on borrower-paid Monthly Premium Policies. In the recent past, the willingness of mortgage insurers to offer reduced pricing (whether through filed or customized rates) led to an increased demand from certain lenders for reduced rate products. This produced a marketplace where balancing both targeted returns on new business and an acceptable share of the insured market became more challenging for all participants. Although there can be no assurance that there will not be broad-based declines in mortgage insurance pricing in the future, following the widespread industry pricing changes for standard rates that occurred during the first half of 2016, pricing throughout the industry has been relatively stable with respect to borrower-paid Monthly Premium Policies. Further, in 2016 the California Department of Insurance issued guidance to the mortgage insurance industry stating that any approved discounting of a mortgage insurer’s rates must be provided to all similarly situated customers of the mortgage insurer. See “Item 1A. Risk Factors—Our insurance subsidiaries are subject to comprehensive state insurance regulations and other requirements, which we may fail to satisfy.” Although the impact of this guidance is uncertain, it is possible that this guidance will discourage the discounting of rates within the mortgage insurance industry.

We monitor various competitive and economic factors while seeking to balance both profitability and market share considerations in developing our pricing and origination strategies. We have taken a disciplined approach to establishing our premium rates and writing a mix of business that we expect to produce our targeted level of returns on a blended basis and an acceptable level of NIW. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF.” As demonstrated by our strong NIW generated in 2016, we believe we remain well positioned to compete for the high-quality business being originated today, including the generally more profitable, borrower-paid business, while at the same time maintaining projected returns on NIW within our targeted ranges. Throughout 2016, we increased our share of NIW within the private mortgage insurance market and, based on publicly available information, we estimate that our share of NIW within the private mortgage insurance market (excluding HARP refinancings) was approximately 19% for 2016. Certain of our private mortgage insurance competitors are subsidiaries of larger corporations that have access to greater amounts of capital and financial resources than we do at a lower cost of capital (including, as a result of tax-advantaged, off-shore reinsurance vehicles) and have better financial strength ratings than we have. As a result, they may be better positioned to compete outside of traditional mortgage insurance, including if the GSEs expand their use of or pursue alternative forms of credit enhancement. In addition, because of the current tax advantage of being off-shore, certain of our competitors are able to achieve higher after-tax rates of return on the NIW they write compared to on-shore mortgage insurers such as Radian Guaranty, which could allow these off-shore competitors to leverage reduced pricing to gain market share, while continuing to achieve acceptable returns on NIW.

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We also compete with governmental and quasi-governmental agencies, principally the FHA and the VA. We compete with the FHA and VA on the basis of loan limits, pricing, credit guidelines, terms of our insurance policies and loss mitigation practices. Beginning in 2008, the FHA, which historically had not been a significant competitor, substantially increased its market share of the insured mortgage market which peaked at approximately 74% in 2009. Since then, the private mortgage insurance industry generally had been recapturing market share from the FHA, primarily due to: (i) improvements in the financial strength of private mortgage insurers; (ii) the development of new products and marketing efforts directed at competing with the FHA; (iii) increases in the FHA's pricing; (iv) the U.S. government's pursuit of legal remedies against FHA-approved lenders related to loans insured by the FHA; and (v) various policy changes at the FHA, including the general elimination of the premium cancellation provision. However, in January 2015, the FHA reduced its annual mortgage insurance premium by 50 basis points. This reduction, combined with our premium changes in April 2016 to increase our pricing for borrowers with lower FICO scores, has negatively impacted our ability to compete with the FHA on certain high-LTV loans to borrowers with FICO scores below 720. However, we believe that our pricing changes made during the first half of 2016 enable us to more effectively compete with the FHA on certain high-LTV loans to borrowers with FICO scores above 720. In addition, we believe that better execution for borrowers with higher FICO scores, lender preference and the inability to cancel FHA insurance for certain loans are factors that continue to provide a competitive advantage for mortgage insurers. The FHA's share of the total insured mortgage market (includes FHA, VA and private mortgage insurers) decreased from 39% in 2015 to 35% in 2016. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Results—Mortgage Insurance—NIW." More recently, on January 9, 2017, the FHA announced another reduction of its annual mortgage insurance premium by 25 basis points. However, before this reduction went into effect, the FHA announced that it was suspending the premium reduction indefinitely. It is unclear whether the reduction will ultimately be canceled or the suspension will be removed. If the suspension is removed it could have a negative effect on our ability to compete with the FHA. In addition, we have faced increasing competition from the VA. Based on publicly available information, the VA accounted for 28% of the insurable mortgage market in 2016. We believe that the VA's market share has generally been increasing because the VA offers 100% LTV loans and charges a one-time funding fee that can be included in the loan amount with no additional monthly expense, and because of an increase in the number of borrowers that are eligible for the VA's program.

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Services

Acquisition of Clayton

On June 30, 2014, we acquired Clayton, a leading provider of services and solutions to the mortgage and real estate industries. In connection with the acquisition of Clayton, we introduced a new reporting segment—Services. During the first quarter of 2015, Clayton acquired Red Bell, a real estate brokerage, valuation and technology company. In addition, in October 2015, Clayton acquired ValuAmerica, a national title agency and appraisal management company. See Notes 1 and 7 of Notes to Consolidated Financial Statements for additional information regarding these acquisitions. These acquisitions have expanded Clayton's scope of services and are consistent with our strategy to provide services throughout the mortgage and real estate industries.

Services Business Overview

Overview

Our Services segment provides services and solutions to the real estate and mortgage finance industries, including outsourced services, information-based analytics, valuations and specialized consulting and surveillance services. We provide these services and solutions for buyers and sellers of, and investors in, mortgage- and real estate-related loans and securities as well as other consumer ABS. Our Services segment provides information and services that financial institutions, investors and government entities, among others, use to originate, evaluate, acquire, securitize, service and monitor residential real estate, loans secured by residential real estate and other consumer ABS. The primary services offered are described further below and include: (i) loan review, underwriting and due diligence; (ii) surveillance, including RMBS surveillance, loan servicer oversight, loan-level servicing compliance reviews and operational reviews of mortgage servicers and originators; (iii) real estate valuation and component services providing outsourcing and technology solutions for the SFR and residential real estate markets, as well as outsourced solutions for appraisal, title and closing services; (iv) REO management services; and (v) services for the United Kingdom and European mortgage markets through our EuroRisk operations.

Operating Environment

Our Services business is impacted by macroeconomic conditions and specific events that impact the mortgage finance and related industries. Sales volume in our Services business varies based on the overall activity in the mortgage finance market and the health of related industries. While our Services business overall is most successful in a healthy and robust housing and economic environment, we believe that the diversity of the services offered by our Services segment, which are intended to cover all phases of the mortgage value chain, helps mitigate the reduced demand for certain of our mortgage and real estate services and solutions in varying mortgage finance environments. For example, the demand for our due diligence services may decrease in unfavorable economic conditions due to lower mortgage origination and securitization volumes, whereas the demand for REO management services may tend to increase in such an environment. In addition, while the size of the mortgage finance market may be adversely impacted by increased regulatory requirements, these increased requirements may increase the demand for certain of our services, including services related to compliance with the CFPB mortgage servicing standards and the regulatory requirements for third-party review of loans in ABS.

Services Offered

**Loan Review, Underwriting and Due Diligence.** Our loan review, underwriting and due diligence services include loan-level due diligence for various asset classes and securitizations, with a primary focus on the residential mortgage and non-GSE RMBS markets. We utilize skilled professionals and proprietary technology to conduct these services, with product offerings focused on credit underwriting, regulatory compliance and collateral valuation. These services help our clients understand the risk contained in a loan file, and provide them with information to help them price, acquire, securitize or service the assets we review. We also leverage our underwriting expertise to offer mortgage fraud review and re-verification, including identifying breaches in representations and warranties made by sellers of

the loans.

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As part of our underwriting services, we offer contract underwriting services and compliance reviews to verify that loan file documentation conforms to specified guidelines and regulatory requirements. In our contract underwriting business we underwrite our customers' mortgage loan application files for secondary market compliance (e.g., for sale to the GSEs), and may concurrently assess the file for mortgage insurance eligibility. For a fee, we offer these services to our third-party Mortgage Insurance and Services customers. We offer limited indemnification to our contract underwriting customers with respect to those loans that we simultaneously underwrite for both secondary market compliance and for potential mortgage insurance eligibility. In addition, we may, in certain circumstances, offer limited indemnification when we underwrite a loan only for secondary market compliance. The legal entity and its employees that provide our contract underwriting services are compliant with the SAFE Act in all 50 states and the District of Columbia. We train our underwriters, require continuing education and routinely audit their performance to monitor the accuracy and consistency of underwriting practices.

**Surveillance.** Our surveillance services utilize proprietary technology and skilled professionals to provide ongoing, independent monitoring of mortgage servicer and loan performance. We offer risk management and servicing oversight solutions, including RMBS surveillance, regulatory and operational loan level oversight, ARR services in connection with securitizations, and consulting services. RMBS surveillance services monitor the servicers of mortgage loans underlying outstanding RMBS. Regulatory and operational oversight provides regular monitoring of servicing operations to measure and assess compliance with applicable policies and regulations. Our ARR services provide targeted loan and receivable oversight for ABS issuers and their investors in the event of certain default triggers within the ABS. Our consulting services are focused on regulatory compliance and operational reviews of both mortgage servicers and loan originators.

**Real Estate Valuation and Component Services.** Our valuation services consist of residential real estate pricing and valuations, including automated valuation models, broker price opinions and a variety of appraisal products, as well as real estate brokerage services and technology solutions. These valuation services are provided through Clayton's Red Bell and ValuAmerica subsidiaries to originators, owners, purchasers and servicers of, and to investors in, performing and non-performing mortgage loans, REO properties and SFR securitizations. ValuAmerica also provides title and closing services.

Our component service offerings are primarily focused on the SFR market, and include valuations, property inspections, title reviews, lease reviews and tax lien reviews. We provide these services and due diligence reviews to issuers of SFR securitizations as well as to lenders and investors in the SFR market.

**REO Management.** Our REO management services provide management of the entire REO disposition process, including management of the eviction and redemption process, management of property preservation and repairs, property valuation, title reviews and curative work, marketing, offer negotiation and closing services.

**EuroRisk.** Our EuroRisk operations provide outsourced mortgage services in the United Kingdom and Europe, with offerings that include due diligence services, quality control reviews, valuation reviews and consulting services. EuroRisk provides services to mortgage originators and servicers, as well as to investors in performing and non-performing mortgage loans. Our EuroRisk services revenue is generated in foreign countries throughout Europe.

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Services Revenue Drivers

For each of the services we offer in our Services segment, the following chart summarizes the percentage of total Services revenue for each business line, the type of clients that it serves and the most significant revenue drivers:

	% of Services Revenue <sup>(1)</sup> 2016/2015/2014	Clients	Current Revenue Drivers
Loan Review, Underwriting and Due Diligence	36%/30%/38%	Banks REITs Mortgage Originators Investment Banks Private Equity Firms GSEs Mortgage Servicers Banks Mortgage Servicers Investment Banks REITs	Whole Loan Trades (Performing & Non-performing) GSE Risk-sharing Transactions Quality Control and Compliance Reviews Leverage Radian's Large Client Base to Expand Origination Services Non-agency RMBS Securitization Due Diligence Oversight of Loan Servicing/Compliance for Large Banks and Servicers
Surveillance	16%/19%/17%	Asset Managers Auto, Credit Card, Equipment & Student Loan Issuers Banks Investment Banks	Surveillance on Pre-2008 Non-Agency RMBS for Issuers Surveillance on New Non-agency RMBS, and ARR Services for Other ABS Asset Classes SFR Securitizations and Debt Facilities for Institutional Investors
Real Estate Valuation and Component Services	31%/30%/22%	Issuers Mortgage Originators SFR Owners Private Equity Firms REITs Mortgage Servicers	SFR Acquisitions, Non-performing Loan Trades and Servicing, Mortgage Origination Support, Asset Monitoring, Offer Management Title Policies, Title Curative and Appraisal and Valuation Services via Automated Valuation Estimators (AVEs) and Appraiser Reviewed Broker Price Opinions

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	% of Services Revenue <sup>(1)</sup> 2016/2015/2014	Clients	Current Revenue Drivers
REO Management	14%/14%/16%	Banks GSEs Mortgage Servicers Private Equity Firms Property Managers Hedge Funds Originators REITs	REO Asset Management Services on Distressed Loans and Property Sales Proprietary Technology Applications for Monitoring and Acquisition Analytics
EuroRisk	3%/7%/7%	Banks Investment Banks Private Equity Firms Mortgage Originators	Non-performing Loan Trades, RMBS Securitization Due Diligence, Servicing and Lending Surveillance, Servicer Review, Title Review Services and Consulting

Represents the percentage of total Services segment revenue for the each of the years ended December 31, 2016, 2015 and 2014, respectively. Percentages have been revised for all periods presented to reflect changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses for this business are now reflected in the Services segment. As a result, for all periods presented, revenue for loan review, underwriting and due diligence increased. See Note 4 of Notes to Consolidated Financial Statements.

See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Results—Services.”

#### Fee-for-Service Contracts

Our Services segment is a fee-for-service business. Our services revenue is generated under three basic types of contracts:

**Fixed-Price Contracts.** Under fixed-price contracts, we agree to perform the specified services and deliverables for a pre-determined per-unit or per-file price or day rate. We use fixed-price contracts in our real estate valuation and component services, our loan review, underwriting and due diligence services as well as our title and closing services. We also use fixed-price contracts in our surveillance business for our servicer oversight services and RMBS surveillance services, and in our REO management business.

**Time-and-Expense Contracts.** Under a time-and-expense contract, we are paid a fixed hourly rate, and we are reimbursed for billable out-of-pocket expenses as work is performed. These contracts are used in our loan review, underwriting and due diligence and EuroRisk services offerings, as well as in the consulting services that we offer as part of our surveillance business.

**Percentage-of-Sale Contracts.** Under percentage-of-sale contracts, we are paid a contractual percentage of the sale proceeds upon the sale of each property. These contracts are only used for a portion of our REO management services and our real estate brokerage services. In addition, through the use of Services’ proprietary technology, property leads are sent to select clients. Services recognizes revenue for these transactions based on a percentage of the sale, upon the client’s successful closing on the property.



In most cases, our contracts with our clients do not include minimum volume commitments and can be terminated at any time by our clients. Although some of our contracts and assignments are recurring in nature, and include repetitive monthly assignments, a significant portion of our engagements are transactional in nature and may be performed in connection with securitizations, loan sales, loan purchases or other transactions. Due to the transactional nature of our business, our Services segment revenues may fluctuate from period to period as transactions are commenced or completed. In addition, our segment revenues are impacted by the origination volumes of our customers which may fluctuate from period to period.

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Customers

We have a broad range of customers for our Services segment due to the breadth of services we are able to offer across the mortgage value chain. Our principal third-party customers are:

- Banks, credit unions, independent mortgage banks and other originators of mortgage loans;
- RMBS/ABS issuers, securitization trusts, the GSEs, private equity, hedge funds, REITs, investment banks and other investors in mortgage-related debt instruments, whole loans and other securities;
- SFR owners;
- Mortgage servicers; and
- Regulators and rating agencies involved in the mortgage, real estate and housing finance markets.

Our customers include many of the largest financial institutions and participants in the mortgage sector and, as such, our services revenue is concentrated among our largest customers. For the year ended December 31, 2016, the top 10 Services customers (which includes our affiliates) generated approximately 52% of the Services segment's revenues. See "—Services Business Overview—Services Revenue Drivers."

Competition

We believe our Services business is uniquely positioned as a single provider of an array of outsourced services and solutions to participants in the mortgage value chain and that this position differentiates us from our competitors. We are not aware of any other company that provides a comparable range of services to the residential mortgage and real estate industries. However, our Services business has multiple competitors within each of its individual lines of business. Our competitors mainly include small privately-held companies and subsidiaries of large publicly-traded companies.

Significant competitors within each of our business lines include:

- Loan Review, Underwriting and Due Diligence – American Mortgage Consultants, Inc., Digital Risk, LLC and Opus Capital Markets Consultants, LLC
  - Surveillance – Digital Risk, LLC, FTI Consulting, Inc., Pentalpha Surveillance LLC and TENA Companies, Inc.
  - Real Estate Valuation and Component Services – ClearCapital.com, Inc., CoreLogic, Inc., Pro Teck Valuation Services, First American and Black Knight Financial Services
  - REO Management – VRM Mortgage Services and Chronos Solutions LLC
  - EuroRisk – Deloitte LLP, PricewaterhouseCoopers LLP, Ernst & Young LLP, KPMG LLP and Situs Group, LLC
- Across all business lines, we compete on the basis of industry expertise, price, technology, service levels and relationships.

Discontinued Operations — Financial Guaranty

Business

Radian completed the sale of Radian Asset Assurance to Assured on April 1, 2015. Until the April 1, 2015 sale date, the operating results of Radian Asset Assurance were classified as discontinued operations for all periods presented in our consolidated statements of operations. Previously, Radian Asset Assurance had represented substantially all of the financial guaranty segment; therefore, as a result of the sale, we no longer report a financial guaranty business segment.

Radian Asset Assurance provided direct insurance and reinsurance on credit-based structured finance and public finance risks. For additional information related to discontinued operations, see Note 18 of Notes to Consolidated Financial Statements.



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Investment Policy and Portfolio

Our investment portfolio is our primary source of liquidity.

We have developed an investment strategy that uses an asset allocation methodology that incorporates our business environment, consolidated risks and current investment conditions. With respect to our fixed income investments, the following internal investment policy guidelines, among others, are applied at the time of investment:

At least 75% of our investment portfolio, based on market value, must consist of investment securities that are assigned a quality designation of NAIC 1 by the NAIC or equivalent ratings by a NRSRO (i.e., "A-" or better by S&P and "A3" or better by Moody's);

A maximum of 25% of our investment portfolio, based on market value, may consist of investment securities that are assigned a quality designation of NAIC 2 by the NAIC or equivalent ratings by a NRSRO (i.e., "BBB+" to "BBB-" by S&P and "Baa1" to "Baa3" by Moody's); and

A maximum of 10% of our investment portfolio, based on market value, may consist of investment securities that are assigned quality designations NAIC 3 through 6 or equivalent ratings by a NRSRO (i.e., "BB+" and below by S&P and "Ba1" and below by Moody's).

Our portfolio has been constructed to maximize long-term expected returns while maintaining an acceptable risk level. Our investment objectives are to utilize appropriate risk management oversight to generate tax-efficient income, while preserving capital. We target the level of our short-term investments to manage our expected short-term cash requirements.

Our investment policies and strategies are subject to change, depending on regulatory, economic and market conditions and our then-existing or anticipated financial condition and operating requirements, including our current and future tax positions. The investments held at our insurance subsidiaries are also subject to insurance regulatory requirements applicable to such insurance subsidiaries.

Oversight responsibility of our investment portfolio rests with management, and allocations are set by periodic asset allocation studies, calibrated by risk and return and after-tax considerations. As of December 31, 2016, we manage 11% of the investment portfolio (the portion of the portfolio largely consisting of U.S. Treasury obligations) internally, with the remainder primarily managed by three external managers. External managers are selected by management based primarily upon the selected allocations, as well as factors such as historical returns and stability of their management teams. Management's selections are presented to and approved by the Finance and Investment Committee of our Board.

At December 31, 2016, our investment portfolio had a cost basis and carrying value of \$4.5 billion, including \$0.8 billion of investments maturing within one year or less. Our investment portfolio did not include any residential real estate or whole mortgage loans at December 31, 2016. At December 31, 2016, 99.8% of our investment portfolio was rated investment grade. For additional information about our investment portfolio, see the information that follows, as well as Notes 5 and 6 in Notes to Consolidated Financial Statements.

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Investment Portfolio Diversification

The composition of our investment portfolio, presented as a percentage of overall fair value at December 31, 2016, was as follows:

(1) Consists of taxable state and municipal investments.

As of December 31, 2016, we did not have any investment in any person and its affiliates that exceeded 10% of our total stockholders' equity.

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## Investment Portfolio Scheduled Maturity

The weighted average duration of the assets in our investment portfolio as of December 31, 2016 was 5.1 years. We seek to manage our investment portfolio to maintain sufficient liquidity within our risk and return tolerances and to satisfy our operating and other financial needs based on our current liabilities and business outlook. The following table shows the scheduled maturities of the securities held in our investment portfolio at December 31, 2016:

	Fair Value	Percent
(\$ in millions)		
Due in one year or less (1)	\$825.5	18.5 %
Due after one year through five years (1)	525.6	11.8
Due after five years through ten years (1)	1,085.4	24.3
Due after ten years (1)	677.2	15.2
RMBS (2)	388.8	8.7
CMBS (2)	507.3	11.4
Other ABS (2)	450.1	10.1
Other investments (3)	5.1	—
Total	\$4,465.0	100.0%

(1) Actual maturities may differ as a result of calls before scheduled maturity.

(2) RMBS, CMBS and other ABS are shown separately, as they are not due at a single maturity date.

(3) No stated maturity date.

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Investment Portfolio by Rating

The following chart provides the ratings of our investment portfolio, presented as a percentage of overall fair value, as of December 31, 2016:

Enterprise Risk Management

We have adopted an integrated approach to risk management. As part of our risk management strategy, we have implemented a comprehensive Enterprise Risk Management (“ERM”) program.

Our ERM process is designed to provide executive management with the ability to evaluate the most significant risks we face and to calibrate the risk mitigation strategies to account for challenges in the current business environment, as well as external factors that may negatively impact our operations. The risks that fall under the program span the entire spectrum of organizational risks and include risks that may not be easily quantifiable or measurable. These include critical risks that fall into our credit, financial, operational, regulatory and compliance, and strategic risk categories. Enterprise level risk reviews are conducted for the Mortgage Insurance and Services businesses.

Our ERM program takes a holistic approach to managing risks that we face in our businesses. A cross-functional team, guided by subject matter experts and experienced managers, follows a systematic method to identify, evaluate and monitor both known and emerging risks. Our ERM program includes ongoing analysis and ranking of the most significant risks and the alignment of risk management activities with business strategies. Risk assessments and mitigation plans are developed to address these risks. These assessments and plans are subject to review and modification to account for changes in markets and the regulatory environment, as well as other internal or external factors. Our Chief Risk Officer reports to the Board at least quarterly, and more frequently as necessary, regarding our ERM program and management’s evaluation of known and emerging risks, including changes in the potential impact and likelihood of these risks occurring.

Given the credit-based nature of our mortgage insurance business, in addition to our ERM policies, we employ more than 50 dedicated risk management professionals and have established credit, portfolio and counterparty risk policies. For information about risk management activities in our mortgage insurance business, see “Mortgage Insurance—Mortgage Insurance Risk Management.”

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Regulation

We are subject to comprehensive regulation by both federal and state regulatory authorities. Set forth below is a description of significant state and federal regulations and other requirements of the GSEs that are applicable to our businesses. The descriptions below are qualified in their entirety by reference to the full text of the laws and regulations discussed. See “Item 1A. Risk Factors—Our insurance subsidiaries are subject to comprehensive state insurance regulations and other requirements, which we may fail to satisfy.” and “—Legislation and regulatory changes and interpretations could impact our businesses.”

State Regulation

We and our insurance subsidiaries are subject to comprehensive regulation by the insurance departments in the various states where our insurance subsidiaries are licensed to transact business. Insurance laws vary from state to state, but 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. These regulations principally are designed for the protection of policyholders, rather than for the benefit of investors. Insurance regulations address, among other things, the licensing of companies to transact business, claims handling, reinsurance requirements, premium rates and policy forms offered to customers, financial statements, periodic reporting, permissible investments and adherence to financial standards relating to surplus, dividends and other measures of solvency intended to assure the satisfaction of obligations to policyholders.

Our insurance subsidiaries’ premium rates and policy forms are generally subject to regulation in every state in which they are licensed to transact business. These regulations are intended to protect policyholders against the adverse effects of excessive, inadequate or unfairly discriminatory rates and to encourage competition in the insurance marketplace. In most states where our insurance subsidiaries are licensed, premium rates and policy forms must be filed with the state insurance regulatory authority and, in some states, must be approved before their use. Premium rates may be subject to actuarial justification, generally on the basis of the insurer’s loss experience, expenses and future projections. In addition, states may consider general default experience in the mortgage insurance industry in assessing the premium rates charged by mortgage insurers.

Each insurance subsidiary is required by the insurance regulatory authority of its state of domicile, and the insurance regulatory authority of each other jurisdiction in which it is licensed to transact business, to make various filings with those insurance regulatory authorities and with the NAIC, including quarterly and annual financial statements prepared in accordance with statutory accounting principles. In addition, our insurance subsidiaries are subject to examination by the insurance regulatory authority of their state of domicile, as well as each of the states in which they are licensed to transact business.

Our Insurance Subsidiaries

All of our insurance subsidiaries are domiciled in Pennsylvania.

Effective December 31, 2015, as part of our efforts to create a more efficient organizational structure, we obtained the necessary approvals from the Pennsylvania Insurance Commissioner to effectuate a reorganization of our mortgage insurance subsidiaries, which included a significant redistribution of assets and RIF among our legal entities. As a result of these actions, substantially all of the RIF and assets previously held by certain of our insurance subsidiaries (RGRI, RMAI, Radian Insurance and Radian Mortgage Insurance) were transferred to Radian Guaranty and a newly formed insurance company, Radian Reinsurance. After this reorganization, the following represents our principal insurance companies as of December 31, 2016:

Radian Guaranty. Radian Guaranty is our primary mortgage insurance company. Radian Guaranty is our only mortgage insurance company that is eligible to insure GSE loans. It is a monoline insurer, restricted to writing first-lien residential mortgage guaranty insurance. In addition to Pennsylvania, Radian Guaranty is authorized to write mortgage guaranty insurance (or in states where there is no specific authorization for mortgage guaranty insurance, the applicable line of insurance under which mortgage guaranty insurance is regulated) in each of the other 49 states, the District of Columbia and Guam. Radian Guaranty is a direct subsidiary of Radian Group.





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**Radian Reinsurance.** Radian Reinsurance is a licensed affiliated reinsurer that primarily provides reinsurance to Radian Guaranty. Radian Reinsurance is a direct subsidiary of Radian Group. In 2016, we also used Radian Reinsurance to participate in the front-end credit risk transfer pilot programs developed by Fannie Mae and Freddie Mac. See “Mortgage Insurance—Mortgage Insurance Business Overview—Mortgage Insurance Products—Non-Traditional Risk” for more information about these pilot programs.

**Radian Insurance.** Radian Insurance is our insurance subsidiary that is authorized in Hong Kong to insure our remaining Hong Kong insurance portfolio and also insures our other remaining Second-lien risk. Radian Insurance is a direct subsidiary of Radian Group.

In addition, we have the following insurance subsidiaries, each of which had no risk as of December 31, 2016: Radian Investor Surety Inc.; Radian Mortgage Guaranty Inc.; Radian Guaranty Reinsurance; Radian Mortgage Insurance and RMAI.

**Insurance Holding Company Regulation**

Radian Group is an insurance holding company and our insurance subsidiaries belong to an insurance holding company system. All states regulate insurance holding company systems, including the non-insurer holding company within that system. These laws generally require each insurance subsidiary within an insurance holding company system to register with the insurance regulatory authority of its domiciliary state, and to furnish to the regulators in these states applicable financial statements, statements related to intercompany transactions and other information concerning the holding company and its affiliated companies within the holding company system that may materially affect the operations, management or financial condition of insurers or the holding company system.

Radian Group is considered an insurance holding company and, because all of our insurance subsidiaries are domiciled in Pennsylvania, the insurance holding company laws of Pennsylvania regulate, among other things, certain transactions between Radian Group, our insurance subsidiaries and other parties affiliated with us. The holding company laws of Pennsylvania also govern certain transactions involving Radian Group’s common stock, including transactions that constitute a “change of control” of Radian Group and, consequently, a “change of control” of our insurance subsidiaries. Specifically, no person may, directly or indirectly, seek to acquire “control” of Radian Group or any of its insurance subsidiaries unless that person files a statement and other documents with the Pennsylvania Insurance Commissioner and the commissioner’s prior approval is obtained. Under Pennsylvania’s insurance statutes, “control” is defined broadly and is “presumed to exist if any person, directly or indirectly, owns, controls, holds with power to vote or holds proxies representing 10% or more of the voting securities” of a holding company of a Pennsylvania domestic insurer. The statute further defines “control” as the “possession, direct or indirect, of the power to direct or cause the direction of the management and policies of” an insurer.

In addition, material transactions between us or our affiliates and our insurance subsidiaries or among our insurance subsidiaries are subject to certain conditions, including that they be “fair and reasonable.” These conditions generally apply to all persons controlling, or who are under common control with, us or our insurance subsidiaries. Certain transactions between us or our affiliates and our insurance subsidiaries may not be entered into unless the Pennsylvania Insurance Commissioner is given 30 days’ prior notification and does not disapprove the transaction during that 30-day period.

Pennsylvania also requires that we identify the material risks within the insurance holding company system that could pose enterprise risk to the insurer. Pennsylvania has adopted the Risk Management and Own Risk and Solvency Assessment Act, which was effective January 1, 2015 and requires, among other things, that Pennsylvania-domiciled insurers maintain a risk management framework and conduct an Own Risk and Solvency Assessment (“ORSA”) annually in accordance with applicable NAIC requirements.

**Dividends**

Under Pennsylvania’s insurance laws, dividends and other distributions may only be paid out of an insurer’s positive unassigned surplus, measured as of the end of the prior fiscal year, unless the Pennsylvania Insurance Commissioner approves the payment of dividends or other distributions from another source. While all proposed dividends and

distributions to shareholders must be filed with the Pennsylvania Insurance Department prior to payment, if a Pennsylvania domiciled insurer had positive unassigned surplus as of the end of the prior fiscal year, then unless the prior approval of the Pennsylvania Insurance Commissioner is obtained, such insurer could only pay dividends or other distributions during any 12-month period in an aggregate amount less than or equal to the greater of: (i) 10% of the preceding year-end statutory policyholders' surplus; or (ii) the preceding year's statutory net income.

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Radian Guaranty and Radian Reinsurance had negative unassigned surplus at December 31, 2016 of \$691.3 million and \$118.4 million, respectively, therefore no dividends or other distributions can be paid from these subsidiaries in 2017 without approval from the Pennsylvania Insurance Commissioner. Neither Radian Guaranty nor Radian Reinsurance paid any dividends in 2016 or 2015. Due in part to the need to set aside contingency reserves, as discussed below, we do not expect that Radian Guaranty or Radian Reinsurance will have positive unassigned surplus, and therefore will not have the ability to pay ordinary dividends, for the foreseeable future.

All of our other insurance subsidiaries had negative unassigned surplus at December 31, 2016. Therefore, no dividends or other distributions can be paid by these subsidiaries in 2017 without approval from the Pennsylvania Insurance Commissioner.

#### Risk-to-Capital

Under state insurance regulations, Radian Guaranty is required to maintain minimum surplus levels and, in certain states, a minimum ratio of statutory capital relative to the level of net RIF, or Risk-to-capital. Sixteen states currently impose a Statutory RBC Requirement. The most common Statutory RBC Requirement is that a mortgage insurer's Risk-to-capital may not exceed 25 to 1. In certain of the RBC States, Radian Guaranty must satisfy a MPP Requirement. The statutory capital requirements for the non-RBC States are de minimis (ranging from \$1 million to \$5 million); however, the insurance laws of these states generally grant broad supervisory powers to state agencies or officials to enforce rules or exercise discretion affecting almost every significant aspect of insurance business, including the power to revoke or restrict an insurance company's ability to write new business. Unless an RBC State grants a waiver or other form of relief, if a mortgage insurer such as Radian Guaranty is not in compliance with the Statutory RBC Requirement of such state, it may be prohibited from writing new mortgage insurance business in that state. Radian Guaranty's domiciliary state, Pennsylvania, is not one of the RBC States. In 2016 and 2015, the RBC States accounted for approximately 55.4% and 55.8%, respectively, of Radian Guaranty's total primary NIW. As of December 31, 2016, Radian Guaranty's Risk-to-capital was 13.5 to 1, and Radian Guaranty was in compliance with all applicable Statutory RBC Requirements.

The NAIC is in the process of reviewing the minimum capital and surplus requirements for mortgage insurers and considering changes to the 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. While the timing and outcome of this process is not known, in the event the NAIC adopts changes to the Model Act, we expect that the capital requirements in states that adopt the new Model Act may increase as a result of the changes. While we cannot provide any assurance, we do not believe that the capital requirements that may be adopted under the new Model Act are likely to exceed those of the PMIERS. See "Item 1A. Risk Factors—Our insurance subsidiaries are subject to comprehensive state insurance regulations and other requirements, which we may fail to satisfy."

#### Contingency Reserves

For statutory reporting, mortgage insurance companies are required annually to set aside contingency reserves in an amount equal to 50% of earned premiums. Such amounts cannot be released into surplus for a period of 10 years, except when loss ratios exceed 35%, in which case the amount above 35% can be released under certain circumstances. The contingency reserve, which is designed to be a reserve against catastrophic losses, essentially restricts dividends and other distributions by mortgage insurance companies. We classify the contingency reserves of our mortgage insurance subsidiaries as a statutory liability. At December 31, 2016, Radian Guaranty and Radian Reinsurance had contingency reserves of \$1,260.6 million, and \$180.3 million, respectively.

#### Reinsurance

Certain states limit the amount of risk a mortgage insurer may retain on a single loan to 25% of the total loan amount. Coverage in excess of 25% (i.e., deep coverage) must be reinsured. We currently use Radian Reinsurance to provide deep coverage reinsurance to Radian Guaranty in compliance with these statutory limits.

#### Cybersecurity

The New York Department of Financial Services has issued cybersecurity regulations that become effective March 1, 2017 and apply to all financial institutions and insurance companies licensed in New York, including Radian Guaranty and certain of our other insurance subsidiaries. The regulations require regulated institutions to establish a cybersecurity program; adopt a written cybersecurity policy; designate a Chief Information Security Officer responsible for implementing, overseeing and enforcing the cybersecurity program and policy; and have policies and procedures designed to ensure the security of information systems and nonpublic information accessible to, or held by, third-parties, along with a variety of other requirements to protect the confidentiality, integrity and availability of information systems.

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## Real Estate, Title and Appraisal Management Licensing

Certain of our Services subsidiaries are subject to regulation and oversight by the states where they conduct their businesses, including requirements to be licensed and/or registered in the states in which they conduct operations. Red Bell and its affiliates provide real estate brokerage services in all 50 states and the District of Columbia, and they and their designated brokers are required to hold licenses and conduct their brokerage business in conformity with the applicable license laws and administrative regulations of the states in which they are conducting their business. ValuAmerica and its affiliates provide title services and serve as an appraisal management company. These entities are required to hold the applicable required licenses in the jurisdictions where they operate their business. Title insurance agency licensing is primarily regulated by states in which the services are being offered, with licensing and registration typically within the jurisdiction of each state's department of insurance. ValuAmerica is domiciled and licensed in Pennsylvania as a resident title insurance agency and, together with its affiliates, is licensed in 28 additional states. Real estate appraisal management statutes and regulations vary from state to state, but generally grant broad supervisory powers to agencies or officials to examine companies and enforce rules. While these businesses are generally state regulated, the Dodd-Frank Act established minimum requirements to be implemented by states regarding the registration and supervision of appraisal management companies. Most states have based their legislation on model legislation developed by the Appraisal Institute for the registration and oversight of appraisal management companies. ValuAmerica and its affiliates are licensed to provide their appraisal management services in 37 states.

Radian Clayton Services LLC provides third party underwriting services to lenders, including services that may be deemed loan origination activities as defined by the SAFE Act (discussed below) and state law equivalents. This entity and its employees that provide our contract underwriting services are compliant with the SAFE Act in all 50 states and the District of Columbia. See “—Federal Regulation—The Secure and Fair Enforcement for Mortgage Licensing Act (“SAFE Act”).”

Our valuation subsidiaries are also subject to comprehensive oversight by the states in which they operate.

## GSE Requirements

As the largest purchasers of conventional mortgage loans, and therefore, the main beneficiaries of private mortgage insurance, the GSEs impose eligibility requirements that private mortgage insurers must satisfy in order to be approved to insure loans purchased by the GSEs.

PMIERS - Private Mortgage Insurer Eligibility Requirements. In order to be eligible to insure loans purchased by the GSEs, mortgage insurers such as Radian Guaranty must meet the GSEs' eligibility requirements, or PMIERS. The GSEs revised the PMIERS, effective December 31, 2015, with the aim of ensuring that approved insurers will possess the financial and operational capacity to serve as strong counterparties to the GSEs throughout various market conditions. The PMIERS are comprehensive, covering virtually all aspects of the business and operations of a private mortgage insurer, including internal risk management and quality controls, the relationship between the GSEs and the approved insurer and the approved insurer's financial condition. The PMIERS contain extensive requirements related to the conduct and operations of our mortgage insurance business, including operational requirements in areas such as claim processing, loss mitigation, document retention, underwriting, quality control, reporting and monitoring, among others. In addition, the GSEs have a broad range of consent rights under the PMIERS, and require private mortgage insurers to obtain the prior consent of the GSEs before taking certain actions such as paying dividends, entering into various inter-company agreements and commuting or reinsuring risk, among others. The GSEs have significant discretion under the PMIERS and may amend the PMIERS at any time.

The PMIERS Financial Requirements require that a mortgage insurer's Available Assets meet or exceed its Minimum Required Assets. Under the PMIERS, Radian Guaranty's Available Assets and Minimum Required Assets are determined on an aggregate basis, taking into account the assets and insured risk of Radian Guaranty and its exclusive affiliated reinsurers. Therefore, developments that impact the assets and insured risk of Radian Guaranty's exclusive affiliated reinsurers individually (such as capital contributions from Radian Group) also will impact the aggregate

Available Assets and Minimum Required Assets, and importantly, Radian Guaranty's compliance with the PMIERS Financial Requirements. The PMIERS Financial Requirements include more stringent financial requirements for defaulted loans, as well as loans with a higher likelihood of default and/or certain credit characteristics, such as higher LTVs and lower FICO scores, and for loans originated after January 1, 2016 that are insured under lender-paid mortgage insurance policies not subject to automatic termination under the HPA. Therefore, if our mix of business includes a higher percentage of loans that are subject to these increased financial requirements, it would increase the Minimum Required Assets and/or the amount of Available Assets that Radian Guaranty is required to hold.

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There continues to be some uncertainty regarding the amount of capital that private mortgage insurers, including Radian Guaranty, may require in the future in order to remain compliant with the PMIERS Financial Requirements. The PMIERS specifically provide for the factors that are applied to calculate and determine a mortgage insurer's Minimum Required Assets to be updated every two years following a minimum of 180 days' notice (with the next review scheduled to take place in 2017), or more frequently, as determined by the GSEs, to reflect changes in macroeconomic conditions or loan performance. In addition, as noted above, the GSEs may amend the PMIERS at any time and have broad discretion to interpret the requirements, which could impact the calculation of our Available Assets and/or Minimum Required Assets. We have entered into reinsurance transactions as part of our capital and risk management activities, including to manage Radian Guaranty's position under the PMIERS Financial Requirements, and the credit that we receive under the PMIERS Financial Requirements for these transactions is subject to the periodic review of the GSEs. In December 2016, the GSEs issued interim guidance for the industry that negatively impacted the amount of credit that we receive for our Single Premium QSR Transaction, but also gave credit to certain liquid investments that are readily available to pay claims that previously were not permitted to be included in our Available Assets. This interim guidance did not affect Radian Guaranty's compliance with the PMIERS. Radian Guaranty currently is an approved mortgage insurer under the PMIERS and is in compliance with the PMIERS Financial Requirements. If Radian Guaranty is not able to comply with the PMIERS in the future, it could lose its eligibility with the GSEs. See "Item 1A. Risk Factors—Radian Guaranty may fail to maintain its eligibility status with the GSEs."

**Other GSE Business Practices and Requirements.** The GSEs acting independently or through their conservator, the FHFA, have the ability to change their business practices and requirements in ways that impact our business. Recent examples of changes in the GSEs' business practices and requirements that have impacted our business are:

- implementation of new minimum requirements for master insurance policies for loans the GSEs acquire that include, among other requirements, specific standards for loss mitigation and claims processing activities;
- adoption of the PMIERS eligibility requirements for mortgage insurers, as discussed above; and
- changes in guarantee fees and loan-level price adjustments charged by the GSEs.

For additional information on changes in GSE business practices and requirements that could impact our business, see "Item 1A. Risk Factors—Changes in the charters, business practices, or role of the GSEs in the U.S. housing market generally, could significantly impact our mortgage insurance business."

#### Federal Regulation

##### Housing Finance Reform

Presently, the federal government plays a significant role in the U.S. housing finance system through, among other things, the involvement of the FHFA and GSEs, the FHA and the VA. There has been ongoing debate about the roles that the federal government and private capital should play in the housing finance system, and in recent years, there generally has been broad policy consensus that there is a need to increase the role of private capital.

Since FHFA was appointed as conservator of the GSEs in September 2008, there has been a wide range of legislative proposals to reform the U.S. housing finance market, including proposals for GSE reform ranging from some that advocate nearly complete privatization and elimination of the role of the GSEs to others that support a system that combines a federal role with private capital. It remains unclear whether housing finance reform legislation will be adopted, and if so, what form it may ultimately take, and the recent change in administration in the United States has increased this uncertainty.

The U.S. Treasury currently owns the preferred stock of the GSEs pursuant to the terms of the senior preferred stock purchase agreement and, under current law, is prohibited from selling its stake in the GSEs until January 1, 2018. Under the terms of the senior preferred stock purchase agreement, the GSEs are required to sweep all profits to the U.S. Treasury and retain zero capital beginning January 1, 2018, which could increase the need for further government assistance to the GSEs, and as a result, heighten the demand for housing finance reform legislation. It is possible that the U.S. Treasury could amend the terms of the senior preferred stock purchase agreement to permit the GSEs to



retain profits and recapitalize which could, in turn, affect the prospects for comprehensive housing finance reform legislation.

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In the absence of comprehensive housing finance reform legislation, the FHFA has made changes to the business and operations of the GSEs. As a mechanism for implementing changes, the FHFA most commonly uses the annual process of releasing a strategic plan for conservatorship and setting goals for the GSEs (the “Scorecard”) to meet as part of their on-going regulation. Among other things, the 2017 Scorecard includes goals to increase access to single-family mortgage credit for creditworthy borrowers and to finalize post-financial crisis loss mitigation activities. In addition, the 2017 Scorecard calls for the GSEs to transfer a meaningful portion of credit risk, also known as “credit risk transfer,” to the private sector. The mandate for meaningful credit risk transfer builds upon the goals set in each of the last three years for the GSEs to transfer portions of their mortgage credit risk to the private sector by experimenting with different forms of transactions and structures. Since 2013, the GSEs have engaged in roughly \$1.3 trillion of risk transfer transactions that occurred after the acquisition of residential mortgage loans (i.e., back-end risk transfer programs). In 2016, we participated in a new front-end credit risk transfer pilot program developed by Fannie Mae, as well as a similar pilot program developed by Freddie Mac. For more information about these pilot programs, see “Mortgage Insurance—Mortgage Insurance Business Overview—Mortgage Insurance Products—Non-Traditional Risk.” It is difficult to predict what other types of credit risk transfer transactions and structures might be used by the GSEs in the future. If any of the credit risk transfer transactions and structures that are being developed were to displace primary loan level, standard levels of mortgage insurance, the amount of insurance we write may be reduced. However, the GSEs also have solicited comments regarding the possibility of including additional mortgage insurance in excess of standard coverage amounts through a concept known as “deeper cover MI,” which could increase the amount of insurance we write. As a result, it is difficult to predict the impact of any credit risk transfer products and transactions implemented by the GSEs.

See “Item 1A. Risk Factors—Changes in the charters, business practices, or role of the GSEs in the U.S. housing market generally, could significantly impact our mortgage insurance business.” and “—Our mortgage insurance business faces intense competition.”

#### FHA

Private mortgage insurance competes with the single-family mortgage insurance programs of the FHA. As such, the FHA is one of our biggest competitors. We compete on the basis of loan limits, pricing, credit guidelines, terms of our insurance policies and loss mitigation practices. Since the financial crisis, the loan limits for FHA-insured loans and the loan limits for GSE conforming loans have been substantially the same. It is possible that, in the future, Congress could impose different loan limits for FHA loans than for GSE conforming loans as it has done in the past, which could impact the competitiveness of private mortgage insurance in relation to FHA programs.

Beginning in 2008, the FHA, which historically had not been a significant competitor, substantially increased its market share of the insured mortgage market. Since then, the private mortgage insurance industry generally had been recapturing market share from the FHA primarily due to: (i) improvements in the financial strength of private mortgage insurers; (ii) the development of new products and marketing efforts directed at competing with the FHA; (iii) increases in the FHA’s pricing; (iv) the U.S. government’s pursuit of legal remedies against FHA-approved lenders related to loans insured by the FHA; and (v) various policy changes at the FHA, including the general elimination of the premium cancellation provision. In January 2015, the FHA reduced its annual mortgage insurance premium by 50 basis points to approximately 85 basis points for loans entering the origination process on or after January 26, 2015, including refinancings. The FHA’s upfront mortgage insurance premium was not changed. The FHA’s pricing reduction in January 2015, combined with our premium changes in April 2016 to increase our pricing for borrowers with lower FICO scores has negatively impacted our ability to compete with the FHA on certain high-LTV loans to borrowers with FICO scores below 720. However, we believe that our pricing changes made during the first half of 2016 enable us to more effectively compete with the FHA on certain high-LTV loans to borrowers with FICO scores above 720. On January 9, 2017, the FHA announced another reduction of its annual mortgage insurance premium by 25 basis points. Before this reduction went into effect, the FHA announced that it was suspending the premium reduction indefinitely. It is unclear whether the reduction will ultimately be canceled or the suspension will be

removed.

In November 2016, the U.S. Department of Housing and Urban Development released its annual report to Congress on the financial condition of the FHA Mutual Mortgage Insurance Fund, which found that the FHA's single family mortgage and reverse mortgage insurance programs had recovered and now exceeded its minimum capitalization threshold for the second consecutive year. This development may put pressure on the FHA to further reduce premiums or implement changes to its current non-cancellation policy or other policies. Reductions in the FHA's annual premiums or changes to its policies may further impact our competitiveness with the FHA.

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Congress has been considering FHA reform in addition to GSE reform. Given that FHA and GSE reform have significant impacts on each other, as well as on borrower access to credit and the housing market more broadly, policymakers may consider both GSE reform and FHA reform together. It is unclear whether FHA reform legislation will be adopted and, if so, what provisions it might ultimately contain. If legislative changes to the FHA and GSEs are not made contemporaneously, there is a possibility that the relative competitiveness of private mortgage insurance could be disadvantaged.

**The Dodd-Frank Act**

The Dodd-Frank Act mandates significant rulemaking by several regulatory agencies to implement its provisions. The Dodd-Frank Act established the CFPB to regulate the offering and provision of consumer financial products and services under federal law, including residential mortgages, and transferred authority to the CFPB to enforce many existing consumer related federal laws, including TILA and RESPA. Given the unified Republican control of the federal government, it is possible that provisions of the Dodd-Frank Act, including provisions relating to the structure and authority of the CFPB, may be subject to repeal or amendment. However, at this time we cannot predict what changes will be sought and, if adopted, how they will affect our businesses.

Among the most significant provisions for private mortgage insurers under the Dodd-Frank Act are the ability to repay mortgage provisions (“Ability to Repay Rule”), the securitization risk retention provisions and the expanded mortgage servicing requirements under TILA and RESPA.

**Qualified Mortgage Requirements - Ability to Repay Requirements.** The Ability to Repay Rule requires mortgage lenders to make a reasonable and good faith determination that, at the time the loan is consummated, the consumer has a reasonable ability to repay the loan. The Dodd-Frank Act provides that a creditor may presume that a borrower will be able to repay a loan if the loan has certain low-risk characteristics that meet the definition of a qualified mortgage or “QM.”

The CFPB established rigorous underwriting and product feature requirements for the loans to be deemed QM. Within those regulations, the CFPB created a special exemption for Fannie Mae and Freddie Mac for a period ending upon the earlier of the end of conservatorship or January 10, 2021, which allows any loan that meets the GSE underwriting and product guidelines to be a QM.

The Dodd-Frank Act also granted the FHA, VA and the U.S. Department of Agriculture (“USDA”) flexibility to establish their own definitions of QM for their insurance guaranty programs. Both the FHA and VA have created their own definition of QM that differ from both the CFPB’s definition and the current underwriting and product guidelines at the GSEs that are subject to the special exemption. These alternate definitions of QM are more favorable to lenders and mortgage holders than the CFPB QM Rule that applies to the GSEs and the markets in which we operate, which could drive business to these agencies and have a negative impact on our mortgage insurance business.

**Qualified Residential Mortgage Regulations - Securitization Risk Retention Requirements.** The Dodd-Frank Act requires securitizers to retain at least 5% of the credit risk associated with mortgage loans that they transfer, sell or convey, unless the mortgage loans are qualified residential mortgages (“QRMs”) or are insured by the FHA or another federal agency. Under applicable federal regulations, a QRM is generally defined as a mortgage meeting the requirements of a qualified mortgage under the CFPB’s QM rule described above. Because of the capital support provided by the U.S. government to the GSEs, the GSEs satisfy the proposed risk retention requirements of the Dodd-Frank Act while they are in conservatorship, so sellers of loans to the GSEs currently are not be subject to the risk retention requirements referenced above. This means that securitizers would not be required to retain risk under the final QRM rule on loans that are guaranteed by the GSEs while in conservatorship. The final rule requires the agencies that implemented the rule to review the QRM definition no later than four years after its effective date (i.e., December 2018) and every five years thereafter, and allows each agency to request a review of the definition at any time.

**Mortgage Servicing Rules.** The Dodd-Frank Act amended and expanded upon mortgage servicing requirements under TILA and RESPA. The CFPB amended Regulation Z (promulgated under TILA) and Regulation X (promulgated

under RESPA) to conform these regulations to the new statutory requirements. Among other things, the rules include new or enhanced requirements for handling loans that are in default. Complying with the mortgage servicing rules has been challenging and costly for many loan servicers. Since the final rules were adopted in 2014, the CFPB has clarified those rules through subsequent rulemakings and provided guidance on how servicers must apply them in certain circumstances. In August 2016 the CFPB finalized its latest rulemaking and updated its mortgage servicing rules. Among its products and services, our Services business provides services to financial institutions that are focused on evaluating compliance with and establishing processes and procedures to implement compliance with national and state servicing standards, including the CFPB's mortgage servicing regulations.

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Other. In addition to the foregoing, the Dodd-Frank Act establishes a Federal Insurance Office within the U.S. Treasury (the “FIO”). While the FIO does not have a general supervisory or regulatory authority over the business of insurance, the director of this office performs various functions with respect to insurance, such as serving as a non-voting member of the Financial Stability Oversight Council. In December 2013, the FIO published a study on how to modernize and improve the system of insurance regulation in the U.S., which recommended the development and implementation of federal oversight for private mortgage insurers. In its 2015 annual report to Congress, the FIO again recommended federal enforcement of federal standards for the mortgage insurance industry, however this recommendation was not included in the FIO’s 2016 annual report. It is difficult to predict whether legislators or other executive agencies will pursue the development and implementation of federal standards for the mortgage insurance industry. However, to the extent these recommendations are acted upon by legislators or other executive action, a divergence from the current system of state regulation could significantly change compliance burdens and possibly impact our financial condition.

**RESPA**

Settlement service providers in connection with the origination or refinance of a federally regulated mortgage loan are subject to RESPA. Under the Dodd-Frank Act, the authority to implement and enforce RESPA was transferred to the CFPB. RESPA authorizes the CFPB, the U.S. Department of Justice, state attorneys general and state insurance commissioners to bring civil enforcement actions, and also provides for criminal penalties and private rights of action. Mortgage insurance is considered to be a settlement service for purposes of RESPA under applicable regulations. As a result, mortgage insurers are subject to the anti-referral fee provisions of Section 8 of RESPA which, among other things, generally provide that mortgage insurers are prohibited from paying or accepting anything of value in connection with the referral of a settlement service. Our acquisition of Clayton in 2014 has enhanced the suite of both settlement and non-settlement services available to our customers, including real estate, valuation, appraisal, title and closing services through Clayton’s Red Bell and ValuAmerica subsidiaries. To the extent any of these services are settlement services for purposes of RESPA, the “anti-referral fee” and “anti-kickback” provisions of Section 8 of RESPA may apply and it could impact how these services are marketed and sold individually or together with the mortgage insurance we offer.

In the past, we and other mortgage insurers have faced lawsuits alleging, among other things, that our captive reinsurance arrangements constituted unlawful payments to mortgage lenders under RESPA. We also have been subject to lawsuits alleging that our Pool Insurance and contract underwriting services violated RESPA. In addition, we and other mortgage insurers have been subject to inquiries and investigative demands from state and federal governmental agencies, including the CFPB, requesting information relating to captive reinsurance. In April 2013, we reached a settlement with the CFPB that concluded its investigation with respect to Radian Guaranty without any findings of wrongdoing. As part of the settlement, Radian Guaranty paid a civil penalty and agreed that it would not enter into any new captive reinsurance agreement or reinsure any new loans under any existing captive reinsurance agreement for a period of 10 years ending in 2023. In June 2015, Radian Guaranty executed a Consent Order with the Minnesota Department of Commerce that resolved the Minnesota Department of Commerce’s outstanding inquiries related to captive reinsurance arrangements involving mortgage insurance in Minnesota without any findings of wrongdoing. As part of the Consent Order, Radian Guaranty paid a civil penalty and agreed not to enter into new captive reinsurance arrangements until June 2025. We have not entered into any new captive reinsurance arrangements since 2007.

The CFPB amended Regulations X and Z to establish significant new disclosure requirements and forms in Regulation Z for most closed-end consumer credit transactions secured by real property through a regulation known as the “TRID rule” that became effective October 3, 2015. The TRID rule mandates that a series of enhanced disclosures be provided to consumers in connection with the origination of most types of residential mortgage loans. The increased burden on loan originators to implement and comply with the TRID rule has resulted in a slowdown in the volume of newly originated loans and resulted in delays in the closing of mortgage loans. In addition, difficulties

implementing the new disclosure rules and uncertainty with respect to certain aspects of the TRID rule, including uncertainty as to whether a closed loan fully complies with the TRID rule requirements, has had a negative impact on the purchase of loans in the secondary market by private investors which negatively impacted the number of transactions available for the loan review, underwriting and due diligence services offered by our Services segment in the first half of 2016. In July 2016, the CFPB issued proposed amendments to the TRID rule that would formalize CFPB guidance and provide greater clarity and certainty for market participants. We believe that the guidance that has been provided by the CFPB, together with the proposed amendments, will reduce the uncertainty and remove the impediments to originating new loans that followed the implementation of the TRID rule.

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Homeowner Assistance Programs

The Emergency Economic Stimulus Act of 2008 (“EESA”) included a requirement to “maximize assistance to homeowners and encourage mortgage servicers to take advantage of available programs (including the Hope for Homeowners program) to minimize foreclosures.” In 2008, the U.S. Treasury announced the Homeowner Affordability and Stability Plan to restructure or refinance mortgages to avoid foreclosures through: (i) refinancing mortgage loans through HARP; (ii) modifying first- and Second-lien mortgage loans through HAMP and the Second Lien Modification Program; and (iii) offering other alternatives to foreclosure through the Home Affordable Foreclosure Alternatives Program (“HAFA”). Details of these programs are as follows:

In 2009, the GSEs began offering HARP, a program which allows a borrower who is not delinquent to refinance his or her mortgage to a more stable or affordable loan if such borrower has been unable to take advantage of lower interest rates because his or her home has decreased in value. HARP, as subsequently modified by HARP 2, was extended to December 31, 2015, for loans that were originated or acquired by the GSEs by or before May 30, 2009. The program has again been extended and is now scheduled to terminate by September 30, 2017. In addition, the GSEs are planning to offer a new streamlined refinance offering to replace HARP. The new program is aimed at borrowers with high-LTVs and, similar to HARP, the new program is expected to offer refinance options for non-delinquent borrowers.

In February 2009, the U.S. Treasury established HAMP as a program to modify certain loans to make them more affordable to borrowers, with the goal of reducing the number of foreclosures. Under HAMP, an eligible borrower’s monthly payments may be lowered by lowering interest rates, extending the term of the mortgage or deferring principal. The HAMP program ended December 31, 2016. HAMP has been replaced with the “Flex Modification” program that is expected to become effective in October 2017 and will offer payment relief similar to HAMP.

The U.S. Treasury also has developed uniform guidance for loan modifications to be used by participating servicers in the private sector. The GSEs have incorporated material aspects of these guidelines for loans that they own and loans backing securities that they guarantee.

See “Item 1A. Risk Factors—Foreclosure prevention and borrower relief programs may not continue to provide us with a material benefit.”

The Secure and Fair Enforcement for Mortgage Licensing Act (“SAFE Act”)

The SAFE Act and its state law equivalents require mortgage loan originators to be licensed with state agencies in the states in which they operate and/or registered with the Nationwide Mortgage Licensing System and Registry (the “Registry”). The Registry is a database established by the Conference of State Bank Supervisors and the American Association of Residential Mortgage Regulators that tracks the licensing and eligibility requirements of loan originators. Among other things, the database was established to support the licensing of mortgage loan originators by each state. As part of this licensing and registration process, loan originators who are employees of institutions other than depository institutions or certain of their subsidiaries that, in each case, are regulated by a federal banking agency, must generally be licensed under the SAFE Act guidelines enacted by each state in which they engage in loan origination activities and registered with the Registry. The entity and its employees that provide our contract underwriting services are compliant with the SAFE Act in all 50 states and the District of Columbia.

Mortgage Insurance Cancellation

The HPA imposes certain cancellation and termination requirements for borrower-paid private mortgage insurance and requires certain disclosures to borrowers regarding their rights under the law. The HPA also requires certain disclosures for loans covered by lender-paid private mortgage insurance. Specifically, the HPA provides that private mortgage insurance on most loans originated on or after July 29, 1999 may be cancelled at the request of the borrower once the LTV reaches 80% of the original unpaid principal balance, provided that certain conditions are satisfied. Under HPA, private mortgage insurance must be canceled automatically once the LTV reaches 78% of the unpaid principal balance (or, if the loan is not current on that date, on the date that the loan becomes current).





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The HPA establishes special rules for the termination of private mortgage insurance in connection with loans that are “high risk.” The HPA does not define “high risk” loans, but leaves that determination to the GSEs for loans up to the GSE conforming loan limits and to lenders for any other loan. For “high risk” loans above the GSE conforming loan limits, private mortgage insurance must be terminated on the date that the LTV is first scheduled to reach 77% of the unpaid principal balance. In no case, however, may private mortgage insurance be required beyond the midpoint of the amortization period of the loan if the borrower is current on the payments required by the terms of the mortgage.

#### The Fair Credit Reporting Act

The FCRA imposes restrictions on the permissible use of credit report information. FCRA has been interpreted by some Federal Trade Commission staff to require mortgage insurance companies to provide “adverse action” notices to consumers in the event an application for mortgage insurance is declined on the basis of a review of the consumer’s credit.

#### Privacy and Information Security - Gramm-Leach-Bliley Act of 1999 (the “GLBA”) and Other Regulatory Requirements

As part of our business, we, and certain of our subsidiaries and affiliates, maintain large amounts of confidential information, including non-public personal information on consumers and our employees. We and our customers are subject to a variety of privacy and information security laws and regulations. The GLBA imposes privacy requirements on financial institutions, including obligations to protect and safeguard consumers’ nonpublic personal information and records, and limitations on the re-use of such information. The GLBA is enforced by state insurance regulators and by federal regulatory agencies. In addition, many states have enacted privacy and data security laws that impose compliance obligations beyond GLBA, including obligations to provide notification in the event that a security breach results in a reasonable belief that unauthorized persons may have obtained access to consumer nonpublic personal information.

Federal and state agencies have increased their focus on compliance obligations related to privacy, data security and cybersecurity. The CFPB, Office of the Comptroller of the Currency and non-governmental regulatory agencies, such as the Financial Industry Regulatory Authority (FINRA), have announced new compliance measures and enforcement efforts designed to monitor and regulate the protection of personal consumer data, including with respect to: the development and delivery of financial products and services; underwriting; mortgage servicing; credit reporting; digital payment systems; and vendor management. For information regarding the New York Department of Financial Services cybersecurity regulations see “—State Regulation—Cybersecurity.”

#### Asset Backed Securitizations

Our Services business provides services to issuers of and investors in asset backed securitizations and similar transactions. As a result, regulations impacting the asset backed securitization market may impact our Services business directly, or indirectly through the regulation of our Services customers.

In August 2014, the SEC adopted final rules under Regulation AB that substantially revise the offering process, disclosure and reporting requirements for offerings of ABS. The Regulation AB II rules implement several key areas of reform. Specifically, Regulation AB II introduces several new requirements related to public offerings of ABS, including the following that are significant for our Services business:

- Asset-level disclosure requirements for ABS backed by residential mortgage loans, commercial mortgage loans, automobile loans or leases, re-securitizations of ABS backed by any of those asset types, and debt securities; and
- A requirement that the transaction documents provide for the appointment of an “asset representations manager” to review the pool assets when certain trigger events occur.

In June 2015 the final credit rating agency reform rules issued by the SEC became effective. The new NRSRO rules include requirements that are applicable to providers of third-party due diligence services (such as our Services business) for both publicly and privately issued Exchange Act-ABS. Among other things, the new NRSRO rules require that any issuer or underwriter of registered or unregistered ABS that are to be rated by a NRSRO furnish a form filed on the SEC’s EDGAR system that describes the findings and conclusions of any third-party due diligence

report obtained by the issuer or underwriter. In addition, the rule requires that a due diligence firm (such as our Services business) that is engaged to perform services in connection with any rated ABS issuance furnish a form that describes the scope of due diligence services performed and a summary of their findings and conclusions; this form is required to be posted on the ABS issuer's password-protected website.

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Mortgage Insurance Tax Deduction

In December 2015, Congress once again temporarily extended the tax deduction available to certain individuals, subject to income limitations, for the payment of mortgage insurance premiums. Under that legislation, the deduction is allowable for filers for the 2015 and 2016 tax years. However, the tax deduction for mortgage insurance premiums expired on December 31, 2016 when Congress failed to extend any temporary tax deductions. There are pending legislative efforts to make this tax deduction a permanent part of the Internal Revenue Code, but to date this has not been enacted. It is difficult to predict whether the deduction will be further extended in the future or if legislation to make the deduction permanent will become law.

Basel III

Over the past few decades, the Basel Committee on Banking Supervision has established international benchmarks for assessing banks' capital adequacy requirements. Included within those benchmarks are capital standards related to the residential lending and securitization activity and importantly for private mortgage insurers, the treatment of mortgage insurance on those loans. These benchmarks are then interpreted and implemented via rulemaking by U.S. banking regulators.

In December 2014, the Basel Committee on Banking Supervision issued a proposal for further revisions to Basel III. It proposed adjustments to the risk weights for residential mortgage exposures that take into account LTV and the borrower's ability to service a mortgage. The proposed LTV ratio did not take into consideration any credit enhancement, including private mortgage insurance. The comment period for this proposal closed in March 2015, and in December 2015, the Basel Committee on Banking Supervision released a second proposal that retained the LTV provisions of the initial draft, but not the debt servicing coverage ratios. The comment period for the 2015 proposal closed in March 2016.

In July 2013, U.S. banking regulators promulgated regulations to implement significant elements of the Basel framework, referred to as "Basel III." In that rulemaking, there is a five year phase-in period that started tolling in January 2014. Today, the current capital regime under Basel III for U.S. banks assigns a 50% or 100% risk weight to one- to four-unit residential mortgage exposures. Generally, residential mortgage exposures that are prudently underwritten and performing receive a 50% risk weight, while all other residential mortgage exposures are assigned a 100% risk weight. In March 2015, the U.S. banking regulators clarified that LTV ratios can account for credit enhancement such as private mortgage insurance in determining whether a loan is made in accordance with prudent underwriting standards for purposes of receiving the preferred 50% risk weight.

Following consideration of the comments received, it is possible that newly revised risk weighting guidelines from the Basel Committee on Banking Supervision may be proposed and that the U.S. banking regulators may consider changes to the existing rules. It is unclear whether new guidelines will be proposed or finalized.

See "Item 1A. Risk Factors—The implementation of the Basel III guidelines may discourage the use of mortgage insurance."

Foreign Regulation

By reason of Radian Insurance's authorization, in September 2006, to conduct insurance business through a branch in Hong Kong, we are subject to regulation by the Hong Kong Insurance Authority ("HKIA"). The HKIA's principal purpose is to supervise and regulate the insurance industry, primarily for the protection of policyholders and the stability of the industry. Hong Kong insurers are required by the Insurance Companies Ordinance to maintain minimum capital as well as an excess of assets over liabilities of not less than a required solvency margin, which is determined on the basis of a statutory formula. Foreign-owned insurers are also required to maintain assets in Hong Kong in an amount sufficient to ensure that assets will be available in Hong Kong to meet the claims of Hong Kong policyholders if the insurer should become insolvent.

Employees

At December 31, 2016, we had 1,971 employees, which consists of individuals employed by Radian Group and its subsidiaries. Management considers employee relations to be good.

## Part 1 Item 1A. Risk Factors

## Item 1A. Risk Factors.

Radian Guaranty may fail to maintain its eligibility status with the GSEs.

In order to be eligible to insure loans purchased by the GSEs, mortgage insurers such as Radian Guaranty must meet the GSEs' eligibility requirements, or PMIERS, which became effective December 31, 2015. The PMIERS aim to ensure that approved insurers will possess the financial and operational capacity to serve as strong counterparties to the GSEs throughout various market conditions. As a consequence, the PMIERS are comprehensive, covering virtually all aspects of the business of a private mortgage insurer, including internal risk management and quality controls, the relationship between the GSEs and the approved insurer and the approved insurer's financial condition, as well as extensive requirements related to the conduct and operations of a mortgage insurer's business. In addition, the PMIERS require private mortgage insurers to obtain the prior consent of the GSEs before taking certain actions. The GSEs have significant discretion under the PMIERS and may amend the PMIERS at any time. If Radian Guaranty is unable to satisfy the requirements set forth in the PMIERS, Freddie Mac and/or Fannie Mae could restrict it from conducting certain types of business with them or take actions that may include not purchasing loans insured by Radian Guaranty.

The PMIERS Financial Requirements require that a mortgage insurer's Available Assets (as defined, these primarily include liquid assets and exclude Unearned Premium Reserves) meet or exceed its Minimum Required Assets (a risk-based minimum required asset amount calculated based on net RIF, and which is intended to approximate the loss exposure based on a variety of criteria that are indicative of credit quality). At December 31, 2016, Radian Guaranty was in compliance with the PMIERS Financial Requirements and had Available Assets under the PMIERS of approximately \$4.0 billion, which resulted in an excess or "cushion" of approximately \$210.0 million over its Minimum Required Assets of approximately \$3.8 billion. Radian Guaranty's ability to continue to comply with the PMIERS Financial Requirements could be impacted by: (i) the product mix of our NIW and factors affecting the performance of our mortgage insurance business, including our level of defaults, prepayments, the losses we incur on new or existing defaults and the credit characteristics of our mortgage insurance; (ii) the amount of credit that we receive under the PMIERS Financial Requirements for our third-party reinsurance transactions, including our QSR Transactions and our Single Premium QSR Transaction, which credit is subject to periodic review by the GSEs; and (iii) the possibility that the GSEs will increase the capital requirements under the PMIERS Financial Requirements, given that the PMIERS provide for the factors used to determine a mortgage insurer's Minimum Required Assets to be updated every two years (with the next review scheduled to take place in 2017) or more frequently, as determined by the GSEs, to reflect changes in macroeconomic conditions or loan performance.

In December 2016, the GSEs issued interim guidance for the industry that had a negative impact on the amount of PMIERS credit that we receive for our Single Premium QSR Transaction, but also gave credit to certain liquid investments that are readily available to pay claims that previously were not permitted to be included in our Available Assets. Although this interim guidance did not impact Radian Guaranty's compliance with the PMIERS, there can be no assurance that Radian Guaranty's compliance with the PMIERS Financial Requirements will not be impacted by future changes in interpretation of the PMIERS.

Compliance with the PMIERS Financial Requirements could impact our holding company liquidity. If additional cash from Radian Group is required to support Radian Guaranty's compliance with the PMIERS Financial Requirements, it will leave less liquidity to satisfy Radian Group's other obligations. Depending on the amount of liquidity that is utilized from Radian Group, we may be required (or may decide) to seek additional capital by incurring additional debt, issuing additional equity, or selling assets, which we may not be able to do on favorable terms, if at all.

The PMIERS Financial Requirements are more stringent than previous capital standards and have negatively impacted projected returns on capital throughout the industry. Compliance with the PMIERS Financial Requirements could impact our NIW and further impact our returns to the extent they are revised. In addition, under the PMIERS Financial Requirements there are increased financial requirements for loans with a higher likelihood of default and/or certain credit characteristics, as well as for loans originated after January 1, 2016 that are insured under lender-paid mortgage

insurance policies not subject to automatic termination under the HPA. Therefore, if our mix of business includes more loans that are subject to these increased financial requirements, it would increase the amount of Available Assets that Radian Guaranty is required to hold. As a result, depending on the circumstances, we may limit the type and volume of business we are willing to write for certain of our products based on the increased financial requirements associated with certain loans. This could reduce the amount of NIW we write, which could reduce our revenues.

## Part 1 Item 1A. Risk Factors

Compliance with the PMIERS has resulted in additional expenses and has required significant time and attention. In addition to the PMIERS Financial Requirements, the PMIERS contain new requirements related to the operations of our mortgage insurance business, including extensive operational requirements in areas such as claim processing, loss mitigation, document retention, underwriting, quality control, reporting and monitoring, among others. These increased operational requirements have resulted in additional expenses and have required substantial time and effort from management and our employees, which we expect will continue.

Compliance with the PMIERS requires us to seek GSE approval before taking many actions, such as paying dividends, entering into various inter-company agreements and commuting or reinsuring risk, among others. These restrictions could prohibit or delay Radian Guaranty from taking certain actions that would be advantageous to it or its affiliates. Although we expect Radian Guaranty to retain its eligibility status with the GSEs and to continue to comply with the PMIERS Financial Requirements, we cannot provide assurance that this will occur. Loss of Radian Guaranty's eligibility status with the GSEs would have an immediate and material adverse impact on the franchise value of our mortgage insurance business and our future prospects, as well as a material negative impact on our future results of operations and financial condition.

Our insurance subsidiaries are subject to comprehensive state insurance regulations and other requirements, which we may fail to satisfy.

We and our insurance subsidiaries are subject to comprehensive, detailed regulation by the insurance regulators in the states where they are licensed to transact business. These regulations are principally designed for the protection of our insurance policyholders rather than for the benefit of investors. Insurance laws vary from state to state, but generally grant broad supervisory powers to examine insurance companies and enforce rules or exercise discretion affecting almost every significant aspect of the insurance business, including the power to revoke or restrict an insurance company's ability to write new business.

Among other matters, the state insurance regulators impose various capital requirements on our insurance subsidiaries. These include risk-to-capital ratios, other risk-based capital measures and surplus requirements that may limit the amount of insurance that our insurance subsidiaries write. Our failure to maintain adequate levels of capital, among other things, could lead to intervention by the various insurance regulatory authorities, which could materially and adversely affect our business, business prospects and financial condition.

If Radian Guaranty is not in compliance with a state's applicable Statutory RBC Requirement, it may be prohibited from writing new business in that state until it is back in compliance or it receives a waiver of, or similar relief from, the requirement. In those states that do not have a Statutory RBC Requirement, it is not clear what actions the applicable state regulators would take if a mortgage insurer fails to meet the Statutory RBC Requirement established by another state. As of December 31, 2016, Radian Guaranty was in compliance with all applicable Statutory RBC Requirements; however, if Radian Guaranty were to fail to meet the Statutory RBC Requirement in one or more states, it could be required to suspend writing business in some or all of the states in which it does business. In addition, the GSEs and our mortgage lending customers may decide not to conduct new business with Radian Guaranty (or may reduce current business levels) or impose restrictions on Radian Guaranty while it was not in compliance. The franchise value of our mortgage insurance business likely would be significantly diminished if we were prohibited from writing new business or restricted in the amount of new business we could write in one or more states.

Radian Group also may be required to provide capital support for Radian Guaranty and its affiliated insurers if additional capital is required by those subsidiaries pursuant to future changes to insurance laws and regulations. The NAIC is in the process of reviewing the minimum capital and surplus requirements for mortgage insurers and considering changes to the Model Act. While the timing and outcome of this process is not known, in the event the NAIC adopts changes to the Model Act, we expect that the capital requirements in states that adopt the new Model Act may increase as a result of the changes. Although the outcome of this process remains uncertain, we believe that if changes are made to the Model Act it will not result in financial requirements that require greater capital than the level



currently required under the PMIERS Financial Requirements.

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## Part 1 Item 1A. Risk Factors

Our insurance subsidiaries' premium rates and policy forms are generally subject to regulation in every state in which they are licensed to transact business. These regulations are intended to protect policyholders against the adverse effects of excessive, inadequate or unfairly discriminatory rates and to encourage competition in the insurance marketplace. In most states where our insurance subsidiaries are licensed, premium rates and policy forms must be filed with the state insurance regulatory authority and, in some states, must be approved, before their use. The mortgage insurance industry has always been highly competitive with respect to pricing. In the recent past, the willingness of mortgage insurers to offer reduced pricing (whether through filed or customized rates) led to an increased demand from certain lenders for reduced rate products. We and other mortgage insurers have been subject to inquiries from the Wisconsin Department of Insurance and examination by the California Department of Insurance regarding customized insurance rates and policy form filings. In 2016, the California Department of Insurance issued guidance to the mortgage insurance industry stating that under California law, permissible discounting of mortgage insurance rates must be applied to all similarly situated customers. The current regulatory environment could increase the likelihood that additional regulatory inquiries or examinations may be initiated. The limited flexibility currently provided under existing regulatory requirements with respect to insurance rates makes it more difficult to respond to competitor pricing actions and customer demands in a timely fashion. We could lose business opportunities if we are unable to respond to competitor pricing actions and our customers' demands in a timely and acceptable manner. The credit performance of our insured portfolio is impacted by macroeconomic conditions and specific events that affect the ability of borrowers to pay their mortgages.

As a seller of mortgage credit protection and mortgage and real estate products and services, our results are subject to macroeconomic conditions and specific events that impact the mortgage origination environment and the credit performance of our underlying insured assets. Many of these conditions are beyond our control, including national and regional economic conditions, housing prices, unemployment levels, interest rate changes, the availability of credit and other factors. In general, a deterioration in economic conditions increases the likelihood that borrowers will be unable to satisfy their mortgage obligations and can also adversely affect housing values, which in turn can influence the willingness of borrowers to continue to make mortgage payments despite having the financial resources to do so. Mortgage defaults also can occur due to a variety of specific events affecting borrowers, including death or illness, divorce or other family problems, unemployment, increases in the interest rates of adjustable rate mortgages, changes in regional economic conditions, a borrower choosing not to pay due to housing value changes that cause the outstanding mortgage amount to exceed the value of a home, or other events. In addition, natural disasters, acts of terrorism, war or other severe conflicts, event-specific economic depressions or other catastrophic events could result in increased defaults due to the impact of such events on the ability of borrowers to satisfy their mortgage obligations and the value of affected homes.

Unfavorable macroeconomic developments and the other factors cited above could have a material negative impact on our results of operations and financial condition.

The length of time that our mortgage insurance policies remain in force could decline and result in a decrease in our revenue.

As of December 31, 2016, 68% of our total primary IIF consists of policies for which we expect to receive premiums in the future, typically through Monthly Premium Policies. As a result, most of our earned premiums are derived from insurance that was written in prior years. The length of time that this insurance remains in force, which we refer to as the Persistency Rate, is a significant determinant of our future revenues. A lower Persistency Rate could reduce our future revenues. The factors affecting the length of time that our insurance remains in force include:

prevailing mortgage interest rates compared to the mortgage rates on our IIF, which affects the incentive for borrowers to refinance (i.e., lower current interest rates make it more attractive for borrowers to refinance and receive a lower interest rate);

applicable policies for mortgage insurance cancellation, along with the current value of the homes underlying the mortgages in our IIF;

the mix of business we write between Single Premium Policies (for which a lower Persistency Rate has a positive effect on future revenues) and those policies that provide for a premium stream in the future, such as our Monthly Premium Policies (for which a lower Persistency Rate has a negative effect on future revenues);  
the credit policies of lenders, which may make it more difficult for homeowners to refinance loans; and  
economic conditions that can affect a borrower's decision to pay-off a mortgage earlier than required.

Part 1 Item 1A. Risk Factors

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If these or other factors cause the length of time that our policies remain in force to decline, our future revenues could be negatively impacted, which could negatively impact our results of operations and financial condition.

Our Loss Mitigation Activity is not expected to mitigate losses to the same extent as in prior years; Loss Mitigation Activity could continue to negatively impact our customer relationships.

As part of our claims management process we pursue opportunities to mitigate losses both before and after we receive claims. Following the financial crisis, our Loss Mitigation Activities, such as Rescissions, Claim Denials and Claim Curtailments, increased significantly in response to the poor underwriting, servicer negligence and general non-compliance with our insurance policies that was prevalent in the period leading up to the financial crisis. These Loss Mitigation Activities materially mitigated our paid losses during this period and resulted in a significant reduction in our loss reserves. As our Legacy Portfolio has become a smaller percentage of our overall insured portfolio and mortgage underwriting and servicing have generally improved, there has been a decrease in the amount of Loss Mitigation Activity required with respect to the claims we receive, and we expect this trend to continue. As a result, our future Loss Mitigation Activity is not expected to mitigate our paid losses to the same extent as in prior years.

In addition, under the new, uniform master policies developed with the GSEs in 2014, including our 2014 Master Policy for NIW after October 1, 2014, with only limited exceptions, the potential for Loss Mitigation Activity generally is more limited throughout the private mortgage insurance industry. Radian Guaranty also now offers 12-month and 36-month rescission relief programs in accordance with the specified terms and conditions set forth in the new 2014 Master Policy. Further, the FHFA and GSEs have initiated a process to revise the minimum standards for mortgage insurer master policies, including with respect to rescission relief, which we expect may be finalized during the second half of 2017. We expect that these factors will continue to contribute to a reduction in Loss Mitigation Activity.

Our Loss Mitigation Activities and claims paying practices have resulted in disputes with our customers and in some cases, damaged our relationships with certain customers, resulting in a loss of business. While we have resolved many of these disputes, a risk remains that our Loss Mitigation Activities or claims paying practices could continue to have a negative impact on our relationships with customers or potential customers. Further, disputes with our customers that are not resolved could result in additional arbitration or judicial proceedings beyond those we are currently facing. See “Item 3. Legal Proceedings.” To the extent that past or future Loss Mitigation Activities or claims paying practices impact our customer relationships, our competitive position could be adversely affected, resulting in the potential loss of business and impacting our results of operations.

Foreclosure prevention and borrower relief programs may not continue to provide us with a material benefit. The federal government and various lenders have adopted programs, such as HARP and HAMP, to modify loans to make them more affordable to borrowers with the goal of reducing the number of foreclosures. While the ultimate success of these loan modification programs will depend on the future re-default rates for loans that have been modified through these programs, we believe these programs have significantly benefited the composition and credit quality of our Legacy Portfolio. HAMP expired in December 2016 and was replaced with the “Flex Modification” program that is expected to become effective in October 2017 and will offer payment relief similar to HAMP. However, we do not expect to continue to materially benefit from these programs in the future because the number of loans remaining in our mortgage insurance portfolio that are eligible to complete a HARP refinance or other loan modification has substantially declined.

Changes in the charters, business practices, or role of the GSEs in the U.S. housing market generally, could significantly impact our mortgage insurance business.

Our current business model is highly dependent on the GSEs. The GSEs are the primary beneficiaries of most of our mortgage insurance policies, and they impose eligibility requirements that private mortgage insurers must satisfy to insure loans purchased by the GSEs. The GSEs’ federal charters generally require credit enhancement for low down payment mortgage loans (i.e., a loan amount that exceeds 80% of a home’s value) in order for such loans to be eligible

for purchase by them. Lenders generally have used mortgage insurance to satisfy this credit enhancement requirement. As a result, low down payment mortgages purchased by the GSEs generally are insured with private mortgage insurance.

## Part 1 Item 1A. Risk Factors

The GSEs' business practices may be impacted by their results of operations, as well as by legislative or regulatory changes. Since September 2008, the GSEs have been operating under the conservatorship of the FHFA. With respect to loans purchased by the GSEs, changes in the business practices of the GSEs which can be implemented by the GSEs acting independently or through the FHFA, could negatively impact our mortgage insurance business and financial performance, including changes to:

- eligibility requirements for a mortgage insurer to become and remain an approved eligible insurer for the GSEs;
- the underwriting standards on mortgages they purchase;
- policies or requirements that may result in a reduction in the number of mortgages they acquire;
- the national conforming loan limit for mortgages they acquire;
- the level of mortgage insurance required, including expanding the loans that are eligible for reduced insurance coverage;
- the terms on which mortgage insurance coverage may be canceled before reaching the cancellation thresholds established by law;
- the requirements for terms required to be included in master policies for the mortgage insurance policies they acquire;
- the process for claim payments and requirements for actions to be taken that are intended to avoid or mitigate loss on insured mortgages that are in default;
- the amount of LLPAs or guarantee fees (which may result in a higher cost to borrowers) that the GSEs charge on loans that require mortgage insurance; and
- the degree of influence that the GSEs have over a mortgage lender's selection of the mortgage insurer providing coverage.

The FHFA's 2017 strategic plan for the GSEs calls for the GSEs to transfer a meaningful portion of credit risk, known as "credit risk transfer," to the private sector. The mandate for meaningful credit risk transfer builds upon the goals set in each of the last three years for the GSEs to transfer portions of their mortgage credit risk to the private sector by experimenting with different forms of transactions and structures. Since 2013, the GSEs have engaged in roughly \$1.3 trillion of risk transfer transactions that occurred after the acquisition of residential mortgage loans (i.e., back-end risk transfer programs). In 2016, we participated in new, front-end credit risk transfer pilot programs developed by Fannie Mae and Freddie Mac. These pilot programs involve participation as part of a panel of mortgage insurance company affiliates in writing credit insurance policies on loans that are to be purchased by the GSEs in the future (i.e., front-end), subject to certain pre-established credit parameters. For additional information about these pilot programs see "Item 1. Business—Mortgage Insurance—Mortgage Insurance Business Overview—Mortgage Insurance Products—Non-Traditional Risk." We may participate in other credit risk transfer transactions and structures used by the GSEs in the future. It is difficult to predict what other types of transactions and structures may be used. If any of the credit risk transfer transactions and structures were to displace primary loan level, standard levels of mortgage insurance, the amount of insurance we write may be reduced which could negatively impact our franchise value, results of operations and financial condition. As a result, the impact of any credit risk transfer products and transactions implemented by the GSEs is uncertain and hard to predict.

Since the FHFA was appointed as conservator of the GSEs, there have been a wide range of legislative proposals to reform the U.S. housing finance market, including proposals for GSE reform ranging from some that advocate nearly complete privatization and elimination of the role of the GSEs to others that support a system that combines a federal role with private capital. The future structure of the residential housing finance system remains uncertain, including whether comprehensive housing reform legislation will be adopted and, if so, what form it may ultimately take, and the recent change in administration in the U.S. has increased this uncertainty. It is difficult to predict the impact of any changes on our business. See "Item 1. Business—Regulation—Federal Regulation—Housing Finance Reform." Although we believe that traditional private mortgage insurance will continue to play an important role in any future housing finance structure, new federal legislation could reduce the level of private mortgage insurance coverage used by the GSEs as credit enhancement, or even eliminate the requirement, which would significantly reduce our available

market, diminish the franchise value of our mortgage insurance business and materially and adversely affect our business prospects, results of operations and financial condition.

## Part 1 Item 1A. Risk Factors

A decrease in the volume of home mortgage originations could result in fewer opportunities for us to write new insurance business.

The amount of new business we write depends, among other things, on a steady flow of low down payment mortgages that benefit from our mortgage insurance. The volume of low down payment mortgage originations is impacted by a number of factors, including:

- restrictions on mortgage credit due to changes in lender underwriting standards, more restrictive regulatory requirements such as the required ability-to-pay determination prior to extending credit, and the significantly reduced private securitization market;
- home mortgage interest rates;
- the health of the domestic economy generally, as well as specific conditions in regional and local economies;
- housing affordability;
- tax laws and policies, including the deductibility of mortgage insurance premiums and mortgage interest payments;
- population trends, including the rate of household formation;
- the rate of home price appreciation;
- government housing policy encouraging loans to first-time homebuyers; and
- the practices of the GSEs, including the extent to which the guaranty fees, LLPAs, credit underwriting guidelines and other business terms provided by the GSEs affect lenders' willingness to extend credit for low down payment mortgages.

Although for the past several years, mortgage origination volumes have been supported by increased mortgage refinancings as a result of the low interest rate environment, as well as a recovery in the home purchase market, total domestic mortgage originations have decreased significantly from \$2.7 trillion in 2006 (pre-dating the housing downturn) to approximately \$1.9 trillion in 2016. Most industry experts are predicting that the overall mortgage origination market in 2017 will be lower compared to 2016, largely due to an expected decrease in refinancings as a result of higher interest rates, partially offset by an increase in mortgage origination volume from home purchases. If the overall volume of new mortgage originations continues to decline or remains at reduced levels for a prolonged period of time, we could experience a reduced opportunity to write new insurance business and likely will be subject to increased competition with respect to that opportunity, which could negatively affect our business prospects, results of operations and our financial condition.

Our NIW and franchise value could decline if we lose business from significant customers.

Our mortgage insurance business depends on our relationships with our customers. Our customers place insurance with us directly on loans that they originate and they also do business with us indirectly through purchases of loans that already have our mortgage insurance coverage. Our relationships with our customers may influence both the amount of business they do with us directly and also their willingness to continue to approve us as a mortgage insurance provider for loans that they purchase. The loss of business from significant customers could have an adverse effect on the amount of new business we are able to write, and consequently, our franchise value.

During 2016, our top 10 mortgage insurance customers (measured by NIW) were responsible for 31.7% of our primary NIW, as compared to 28.0% in 2015. Although we have taken steps in recent years to diversify our customer base, if we were to lose a significant customer, it is unlikely that the loss could be completely offset by other customers in the near-term, if at all. Some of our lending customers may decide to write business only with a limited number of mortgage insurers or only with certain mortgage insurers, based on their views with respect to an insurer's pricing, service levels, underwriting guidelines, loss mitigation practices, financial strength or other factors.

Alternatively, certain other lending customers have chosen for risk management purposes to diversify and expand the number of mortgage insurers with which they do business, which has negatively affected our level of NIW and market share with those customers. Given that many of our customers currently give us a significant portion of their total mortgage insurance business, it is possible that if there is further diversification it could have a negative impact on our NIW if we are unable to mitigate the market share loss through new customers or increases in business with other



customers. Any significant loss in our market share could negatively impact our mortgage insurance franchise, results of operations and financial condition.

## Part 1 Item 1A. Risk Factors

Our mortgage insurance business faces intense competition.

The U.S. mortgage insurance industry is highly competitive. Our competitors include other private mortgage insurers and governmental agencies, principally the FHA and VA.

We compete with other private mortgage insurers that are eligible to write business for the GSEs on the basis of price, underwriting guidelines, customer relationships, reputation, perceived financial strength (including based on credit ratings) and overall service, including services and products that complement our mortgage insurance products and that are offered through our Services business. Overall service competition is based on, among other things, effective and timely delivery of products, timeliness of claims payments, timely and accurate servicing of policies, training, loss mitigation efforts and management and field service expertise.

Pricing has always been competitive in the mortgage insurance industry and, with newer entrants joining the industry, price competition has continued as these companies have sought to gain a greater presence in the market and more established industry participants seek to defend their market share and customer relationships. As a result of this competitive environment, recent pricing trends have included: (i) the use of a spectrum of filed rates to allow for formulaic, risk-based pricing (commonly referred to as “black-box” pricing); (ii) the use of customized (often discounted) rates on lender-paid, Single Premium Policies and to a limited extent, on borrower-paid Monthly Premium Policies; and (iii) overall reductions in standard filed rates on borrower-paid Monthly Premium Policies. In the recent past, the willingness of mortgage insurers to offer reduced pricing (through filed or customized rates) led to an increased demand from certain lenders for reduced rate products. This further intensified the pricing environment and resulted in new pricing levels (whether through filed or customized rates) by private mortgage insurers in order to avoid risking a potential significant loss in NIW.

We monitor various competitive and economic factors while seeking to balance both profitability and market share considerations in developing our pricing and origination strategies. We have taken a disciplined approach to establishing our premium rates and writing a mix of business that we expect to produce our targeted level of returns on a blended basis and an acceptable level of NIW. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Mortgage Insurance—NIW, IIF, RIF.” Although we believe we are well-positioned to compete effectively, our pricing strategy may not be successful. Despite our pricing actions, we may experience returns below our targeted returns and we may lose business to other competitors. There can be no assurance that pricing competition will not intensify further, which could result in a decrease in projected returns for the industry and for Radian Guaranty.

Certain of our competitors are subsidiaries of larger corporations that may have access to greater amounts of capital and financial resources than we do at a lower cost of capital (including, as a result of tax-advantaged, off-shore reinsurance vehicles) and have better financial strength ratings than we have. As a result, they may be better positioned to compete outside of traditional mortgage insurance, including if the GSEs expand their use of or pursue alternative forms of credit enhancement. In addition, because of the current tax-advantage of being off-shore, certain of our competitors are able to achieve higher rates of return on the NIW they write compared to on-shore mortgage insurers such as Radian Guaranty, which could allow these off-shore competitors to leverage reduced pricing to gain market share, while continuing to achieve acceptable returns on NIW.

We also compete with governmental entities, such as the FHA and VA, that typically do not have the same capital requirements or business objectives that we and other private mortgage insurance companies have, and therefore, may have greater financial flexibility in their pricing guidelines and capacity that could put us at a competitive disadvantage. If these entities lower their pricing or alter the terms and conditions of their mortgage insurance or other credit enhancement products in furtherance of political, social or other goals rather than a profit motive, we may be unable to compete in that market effectively, which could have an adverse effect on our business, financial condition and operating results.

Beginning in 2008, the FHA, which historically had not been a significant competitor, substantially increased its share of the mortgage insurance market, including by insuring a number of loans that would meet our current underwriting

guidelines, sometimes at a lower monthly cost to the borrower than a loan that carries our mortgage insurance. While the private mortgage insurance industry generally had been recapturing market share from the FHA, in January 2015, the FHA reduced its annual mortgage insurance premium by 50 basis points, which has impacted our competitiveness with respect to certain high-LTV loans to borrowers with FICO scores below 720. Further, on January 9, 2017, the FHA announced another reduction of its annual mortgage insurance premium by 25 basis points. However, before this reduction went into effect, the FHA announced that it was suspending the premium reduction indefinitely. It is unclear whether the reduction will ultimately be canceled or the suspension will be removed. If the suspension is removed it could have a negative effect on our ability to compete with the FHA.

Part 1 Item 1A. Risk Factors

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The FHA may continue to maintain a strong market position and could increase its market position again in the future.

Factors that could cause the FHA to remain a significant competitor include:

- governmental policy, including further decreases in the pricing of FHA insurance or changes in the terms of such insurance;
  - capital constraints of the private mortgage insurance industry;
  - the tightening by private mortgage insurers of underwriting guidelines based on risk concerns;
  - increases in the LLPAs charged by the GSEs on loans that require mortgage insurance and changes in the amount of guarantee fees for the loans that they acquire (which may result in higher cost to borrowers); and
  - the perceived operational ease of using FHA insurance compared to the products of private mortgage insurers.
- Other private mortgage insurers may seek to regain market share from the FHA or other mortgage insurers by reducing pricing, which could, in turn, improve their competitive position in the industry and negatively impact our level of NIW.

We have faced increasing competition from the VA. Based on publicly available information, the VA accounted for 28% of the insurable mortgage market in 2016. We believe that the VA's market share has generally been increasing because the VA offers 100% LTV loans and charges a one-time funding fee that can be included in the loan amount with no additional monthly expense, and because of an increase in the number of borrowers that are eligible for the VA's program.

In addition, as market conditions change, alternatives to traditional private mortgage insurance may become more prevalent, which could reduce the demand for private mortgage insurance, including:

- lenders and other investors holding mortgages in their portfolio and self-insuring;
- lenders using pass-through vehicles that take on the risk of loss for loans ultimately sold to the GSEs;
- engaging in credit-linked note transactions or other structured risk transfer transactions in the capital markets;
- risk sharing, risk transfer or using other risk mitigation techniques in conjunction with reduced levels of private mortgage insurance coverage; and
- lenders originating mortgages using "piggyback" structures to avoid private mortgage insurance, such as a first-lien mortgage with an 80% LTV and a second mortgage with a 10%, 15% or 20% LTV, which could become more attractive because the tax deduction for mortgage insurance premiums has not been renewed beyond the 2016 tax year.

Managing the competitive environment is extremely challenging given the multitude of various factors discussed above. If we do not appropriately manage the strategic decisions required in this environment, our franchise value, business prospects, results of operations and financial condition could be negatively impacted.

Our business depends, in part, on effective and reliable loan servicing.

We depend on third-party servicing of the loans that we insure. Dependable servicing is necessary for timely billing and effective loss mitigation opportunities for delinquent or near-delinquent loans. Challenging economic and market conditions following the financial crisis strained the resources of servicers and negatively affected the ability of many servicers to effectively service the loans that we insured. We believe that servicers have improved their operations and standards in recent years; however, it is possible that another period of economic stress and high mortgage defaults could again negatively impact the servicing of our insured loans. Further, servicers are now required to comply with new and more burdensome requirements, procedures and standards for servicing residential mortgages. While these new requirements, which have been instituted by the CFPB and others following the financial crisis, are intended to improve servicing performance, they also impose a high cost of compliance on servicers that may impact their financial condition and their operating effectiveness. If we experience a disruption in the servicing of mortgage loans covered by our insurance policies, this, in turn, could contribute to a rise in defaults and/or claims among those loans, which could have a material adverse effect on our business, financial condition and operating results.



Part 1 Item 1A. Risk Factors

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An extension in the period of time that a loan remains in our delinquent loan inventory may increase the severity of claims that we ultimately are required to pay.

High levels of defaults and corresponding delays in foreclosures could delay our receipt of claims, resulting in an increase in the period that a loan remains in our delinquent loan inventory, and as a result, the severity of claims that we are ultimately required to pay. Following the financial crisis, the average time that it has taken for us to receive a claim has increased. This is, in part, due to loss mitigation protocols that were established by servicers and also to a significant backlog of foreclosure proceedings in many states, and especially in those states that impose a judicial process for foreclosures. Generally, foreclosure delays do not stop the accrual of interest or affect other expenses on a loan, and unless a loan is cured during such delay, once title to the property ultimately is obtained and a claim is filed, our paid claim amount may include additional interest and expenses, increasing the severity of claims we ultimately are required to pay. While foreclosure timelines have improved in recent years, a portion of our Legacy Portfolio consists of severely delinquent loans. Further, another period of significant economic stress and a high level of defaults could once again delay claims and result in higher levels of severity. Higher levels of severity would increase our incurred losses and could negatively impact our results of operations and financial condition.

Our success depends on our ability to assess and manage our underwriting risks; the premiums we charge may not be adequate to compensate us for our liability for losses and the amount of capital we are required to hold against our insured risks. We expect to incur future provisions for losses beyond what we have reserved for in our financial statements.

The estimates and expectations we use to establish premium rates are based on assumptions made at the time our insurance is written. Our mortgage insurance premiums are based on, among other items, the amount of capital we are required to hold against our insured risks and our estimates of the long-term risk of claims on insured loans. Our premium rates take into account, among other factors, LTV, type (e.g., prime vs. non-prime or fixed vs. variable payments), premium structure (e.g., single lump sum, monthly or other variations), term, coverage percentage and whether there is a deductible in front of our loss position. These assumptions may ultimately prove to be inaccurate. We generally cannot cancel or elect not to renew the mortgage insurance we provide, and because we generally fix premium rates for the life of a policy when issued, we cannot adjust renewal premiums or otherwise adjust premiums during the life of a policy. Therefore, if the risk underlying a mortgage loan we have insured develops more adversely than we anticipated, we generally cannot increase the premium rates on this in-force business, or cancel coverage or elect not to renew coverage, to mitigate the effects of such adverse developments. Similarly, if the amount of capital we are required to hold against our insured risks increases from the amount we were required to hold at the time a policy was written (as occurred when the PMIERS Financial Requirements became effective and could occur again if the GSEs impose more burdensome capital requirements as part of their periodic review of the PMIERS Financial Requirements), we cannot adjust the premiums to compensate for this. As a result, if we are unable to compensate for or offset the increased capital requirements in other ways, the returns on our business may be lower than we assumed or expected. Our premiums earned and the associated investment income on those premiums may ultimately prove to be inadequate to compensate for the losses that we may incur and may not provide an adequate return on increased capital that may be required. As a result, our results of operations and financial condition could be negatively impacted.

Additionally, in accordance with industry practice, we do not establish reserves in our mortgage insurance business until we are notified that a borrower has failed to make at least two monthly payments when due. Because our mortgage insurance reserving does not account for the impact of future losses that we expect to incur with respect to performing (non-defaulted) loans, our obligation for ultimate losses that we expect to incur at any period end is not reflected in our financial statements, except to the extent that a premium deficiency exists. As a result, our losses can be more severe in periods of high-defaults given that we generally are not permitted to establish reserves in anticipation of such defaults.

If the estimates we use in establishing loss reserves are incorrect, we may be required to take unexpected charges to income, which could adversely affect our results of operations.

We establish loss reserves in our mortgage insurance business to provide for the estimated cost of future claims on defaulted loans. Setting our loss reserves requires significant judgment by management with respect to the likelihood, magnitude and timing of each potential loss, including an estimate of the impact of our Loss Mitigation Activities with respect to defaulted loans. The models, assumptions and estimates we use to establish loss reserves may not prove to be accurate, especially in the event of an extended economic downturn or a period of extreme market volatility and uncertainty. Because our reserves represent our best estimate of claims to be paid in the future, claims paid may be substantially different than our loss reserves and these reserves may be insufficient to satisfy the full amount of claims that we ultimately have to pay. Changes to our estimates could adversely impact our results of operations and financial condition.

## Part 1 Item 1A. Risk Factors

We have a number of defaulted loans in our Legacy Portfolio that have been in default for an extended period of time. While these loans are generally assigned a higher loss reserve based on our belief that they are more likely to result in a claim, we also assume, based on historical trends, that a significant portion of these loans will cure or otherwise not result in a claim. Given the significant period of time that these loans have been in default, it is possible that the ultimate cure rate for these defaulted loans will be less than our current estimates of Cures for this inventory of defaults. If our estimates are inadequate, we may be required to increase our reserves, which could have a material adverse effect on our results of operations and financial condition.

Our delegated underwriting program may subject our mortgage insurance business to unanticipated claims.

In our mortgage insurance business, we permit lenders to obtain mortgage insurance for residential mortgage loans originated and underwritten by them using Radian's pre-established underwriting guidelines. Once we accept a lender into our delegated underwriting program, we generally insure a mortgage loan originated by that lender based on our expectation that the lender has followed our specified underwriting guidelines in accordance with the endorsement. Under this program, a lender could commit us to insure a material number of loans with unacceptable risk profiles before we discover the problem and terminate that lender's delegated underwriting authority or pursue other rights that may be available to us, such as our rights to rescind coverage or deny claims.

We face risks associated with our contract underwriting business.

We provide third party contract underwriting services for both our mortgage insurance and Services customers. We provide these customers with limited indemnification rights with respect to those loans that we simultaneously underwrite for both secondary market compliance and for potential mortgage insurance eligibility. In addition, in certain limited circumstances, we may also offer limited indemnification when we underwrite a loan only for secondary market compliance. As a consequence, our results of operations could be negatively impacted if we are required to indemnify our customers for material underwriting errors in our contract underwriting services.

Our current insurance financial strength ratings assigned to our mortgage insurance subsidiaries could weaken our competitive position.

The current financial strength ratings for Radian Guaranty are Baa3 by Moody's and BBB by S&P. Radian Guaranty's financial strength ratings currently are investment grade, and although they are below the ratings assigned to certain other private mortgage insurers, we have been successful in competing in the private mortgage insurance market, and we do not believe our ratings have had a material adverse effect on our relationships with existing customers. To the extent this changes, however, and financial strength ratings become a more prominent consideration for lenders, we may be competitively disadvantaged by customers choosing to do business with private mortgage insurers that have higher financial strength ratings. In addition, the current PMIERS do not include a specific ratings requirement, but if this were to change in the future or if the GSEs were to place an emphasis on ratings with respect to considering forms of credit enhancement other than traditional mortgage insurance, we may become subject to a ratings requirement in order to retain our GSE eligibility status or to compete effectively with respect to such other forms of execution.

We believe that financial strength ratings remain a significant consideration for participants seeking to secure credit enhancement in the non-GSE mortgage market, which includes most non-QM loans. While this market has remained limited since the financial crisis, we view this market as an area of potential future growth and our ability to participate in this market could depend on our ability to secure higher ratings for our mortgage insurance subsidiaries. In addition, if legislative or regulatory changes were to alter the current state of the housing finance industry such that the GSEs no longer operated in their current capacity, we may be forced to compete in a new marketplace in which financial strength ratings may play a greater role. 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 mortgage insurance subsidiaries, the franchise value and future prospects for our mortgage insurance business could be negatively affected.

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

Our investment portfolio is an important source of revenue. Although our investment portfolio consists mostly of highly-rated investments, our investment strategy is affected by general economic conditions, 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, 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 positions 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.

## Part 1 Item 1A. Risk Factors

Compared to historical averages, interest rates and investment yields on our investments generally have declined in recent years, which has reduced the investment income we generate. For the significant portion of our investment portfolio held by our insurance subsidiaries, to receive full capital credit under insurance regulatory requirements and under the PMIERS, we generally are limited to investing in highly-rated investments that are unlikely to increase our investment returns. Because we depend on our investments as a source of revenue, a prolonged period of lower than expected investment yields would have an adverse impact on our revenues and could potentially adversely affect our results of operations.

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 investments before their maturity, which could adversely affect our results of operations.

Radian Group's sources of liquidity may be insufficient to fund its obligations.

Radian Group serves as the holding company for our operating subsidiaries and does not have any significant operations of its own. As of December 31, 2016, Radian Group held, either directly or through unregulated subsidiaries, unrestricted cash and liquid investments of approximately \$460 million, excluding certain additional cash and liquid investments that have been advanced from our subsidiaries for corporate expenses and interest payments. Of this amount, \$110.1 million was used in January 2017 to redeem our remaining Convertible Senior Notes due 2019. See Note 21 of Notes to Consolidated Financial Statements.

Radian Group's principal liquidity demands for the next 12 months are expected to include: (i) the payment of \$22.2 million principal amount to settle our obligations under our Convertible Senior Notes due 2017 which must be settled in cash in November 2017, plus any related conversion premium which may, at our option, be settled in cash, common shares or a combination thereof; (ii) the payment of corporate expenses; (iii) interest payments on our outstanding long-term debt; and (iv) the payment of dividends on our common stock. Substantially all of Radian Group's obligations to pay corporate expenses and interest payments on outstanding debt are reimbursed to Radian Group through the expense-sharing arrangements currently in place with its subsidiaries.

Radian Group's liquidity demands for the next 12 months could also include: (i) the repurchase of up to \$125 million of Radian Group common stock pursuant to the existing share repurchase program; (ii) capital support for Radian Guaranty and our other mortgage insurance subsidiaries if additional capital is required pursuant to future changes to the PMIERS Financial Requirements or insurance laws and regulations, or reinterpretations of existing requirements; (iii) additional conversion settlements, repurchases or early redemptions of portions of our long-term debt; (iv) potential investments to support our strategy of growing our businesses; and (v) potential payments to the U.S. Treasury resulting from our ongoing dispute with the IRS relating to the examination of our 2000 through 2007 consolidated federal income tax returns.

In addition to existing available cash and marketable securities, Radian Group's principal sources of cash to fund future short-term liquidity needs include: (i) payments made to Radian Group under tax- and expense-sharing arrangements with our subsidiaries and (ii) to the extent available, potential dividends from our Services segment, if any, in excess of payments due under tax- and expense-sharing arrangements.

The Services segment did not generate sufficient cash flows to pay ordinary dividends to Radian Group in 2016. Additionally, while cash flow is expected to be sufficient to pay the Services segment's direct operating expenses, it has not been sufficient to satisfy its obligations to reimburse Radian Group its allocated operating expense and interest expense under tax- and expense-sharing arrangements. We expect the Services segment will be able to bring its reimbursement obligations current in the next four to five years. These reimbursement obligations and future potential dividend payments would be adversely affected if unanticipated events and circumstances were to result in lower earnings than expected. Further, in light of Radian Guaranty's negative unassigned surplus related to operating losses in prior periods, we do not anticipate that Radian Guaranty will be permitted under applicable insurance laws to pay ordinary dividends to Radian Group for the foreseeable future. The expense-sharing arrangements between Radian

Group and our insurance subsidiaries, as amended, have been approved by the Pennsylvania Insurance Department, but such approval may be modified or revoked at any time.

Radian Group's liquidity demands beyond the next 12 months are expected to include: (i) the repayment of our outstanding long-term debt; and (ii) potential additional capital contributions to our subsidiaries. We expect to meet the long-term liquidity needs of Radian Group with a combination of: (i) available cash and marketable securities; (ii) private or public issuances of debt or equity securities, which we may not be able to do on favorable terms, if at all; (iii) cash received under tax- and expense-sharing arrangements with our subsidiaries; and (iv) to the extent available, dividends from our subsidiaries.

Part 1 Item 1A. Risk Factors

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In light of Radian Group's long- and short-term needs, it is possible that our sources of liquidity could be insufficient to fund our obligations and could exceed currently available holding company funds. If this were to occur, we may need or otherwise may decide to increase our available liquidity by incurring additional debt, by issuing additional equity or by selling assets, any of which we may be unable to do on favorable terms, if at all.

Our reported earnings are subject to fluctuations based on changes in our trading securities and short-term investments that require us to adjust their fair market value.

We have significant holdings of trading securities and short-term investments that we carry at fair value. Because the changes in fair value of these financial instruments are reflected on our statements of operations each period, they affect our reported earnings and can create earnings volatility. Among other factors, interest rate changes, market volatility and declines in the value of underlying collateral will impact the value of our investments, potentially resulting in unrealized losses that could negatively impact our results of operations.

Our information technology systems may fail or become outmoded, be temporarily interrupted or otherwise cause us to be unable to meet our customers' demands.

Our business is highly dependent on the effective operation of our information technology systems, which are vulnerable to damage or interruption from power outages, computer and telecommunications failures, computer viruses, cyber-attacks, security breaches, catastrophic events and errors in usage. Although we have disaster recovery and business continuity plans in place, we may not be able to adequately execute these plans in a timely fashion. Additionally, our ability to meet the needs of our customers depends on our ability to keep pace with technological advances and to invest in new technology as it becomes available or otherwise upgrade our technological capabilities. Participants in the mortgage insurance industry rely on e-commerce and other technologies to provide their products and services, and our customers generally require that we provide an increasing number of our products and services electronically. Accordingly, we may not satisfy our customers' requirements if we fail to invest sufficient resources or are otherwise unable to maintain and upgrade our technological capabilities. Further, customers may choose to do business only with mortgage insurers with which they are technologically compatible and may choose to retain existing mortgage insurance providers rather than invest the time and resources to on-board new providers. As a result, technology can represent a potential barrier to signing new customers.

Because we rely on our information technology systems for many critical functions, including connecting with our customers, if such systems were to fail, experience a prolonged interruption, or become outmoded, we may experience a significant disruption in our operations and in the business we receive, which could have a material adverse effect on our business, financial condition and operating results.

In addition, we are in the process of implementing a major technology project to improve our operating systems, including a new platform for our mortgage insurance underwriting, policy administration, claims management and billing processes. The implementation of these technological improvements is complex, expensive, time consuming and, in certain respects, depends on the ability of third parties to perform their obligations in a timely manner. If we fail to timely and successfully implement the new technology systems and business processes, or if the systems do not operate as expected, it could have an adverse impact on our business, business prospects and results of operations. The security of our information technology systems may be compromised and confidential information, including non-public personal information that we maintain, could be improperly disclosed.

Our information technology systems may be vulnerable to physical or electronic intrusions, computer viruses or other attacks. As part of our business, we, and certain of our subsidiaries and affiliates, maintain large amounts of confidential information, including non-public personal information on consumers and our employees. Breaches in security could result in the loss or misuse of this information, which could, in turn, result in potential regulatory actions or litigation, including material claims for damages, as well as interruption to our operations and damage to our reputation. While we have information security policies and systems in place in order to attempt to prevent unauthorized use or disclosure of confidential information, including non-public personal information, there can be no assurance that such use or disclosure will not occur. Any compromise of the security of our information technology

systems, or unauthorized use or disclosure of confidential information, could subject us to liability, regulatory scrutiny and action, damage to our reputation and customer relationships and could have a material adverse effect on our business prospects, financial condition and results of operations.

Part 1 Item 1A. Risk Factors

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We are subject to the risk of litigation and regulatory proceedings.

We operate in highly regulated industries that are subject to a heightened risk of litigation and regulatory proceedings. We often are a party to material litigation and also are subject to legal and regulatory proceedings and other actions, reviews, audits, inquiries and investigations. Increased scrutiny in the current regulatory environment could lead to new regulations and practices, new interpretations of existing regulations, as well as additional regulatory proceedings. Additional lawsuits, legal and regulatory proceedings and other matters may arise in the future. The outcome of these legal and regulatory proceedings and other matters could result in adverse judgments, settlements, fines, injunctions, restitutions or other relief which could require significant expenditures or have a material adverse effect on our business prospects, results of operations and financial condition.

Resolution of our dispute with the IRS could adversely affect us.

We are contesting adjustments resulting from the examination by the IRS of our 2000 through 2007 consolidated federal income tax returns. The IRS opposes the recognition of certain tax losses and deductions that were generated through our investment in a portfolio of non-economic REMIC residual interests and has proposed denying the associated tax benefits of these items. We appealed these proposed adjustments to Appeals and made “qualified deposits” with the U.S. Treasury of \$89 million relating to the 2000 through 2007 tax years to avoid the accrual of incremental above-market-rate interest with respect to the proposed adjustments.

In September 2014, we received Notices of Deficiency covering the 2000 through 2007 tax years that assert unpaid taxes and penalties of \$157 million. The Deficiency Amount has not been reduced to reflect our NOL carryback ability. As of December 31, 2016, there also would be interest of approximately \$136 million related to these matters. Depending on the outcome, additional state income taxes, penalties and interest (estimated in the aggregate to be approximately \$35 million as of December 31, 2016) also may become due when a final resolution is reached. The Notices of Deficiency also reflected additional amounts due of \$105 million, which are primarily associated with the disallowance of the previously filed carryback of our 2008 NOL to the 2006 and 2007 tax years. We believe that the disallowance of our 2008 NOL carryback is a precautionary position by the IRS and that we will ultimately maintain the benefit of this NOL carryback claim.

On December 3, 2014, we petitioned the Tax Court to litigate the Deficiency Amount. During 2016, we held several meetings with the IRS in an attempt to reach a compromised settlement on the issues presented in our dispute. In January 2017, the parties informed the Tax Court that they believe they have reached a basis for a compromised settlement on the primary issues present in the case. The resolution must be reported to the JCT for review and cannot be finalized until the IRS considers the views, if any, expressed by the JCT about the matter. If we are unable to complete a compromised settlement, then the ongoing litigation could take several years to resolve and may result in substantial legal expenses. We can provide no assurance regarding the outcome of any such litigation or whether a compromised settlement with the IRS will ultimately be reached. We currently believe that an adequate provision for income taxes has been made for the potential liabilities that may result from this matter. However, if the ultimate resolution of this matter produces a result that differs materially from our current expectations, there could be a material impact on our effective tax rate, results of operations, cash flows and financial condition.

Our ability to recognize benefits from our NOLs and other tax attributes may be limited.

We have generated substantial NOLs and other tax attributes for tax purposes that can be used to reduce our future income tax obligations. Our ability to utilize these tax assets (including federal NOL carryforwards of approximately \$653.8 million as of December 31, 2016) on a timely basis (i.e., to offset operating income as generated) will be adversely affected if we have an “ownership change” within the meaning of Section 382. An ownership change is generally defined as a greater than 50 percentage point increase in equity ownership by “five-percent shareholders” (as that term is defined for purposes of Section 382) over a rolling three-year period. While we have adopted the tax benefit preservation measures described below to protect our ability to use our NOLs and other tax assets, these measures may not prevent us from experiencing an ownership change, including as a result of the issuance of our common stock. If we experience an ownership change, we may not be able to fully utilize our NOLs and other tax

assets, resulting in additional income taxes.

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## Part 1 Item 1A. Risk Factors

In 2009, we adopted a Tax Benefit Preservation Plan (the “Plan”), which, as amended, was approved by our stockholders at our 2010, 2013 and 2016 annual meetings. We also adopted certain amendments to our amended and restated bylaws (the “Bylaw Amendment”) and at our 2010, 2013 and 2016 annual meetings, our stockholders approved certain amendments to our amended and restated certificate of incorporation (the “Charter Amendment”). These steps were taken to protect our ability to utilize our NOLs and other tax assets and to attempt to prevent an “ownership change” under U.S. federal income tax rules by discouraging and in most cases restricting certain transfers of our common stock that would: (i) create or result in a person becoming a five-percent shareholder under Section 382 or (ii) increase the stock ownership of any existing five-percent shareholder under Section 382. The continued effectiveness of the Plan, the Bylaw Amendment and the Charter Amendment are subject to periodic examination by the Board and the reapproval of the Plan and the Charter Amendment by our stockholders every three years. There can be no assurance that our stockholders will reapprove the Plan and the Charter Amendment if we elect to present them to our stockholders again in the future.

There is no guarantee that our tax benefit preservation strategy will be effective in protecting our NOLs and other tax assets. The amount of our NOLs has not been audited or otherwise validated by the IRS. The IRS, or other tax authorities, could challenge the amount of our NOLs and other tax assets, which could result in an increase in our liability in the future for income taxes. In addition, determining whether an “ownership change” has occurred is subject to uncertainty, both because of the complexity and ambiguity of Section 382 and because of limitations on a publicly traded company’s knowledge as to the ownership of, and transactions in, its securities. Therefore, even though we currently have several measures in place to protect our NOLs (such as the Plan, the Bylaw Amendment and the Charter Amendment), we cannot provide any assurance that the IRS or other taxing authority will not claim that we have experienced an “ownership change” and attempt to reduce the benefit of our tax assets.

As of December 31, 2016, our net DTA is \$411.8 million. A significant portion of our net DTA relates to the future tax effects of our prior year net operating losses expected to be carried forward to offset future taxable income. A decrease in the federal statutory income tax rate would result in a one-time reduction in the amount at which our DTA is recorded, thereby reducing our net income and book value in that period. However, such a decrease would also reduce our effective income tax rate, thereby increasing net income in future periods. Similarly, changes to the current tax laws, other than a decrease in the federal statutory income tax rate, may also impact our net income and book value.

Legislation and regulatory changes and interpretations could impact our businesses.

Our businesses are subject to and may be impacted by many federal and state lending, insurance and consumer laws and regulations and may be affected by changes in these laws and regulations or the way they are interpreted. In particular, our businesses may be significantly impacted by the following:

- Legislation or regulatory action impacting the charters or business practices of the GSEs;
- Legislative reform of the U.S. housing finance system;
- Legislation and regulation impacting the FHA and its competitive position versus private mortgage insurers;
- State insurance laws and regulations that address, among other items, licensing of companies to transact business, claims handling, reinsurance requirements, premium rates, policy forms offered to customers and requirements for
- Risk-to-capital, minimum policyholder positions, reserves (including contingency reserves), surplus, reinsurance and payment of dividends;
- The application of state, federal or private sector programs aimed at supporting borrowers and the housing market;
- The application of RESPA, the FCRA and other laws to our businesses;
- The amendments to Regulation AB (commonly referred to as Regulation AB II) that were adopted by the SEC and introduce several new requirements related to public offerings of ABS, including public offerings of RMBS for which our Services business traditionally has provided due diligence and servicer surveillance services and new credit rating agency reform rules (the “NRSRO Rules”) adopted by the SEC that include new requirements applicable to providers of third-party due diligence services, such as our Services business, for both publicly and privately issued ABS;



The interpretation and application of the TRID rules requiring enhanced disclosures to consumers in connection with the origination of residential mortgage loans;  
New federal standards and oversight for mortgage insurers, including as a result of the recommendation of the Federal Insurance Office of the U.S. Treasury that federal standards and oversight for mortgage insurers be developed and implemented;

Part 1 Item 1A. Risk Factors

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The implementation of new regulations under, or the potential repeal or amendment of provisions of, the Dodd-Frank Act; and

• The implementation in the U.S. of the Basel III capital adequacy guidelines.

See “Item 1. Business—Regulation.”

Any of the items discussed above could adversely affect our results of operations, financial condition and business prospects. In addition, our businesses could be impacted by new legislation or regulations, as well as changes to existing legislation or regulations, that are not currently contemplated and which could occur at any time.

The implementation of the Basel III guidelines may discourage the use of mortgage insurance.

Over the past few decades, the Basel Committee on Banking Supervision has established international benchmarks for assessing banks’ capital adequacy requirements. Included within those benchmarks are capital standards related to the residential lending and securitization activity and, importantly for mortgage insurance, the treatment of mortgage insurance on those loans. In July 2013, U.S. banking regulators promulgated regulations to implement significant elements of the Basel framework, referred to as “Basel III.” Today, the current capital regime under Basel III for U.S. banks assigns a 50% or 100% risk weight to one- to four-unit residential mortgage exposures. Generally, residential mortgage exposures that are prudently underwritten and performing receive a 50% risk weight, while all other residential mortgage exposures are assigned a 100% risk weight. In March 2015, the U.S. banking regulators clarified that LTV ratios can account for credit enhancement such as private mortgage insurance in determining whether a loan is made in accordance with prudent underwriting standards for purposes of receiving the preferred 50% risk weight. In December 2014, the Basel Committee on Banking Supervision issued a proposal for further revisions to Basel III. It proposed adjustments to the risk weights for residential mortgage exposures that take into account LTV and the borrower’s ability to service a mortgage. The proposed LTV ratio did not take into consideration any credit enhancement, including private mortgage insurance. The comment period for this proposal closed in March 2015, and in December 2015, the Basel Committee on Banking Supervision released a second proposal that retained the LTV provisions of the initial draft, but not the debt servicing coverage ratios. The comment period for the 2015 proposal closed in March 2016. Following consideration of the comments received, it is possible that newly revised risk weighting guidelines from the Basel Committee on Banking Supervision may be proposed and that the U.S. banking regulators may consider changes to the existing rules. While it remains unclear whether new guidelines will be proposed or finalized, if the federal bank regulators revise their rules to implement Basel III to reduce or eliminate the capital benefit banks receive from insuring low down payment loans with private mortgage insurance, our business and business prospects could be adversely affected.

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, any of whom could terminate his or her relationship with us at any time. 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 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. Failure to effectively implement our succession planning efforts and to ensure effective transfers of knowledge and smooth transitions involving members of our management team and other key personnel could adversely affect our business and results of operations. 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.



Part 1 Item 1A. Risk Factors

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We face risks associated with our acquisition of Clayton and we may fail to realize the anticipated benefits of the Clayton acquisition.

As a result of our acquisition of Clayton and our entry into our Services business, we are exposed to certain risks that may negatively affect our financial results, including, among others, the following:

Our Services revenue is dependent on a limited number of large customers that represent a significant proportion of our Services total revenues. The loss or reduction of business from one or more of these significant customers could adversely affect our revenues and results of operations. In addition, Radian Guaranty does business with many of these significant customers. In the event of a dispute between a significant customer and either of our business segments, the overall customer relationship for Radian could be negatively impacted.

While Clayton is not a defendant in litigation arising out of the financial crisis involving the issuance of RMBS in connection with which it has provided services, it has been in the past, and may again be in the future, subpoenaed by various parties to provide documents and information related to such litigation, and there can be no assurance that Clayton will not be subject to future claims against it, whether in connection with such litigation or otherwise. It is possible that our exposure to potential liabilities resulting from our Services business, some of which may be material or unknown, could exceed amounts we can recover through indemnification claims.

All of our goodwill and other intangible assets relate to our Services segment, as a result of our acquisition of Clayton in 2014 and its subsequent acquisitions of Red Bell and ValuAmerica in 2015. The goodwill in these acquisitions is an asset representing the estimated future economic benefits arising from the assets we have acquired that were not individually identified and separately recognized. Goodwill is deemed to have an indefinite useful life and is subject to review for impairment annually, or more frequently, whenever circumstances indicate potential impairment. The value of goodwill is primarily supported by revenue projections which are mostly driven by projected transaction volume and margins. The fair value of goodwill requires the use of significant estimates and assumptions that are highly subjective in nature, and include in particular, among other items, market-based discount rates, future expected cash flows from estimated transaction volumes that are not currently contracted, assumed potential revenues from new initiatives and business strategies as well as volume projections associated with non-agency RMBS securitizations, for which current market conditions are not favorable. Intangible assets, other than goodwill, primarily consist of customer relationships, technology, trade name and trademarks, client backlog and non-competition agreements. Our estimates are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. If actual results differ from our assumptions, we may not realize the full value of our goodwill and other intangible assets. For these and other reasons there can be no assurance that the anticipated benefits from the our acquisition of Clayton will be realized fully or at all. If we fail to realize the anticipated benefits of the Clayton acquisition and its subsequent acquisitions of Red Bell and ValuAmerica, we may not realize the full value of our goodwill and other intangible assets, in which case we may be required to write down or write off all such goodwill and other intangible assets. Such an impairment of our goodwill or intangible assets could have a material adverse effect on our results of operations and financial condition.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

At our corporate headquarters in Philadelphia, Pennsylvania, we currently lease approximately 151,000 square feet of office space and 1,740 square feet of space for data storage under a lease that expires in August 2017. We also lease 23,453 square feet of office space at a separate location, 1500 Market Street in Philadelphia, Pennsylvania, for various operational and IT personnel.

On November 3, 2015, we entered into a new 15-year operating lease agreement that will commence on September 1, 2017 (the "2017 Lease") when our lease for our current headquarters expires. The 2017 Lease is for approximately

152,000 square feet of office space at 1500 Market Street in Philadelphia, PA where our new corporate headquarters will be located. When the square footage leased under the 2017 Lease is combined with the office space we currently lease at the 1500 Market Street location, we will have approximately 175,000 square feet of office space for our corporate headquarters. For information regarding the expected obligation for payments under the 2017 Lease, see Note 13 of Notes to Consolidated Financial Statements.

In connection with our mortgage insurance operations, we lease office space in: Worthington, Ohio; Dayton, Ohio; Plano, Texas; St. Louis, Missouri; New York, New York; and Hong Kong. In addition, we lease office space for our Services operations in various cities in California, Colorado, Connecticut, Florida, Georgia, Pennsylvania and Utah, as well as in Bristol, England and Kolonaki, Greece.

We currently have two co-location agreements with TierPoint that support data center space and services at their Norristown, Pennsylvania and Philadelphia, Pennsylvania locations. These agreements expire in May 2018 and March 2019, respectively. TierPoint serves as a production and disaster recovery location.

We believe our existing properties are well utilized, suitable and adequate for our present circumstances.

### Item 3. Legal Proceedings.

We are routinely involved in a number of legal actions, reviews and audits, as well as inquiries and investigations by various regulatory entities involving compliance with laws or other regulations, the outcome of which are uncertain. These legal proceedings could result in adverse judgments, settlements, fines, injunctions, restitutions or other relief that could require significant expenditures or have other effects on our business. In accordance with applicable accounting standards and guidance, we establish accruals only when we determine both that it is probable that a loss has been incurred and the amount of the loss is reasonably estimable. We accrue the amount that represents our best estimate of the probable loss; however, if we can only determine a range of estimated losses, we accrue an amount within the range that, in our judgment, reflects the most likely outcome, and if none of the estimates within the range is more likely, we accrue the minimum amount of the range.

In the course of our regular review of pending legal and regulatory matters, we determine whether it is reasonably possible that a potential loss may have a material impact on our liquidity, results of operations or financial condition. If we determine such a loss is reasonably possible, we disclose information relating to such potential loss, including an estimate or range of loss or a statement that such an estimate cannot be made. On a quarterly basis, we review relevant information with respect to loss contingencies and update our accruals, disclosures and estimates of reasonably possible losses or range of losses based on such reviews. We are often unable to estimate the possible loss or range of loss until developments in such matters have provided sufficient information to support an assessment of the range of possible loss, such as quantification of a damage demand from plaintiffs, discovery from other parties and investigation of factual allegations, rulings by the court on motions or appeals, analysis by experts, and the progress of settlement negotiations. In addition, we generally make no disclosures for loss contingencies that are determined to be remote. For matters for which we disclose an estimated loss, the disclosed estimate reflects the reasonably possible loss or range of loss in excess of the amount accrued, if any.

Loss estimates are inherently subjective, based on currently available information, and are subject to management's judgment and various assumptions. Due to the inherently subjective nature of these estimates and the uncertainty and unpredictability surrounding the outcome of legal and other proceedings, actual results may differ materially from any amounts that have been accrued.

As previously disclosed, we are contesting adjustments resulting from the examination by the IRS of our 2000 through 2007 consolidated federal income tax returns. The IRS opposes the recognition of certain tax losses and deductions that were generated through our investment in a portfolio of non-economic REMIC residual interests and has proposed denying the associated tax benefits of these items. We appealed these proposed adjustments to Appeals and made "qualified deposits" with the U.S. Treasury of \$85 million in June 2008 relating to the 2000 through 2004 tax years and \$4 million in May 2010 relating to the 2005 through 2007 tax years in order to avoid the accrual of incremental above-market-rate interest with respect to the proposed adjustments.

## Part I Item 3. Legal Proceedings

We attempted to reach a compromised settlement with Appeals, but in September 2014 we received Notices of Deficiency covering the 2000 through 2007 tax years that assert unpaid taxes and penalties of \$157 million. The Deficiency Amount has not been reduced to reflect our NOL carryback ability. As of December 31, 2016, there also would be interest of approximately \$136 million related to these matters. Depending on the outcome, additional state income taxes, penalties and interest (estimated in the aggregate to be approximately \$35 million as of December 31, 2016) also may become due when a final resolution is reached. The Notices of Deficiency also reflected additional amounts due of \$105 million, which are primarily associated with the disallowance of the previously filed carryback of our 2008 NOL to the 2006 and 2007 tax years. We currently believe that the disallowance of our 2008 NOL carryback is a precautionary position by the IRS and that we will ultimately maintain the benefit of this NOL carryback claim. On December 3, 2014, we petitioned the Tax Court to litigate the Deficiency Amount. On September 1, 2015, we received a notice that the case had been scheduled for trial. However, the parties jointly filed, and the Tax Court approved, motions for continuance in this matter to postpone the trial date. Also, in February 2016, the Tax Court approved a joint motion to consolidate for trial, briefing and opinion our case with a similar case involving MGIC Investment Corporation. During 2016, we held several meetings with the IRS in an attempt to reach a compromised settlement on the issues presented in our dispute. In January 2017, the parties informed the Tax Court that they believe they have reached a basis for a compromised settlement on the primary issues present in the case. The resolution must be reported to the JCT for review and cannot be finalized until the IRS considers the views, if any, expressed by the JCT about the matter. If we are unable to complete a compromised settlement, then the ongoing litigation could take several years to resolve and may result in substantial legal expenses. We can provide no assurance regarding the outcome of any such litigation or whether a compromised settlement with the IRS will ultimately be reached. We currently believe that an adequate provision for income taxes has been made for the potential liabilities that may result from this matter. However, if the ultimate resolution of this matter produces a result that differs materially from our current expectations, there could be a material impact on our effective tax rate, results of operations and cash flows.

On December 22, 2016, Ocwen Loan Servicing, LLC and Homeward Residential, Inc. (collectively, "Ocwen") filed a complaint against Radian Guaranty (the "Complaint"). Ocwen has also initiated legal proceedings against several other mortgage insurers. The action filed against Radian Guaranty, titled Ocwen, et al. v. Radian Guaranty, is pending in the U.S. District Court for the Eastern District of Pennsylvania. The Complaint alleges breach of contract and bad faith claims and seeks monetary damages and declaratory relief in regard to certain claims handling practices on future insurance claims. On December 17, 2016, Ocwen separately filed an arbitration petition against Radian Guaranty (the "Petition") before the American Arbitration Association that asserts substantially the same allegations as contained in the Complaint (the Complaint and the Petition are collectively referred to as the "Filings"). The Filings list 9,420 mortgage insurance certificates issued under multiple insurance policies, including Pool Insurance policies, as being the subject of these proceedings. Radian Guaranty believes that the claims in the Filings are without merit and plans to defend these claims vigorously. We are not able to estimate a reasonably possible loss, if any, or range of loss in this matter because of the preliminary stage of the proceedings.

We are also involved in litigation that has arisen in the normal course of our business. We are contesting the allegations in each such pending action and management believes, based on current knowledge and after consultation with counsel, that the outcome of such litigation will not have a material adverse effect on our consolidated financial condition. However, the outcome of litigation and other legal and regulatory matters is inherently uncertain, and it is possible that one or more of the matters currently pending or threatened could have an unanticipated adverse effect on our liquidity, financial condition or results of operations for any particular period.

In June 2015, we and other mortgage insurers received a letter from the Wisconsin OCI requesting information pertaining to customized insurance rates and terms offered to mortgage insurance customers. We submitted a response to the Wisconsin OCI in June 2015, as requested. Although we believe we are in compliance with applicable Wisconsin state law requirements for mortgage guaranty insurance, we cannot predict the outcome of this matter or

whether additional inquiries, actions or proceedings may be pursued against us by the Wisconsin OCI or other regulators.

Item 4. Mine Safety Disclosures.

Not applicable.



## PART II

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

Our common stock is listed on the NYSE under the symbol "RDN." At February 23, 2017, there were 215,084,611 shares of our common stock outstanding and 56 holders of record. The following table shows the high and low sales prices of our common stock on the NYSE for the financial quarters indicated:

	2016		2015	
	High	Low	High	Low
1st Quarter	\$13.35	\$9.29	\$17.15	\$15.19
2nd Quarter	13.31	9.29	19.13	16.55
3rd Quarter	14.15	9.85	19.12	15.69
4th Quarter	18.45	12.96	17.00	12.82

In 2016 and 2015, we declared quarterly cash dividends on our common stock equal to \$0.0025 per share. We presently expect to continue to declare a regular quarterly dividend on our common stock. For information on Radian Group's ability to pay dividends, see "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources."

Reference is made to the information in Item 12 of this report under the caption "Equity Compensation Plans," which is incorporated herein by this reference.

## Issuance of Unregistered Securities

During 2014, no equity securities of Radian Group were sold that were not registered under the Securities Act. Over the course of two days on June 22, 2015 and June 23, 2015, in connection with, and as partial consideration for, the purchases of an aggregate principal amount of \$389.1 million of our Convertible Senior Notes due 2017, we issued an aggregate of 28,403,278 shares of Radian Group common stock to certain holders of these notes.

On March 21, 2016, March 22, 2016 and March 24, 2016, we issued 11,914,620; 4,673,478 and 393,690 shares; respectively, of Radian Group common stock in separately negotiated transactions with certain holders of the Convertible Senior Notes due 2017 and 2019. These issuances were made in connection with, and as partial consideration for, the purchases of aggregate principal amounts of \$30.1 million and \$288.4 million of our Convertible Senior Notes due 2017 and 2019, respectively, for cash or a combination of cash and shares of Radian Group common stock.

In all cases, the shares were issued to "qualified institutional buyers" within the meaning of Rule 144A promulgated under the Securities Act and were offered and sold in reliance on the exemption from registration afforded by Section 4(a)(2) of the Securities Act and corresponding provisions of state securities laws. See Notes 12 and 14 of Notes to Consolidated Financial Statements for additional information on the individual transactions.

## Issuer Purchases of Equity Securities

On June 29, 2016, the Board authorized a new share repurchase program to spend up to \$125 million to repurchase Radian Group common stock. The authorization provides Radian the flexibility to repurchase shares in the open market or in privately negotiated transactions from time to time, based on market and business conditions, stock price and other factors. As of December 31, 2016, the full purchase authority of up to \$125 million remained available under this program, which expires on June 30, 2017. See Note 14 of Notes to Consolidated Financial Statements. During the fourth quarter of 2016, we did not repurchase any of our common stock.

## Part II Item 6. Selected Financial Data

## Item 6. Selected Financial Data.

The information in the following table should be read in conjunction with our Consolidated Financial Statements and Notes thereto included in Item 8 and the information included in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations."

(In millions, except per-share amounts and ratios)	2016	2015	2014	2013	2012
<b>Consolidated Statements of Operations (1)</b>					
Net premiums earned—insurance	\$921.8	\$915.9	\$844.5	\$781.4	\$702.4
Services revenue (2)	168.9	157.2	78.0	—	—
Net investment income	113.5	81.5	65.7	68.1	72.7
Net gains (losses) on investments and other financial instruments	30.8	35.7	80.0	(106.5)	122.1
Total revenues	1,238.5	1,193.3	1,072.7	749.9	902.7
Provision for losses	202.8	198.6	246.1	562.7	921.5
Cost of services (2)	114.2	93.7	44.7	—	—
Other operating expenses	244.9	242.4	251.2	257.4	167.7
Interest expense	81.1	91.1	90.5	74.6	51.8
Amortization and impairment of intangible assets	13.2	13.0	8.6	—	—
Pretax income (loss) from continuing operations	483.7	437.8	407.2	(173.3)	(272.4)
Income tax provision (benefit)	175.4	156.3	(852.4)	(31.5)	(48.3)
Net income (loss) from continuing operations	308.3	281.5	1,259.6	(141.9)	(224.1)
Income (loss) from discontinued operations, net of tax (3)	—	5.4	(300.1)	(55.1)	(227.4)
Net income (loss)	308.3	286.9	959.5	(197.0)	(451.5)
Diluted net income (loss) per share from continuing operations (4)	\$1.37	\$1.20	\$5.44	\$(0.85)	\$(1.69)
Diluted net income (loss) per share (4)	\$1.37	\$1.22	\$4.16	\$(1.18)	\$(3.41)
Cash dividends declared per share	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Weighted average shares outstanding-diluted	229.3	246.3	233.9	166.4	132.5
<b>Consolidated Balance Sheets</b>					
Total investments	\$4,462.4	\$4,298.7	\$3,629.3	\$3,361.7	\$3,417.8
Assets held for sale	—	—	1,736.4	1,768.1	1,965.6
Total assets	5,863.2	5,642.1	6,842.3	5,606.0	5,894.6
Unearned premiums	681.2	680.3	644.5	567.1	382.4
Reserve for losses and LAE	760.3	976.4	1,560.0	2,164.4	3,083.6
Long-term debt	1,069.5	1,219.5	1,192.3	914.3	655.0
Liabilities held for sale	—	—	947.0	642.6	722.0
Stockholders' equity	2,872.3	2,496.9	2,097.1	939.6	736.3
Book value per share	\$13.39	\$12.07	\$10.98	\$5.43	\$5.51

## Part II Item 6. Selected Financial Data

(In millions, except per-share amounts and ratios)	2016	2015	2014	2013	2012
Selected Ratios—Mortgage Insurance (5)					
Loss ratio	22.2	% 21.7	% 29.1	% 72.0	% 131.2
Expense ratio—NPE basis	22.7	% 23.7	% 28.2	% 36.6	% 28.7
Risk-to-capital-Radian Guaranty only	13.5	:1 14.3	:1 17.9:1	19.5:1	20.8:1
Risk-to-capital-Mortgage Insurance combined	13.6	:1 14.6	:1 20.3:1	24.0:1	29.9:1
Other Data—Mortgage Insurance					
Primary NIW	\$50,530	\$41,411	\$37,349	\$47,255	\$37,061
Direct primary IIF	183,450	175,584	171,810	161,240	140,363
Direct primary RIF	46,741	44,627	43,239	40,017	34,372
Persistency Rate (12 months ended) (6)	76.7	% 78.8	% 84.2	% 82.1	% 82.9
Persistency (quarterly, annualized) (6)	76.8	% 81.8	% 83.3	% 83.5	% 81.5

(1) For all periods presented, reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue and cost of services have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses. See Note 4 of Notes to Consolidated Financial Statements for additional information.

(2) Primarily represents the activity of Clayton, acquired June 30, 2014.

(3) Radian completed the sale of Radian Asset Assurance to Assured on April 1, 2015, pursuant to the Radian Asset Assurance Stock Purchase Agreement. Until the April 1, 2015 sale date, the operating results of Radian Asset Assurance were classified as discontinued operations for all periods presented in our consolidated statements of operations. See Note 18 of Notes to Consolidated Financial Statements for additional information.

(4) Diluted net income (loss) per share and average share information calculated in accordance with the accounting standard regarding earnings per share. See Note 3 of Notes to Consolidated Financial Statements.

(5) Calculated using amounts determined under GAAP, using provision for losses to calculate the loss ratio and policy acquisition costs and other operating expenses to calculate the expense ratio, as percentages of net premiums earned—insurance.

(6) Based on loan level detail. The Persistency Rate on a quarterly, annualized basis may be impacted by seasonality or other factors, and may not be indicative of full-year trends.

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

The following analysis of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and Notes thereto included in Item 8. Some of the information included in this discussion and analysis or included elsewhere in this report, including with respect to our plans and our strategy for our business, includes forward-looking statements that involve risks, uncertainties and assumptions. Our actual results and the timing of events could differ materially from those anticipated by these forward-looking statements as a result of many factors, including those discussed under “Cautionary Note Regarding Forward-Looking Statements—Safe Harbor Provisions” and in the Risk Factors detailed in Item 1A of this Annual Report on Form 10-K.

Index to Management’s Discussion and Analysis of  
Financial Condition and Results of Operations

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Overview

We provide mortgage insurance on first-lien mortgage loans, and products and services to the real estate and mortgage finance industries. We have two business segments—Mortgage Insurance and Services. Our Mortgage Insurance segment provides credit-related insurance coverage, principally through private mortgage insurance, to mortgage lending institutions nationwide. We provide our mortgage insurance products mainly through our wholly-owned subsidiary, Radian Guaranty. Our Services segment provides outsourced services, information-based analytics, valuations and specialized consulting and surveillance services for buyers and sellers of, and investors in, mortgage- and real estate-related loans and securities as well as other consumer ABS. The primary lines of business in our Services segment include: (i) loan review, underwriting and due diligence; (ii) surveillance, including RMBS surveillance, loan servicer oversight, loan-level servicing compliance reviews and operational reviews of mortgage servicers and originators; (iii) real estate valuation and component services providing outsourcing and technology solutions for the SFR and residential real estate markets, as well as outsourced solutions for appraisal, title and closing services; (iv) REO management services; and (v) services for the United Kingdom and European mortgage markets through our EuroRisk operations. These services and solutions are provided primarily through Clayton and its subsidiaries, including Green River Capital, Red Bell and ValuAmerica.

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

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Operating Environment and Business Strategy

Operating Environment. As a seller of mortgage credit protection and mortgage and real estate products and services, our results are subject to macroeconomic conditions and specific events that impact the mortgage origination environment and the credit performance of our underlying insured assets. As evidenced by the improved job market and increased housing prices, the operating environment for our businesses has improved over the past several years as the U.S. economy and housing market have been recovering from the financial crisis that began in 2007.

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

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New lending laws and regulations enacted in response to the financial crisis have resulted in increased regulation and regulatory scrutiny and a more restrictive credit environment that has limited the growth of the mortgage industry. As a result, Post-legacy loan originations have consisted primarily of high credit quality loans with significantly better credit performance than the loans in our Legacy Portfolio. While credit quality has improved, the restrictive credit environment has made it more challenging for many first-time home buyers to finance a home, which has limited the number of loans available for private mortgage insurance. See "Results of Operations—Mortgage Insurance—NIW, IIF, RIF" for additional information regarding our portfolio mix and the mortgage industry. Further, while the more stringent regulatory environment generally benefits the compliance consulting services we offer through our Services business, the lack of a meaningful securitization market has significantly limited the volume of business available for our Services business, as further discussed below.

As of December 31, 2016, our portfolio of business written in this improving Post-legacy credit environment, including HARP refinancings, represented 88% of our total primary RIF. The combination of improved portfolio mix and favorable credit trends has had a significant positive impact on our results of operations. The negative impact from losses in our Legacy Portfolio has been reduced and we have continued to write a high volume of insurance on high credit quality loans. The improving environment also has contributed to a reduction in our incurred losses and claims submitted and paid in our mortgage insurance business. The number of total new primary mortgage insurance defaults in our insured portfolio declined by 4.9% during the year ended December 31, 2016, compared to the same period of 2015. Similarly, our primary default rate of 3.2% at December 31, 2016 declined from 4.0% at December 31, 2015.

Early default experience ("EDE") within the first 12 months of a mortgage loan is an early indicator of underwriting quality. Radian's EDE has declined significantly as underwriting quality has improved. In addition, we have expanded our quality control reviews to encompass all 12-month early defaults. These reviews have indicated historically low material loan manufacturing defect rates. The following table provides a historical perspective on Radian's EDE from 2001 to present on its Flow Basis mortgage insurance.

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

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Private mortgage insurers, including Radian Guaranty, are required to comply with the PMIERS to remain eligible insurers of loans purchased by the GSEs. Radian Guaranty currently is an approved mortgage insurer under the PMIERS and is in compliance with the PMIERS Financial Requirements. The PMIERS are comprehensive, covering virtually all aspects of a private mortgage insurer's business and operations, including internal risk management and quality controls, the relationship between the GSEs and the approved insurer and the approved insurer's financial condition. The PMIERS require private mortgage insurers to obtain the prior written consent of the GSEs before taking certain actions. The PMIERS also specifically provide for the factors that are applied to calculate and determine a mortgage insurer's Minimum Required Assets to be updated every two years, with the next review scheduled to take place in 2017. See "Liquidity and Capital Resources—Radian Group—Short-Term Liquidity Needs" and Note 1 of Notes to Consolidated Financial Statements for additional information.

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

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For our mortgage insurance business, our competitors include other private mortgage insurers and governmental agencies, principally the FHA and the VA. We currently compete with other private mortgage insurers that are eligible to write business for the GSEs on the basis of price, underwriting guidelines, customer relationships, reputation, perceived financial strength (including based on comparative credit ratings) and overall service, including services and products that complement our mortgage insurance products and that are offered through our Services business. We compete with the FHA and VA on the basis of loan limits, pricing, credit guidelines, terms of our insurance policies and loss mitigation practices. The FHA's reduction of its annual mortgage insurance premiums in January 2015, combined with our premium changes in April 2016 to increase our pricing for borrowers with lower FICO scores, has negatively impacted our ability to compete with the FHA on certain high-LTV loans to borrowers with FICO scores below 720. However, we believe that our pricing changes made during the first half of 2016 enable us to more effectively compete with the FHA on certain high-LTV loans to borrowers with FICO scores above 720.



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

The positive macroeconomic and credit trends during the recovery from the financial crisis have encouraged new insurers to join the private mortgage insurance industry, although more recently there has also been consolidation among industry participants. Price competition continues as these newer entrants have sought to gain a greater presence in the market and more established industry participants seek to defend their market share and customer relationships. As a result of this competitive environment, recent pricing trends have included: (i) the use of a spectrum of filed rates to allow for formulaic, risk-based pricing (commonly referred to as “black-box” pricing); (ii) the use of customized (often discounted) rates on lender-paid, Single Premium Policies and to a limited extent, on borrower-paid Monthly Premium Policies; and (iii) overall reductions in standard filed rates on borrower-paid Monthly Premium Policies. In the recent past, the willingness of mortgage insurers to offer reduced pricing (whether through filed or customized rates) led to an increased demand from certain lenders for reduced rate products. This produced a marketplace where balancing both targeted returns on new business and an acceptable share of the insured market became more challenging for all participants. Although there can be no assurance that there will not be broad-based declines in mortgage insurance pricing in the future, following the widespread industry pricing changes for standard rates that occurred during the first half of 2016, pricing throughout the industry has been relatively stable with respect to borrower-paid Monthly Premium Policies. Further, in 2016 the California Department of Insurance issued guidance to the mortgage insurance industry stating that any approved discounting of a mortgage insurer's rates must be provided to all similarly situated customers of the mortgage insurer. See “Item 1A. Risk Factors—Our insurance subsidiaries are subject to comprehensive state insurance regulations and other requirements, which we may fail to satisfy.” Although the impact of this guidance is uncertain, it is possible that this guidance will discourage the discounting of rates within the mortgage insurance industry.

**Business Strategy.** Radian is focused on a number of strategic objectives, as described in “Radian's Long-Term Strategic Objectives” in “Item 1. Business—General.” With respect to our mortgage insurance business, we monitor various competitive and economic factors while seeking to balance both profitability and market share considerations in developing our pricing and origination strategies. We have taken a disciplined approach to establishing our premium rates and writing a mix of business that we expect to produce our targeted level of returns on a blended basis and an acceptable level of NIW. See “Results of Operations—Mortgage Insurance—NIW, IIF, RIF.” During 2016, in furtherance of our mortgage insurance strategy, we:

- increased our filed rates for lender-paid mortgage insurance;
- adjusted our borrower-paid, filed rates, effective on April 7, 2016, which generally had the effect of decreasing our standard rates on higher FICO business, and raising our standard rates on lower FICO business where the FHA is already very competitive;
- continued to use the authority set forth in our rate filings to provide customized premiums for lender-paid, Single Premium mortgage insurance while maintaining our focus on our overall risk and return targets, and beginning in the third quarter of 2016, we elected to selectively participate in certain discounted Single Premium business that has been offered on an aggregated basis and is now priced at a level that is within our targeted returns; and
- entered into the Single Premium QSR Transaction to proactively manage the risk and return profile of Radian Guaranty's insured portfolio, which resulted in increasing our return on required capital for Single Premium Policies and decreasing the percentage of our Single Premium RIF, net of reinsurance ceded.

See Note 8 of Notes to Consolidated Financial Statements and “Liquidity and Capital Resources—Radian Group—Short-term Liquidity Needs” for more information about the Single Premium QSR Transaction.

As a result of the actions described above and as demonstrated by our strong NIW generated in 2016, we believe we are well positioned to compete for the high-quality business being originated today, including the generally more profitable, borrower-paid business, while at the same time maintaining projected returns on NIW within our targeted ranges. In addition, the changes that we implemented to our filed premium rates in the first half of 2016 are expected to generate more consistent returns across the credit spectrum and provide more stable loss ratios in the event of further credit expansion. Over the life of the policies, we expect our current pricing (including the impact of the Single

Premium QSR Transaction) will produce returns on required capital on new business on an unlevered basis (i.e., after-tax underwriting returns plus projected investment income) of approximately 13% to 14%, and approximately 16% to 17% on a levered basis (i.e., after-tax returns taking into consideration a targeted corporate debt to capital ratio which is consistent with our current level). Our actual portfolio returns will depend on a number of factors, including economic conditions, the amount and mix of NIW that we are able to write at these new pricing levels and the amount of reinsurance we use.

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

As part of our strategy to leverage our core expertise in credit risk management and expand our presence in the mortgage finance industry, during 2016 we participated in new front-end credit risk transfer pilot programs developed by Fannie Mae and Freddie Mac. These pilot programs involve participation as part of a panel of mortgage insurance company affiliates in writing credit insurance policies on loans that are to be purchased by the GSEs in the future (i.e., front-end), subject to certain pre-established credit parameters. Our current commitment level for both of these pilot programs will result in premiums and required capital that are immaterial. We may participate in other GSE credit risk transfer programs in the future.

We are focused on growing our fee-based revenues as part of our long-term strategy. Our Services segment is a fee-based business that provides a diverse array of services to participants in multiple facets of the residential real estate and mortgage finance markets. While our Services business overall is most successful in a healthy and robust housing and economic environment, we believe that the diversity of the services offered by our Services segment positions us to generate revenue in both healthy and challenging mortgage market conditions.

Our strategy for future growth includes continuing to grow our Mortgage Insurance business and expanding our Services business. A key element of this business strategy is to use our Services segment to offer a range of mortgage and real estate-related products and services that complement our Mortgage Insurance business. This strategy is designed to satisfy demand in the market, grow our fee-based revenues, strengthen our existing mortgage insurance customer relationships, attract new customers and differentiate us from our mortgage insurance peers. Our current capabilities are illustrated by the graphic, "Existing Capabilities within Mortgage Finance Industry" in "Item 1. Business—General."

#### 2016 and Other Recent Capital Management Developments

During 2016, we completed a series of transactions to strengthen our financial position. The combination of these actions had the impact of decreasing our diluted shares, improving Radian Group's debt maturity profile and improving Radian Guaranty's position under the PMIERS Financial Requirements. This series of capital management transactions consists of:

- the issuance of \$350 million aggregate principal amount of Senior Notes due 2021;
  - the purchases of aggregate principal amounts of \$30.1 million and \$322.0 million, respectively, of our outstanding Convertible Senior Notes due 2017 and 2019;
  - the termination of the portion of the capped call transactions related to the purchased Convertible Senior Notes due 2017;
  - the completion of the share repurchase program announced in January 2016, by purchasing an aggregate of 9.4 million shares of Radian Group common stock for \$100.2 million, including commissions;
  - the implementation of the Single Premium QSR Transaction, which had the effect of increasing the amount by which Radian Guaranty's Available Assets exceed its Minimum Required Assets under the PMIERS Financial Requirements; and
  - the early redemption of the remaining \$195.5 million aggregate principal amount of our Senior Notes due 2017.
- See Notes 8, 12 and 14 of Notes to Consolidated Financial Statements for additional information about these transactions.

Our purchases of Convertible Senior Notes due 2017 and 2019 and the early redemption of the Senior Notes due 2017 resulted in a loss on induced conversion and debt extinguishment of \$75.1 million for the year ended December 31, 2016. In connection with the termination of the capped call transactions related to the purchased Convertible Senior Notes due 2017, we received 0.2 million shares of Radian Group common stock, which was valued at \$2.6 million based on a stock price on the closing date of \$11.86.

Following the purchases described above, \$22.2 million and \$68.0 million, respectively, of the principal amounts of the Convertible Senior Notes due 2017 and 2019 remained outstanding as of December 31, 2016. Subsequently, in January 2017, we satisfied our obligations with respect to the remaining outstanding Convertible Senior Notes due 2019. See "—Capital Management Developments Subsequent to 2016" below.

The 2016 transactions described above resulted in a net decrease in diluted shares (used for purposes of determining diluted net income per share), in each case as of the date of the completion of the respective transaction, of approximately 23.3 million. Although these transactions resulted in a net decrease in diluted shares outstanding, the actual shares outstanding increased at December 31, 2016 from December 31, 2015. See “Results of Operations—Consolidated—Diluted Net Income Per Share.”

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

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In addition to the net decrease in dilutive shares, in the aggregate the series of 2016 capital management transactions described above resulted in the following changes to liquidity, long-term debt and stockholders' equity as of their effective dates:

- a net decrease in available holding company liquidity of \$204.6 million, before the repayment of the Surplus Note described below;

- a net decrease in long-term debt of \$161.7 million; and

- a net decrease in stockholders' equity of \$16.9 million.

In addition, available holding company liquidity increased by \$325 million at June 30, 2016 due to Radian Guaranty's repayment of the Surplus Note to Radian Group. See "Liquidity and Capital Resources—Radian Group—Short-Term Liquidity Needs—Sources of Liquidity."

In the first quarter of 2016, in order to proactively manage the risk and return profile of Radian Guaranty's insured portfolio and continue managing its position under the PMIERS Financial Requirements in a cost-effective manner, Radian Guaranty entered into the Single Premium QSR Transaction with a panel of third-party reinsurers. Radian Guaranty began ceding business under this agreement effective January 1, 2016.

The Single Premium QSR Transaction increases the amount by which Radian Guaranty's Available Assets exceeds its Minimum Required Assets under the PMIERS Financial Requirements. The Single Premium QSR Transaction also resulted in the following impacts, which are expected to continue over the term of the transaction:

- increase in the amount of our RIF covered by reinsurance, and therefore, the amount of premiums and losses ceded;

- reduction in net premiums written and earned;

- reduction in other operating expenses by the amount of ceding commissions earned; and

- improvement in Radian Guaranty's return on required capital for its Single Premium mortgage insurance products as a

- result of the combination of the favorable impact to our PMIERS Financial Requirements and the expected ceded underwriting margin.

See Note 8 of Notes to Consolidated Financial Statements and "Liquidity and Capital Resources—Radian Group—Short-Term Liquidity Needs" for more information about the Single Premium QSR Transaction.

On June 29, 2016, the Board authorized a new share repurchase program to spend up to \$125 million to repurchase Radian Group common stock. As of February 27, 2017, the full purchase authority remained available under this share repurchase program, which expires on June 30, 2017.

Capital Management Developments Subsequent to 2016. In November 2016, we announced our intent to exercise our redemption option for the remaining Convertible Senior Notes due 2019, of which \$68.0 million aggregate principal amount was outstanding at December 31, 2016. The redemption was settled on January 27, 2017. At the time of the redemption, this transaction reduced our diluted shares by 6.4 million, or approximately 2.8% of our diluted shares outstanding as of December 31, 2016. See Note 21 of Notes to Consolidated Financial Statements for additional details.

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

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Key Factors Affecting Our Results

Mortgage Insurance

The charts below highlight certain of the key factors affecting our Mortgage Insurance revenue. The following sections discuss these factors, as well as other key drivers of our results.

CUSTOMERS

- Mortgage bankers
  - » Independent
  - » Bank-owned
  - » Realtor/Builder-owned
- Regional and Community Banks
- Credit Unions

REVENUE DRIVERS

- IIF
- Persistency Rate
- Premium rates and mix of business
- Size of mortgage origination market and market demand for low down payment loans
- Level of mortgage originations for purchase transactions
- Penetration percentage of private mortgage insurance in overall mortgage market
- Radian's market share of the private mortgage insurance market
- Levels of GSE credit risk transfer

NIW. NIW is affected by the overall size of the mortgage origination market, the penetration percentage of private mortgage insurance into the overall mortgage origination market and our market share of the private mortgage insurance market. The overall mortgage origination market is influenced by macroeconomic factors such as household formation, household composition, home affordability, interest rates, housing markets in general, credit availability and the impact of various legislative and regulatory actions that may influence the housing and mortgage finance industries. The penetration percentage of private mortgage insurance is mainly influenced by the competitiveness of private mortgage insurance for GSE conforming loans compared to FHA and VA insured loans, and the relative percentage of mortgage originations that are for purchased homes versus refinances.

The following charts provide a historical perspective on certain key market drivers, including:

- the mortgage origination volume from home purchases and refinancings;
- private mortgage insurance penetration as a percentage of the mortgage origination market; and
- the composition of the insured mortgage market between private mortgage insurance and FHA insurance.

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

Private mortgage insurance penetration in the insurable market tends to be significantly higher on new mortgages for purchased homes than on the refinance of existing mortgages, because average LTV ratios are typically higher on home purchases and therefore are more likely to require mortgage insurance. Radian Guaranty's share of the private mortgage insurance market is influenced by competition in that market. See "Item 1. Business—Mortgage Insurance—Competition" and "Results of Operations—Mortgage Insurance—NIW, IIF, RIF."

**Premiums.** The premium rates we charge for our insurance are based on a number of borrower, loan and property characteristics. Premiums on our mortgage insurance products are generally paid as Monthly Premiums or Single Premiums. In addition, premiums may be paid as a combination of an up-front premium at origination plus monthly renewals, or in some cases, as annual or other periodic premiums paid over multiple years.

NIW increases our IIF and our premiums written and earned. Our IIF growth is expected to be one of our primary sources of increased future revenue over time. An increase or decrease in IIF will generally have a corresponding impact on premiums earned. Cancellations of our insurance policies as a result of prepayments and other reductions of IIF, such as rescissions of coverage and claims paid, generally have a negative effect on premiums earned. The measure for assessing the impact of policy cancellations on our IIF is our Persistency Rate, defined as the percentage of IIF that remains on our books over a period of time. Insurance premiums on our Monthly Premium insurance policies are paid and earned over time; therefore, higher Persistency Rates on Monthly Premium insurance policies enable us to earn more premiums and recover more of our policy acquisition costs, which generally would result in increased profitability from these monthly policies.

When Single Premium Policies are cancelled by the insured because the loan has been paid off or otherwise, we accelerate the recognition of any remaining unearned premiums. Therefore, assuming all other factors remain constant, profitability increases on our Single Premium business when Persistency Rates are lower. The ultimate profitability of our mortgage insurance business is affected by the impact of mortgage prepayment speeds on the mix of business we write. Because prepayment speeds are difficult to project, our strategy has been to write a mix of Single Premium Policies and Monthly Premium Policies, which we believe balances the overall impact on our results if actual prepayment speeds are significantly different from expectations. The Single Premium QSR Transaction is consistent with our strategy to balance our mix of Single Premium Policies and Monthly Premium Policies. The impact of all of our third-party QSR transactions reduced our Single Premium RIF from 30.2% at December 31, 2015 to 24.5% at December 31, 2016. See "Overview—Operating Environment and Business Strategy" for more information. Rescissions, which are discussed in further detail below, result in a full refund of the inception-to-date premiums received, and therefore, premiums earned are negatively affected by any increases in our accrual for estimated Rescission refunds. Additionally, premiums ceded to third-party reinsurance counterparties decrease premiums written and earned.

Approximately 60% of the loans in our total primary mortgage insurance portfolio at December 31, 2016 have Monthly Premium Policies that provide a level monthly premium for the first 10 years of the policy, followed by a reduced level monthly premium thereafter. If a loan is refinanced under HARP, the initial 10-year period is reset. Due to the borrower's ability to cancel the policy generally when the LTV reaches 80% of the original unpaid principal balance, and the automatic cancellation of the policy when the LTV reaches 78% of the unpaid principal balance, the volume of loans that remain insured after 10 years and would be subject to the premium reset is generally not material in relation to the total loans originated. However, to the extent the volume of loans resetting from year to year varies significantly, the trend in earned premiums may also vary.

**Losses.** Incurred losses represent the estimated future claim payments on newly defaulted insured loans as well as any change in our claim estimates for existing defaults, including changes in the estimates we use to determine our losses, and estimates with respect to the likelihood, magnitude and timing of anticipated losses on defaulted loans.

Other factors influencing incurred losses include:

The product mix of our total direct RIF (loans with higher risk characteristics generally result in more delinquencies and claims).



-The average loan size (higher average loan amounts generally result in higher incurred losses).

The percentage of coverage on insured loans (higher percentages of insurance coverage generally correlate with higher incurred losses) and the presence of structural mitigants such as deductibles or stop losses.

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

Changes in housing values (declines in housing values generally make it more difficult for borrowers to sell a home to avoid default or for the property to be sold to mitigate any claim, and also may negatively affect a borrower's willingness to continue to make mortgage payments when the home value is less than the mortgage balance; conversely, increases in housing values tend to reduce the level of defaults as well as make it more likely that foreclosures will result in the loan being satisfied).

The distribution of claims over the life cycle of a portfolio (historically, claims are relatively low during the first two years after a loan is originated and then increase over a period of several years before declining; however, several factors can impact and change this cycle, including the economic environment, the quality of the underwriting of the loan, characteristics of the mortgage loan, the credit profile of the borrower, housing prices and unemployment rates). Our ability to mitigate potential losses through Rescissions, Claim Denials, cancellations and Claim Curtailments on claims submitted to us. These actions all reduce our incurred losses. However, if these Loss Mitigation Activities are successfully challenged at rates that are higher than expected or we agree to settle disputes related to our Loss Mitigation Activities at levels above our expected losses, our incurred losses will increase. As our Legacy Portfolio has become a smaller percentage of our overall insured portfolio, there has been a decrease in the amount of Loss Mitigation Activity with respect to the claims we receive, and we expect this trend to continue.

Settlements such as the BofA Settlement Agreement, which establish certain limits on Loss Mitigation Activity. See Note 11 of Notes to Consolidated Financial Statements for additional information about the BofA Settlement Agreement.

The Freddie Mac Agreement, which establishes certain terms for the treatment of the loans subject to that agreement, including claim payments, Loss Mitigation Activity and insurance coverage, and capped Radian Guaranty's claim exposure on such loans. See Note 11 of Notes to Consolidated Financial Statements for additional information.

Other Operating Expenses. Our other operating expenses are affected by the amount of NIW, as well as the amount of RIF. Additionally, during 2014 and 2015, our operating expenses had been impacted significantly by compensation expense associated with changes in the estimated fair value of certain of our long-term equity-based incentive awards that were settled in cash. The fair value of these awards, and associated compensation expense, were dependent, in large part, on our stock price at any given point in time. Now that substantially all of the cash-settled awards have vested, the expense volatility associated with these awards is not expected in the future.

Third-Party Reinsurance. We use third-party reinsurance in our mortgage insurance business to manage capital and risk. When we enter into a reinsurance agreement, the reinsurer receives a premium and, in exchange, agrees to insure an agreed upon portion of incurred losses. This arrangement has the impact of reducing our earned premiums but also reduces our net RIF, which provides capital relief to the insurance subsidiary ceding the RIF and reduces our incurred losses by any incurred losses ceded in accordance with the reinsurance agreement. In addition, we often receive ceding commissions from the reinsurer as part of the transaction, which reduces our operating expenses. See Note 8 of Notes to Consolidated Financial Statements for more information about our reinsurance arrangements.

#### Services

Our Services segment provides services and solutions to the real estate and mortgage finance industries, providing outsourced services, information-based analytics, valuations and specialized consulting and surveillance services for buyers and sellers of, and investors in, mortgage- and real estate-related loans and securities as well as other consumer ABS. The Services segment's services and solutions are provided primarily through Clayton and its subsidiaries. See Note 1 of Notes to Consolidated Financial Statements and "Item 1. Business—Services—Services Business Overview" for additional information regarding the Services segment's business.

The Services segment's principal customers include a wide range of financial institutions, the GSEs, securitization trusts, investors, regulators and other mortgage-related service providers, including mortgage originators, mortgage purchasers, MBS issuers, MBS investors and mortgage servicers. See "Item 1. Business—Services—Customers" for additional information regarding the Services segment's customers.



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The results of Clayton's operations have been included in our financial statements in the Services segment from the June 30, 2014 date of acquisition. The Services segment's results primarily reflect the operations and offerings of Clayton, along with other services and activities we offer that are complementary to our mortgage insurance business. In contrast to the Mortgage Insurance segment, the Services segment is a fee-for-service business without significant balance sheet risk.

Key factors impacting results for our Services business include:

**Services Revenue.** Our Services revenue is primarily derived from: (i) loan review, underwriting and due diligence services; (ii) surveillance services, including RMBS surveillance, loan servicer oversight, loan-level servicing compliance reviews and operational reviews of mortgage servicers and originators; (iii) real estate valuation and component services, providing outsourcing and technology solutions for the SFR and real estate markets, as well as outsourced solutions for appraisal, title and closing services; and (iv) REO management services. See "Item 1. Business—Services—Services Business Overview—Services Revenue Drivers" for additional information regarding current and expected future revenue drivers.

Sales volume in our Services business generally varies based on the overall activity in the mortgage finance market and the health of related industries. We believe the diversity of the services offered by our Services segment, which are intended to cover all phases of the mortgage value chain, will help produce fee income from the Services segment throughout various mortgage finance environments. For example, the demand for due diligence services may decrease in unfavorable economic conditions due to lower mortgage origination and securitization volumes, whereas the demand for REO management services may tend to increase in such an environment. In addition, while the size of the mortgage finance market may be adversely impacted by increased regulatory requirements, these increased requirements may increase the demand for certain of our services, such as services related to compliance with the CFPB mortgage servicing standards and the regulatory requirements for third-party review of loans in ABS.

Our real estate valuation and component services business provides services to the SFR market, including SFR securitizations, which is a market that experienced rapid growth in 2014 and into 2015. However, during 2015 and the first half of 2016 there was a decline in the pace of home purchases by institutional investors and a slowdown in SFR securitizations, which negatively impacted our revenue in both years. We have since then experienced a modest increase in SFR securitization and related activity, and we expect this level of activity to continue through 2017. In addition, we believe that if the non-agency RMBS market, which has been limited in recent years, were to return it would represent a potentially significant long-term growth opportunity for our loan review, underwriting, due diligence and surveillance services. However, the size and timing for the return of this market are uncertain and will be impacted by factors outside of our control, including market demand and regulation.

The Services segment is dependent on a limited number of large customers that represent a significant portion of its revenues. Access to Radian Guaranty's mortgage insurance customer base may provide additional opportunities to expand the segment's existing customers. However, an unexpected loss of a major customer could significantly impact the level of Services revenue. Generally, our contracts do not contain volume commitments and may be terminated by clients at any time. Revenue for the Services segment also includes inter-segment revenues from services performed for our Mortgage Insurance segment. See Note 4 of Notes to Consolidated Financial Statements for additional information.

In our Services segment, we generate revenue under three basic types of contracts:

**Fixed-Price Contracts.** Under a fixed-price contract, we agree to perform the specified services and deliverables for a pre-determined per-unit or per-file price. To the extent our actual direct and allocated indirect costs decrease or increase from the estimates upon which the price was negotiated, we will generate more or less profit, respectively, -or could incur a loss. We use fixed-price contracts in our real estate valuation and component services, our loan review, underwriting and due diligence services as well as our title and closing review services. These contracts are also used in our surveillance business for our servicer oversight services and RMBS surveillance services, as well as in our REO management business.



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**Time-and-Expense Contracts.** Under a time-and-expense contract, we are paid a fixed hourly rate, and we are reimbursed for billable out-of-pocket expenses as work is performed. To the extent our actual direct labor costs decrease or increase in relation to the fixed hourly billing rates provided in the contract, we may generate more or less profit, respectively. However, since these contracts are generally short-term in nature, the risk is limited to the periods covered by the contracts. These contracts are used in our loan review, underwriting and due diligence and EuroRisk services offerings, as well as in the consulting services that we offer as part of our surveillance business.

**Percentage-of-Sale Contracts.** Under percentage-of-sale contracts, we are paid a contractual percentage of the sale proceeds upon the sale of each property. To the extent the sale of a property is delayed or not consummated, or the sales proceeds are significantly less than originally estimated, we may generate less profit than anticipated, or could incur a loss. These contracts are only used for a portion of our REO management services and our real estate brokerage services. In addition, through the use of proprietary technology, property leads are sent to select clients. Our Services segment recognizes revenue for these transactions based on a percentage of the sale, upon the client's successful closing on the property.

**Cost of Services.** Our cost of services is primarily affected by our level of services revenue. Our cost of services primarily consists of employee compensation and related payroll benefits, including the cost of billable labor assigned to revenue-generating activities and, to a lesser extent, other costs of providing services such as travel and related expenses incurred in providing client services, costs paid to outside vendors, data acquisition costs and other compensation-related expenses to maintain software application platforms that directly support our businesses. The level of these costs may fluctuate if market rates of compensation change, or if there is decreased availability or a loss of qualified employees.

**Gross Profit on Services.** In addition to the key factors affecting Services revenue and cost of services described above, our gross profit on services may fluctuate from period to period due to a shifting mix of services we provide due to changes in the relative demand for those services in the marketplace. Shifts in the business mix of our Services business can impact our gross profit because each product and service generally produces a different level of gross margin. These individual gross margins in turn can be impacted in any given period by factors such as the implementation of new regulatory requirements, our operating capacity, competition or other environmental factors.

**Operating Expenses.** Our operating expenses primarily consist of salaries and benefits not classified as cost of services because they are related to employees, such as sales and corporate employees, that are not directly involved in providing client services. Operating expenses also include other selling, general and administrative expenses, depreciation, and allocations of corporate general and administrative expenses.

#### Financial Guaranty and Discontinued Operations

**Radian Asset Assurance Stock Purchase Agreement.** Radian completed the sale of Radian Asset Assurance to Assured on April 1, 2015, pursuant to the Radian Asset Assurance Stock Purchase Agreement. Until the April 1, 2015 sale date, the operating results of Radian Asset Assurance were classified as discontinued operations for all periods presented in our consolidated statements of operations.

Radian Asset Assurance provided direct insurance and reinsurance on credit-based structured finance and public finance risks. The assets and liabilities associated with the discontinued operations were historically a source of significant volatility to our results of operations, due to various factors including fluctuations in fair value and credit risk. For additional information related to discontinued operations, see Note 18 of Notes to Consolidated Financial Statements.

#### Other Factors Affecting Consolidated Results

**Investment Income.** Investment income is determined primarily by the investment balances held and the average yield on our overall investment portfolio.

**Net Gains (Losses) on Investments.** The recognition of realized investment gains or losses can vary significantly across periods as the activity is highly discretionary based on such factors as market opportunities, our tax and capital profile and overall market cycles that impact the timing of the sales of securities. Unrealized investment gains and

losses arise primarily from changes in the market value of our investments that are classified as trading and these unrealized gains and losses are generally the result of changes in interest rates or credit spreads and may not necessarily result in economic gains or losses.

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**Amortization and Impairment of Intangible Assets.** Amortization of intangible assets represents the periodic expense required to amortize the cost of intangible assets over their estimated useful lives. The periodic review of intangible assets for potential impairment may also impact consolidated results. Our intangible assets primarily relate to the acquisition of Clayton, and their valuation is based on management's assumptions, which are inherently subject to risks and uncertainties. See Note 7 of Notes to Consolidated Financial Statements for additional information.

**Results of Operations—Consolidated**

Radian Group serves as the holding company for our operating subsidiaries and does not have any operations of its own. Our consolidated operating results for 2016 primarily reflect the financial results and performance of our two business segments—Mortgage Insurance and Services. See “Results of Operations—Mortgage Insurance,” and “Results of Operations—Services” for the operating results of these business segments.

In addition to the results of our operating segments, pretax income (loss) is also affected by “Other Factors Affecting Consolidated Results” described above. See “—Use of Non-GAAP Financial Measure” below for more information regarding items that are excluded from the operating results of our operating segments.

We allocate to our Mortgage Insurance segment: (i) corporate expenses based on an allocated percentage of time spent on the Mortgage Insurance segment; (ii) all interest expense except for interest expense related to the Senior Notes due 2019 that were issued to fund our purchase of Clayton; and (iii) all corporate cash and investments.

We allocate to our Services segment: (i) corporate expenses based on an allocated percentage of time spent on the Services segment and (ii) all interest expense related to the Senior Notes due 2019, the proceeds of which were used to fund our acquisition of Clayton. No corporate cash or investments are allocated to the Services segment. We have included Clayton's results of operations from the June 30, 2014 date of acquisition.



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

The following table highlights selected information related to our consolidated results of operations for the years ended December 31, 2016, 2015 and 2014:

(\$ in millions, except per-share amounts)	Year Ended December 31, (1)			\$ Change Favorable (Unfavorable)	
	2016	2015	2014 (2)	2016 vs. 2015	2015 vs. 2014
Pretax income from continuing operations	\$483.7	\$437.8	\$407.2	\$45.9	\$30.6
Net income from continuing operations	308.3	281.5	1,259.6	26.8	(978.1 )
Income (loss) from discontinued operations, net of tax	—	5.4	(300.1 )	(5.4 )	305.5
Net income	308.3	286.9	959.5	21.4	(672.6 )
Diluted net income per share	\$1.37	\$1.22	\$4.16	\$0.15	\$(2.94 )
Book value per share at December 31	\$13.39	\$12.07	\$10.98	\$1.32	\$1.09
Net premiums earned—insurance	\$921.8	\$915.9	\$844.5	\$5.9	\$71.4
Services revenue	168.9	157.2	78.0	11.7	79.2
Net investment income	113.5	81.5	65.7	32.0	15.8
Net gains (losses) on investments and other financial instruments	30.8	35.7	80.0	(4.9 )	(44.3 )
Provision for losses	202.8	198.6	246.1	(4.2 )	47.5
Policy acquisition costs	23.5	22.4	24.4	(1.1 )	2.0
Cost of services	114.2	93.7	44.7	(20.5 )	(49.0 )
Other operating expenses	244.9	242.4	251.2	(2.5 )	8.8
Interest expense	81.1	91.1	90.5	10.0	(0.6 )
Loss on induced conversion and debt extinguishment	75.1	94.2	—	19.1	(94.2 )
Amortization and impairment of intangible assets	13.2	13.0	8.6	(0.2 )	(4.4 )
Income tax provision (benefit)	175.4	156.3	(852.4 )	(19.1 )	(1,008.7 )
Adjusted pretax operating income (3)	\$541.8	\$510.9	\$342.4	\$30.9	\$168.5

(1) For all periods presented, reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue and cost of services have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses. See Notes 2 and 4 of Notes to Consolidated Financial Statements.

(2) Includes the results of Clayton's operations from the June 30, 2014 acquisition date.

(3) See "—Use of Non-GAAP Financial Measure" below.

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Net Income from Continuing Operations. As discussed in more detail below, our results for 2016 compared to 2015 reflect: (i) an increase in net investment income; (ii) a decrease in loss on induced conversion and debt extinguishment; (iii) a decrease in interest expense; and (iv) modestly higher net premiums earned—insurance. These items were partially offset by: (i) lower gross profit on Services; (ii) a decrease in net gains (losses) on investments and other financial instruments; and (iii) an increase in the provision for losses.

Our results for 2015 compared to 2014 reflect: (i) an income tax provision in 2015 in contrast to a significant income tax benefit in 2014 that had resulted primarily from the reversal of substantially all of our deferred tax valuation allowance in 2014; (ii) a loss on induced conversion and debt extinguishment; and (iii) lower net gains on investments and other financial instruments. These items were partially offset by: (i) an increase in net premiums earned on insurance and (ii) a reduction in the provision for losses. Our results for 2015 also reflect a full year of operations for Clayton, which we acquired on June 30, 2014, compared to a partial year in 2014.

Income (Loss) from Discontinued Operations, Net of Tax. There were no amounts recorded in 2016 related to discontinued operations. In 2015, we recorded total net income from discontinued operations of \$5.4 million, consisting primarily of the recognition of investment gains previously deferred and recorded in AOCI and recognized as a result of the completion of the sale of Radian Asset Assurance to Assured on April 1, 2015, as well as adjustments to estimated transaction costs and taxes.

Based upon the Radian Asset Assurance Stock Purchase Agreement, Radian Asset Assurance was accounted for as held for sale and discontinued operations at December 31, 2014. As a result, in 2014, we recognized a \$467.5 million pre-tax impairment charge reported as loss from discontinued operations. We have also reclassified the related operating results as discontinued operations for all periods presented in our consolidated statements of operations. No general corporate overhead or interest expense was allocated to discontinued operations in 2015 or 2014.

The loss from discontinued operations consists of three components: (i) loss on classification as held for sale for the year ended December 31, 2014; (ii) income or loss from operations of businesses held for sale; and (iii) income tax provision. The divestiture of our financial guaranty business was part of our strategy to focus our business on the real estate and mortgage finance markets and also accelerated Radian Guaranty's ability to comply with the PMIERS Financial Requirements.

For additional information related to discontinued operations, see Note 18 of Notes to Consolidated Financial Statements.

Diluted Net Income Per Share. The increase in diluted net income per share for 2016, compared to 2015, is primarily due to the increase in net income from continuing operations, as discussed above, combined with the decrease in average diluted shares. The average diluted shares decreased from 246.3 million shares for 2015 to 229.3 million shares for 2016. This decrease in average diluted shares is primarily due to the impact of the June 2015 repurchase of \$389.1 million of our Convertible Senior Notes due 2017, combined with the impact of the series of 2016 capital management transactions described above, included as of their effective dates. See "Overview—2016 and Other Recent Capital Management Developments" above.

The net decrease in diluted shares (used for purposes of determining diluted net income per share) resulting from the transactions described above, in each case as of the date of the completion of the respective transaction, was approximately 23.3 million. This net decrease reflects: (i) the impact of the completed share repurchase program and (ii) that the number of dilutive shares related to the purchased Convertible Senior Notes due 2017 and 2019 (which shares had been included in the calculations of dilutive shares, in accordance with GAAP) exceeded the net increase in shares issued as a result of these transactions. Although these transactions resulted in a net decrease in diluted shares outstanding, the actual shares outstanding increased at December 31, 2016 from December 31, 2015.

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Book Value Per Share. The increase in book value per share from \$12.07 at December 31, 2015 to \$13.39 at December 31, 2016 is primarily due to net income and the equity impact of the series of 2016 capital management transactions described above, partially offset by a net increase in the number of shares outstanding, as shown below.

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- (1) All book value per share items above are calculated based on 206.9 million shares outstanding as of December 31, 2015, except for:
- (a) the net increase in shares outstanding, which represents the difference between: (i) total equity as of December 31, 2016 divided by the shares outstanding as of December 31, 2016 and (ii) total equity as of December 31, 2016 divided by the shares outstanding as of December 31, 2015; and
- (b) the December 31, 2016 book value per share, which was calculated based on 214.5 million shares outstanding as of December 31, 2016.
- (2) Includes the impact, net of related tax expense, of loss on induced conversion and debt extinguishment related to the series of capital management transactions completed in 2016, as further described in “—Overview—2016 and Other Recent Capital Management Developments.”
- (3) Reflects the combined net impact on equity and shares, respectively, from the series of capital management transactions completed in 2016, as further described in “—Overview—2016 and Other Recent Capital Management Developments.” The impact on equity shown above includes the impact of: (i) the extinguishment of Convertible Senior Notes due 2017 and 2019; (ii) the termination of the portion of the capped call transactions related to the purchased Convertible Senior Notes due 2017; and (iii) the shares repurchased under the completed share repurchase program, and excludes the loss on induced conversion and debt extinguishment, which is included in net income.

Services Revenue and Cost of Services. Services revenue and cost of services all relate to our Services segment. See “Results of Operations—Services” for more information.

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Net Gains (Losses) on Investments and Other Financial Instruments. The components of the net gains (losses) on investments and other financial instruments for the periods indicated are as follows:

(In millions)	Year Ended December 31,		
	2016	2015	2014
Net unrealized gains (losses) related to change in fair value of trading securities and other investments	\$27.2	\$(27.0)	\$92.2
Net realized gains (losses) on investments	4.3	62.1	(8.3 )
Other-than-temporary impairment losses	(0.5 )	—	—
Net gains (losses) on other financial instruments	(0.2 )	0.6	(3.9 )
Net gains (losses) on investments and other financial instruments	\$30.8	\$35.7	\$80.0

Other Operating Expenses. Other operating expenses for 2016, as compared to 2015, increased primarily due to operating expenses resulting from the acquisitions of Red Bell and ValuAmerica, which Clayton acquired in March 2015 and October 2015, respectively, and the increase in technology expenses associated with a significant investment in upgrading our systems. Compensation expense for 2016 also included severance costs of \$5.3 million, which primarily relate to expense reduction initiatives. The increase in other operating expenses for 2016 was substantially offset by the increase in ceding commissions from the Single Premium QSR Transaction.

Our other operating expenses also included compensation expense associated with incentive compensation programs. During 2015 and 2014 our expense was impacted by changes in the estimated fair value of certain cash-settled long-term incentive awards that were valued, in large part, based on the stock price of Radian Group's common stock. During 2015, our expense related to these awards was \$22.6 million compared to \$43.9 million for 2014. Substantially all of these awards vested in June 2014 and June 2015. Therefore, although these awards had produced significant expense volatility in the past due to their valuation relative to Radian Group's common stock price, the expense volatility associated with these awards will not continue in the future.

The decrease in other operating expenses in 2015 as compared to 2014 was also partially due to the settlement expenses that we incurred in 2014 on remedies related to contract underwriting services provided on our Legacy Portfolio for which we incurred no similar expenses in 2015. The decrease in other operating expenses in 2015 as compared to 2014 was partially offset by a full year of other operating expenses for Clayton in 2015 compared to six months in 2014.

Interest Expense. Interest expense for 2016 decreased compared to 2015. This decrease was primarily due to reductions in interest expense from: (i) the March 2016 and June 2015 purchases of aggregate principal amounts of \$30.1 million and \$389.1 million, respectively, of Convertible Senior Notes due 2017; (ii) the 2016 purchases of \$322.0 million aggregate principal amount of Convertible Senior Notes due 2019; and (iii) the August 2016 redemption of the remaining \$195.5 million aggregate principal amount of our Senior Notes due 2017. These reductions were partially offset by increased interest expense from the March 2016 issuance of \$350 million aggregate principal amount of 7.000% Senior Notes due 2021 and the June 2015 issuance of \$350 million aggregate principal amount of 5.250% Senior Notes due 2020.

The slight increase in interest expense in 2015 as compared to 2014 was primarily due to debt issuances in 2014 and 2015, offset by a decrease in interest expense primarily due to the purchases in 2015 of \$389.1 million aggregate principal amount of our Convertible Senior Notes due 2017. See Note 12 of Notes to Consolidated Financial Statements for additional information.

Loss on induced conversion and debt extinguishment. During 2016, our purchases of Convertible Senior Notes due 2017 and 2019 and redemption of Senior Notes due 2017 resulted in a loss on induced conversion and debt extinguishment of \$75.1 million consisting of: (i) a market premium of \$41.8 million, representing the excess of the fair value of the total consideration delivered to the sellers of the Convertible Senior Notes due 2017 and 2019 over

the fair value of the common stock issuable pursuant to the original conversion terms of the purchased notes; (ii) a loss on debt extinguishment of \$17.2 million, representing the difference between the fair value and the carrying value, net of unamortized issuance costs, of the liability component of the purchased Convertible Senior Notes due 2017 and 2019; (iii) a loss on debt extinguishment of \$15.0 million on the redemption of the Senior Notes due 2017; and (iv) expenses totaling \$1.1 million for transaction costs.

The loss on induced conversion and debt extinguishment of \$94.2 million for the year ended December 31, 2015 was primarily related to the purchases in the second quarter of 2015 of Convertible Senior Notes due 2017. See Note 12 of Notes to Consolidated Financial Statements for information on our extinguishment of debt.

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**Amortization and Impairment of Intangible Assets.** The amortization and impairment of intangible assets primarily reflects the amortization of intangible assets acquired as part of the Clayton acquisition. In 2014, we also recorded a \$2.1 million impairment of a portion of our goodwill related to a small subsidiary within our Services segment, which had been acquired in 2013. See Note 7 of Notes to Consolidated Financial Statements for additional information.

**Income Tax Provision (Benefit).** The effective tax rate from continuing operations was 36.3% for 2016, compared to 35.7% for 2015 and a benefit of 209.4% for 2014. Our 2016 effective tax rate was slightly higher than the federal statutory rate of 35%, primarily as a result of the non-deductible portion of the purchase premium relating to our Convertible Senior Notes due 2017 and 2019. The increase was partially offset by the income tax benefit resulting from our return-to-provision adjustment. For 2015, the additional expense related to the accounting for uncertainty of income taxes and the impact of state and local income taxes was substantially offset by the tax benefit from the deductible portion of the premium associated with the purchases of Convertible Senior Notes due 2017. The change from our statutory tax rate of 35% for 2014 was primarily due to the reversal of substantially all of our valuation allowance.

**Use of Non-GAAP Financial Measure.** In addition to the traditional GAAP financial measures, we have presented "adjusted pretax operating income," a non-GAAP financial measure for the consolidated company, among our key performance indicators to evaluate our fundamental financial performance. This non-GAAP financial measure aligns with the way our business performance is evaluated by both management and by our board of directors. This measure has been established in order to increase transparency for the purposes of evaluating our core operating trends and enabling more meaningful comparisons with our peers. Although on a consolidated basis "adjusted pretax operating income" is a non-GAAP financial measure, for the reasons discussed above we believe this measure aids in understanding the underlying performance of our operations. Our senior management, including our Chief Executive Officer (Radian's chief operating decision maker), uses adjusted pretax operating income (loss) as our primary measure to evaluate the fundamental financial performance of our business segments and to allocate resources to the segments. Adjusted pretax operating income is defined as GAAP consolidated pretax income from continuing operations excluding the effects of net gains (losses) on investments and other financial instruments, loss on induced conversion and debt extinguishment, acquisition-related expenses, amortization and impairment of intangible assets and net impairment losses recognized in earnings.

Although adjusted pretax operating income (loss) excludes certain items that have occurred in the past and are expected to occur in the future, the excluded items represent those that are: (i) not viewed as part of the operating performance of our primary activities or (ii) not expected to result in an economic impact equal to the amount reflected in consolidated pretax income (loss) from continuing operations. These adjustments, along with the reasons for their treatment, are described below.

- Net gains (losses) on investments and other financial instruments. The recognition of realized investment gains or losses can vary significantly across periods as the activity is highly discretionary based on the timing of individual securities sales due to such factors as market opportunities, our tax and capital profile and overall market cycles.
- (1) Unrealized investment gains and losses arise primarily from changes in the market value of our investments that are classified as trading securities. These valuation adjustments may not necessarily result in economic gains or losses.

Trends in the profitability of our fundamental operating activities can be more clearly identified without the fluctuations of these realized and unrealized gains or losses. We do not view them to be indicative of our fundamental operating activities. Therefore, these items are excluded from our calculation of adjusted pretax operating income (loss). However, we include the change in expected economic loss or recovery associated with our consolidated VIEs, if any, in the calculation of adjusted pretax operating income (loss).

- (2) Loss on induced conversion and debt extinguishment. Gains or losses on early extinguishment of debt and losses incurred to purchase our convertible debt prior to maturity are discretionary activities that are undertaken in order to take advantage of market opportunities to strengthen our financial and capital positions; therefore, we do not

view these activities as part of our operating performance. Such transactions do not reflect expected future operations and do not provide meaningful insight regarding our current or past operating trends. Therefore, these items are excluded from our calculation of adjusted pretax operating income (loss).

Acquisition-related expenses. Acquisition-related expenses represent the costs incurred to effect an acquisition of a business (i.e., a business combination). Because we pursue acquisitions on a strategic and selective basis and not in (3) the ordinary course of our business, we do not view acquisition-related expenses as a consequence of a primary business activity. Therefore, we do not consider these expenses to be part of our operating performance and they are excluded from our calculation of adjusted pretax operating income (loss).

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Amortization and impairment of intangible assets. Amortization of intangible assets represents the periodic expense required to amortize the cost of intangible assets over their estimated useful lives. Intangible assets with an (4) indefinite useful life are also periodically reviewed for potential impairment, and impairment adjustments are made whenever appropriate. These charges are not viewed as part of the operating performance of our primary activities and therefore are excluded from our calculation of adjusted pretax operating income (loss).

Net impairment losses recognized in earnings. The recognition of net impairment losses on investments can vary (5) significantly in both size and timing, depending on market credit cycles. We do not view these impairment losses to be indicative of our fundamental operating activities. Therefore, whenever these losses occur, we exclude them from our calculation of adjusted pretax operating income (loss).

Total adjusted pretax operating income is not a measure of total profitability, and therefore should not be viewed as a substitute for GAAP pretax income. Our definition of adjusted pretax operating income may not be comparable to similarly-named measures reported by other companies.

The following table provides a reconciliation of the most comparable GAAP measure, consolidated pretax income from continuing operations, to our non-GAAP financial measure for the consolidated company, adjusted pretax operating income:

## Reconciliation of Consolidated Non-GAAP Financial Measure

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Consolidated pretax income from continuing operations	\$483,686	\$437,829	\$407,156
Less income (expense) items:			
Net gains (losses) on investments and other financial instruments (1)	30,751	35,693	80,102
Loss on induced conversion and debt extinguishment	(75,075 )	(94,207 )	—
Acquisition-related expenses (2)	(519 )	(1,565 )	(6,680 )
Amortization and impairment of intangible assets	(13,221 )	(12,986 )	(8,648 )
Total adjusted pretax operating income (3)	\$541,750	\$510,894	\$342,382

The change in expected economic loss or recovery associated with our previously owned VIEs is included in adjusted pretax operating income above for the year ended December 31, 2014, although it represents amounts that (1) are not included in net income. Therefore, for purposes of this reconciliation, net gains (losses) on investments and other financial instruments has been adjusted by income of \$0.1 million for the year ended December 31, 2014, to reverse this item.

(2) Acquisition-related expenses represent expenses incurred to effect the acquisition of a business, net of adjustments to accruals previously recorded for acquisition expenses.

(3) Total adjusted pretax operating income consists of adjusted pretax operating income for each segment as follows:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Adjusted pretax operating income (loss):			
Mortgage insurance (a)	\$561,911	\$511,048	\$347,840
Services (a)	(20,161 )	(154 )	(5,458 )
Total adjusted pretax operating income	\$541,750	\$510,894	\$342,382

(a) Includes inter-segment expenses and revenues as disclosed in Note 4 of Notes to Consolidated Financial Statements.





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

## Results of Operations—Mortgage Insurance

During 2016, we continued our strategy of growing our mortgage insurance portfolio by writing insurance on mortgages with strong credit characteristics. At December 31, 2016, we had \$183 billion in IIF compared to \$176 billion in IIF at December 31, 2015. We also continued to focus on effectively managing our capital and liquidity positions. See "Liquidity and Capital Resources—Radian Group—Short-Term Liquidity Needs—Capital Support for Subsidiaries" and Note 1 of Notes to Consolidated Financial Statements for additional information.

The following table summarizes our Mortgage Insurance segment's results of operations for the years ended December 31, 2016, 2015 and 2014:

(In millions)	Year Ended December			\$ Change	
	31, (1)			Favorable	
	2016	2015	2014	2016	2015
				(Unfavorable)	
				2016	2015
				vs.	vs.
				2015	2014
Adjusted pretax operating income (2)	\$561.9	\$511.0	\$347.8	\$50.9	\$163.2
Net premiums written—insurance (3)	733.8	968.5	925.2	(234.7)	43.3
(Increase) decrease in unearned premiums	187.9	(52.6 )	(80.7 )	240.5	28.1
Net premiums earned—insurance	921.8	915.9	844.5	5.9	71.4
Net investment income	113.5	81.5	65.7	32.0	15.8
Provision for losses	204.2	198.4	246.9	(5.8 )	48.5
Other operating expenses (3)	185.8	195.0	213.4	9.2	18.4
Interest expense	63.4	73.4	81.6	10.0	8.2

(1) For all periods presented, reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue, cost of services and operating expenses have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses. See Note 4 of Notes to Consolidated Financial Statements.

(2) Our senior management uses adjusted pretax operating income (loss) as our primary measure to evaluate the fundamental financial performance of our business segments.

(3) Net of ceded premiums written under the QSR Transactions and the Single Premium QSR Transaction. See Note 8 of Notes to Consolidated Financial Statements for more information.

Adjusted Pretax Operating Income. Our Mortgage Insurance segment's adjusted pretax operating income for 2016 was \$561.9 million, compared to \$511.0 million for 2015 and \$347.8 million for 2014. Our results for 2016 compared to 2015 primarily reflect an increase in net investment income and a decrease in interest expense, partially offset by the net impact of the Single Premium QSR Transaction.

The improvement in the results for 2015 compared to 2014 primarily reflects: (i) an increase in net premiums earned; (ii) a reduction in provision for losses; and (iii) a reduction in other operating expenses.

## NIW, IIF, RIF

A key component of our current business strategy is to grow our mortgage insurance business by writing insurance on high credit quality mortgages in the U.S. Consistent with this objective, we wrote \$50.5 billion of primary new mortgage insurance in 2016, compared to \$41.4 billion of NIW in 2015. The NIW written on a Flow Basis in 2016 was Radian's highest volume in its history.

The increase in NIW of 22% for 2016 compared to 2015 is primarily attributable to increases both in mortgage originations overall and in the penetration rate of private mortgage insurance for home purchases. During this time

period, mortgage originations were higher due to favorable economic conditions that supported increased home purchase mortgage volume and low interest rates that continued to support refinance activity at higher levels in 2016 than in 2015.

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The mortgage insurance industry is highly competitive and private mortgage insurers compete with each other and also with the FHA and VA, including with respect to price. In January 2015, the FHA reduced its annual mortgage insurance premium by 50 basis points to approximately 85 basis points per year. The FHA's annual mortgage insurance premium reduction in 2015 made its pricing more competitive for certain high-LTV loans to borrowers with FICO scores below 720. Following this price reduction in 2015, the FHA's share of the mortgage insurance market increased, relative to the combined market share of private mortgage insurers and the FHA (excluding VA), from approximately 43% in 2014 to approximately 52% in 2015. In February 2016, we announced updated premium rates for our mortgage insurance business to provide increased risk-based granularity to our pricing and to better align our pricing with the capital requirements under the PMIERS and with private mortgage insurance industry trends. Following our pricing change and similar changes from other private mortgage insurance companies in 2016, the private mortgage insurance industry has regained market share relative to the FHA, with the FHA's market share decreasing, relative to the combined market share of private mortgage insurers and the FHA (excluding the VA), to approximately 49% in 2016. In addition, we believe that better execution for borrowers with higher FICO scores, lender preference and the inability to cancel FHA insurance for certain loans are factors that continue to provide a competitive advantage for private mortgage insurers. See "Key Factors Affecting Our Results—Mortgage Insurance—NIW." We expect price competition to continue throughout the mortgage insurance industry and future price reductions from private mortgage insurers or the FHA could impact our ability to compete. See "Item 1. Business—Mortgage Insurance—Competition" for more information about the current competitive environment and our pricing strategies. We monitor competitive and economic factors while seeking to balance both profitability and market share considerations in developing our pricing and origination strategies. Although it is difficult to project future volumes, industry sources expect the mortgage origination market in 2017 to decline approximately 20% compared to 2016, driven by a decline in refinance originations of approximately 50% as a result of higher anticipated interest rates, partially offset by an expected increase in purchase originations of approximately 5%. With private mortgage insurance penetration on purchase originations three to four times higher than on refinance originations, we expect the private mortgage insurance market to be only modestly smaller in 2017 compared to 2016. As a result, we expect our NIW in 2017 to be comparable to our \$50.5 billion of NIW written in 2016. Virtually all of our Post-legacy new mortgage insurance written has been prime business. These loans possess significantly improved credit characteristics compared to our Legacy Portfolio. FICO scores for the borrowers of these insured mortgages are higher, and there are fewer loans with LTVs greater than 95%, as compared to mortgages in our Legacy Portfolio.

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The table below illustrates the improved composition of our direct primary mortgage insurance RIF at December 31, 2016 compared to prior years, based on various risk characteristics.

Although in our overall portfolio there are currently fewer loans with LTVs greater than 95% as compared to mortgages in our Legacy Portfolio, the percentage of recent NIW with LTVs greater than 95% is beginning to increase. For the years ended December 31, 2016 and 2015, the percentage of primary NIW with LTVs greater than 95% was 5.7% and 3.0%, respectively. Factors influencing the recent increases include: (i) GSE program enhancements and guideline changes; (ii) FHA regulatory enforcement actions that are causing lenders to choose GSE execution over the FHA; (iii) mortgage insurance pricing changes effective in the first half of 2016; and (iv) recent lender response to market demands and each lender's appetite for mortgage origination volume.

In addition to the improved composition of our mortgage insurance portfolio with respect to specific individual credit attributes, such as FICO scores and LTVs, more stringent underwriting requirements have also led to fewer loans from our Post-legacy Portfolio that combine multiple higher-risk attributes within the same loan, such as a low FICO score with an investment property, or a low FICO score with a cash-out refinancing. These changes have contributed to the improved credit quality of our overall mortgage insurance portfolio, as illustrated below, as of December 31, 2016.

## Primary RIF Distribution

Layered Risk (1)	2005-08	2009+
FICO <680 and Cash-out Refinance	7.6 %	0.0 %
FICO <680 and Original LTV >95	9.4 %	0.2 %
Investment/Second Home and FICO <=720	2.3 %	1.8 %

(1) Layered risk exists when multiple high-risk attributes are combined within the same loan.

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The chart below illustrates the composition of our direct primary mortgage insurance RIF at December 31, 2016, based on origination vintages.

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In 2009, the GSEs began offering HARP, which allows a borrower who is not delinquent to refinance a mortgage if the borrower has been unable to take advantage of lower interest rates because the borrower's home has decreased in value. We exclude HARP loans from our NIW for the period in which the refinance occurs. During 2016, new (1)HARP loans accounted for \$202.9 million of newly refinanced loans that were not included in Radian Guaranty's NIW for the period, compared to \$681.9 million for 2015. The HARP program deadline for refinancing is September 30, 2017. See "Item 1. Business—Regulation—Federal Regulation—Homeowner Assistance Programs" for more information.

Our Post-legacy Portfolio represents 80.5% of our total portfolio and continues to increase in proportion to our total primary RIF. The growth of our Post-legacy Portfolio, together with continued improvement in the portfolio as a result of HARP refinancings, among other things, has contributed to the significant improvement in the credit quality of our overall mortgage insurance portfolio. Refinancings under the HARP programs (discussed below) also have had a positive impact on the overall credit quality and composition of our mortgage insurance portfolio because the refinancing generally results in terms under which a borrower has a greater ability to pay and more financial flexibility to cover the loan obligations. As shown in the chart above, the sum of our Post-legacy Portfolio and our HARP refinancings accounted for approximately 88% of our total primary RIF at December 31, 2016, compared to 84% at December 31, 2015.

Because our expected future losses on our Post-legacy Portfolio and our HARP refinancings are significantly lower than those experienced on our Legacy Portfolio, the improved credit quality of our overall mortgage insurance portfolio has led to improvement in our Mortgage Insurance segment's operating profitability.

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The charts and table below show the growth in RIF written in 2009 and later, as well as the improved performance of our mortgage insurance portfolios written since 2009.

The improvement in the credit quality of our mortgage insurance portfolio is demonstrated by improved default trends for our Post-legacy mortgage insurance policies. Our expected future losses on our Post-legacy Portfolio, including HARP refinancings, are significantly lower than those experienced on our Legacy Portfolio. The following charts illustrate the improved trends of our cumulative incurred loss ratios by year of origination and development year.

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(1) Represents inception-to-date losses incurred as a percentage of premium revenue.

In April 2016, the FHFA announced a new Principal Reduction Modification program, with the objective of benefiting borrowers whose mortgages were severely delinquent as of March 1, 2016. The program was a one-time offering, and the servicers of eligible mortgages were required to solicit eligible borrowers by October 15, 2016. This program did not affect a material number of our defaulted loans.

The following tables provide selected information as of and for the periods indicated related to mortgage insurance NIW, RIF and IIF. Policy years represent the original policy years, and have not been adjusted to reflect subsequent HARP refinancing activity. Primary RIF and IIF amounts at December 31, 2016 include \$274 million and \$1.09 billion, respectively, related to loans that are subject to the Freddie Mac Agreement. Although we no longer have future claim liability on these loans, we continue to receive premiums on the related loans and the insurance remains in force, and therefore these loans are included in our primary RIF and IIF. Throughout this report, unless otherwise noted, RIF is presented on a gross basis and includes the amount ceded under reinsurance. NIW, RIF and IIF for Direct Single Premiums include policies written on an individual basis (as each loan is originated) and on an aggregated basis (in which each individual loan in a group of loans is insured in a single transaction, typically after the loans have been originated).

(\$ in millions)	Year Ended December 31,					
	2016		2015		2014	
Total primary NIW by FICO score						
>=740	\$31,426	62.2 %	\$25,683	62.0 %	\$23,043	61.7 %
680-739	16,001	31.7	12,954	31.3	11,737	31.4
620-679	3,103	6.1	2,774	6.7	2,569	6.9
Total Primary NIW	\$50,530	100.0%	\$41,411	100.0%	\$37,349	100.0%



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(\$ in millions)	Year Ended December 31,			
	2016	2015	2014	
Percentage of primary NIW				
Direct Monthly and Other Premiums	73	% 69	% 72	%
Direct Single Premiums	27	% 31	% 28	%
Net Single Premiums (1)	18	% 31	% 28	%
Refinances	22	% 21	% 17	%
LTV				
95.01% and above	5.7	% 3.0	% 0.4	%
90.01% to 95.00%	47.5	% 49.8	% 52.9	%
85.01% to 90.00%	32.0	% 34.0	% 33.8	%
80.00% and below	14.8	% 13.2	% 12.9	%
Primary risk written	\$12,538	\$10,435	\$9,448	

In 2016, represents the percentage of direct single premiums written, after consideration of the 35% Single (1) Premium NIW ceded under the Single Premium QSR Transaction. See Note 8 of Notes to Consolidated Financial Statements for additional information.

(\$ in millions)	December 31,			
	2016	2015	2014	
Primary IIF				
Direct Monthly and Other Premiums	68	% 69	% 71	%
Direct Single Premiums	32	% 31	% 29	%
Net Single Premiums (1)	25	% 31	% 29	%
Total Primary IIF	\$183,450	\$175,584	\$171,810	
Persistency Rate (12 months ended)	76.7	% (2) 78.8	% 84.2	%
Persistency Rate (quarterly, annualized) (3)	76.8	% (4) 81.8	% 83.3	%

(1) Represents the percentage of single premium IIF, after giving effect to all reinsurance ceded.

The Persistency Rate for the 12 months ended December 31, 2016 decreased from 2015, primarily due to increased (2) refinancing activity and the cancellations of Single Premium Policies. See “—Net Premiums Written and Earned,” below.

(3) The Persistency Rate on a quarterly, annualized basis may be impacted by seasonality or other factors, and may not be indicative of full-year trends.

The Persistency Rate annualized based on the quarter ended December 31, 2016 decreased from 2015, primarily (4) due to the volume of Single Premium Policies that were cancelled during the fourth quarter of 2016, which increased as compared to the same quarter in 2015.



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(\$ in millions)	December 31,					
	2016		2015		2014	
Primary RIF by Premium Type						
Direct Monthly and Other Premiums	\$32,136	68.8 %	\$30,940	69.3 %	\$30,786	71.2 %
Direct Single premiums	14,605	31.2	13,687	30.7	12,453	28.8
Total Primary RIF	\$46,741	100.0%	\$44,627	100.0%	\$43,239	100.0%
Net Single Premiums (1)	\$10,161	24.5 %	\$12,846	30.2 %	\$11,463	28.3 %
Primary RIF by Risk Grade						
Prime	\$44,708	95.6 %	\$42,170	94.5 %	\$40,326	93.3 %
Alt-A	1,168	2.5	1,427	3.2	1,720	4.0
A minus and below	865	1.9	1,030	2.3	1,193	2.7
Total primary RIF	\$46,741	100.0%	\$44,627	100.0%	\$43,239	100.0%

(1) Represents the dollar amount and percentage, respectively, of Single Premium RIF, after giving effect to all reinsurance ceded.

(\$ in millions)	December 31,					
	2016		2015		2014	
Total primary RIF by FICO score						
>=740	\$26,939	57.6 %	\$25,467	57.1 %	\$24,511	56.7 %
680-739	14,497	31.0	13,543	30.3	12,817	29.6
620-679	4,620	9.9	4,806	10.8	4,973	11.6
<=619	685	1.5	811	1.8	938	2.1
Total primary RIF	\$46,741	100.0%	\$44,627	100.0%	\$43,239	100.0%
Primary RIF on defaulted loans (1)	\$1,363		\$1,625		\$2,089	

(1) Excludes risk related to loans subject to the Freddie Mac Agreement.

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(\$ in millions)	December 31,		2015		2014	
	2016					
Total primary RIF by LTV						
95.01% and above	\$3,447	7.4 %	\$3,249	7.3 %	\$3,547	8.2 %
90.01% to 95.00%	24,439	52.3	22,479	50.4	20,521	47.5
85.01% to 90.00%	15,208	32.5	15,184	34.0	15,307	35.4
85.00% and below	3,647	7.8	3,715	8.3	3,864	8.9
Total primary RIF	\$46,741	100.0%	\$44,627	100.0%	\$43,239	100.0%
Percentage of primary RIF						
Refinances	21	%	23	%	26	%
Loan Type:						
Fixed	97.0	%	96.1	%	95.1	%
Adjustable rate mortgages (fully indexed) (1)	2.2		2.7		3.3	
Mortgages with interest only or potential negative amortization	0.8		1.2		1.6	
Total	100.0	%	100.0	%	100.0	%
Total primary RIF by policy year						
2005 and prior	\$2,236	4.8 %	\$2,823	6.3 %	\$3,540	8.2 %
2006	1,369	2.9	1,666	3.7	2,001	4.6
2007	3,279	7.0	3,891	8.7	4,592	10.6
2008	2,259	4.8	2,798	6.3	3,394	7.9
2009	468	1.0	736	1.7	1,081	2.5
2010	417	0.9	616	1.4	925	2.1
2011	917	2.0	1,294	2.9	1,809	4.2
2012	3,734	8.0	5,010	11.2	6,534	15.1
2013	5,902	12.6	8,056	18.1	10,265	23.8
2014	5,607	12.0	7,646	17.1	9,098	21.0
2015	8,469	18.1	10,091	22.6	—	—
2016	12,084	25.9	—	—	—	—
Total primary RIF	\$46,741	100.0%	\$44,627	100.0%	\$43,239	100.0%

(1) "Fully Indexed" refers to loans where payment adjustments are equal to mortgage interest-rate adjustments. Net Premiums Written and Earned. Despite the increase in NIW in 2016 compared to 2015, net premiums written decreased in 2016 compared to 2015, primarily due to \$233.2 million of ceded premiums written under the Single Premium QSR Transaction. The Single Premium QSR Transaction was effective as of January 1, 2016. Net premiums written increased in 2015 compared to 2014 primarily due to an increase in NIW in 2015, compared to 2014. In addition, the volume of Single Premium Policies written in 2015 increased as a percentage of our total NIW, as Single Premium Policies were 31% compared to 28% for 2014.

Net premiums earned increased in 2016, compared to 2015, primarily as a result of the impact of the accelerated recognition of premiums earned on Single Premium Policies that were cancelled during the year, which was higher than in 2015. This increase was partially offset by increased ceded premiums, net of profit commission, primarily associated with the Single Premium QSR Transaction. Net premiums earned were also impacted by our increased level of IIF in 2016, as compared to 2015.



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Net premiums earned increased for 2015 compared to 2014, primarily as a result of the impact of the acceleration of the recognition of premiums earned on Single Premium Policies that were cancelled during 2015 due to: (i) increased refinance activity in 2015 and (ii) prepayments that servicers had not previously reported to Radian. In addition, the increase in net premiums earned in 2015 compared to 2014 was also driven by an increase in the overall level of our IIF.

Refinancing transactions that utilize mortgage insurance frequently are conducted using Single Premium Policies. Our total mix of Single Premium Policies decreased to 27% of our NIW for 2016, compared to 31% for 2015. A portion of the decline in the percentage of Single Premium Policies was due to a shift in mix toward Monthly Premium Policies due to industry pricing changes. The decrease also was attributable to our deliberate actions related to pricing, including our disciplined approach to offering customized pricing levels. We believe our current production level of Single Premium Policies can be absorbed into our portfolio while maintaining an appropriate balance between risk and returns, which has been further enhanced by the Single Premium QSR Transaction, as further discussed below. Historically, we have entered into reinsurance transactions as part of our capital and risk management activities, including to manage Radian Guaranty's Risk-to-capital and more recently its position under the PMIERS Financial Requirements. In the first quarter of 2016, Radian Guaranty entered into the Single Premium QSR Transaction with a panel of third-party reinsurers in order to proactively manage the risk and return profile of Radian Guaranty's insured portfolio and to manage its position under the PMIERS Financial Requirements. Radian Guaranty began ceding business under this agreement effective January 1, 2016. The Single Premium QSR Transaction is expected to increase Radian Guaranty's return on required capital for its Single Premium Policies. In future quarters, the impact of the Single Premium QSR Transaction will vary depending on the level of ceded RIF, as well as the levels of prepayments and incurred losses on the reinsured portfolio, among other factors.

The Single Premium QSR Transaction had the following impact on Radian's 2016 financial results:

- ▲ decrease to net premiums earned of \$29.8 million, net of accrued profit commission;
- ▲ decrease to operating expenses of \$14.6 million, related to the ceding commission;
- ▲ decrease to provision for losses and amortization of deferred acquisition costs totaling \$3.0 million; and
- ▲ net decrease to pretax income from continuing operations (and to adjusted pretax operating income) of \$12.2 million.

The following table provides information related to the premium impact of our reinsurance transactions. See Note 8 of Notes to Consolidated Financial Statements for more information about our reinsurance transactions, including the ceded amounts related to the QSR Transactions. See "Liquidity and Capital Resources—Radian Group—Short-Term Liquidity Needs" for more information about our Single Premium QSR Transaction.

	At or For the Year Ended December 31,					
	2016		2015		2014	
<b>Initial and Second QSR Transactions</b>						
% of direct premiums written	2.8	%	3.0	%	4.5	%
% of total direct premiums earned	4.3	%	4.8	%	5.2	%
<b>Single Premium QSR Transaction</b>						
% of total direct premiums written	23.4	%	N/A		N/A	
% of total direct premiums earned	3.0	%	N/A		N/A	
<b>First-Lien Captives</b>						
% of total direct premiums written	0.4	%	1.0	%	1.3	%
% of total direct premiums earned	0.4	%	1.0	%	1.4	%

Net Investment Income. For 2016, net investment income increased compared to 2015. As we have progressed toward our investment and liquidity targets, we extended the duration of investments in our portfolio and increased our

investment yields. Net investment income increased in 2015 compared to 2014, primarily due to increases in investment portfolio balances at Radian Guaranty from the proceeds of the sale of our financial guaranty business. All periods include an allocation to the Mortgage Insurance segment of net investment income from investments held at Radian Group.

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Provision for Losses. The following table details the financial impact of the significant components of our provision for losses for the periods indicated (including amounts related to the change in PDR on Second-liens):

(In millions)	Year Ended December 31,		
	2016	2015	2014
Current year defaults (1)	\$206.4	\$229.1	\$351.2
Prior year defaults (2)	(3.5 )	(29.7 )	(105.6 )
Second-lien PDR and other	1.3	(1.0 )	1.3
Provision for losses	\$204.2	\$198.4	\$246.9

(1) Related to defaulted loans with a most recent default notice dated in the year indicated. For example, if a loan had (1) defaulted in a prior year, but then subsequently cured and later re-defaulted in the current year, that default would be considered a current year default.

(2) Related to defaulted loans with a default notice dated in a year earlier than the year indicated, which have been continuously in default since that time.

Our mortgage insurance provision for losses for 2016 increased by \$5.8 million as compared to 2015. Reserves established for new default notices were the primary driver of our total incurred losses for 2016 and 2015. Current year primary defaults decreased by 4.9% for 2016, compared to 2015. In addition, our gross Default to Claim Rate assumption for new primary defaults was 12% as of December 31, 2016, compared to 13% as of December 31, 2015. This reduction in estimated Default to Claim Rates, which was based on observed claim development trends, contributed to the reduction in the portion of our provision for losses related to new defaults in 2016, as compared to 2015.

Our mortgage insurance provision for losses for 2015 decreased by \$48.5 million as compared to 2014. This decrease was driven primarily by a decline in the number of new current year defaults and a decrease in the Default to Claim Rate assumptions applied to such defaults. During the year ended December 31, 2015, we reduced our gross Default to Claim Rate assumption for new primary defaults from 16% to 13%, based on continued improvement observed in actual claim development trends.

The impact of the reductions in losses for current year defaults in 2016 and 2015 was partially offset by a decline in the favorable reserve development from prior year defaults, which, although still positive, provided significantly less of a benefit to our provision for losses in 2016 as compared to 2015 and 2014. The favorable development on prior year defaults observed in all three years was driven primarily by a decrease in our actual and estimated Default to Claim Rate assumptions on prior year defaults, as a result of higher Cures than were previously estimated, partially offset by a decline in our estimates for future Rescissions and Claim Denials.

Our primary default rate at December 31, 2016 was 3.2% compared to 4.0% at December 31, 2015. Our primary defaulted inventory comprised 29,105 loans at December 31, 2016, compared to 35,303 loans at December 31, 2015, representing a 17.6% decrease. The reduction in our primary defaulted inventory is the result of the total number of defaulted loans: (i) that have cured; (ii) for which claim payments have been made; and (iii) that have resulted in net insurance Rescissions and Claim Denials, collectively exceeding the total number of new defaults on insured loans.



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In order to provide a longer-term, historical perspective, the following chart demonstrates default rate trends for the past 10 years. <sup>(1)</sup>

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Insured loans subject to the Freddie Mac Agreement are included in the denominator for all periods, and loans in (1) default subject to the Freddie Mac Agreement are excluded from the numerator beginning in 2013, because since that time we no longer have claims exposure on those loans.

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The following table shows the number of primary loans that we have insured, the number of primary and pool loans in default and the percentage of primary loans in default as of the dates indicated:

	December 31,		
	2016	2015	2014
Default Statistics—Primary Insurance:			
Total primary insurance			
Prime			
Number of insured loans	849,227	816,797	797,436
Number of loans in default	19,101	22,223	28,246
Percentage of loans in default	2.25	% 2.72	% 3.54
Alt-A			
Number of insured loans	26,536	32,411	38,953
Number of loans in default	4,193	5,813	8,136
Percentage of loans in default	15.80	% 17.94	% 20.89
A minus and below			
Number of insured loans	27,115	31,902	36,688
Number of loans in default	5,811	7,267	8,937
Percentage of loans in default	21.43	% 22.78	% 24.36
Total primary insurance			
Number of insured loans (1)	902,878	881,110	873,077
Number of loans in default (2)	29,105	35,303	45,319
Percentage of loans in default	3.22	% 4.01	% 5.19
Default Statistics—Pool Insurance:			
Number of loans in default	4,286	5,796	8,297

(1) Includes 5,850; 7,353; and 9,101 insured loans subject to the Freddie Mac Agreement at December 31, 2016, 2015 and 2014, respectively.

(2) Excludes 1,639; 2,821; and 4,467 loans that are in default at December 31, 2016, 2015 and 2014, respectively, subject to the Freddie Mac Agreement, and for which we no longer have claims exposure.

The number of new primary mortgage insurance defaults declined by 4.9% in 2016, compared to an 11.2% decrease in 2015 and an 18.1% decrease in 2014. We currently expect total new defaults for 2017 to continue to decrease, although the rate of decrease may continue to moderate. This is due, in part, to the shift in our portfolio composition toward more recent vintages for which we expect increasing levels of new defaults, consistent with typical default seasoning patterns.

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The following table shows a rollforward of the number of our primary loans in default, including new defaults from our Legacy Portfolio and Post-legacy Portfolio:

	Year Ended December 31,		
	2016	2015	2014
Beginning default inventory	35,303	45,319	60,909
Plus: New defaults			
Legacy Portfolio new defaults	29,772	35,168	42,978
Post-legacy Portfolio new defaults	10,731	7,439	4,998
Total new defaults	40,503	42,607	47,976
Less: Cures	38,589	40,607	46,091
Less: Claims paid (1)	8,223	13,492	16,049
Less: Rescissions and Claim Denials, net of (Reinstatements) (2)	(111)	46	610
Less: Rescissions and Claim Denials, net of (Reinstatements), related to the BofA Settlement Agreement (3)	—	(1,522)	816
Ending default inventory	29,105	35,303	45,319

(1) Includes those charged to a deductible or captive and, for 2015, claim payments related to the BofA Settlement Agreement.

(2) Net of any previous Rescission and Claim Denials that were reinstated during the period (excluding activity related to the BofA Settlement Agreement). Such reinstated Rescissions and Claim Denials may ultimately result in a paid claim.

(3) Includes Rescissions, Claim Denials and Reinstatements on the population of loans subject to the BofA Settlement Agreement. Rescissions and Claim Denials, net of (Reinstatements), related to the BofA Settlement Agreement prior to the Implementation Date represent such activities on loans that subsequently became subject to the BofA Settlement Agreement.

Our aggregate weighted average net Default to Claim Rate assumption for our primary loans used in estimating our reserve for losses, which is net of estimated Claim Denials and Rescissions, was approximately 42%, 46% and 52%, at December 31, 2016, 2015 and 2014, respectively. We develop our Default to Claim Rate estimates on defaulted loans based on models that use a variety of loan characteristics to determine the likelihood that a default will reach claim status. Our Default to Claim Rate estimates on defaulted loans are mainly developed based on the Stage of Default and Time in Default of the underlying defaulted loans, as measured by the progress toward foreclosure sale and the number of months in default. As of December 31, 2016, our gross Default to Claim Rate assumptions on our primary portfolio ranged from 12% for new defaults, up to 62% for other defaults not in foreclosure stage, and 81% for Foreclosure Stage Defaults. As of December 31, 2015, these gross Default to Claim Rate assumptions were 13% for new defaults, up to 65% for other defaults not in foreclosure stage, and 81% for Foreclosure Stage Defaults.

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The following tables show additional information about our primary loans in default as of the dates indicated:

December 31, 2016

	Total		Foreclosure Stage Defaulted Loans	Cure % During the 4th Quarter	Reserve for Losses	% of Reserve
	#	%	#	%	\$	%
(\$ in thousands)						
Missed payments:						
Three payments or less	10,116	34.7 %	166	29.6 %	\$100,649	15.8 %
Four to eleven payments	7,763	26.7	534	18.9	121,636	19.1
Twelve payments or more	10,034	34.5	2,696	5.1	355,005	55.8
Pending claims	1,192	4.1	N/A	2.2	59,030	9.3
Total	29,105	100.0 %	3,396		636,320	100.0 %
IBNR and other					71,107	
LAE					18,630	
Total primary reserves					\$726,057	

December 31, 2016

Key Reserve Assumptions

Gross Default to Claim Rate %	Net Default to Claim Rate %	Claim Severity % (1)
45%	42%	101%

December 31, 2015

	Total		Foreclosure Stage Defaulted Loans	Cure % During the 4th Quarter	Reserve for Losses	% of Reserve
	#	%	#	%	\$	%
(\$ in thousands)						
Missed payments:						
Three payments or less	10,742	30.4 %	187	29.0 %	\$107,632	13.1 %
Four to eleven payments	8,481	24.0	541	16.2	127,183	15.5
Twelve payments or more	13,731	38.9	3,160	4.2	473,440	57.6
Pending claims	2,349	6.7	N/A	1.5	113,570	13.8
Total	35,303	100.0 %	3,888		821,825	100.0 %
IBNR and other					83,066	
LAE					26,108	
Total primary reserves					\$930,999	

December 31, 2015

Key Reserve Assumptions

Gross Default to Claim Rate %	Net Default to Claim Rate %	Claim Severity % (1)
48%	46%	101%

N/A – Not applicable

(1)

Factors that impact the severity of a claim include, but are not limited to: (i) the size of the loan; (ii) the amount of mortgage insurance coverage placed on the loan; (iii) the amount of time between default and claim during which we are expected to cover interest (capped at two years under our Prior Master Policy and capped at three years under our 2014 Master Policy) and certain expenses; and (iv) the impact of certain loss management activities with respect to the loan.

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

Our net Default to Claim Rate and loss reserve estimate incorporates our expectations with respect to future Rescissions, Claim Denials and Claim Curtailments. Our estimate of such net future Loss Mitigation Activities reduced our loss reserve as of December 31, 2016 and 2015 by approximately \$39 million and \$53 million, respectively. These expectations are based primarily on our recent experience with respect to the number of claims that have been denied due to the policyholder's failure to submit sufficient documentation to perfect a claim within the time period permitted under our Master Policies and also our recent experience with respect to the number of insurance certificates that have been rescinded due to fraud, underwriter negligence or other factors. Our assumptions also reflect the estimated impact of the BofA Settlement Agreement. See Note 11 of Notes to Consolidated Financial Statements.

The impact to our mortgage insurance reserves due to estimated future Rescissions, Claim Denials and Claim Curtailments incorporates our expectations regarding the number of policies that we expect to reinstate as a result of our claims rebuttal process. The level of Loss Mitigation Activities has been declining in recent periods as our defaulted Legacy Portfolio continues to decline, and we expect this trend to continue.

Our reported Rescission, Claim Denial and Claim Curtailments activity in any given period is subject to challenge by our lender and servicer customers through our claims rebuttal process. In addition, we are at times engaged in discussions with our lender and servicer customers regarding our Loss Mitigation Activities. Unless a liability associated with such activities or discussions becomes probable and can be reasonably estimated, we consider our claim payments and our Rescissions, Claim Denials and Claim Curtailments to be resolved for financial reporting purposes. In accordance with the accounting standard regarding contingencies, we accrue for an estimated loss when we determine that the loss is probable and can be reasonably estimated.

On September 16, 2014, Radian Guaranty entered into the BofA Settlement Agreement in order to resolve various actual and potential claims or disputes related to the parties' respective rights and duties as to mortgage insurance coverage on the Subject Loans. The consent of the GSEs required to implement the BofA Settlement Agreement was received in December 2014, and implementation of the agreement for Subject Loans owned by the GSEs or held in portfolio by the Insureds commenced on February 1, 2015. See Note 11 of Notes to Consolidated Financial Statements for additional information about the BofA Settlement Agreement.

We expect that a portion of previously rescinded policies will be reinstated and previously denied claims will be resubmitted with the required documentation and ultimately paid; therefore, we have incorporated this expectation into our IBNR reserve estimate. Our IBNR reserve estimate was \$14.3 million, \$26.6 million and \$163.6 million at December 31, 2016, 2015 and 2014, respectively. The significant decrease in our IBNR reserve estimate since 2014 reflects the impact of the payment of claims pursuant to the BofA Settlement Agreement.

Our mortgage insurance total loss reserve as a percentage of our mortgage insurance total RIF was 1.6% at December 31, 2016, compared to 2.1% at December 31, 2015 and 3.5% at December 31, 2014. See Note 11 of Notes to Consolidated Financial Statements for information regarding our reserves for losses by category and a reconciliation of our Mortgage Insurance segment's beginning and ending reserves for losses and LAE.

Our primary reserve per default (calculated as primary reserve excluding IBNR and other reserves divided by the number of primary defaults) was \$22,503, \$24,019 and \$27,683 at December 31, 2016, 2015 and 2014, respectively. Total mortgage insurance claims paid in 2016 of \$417.6 million have decreased from claims paid of \$764.7 million in 2015, primarily due to the completion of the reinstatement activities required by the BofA Settlement Agreement, which increased claims paid from February 2015 through December 31, 2015. Total mortgage insurance claims paid in 2015 of \$764.7 million decreased from claims paid of \$838.3 million in 2014, primarily due to the overall decline in defaulted loans and pending claims, partially offset by an increase in claims paid due to the BofA settlement agreement. We currently expect claims paid of approximately \$325 million for the full year of 2017.



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

The following table shows net claims paid by product and average claims paid by product for the periods indicated:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net claims paid (1):			
Prime	\$252,583	\$281,971	\$533,563
Alt-A	91,170	83,568	132,752
A minus and below	48,886	55,664	92,526
Total primary claims paid	392,639	421,203	758,841
Pool	22,120	34,870	64,191
Second-lien and other	(384 )	(323 )	2,011
Subtotal	414,375	455,750	825,043
Impact of captive terminations	(2,418 )	(12,065 )	(1,156 )
Impact of settlements (2)	5,605	320,983	14,375
Total net claims paid	\$417,562	\$764,668	\$838,262
Average net claim paid (3):			
Prime	\$47.5	\$46.4	\$46.4
Alt-A	64.4	58.7	56.3
A minus and below	38.7	39.8	38.2
Total average net primary claim paid	49.1	47.3	46.6
Pool	51.9	58.5	56.9
Total average net claim paid	\$48.9	\$47.8	\$47.0
Average direct primary claim paid (3) (4)	\$49.5	\$48.4	\$47.9
Average total direct claim paid (3) (4)	\$49.3	\$48.8	\$48.3

(1) Net of reinsurance recoveries.

(2) For 2015, includes the impact of the BofA Settlement Agreement from the Implementation Date.

(3) Calculated without giving effect to the impact of the termination of captive transactions and settlements.

(4) Before reinsurance recoveries.



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

Notwithstanding historical trends, our Legacy Portfolio experienced default and claim activity sooner and to a significantly greater extent than had been the case historically for our books of business prior to the financial crisis. For the periods indicated, the following tables show: (i) cumulative direct claims paid by us on our primary insured book of business at the end of each successive year after origination, expressed as a percentage of the cumulative premiums written by us in each year of origination and (ii) direct claims paid by policy origination year. Direct claims paid represent first-lien claims paid prior to reinsurance recoveries and captive termination payments, and exclude LAE expenses and settlement payments.

## Direct Claims Paid vs. Premiums Written—Primary Insurance

Year of Origination	End of 1st year	End of 2nd year	End of 3rd year	End of 4th year	End of 5th year	End of 6th year	End of 7th year	End of 8th year	End of 9th year	End of 10th year
2007	0.5 %	9.8 %	33.6 %	81.0 %	124.2 %	142.4 %	162.6 %	171.7 %	178.8 %	178.7 %
2008	0.2 %	5.0 %	29.2 %	61.2 %	78.0 %	97.8 %	106.2 %	111.8 %	112.1 %	—
2009	0.0 %	1.3 %	3.9 %	7.6 %	11.7 %	14.2 %	15.3 %	15.9 %	—	—
2010	0.0 %	0.4 %	1.3 %	3.1 %	4.9 %	5.5 %	6.0 %	—	—	—
2011	0.0 %	0.2 %	1.1 %	2.0 %	2.7 %	3.2 %	—	—	—	—
2012	0.0 %	0.1 %	0.5 %	0.8 %	1.2 %	—	—	—	—	—
2013	0.0 %	0.1 %	0.4 %	0.9 %	—	—	—	—	—	—
2014	0.0 %	0.0 %	0.6 %	—	—	—	—	—	—	—
2015	0.0 %	0.1 %	—	—	—	—	—	—	—	—
2016	0.0 %	—	—	—	—	—	—	—	—	—

(\$ in millions)	December 31,					
	2016		2015		2014	
Direct claims paid by origination year (first-lien):						
2005 and prior	\$135	32.8 %	\$218	29.3 %	\$219	27.0 %
2006	74	18.0	154	20.7	163	20.1
2007	138	33.5	270	36.2	302	37.1
2008	46	11.1	88	11.8	107	13.2
2009	4	1.0	7	0.9	12	1.5
2010	2	0.5	2	0.3	4	0.5
2011	2	0.5	2	0.3	3	0.3
2012	3	0.7	2	0.3	2	0.2
2013	5	1.2	2	0.2	1	0.1
2014	3	0.7	—	—	—	—
2015	—	—	—	—	—	—
2016	—	—	—	—	—	—
Total direct claims paid (1)	\$412	100.0%	\$745	100.0%	\$813	100.0%

(1) Represents total first-lien direct claims paid, excluding impact of reinsurance and LAE expenses and Freddie Mac Agreement.

Other Operating Expenses. Other operating expenses for 2016 decreased compared to 2015, primarily as a result of the benefit of ceding commissions from the Single Premium QSR Transaction, partially offset by increases in compensation-related expense and technology expenses associated with a significant investment in upgrading our systems.



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

Our other operating expenses in 2015 as compared to 2014 decreased primarily as a result of the reduced impact from increases in the estimated fair value of cash-settled long-term incentive awards that were valued, in large part, based on the stock price of Radian Group's common stock, combined with a decrease in other bonus compensation expense. This decrease in other operating expenses in 2015 as compared to 2014 was partially offset by the reduction in ceding commissions from the Initial and Second QSR Transactions.

Interest Expense. These amounts reflect the allocated portion of interest on Radian Group's long-term debt to our Mortgage Insurance segment, excluding the Senior Notes due 2019. The allocated interest decreased in 2016 compared to 2015, and in 2015 compared to 2014. These decreases were primarily due to the capital management transactions described in "—Results of Operations—Consolidated—Interest Expense."

## Results of Operations—Services

The following table summarizes our Services segment's results of operations for the years ended December 31, 2016, 2015 and 2014:

(In millions)	Year Ended December			\$ Change	
	31, (1)			Favorable	
	2016	2015	2014	2016	2015
			(2)	vs.	vs.
				2015	2014
Adjusted pretax operating income (loss) (3)	\$(20.2)	\$(0.2)	\$(5.5)	\$(20.0)	\$5.3
Services revenue	177.2	163.1	78.9	14.1	84.2
Cost of services	115.4	97.3	44.7	(18.1 )	(52.6)
Gross profit on services	61.8	65.8	34.2	(4.0 )	31.6
Other operating expenses	64.3	48.3	32.1	(16.0 )	(16.2)
Interest expense	17.7	17.7	8.9	—	(8.8 )

(1) For all periods presented, reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue, cost of services and operating expenses have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses. See Note 4 of Notes to Consolidated Financial Statements.

(2) Reflects the results of operations of Clayton from the June 30, 2014 date of acquisition.

(3) Our senior management uses adjusted pretax operating income (loss) as our primary measure to evaluate the fundamental financial performance of our business segments.

The Services segment is a fee-for-service business, with revenue derived from: (i) loan review, underwriting and due diligence services; (ii) surveillance services, including RMBS surveillance, loan servicer oversight, loan-level servicing compliance reviews and operational reviews of mortgage servicers and originators; (iii) real estate valuation and component services, providing outsourcing and technology solutions for the SFR and residential real estate markets; as well as outsourced solutions for appraisal, title and closing services offered through Red Bell and ValuAmerica; (iv) REO management services; and (v) services for the United Kingdom and European mortgage markets through our EuroRisk operations.

Adjusted pretax operating income (loss). Our Services segment's adjusted pretax operating loss was \$20.2 million in 2016 compared to \$0.2 million in 2015 and \$5.5 million in 2014. The increase in our adjusted pretax operating loss in 2016 as compared to 2015 was primarily driven by increases in other operating expenses, combined with decreases in gross profit, as discussed further below. Our results for 2015 as compared to 2014 reflect a full year of Clayton's

activity in 2015 compared to six months of activity in 2014, due to the June 30, 2014 acquisition of Clayton. As a percentage of Services revenue for the respective periods, the results for 2015 as compared to 2014 reflect a decrease in gross profit and an increase in other operating expenses.

Services Revenue. Revenue increased in 2016 as compared to 2015, primarily due to the inclusion of a full year of operations in 2016 for Red Bell and ValuAmerica, which were acquired in March 2015 and October 2015, respectively. This increase was partially offset by decreased activity in the SFR securitization market. Revenue for 2015 increased as compared to 2014 primarily due to (i) a full year of Clayton operations in 2015 compared to six months in 2014 and (ii) the acquisitions during 2015 of Red Bell and ValuAmerica.

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For the year ended December 31, 2016, the top 10 Services customers (which includes our affiliates) generated approximately 52% of the Services segment's revenues, as compared to 48% for 2015 and 62% for 2014.

Approximately 5%, 4% and 1% of services revenue on a segment basis for the years ended December 31, 2016, 2015 and 2014, respectively, related to sales to our affiliates, and has been eliminated in our consolidated results. The largest single customer generated approximately 11% of the services revenue for the year ended December 31, 2016 and 9% for the year ended December 31, 2015. For the year ended December 31, 2014, services revenue included a significant loan review and due diligence project for a single client which represented approximately 13% of services revenue. The project continued in 2015, although at a reduced level. The increased burden on loan originators to implement and comply with TRID, which went into effect in the fourth quarter of 2015, resulted in a slowdown in the volume of newly originated loans and also had a negative margin impact on our loan review, underwriting and due diligence revenues, due to delays in the closing of mortgage loans.

Real estate valuation and component services revenue for the years ended December 31, 2016, 2015 and 2014 includes revenue from SFR securitizations as well as revenue from financial institutions that extend loans to institutional investors to fund purchases of homes. Approximately 14%, 18% and 20% of services revenue in 2016, 2015 and 2014 respectively, was related to the SFR market, including SFR securitizations. The overall decrease in activity related to the SFR market, compared to prior years, was driven by a decline in the pace of home purchases by institutional investors and a slowdown in SFR securitizations during 2015 and the first half of 2016, which negatively impacted our revenue in both years. We have since then experienced a modest increase in SFR securitization and related activity, and we expect this level of activity to continue through 2017.

The chart below provides the composition of services revenue on an annual basis for periods subsequent to the June 30, 2014 acquisition of Clayton.

Cost of Services. Our cost of services is primarily affected by our level of services revenue. Our cost of services primarily consists of employee compensation and related payroll benefits, including the cost of billable labor assigned to revenue-generating activities and, to a lesser extent, other costs of providing services such as travel and related expenses incurred in providing client services and costs paid to outside vendors, data acquisition costs and other compensation-related expenses to maintain software application platforms that directly support our businesses. The level of these costs may fluctuate if market rates of compensation change, or if there is decreased availability or a loss of qualified employees.

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**Gross Profit on Services.** For the years ended December 31, 2016, 2015 and 2014 our gross profit on services represented 35%, 40% and 43% of total services revenue, respectively. These decreases in gross profit margin were primarily due to: (i) a decrease in real estate valuation and component services revenue associated with the decrease in SFR securitizations and non-agency securitizations (which generally have relatively higher gross profit margins); (ii) a decline in loan review, underwriting and due diligence gross profit; and (iii) a shift in the mix of services. Slightly offsetting the decrease in 2016 was improved REO Management gross profit margin due to higher volumes and the mix of customers.

As a percentage of revenue, loan review, underwriting and due diligence gross profit margins decreased by 10% from 2015 to 2016 and by 9% from 2014 to 2015. These decreases in gross profit margin were primarily related to higher than anticipated costs of services due to increased TRID documentation requirements implemented in the fourth quarter of 2015. Additionally, gross profit on services was also impacted in 2015 by increased variable costs as a change in scope occurred on a single client's loan review and due diligence project, as noted above.

**Other Operating Expenses.** Other operating expenses primarily consist of compensation costs not classified as cost of services because they are related to employees, such as sales and corporate employees, who are not directly involved in providing client services. Compensation-related costs for 2016 represented 55% of the segment's other operating expenses, compared to 57% for 2015. Although compensation-related costs for 2016 compared to 2015 decreased as a percentage of other operating expenses, primarily due to expense reduction initiatives undertaken during 2016, the decrease was offset by increased expenses in 2016 associated with ValuAmerica and Red Bell which were acquired in October 2015 and March 2015, respectively, as well as, to a lesser extent, an increase in contract underwriting expenses. Other operating expenses also include other selling, general and administrative expenses, depreciation, and allocations of corporate general and administrative expenses. Other operating expenses for 2016 included allocations of corporate operating expenses of \$8.5 million, compared to \$4.8 million for 2015.

For the year ended December 31, 2014, compensation-related costs represented 36% of the segment's operating expenses. Other operating expenses in 2014 included losses related to contract underwriting remedies of \$11.2 million related to settlement of remedies for services provided on legacy business. Excluding the expense related to the settlement, compensation-related costs as a percentage of the segment's operating expenses were 55%. Other operating expenses for the year ended 2014 also included an allocation of corporate operating expenses of \$1.1 million.

**Interest Expense.** Interest expense represents all of the interest expense related to our Senior Notes due 2019, the proceeds of which were used to fund Radian Group's acquisition of Clayton.

#### Contractual Obligations and Commitments

We have various contractual obligations that are recorded as liabilities in our consolidated financial statements. Other items, including payments under operating lease agreements, are not recorded on our consolidated balance sheets as liabilities but represent a contractual commitment to pay.

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

The following table summarizes certain of our contractual obligations and commitments, including our expected claim payments on insurance policies, as of December 31, 2016, and the future periods in which such obligations are expected to be settled in cash. Additional details regarding these obligations are provided in the narrative following the table and in the Notes to Consolidated Financial Statements that are referenced in the table.

(In thousands)	Total	Payments Due by Period				Thereafter	Uncertain
		2017	2018-2019	2020-2021			
Long-term debt obligations (principal and interest) (Note 12) (1)	\$1,348,783	\$192,345 (2)	\$410,500 (3)	\$745,938 (4)	\$—	\$—	
Lease obligations (Note 13) (5)	88,826	7,222	11,097	14,078	56,429	—	
Reserve for losses and LAE (Note 11) (6)	760,269	325,254	435,015	—	—	—	
Purchase obligations	18,694	8,658	8,889	1,147	—	—	
Unrecognized tax benefits (Note 10)	186,488	—	—	—	—	186,488 (7)	
Total	\$2,403,060	\$533,479	\$865,501	\$761,163	\$56,429	\$186,488	

In November 2016, we announced our intent to exercise our redemption option for the remaining Convertible Senior Notes due 2019, of which \$68.0 million aggregate principal was outstanding at December 31, 2016 and is reflected in the table above as an expected payment in 2017. The redemption was settled on January 27, 2017.

- (1) Radian elected to redeem all of the notes surrendered for conversion or redemption with cash from available liquidity. Settlement of the obligation was funded with \$110.1 million in cash. See Note 21 of Notes to Consolidated Financial Statements for additional details.
- (2) For our Convertible Senior Notes due 2017, excludes the conversion premium amount that may be settled upon conversion in cash, shares of our common stock or a combination thereof, at our election.
- (3) Includes \$300 million of Senior Notes due 2019 that may be redeemed, in whole or part at any time prior to maturity.
- (4) Includes \$350 million and \$350 million of Senior Notes due 2020 and 2021, respectively, that may be redeemed, in whole or part at any time prior to maturity.
- (5) Represents contractual payments for operating leases, with the exception of \$0.2 million included for capital lease payment obligations in 2017.
- (6) Our reserve for losses and LAE reflects the application of accounting policies described below in "Critical Accounting Policies—Reserve for Losses and LAE." The payments due by period are based on management's estimates and assume that all of the loss reserves included in the table will result in claim payments, net of expected recoveries.
- (7) The timing of these potential payments is uncertain given the nature of the obligations.

#### Other Contractual Obligations and Commitments

In addition to the contractual obligations set forth in the table above, we have the following material contractual obligations and commitments.

**Affiliate Guaranty/Indemnification Agreements.** We and certain of our subsidiaries have entered into the following intercompany guarantees:

Radian Guaranty and RMAI were parties to a cross-guaranty agreement that was terminated effective July 1, 2016. However, it remains in effect for insurance written prior to the termination date. This agreement provides that if either party fails to make a payment to a policyholder, then the other party will step in and make the payment. The obligations of both parties are unconditional and irrevocable; however, no payments may be made without prior approval by the Pennsylvania Insurance Department.

Radian Group and RMAI are parties to a guaranty agreement, which provides that Radian Group will make sufficient funds available to RMAI to ensure that RMAI has a minimum of \$5 million of statutory policyholders' surplus every calendar quarter. RMAI had \$8.6 million of statutory policyholders' surplus and no RIF exposure as of December 31, 2016.



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To allow our mortgage insurance customers to comply with applicable securities regulations for issuers of ABS (including MBS), we have been required, depending on the amount of credit enhancement we were providing, to provide: (i) audited financial statements for the insurance subsidiary participating in these transactions or (ii) a full and unconditional holding-company level guarantee for our insurance subsidiaries' obligations in such transactions. Radian Group has guaranteed two structured transactions for Radian Guaranty with approximately \$110.2 million of aggregate remaining credit exposure as of December 31, 2016.

Radian Group and RGRI are parties to an Assumption and Indemnification Agreement with regard to RGRI's portion of the Deficiency Amounts relating to the IRS litigation. This indemnification agreement was made in lieu of an immediate capital contribution to RGRI that otherwise would have been required for RGRI to maintain its minimum statutory policyholders' surplus requirements in light of the remeasurement as of December 31, 2011 of uncertain tax positions related to the portfolio of REMIC residual interests. See Note 10 of Notes to Consolidated Financial Statements for additional information regarding the IRS matter. We can provide no assurance regarding the outcome of this IRS matter, which may take several years to resolve. As such, there remains significant uncertainty with regard to the amount and timing of any potential payments under the indemnity agreement described above. See "Item 1A. Risk Factors—Resolution of our dispute with the IRS could adversely affect us."

In the ordinary course of business, Radian enters into agreements pursuant to which we may be obligated under specified circumstances or upon the occurrence of certain events to indemnify the counterparties with respect to certain matters. The terms and amount of indemnification are negotiated on a transaction by transaction basis, but generally the circumstances of the transaction and/or the contract provisions are such that we believe the exposure to material liability is remote.

Off-Balance Sheet Arrangements

None.

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

## Liquidity and Capital Resources

## Radian Group—Short-Term Liquidity Needs

Radian Group serves as the holding company for our insurance and other subsidiaries and does not have any operations of its own. At December 31, 2016, Radian Group had available, either directly or through an unregulated subsidiary, unrestricted cash and liquid investments of approximately \$460 million. This amount includes \$89 million deposited with the IRS (but which may be recalled by us at any time) in connection with our dispute with the IRS related to the Deficiency Amount from the IRS's examination of our 2000 through 2007 consolidated federal income tax returns, and excludes certain additional cash and liquid investments that have been advanced to Radian Group from our subsidiaries for corporate expenses and interest payments. Of the \$460 million of available liquidity held as of December 31, 2016, \$110.1 million was used in January 2017 to redeem the remaining Convertible Senior Notes due 2019, as discussed below.

During 2016, we completed a series of transactions to strengthen our financial position. The combination of these actions had the impact of decreasing our diluted shares and improving Radian Guaranty's position under the PMIERS Financial Requirements. The purchases of Convertible Senior Notes due 2017 and 2019 during 2016, combined with the early redemption of the Senior Notes due 2017 and the issuance of the Senior Notes due 2021, also improved Radian Group's debt maturity profile by increasing the time to maturity for our long-term debt and by limiting the aggregate amount of debt maturing in any calendar year. This series of capital management transactions is summarized as follows:

## CAPITAL AND DEBT MATURITY MANAGEMENT

- Issued \$350 million aggregate principal amount of Senior Notes due 2021 for net proceeds of \$343.4 million;

- Purchased aggregate principal amounts of \$30.1 million and \$322.0 million, respectively, of our outstanding Convertible Senior Notes due 2017 and 2019, for a combination of \$235.0 million in cash and 17.0 million shares of Radian Group common stock;

- Terminated the portion of the capped call transactions related to the purchased Convertible Senior Notes due 2017, and received consideration of 0.2 million shares of Radian Group common stock;

- Completed the share repurchase program announced in January 2016, by purchasing an aggregate of 9.4 million shares of Radian Group common stock for \$100.2 million, including commissions;

- Entered into the Single Premium QSR Transaction, which had the effect of increasing the amount by which Radian Guaranty's Available Assets exceed its Minimum Required Assets under the PMIERS Financial Requirements; and

- Completed an early redemption of the remaining \$195.5 million aggregate principal amount of our Senior Notes due 2017 for \$211.3 million in cash (including accrued interest through the redemption date).

In June 2016, Radian Guaranty repaid in full the \$325 million Surplus Note due to Radian Group that was issued in December 2015. On June 29, 2016, Radian Group's board of directors authorized a new share repurchase program to spend up to \$125 million to repurchase Radian Group common stock. As of February 27, 2017, the full purchase authority remained available under this share repurchase program, which expires on June 30, 2017. See Notes 8, 12, and 14 of Notes to Consolidated Financial Statements for additional information on the individual transactions.

In November 2016, we announced our intent to exercise our redemption option for the remaining Convertible Senior Notes due 2019, of which \$68.0 million aggregate principal was outstanding at December 31, 2016. The redemption was settled on January 27, 2017. Radian elected to redeem all of the notes surrendered for conversion or redemption with cash from available liquidity. The settlement of the obligation was funded with \$110.1 million in cash. See Note

21 of Notes to Consolidated Financial Statements for additional details.

In addition to the potential use of up to \$125 million to repurchase Radian Group common stock pursuant to the existing share repurchase program and the \$110.1 million that we used in January 2017 to redeem the Convertible Senior Notes due 2019, Radian Group's principal liquidity demands for the next 12 months are also expected to include the payment of \$22.2 million principal amount to settle our obligations under our Convertible Senior Notes due 2017 (which must be settled in cash in November 2017, plus any related conversion premium which may, at our option, be settled in cash, common shares or a combination thereof) and the following items in the ordinary course of our business: (i) the payment of corporate expenses; (ii) interest payments on our outstanding long-term debt; and (iii) the payment of dividends on our common stock.

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Radian Group's liquidity demands for the next 12 months could also include: (i) additional conversion settlements, repurchases or early redemptions of portions of our long-term debt; (ii) potential investments to support our strategy of growing our businesses; and (iii) potential payments to the U.S. Treasury resulting from our ongoing dispute with the IRS relating to the examination of our 2000 through 2007 consolidated federal income tax returns, as discussed below. These items could result in liquidity demands in the next 12 months or in future periods.

**Long-Term Debt.** On a quarterly basis, we evaluate whether the conversion threshold requirements for our outstanding convertible debt securities have been met. As of December 31, 2016, the holders of our Convertible Senior Notes due 2017 are not eligible to exercise their conversion rights during the three-month period ending March 31, 2017. As discussed above, we elected to redeem all of the Convertible Senior Notes due 2019 surrendered for conversion or redemption with cash from available liquidity and settled the obligations in January 2017. See Notes 12 and 21 of Notes to Consolidated Financial Statements for further information about our Convertible Senior Notes due 2017 and 2019.

**Corporate Expenses and Interest Expense.** Radian Group has expense-sharing arrangements in place with its principal operating subsidiaries that require those subsidiaries to pay their allocated share of certain holding-company-level expenses, including interest payments on most of our outstanding long-term debt. Payments of such corporate expenses for the next 12 months, excluding interest payments on our long-term debt, are expected to be approximately \$55 million, most of which is expected to be reimbursed by our subsidiaries under our existing expense-sharing arrangements. For the same period, payments of interest on our long-term debt are expected to be approximately \$60 million, a significant portion of which is expected to be reimbursed by our subsidiaries under our existing expense-sharing arrangements. See “—Radian Group—Long-Term Liquidity Needs—Services.” The expense-sharing arrangements between Radian Group and our insurance subsidiaries, as amended, have been approved by the Pennsylvania Insurance Department, but such approval may be modified or revoked at any time.

**Capital Support for Subsidiaries.** Private mortgage insurers, including Radian Guaranty, are required to comply with the PMIERS to remain eligible insurers of loans purchased by the GSEs. The PMIERS became effective on December 31, 2015. See Note 1 in Notes to Consolidated Financial Statements and “Overview—Operating Environment and Business Strategy” for additional information.

Radian Guaranty currently is an approved mortgage insurer under the PMIERS and is in compliance with the PMIERS Financial Requirements. At December 31, 2016, Radian Guaranty's Available Assets under the PMIERS totaled approximately \$4.0 billion, resulting in an excess or “cushion” of approximately \$210.0 million over its Minimum Required Assets of approximately \$3.8 billion. Based on our current projections and the current requirements under the PMIERS, we expect to maintain Radian Guaranty's Available Assets at a level no less than approximately 5% above its Minimum Required Assets. While the amount of this cushion could fluctuate on a quarterly basis, we expect it to increase over time based, in part, on our expectations regarding the future financial performance of Radian Guaranty, including our projected NIW and expected decrease in defaults. Based on our projections, Radian Guaranty is not expected to require any additional capital contributions to remain in compliance with the current requirements under the PMIERS Financial Requirements. See “Item 1A. Risk Factors—Radian Guaranty may fail to maintain its eligibility status with the GSEs.”

In the first quarter of 2016, in order to proactively manage the risk and return profile of Radian Guaranty's insured portfolio and continue managing its position under the PMIERS Financial Requirements in a cost-effective manner, Radian Guaranty entered into the Single Premium QSR Transaction with a panel of third-party reinsurers. The Single Premium QSR Transaction had the effect of increasing the amount of Radian Guaranty's cushion under the PMIERS Financial Requirements.

The amount of credit that we receive under the PMIERS Financial Requirements for our third-party reinsurance transactions, including our QSR Transactions and our Single Premium QSR Transaction, is established by the GSEs at the time of each transaction based on terms generally prescribed in the PMIERS Financial Requirements as well as the GSEs' view of the specific transaction. This credit is subject to periodic review by the GSEs. In December 2016, the

GSEs issued interim guidance for the industry that negatively impacted the amount of credit that we receive for our Single Premium QSR Transaction, but also gave credit to certain liquid investments that are readily available to pay claims that previously were not permitted to be included in our Available Assets. This interim guidance did not affect Radian Guaranty's compliance with the PMIERS Financial Requirements. The PMIERS also specifically provide for the factors that are applied to calculate and determine a mortgage insurer's Minimum Required Assets to be updated every two years, with the next review scheduled to take place in 2017. See Note 1 of Notes to Consolidated Financial Statements for additional information.

Radian Guaranty's Risk-to-capital as of December 31, 2016 was 13.5 to 1. Our combined Risk-to-capital, which represents the consolidated Risk-to-capital measure for all of our Mortgage Insurance subsidiaries, was 13.6 to 1 as of December 31, 2016. Radian Guaranty is not expected to need additional capital to satisfy state insurance regulatory requirements in their current form.

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The NAIC is in the process of reviewing the minimum capital and surplus requirements for mortgage insurers and considering changes to the 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. While the timing and outcome of this process is not known, in the event the NAIC adopts changes to the Model Act, we expect that the capital requirements in states that adopt the new Model Act may increase as a result of the changes. However, we continue to believe the changes to the Model Act will not result in financial requirements that require greater capital than the level currently required under the PMIERS Financial Requirements.

In the event the cash flow from operations of the Services segment is not adequate to fund all of its needs, Radian Group may provide additional funds to the Services segment in the form of a capital contribution or an intercompany note. See also “—Radian Group—Long-Term Liquidity Needs-Services.”

Additional capital support may also be required for potential investments in new business initiatives by our subsidiaries to support our strategy of growing our businesses.

**Dividends.** Our quarterly common stock dividend currently is \$0.0025 per share and, based on our current outstanding shares of common stock, we would require approximately \$2.1 million in the aggregate to pay our quarterly dividends for the next 12 months. Radian Group is not subject to any limitations on its ability to pay dividends except those generally applicable to corporations that are incorporated in Delaware. Delaware corporation law provides that dividends are only payable out of a corporation's capital surplus or (subject to certain limitations) recent net profits. As of December 31, 2016, our capital surplus was \$2.9 billion, representing our dividend limitation under Delaware law.

**IRS Matter.** In addition to the items discussed above, in the event a final judgment or compromised settlement agreement is reached in Radian Group's ongoing dispute with the IRS related to the Deficiency Amount from the examination of our 2000 through 2007 consolidated federal income tax returns, Radian Group may be required to make a payment to the U.S. Treasury. During 2016, we held several meetings with the IRS in an attempt to reach a compromised settlement on the issues presented in our dispute. In January 2017, the parties informed the Tax Court that they believe they have reached a basis for a compromised settlement on the primary issues present in the case. The resolution must be reported to the JCT for review and cannot be finalized until the IRS considers the views, if any, expressed by the JCT about the matter. If we are unable to complete a compromised settlement, then the ongoing litigation could take several years to resolve and may result in substantial legal expenses. We can provide no assurance regarding the outcome of any such litigation or whether a compromised settlement with the IRS will ultimately be reached. As such, there remains significant uncertainty with regard to the amount and timing of any potential payments. See Note 10 of Notes to Consolidated Financial Statements for additional information regarding the IRS matter.

Radian Group and RGRI are parties to an Assumption and Indemnification Agreement with regard to a portion of these Deficiency Amounts. This indemnification agreement was made in lieu of an immediate capital contribution to RGRI that otherwise would have been required for RGRI to maintain its minimum statutory policyholders' surplus requirements in light of the remeasurement as of December 31, 2011 of uncertain tax positions related to the portfolio of REMIC residual interests.

**Sources of Liquidity.** In June 2016, Radian Guaranty repaid in full the \$325 million Surplus Note due to Radian Group, which increased our holding company liquidity at June 30, 2016 by \$325 million. We have since used a portion of this holding company liquidity in connection with our capital management transactions.

In addition to existing available cash and marketable securities, Radian Group's principal sources of cash to fund future short-term liquidity needs include: (i) payments made to Radian Group under expense-sharing arrangements with our subsidiaries, as discussed above; (ii) payments made to Radian Group under tax-sharing arrangements with our subsidiaries, as discussed below; and (iii) to the extent available, potential dividends from our Services segment, if any, in excess of payments due under tax- and expense-sharing arrangements. See also “—Radian Group—Long-Term Liquidity Needs—Services.”

Under the provisions of its tax-sharing agreement with its subsidiaries, Radian Group may receive cash as a result of certain of our operating subsidiaries generating tax liabilities and related payments that are in excess of Radian Group's consolidated payment obligation to the U.S. Treasury.

If Radian Group's current sources of liquidity are insufficient for Radian Group to fund its obligations during the next 12 months, or if we otherwise decide to increase our liquidity position, Radian Group may seek additional capital by incurring additional debt, by issuing additional equity, or by selling assets, which we may not be able to do on favorable terms, if at all.

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We regularly evaluate opportunities, based on market conditions, to finance our operations by accessing the capital markets or other types of indebtedness with institutional and other lenders, and consider various measures to improve our capital and liquidity positions, as well as to strengthen our balance sheet and improve Radian Group's debt maturity profile. In the past, we have repurchased and exchanged, prior to maturity, some of our outstanding debt, and in the future, we may, from time to time, seek to redeem, repurchase or exchange for other securities, some or all of our outstanding debt, prior to maturity, in the open market, through other public or private transactions, including pursuant to one or more tender offers, or through any combination of the foregoing, as circumstances may allow. The timing or amount of any potential transactions will depend on a number of factors, including market opportunities and our views regarding our capital and liquidity positions and potential future needs. There can be no assurance that any such transactions will be completed on favorable terms, or at all.

#### Radian Group—Long-Term Liquidity Needs

In addition to our short-term liquidity needs discussed above, our most significant needs for liquidity beyond the next 12 months are:

- (1) the repayment of our outstanding long-term debt, consisting of:
  - \$300 million principal amount of outstanding debt due in June 2019;
  - \$350 million principal amount of outstanding debt due in June 2020;
  - \$350 million principal amount of outstanding debt due in March 2021; and
- (2) potential additional capital contributions to our subsidiaries.

As of December 31, 2016, certain of our subsidiaries have incurred NOLs that could not be carried-back and utilized on a separate company tax return basis. As a result, we are not currently obligated under our tax-sharing agreement to reimburse these subsidiaries for their separate company NOL carryforward. However, if in a future period, our consolidated NOL is fully utilized before a subsidiary has utilized its share of NOL carryforward on a separate entity basis, then Radian Group may be obligated to fund such subsidiary's share of our consolidated tax liability to the IRS. Certain subsidiaries, including Clayton, currently have NOLs on a separate entity basis that are available for future utilization. However, we do not expect to fund material obligations related to these subsidiary NOLs. See also "—Radian Group—Short-Term Liquidity Needs—Sources of Liquidity."

We expect to meet the long-term liquidity needs of Radian Group with a combination of: (i) available cash and marketable securities; (ii) private or public issuances of debt or equity securities, which we may not be able to do on favorable terms, if at all; (iii) cash received under tax- and expense-sharing arrangements with our subsidiaries; and (iv) to the extent available, dividends from our subsidiaries.

Under Pennsylvania's insurance laws, ordinary dividends and other distributions may only be paid out of an insurer's positive unassigned surplus, measured as of the end of the prior fiscal year. Radian Guaranty had negative unassigned surplus at December 31, 2016 of \$691.3 million, and therefore, no ordinary dividends can be paid from Radian Guaranty in 2017. Due in part to the need to set aside contingency reserves, we do not expect that Radian Guaranty will have positive unassigned surplus, and therefore will not have the ability to pay ordinary dividends, for the foreseeable future. Under Pennsylvania's insurance laws, an insurer may request an extraordinary dividend, but payment is subject to the approval of the Pennsylvania Insurance Commissioner.

There can also be no assurance that our Services segment will generate sufficient cash flow to pay dividends. See "—Services" below.

#### Mortgage Insurance

As of December 31, 2016, our Mortgage Insurance segment maintained claims paying resources of \$4.2 billion on a statutory basis, which consists of contingency reserves, statutory policyholders' surplus, Unearned Premium Reserves and loss reserves.

The principal demands for liquidity in our mortgage insurance business include the payment of claims and potential claim settlement transactions, operating expenses (including those allocated from Radian Group) and taxes. The principal sources of liquidity in our mortgage insurance business currently include insurance premiums, net



investment income, cash flows from investment sales and maturities and, potentially, capital contributions from Radian Group. We believe that the operating cash flows generated by each of our mortgage insurance subsidiaries will provide these subsidiaries with a substantial portion of the funds necessary to satisfy their claim payments, operating expenses and taxes for the foreseeable future.

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In August 2016, Radian Guaranty and Radian Reinsurance became members of the Federal Home Loan Bank of Pittsburgh ("FHLB") and, as members, may borrow from the FHLB. Borrowings from the FHLB may be used to provide low-cost, supplemental liquidity. As of December 31, 2016, there were no FHLB borrowings outstanding. Private mortgage insurers, including Radian Guaranty, are required to comply with the PMIERS to remain eligible insurers of loans purchased by the GSEs. See "—Radian Group—Short-Term Liquidity Needs" and Note 1 of Notes to Consolidated Financial Statements for additional information. Radian Guaranty currently is an approved mortgage insurer under the PMIERS and is in compliance with the PMIERS Financial Requirements.

#### Freddie Mac Agreement

At December 31, 2016 and December 31, 2015, Radian Guaranty had \$63.9 million and \$74.7 million, respectively, in a collateral account pursuant to the Freddie Mac Agreement. This collateral account, which contains investments primarily invested in and classified as part of our trading securities, is pledged to cover Loss Mitigation Activity on the loans subject to the Freddie Mac Agreement. Subject to certain conditions in the Freddie Mac Agreement, amounts in the collateral account may be released to Radian Guaranty over time to the extent that Loss Mitigation Activity becomes final in accordance with the terms of that agreement. In accordance with these provisions, Radian Guaranty withdrew \$11.7 million from this account in October 2016 related to Loss Mitigation Activity that had become final as of August 31, 2016. Following this withdrawal, if, as of August 29, 2017, the amount of additional Loss Mitigation Activity that has become final in accordance with the Freddie Mac Agreement is less than \$64 million, then any shortfall will be paid to Freddie Mac from the funds remaining in the collateral account, subject to certain adjustments designed to allow for any Loss Mitigation Activity that has not become final or any claims evaluation that has not been completed as of that date. As of December 31, 2016, we have \$57.4 million recorded in reserve for losses that we expect to be paid to Freddie Mac from the funds expected to be remaining in the collateral account as of the August 29, 2017 measurement date.

#### Services

As of December 31, 2016, our Services segment maintained cash and cash equivalents totaling \$12.7 million, which included restricted cash of \$3.8 million.

The principal demands for liquidity in our Services segment include the payment of employee compensation and other operating expenses (including those allocated from Radian Group), reimbursements to Radian Group for interest payments related to the Senior Notes due 2019, and dividends to Radian Group, if any. The principal sources of liquidity in our Services segment are cash generated by operations and, to the extent necessary, capital contributions from Radian Group.

Liquidity levels may fluctuate depending on the levels and contractual timing of our invoicing and the payment practices of the Services clients, in combination with the timing of Services' payments for employee compensation and to external vendors. The amount, if any, and timing of the Services segment's dividend paying capacity will depend primarily on the amount of excess cash flow generated by the segment.

The Services segment did not generate sufficient cash flows to pay dividends to Radian Group in 2016. Additionally, while cash flow is expected to be sufficient to pay the Services segment's direct operating expenses, it has not been sufficient to reimburse Radian Group for \$35.3 million of its allocated operating expense and interest expense. We expect the Services segment will be able to bring its reimbursement obligations current in the next four to five years. In the event the cash flow from operations of the Services segment is not adequate to fund all of its needs, Radian Group may provide additional funds to the Services segment in the form of a capital contribution or an intercompany note.

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## Cash Flows

The following table summarizes our consolidated cash flows from operating, investing and financing activities:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net cash provided by (used in):			
Operating activities	\$381,724	\$11,721	\$(146,262)
Investing activities	(176,058 )	2,792	(336,041 )
Financing activities	(203,269 )	601	482,016
Effect of exchange rate changes on cash and restricted cash	(481 )	(133 )	(67 )
Less: Increase (decrease) in cash of business held for sale	—	(421 )	557
Increase (decrease) in cash and restricted cash	\$1,916	\$15,402	\$(911 )

## Operating Activities

Our most significant source of operating cash flows is from premiums received from our insurance policies, while our most significant uses of operating cash flows are generally for claims paid on our insured policies and our operating expenses. Net cash flows provided by operating activities increased for 2016 compared to 2015, primarily as a result of a significant reduction in total claims paid in 2016, compared to 2015.

The improvement in net cash from operating activities in 2015 compared to 2014 was mainly attributable to an increase in net premiums written and a decrease in claims paid.

## Investing Activities

Net cash used in investing activities increased for 2016, compared to a small amount of net cash provided by investing activities for 2015, primarily as a result of the investment of a portion of the net cash provided by operating activities in 2016. The net cash provided by operating activities, combined with funds provided by sales and redemptions of trading securities and short-term investments, contributed to a high volume of purchases of fixed-maturity investments available for sale during 2016. In addition, purchases of property and equipment, net, increased during 2016, primarily as a result of our technology upgrade project.

Net cash provided by investing activities increased in 2015, compared to net cash used in investing activities in 2014. During 2015, net cash provided by investing activities was not significant, as the proceeds received from the sale of Radian Asset Assurance and the sales and redemptions of trading securities, equity securities available for sale and short-term investments were primarily reinvested in fixed-maturity investments available for sale. During 2014, net cash used in investing activities was primarily the result of investing a significant portion of the proceeds we received from our issuances of long-term debt and common stock. These investments included the acquisition of Clayton and purchases of short-term investments.

## Financing Activities

Net cash used in financing activities increased for 2016, compared to net cash provided by financing activities for 2015, primarily due to: (i) purchases of aggregate principal amounts of \$30.1 million and \$322.0 million, respectively, of our outstanding Convertible Senior Notes due 2017 and 2019, which were partially settled in cash in the amount of \$235.0 million and (ii) the redemption of the remaining \$195.5 million aggregate principal amount of our Senior Notes due 2017, which we settled in cash in the amount of \$211.3 million. The cash flow impact of these 2016 purchases and redemptions collectively exceeded the purchases and redemption of long-term debt for the same period of 2015 and was partially offset by a reduction in purchases of our common shares.

Net cash provided by financing activities declined for 2015 compared to 2014, primarily due to a reduction in the issuance of common stock and an increase in purchases of common shares.

See "Item 8. Financial Statements and Supplementary Data—Consolidated Statements of Cash Flows" for additional information.



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## Stockholders' Equity

Stockholders' equity increased to \$2.9 billion at December 31, 2016, from \$2.5 billion at December 31, 2015. The increase in stockholders' equity resulted primarily from: (i) our net income of \$308 million for the year ended December 31, 2016 and (ii) the impact of our recently completed debt and equity transactions to strengthen Radian's capital position, which increased stockholder's equity by \$42.9 million, excluding the \$59.8 million after-tax impact from the loss on induced conversion and debt extinguishment already reflected in net income. See "Overview—2016 and Other Recent Capital Management Developments" for additional information.

## Ratings

Radian Group, Radian Guaranty and Radian Reinsurance have been assigned the ratings set forth in the chart below. We believe that ratings often are considered by others in assessing our credit strength and the financial strength of our primary mortgage insurance subsidiary. See "Item 1A. Risk Factors—Radian Guaranty may fail to maintain its eligibility status with the GSEs."

	Moody's (1)	S&P (2)
Radian Group	Ba3	BB
Radian Guaranty	Baa3	BBB
Radian Reinsurance	N/A	BBB (3)

(1) Moody's outlook for Radian Group and Radian Guaranty currently is Stable.

(2) S&P's outlook for Radian Group, Radian Guaranty and Radian Reinsurance currently is Stable.

(3) Received February 2, 2017.

## Critical Accounting Policies

SEC guidance defines Critical Accounting Policies as those that require the application of management's most difficult, subjective or complex judgments, often because of the need to make estimates about the effect of matters that are inherently uncertain and that may change in subsequent periods. In preparing our consolidated financial statements in accordance with GAAP, management has made estimates, assumptions and judgments that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. In preparing these financial statements, management has utilized available information, including our past history, industry standards and the current and projected economic and housing environments, among other factors, in forming its estimates, assumptions and judgments, giving due consideration to materiality. Because the use of estimates is inherent in GAAP, actual results could differ from those estimates. In addition, other companies may utilize different estimates, which may impact comparability of our results of operations to those of companies in similar businesses. A summary of the accounting policies that management believes are critical to the preparation of our consolidated financial statements is set forth below.

## Reserve for Losses and LAE

We establish reserves to provide for losses and LAE, including the estimated costs of settling claims in our Mortgage Insurance segment, in accordance with the accounting standard regarding accounting and reporting by insurance enterprises. Although this standard specifically excludes mortgage insurance from its guidance relating to the reserve for losses, we establish reserves for mortgage insurance as described below, using the guidance contained in this standard supplemented with other accounting guidance, due to the lack of specific guidance for mortgage insurance.

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Estimating our loss reserve involves significant reliance upon assumptions and estimates with regard to the likelihood, magnitude and timing of each potential loss, including an estimate of the impact of our Loss Mitigation Activities. The models, assumptions and estimates we use to establish loss reserves may prove to be inaccurate, especially during an extended economic downturn or a period of extreme market volatility and uncertainty. As such, we cannot be certain that our reserve estimate will be adequate to cover ultimate losses on incurred defaults. For example, our mortgage insurance loss reserves generally increase as defaulted loans age, because historically, as defaulted loans age, they have been more likely to result in foreclosure, and therefore, have been more likely to result in a claim payment. While we believe this remains accurate, following the financial crisis, there are a significant number of loans in our defaulted portfolio that have been in default for an extended period of time, but which have not been subject to foreclosure, and therefore, have not resulted in claims. As a result, significant uncertainty remains with respect to the ultimate resolution of these aged defaults. This uncertainty requires management to use considerable judgment in estimating the rate at which these loans will result in claims.

Commutations and other negotiated terminations of our insured risks in our Mortgage Insurance segment provide us with an opportunity to exit exposures for an agreed upon payment, or payments, sometimes at an amount less than the previously estimated ultimate liability. Once all exposures relating to such policies are extinguished, all reserves for losses and LAE and other balances relating to the insured policies are generally reversed, with any remaining net gain or loss typically recorded through provision for losses. We take into consideration the specific contractual and economic terms for each individual agreement when accounting for our commutations or other negotiated terminations, which may result in differences in the accounting for these transactions.

In our Mortgage Insurance business, the default and claim cycle begins with the receipt of a default notice from the loan servicer. Reserves for losses are established upon receipt of notification from servicers that a borrower has missed two monthly payments, which is when we consider a loan to be in default for financial statement and internal tracking purposes. We also establish reserves for associated LAE, consisting of the estimated cost of the claims administration process, including legal and other fees and expenses associated with administering the claims process. We maintain an extensive database of claim payment history, and use models based on a variety of loan characteristics to determine the likelihood that a default will reach claim status.

With respect to loans that are in default, considerable judgment is exercised as to the adequacy of reserve levels. For purposes of reserve modeling, loans are aggregated into groups using a variety of factors. The attributes currently used to define the groups for purposes of developing various assumptions include, but are not limited to, the Stage of Default, the Time in Default and type of insurance (i.e., primary or pool). We use an actuarial projection methodology referred to as a "roll rate" analysis that uses historical claim frequency information to determine the projected ultimate Default to Claim Rates based on the Stage of Default and Time in Default as well as the date that a loan goes into default. The Default to Claim Rate also includes our estimates with respect to expected Rescissions and Claim Denials, which have the effect of reducing our Default to Claim Rates. We forecast the impact of our Loss Mitigation Activity in protecting us against fraud, underwriting negligence, breach of representation and warranties, inadequate documentation of submitted claims and other items that may give rise to Rescissions or cancellations and Claim Denials, to help determine the Default to Claim Rate. Our Loss Mitigation Activities have resulted in challenges from certain lender and servicer customers, which have resulted in some reversals of our decisions regarding Rescissions, Claim Denials and Claim Curtailments. Although we believe that our Loss Mitigation Activities are justified under our policies, if any of these challenges result in disputes or are not resolved, they could result in arbitration or judicial proceedings and we may need to reassume the risk on, and increase loss reserves for, those policies or pay additional claims. Our Master Policies specify the time period during which a suit or action arising from any right of the insured under the policy must be commenced. The assumptions embedded in our estimated Default to Claim Rate on our in-force default inventory include an adjustment to our estimated Rescissions and Claim Denials to account for the fact that we expect a certain number of policies to be reinstated and ultimately to be paid, as a result of valid challenges by such policy holders.



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Our aggregate weighted average Default to Claim Rate assumption (net of Claim Denials and Rescissions) used in estimating our primary reserve for losses was 42% (40% excluding pending claims) at December 31, 2016 and 46% (42% excluding pending claims) at December 31, 2015. Our Default to Claim Rate estimates on defaulted loans are mainly developed based on the Stage of Default and Time in Default of the underlying defaulted loans grouped according to the period in which the default occurred, as measured by the progress toward foreclosure sale and the number of months in default. During the year ended December 31, 2015, we reduced our gross Default to Claim Rate assumption for new primary defaults from 16% to 13% due to continued improvement in actual claim development trends. During the year ended December 31, 2016, this assumed rate was further reduced to 12%. Our estimates of gross Default to Claim Rates on our primary portfolio as of December 31, 2016 ranged from 12% for new defaults to 81% for Foreclosure Stage Defaults. Our estimate of expected Rescissions and Claim Denials (net of expected Reinstatements) embedded in our estimated Default to Claim Rate is generally based on our recent experience. Consideration is also given for differences in characteristics between those rescinded policies and denied claims and the loans remaining in our defaulted inventory, as well as the estimated impact of the BofA Settlement Agreement, as described below.

After estimating the Default to Claim Rate, we estimate Claim Severity based on the average of recently observed severity rates within product type, type of insurance, and Time in Default cohorts. These average severity estimates are then applied to individual loan coverage amounts to determine reserves. Similar to the Default to Claim Rate, Claim Severity also is impacted by the length of time that loans are in default and by our Loss Mitigation Activity. For claims under our primary mortgage insurance, the coverage percentage is applied to the claim amount, which consists of the unpaid loan principal, plus past due interest (for which our liability is contractually capped in accordance with the terms of our Master Policies) and certain expenses associated with the default, to determine our maximum liability. Therefore, Claim Severity generally increases the longer that a loan is in default. In addition, we estimate the impact that the amount that Claim Curtailments due to servicer noncompliance with our insurance policies and servicing guidelines have on the amount that we ultimately will have to pay with respect to claims. As part of our claims review process, we assess whether defaulted loans were serviced appropriately in accordance with our insurance policies and servicing guidelines. If a servicer failed to satisfy its servicing obligations, our insurance policies provide that we may curtail the claim payment for such default, and in some circumstances, cancel coverage or deny the claim.

We do not establish reserves for loans that are in default if we believe that we will not be liable for the payment of a claim with respect to that default. We do not establish loss reserves for expected future claims on insured mortgages that are not in default. See “—Reserve for Premium Deficiency” below for an exception to this general principle.

#### IBNR and Other Reserves

We also establish reserves for defaults that we estimate have been incurred but have not been reported to us on a timely basis by the servicer, as well as for previous Rescissions, Claim Denials and Claim Curtailments that we estimate will be reinstated and subsequently paid. We generally give the policyholder up to 30 days to challenge our decision to rescind coverage before we consider a policy to be rescinded and remove it from our defaulted inventory; therefore, we currently expect only a limited percentage of policies that were rescinded to be reinstated. We currently expect a significant percentage of claims that were denied to be resubmitted as a perfected claim and ultimately paid. Most often, a Claim Denial is the result of a servicer's inability to provide the loan origination file or other servicing documents for review. Under the terms of our Master Policies with our lending customers, our policyholders have up to one year after the acquisition of borrower's title to provide to us the necessary documents to perfect a claim. All estimates are periodically reviewed and adjustments are made as they become necessary.

The impact to our reserve due to estimated future Loss Mitigation Activities incorporates our expectations regarding the number of policies that we expect to be reinstated as a result of our claims rebuttal process. Rescissions, Claim Denials and Claim Curtailments may occur for various reasons, including, without limitation, underwriting negligence, fraudulent applications and appraisals, breach of representations and warranties and inadequate



documentation, primarily related to our Legacy Portfolio. The level of Rescissions, Claim Denials and Claim Curtailments has been declining in recent periods as our defaulted Legacy Portfolio continues to decline, and we expect this trend to continue. In addition, with respect to claims decisions on the population of Future Legacy Loans covered under the BofA Settlement Agreement, Radian Guaranty has agreed, subject to certain limited exceptions and conditions, that it will limit Rescissions, Claim Denials or Claim Curtailments. See Note 11 of Notes to Consolidated Financial Statements for additional information about the BofA Settlement Agreement.

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Unless a liability associated with such activities or discussions becomes probable and can be reasonably estimated, we consider our claim payments and our Rescissions, Claim Denials and Claim Curtailments to be resolved for financial reporting purposes. Under the accounting standard regarding contingencies, an estimated loss is accrued only if we determine that the loss is probable and can be reasonably estimated. For populations of disputed Rescissions, Claim Denials and Claim Curtailments where we determine that a settlement is probable and that a loss can be reasonably estimated, we reflect our best estimate of the expected loss related to the populations under discussion in our financial statements, primarily as a component of our IBNR reserve. While our reserves include our best estimate of such losses, the outcome of the discussions or potential legal proceedings that could ensue is uncertain, and it is reasonably possible that a loss exists in excess of the amount accrued.

Included in our loss reserves is an estimate related to a potential additional payment to Freddie Mac under the Freddie Mac Agreement, which is dependent upon the Loss Mitigation Activity on the population of loans subject to that agreement. Our reserve related to this potential additional payment is based on the estimated Rescissions, Claim Denials, Claim Curtailments and cancellations for this population of loans, determined using assumptions that are consistent with those utilized to determine our overall loss reserves. See Note 11 of Notes to Consolidated Financial Statements for additional information about the Freddie Mac Agreement.

#### Sensitivity Analysis

We considered the sensitivity of first-lien loss reserve estimates at December 31, 2016 by assessing the potential changes resulting from a parallel shift in Claim Severity and Default to Claim Rate estimates for primary loans. For example, assuming all other factors remain constant, for every one percentage point change in primary Claim Severity (which we estimate to be 101.0% of risk exposure at December 31, 2016), we estimated that our loss reserves would change by approximately \$6.3 million at December 31, 2016. For every one percentage point change in our overall primary net Default to Claim Rate (which we estimate to be 42% at December 31, 2016, including our assumptions related to Rescissions and Claim Denials), we estimated a \$14.5 million change in our loss reserves at December 31, 2016.

Senior management regularly reviews the modeled frequency, Rescission, Claim Denial and Claim Severity estimates, which are based on historical trends, as described above. If recent emerging or projected trends differ significantly from the historical trends used to develop the modeled estimates, management evaluates these trends and determines how they should be considered in its reserve estimates.

#### Reserve for Premium Deficiency

Insurance enterprises are required to establish a PDR if the net present value of the expected future losses and expenses for a particular product line exceeds the net present value of expected future premiums and existing reserves for that product line. We reassess our expectations for premiums, losses and expenses for our mortgage insurance business at least quarterly and update our premium deficiency analyses accordingly. Expected future expenses include consideration of maintenance costs associated with maintaining records relating to insurance contracts and with the processing of premium collections. We also consider investment income in the premium deficiency calculation through the use of our pre-tax investment yield to discount certain cash flows for this analysis.

For our mortgage insurance business, we group our mortgage insurance products into two categories: first-lien and Second-lien. To assess the need for a PDR on our first-lien insurance portfolio, we develop loss projections based on modeled loan defaults related to our current RIF. This projection is based on recent trends in default experience, severity and rates of defaulted loans moving to claim (such Default to Claim Rates are net of our estimates of Rescissions and Claim Denials), as well as recent trends in the rate at which loans are prepaid. As of December 31, 2016, our modeled loan default projections for our first-lien insured portfolio assume that the rate at which current loans will default improves further, based on our expectation that home prices will continue to appreciate and the unemployment rate will continue to decline.

For our first-lien insurance business, because the combination of the net present value of expected premiums and previously established reserves (net of reinsurance recoverables) exceeds the net present value of expected losses and

expenses, a first-lien PDR was not required as of December 31, 2016 or December 31, 2015.

For our Second-lien insurance business, we project future premiums and losses using historical results to help determine future performance for both prepayments and claims. An estimated expense factor is then applied, and the result is discounted using a rate of return that approximates our pre-tax investment yield. This net present value, less any existing reserves, is recorded as a premium deficiency and the reserve is updated at least quarterly based on actual results for that quarter, along with updated transaction level projections.

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Evaluating the expected profitability of our existing mortgage insurance business and the need for a PDR for our first-lien business involves significant reliance upon assumptions and estimates with regard to the likelihood, magnitude and timing of potential losses and premium revenues. The models, assumptions and estimates we use to evaluate the need for a PDR may prove to be inaccurate, especially during any extended economic downturn or period of extreme market volatility and uncertainty. We cannot be certain that we have correctly estimated the expected profitability of our existing first-lien mortgage portfolio or that the Second-lien PDR established will be adequate to cover the ultimate losses on our Second-lien business.

#### Fair Value of Financial Instruments

Our estimated fair value measurements are intended to reflect the assumptions market participants would use in pricing an asset or liability based on the best information available. Assumptions include the risks inherent in a particular valuation technique (such as a pricing model) and the risks inherent in the inputs to the model. Changes in economic conditions and capital market conditions, including but not limited to, credit spread changes, benchmark interest rate changes, market volatility and changes in the value of underlying collateral, could cause actual results to differ materially from our estimated fair value measurements. We define fair value as the current amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

In accordance with GAAP, we established a three-level valuation hierarchy for disclosure of fair value measurements based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level I measurements) and the lowest priority to unobservable inputs (Level III measurements). The level in the fair value hierarchy within which the fair value measurement falls is determined based on the lowest level input that is significant to the measurement in its entirety. The three levels of the fair value hierarchy are defined below:

- Level I — Unadjusted quoted prices for identical assets or liabilities in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level II — Prices or valuations based on observable inputs other than quoted prices in active markets for identical assets and liabilities; and
- Level III — Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable. Level III inputs are used to measure fair value only to the extent that observable inputs are not available.

For markets in which inputs are not observable or are limited, we use significant judgment and assumptions that a typical market participant would use to evaluate the market price of an asset or liability. Given the level of judgment necessary, another market participant may derive a materially different estimate of fair value. These assets and liabilities are classified in Level III of our fair value hierarchy.

At December 31, 2016, total Level III assets of \$1 million accounted for less than 0.1% of total assets measured at fair value. There were no Level III liabilities at December 31, 2016.

Available for sale securities, trading securities, and certain other assets are recorded at fair value as described in Note 5 of Notes to Consolidated Financial Statements. All changes in fair value of trading securities and certain other assets are included in our consolidated statements of operations. All changes in the fair value of available for sale securities are recorded in AOCI.

The following are descriptions of our valuation methodologies for financial assets and liabilities measured at fair value.

#### Investments

U.S. government and agency securities—The fair value of U.S. government and agency securities is estimated using observed market transactions, including broker-dealer quotes and actual trade activity as a basis for valuation. U.S. government and agency securities are categorized in either Level I or Level II of the fair value hierarchy.

State and municipal obligations—The fair value of state and municipal obligations is estimated using recent transaction activity, including market observations. Valuation models are used, which incorporate bond structure, yield curve, credit spreads and other factors. These securities are generally categorized in Level II of the fair value hierarchy or in Level III when market-based transaction activity is unavailable.

Money market instruments—The fair value of money market instruments is based on daily prices, which are published and available to all potential investors and market participants. As such, these securities are categorized in Level I of the fair value hierarchy.

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Corporate bonds and notes—The fair value of corporate bonds and notes is estimated using recent transaction activity, including market observations. Spread models are used that incorporate issuer and structure characteristics, such as credit risk and early redemption features, where applicable. These securities are generally categorized in Level II of the fair value hierarchy or in Level III when market-based transaction activity is unavailable.

RMBS, CMBS and Other ABS—The fair value of these instruments is estimated based on prices of comparable securities and spreads and observable prepayment speeds. These securities are generally categorized in Level II of the fair value hierarchy or in Level III when market-based transaction activity is unavailable. The fair value of any Level III securities is generally estimated by discounting estimated future cash flows.

Foreign government and agency securities—The fair value of foreign government and agency securities is estimated using observed market yields used to create a maturity curve and observed credit spreads from market makers and broker-dealers. These securities are categorized in Level II of the fair value hierarchy.

Equity securities—The fair value of these securities is generally estimated using observable market data in active markets or bid prices from market makers and broker-dealers. Generally, these securities are categorized in Level I or II of the fair value hierarchy, as observable market data are readily available. A small number of our equity securities, however, are categorized in Level III of the fair value hierarchy due to a lack of market-based transaction data or the use of model-based valuations.

Other investments—These securities primarily consist of commercial paper and short-term certificates of deposit, which are categorized in Level II of the fair value hierarchy. Other investments also contains convertible notes of non-reporting issuers, which are categorized in Level III of the fair value hierarchy due to a lack of market-based transaction data.

We are responsible for the determination of the value of all investments carried at fair value and the supporting methodologies and assumptions. To assist us in this responsibility, we utilize independent third-party valuation service providers to gather, analyze and interpret market information and estimate fair values based upon relevant methodologies and assumptions for various asset classes and individual securities. We perform monthly quantitative and qualitative analyses on the prices received from third parties to determine whether the prices are reasonable estimates of fair value. Our analysis includes: (i) a review of the methodology used by third-party pricing services; (ii) a comparison of pricing services' valuations to other independent sources; (iii) a review of month-to-month price fluctuations; and (iv) a comparison of actual purchase and sale transactions with valuations received from third parties. These processes are designed to ensure that our investment values are accurately recorded, that the data inputs and valuation techniques utilized are appropriate and consistently applied and that the assumptions are reasonable and consistent with the objective of determining fair value.

#### Investments

We group assets in our investment portfolio into one of three main categories: held to maturity, available for sale or trading securities. Fixed-maturity securities for which we have the positive intent and ability to hold to maturity, if any, are classified as held to maturity and are reported at amortized cost. Investments in securities not classified as held to maturity or trading securities are classified as available for sale and are reported at fair value, with unrealized gains and losses (net of tax) reported as a separate component of stockholders' equity as AOCI. Investments classified as trading securities are reported at fair value, with unrealized gains and losses reported as a separate component of income. Short-term investments consist of money market instruments, certificates of deposit and highly liquid, interest-bearing instruments with an original maturity of three months or less at the time of purchase. Amortization of premium and accretion of discount are calculated principally using the interest method over the term of the investment. Realized gains and losses on investments are recognized using the specific identification method.

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We record an other-than-temporary impairment 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 cash flows we expect to collect is less than the amortized cost basis of the security. If a sale is likely, 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, losses on securities that are other-than-temporarily impaired are separated into: (i) the portion of loss that represents the credit loss and (ii) 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 AOCI, net of taxes. A credit loss is determined to exist if the present value of discounted cash flows expected to be collected from the security is less than the cost basis of the security. The present value of discounted cash flows is determined using the original yield of the security. In evaluating whether a decline in value is other-than-temporary, we consider several factors in addition to the above, including, but not limited to, the following:

- the extent and the duration of the decline in value;
- the reasons for the decline in value (e.g., credit event, interest related or market fluctuations); and
- the financial position, access to capital and near term prospects of the issuer, including the current and future impact of any specific events.

#### Income Taxes

We provide for income taxes in accordance with the provisions of the accounting standard regarding accounting for income taxes. As required under this standard, our DTAs and DTLs are recognized under the balance sheet method, which recognizes the future tax effect of temporary differences between the amounts recorded in our consolidated financial statements and the tax bases of these amounts. DTAs and DTLs are measured using the enacted tax rates expected to apply to taxable income in the periods in which the DTA or DTL is expected to be realized or settled. We are required to establish a valuation allowance against our DTA when it is more likely than not that all or some portion of our DTA will not be realized. At each balance sheet date, we assess our need for a valuation allowance. Our assessment is based on all available evidence, both positive and negative. This requires management to exercise judgment and make assumptions regarding whether our DTA will be realized in future periods.

Our framework for assessing the recoverability of our DTAs requires consideration of all available evidence, including:

- whether there are cumulative losses from previous years;
- future projections of taxable income within the applicable carryback and carryforward periods, including the sustainability of our forecasts of future taxable income under potential stress scenarios;
- the degree of certainty regarding our projected incurred losses;
- future reversals of existing taxable temporary differences; and
- potential tax planning strategies.

Our provision for income taxes for interim financial periods is based on an estimate of our annual effective tax rate for the full year of 2016 and 2015. When estimating our full year 2016 and 2015 effective tax rates, we adjust our forecasted pre-tax income for gains and losses on our investments, changes in the accounting for uncertainty in income taxes, changes in our beginning of year valuation allowance, and other adjustments. The impact of these items is accounted for discretely at the applicable federal tax rate.

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**Goodwill and Other Intangible Assets, Net**

Goodwill and other intangible assets were established primarily in connection with our acquisition of Clayton. Goodwill is an asset representing the estimated future economic benefits arising from the assets we have acquired that were not individually identified and separately recognized, and includes the value of discounted expected future cash flows of Clayton, Clayton's workforce, expected synergies with our other affiliates and other unidentifiable intangible assets. Goodwill is deemed to have an indefinite useful life and is subject to review for impairment annually, or more frequently, whenever circumstances indicate potential impairment at the reporting unit level. A reporting unit represents a business for which discrete financial information is available; more than one reporting unit may be aggregated into a single reporting unit if they have similar economic characteristics. Events that could result in an interim assessment of goodwill impairment and/or a potential impairment charge include, but are not limited to: (i) significant under-performance relative to historical or projected future operating results; (ii) significant changes in the strategy for the Services segment; (iii) significant negative industry or economic trends; and (iv) a decline in market capitalization below book value attributable to the Services segment. Management regularly updates certain assumptions related to our projections, including the likelihood of achieving the assumed potential revenues from new initiatives and business strategies, and if these or other items have a significant negative impact on the reporting unit's projections we may perform additional analysis to determine whether an impairment charge is needed. Lower earnings over sustained periods also can lead to impairment of goodwill, which could result in a charge to earnings. The value of goodwill is primarily supported by revenue projections, which are mostly driven by projected transaction volume and margins.

Intangible assets, other than goodwill, primarily consist of customer relationships, technology, trade name and trademarks, client backlog and non-competition agreements. Customer relationships represent the value of the specifically acquired customer relationships and are valued using the excess earnings approach using estimated client revenues, attrition rates, implied royalty rates and discount rates. The excess earnings approach estimates the present value of expected earnings in excess of a traditional return on business assets. Technology represents proprietary software used for loan review, underwriting and due diligence, managing the REO disposition process, performing surveillance of mortgage loan servicers, real estate valuations and client workflow solutions. Trade name and trademarks reflect the value inherent in the recognition of the "Clayton" name and its reputation. For purposes of our intangible assets, we use the term client backlog to refer to the estimated present value of fees to be earned for services performed on loans currently under surveillance or REO assets under management. The value of a non-competition agreement is an appraisal of potential lost revenues that would arise from an individual leaving to work for a competitor or initiating a competing enterprise. For financial reporting purposes, intangible assets with finite lives are amortized over their applicable estimated useful lives in a manner that approximates the pattern of expected economic benefit from each intangible asset.

The calculation of the estimated fair value of goodwill and other intangibles is performed primarily using an income approach and requires the use of significant estimates and assumptions that are highly subjective in nature, such as attrition rates, discount rates, future expected cash flows and market conditions. The most significant assumptions relate to the valuation of goodwill and customer relationships. In particular, future expected cash flows include estimated transaction volumes that are not currently contracted, as well as volume projections associated with non-agency RMBS securitizations, for which current market conditions are not favorable. Our estimates are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. Based on our most recent annual goodwill impairment analysis performed in the fourth quarter of 2016, the excess of the estimated fair value over the carrying amount of the Services segment was approximately \$50 million, or 18% of the carrying amount.

**Held-For-Sale Classification**

We report a business as held for sale when management is committed to a formal plan to sell the assets, the business is available for immediate sale and is being actively marketed at a price that is reasonable in relation to its fair value, an



active program to locate a buyer and other actions required to complete the plan to sell the asset have been initiated, the sale is probable and expected to be completed within one year, and it is deemed unlikely that significant changes to the plan will be made or that the plan will be withdrawn. A business classified as held for sale is reflected at the lower of its carrying amount or estimated fair value less cost to sell. If the carrying amount of the business exceeds its estimated fair value, a loss is recognized. Assets and liabilities related to a business classified as held for sale are segregated in the consolidated balance sheets in the period in which the business is classified as held for sale. After a business is classified as held for sale, depreciation and amortization expense is not recognized on its assets.

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#### Discontinued Operations

We report the results of operations of a business as discontinued operations if the business is classified as held for sale, the operations and cash flows of the business have been or will be eliminated from our ongoing operations as a result of a disposal transaction and we will not have any significant continuing involvement in the operations of the business after the disposal transaction. In the period in which the business meets the criteria of a discontinued operation, its results are reported in income or loss from discontinued operations in the consolidated statements of operations for current and prior periods, and include any required adjustment of the carrying amount to its fair value less cost to sell. In addition, tax is allocated to continuing operations and discontinued operations. The amount of tax allocated to discontinued operations is the difference between the tax originally allocated to continuing operations and the tax allocated to the restated amount of income from continuing operations in each period.

#### Recent Accounting Pronouncements

##### Accounting Standards Adopted During 2016

In April 2015, the FASB issued an update to the accounting standard for the accounting of internal-use software. The amendments in this update provide guidance to customers about whether a cloud computing arrangement includes a software license. If a cloud computing arrangement includes a software license, then the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a service contract. The provisions of this update are effective for interim and annual periods beginning after December 15, 2015. The implementation of this update, effective January 1, 2016, did not have a material impact to our financial position, results of operations or cash flows.

In May 2015, the FASB issued an update to the accounting standard for the accounting of short-duration insurance contracts by insurance entities. The amendments in this update require insurance entities to disclose certain information about the liability for unpaid claims and claim adjustment expenses. The additional information required is focused on improvements in disclosures regarding insurance liabilities, including the timing, nature and uncertainty of future cash flows related to insurance liabilities and the effect of those cash flows on the statement of comprehensive income. The disclosures required by this update are effective for annual periods beginning after December 15, 2015, and interim periods within annual periods beginning after December 15, 2016. We adopted this update effective December 31, 2016. See Note 11 of Notes to Consolidated Financial Statements for additional disclosures.

In August and November 2016, the FASB issued updates to the accounting standard regarding the statement of cash flows. The updates reduce diversity in practice over the presentation and classification of certain cash receipts and cash payments. Specifically, the revisions provide guidance related to certain cash flow issues, including a requirement that a statement of cash flows explain the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash or restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning and ending amounts shown on the statement of cash flows. These updates are effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted, and we elected to early adopt these updates effective December 31, 2016. As a result of the early adoption of these updates, there were no changes in the presentation or classification of cash receipts and cash payments in the statement of cash flows; however, restricted cash is now included with cash and cash equivalents in the beginning and ending cash balances, retrospectively for all the periods presented.

##### Accounting Standards Not Yet Adopted

In May 2014, the FASB issued an update to the accounting standard regarding revenue recognition. In accordance with the new standard, recognition of revenue occurs when a customer obtains control of promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the new standard requires that reporting companies disclose the nature, amount, timing, and

uncertainty of revenue and cash flows arising from contracts with customers. This update is not expected to change revenue recognition principles related to our investments and insurance products, which represent a significant portion of our total revenues. This update is primarily applicable to revenues from our Services segment. In July 2015, the FASB delayed the effective date for this updated standard to interim and annual periods beginning after December 15, 2017 and subsequently issued various clarifying updates. Early adoption is permitted. This standard permits the use of the retrospective or cumulative effective transition method. We are currently in the process of categorizing the Services revenues to evaluate the impact to our financial statements and future disclosures as a result of the updates.

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In January 2016, the FASB issued an update that makes certain changes to the standard for the accounting of financial instruments. Among other things, the update requires: (i) equity investments to be measured at fair value with changes in fair value recognized in net income; (ii) the use of the exit price notion when measuring the fair value of financial instruments for disclosure purposes; (iii) separate presentation of financial assets and financial liabilities by measurement category and form of financial asset; and (iv) separate presentation in other comprehensive income of the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk (also referred to as "own credit") when the organization has elected to measure the liability at fair value in accordance with the fair value option for financial instruments. The update also eliminates the requirement to disclose the methods and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet. This update is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is not permitted, with the exception of the "own credit" provision. We are currently evaluating the impact to our financial statements and future disclosures as a result of this update, but we do not expect the impact to be material due to the current amount of our investments in equity securities and our investment strategy.

In February 2016, the FASB issued an update that replaces the existing accounting and disclosure requirements for leases of property, plant and equipment. The update requires lessees to recognize, as of the lease commencement date, assets and liabilities for all leases with lease terms of more than 12 months, which is a change from the current GAAP requirement to recognize only capital leases on the balance sheet. Pursuant to the new standard, the liability initially recognized for the lease obligation is equal to the present value of the lease payments not yet made, discounted over the lease term at the implicit interest rate of the lease, if available, or otherwise at the lessee's incremental borrowing rate. The lessee is also required to recognize an asset for its right to use the underlying asset for the lease term, based on the liability subject to certain adjustments, such as for initial direct costs. Leases are required to be classified as either operating or finance, with expense on operating leases recorded as a single lease cost on a straight-line basis. For finance leases, interest expense on the lease liability is required to be recognized separately from the straight-line amortization of the right-of-use asset. Quantitative disclosures are required for certain items, including the cost of leases, the weighted-average remaining lease term, the weighted-average discount rate and a maturity analysis of lease liabilities. Additional qualitative disclosures are also required regarding the nature of the leases, such as basis, terms and conditions of: (i) variable interest payments; (ii) extension and termination options; and (iii) residual value guarantees. This update is effective for public companies for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. The new standard must be adopted by applying the new guidance as of the beginning of the earliest comparative period presented, using a modified retrospective transition approach with certain optional practical expedients. We are currently evaluating the impact to our financial statements and future disclosures as a result of this update. See "Contractual Obligations and Commitments" for more information.

In March 2016, the FASB issued an update to the accounting standards for share-based payment transactions, including: (i) accounting for income taxes; (ii) classification of excess tax benefits on the statement of cash flows; (iii) forfeitures; (iv) minimum statutory tax withholding requirements; (v) classification of employee taxes paid on the statement of cash flows when an employer withholds shares for tax withholding purposes; (vi) the practical expedient for estimating the expected term; and (vii) intrinsic value. Among other things, the update requires: (i) all excess tax benefits and tax deficiencies to be recognized as income tax expense or benefit in the income statement as they occur; (ii) recognition of excess tax benefits, regardless of whether the benefits reduce taxes payable in the current period; and (iii) excess tax benefits to be classified along with other cash flows as an operating activity, rather than separated from other income tax cash flows as a financing activity. For companies with significant share-based compensation, these changes may result in more volatile effective tax rates and net earnings, and result in additional dilution in earnings per share calculations. This update is effective for public companies for fiscal years beginning after December 15, 2016. Our adoption of this update, effective January 1, 2017, had an immaterial impact on our financial

statements at implementation. As a result of implementation of this new standard, however, we expect the potential for limited increased volatility in our effective tax rate, which would impact our results of operations.

In June 2016, the FASB issued an update to the accounting standard regarding the measurement of credit losses on financial instruments. This update requires that financial assets measured at amortized cost basis be presented at the net (of allowance for credit losses) amount expected to be collected. Credit losses relating to available-for-sale debt 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. This update is effective for public companies for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted as of the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently evaluating the impact to our financial statements and future disclosures as a result of this update.

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In October 2016, the FASB issued an update to the accounting standard regarding the accounting for income taxes. This update requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. This update will be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. This update is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted, including adoption in the first interim period of the adoption year. We are currently evaluating the impact to our financial statements as a result of this update.

In January 2017, the FASB issued an update to the accounting standard regarding goodwill and other intangibles. This update simplifies the subsequent measurement of goodwill by eliminating step two of the goodwill impairment test. Instead, an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for any excess of the reporting unit's carrying amount over the reporting unit's estimated fair value. The provisions of this update are effective for interim and annual goodwill impairment tests in fiscal years beginning after December 15, 2019, with early adoption permitted for interim or annual goodwill impairment tests performed after January 1, 2017. We intend to early adopt this update, effective as of our goodwill impairment test in 2017.

**Item 7A. Quantitative and Qualitative Disclosures About Market Risk.**

Market risk represents the potential for loss due to adverse changes in the value of financial instruments as a result of changes in market conditions. Examples of market risk include changes in interest rates, credit spreads, foreign currency exchange rates and equity prices. We perform sensitivity analyses to determine the effects of market risk exposures on our investment securities by determining the potential loss in future earnings, fair values or cash flows of market-risk-sensitive instruments resulting from one or more selected hypothetical changes in interest rates, credit spreads, foreign currency exchange rates and equity prices.

**Interest-Rate Risk and Credit-Spread Risk**

The primary market risk in our investment portfolio is interest-rate risk, namely the fair value sensitivity of our fixed-income securities to changes in interest rates. An additional market risk in our investment portfolio is credit-spread risk, which is the sensitivity of the fair value of our fixed-income securities to changes in credit spreads. We regularly analyze our exposure to interest-rate risk and credit-spread risk and have determined that the fair value of our investments is materially exposed to changes in both interest rates and credit spreads.

Our sensitivity analysis for interest rates is based on the change in fair value of our fixed-income securities, assuming a hypothetical instantaneous and parallel 100-basis point increase or decrease in the yield curve, with all other factors remaining constant. We calculate the duration of our fixed-income securities, expressed in years, in order to estimate the interest-rate sensitivity of these securities, as shown in the table below. To assist us in setting duration targets for the investment portfolio, we analyze: (i) the interest-rate sensitivities of our liabilities; (ii) entity specific cash flows; and (iii) our current risk appetite.

Credit spread represents the additional yield on a fixed-income security, above the risk-free rate, that is paid by an issuer to compensate investors for assuming the issuer's credit and liquidity risk. We manage credit-spread risk on an enterprise level, across issuer, sector and asset class. Our sensitivity analysis for credit-spread risk is based on the change in fair value of our fixed-income securities, assuming a hypothetical 100-basis point increase or decrease in all credit spreads, with the exception of U.S. Treasury and agency obligations, and assuming all other factors remain constant. We have assumed no change in credit spreads for U.S. Treasury and agency obligations. Actual shifts in credit spreads generally vary by issuer and security, based on issuer-specific and security-specific factors such as credit quality, duration and sector. Within a given asset class, investment grade securities generally exhibit less credit-spread volatility than securities with lower credit ratings. Our investment securities portfolio primarily consists of investment grade securities.



The following table illustrates the sensitivity of our investment portfolio to both interest-rate risk and credit-spread risk.

(\$ in millions)	Short-term and Available for Sale		Trading	
	December 31, 2016	December 31, 2015	December 31, 2016	December 31, 2015
Carrying value of fixed-income investment portfolio (1)	\$3,580	\$ 2,943	\$880	\$ 1,279
Percentage of fixed-income securities compared to total investment portfolio	80.2 %	68.5 %	19.7 %	29.8 %
Average duration of fixed-income portfolio	5.0 years	3.9 years	5.8 years	5.4 years
Interest-rate risk increase/(decrease) in market value				
+100 basis points - \$	\$(172.6)	\$(113.1 )	\$(48.0)	\$(65.9 )
+100 basis points - % (2)	(4.8 )%	(3.8 )%	(5.5 )%	(5.2 )%
- 100 basis points - \$	\$183.0	\$ 120.9	\$53.1	\$ 73.2
- 100 basis points - % (2)	5.1 %	4.1 %	6.0 %	5.7 %
Credit-spread risk increase/(decrease) in market value				
+100 basis points - \$	\$(159.5)	\$(108.2 )	\$(49.3)	\$(63.0 )
+100 basis points - % (2)	(4.5 )%	(3.7 )%	(5.6 )%	(4.9 )%
- 100 basis points - \$	\$151.9	\$ 106.7	\$46.3	\$ 61.8
- 100 basis points - % (2)	4.2 %	3.6 %	(5.3 )%	4.8 %

(1) Total fixed-income securities include fixed-maturity investments available for sale, trading securities and short-term investments.

(2) Change in value expressed as a percentage of the market value of the related fixed-income portfolio.

The change in the average duration of our total fixed-income portfolio, from 4.3 years at December 31, 2015 to 5.1 years at December 31, 2016, was primarily due to becoming more fully invested in our core fixed income strategy at December 31, 2016, in contrast to being overweight in cash and short-term investments at December 31, 2015.

#### Foreign Exchange Rate Risk

As of December 31, 2016 and 2015, we did not hold any foreign currency denominated securities in our investment portfolio. Exchange gains and losses on foreign currency transactions from our foreign operations have not been material due to the limited amount of business performed in those locations. Currency risk is further limited because, in general, both the revenues and expenses of our foreign operations are denominated in the same functional currency, based on the country in which the operations occur.

#### Equity Market Price

At December 31, 2016, both the market value and cost of the equity securities in our investment portfolio were \$1.3 million. None of these securities were classified as trading securities. At December 31, 2015, the market value and cost of the equity securities in our investment portfolio were \$100.4 million and \$102.6 million, respectively. Included in the market value and cost of our equity securities at December 31, 2015 were \$25.0 million and \$27.0 million, respectively, of securities classified as trading securities.

Due to our limited basis in these investments at December 31, 2016, our exposure to changes in equity market prices is not significant.





## Item 8. Financial Statements and Supplementary Data.

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#### REPORT ON MANAGEMENT'S RESPONSIBILITY

Management is responsible for the preparation, integrity and objectivity of the Consolidated Financial Statements and other financial information presented in this annual report. The accompanying Consolidated Financial Statements were prepared in accordance with accounting principles generally accepted in the United States of America, applying certain estimations and judgments as required.

Our board of directors exercises its responsibility for the financial statements through its Audit Committee, which consists entirely of independent non-management board members. The Audit Committee meets periodically with management and with PricewaterhouseCoopers LLP, the independent registered public accounting firm retained to audit our Consolidated Financial Statements, both privately and with management present, to review accounting, auditing, internal control and financial reporting matters.

The accompanying report of PricewaterhouseCoopers LLP is based on its audit, which it is required to conduct in accordance with the standards of the Public Company Accounting Oversight Board (U.S.), and which includes the consideration of our internal control over financial reporting to establish a basis for reliance thereon in determining the nature, timing and extent of audit tests to be applied.

Sanford A. Ibrahim

Chief Executive Officer

J. Franklin Hall

Executive Vice President and Chief Financial Officer

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To: The Board of Directors and Stockholders of Radian Group Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, comprehensive income (loss), changes in common stockholders' equity, and cash flows present fairly, in all material respects, the financial position of Radian Group Inc. and its subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedules listed in Item 15(a)(2) present fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedules, 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 appearing under Item 9A. Our responsibility is to express opinions on these financial statements, on the financial statement schedules, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. 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.

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.

/s/PricewaterhouseCoopers LLP

Philadelphia, PA  
February 27, 2017



Radian Group Inc.  
CONSOLIDATED BALANCE SHEETS

	December 31, 2016	December 31, 2015
(\$ in thousands, except per-share amounts)		
Assets		
Investments (Note 6)		
Fixed-maturities available for sale—at fair value (amortized cost \$2,856,468 and \$1,893,356)	\$ 2,838,512	\$ 1,865,461
Equity securities available for sale—at fair value (cost \$1,330 and \$75,538)	1,330	75,430
Trading securities—at fair value	879,862	1,279,137
Short-term investments—at fair value	741,531	1,076,944
Other invested assets	1,195	1,714
Total investments	4,462,430	4,298,686
Cash	52,149	46,898
Restricted cash	9,665	13,000
Accounts and notes receivable	77,631	61,734
Deferred income taxes, net (Note 10)	411,798	577,945
Goodwill and other intangible assets, net (Note 7)	276,228	289,417
Prepaid reinsurance premium (Note 2)	229,438	40,491
Other assets (Note 9)	343,835	313,929
Total assets	\$ 5,863,174	\$ 5,642,100
Liabilities and Stockholders' Equity		
Unearned premiums	\$ 681,222	\$ 680,300
Reserve for losses and loss adjustment expenses ("LAE") (Note 11)	760,269	976,399
Long-term debt (Note 12)	1,069,537	1,219,454
Reinsurance funds withheld (Note 2)	158,001	—
Other liabilities	321,859	269,016
Total liabilities	2,990,888	3,145,169
Commitments and Contingencies (Note 13)		
Stockholders' equity		
Common stock: par value \$.001 per share; 485,000,000 shares authorized at December 31, 2016 and 2015; 232,091,921 and 224,432,465 shares issued at December 31, 2016 and 2015, respectively; 214,521,079 and 206,871,768 shares outstanding at December 31, 2016 and 2015, respectively	232	224
Treasury stock, at cost: 17,570,842 and 17,560,697 shares at December 31, 2016 and 2015, respectively	(893,332 )	(893,176 )
Additional paid-in capital	2,779,891	2,716,618
Retained earnings	997,890	691,742
Accumulated other comprehensive income (loss) ("AOCI") (Note 17)	(12,395 )	(18,477 )
Total stockholders' equity	2,872,286	2,496,931
Total liabilities and stockholders' equity	\$ 5,863,174	\$ 5,642,100

See Notes to Consolidated Financial Statements.

Radian Group Inc.  
CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per-share amounts)	Year Ended December 31,		
	2016	2015	2014
Revenues:			
Net premiums earned—insurance	\$921,769	\$915,908	\$844,528
Services revenue	168,894	157,216	77,951
Net investment income	113,466	81,537	65,655
Net gains (losses) on investments and other financial instruments	30,751	35,693	79,989
Other income	3,572	2,899	4,562
Total revenues	1,238,452	1,193,253	1,072,685
Expenses:			
Provision for losses	202,788	198,585	246,083
Policy acquisition costs	23,480	22,424	24,446
Cost of services	114,174	93,715	44,679
Other operating expenses	244,896	242,405	251,209
Interest expense	81,132	91,102	90,464
Loss on induced conversion and debt extinguishment (Note 12)	75,075	94,207	—
Amortization and impairment of intangible assets	13,221	12,986	8,648
Total expenses	754,766	755,424	665,529
Pretax income from continuing operations	483,686	437,829	407,156
Income tax provision (benefit)	175,433	156,290	(852,418 )
Net income from continuing operations	308,253	281,539	1,259,574
Income (loss) from discontinued operations, net of tax	—	5,385	(300,057 )
Net income	\$308,253	\$286,924	\$959,517
Net income per share:			
Basic:			
Net income from continuing operations	\$1.46	\$1.41	\$6.83
Income (loss) from discontinued operations, net of tax	—	0.03	(1.63 )
Net income	\$1.46	\$1.44	\$5.20
Diluted:			
Net income from continuing operations	\$1.37	\$1.20	\$5.44
Income (loss) from discontinued operations, net of tax	—	0.02	(1.28 )
Net income	\$1.37	\$1.22	\$4.16
Weighted-average number of common shares outstanding—basic	211,789	199,910	184,551
Weighted-average number of common and common equivalent shares outstanding—diluted	229,258	246,332	233,902
Dividends per share	\$0.01	\$0.01	\$0.01

See Notes to Consolidated Financial Statements.





Radian Group Inc.

## CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net income	\$308,253	\$286,924	\$959,517
Other comprehensive income (loss), net of tax (Note 17):			
Unrealized gains (losses) on investments:			
Unrealized holding gains (losses) arising during the period	8,782	(22,573 )	13,650
Less: Reclassification adjustment for net gains (losses) included in net income	2,251	44,183	(1,039 )
Net unrealized gains (losses) on investments	6,531	(66,756 )	14,689
Net foreign currency translation adjustments	(474 )	(217 )	(226 )
Activity related to investments recorded as assets held for sale	—	(3,254 )	(302 )
Net actuarial gains (losses)	25	265	(59 )
Other comprehensive income (loss), net of tax	6,082	(69,962 )	14,102
Comprehensive income	\$314,335	\$216,962	\$973,619

See Notes to Consolidated Financial Statements.



Radian Group Inc.

## CONSOLIDATED STATEMENTS OF CHANGES IN COMMON STOCKHOLDERS' EQUITY

(In thousands)	Year Ended December 31,		
	2016	2015	2014
<b>Common Stock</b>			
Balance, beginning of period	\$224	\$209	\$191
Impact of extinguishment of Convertible Senior Notes due 2017 and 2019 (Note 12)	17	28	—
Issuance of common stock under incentive and benefit plans	—	1	—
Issuance of common stock - stock offering	—	—	18
Termination of capped calls (Note 12)	—	(3	) —
Shares repurchased under share repurchase program (Note 14)	(9	) (11	) —
Balance, end of period	232	224	209
<b>Treasury Stock</b>			
Balance, beginning of period	(893,176	) (892,961	) (892,807
Repurchases of common stock under incentive plans	(156	) (215	) (154
Balance, end of period	(893,332	) (893,176	) (892,961
<b>Additional Paid-in Capital</b>			
Balance, beginning of period	2,716,618	2,531,513	2,347,104
Issuance of common stock under incentive and benefit plans	2,117	2,422	1,141
Issuance of common stock - stock offering	—	—	247,170
Stock-based compensation	18,257	15,513	12,176
Dividends declared	—	—	(1,388
Impact of extinguishment of Convertible Senior Notes due 2017 and 2019 (Note 12)	143,078	336,358	—
Termination of capped calls (Note 12)	—	13,153	—
Change in equity component of currently redeemable convertible senior notes	—	19,648	(74,690
Shares repurchased under share repurchase program (Note 14)	(100,179	) (201,989	) —
Balance, end of period	2,779,891	2,716,618	2,531,513
<b>Retained Earnings</b>			
Balance, beginning of period	691,742	406,814	(552,226
Net income	308,253	286,924	959,517
Dividends declared	(2,105	) (1,996	) (477
Balance, end of period	997,890	691,742	406,814
<b>Accumulated Other Comprehensive Income (Loss) ("AOCI")</b>			
Balance, beginning of period	(18,477	) 51,485	37,383
Net foreign currency translation adjustment, net of tax	(474	) (217	) (226
Net unrealized gains (losses) on investments, net of tax	6,531	(66,756	) 14,689
Activity related to investments recorded as assets held for sale	—	(3,254	) (302
Net actuarial gains (losses)	25	265	(59
Balance, end of period	(12,395	) (18,477	) 51,485
<b>Total Stockholders' Equity</b>	<b>\$2,872,286</b>	<b>\$2,496,931</b>	<b>\$2,097,060</b>
See Notes to Consolidated Financial Statements.			



Radian Group Inc.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Year Ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net income	\$308,253	\$286,924	\$959,517
Less: Income (loss) from discontinued operations, net of tax	—	5,385	(300,057 )
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Net (gains) losses on investments and other financial instruments recognized in earnings	(30,751 )	(35,693 )	(79,989 )
Loss on induced conversion and debt extinguishment	75,075	94,207	—
Deferred income tax provision (benefit)	170,887	156,170	(825,843 )
Amortization and impairment of intangible assets	13,221	12,986	8,648
Depreciation and other amortization, net	57,795	68,639	57,301
Change in:			
Accounts and notes receivable	(16,011 )	25,656	(28,310 )
Prepaid reinsurance premiums	(188,947 )	16,800	3,221
Unearned premiums	862	35,796	77,432
Reserve for losses and LAE	(216,135 )	(583,633 )	(604,321 )
Reinsurance funds withheld	158,001	—	—
Other assets	(3,381 )	14	23,790
Other liabilities	52,855	(59,001 )	(54,836 )
Net cash provided by (used in) operating activities, continuing operations	381,724	13,480	(163,333 )
Net cash provided by (used in) operating activities, discontinued operations	—	(1,759 )	17,071
Net cash provided by (used in) operating activities	381,724	11,721	(146,262 )
Cash flows from investing activities:			
Proceeds from sales of:			
Fixed-maturity investments available for sale	687,173	20,100	19,672
Equity securities available for sale	74,868	146,049	—
Trading securities	290,855	78,826	469,582
Proceeds from redemptions of:			
Fixed-maturity investments held to maturity	—	—	350
Fixed-maturity investments available for sale	337,630	103,595	4,985
Trading securities	123,645	221,914	201,597
Purchases of:			
Fixed-maturity investments available for sale	(1,990,652 )	(1,486,318 )	(519,166 )
Equity securities available for sale	(830 )	(75,538 )	—
Sales, redemptions and (purchases) of:			
Short-term investments, net	334,456	222,882	(364,855 )
Other assets and other invested assets, net	2,489	16,717	7,836
Proceeds from the sale of investment in affiliate, net of cash transferred	—	784,866	—
Purchases of property and equipment, net	(35,542 )	(25,466 )	(18,495 )
Acquisitions, net of cash acquired	(150 )	(9,834 )	(294,386 )
Net cash provided by (used in) investing activities, continuing operations	(176,058 )	(2,207 )	(492,880 )



Radian Group Inc.			
CONSOLIDATED STATEMENTS OF CASH FLOWS			
(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net cash provided by (used in) investing activities, discontinued operations	—	4,999	156,839
Net cash provided by (used in) investing activities	(176,058 )	2,792	(336,041 )
Cash flows from financing activities:			
Dividends paid	(2,105 )	(1,996 )	(1,865 )
Issuance of long-term debt, net	343,417	343,334	293,809
Purchases and redemptions of long-term debt	(445,072 )	(156,172 )	(57,223 )
Proceeds from termination of capped calls	—	13,150	—
Issuance of common stock	717	1,285	247,188
Purchase of common shares	(100,188 )	(202,000 )	—
Excess tax benefits from stock-based awards	333	3,000	107
Repayment of other borrowings	(371 )	—	—
Net cash provided by financing activities, continuing operations	(203,269 )	601	482,016
Net cash provided by (used in) financing activities, discontinued operations	—	—	—
Net cash provided by (used in)	(203,269 )	601	482,016

financing activities			
Effect of exchange rate changes on cash and restricted cash	(481 )	(133 )	(67 )
Increase (decrease) in cash and restricted cash	1,916	14,981	(354 )
Cash and restricted cash, beginning of period	59,898	44,496	45,407
Less: Increase (decrease) in cash of business held for sale	—	(421 )	557
Cash and restricted cash, end of period	\$ 61,814	\$ 59,898	\$ 44,496
Supplemental disclosures of cash flow information:			
Income taxes paid (received), continuing operations	\$ (673 )	\$ 3,712	\$ (4,312 )
Income taxes paid, discontinued operations	—	2,036	13,891
Interest paid	65,531	61,077	50,702

See Notes to Consolidated Financial Statements.



Radian Group Inc.

Notes to Consolidated Financial Statements

## 1. Description of Business and Recent Developments

We provide mortgage insurance on first-lien mortgage loans, and products and services to the real estate and mortgage finance industries. We have two reportable business segments—Mortgage Insurance and Services. On April 1, 2015, Radian Guaranty completed the sale of its subsidiary, Radian Asset Assurance, a financial guaranty insurer, to Assured, pursuant to the Radian Asset Assurance Stock Purchase Agreement dated as of December 22, 2014. The operating results of Radian Asset Assurance have been classified as discontinued operations for all periods presented in our consolidated balance sheets and consolidated statements of operations. See Note 18 for additional information related to discontinued operations.

### Mortgage Insurance

Our Mortgage Insurance segment provides credit-related insurance coverage, principally through private mortgage insurance, to mortgage lending institutions nationwide. Private mortgage insurance protects mortgage lenders and third-party beneficiaries by mitigating default-related losses on residential mortgage loans. Generally, these loans are made to home buyers who make down payments of less than 20% of the purchase price for their homes. Private mortgage insurance also facilitates the sale of these low down payment mortgage loans in the secondary mortgage market, most of which are sold to the GSEs.

Our Mortgage Insurance segment currently offers primary mortgage insurance coverage on residential first-lien mortgage loans, which comprised 98.0% of our \$47.7 billion total direct RIF as of December 31, 2016. At December 31, 2016, Pool Insurance represented 2.0% of our total direct RIF. We provide our mortgage insurance products and services mainly through our wholly-owned subsidiary, Radian Guaranty.

The GSEs and state insurance regulators impose various capital requirements on our insurance subsidiaries. These include Risk-to-capital, other risk-based capital measures and surplus requirements, as well as the PMIERS Financial Requirements discussed below. Failure to comply with these capital and financial requirements may limit the amount of insurance that our insurance subsidiaries may write. The GSEs and state insurance regulators also possess significant discretion with respect to our insurance subsidiaries and all aspects of their business. See Note 19 for additional regulatory information.

PMIERS. Private mortgage insurers, including Radian Guaranty, are required to comply with the PMIERS to remain eligible insurers of loans purchased by the GSEs. At December 31, 2016, Radian Guaranty is an approved mortgage insurer under the PMIERS and is in compliance with the PMIERS Financial Requirements.

The PMIERS are comprehensive, covering virtually all aspects of a private mortgage insurer's business and operations, including internal risk management and quality controls, the relationship between the GSEs and the approved insurer and the approved insurer's financial condition. The GSEs have a broad range of consent rights to approve various actions of the approved insurer. If Radian Guaranty is unable to satisfy the requirements set forth in the PMIERS, the GSEs could restrict it from conducting certain types of business with them or take actions that may include not purchasing loans insured by Radian Guaranty.

The PMIERS Financial Requirements require that a mortgage insurer's Available Assets (as defined, these primarily include liquid assets and exclude premiums received but not yet earned) meet or exceed its Minimum Required Assets (a risk-based minimum required asset amount calculated based on net RIF, and which is intended to approximate the maximum loss exposure based on a variety of criteria which are indicative of credit quality). The GSEs may amend the PMIERS at any time, and they have broad discretion to interpret the requirements, which could impact the calculation of our Available Assets and/or Minimum Required Assets. The PMIERS specifically provide for the factors that are applied to calculate and determine a mortgage insurer's Minimum Required Assets to be updated every

two years following a minimum of 180 days' notice (with the next review scheduled to take place in 2017), or more frequently, as determined by the GSEs, to reflect changes in macroeconomic conditions or loan performance. We have entered into reinsurance transactions as part of our capital and risk management activities, including to manage Radian Guaranty's position under the PMIERS Financial Requirements, and the credit that we receive under the PMIERS Financial Requirements for these transactions is subject to the periodic review of the GSEs. In December 2016, the GSEs issued interim guidance for the industry that negatively impacted the amount of credit that we receive for our Single Premium QSR Transaction, but also gave credit to certain liquid investments that are readily available to pay claims that previously were not permitted to be included in our Available Assets. This interim guidance did not affect Radian Guaranty's compliance with the PMIERS.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Under the PMIERS, Radian Guaranty's Available Assets and Minimum Required Assets are determined on an aggregate basis, taking into account the assets and insured risk of Radian Guaranty and its exclusive affiliated reinsurers. Therefore, developments that impact the assets and insured risk of Radian Guaranty's exclusive affiliated reinsurers individually also will impact the aggregate Available Assets and Minimum Required Assets, and importantly, Radian Guaranty's compliance with the PMIERS Financial Requirements. As a result, references to Radian Guaranty's Available Assets and Minimum Required Assets take into consideration both Radian Guaranty and its exclusive affiliated reinsurers.

The implementation of the PMIERS, effective December 31, 2015, has: (i) increased the amount of capital that Radian Guaranty is required to hold; (ii) imposed higher capital requirements for certain types of mortgage insurance policies that may potentially impact the type and volume of business that Radian Guaranty and other private mortgage insurers are willing to write; (iii) imposed extensive and more stringent operational requirements in areas such as claim processing, loss mitigation, document retention, underwriting, quality control, reporting and monitoring, among others, that may result in additional costs to maintain compliance; and (iv) imposed a requirement for Radian Guaranty to receive the consent of the GSEs prior to taking certain actions such as paying dividends, entering into various intercompany agreements, and commuting or reinsuring risk, among others.

#### Services

Our Services segment provides services and solutions to the real estate and mortgage finance industries. Our Services segment provides outsourced services, information-based analytics, valuations and specialized consulting and surveillance services for buyers and sellers of, and investors in, mortgage- and real estate-related loans and securities as well as other consumer ABS. The primary lines of business in our Services segment include:

**Loan Review, Underwriting and Due Diligence**—Loan-level due diligence for various asset classes and securitizations, with a primary focus on the mortgage and RMBS markets, utilizing skilled professionals and proprietary technology, with offerings focused on credit underwriting, regulatory compliance and collateral valuation;

**Surveillance**—Monitoring of mortgage servicer and loan performance, with risk management and servicing oversight solutions that include RMBS surveillance, regulatory and operational loan level oversight, asset representation review and consulting services;

**Real Estate Valuation and Component Services**—Outsourced solutions offered through Green River Capital, Red Bell and ValuAmerica, primarily focused on the SFR market, including valuations, property inspections, title reviews, lease reviews, tax lien reviews and due diligence reviews for SFR and residential real estate markets, as well as outsourced solutions for appraisal, title and closing services;

**REO Management**—REO asset management services offered through Green River Capital, which include management of the entire REO disposition process for our clients; and

**EuroRisk**—Outsourced mortgage services in the United Kingdom and Europe, with offerings that include due diligence services, quality control reviews, valuation reviews and consulting services.

During the first quarter of 2015, Clayton expanded its service offerings by acquiring Red Bell, a real estate brokerage, valuation and technology company that provides products and services that include automated valuation models; broker price opinions used by investors, lenders and loan servicers; and advanced technology solutions for: (i) monitoring loan portfolio performance; (ii) tracking non-performing loans; (iii) managing REO assets; and (iv) valuing and selling residential real estate through a secure platform. In addition, in October 2015, Clayton acquired ValuAmerica, a national title agency and appraisal management company with a technology platform that helps mortgage lenders and their vendors streamline and manage their supply chains and operational workflow. Red Bell and ValuAmerica have been included in the Services segment since the dates of acquisition. See Note 7 for additional information.

#### Discontinued Operations

On April 1, 2015, Radian Guaranty completed the sale of 100% of the issued and outstanding shares of Radian Asset Assurance for a purchase price of approximately \$810 million, pursuant to the Radian Asset Assurance Stock Purchase Agreement. The divestiture was intended to better position Radian Guaranty to comply with the PMIERS and to support Radian's strategic focus on the mortgage and real estate industries. After closing costs and other adjustments, Radian Guaranty received net proceeds of \$789 million. For additional information related to discontinued operations, see Note 18.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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## 2016 Developments

During 2016, we completed a series of capital management transactions to strengthen our financial position. See Notes 8, 12, 14 and 21 for additional information.

## 2. Significant Accounting Policies

### Basis of Presentation

Our consolidated financial statements are prepared in accordance with GAAP and include the accounts of all wholly-owned subsidiaries. All intercompany accounts and transactions, including intercompany profits and losses, have been eliminated. Certain prior period amounts have been reclassified to conform to current period presentation, including the reclassification to services revenue and cost of services from other income and other operating expense, respectively, of items related to certain contract underwriting activities that were previously reported in the Mortgage Insurance segment, as further described in Note 4 below. On a consolidated basis, the reclassifications increased services revenue, with a corresponding decrease in other income, by \$3.4 million in 2015 and \$1.3 million in 2014. The reclassifications also increased cost of services, with a corresponding decrease in other operating expenses, by \$3.8 million in 2015 and \$1.1 million in 2014. These reclassifications are not material to amounts we reported or disclosed in prior periods.

### Use of Estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of our contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. While the amounts included in our consolidated financial statements include our best estimates and assumptions, actual results may vary materially.

### Risks and Uncertainties

Radian Group and its subsidiaries are subject to risks and uncertainties that could affect amounts reported in our financial statements in future periods. Our future performance and financial condition are subject to significant risks and uncertainties that could cause actual results to be materially different from our estimates and forward-looking statements.

### Reserve for Losses and LAE

We establish reserves to provide for losses and LAE, including the estimated costs of settling claims in our Mortgage Insurance segment, in accordance with the accounting standard regarding accounting and reporting by insurance enterprises. Although this standard specifically excludes mortgage insurance from its guidance relating to the reserve for losses, we establish reserves for mortgage insurance as described below, using the guidance contained in this standard supplemented with other accounting guidance, due to the lack of specific guidance for mortgage insurance. Estimating our loss reserve involves significant reliance upon assumptions and estimates with regard to the likelihood, magnitude and timing of each potential loss, including an estimate of the impact of our Loss Mitigation Activities. The models, assumptions and estimates we use to establish loss reserves may prove to be inaccurate, especially during an extended economic downturn or a period of extreme market volatility and uncertainty. As such, we cannot be certain that our reserve estimate will be adequate to cover ultimate losses on incurred defaults. For example, our mortgage insurance loss reserves generally increase as defaulted loans age, because historically, as defaulted loans age, they have been more likely to result in foreclosure, and therefore, have been more likely to result in a claim payment. While we believe this remains accurate, following the financial crisis, there are a significant number of loans in our defaulted portfolio that have been in default for an extended period of time, but which have not been subject to foreclosure, and therefore, have not resulted in claims. As a result, significant uncertainty remains with respect to the ultimate resolution of these aged defaults. This uncertainty requires management to use considerable judgment in

estimating the rate at which these loans will result in claims.

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Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Commutations and other negotiated terminations of our insured risks in our Mortgage Insurance segment provide us with an opportunity to exit exposures for an agreed upon payment, or payments, sometimes at an amount less than the previously estimated ultimate liability. Once all exposures relating to such policies are extinguished, all reserves for losses and LAE and other balances relating to the insured policies are generally reversed, with any remaining net gain or loss typically recorded through provision for losses. We take into consideration the specific contractual and economic terms for each individual agreement when accounting for our commutations or other negotiated terminations, which may result in differences in the accounting for these transactions.

In our Mortgage Insurance business, the default and claim cycle begins with the receipt of a default notice from the loan servicer. Reserves for losses are established upon receipt of notification from servicers that a borrower has missed two monthly payments, which is when we consider a loan to be in default for financial statement and internal tracking purposes. We also establish reserves for associated LAE, consisting of the estimated cost of the claims administration process, including legal and other fees and expenses associated with administering the claims process. We maintain an extensive database of claim payment history, and use models based on a variety of loan characteristics to determine the likelihood that a default will reach claim status.

With respect to loans that are in default, considerable judgment is exercised as to the adequacy of reserve levels. For purposes of reserve modeling, loans are aggregated into groups using a variety of factors. The attributes currently used to define the groups for purposes of developing various assumptions include, but are not limited to, the Stage of Default, the Time in Default and type of insurance (i.e., primary or pool). We use an actuarial projection methodology referred to as a “roll rate” analysis that uses historical claim frequency information to determine the projected ultimate Default to Claim Rates based on the Stage of Default and Time in Default as well as the date that a loan goes into default. The Default to Claim Rate also includes our estimates with respect to expected Rescissions and Claim Denials, which have the effect of reducing our Default to Claim Rates. We forecast the impact of our Loss Mitigation Activity in protecting us against fraud, underwriting negligence, breach of representation and warranties, inadequate documentation of submitted claims and other items that may give rise to Rescissions or cancellations and Claim Denials, to help determine the Default to Claim Rate. Our Loss Mitigation Activities have resulted in challenges from certain lender and servicer customers, which have resulted in some reversals of our decisions regarding Rescissions, Claim Denials and Claim Curtailments. Although we believe that our Loss Mitigation Activities are justified under our policies, if any of these challenges result in disputes or are not resolved, they could result in arbitration or judicial proceedings and we may need to reassume the risk on, and increase loss reserves for, those policies or pay additional claims. Our Master Policies specify the time period during which a suit or action arising from any right of the insured under the policy must be commenced. The assumptions embedded in our estimated Default to Claim Rate on our in-force default inventory include an adjustment to our estimated Rescissions and Claim Denials to account for the fact that we expect a certain number of policies to be reinstated and ultimately to be paid, as a result of valid challenges by such policy holders.

After estimating the Default to Claim Rate, we estimate Claim Severity based on the average of recently observed severity rates within product type, type of insurance, and Time in Default cohorts. These average severity estimates are then applied to individual loan coverage amounts to determine reserves. Similar to the Default to Claim Rate, Claim Severity also is impacted by the length of time that loans are in default and by our Loss Mitigation Activity. For claims under our primary mortgage insurance, the coverage percentage is applied to the claim amount, which consists of the unpaid loan principal, plus past due interest (for which our liability is contractually capped in accordance with the terms of our Master Policies) and certain expenses associated with the default, to determine our maximum liability. Therefore, Claim Severity generally increases the longer that a loan is in default. In addition, we estimate the impact that the amount that Claim Curtailments due to servicer noncompliance with our insurance policies and servicing guidelines have on the amount that we ultimately will have to pay with respect to claims. As part of our

claims review process, we assess whether defaulted loans were serviced appropriately in accordance with our insurance policies and servicing guidelines. If a servicer failed to satisfy its servicing obligations, our insurance policies provide that we may curtail the claim payment for such default, and in some circumstances, cancel coverage or deny the claim.

We do not establish reserves for loans that are in default if we believe that we will not be liable for the payment of a claim with respect to that default. We do not establish loss reserves for expected future claims on insured mortgages that are not in default. See “—Reserve for Premium Deficiency” below for an exception to this general principle.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### IBNR and Other Reserves

We also establish reserves for defaults that we estimate have been incurred but have not been reported to us on a timely basis by the servicer, as well as for previous Rescissions, Claim Denials and Claim Curtailments that we estimate will be reinstated and subsequently paid. We generally give the policyholder up to 30 days to challenge our decision to rescind coverage before we consider a policy to be rescinded and remove it from our defaulted inventory; therefore, we currently expect only a limited percentage of policies that were rescinded to be reinstated. We currently expect a significant percentage of claims that were denied to be resubmitted as a perfected claim and ultimately paid. Most often, a Claim Denial is the result of a servicer's inability to provide the loan origination file or other servicing documents for review. Under the terms of our Master Policies with our lending customers, our policyholders have up to one year after the acquisition of borrower's title to provide to us the necessary documents to perfect a claim. All estimates are periodically reviewed and adjustments are made as they become necessary.

The impact to our reserve due to estimated future Loss Mitigation Activities incorporates our expectations regarding the number of policies that we expect to be reinstated as a result of our claims rebuttal process. Rescissions, Claim Denials and Claim Curtailments may occur for various reasons, including, without limitation, underwriting negligence, fraudulent applications and appraisals, breach of representations and warranties and inadequate documentation, primarily related to our Legacy Portfolio. The level of Rescissions, Claim Denials and Claim Curtailments has been declining in recent periods as our defaulted Legacy Portfolio continues to decline, and we expect this trend to continue. In addition, with respect to claims decisions on the population of Future Legacy Loans covered under the BofA Settlement Agreement, Radian Guaranty has agreed, subject to certain limited exceptions and conditions, that it will limit Rescissions, Claim Denials or Claim Curtailments. See Note 11 for additional information about the BofA Settlement Agreement.

Unless a liability associated with such activities or discussions becomes probable and can be reasonably estimated, we consider our claim payments and our Rescissions, Claim Denials and Claim Curtailments to be resolved for financial reporting purposes. Under the accounting standard regarding contingencies, an estimated loss is accrued only if we determine that the loss is probable and can be reasonably estimated. For populations of disputed Rescissions, Claim Denials and Claim Curtailments where we determine that a settlement is probable and that a loss can be reasonably estimated, we reflect our best estimate of the expected loss related to the populations under discussion in our financial statements, primarily as a component of our IBNR reserve. While our reserves include our best estimate of such losses, the outcome of the discussions or potential legal proceedings that could ensue is uncertain, and it is reasonably possible that a loss exists in excess of the amount accrued.

Included in our loss reserves is an estimate related to a potential additional payment to Freddie Mac under the Freddie Mac Agreement, which is dependent upon the Loss Mitigation Activity on the population of loans subject to that agreement. Our reserve related to this potential additional payment is based on the estimated Rescissions, Claim Denials, Claim Curtailments and cancellations for this population of loans, determined using assumptions that are consistent with those utilized to determine our overall loss reserves. See Note 11 for additional information about the Freddie Mac Agreement.

Senior management regularly reviews the modeled frequency, Rescission, Claim Denial and Claim Severity estimates, which are based on historical trends, as described above. If recent emerging or projected trends differ significantly from the historical trends used to develop the modeled estimates, management evaluates these trends and determines how they should be considered in its reserve estimates.

#### Reserve for PDR

Insurance enterprises are required to establish a PDR if the net present value of the expected future losses and expenses for a particular product line exceeds the net present value of expected future premiums and existing reserves for that product line. We reassess our expectations for premiums, losses and expenses for our mortgage insurance

business at least quarterly and update our premium deficiency analyses accordingly. Expected future expenses include consideration of maintenance costs associated with maintaining records relating to insurance contracts and with the processing of premium collections. We also consider investment income in the premium deficiency calculation through the use of our pre-tax investment yield to discount certain cash flows for this analysis.

For our mortgage insurance business, we group our mortgage insurance products into two categories: first-lien and Second-lien. To assess the need for a PDR on our first-lien insurance portfolio, we develop loss projections based on modeled loan defaults related to our current RIF. This projection is based on recent trends in default experience, severity and rates of defaulted loans moving to claim (such Default to Claim Rates are net of our estimates of Rescissions and Claim Denials), as well as recent trends in the rate at which loans are prepaid.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

For our Second-lien insurance business, we project future premiums and losses using historical results to help determine future performance for both prepayments and claims. An estimated expense factor is then applied, and the result is discounted using a rate of return that approximates our pre-tax investment yield. This net present value, less any existing reserves, is recorded as a premium deficiency and the reserve is updated at least quarterly based on actual results for that quarter, along with updated transaction level projections.

#### Fair Value of Financial Instruments

Our estimated fair value measurements are intended to reflect the assumptions market participants would use in pricing an asset or liability based on the best information available. Assumptions include the risks inherent in a particular valuation technique (such as a pricing model) and the risks inherent in the inputs to the model. Changes in economic conditions and capital market conditions, including but not limited to, credit spread changes, benchmark interest rate changes, market volatility and changes in the value of underlying collateral, could cause actual results to differ materially from our estimated fair value measurements. We define fair value as the current amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

In accordance with GAAP, we established a three-level valuation hierarchy for disclosure of fair value measurements based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level I measurements) and the lowest priority to unobservable inputs (Level III measurements). The level in the fair value hierarchy within which the fair value measurement falls is determined based on the lowest level input that is significant to the measurement in its entirety. The three levels of the fair value hierarchy are defined below:

Level I — Unadjusted quoted prices for identical assets or liabilities in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;

Level II — Prices or valuations based on observable inputs other than quoted prices in active markets for identical assets and liabilities; and

Level III — Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable. Level III inputs are used to measure fair value only to the extent that observable inputs are not available.

For markets in which inputs are not observable or are limited, we use significant judgment and assumptions that a typical market participant would use to evaluate the market price of an asset or liability. Given the level of judgment necessary, another market participant may derive a materially different estimate of fair value. These assets and liabilities are classified in Level III of our fair value hierarchy.

Available for sale securities, trading securities, and certain other assets are recorded at fair value as described in Note 5. All changes in fair value of trading securities and certain other assets are included in our consolidated statements of operations. All changes in the fair value of available for sale securities are recorded in AOCI.

#### Insurance Premiums—Revenue Recognition

Mortgage insurance premiums written on an annual or multi-year basis are initially recorded as unearned premiums and earned over time. Annual premiums are amortized on a monthly, straight-line basis. Multi-year premiums are amortized over the terms of the contracts in relation to the anticipated claim payment pattern based on historical industry experience. Premiums written on a monthly basis are earned over the period that coverage is provided. When we rescind insurance coverage on a loan, we refund all premiums received in connection with such coverage.

Premium revenue is recognized net of our accrual for estimated premium refunds due to Rescissions or other factors.

With respect to our reinsurance transactions, ceded premiums written are initially set up as prepaid reinsurance and are amortized in a manner consistent with the recognition of income on direct premiums.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### Deferred Policy Acquisition Costs

Incremental, direct costs associated with the successful acquisition of mortgage insurance business, consisting of compensation and other policy issuance and underwriting expenses, are initially deferred and reported as deferred policy acquisition costs. Amortization of these costs for each underwriting year book of business is expensed in proportion to estimated gross profits over the estimated life of the policies. This includes accruing interest on the unamortized balance of deferred policy acquisition costs. Ceding commissions received under our reinsurance arrangements related to these costs are also deferred and accounted for using similar assumptions, including certain amounts received under our reinsurance transactions. See Notes 8 and 9 for additional details.

Estimates of expected gross profit, including the Persistency Rate and loss development assumptions for each underwriting year used as a basis for amortization, are evaluated quarterly and the total amortization recorded to date is adjusted by a charge or credit to our consolidated statements of operations if actual experience or other evidence suggests that previous estimates should be revised. Considerable judgment is used in evaluating these estimates and the assumptions on which they are based. The use of different assumptions may have a significant effect on the amortization of deferred policy acquisition costs.

#### Revenue Recognition—Services Revenue

Services revenue is recognized when pervasive evidence of an arrangement exists, the service has been performed, the fee is fixed and determinable and collection of the resulting receivable is reasonably assured.

The Services segment derives most of its revenue from professional service activities. A portion of these activities are provided under “time-and-materials” billing arrangements. Services revenue consisting of billed fees and pass-through expenses is recorded as work is performed and expenses are incurred. Services revenue also includes expenses billed to clients, which includes travel and other out-of-pocket expenses, and other reimbursable expenses.

The Services segment also derives revenue from REO management activities, and is generally paid a fixed fee or a percentage of the sale proceeds upon the sale of a property. Services revenue is recognized when the sale of a property closes and the client has confirmed receipt of the sale proceeds from a buyer. In certain instances, fees are received at the time that an asset is assigned to Radian for REO management. These fees are recorded as deferred revenue and are recognized on a straight-line basis over the average period of time required to sell an asset and complete the earnings process.

The Services segment also generates additional revenue utilizing a percentage-of-sales contract. Through the use of Services’ proprietary technology, property leads are sent to select clients. Services recognizes revenue for these transactions based on a percentage of the sale, upon the client’s successful closing on the property.

The Services segment also provides certain services under multiple element arrangements, including valuations, title reviews and tax lien reviews. Contracts for these services include provisions requiring the client to pay a per-unit price for services that have been performed if the client cancels the contract. Each service qualifies as a separate unit of accounting on a per-unit basis, and we recognize revenue as each individual service is performed.

We do not recognize revenue or expense related to amounts advanced by us and subsequently reimbursed by clients for maintenance or repairs of REO properties because we are not the primary obligor and we have minimal credit risk. We record an expense if an advance is made that is not in accordance with a client contract and the client is not obligated to reimburse us.

#### Cost of Services

Cost of services consists primarily of employee compensation and related payroll benefits, the cost of billable labor assigned to revenue-generating activities, as well as corresponding travel and related expenses incurred in providing such services to clients in our Services segment. Cost of services also includes costs paid to outside vendors, including real estate agents that provide valuation and related services as well as data acquisition costs and other compensation-related expenses to maintain software application platforms that directly support our businesses. Cost of

services does not include an allocation of overhead costs.

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Notes to Consolidated Financial Statements - (Continued)

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#### Income Taxes

We provide for income taxes in accordance with the provisions of the accounting standard regarding accounting for income taxes. As required under this standard, our DTAs and DTLs are recognized under the balance sheet method, which recognizes the future tax effect of temporary differences between the amounts recorded in our consolidated financial statements and the tax bases of these amounts. DTAs and DTLs are measured using the enacted tax rates expected to apply to taxable income in the periods in which the DTA or DTL is expected to be realized or settled. We are required to establish a valuation allowance against our DTA when it is more likely than not that all or some portion of our DTA will not be realized. At each balance sheet date, we assess our need for a valuation allowance. Our assessment is based on all available evidence, both positive and negative. This requires management to exercise judgment and make assumptions regarding whether our DTA will be realized in future periods.

Our framework for assessing the recoverability of our DTAs requires consideration of all available evidence, including:

- whether there are cumulative losses from previous years;
- future projections of taxable income within the applicable carryback and carryforward periods, including the sustainability of our forecasts of future taxable income under potential stress scenarios;
- the degree of certainty regarding our projected incurred losses;
- future reversals of existing taxable temporary differences; and
- potential tax planning strategies.

Our provision for income taxes for interim financial periods is based on an estimate of our annual effective tax rate for the full year of 2016 and 2015. When estimating our full year 2016 and 2015 effective tax rates, we adjust our forecasted pre-tax income for gains and losses on our investments, changes in the accounting for uncertainty in income taxes, changes in our beginning of year valuation allowance, and other adjustments. The impact of these items is accounted for discretely at the applicable federal tax rate.

#### Foreign Currency Revaluation/Translation

Assets and liabilities denominated in foreign currencies are revalued or translated at year-end exchange rates. Operating results are translated at average rates of exchange prevailing during the year. Unrealized gains and losses, net of deferred taxes, resulting from translation are included in AOCI in stockholders' equity. Realized gains and losses resulting from transactions in foreign currency are recorded in our statements of operations.

#### Cash and Restricted Cash (\$ in thousands)

Included in our restricted cash balances as of December 31, 2016 were: (i) funds for a mortgage insurance reserve policy held in escrow for any future duties, rights and liabilities; (ii) funds held as collateral under our insurance trust agreements related to health care benefits; (iii) funds held in trust for the benefit of certain policyholders; (iv) escrow funds held for servicer liabilities; and (v) escrow funds held for title services obligations. Total cash and restricted cash shown in the consolidated statement of cash flows as of December 31, 2016 of \$61,814 is comprised of cash and restricted cash of \$52,149 and \$9,665, respectively, as shown on the consolidated balance sheet as of December 31, 2016. Total cash and restricted cash shown in the consolidated statement of cash flows as of December 31, 2015 of \$59,898 is comprised of cash and restricted cash of \$46,898 and \$13,000, respectively, as shown on the consolidated balance sheet as of December 31, 2015.

Within our consolidated statements of cash flows, we classify cash receipts and cash payments related to items measured at fair value according to their nature and purpose. Because our investment activity for trading securities relates to overall strategic initiatives and is not trading related, it is recorded as cash flows from investing activities.





Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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### Investments

We group assets in our investment portfolio into one of three main categories: held to maturity, available for sale or trading securities. Fixed-maturity securities for which we have the positive intent and ability to hold to maturity, if any, are classified as held to maturity and are reported at amortized cost. Investments in securities not classified as held to maturity or trading securities are classified as available for sale and are reported at fair value, with unrealized gains and losses (net of tax) reported as a separate component of stockholders' equity as AOCI. Investments classified as trading securities are reported at fair value, with unrealized gains and losses reported as a separate component of income. Short-term investments consist of money market instruments, certificates of deposit and highly liquid, interest-bearing instruments with an original maturity of three months or less at the time of purchase. Amortization of premium and accretion of discount are calculated principally using the interest method over the term of the investment. Realized gains and losses on investments are recognized using the specific identification method. See Notes 5 and 6 for further discussion on the fair value of investments.

We record an other-than-temporary impairment 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 cash flows we expect to collect is less than the amortized cost basis of the security. If a sale is likely, 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, losses on securities that are other-than-temporarily impaired are separated into: (i) the portion of loss that represents the credit loss and (ii) 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 AOCI, net of taxes. A credit loss is determined to exist if the present value of discounted cash flows expected to be collected from the security is less than the cost basis of the security. The present value of discounted cash flows is determined using the original yield of the security. In evaluating whether a decline in value is other-than-temporary, we consider several factors in addition to the above, including, but not limited to, the following:

- the extent and the duration of the decline in value;
- the reasons for the decline in value (e.g., credit event, interest related or market fluctuations); and
- the financial position, access to capital and near term prospects of the issuer, including the current and future impact of any specific events.

### Accounts and Notes Receivable

Accounts and notes receivable primarily consist of accrued premiums receivable due from our mortgage insurance customers, amounts due from our Services customers for services our Services segment has performed, and profit commission receivable, if any, related to our reinsurance transactions. See Note 8 for details. Accounts and notes receivable are carried at their estimated collectible amounts, net of any allowance for doubtful accounts, and are periodically evaluated for collectability based on past payment history and current economic conditions.

### Company-Owned Life Insurance ("COLI")

We are the beneficiary of insurance policies on the lives of certain of our current and past officers and employees. We have recognized the amount that could be realized upon surrender of the insurance policies in other assets in our consolidated balance sheets. See Note 9 for additional information.

### Property and Equipment

Property and equipment is carried at cost, net of depreciation. For financial statement reporting purposes, computer hardware and software is generally depreciated over three or five years and furniture, fixtures and office equipment is depreciated over seven years. Leasehold improvements are depreciated over the lesser of the estimated useful life of the asset improved or the remaining term of the lease. For income tax purposes, we use accelerated depreciation methods. See Note 9 for additional information.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### Goodwill and Other Intangible Assets, Net

Goodwill and other intangible assets were established primarily in connection with our acquisition of Clayton. Goodwill is an asset representing the estimated future economic benefits arising from the assets we have acquired that were not individually identified and separately recognized, and includes the value of discounted expected future cash flows of Clayton, Clayton's workforce, expected synergies with our other affiliates and other unidentifiable intangible assets. Goodwill is deemed to have an indefinite useful life and is subject to review for impairment annually, or more frequently, whenever circumstances indicate potential impairment at the reporting unit level. A reporting unit represents a business for which discrete financial information is available; more than one reporting unit may be aggregated into a single reporting unit if they have similar economic characteristics. Events that could result in an interim assessment of goodwill impairment and/or a potential impairment charge include, but are not limited to: (i) significant under-performance relative to historical or projected future operating results; (ii) significant changes in the strategy for the Services segment; (iii) significant negative industry or economic trends; and (iv) a decline in market capitalization below book value attributable to the Services segment. Management regularly updates certain assumptions related to our projections, including the likelihood of achieving the assumed potential revenues from new initiatives and business strategies, and if these or other items have a significant negative impact on the reporting unit's projections we may perform additional analysis to determine whether an impairment charge is needed. Lower earnings over sustained periods also can lead to impairment of goodwill, which could result in a charge to earnings. The value of goodwill is primarily supported by revenue projections, which are mostly driven by projected transaction volume and margins.

Intangible assets, other than goodwill, primarily consist of customer relationships, technology, trade name and trademarks, client backlog and non-competition agreements. Customer relationships represent the value of the specifically acquired customer relationships and are valued using the excess earnings approach using estimated client revenues, attrition rates, implied royalty rates and discount rates. The excess earnings approach estimates the present value of expected earnings in excess of a traditional return on business assets. Technology represents proprietary software used for loan review, underwriting and due diligence, managing the REO disposition process, performing surveillance of mortgage loan servicers, real estate valuations and client workflow solutions. Trade name and trademarks reflect the value inherent in the recognition of the "Clayton" name and its reputation. For purposes of our intangible assets, we use the term client backlog to refer to the estimated present value of fees to be earned for services performed on loans currently under surveillance or REO assets under management. The value of a non-competition agreement is an appraisal of potential lost revenues that would arise from an individual leaving to work for a competitor or initiating a competing enterprise. For financial reporting purposes, intangible assets with finite lives are amortized over their applicable estimated useful lives in a manner that approximates the pattern of expected economic benefit from each intangible asset.

The calculation of the estimated fair value of goodwill and other intangibles is performed primarily using an income approach and requires the use of significant estimates and assumptions that are highly subjective in nature, such as attrition rates, discount rates, future expected cash flows and market conditions. The most significant assumptions relate to the valuation of goodwill and customer relationships. In particular, future expected cash flows include estimated transaction volumes that are not currently contracted, as well as volume projections associated with non-agency RMBS securitizations, for which current market conditions are not favorable. Our estimates are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable.

For more information on our accounting for goodwill and other intangibles, including our impairment analysis policy, see Note 7.

Held-For-Sale Classification

We report a business as held for sale when management is committed to a formal plan to sell the assets, the business is available for immediate sale and is being actively marketed at a price that is reasonable in relation to its fair value, an active program to locate a buyer and other actions required to complete the plan to sell the asset have been initiated, the sale is probable and expected to be completed within one year, and it is deemed unlikely that significant changes to the plan will be made or that the plan will be withdrawn. A business classified as held for sale is reflected at the lower of its carrying amount or estimated fair value less cost to sell. If the carrying amount of the business exceeds its estimated fair value, a loss is recognized. Assets and liabilities related to a business classified as held for sale are segregated in the consolidated balance sheets in the period in which the business is classified as held for sale. After a business is classified as held for sale, depreciation and amortization expense is not recognized on its assets.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### Discontinued Operations

We report the results of operations of a business as discontinued operations if the business is classified as held for sale, the operations and cash flows of the business have been or will be eliminated from our ongoing operations as a result of a disposal transaction and we will not have any significant continuing involvement in the operations of the business after the disposal transaction. In the period in which the business meets the criteria of a discontinued operation, its results are reported in income or loss from discontinued operations in the consolidated statements of operations for current and prior periods, and include any required adjustment of the carrying amount to its fair value less cost to sell. In addition, tax is allocated to continuing operations and discontinued operations. The amount of tax allocated to discontinued operations is the difference between the tax originally allocated to continuing operations and the tax allocated to the restated amount of income from continuing operations in each period.

#### Accounting for Share-Based Compensation

The stock-based compensation cost related to share-based liability awards is based on the fair value as of the measurement date. The compensation cost for equity instruments is measured based on the grant-date fair value at the date of issuance. Compensation cost is generally recognized over the periods that an employee provides service in exchange for the award. See Note 15 for further information.

#### Purchases of Convertible Debt Prior to Maturity

We account for the purchases of our outstanding convertible debt as induced conversions of convertible debt in accordance with the accounting standard regarding derecognition of debt with conversion and other options, and the accounting standard regarding debt modifications and extinguishments. The accounting standards require the recognition through earnings of an inducement charge equal to the fair value of the consideration delivered in excess of the consideration issuable under the original conversion terms. The remaining consideration delivered and transaction costs incurred are required to be allocated between the extinguishment of the liability component and the reacquisition of the equity component. Therefore, we recognize a loss on induced conversion and debt extinguishment equal to the sum of: (i) the inducement charge; (ii) the difference between the fair value and the carrying value of the liability component of the purchased debt; (iii) transaction costs allocated to the debt component; and (iv) unamortized debt issuance costs related to the purchased debt.

#### Reinsurance

In accordance with the terms of the Single Premium QSR Transaction, rather than making a cash payment or transferring investments for ceded premiums written, Radian Guaranty holds the related amounts to collateralize the reinsurers' obligations and has established a corresponding funds withheld liability. Any loss recoveries and any potential profit commission to Radian Guaranty will be realized from this account. The reinsurers' share of earned premiums is paid from this account on a quarterly basis. This liability also includes an interest credit on funds withheld, which is recorded as ceded premiums at a rate specified in the agreement and, depending on experience under the contract, may be paid to either Radian Guaranty or the reinsurers. Ceded premiums written are recorded on the balance sheet as prepaid reinsurance premiums and amortized to ceded premiums earned in a manner consistent with the recognition of income on direct premiums. See Note 8 for further discussion of our reinsurance transactions.

#### Accelerated Share Repurchase

In 2015, we had an ASR program that consisted of the combination of the purchase of Radian Group common stock from an investment bank and a forward contract with that investment bank indexed to Radian Group common stock. We accounted for the ASR program in accordance with the provisions of the accounting standards regarding derivatives and hedging for contracts indexed to an entity's own stock, and the accounting standard regarding equity. The up-front payment to the investment bank as part of the ASR program was accounted for as a reduction to stockholders' equity in our consolidated balance sheets in the second quarter of 2015, the period in which the payment was made. The shares of Radian Group common stock received were retired, resulting in a decrease in shares issued

and outstanding and a corresponding increase in unissued shares in the periods delivered. We reflect the ASR program as a repurchase of common stock in the periods delivered for purposes of calculating earnings per share and as forward contracts indexed to the company's own common stock. The ASR program met all of the applicable criteria for equity classification, and therefore, was not accounted for as a derivative instrument.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### Recent Accounting Pronouncements

##### Accounting Standards Adopted During 2016

In April 2015, the FASB issued an update to the accounting standard for the accounting of internal-use software. The amendments in this update provide guidance to customers about whether a cloud computing arrangement includes a software license. If a cloud computing arrangement includes a software license, then the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a service contract. The provisions of this update are effective for interim and annual periods beginning after December 15, 2015. The implementation of this update, effective January 1, 2016, did not have a material impact to our financial position, results of operations or cash flows.

In May 2015, the FASB issued an update to the accounting standard for the accounting of short-duration insurance contracts by insurance entities. The amendments in this update require insurance entities to disclose certain information about the liability for unpaid claims and claim adjustment expenses. The additional information required is focused on improvements in disclosures regarding insurance liabilities, including the timing, nature and uncertainty of future cash flows related to insurance liabilities and the effect of those cash flows on the statement of comprehensive income. The disclosures required by this update are effective for annual periods beginning after December 15, 2015, and interim periods within annual periods beginning after December 15, 2016. We adopted this update effective December 31, 2016. See Note 11 for additional disclosures.

In August and November 2016, the FASB issued updates to the accounting standard regarding the statement of cash flows. The updates reduce diversity in practice over the presentation and classification of certain cash receipts and cash payments. Specifically, the revisions provide guidance related to certain cash flow issues, including a requirement that a statement of cash flows explain the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash or restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning and ending amounts shown on the statement of cash flows. These updates are effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted, and we elected to early adopt these updates effective December 31, 2016. As a result of the early adoption of these updates, there were no changes in the presentation or classification of cash receipts and cash payments in the statement of cash flows; however, restricted cash is now included with cash and cash equivalents in the beginning and ending cash balances, retrospectively for all the periods presented.

##### Accounting Standards Not Yet Adopted

In May 2014, the FASB issued an update to the accounting standard regarding revenue recognition. In accordance with the new standard, recognition of revenue occurs when a customer obtains control of promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the new standard requires that reporting companies disclose the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. This update is not expected to change revenue recognition principles related to our investments and insurance products, which represent a significant portion of our total revenues. This update is primarily applicable to revenues from our Services segment. In July 2015, the FASB delayed the effective date for this updated standard to interim and annual periods beginning after December 15, 2017 and subsequently issued various clarifying updates. Early adoption is permitted. This standard permits the use of the retrospective or cumulative effective transition method. We are currently in the process of categorizing the Services revenues to evaluate the impact to our financial statements and future disclosures as a result of the updates.





Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

In January 2016, the FASB issued an update that makes certain changes to the standard for the accounting of financial instruments. Among other things, the update requires: (i) equity investments to be measured at fair value with changes in fair value recognized in net income; (ii) the use of the exit price notion when measuring the fair value of financial instruments for disclosure purposes; (iii) separate presentation of financial assets and financial liabilities by measurement category and form of financial asset; and (iv) separate presentation in other comprehensive income of the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk (also referred to as “own credit”) when the organization has elected to measure the liability at fair value in accordance with the fair value option for financial instruments. The update also eliminates the requirement to disclose the methods and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet. This update is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is not permitted, with the exception of the “own credit” provision. We are currently evaluating the impact to our financial statements and future disclosures as a result of this update, but we do not expect the impact to be material due to the current amount of our investments in equity securities and our investment strategy.

In February 2016, the FASB issued an update that replaces the existing accounting and disclosure requirements for leases of property, plant and equipment. The update requires lessees to recognize, as of the lease commencement date, assets and liabilities for all leases with lease terms of more than 12 months, which is a change from the current GAAP requirement to recognize only capital leases on the balance sheet. Pursuant to the new standard, the liability initially recognized for the lease obligation is equal to the present value of the lease payments not yet made, discounted over the lease term at the implicit interest rate of the lease, if available, or otherwise at the lessee’s incremental borrowing rate. The lessee is also required to recognize an asset for its right to use the underlying asset for the lease term, based on the liability subject to certain adjustments, such as for initial direct costs. Leases are required to be classified as either operating or finance, with expense on operating leases recorded as a single lease cost on a straight-line basis. For finance leases, interest expense on the lease liability is required to be recognized separately from the straight-line amortization of the right-of-use asset. Quantitative disclosures are required for certain items, including the cost of leases, the weighted-average remaining lease term, the weighted-average discount rate and a maturity analysis of lease liabilities. Additional qualitative disclosures are also required regarding the nature of the leases, such as basis, terms and conditions of: (i) variable interest payments; (ii) extension and termination options; and (iii) residual value guarantees. This update is effective for public companies for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. The new standard must be adopted by applying the new guidance as of the beginning of the earliest comparative period presented, using a modified retrospective transition approach with certain optional practical expedients. We are currently evaluating the impact to our financial statements and future disclosures as a result of this update.

In March 2016, the FASB issued an update to the accounting standards for share-based payment transactions, including: (i) accounting for income taxes; (ii) classification of excess tax benefits on the statement of cash flows; (iii) forfeitures; (iv) minimum statutory tax withholding requirements; (v) classification of employee taxes paid on the statement of cash flows when an employer withholds shares for tax withholding purposes; (vi) the practical expedient for estimating the expected term; and (vii) intrinsic value. Among other things, the update requires: (i) all excess tax benefits and tax deficiencies to be recognized as income tax expense or benefit in the income statement as they occur; (ii) recognition of excess tax benefits, regardless of whether the benefits reduce taxes payable in the current period; and (iii) excess tax benefits to be classified along with other cash flows as an operating activity, rather than separated from other income tax cash flows as a financing activity. For companies with significant share-based compensation, these changes may result in more volatile effective tax rates and net earnings, and result in additional dilution in earnings per share calculations. This update is effective for public companies for fiscal years beginning after

December 15, 2016. Our adoption of this update, effective January 1, 2017, had an immaterial impact on our financial statements at implementation. As a result of implementation of this new standard, however, we expect the potential for limited increased volatility in our effective tax rate, which would impact our results of operations.

In June 2016, the FASB issued an update to the accounting standard regarding the measurement of credit losses on financial instruments. This update requires that financial assets measured at amortized cost basis be presented at the net (of allowance for credit losses) amount expected to be collected. Credit losses relating to available-for-sale debt 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. This update is effective for public companies for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted as of the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently evaluating the impact to our financial statements and future disclosures as a result of this update.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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In October 2016, the FASB issued an update to the accounting standard regarding the accounting for income taxes. This update requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. This update will be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. This update is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted, including adoption in the first interim period of the adoption year. We are currently evaluating the impact to our financial statements as a result of this update.

In January 2017, the FASB issued an update to the accounting standard regarding goodwill and other intangibles. This update simplifies the subsequent measurement of goodwill by eliminating step two of the goodwill impairment test. Instead, an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for any excess of the reporting unit's carrying amount over the reporting unit's estimated fair value. The provisions of this update are effective for interim and annual goodwill impairment tests in fiscal years beginning after December 15, 2019, with early adoption permitted for interim or annual goodwill impairment tests performed after January 1, 2017. We intend to early adopt this update, effective as of our goodwill impairment test in 2017.

### 3. Net Income Per Share

Basic net income per share is computed by dividing net income by the weighted-average number of common shares outstanding, while diluted net income per share is computed by dividing net income attributable to common shares by the sum of the weighted average number of common shares outstanding and the weighted average number of dilutive potential common shares. Dilutive potential common shares relate to our stock-based compensation arrangements and our outstanding convertible senior notes. For all calculations, the determination of whether potential common shares are dilutive or anti-dilutive is based on net income from continuing operations.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The calculation of the basic and diluted net income per share was as follows:

	Year Ended December 31,		
	2016	2015	2014
(In thousands, except per-share amounts)			
Net income from continuing operations:			
Net income from continuing operations—basic	\$308,253	\$281,539	\$1,259,574
Adjustment for dilutive Convertible Senior Notes due 2019, net of tax (1)	5,816	14,758	14,372
Net income from continuing operations—diluted	\$314,069	\$296,297	\$1,273,946
Net income:			
Net income from continuing operations—basic	\$308,253	\$281,539	\$1,259,574
Income (loss) from discontinued operations, net of tax	—	5,385	(300,057 )
Net income—basic	308,253	286,924	959,517
Adjustment for dilutive Convertible Senior Notes due 2019, net of tax (1)	5,816	14,758	14,372
Net income—diluted	\$314,069	\$301,682	\$973,889
Average common shares outstanding—basic			
	211,789	199,910	184,551
Dilutive effect of Convertible Senior Notes due 2017 (2)			
	207	6,293	8,465
Dilutive effect of Convertible Senior Notes due 2019			
	14,263	37,736	37,736
Dilutive effect of stock-based compensation arrangements (2)			
	2,999	2,393	3,150
Adjusted average common shares outstanding—diluted	229,258	246,332	233,902
Net income per share:			
Basic:			
Net income from continuing operations	\$1.46	\$1.41	\$6.83
Income (loss) from discontinued operations, net of tax	—	0.03	(1.63 )
Net income	\$1.46	\$1.44	\$5.20
Diluted:			
Net income from continuing operations	\$1.37	\$1.20	\$5.44
Income (loss) from discontinued operations, net of tax	—	0.02	(1.28 )
Net income	\$1.37	\$1.22	\$4.16

(1) As applicable, includes coupon interest, amortization of discount and fees, and other changes in income or loss that would result from the assumed conversion.

The following number of shares of our common stock equivalents issued under our stock-based compensation (2) arrangements and convertible debt, if any, were not included in the calculation of diluted net income per share because they were anti-dilutive:

	Year Ended		
	December 31,		
(in thousands)	2016	2015	2014
Shares of common stock equivalents	1,042	728	542



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### 4. Segment Reporting

We have two strategic business units that we manage separately—Mortgage Insurance and, effective with the June 30, 2014 acquisition of Clayton, our Services segment. Adjusted pretax operating income (loss) for each segment represents segment results on a standalone basis; therefore, inter-segment eliminations and reclassifications required for consolidated GAAP presentation have not been reflected. See Note 18 for information related to discontinued operations.

In the fourth quarter of 2016, we completed an organizational change that resulted in a change to our segment financial reporting structure. Previously, contract underwriting activities on behalf of third parties were reported in either the Mortgage Insurance segment or the Services segment, based on the customer relationship. Management responsibility for this contract underwriting business was moved entirely to the Services segment. This organizational change resulted in the transfer to the Services segment of revenue and expenses for all contract underwriting performed on behalf of third parties. Mortgage Insurance underwriting continues to be reported as an expense in the Mortgage Insurance segment. This change aligns with recent changes in personnel reporting lines and management oversight, and is consistent with the way the chief operating decision maker began assessing the performance of the reportable segments in the fourth quarter of 2016. As a result, on a segment basis, Services revenue, cost of services and other operating expenses have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses. This change has been reflected in our segment operating results for all periods presented.

We include underwriting-related expenses for mortgage insurance, based on a pro-rata volume of mortgage applications excluding third-party contract underwriting services, in our Mortgage Insurance segment's other operating expenses before corporate allocations. We include underwriting-related expenses for third-party contract underwriting services, based on a pro-rata volume of mortgage applications, in our Services segment's cost of services and other operating expenses before corporate allocations, as applicable.

We allocate to our Mortgage Insurance segment: (i) corporate expenses based on an allocated percentage of time spent on the Mortgage Insurance segment; (ii) all interest expense except for interest expense related to the Senior Notes due 2019 that were issued to fund our purchase of Clayton; and (iii) all corporate cash and investments.

We allocate to our Services segment: (i) corporate expenses based on an allocated percentage of time spent on the Services segment and (ii) as noted above, all interest expense related to the Senior Notes due 2019. No material corporate cash or investments are allocated to the Services segment. Inter-segment activities are recorded at market rates for segment reporting and eliminated in consolidation.

#### Adjusted Pretax Operating Income (Loss)

Our senior management, including our Chief Executive Officer (our chief operating decision maker), uses adjusted pretax operating income (loss) as our primary measure to evaluate the fundamental financial performance of each of Radian's business segments and to allocate resources to the segments. Adjusted pretax operating income (loss) is defined as pretax income (loss) from continuing operations excluding the effects of net gains (losses) on investments and other financial instruments, loss on induced conversion and debt extinguishment, acquisition-related expenses, amortization and impairment of intangible assets, and net impairment losses recognized in earnings.

Although adjusted pretax operating income (loss) excludes certain items that have occurred in the past and are expected to occur in the future, the excluded items represent those that are: (i) not viewed as part of the operating performance of our primary activities or (ii) not expected to result in an economic impact equal to the amount reflected in consolidated pretax income (loss) from continuing operations. These adjustments, along with the reasons for their treatment, are described below.

(1) Net gains (losses) on investments and other financial instruments. The recognition of realized investment gains or losses can vary significantly across periods as the activity is highly discretionary based on the timing of individual securities sales due to such factors as market opportunities, our tax and capital profile and overall market cycles.

Unrealized investment gains and losses arise primarily from changes in the market value of our investments that are classified as trading securities. These valuation adjustments may not necessarily result in economic gains or losses.

Trends in the profitability of our fundamental operating activities can be more clearly identified without the fluctuations of these realized and unrealized gains or losses. We do not view them to be indicative of our fundamental operating activities. Therefore, these items are excluded from our calculation of adjusted pretax operating income (loss). However, we include the change in expected economic loss or recovery associated with our consolidated VIEs, if any, in the calculation of adjusted pretax operating income (loss).

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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(2) Loss on induced conversion and debt extinguishment. Gains or losses on early extinguishment of debt and losses incurred to purchase our convertible debt prior to maturity are discretionary activities that are undertaken in order to take advantage of market opportunities to strengthen our financial and capital positions; therefore, we do not view these activities as part of our operating performance. Such transactions do not reflect expected future operations and do not provide meaningful insight regarding our current or past operating trends. Therefore, these items are excluded from our calculation of adjusted pretax operating income (loss).

(3) Acquisition-related expenses. Acquisition-related expenses represent the costs incurred to effect an acquisition of a business (i.e., a business combination). Because we pursue acquisitions on a strategic and selective basis and not in the ordinary course of our business, we do not view acquisition-related expenses as a consequence of a primary business activity. Therefore, we do not consider these expenses to be part of our operating performance and they are excluded from our calculation of adjusted pretax operating income (loss).

(4) Amortization and impairment of intangible assets. Amortization of intangible assets represents the periodic expense required to amortize the cost of intangible assets over their estimated useful lives. Intangible assets with an indefinite useful life are also periodically reviewed for potential impairment, and impairment adjustments are made whenever appropriate. These charges are not viewed as part of the operating performance of our primary activities and therefore are excluded from our calculation of adjusted pretax operating income (loss).

(5) 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. We do not view these impairment losses to be indicative of our fundamental operating activities. Therefore, whenever these losses occur, we exclude them from our calculation of adjusted pretax operating income (loss).



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Summarized operating results for our segments as of and for the periods indicated, are as follows:

(In thousands)	December 31, 2016 (1)		
	Mortgage Insurance	Services	Total
Net premiums written—insurance (2)	\$733,834	\$—	\$733,834
Decrease (increase) in unearned premiums	187,935	—	187,935
Net premiums earned—insurance	921,769	—	921,769
Services revenue	—	177,249	177,249
Net investment income	113,466	—	113,466
Other income	3,572	—	3,572
Total (3) (4)	1,038,807	177,249	1,216,056
Provision for losses	204,175	—	204,175
Policy acquisition costs	23,480	—	23,480
Cost of services	—	115,369	115,369
Other operating expenses before corporate allocations	140,624	55,815	196,439
Total (4)	368,279	171,184	539,463
Adjusted pretax operating income (loss) before corporate allocations	670,528	6,065	676,593
Allocation of corporate operating expenses	45,178	8,533	53,711
Allocation of interest expense	63,439	17,693	81,132
Adjusted pretax operating income (loss)	\$561,911	\$(20,161)	\$541,750
Total assets	\$5,506,338	\$356,836	\$5,863,174
NIW (in millions)	\$50,530		

Reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses (1) for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue, cost of services and other operating expenses have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses.

(2) Net of ceded premiums written under the QSR Transactions and the Single Premium QSR Transaction. See Note 8 for additional information.

(3) Excludes net gains on investments and other financial instruments of \$30.8 million, not included in adjusted pretax operating income.

(4) Includes inter-segment revenues and expenses as follows:

(In thousands)	December 31, 2016
	Mortgage Insurance / Services
Inter-segment revenues included in Services segment	\$— 8,355
Inter-segment expenses included in Mortgage Insurance segment	8,355



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

(In thousands)	December 31, 2015 (1)		
	Mortgage Insurance	Services	Total
Net premiums written—insurance (2)	\$968,505	\$—	\$968,505
Decrease (increase) in unearned premiums	(52,597 )	—	(52,597 )
Net premiums earned—insurance	915,908	—	915,908
Services revenue	—	163,140	163,140
Net investment income	81,537	—	81,537
Other income	2,899	—	2,899
Total (3) (4)	1,000,344	163,140	1,163,484
Provision for losses	198,433	—	198,433
Policy acquisition costs	22,424	—	22,424
Cost of services	—	97,256	97,256
Other operating expenses before corporate allocations	148,619	43,515	192,134
Total (4)	369,476	140,771	510,247
Adjusted pretax operating income (loss) before corporate allocations	630,868	22,369	653,237
Allocation of corporate operating expenses	46,418	4,823	51,241
Allocation of interest expense	73,402	17,700	91,102
Adjusted pretax operating income (loss)	\$511,048	\$(154 )	\$510,894
Total assets	\$5,290,422	\$351,678	\$5,642,100
NIW (in millions)	\$41,411		

Reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses (1) for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue, cost of services and other operating expenses have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses.

(2) Net of ceded premiums written under the QSR Transactions. See Note 8 for additional information.

(3) Excludes net gains on investments and other financial instruments of \$35.7 million, not included in adjusted pretax operating income.

(4) Includes inter-segment revenues and expenses as follows:

(In thousands)	December 31, 2015
	Mortgage Insurance Services
Inter-segment revenues included in Services segment	\$—
Inter-segment expenses included in Mortgage Insurance segment	5,924



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

	December 31, 2014 (1)		
	Mortgage Insurance	Services (2)	Total
(In thousands)			
Net premiums written—insurance (3)	\$925,181	\$ —	\$925,181
Decrease (increase) in unearned premiums	(80,653 )	—	(80,653 )
Net premiums earned—insurance	844,528	—	844,528
Services revenue	—	78,908	78,908
Net investment income	65,655	—	65,655
Other income	4,063	1,265	5,328
Total (4) (5)	914,246	80,173	994,419
Provision for losses	246,865	—	246,865
Change in expected economic loss or recovery for consolidated VIEs	113	—	113
Policy acquisition costs	24,446	—	24,446
Cost of services	—	44,679	44,679
Other operating expenses before corporate allocations	158,228	30,944	189,172
Total (5)	429,652	75,623	505,275
Adjusted pretax operating income (loss) before corporate allocations	484,594	4,550	489,144
Allocation of corporate operating expenses	55,154	1,144	56,298
Allocation of interest expense	81,600	8,864	90,464
Adjusted pretax operating income (loss)	\$347,840	\$ (5,458 )	\$342,382
Assets held for sale (6)	\$—	\$ —	\$1,736,444
Total assets	4,779,917	325,975	6,842,336
NIW (in millions)	\$37,349		

Reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third parties. Revenue and expenses (1) for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue, cost of services and other operating expenses have increased, with offsetting reductions in Mortgage Insurance other income and other operating expenses.

(2) Includes the acquisition of Clayton, effective June 30, 2014.

(3) Net of ceded premiums written under the QSR Transactions. See Note 8 for additional information.

(4) Excludes net gains on investments and other financial instruments of \$80.1 million, not included in adjusted pretax operating income.

(5) Includes inter-segment revenues and expenses as follows:

	December 31, 2014
	Mortgage Insurance
(In thousands)	
Inter-segment revenues included in Services segment	\$—
Inter-segment expenses included in Mortgage Insurance segment	1,723

(6) Assets held for sale are not part of the Mortgage Insurance or Services segments.

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Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The reconciliation of adjusted pretax operating income (loss) to consolidated pretax income from continuing operations is as follows:

(In thousands)	December 31,		
	2016	2015	2014
Adjusted pretax operating income (loss):			
Mortgage insurance (1)	\$561,911	\$511,048	\$347,840
Services (1)	(20,161 )	(154 )	(5,458 )
Total adjusted pretax operating income	\$541,750	\$510,894	\$342,382
Net gains (losses) on investments and other financial instruments (2)	30,751	35,693	80,102
Loss on induced conversion and debt extinguishment	(75,075 )	(94,207 )	—
Acquisition-related expenses (3)	(519 )	(1,565 )	(6,680 )
Amortization and impairment of intangible assets	(13,221 )	(12,986 )	(8,648 )
Consolidated pretax income from continuing operations	\$483,686	\$437,829	\$407,156

(1) Includes inter-segment expenses and revenues as listed in the notes to the preceding tables.

The change in expected economic loss or recovery associated with our previously owned VIEs is included in adjusted pretax operating income above, although it represents amounts that are not included in net income.

(2) Therefore, for purposes of this reconciliation, net gains (losses) on investments and other financial instruments has been adjusted by income of \$0.1 million for the year ended December 31, 2014 to reverse this item.

(3) Acquisition-related expenses represent expenses incurred to effect the acquisition of a business, net of adjustments to accruals previously recorded for acquisition expenses.

On a consolidated basis, “adjusted pretax operating income” is a measure not determined in accordance with GAAP. Total adjusted pretax operating income is not a measure of total profitability, and therefore should not be viewed as a substitute for GAAP pretax income. Our definition of adjusted pretax operating income may not be comparable to similarly-named measures reported by other companies.

#### Concentration of Risk

As of December 31, 2016, California is the only state that accounted for more than 10% of our mortgage insurance business measured by primary RIF. California accounted for 12.4% of our Mortgage Insurance segment’s primary RIF at December 31, 2016, compared to 12.8% at December 31, 2015. California accounted for 14.8% of our Mortgage Insurance segment’s direct primary NIW for the year ended December 31, 2016, compared to 15.2% and 17.2% for the years ended December 31, 2015 and 2014, respectively.

The largest single mortgage insurance customer (including branches and affiliates), measured by primary NIW, accounted for 5.7% of NIW during 2016, compared to 4.6% and 4.0% from the largest single customer in 2015 and 2014, respectively. Earned premiums from one mortgage insurance customer represented 15%, 16% and 19% of our consolidated revenues (excluding net gains (losses) on investments and other financial instruments) in 2016, 2015 and 2014, respectively.

Net premiums earned attributable to foreign countries and long-lived assets located in foreign countries were immaterial for the periods presented.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 5. Fair Value of Financial Instruments

The following is a list of those assets that are measured at fair value by hierarchy level as of December 31, 2016:

(In thousands)	December 31, 2016			Total
	Level I	Level II	Level III	
Assets at Fair Value				
Investment Portfolio:				
U.S. government and agency securities	\$237,479	\$—	\$—	\$237,479
State and municipal obligations	—	358,536	—	358,536
Money market instruments	431,472	—	—	431,472
Corporate bonds and notes	—	2,024,205	—	2,024,205
RMBS	—	388,842	—	388,842
CMBS	—	507,273	—	507,273
Other ABS	—	450,128	—	450,128
Foreign government and agency securities	—	32,807	—	32,807
Equity securities	—	830	500	1,330
Other investments (1)	—	28,663	500	29,163
Total Investments at Fair Value (2)	668,951	3,791,284	1,000	4,461,235
Total Assets at Fair Value	\$668,951	\$3,791,284	\$1,000	\$4,461,235

(1) Comprising short-term certificates of deposit and commercial paper, included within Level II, and convertible notes of non-reporting issuers, included within Level III.

(2) Does not include certain other invested assets (\$1.2 million), primarily invested in limited partnerships, accounted for as cost-method investments and not measured at fair value.

At December 31, 2016, total Level III assets of \$1.0 million accounted for less than 0.1% of total assets measured at fair value. Within other investments is a Level III investment which was purchased during the three months ended June 30, 2016, and there were no related gains or losses recorded during the year ended December 31, 2016. Within equity securities is a Level III investment that was purchased during the three months ended June 30, 2015, and there were no related gains or losses recorded during the year ended December 31, 2016. There were no Level III liabilities at December 31, 2016.

There were no investment transfers between Level I, Level II or Level III for the year ended December 31, 2016.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The following is a list of those assets that are measured at fair value by hierarchy level as of December 31, 2015:

(In thousands)	December 31, 2015			Total
	Level I	Level II	Level III	
Assets at Fair Value				
Investment Portfolio:				
U.S. government and agency securities	\$670,328	\$8,000	\$ —	\$678,328
State and municipal obligations	—	341,845	—	341,845
Money market instruments	443,272	—	—	443,272
Corporate bonds and notes	—	1,383,186	—	1,383,186
RMBS	—	297,097	—	297,097
CMBS	—	544,588	—	544,588
Other ABS	—	371,625	—	371,625
Foreign government and agency securities	—	37,576	—	37,576
Equity securities	74,930	25,016	500	100,446
Other investments (1)	—	99,009	—	99,009
Total Investments at Fair Value (2)	1,188,530	3,107,942	500	4,296,972
Total Assets at Fair Value	\$1,188,530	\$3,107,942	\$ 500	\$4,296,972

(1) Comprising short-term certificates of deposit and commercial paper.

(2) Does not include certain other invested assets (\$1.7 million), primarily invested in limited partnerships, accounted for as cost-method investments and not measured at fair value.

At December 31, 2015, total Level III assets of \$0.5 million accounted for less than 0.1% of total assets measured at fair value. This investment was purchased during the three months ended June 30, 2015, and there were no related gains or losses recorded during the year ended December 31, 2015. There were no Level III liabilities at December 31, 2015.

There were no investment transfers between Level I, Level II or Level III for the year ended December 31, 2015.

Rollforward activity of Level III assets and liabilities (including realized and unrealized gains and losses, purchases, sales, issuances, settlements and transfers) was immaterial for the years ended December 31, 2016 and 2015.

#### Valuation Methodologies for Assets Measured at Fair Value

The following are descriptions of our valuation methodologies for financial assets and liabilities measured at fair value.

We are responsible for the determination of the value of all investments carried at fair value and the supporting methodologies and assumptions. To assist us in this responsibility, we utilize independent third-party valuation service providers to gather, analyze and interpret market information and estimate fair values based upon relevant methodologies and assumptions for various asset classes and individual securities. We perform monthly quantitative and qualitative analyses on the prices received from third parties to determine whether the prices are reasonable estimates of fair value. Our analysis includes: (i) a review of the methodology used by third-party pricing services; (ii) a comparison of pricing services' valuations to other independent sources; (iii) a review of month-to-month price fluctuations; and (iv) a comparison of actual purchase and sale transactions with valuations received from third parties. These processes are designed to ensure that our investment values are accurately recorded, that the data inputs and valuation techniques utilized are appropriate and consistently applied and that the assumptions are reasonable and consistent with the objective of determining fair value.

U.S. government and agency securities. The fair value of U.S. government and agency securities is estimated using observed market transactions, including broker-dealer quotes and actual trade activity as a basis for valuation. U.S.

government and agency securities are categorized in either Level I or Level II of the fair value hierarchy.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

State and municipal obligations. The fair value of state and municipal obligations is estimated using recent transaction activity, including market observations. Valuation models are used, which incorporate bond structure, yield curve, credit spreads and other factors. These securities are generally categorized in Level II of the fair value hierarchy or in Level III when market-based transaction activity is unavailable.

Money market instruments. The fair value of money market instruments is based on daily prices, which are published and available to all potential investors and market participants. As such, these securities are categorized in Level I of the fair value hierarchy.

Corporate bonds and notes. The fair value of corporate bonds and notes is estimated using recent transaction activity, including market observations. Spread models are used that incorporate issuer and structure characteristics, such as credit risk and early redemption features, where applicable. These securities are generally categorized in Level II of the fair value hierarchy or in Level III when market-based transaction activity is unavailable.

RMBS, CMBS, and Other ABS. The fair value of these instruments is estimated based on prices of comparable securities and spreads and observable prepayment speeds. These securities are generally categorized in Level II of the fair value hierarchy or in Level III when market-based transaction activity is unavailable. The fair value of any Level III securities is generally estimated by discounting estimated future cash flows.

Foreign government and agency securities. The fair value of foreign government and agency securities is estimated using observed market yields used to create a maturity curve and observed credit spreads from market makers and broker-dealers. These securities are categorized in Level II of the fair value hierarchy.

Equity securities. The fair value of these securities is generally estimated using observable market data in active markets or bid prices from market makers and broker-dealers. Generally, these securities are categorized in Level I or II of the fair value hierarchy, as observable market data are readily available. A small number of our equity securities, however, are categorized in Level III of the fair value hierarchy due to a lack of market-based transaction data or the use of model-based valuations.

Other investments. These securities primarily consist of commercial paper and short-term certificates of deposit, which are categorized in Level II of the fair value hierarchy. Other investments also contains convertible notes of non-reporting issuers, which are categorized in Level III of the fair value hierarchy due to a lack of market-based transaction data.

#### Other Fair Value Disclosure

The carrying value and estimated fair value of other selected assets and liabilities not carried at fair value on our consolidated balance sheets were as follows as of the dates indicated:

	December 31, 2016		December 31, 2015	
(In thousands)	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value

#### Assets:

Other invested assets	\$1,195	\$ 3,789	\$1,714	\$ 4,901
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#### Liabilities:

Long-term debt	1,069,537	7,214,471	1,219,454	4,414,875
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Other Invested Assets. The fair value of these assets, primarily invested in limited partnerships, is estimated based on the equity recorded within the financial statements provided by the limited partnerships. These interests are accounted for and carried as cost-method investments.

Long-Term Debt. The carrying amount of long-term debt is net of the equity component of our convertible notes, which is accounted for under the accounting standard for convertible debt instruments that may be settled in cash upon conversion (including partial cash settlement). The fair value is estimated based on the quoted market prices for the

same or similar instruments. See Note 12 for further information.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 6. Investments

## Available for Sale Securities

Our available for sale securities within our investment portfolio consisted of the following as of the dates indicated:

	December 31, 2016			
(In thousands)	Amortized Cost	Fair Value	Gross Unrealized Gains	Gross Unrealized Losses
Fixed-maturities available for sale:				
U.S. government and agency securities	\$78,931	\$75,474	\$ 2	\$ 3,459
State and municipal obligations	66,124	67,171	1,868	821
Corporate bonds and notes	1,463,720	1,455,628	14,320	22,412
RMBS	358,262	350,628	197	7,831
CMBS	429,057	428,289	2,255	3,023
Other ABS	433,603	434,728	2,037	912
Foreign government and agency securities	24,771	24,594	148	325
Other investments	2,000	2,000	—	—
	2,856,468	2,838,512	20,827	38,783
Equity securities available for sale (1)	1,330	1,330	—	—
Total debt and equity securities	\$2,857,798	\$2,839,842	\$ 20,827	\$ 38,783

(1) Primarily consists of investments in Federal Home Loan Bank stock as required in connection with the memberships of Radian Guaranty and Radian Reinsurance in the Federal Home Loan Bank of Pittsburgh.

	December 31, 2015			
(In thousands)	Amortized Cost	Fair Value	Gross Unrealized Gains	Gross Unrealized Losses
Fixed-maturities available for sale:				
U.S. government and agency securities	\$13,773	\$13,752	\$ —	\$ 21
State and municipal obligations	36,920	37,900	1,100	120
Corporate bonds and notes	815,024	802,193	4,460	17,291
RMBS	226,744	224,905	625	2,464
CMBS	415,780	406,910	69	8,939
Other ABS	359,452	355,494	16	3,974
Foreign government and agency securities	25,663	24,307	27	1,383
	1,893,356	1,865,461	6,297	34,192
Equity securities available for sale (1)	75,538	75,430	—	108
Total debt and equity securities	\$1,968,894	\$1,940,891	\$ 6,297	\$ 34,300

(1) Primarily consists of a multi-sector exchange-traded fund.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## Gross Unrealized Losses and Related Fair Values of Available for Sale Securities

For securities deemed “available for sale” and that are in an unrealized loss position, the following tables show the gross unrealized losses and fair values, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position, as of the dates indicated:

December 31, 2016									
Less Than 12 Months									
12 Months or Greater									
Total									
(\$ in thousands)									
Description of Securities	# of securities	Fair Value	Unrealized Losses	# of securities	Fair Value	Unrealized Losses	# of securities	Fair Value	Unrealized Losses
U.S. government and agency securities	7	\$73,160	\$ 3,459	—	\$—	\$ —	7	\$73,160	\$ 3,459
State and municipal obligations	7	30,901	821	—	—	—	7	30,901	821
Corporate bonds and notes	185	788,876	22,135	2	4,582	277	187	793,458	22,412
RMBS	56	311,031	7,822	1	1,398	9	57	312,429	7,831
CMBS	37	218,170	2,909	2	6,585	114	39	224,755	3,023
Other ABS	58	131,268	470	16	45,886	442	74	177,154	912
Foreign government and agency securities	12	13,034	325	—	—	—	12	13,034	325
Total	362	\$1,566,440	\$ 37,941	21	\$58,451	\$ 842	383	\$1,624,891	\$ 38,783
December 31, 2015									
Less Than 12 Months									
12 Months or Greater									
Total									
(\$ in thousands)									
Description of Securities	# of securities	Fair Value	Unrealized Losses	# of securities	Fair Value	Unrealized Losses	# of securities	Fair Value	Unrealized Losses
U.S. government and agency securities	1	\$5,752	\$ 21	—	\$—	\$ —	1	\$5,752	\$ 21
State and municipal obligations	2	11,674	120	—	—	—	2	11,674	120
Corporate bonds and notes	117	510,807	16,773	6	8,700	518	123	519,507	17,291
RMBS	12	168,415	2,464	—	—	—	12	168,415	2,464
CMBS	58	387,268	8,939	—	—	—	58	387,268	8,939
Other ABS	96	284,998	2,559	14	43,225	1,415	110	328,223	3,974
Foreign government and agency securities	18	18,733	1,095	3	2,278	288	21	21,011	1,383
Equity securities	1	74,930	108	—	—	—	1	74,930	108
Total	305	\$1,462,577	\$ 32,079	23	\$54,203	\$ 2,221	328	\$1,516,780	\$ 34,300

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Impairments due to credit deterioration that result in a conclusion that the present value of cash flows expected to be collected will not be sufficient to recover the amortized cost basis of the security are considered other-than-temporary. Other declines in fair value (for example, due to interest rate changes, sector credit rating changes or company-specific rating changes) that result in a conclusion that the present value of cash flows expected to be collected will not be sufficient to recover the amortized cost basis of the security also may serve as a basis to conclude that an other-than-temporary impairment has occurred. To the extent we determine that a security is deemed to have had an other-than-temporary impairment, an impairment loss is recognized.

We recognized an other-than-temporary impairment loss in earnings of \$0.5 million due to our intent to sell certain corporate bonds carried at a loss as of December 31, 2016. For the years ended December 31, 2016, 2015 and 2014, there were no credit-related impairment losses recognized in earnings or in AOCI.

We had securities in an unrealized loss position that we did not consider to be other-than-temporarily impaired as of December 31, 2016. For all investment categories, the unrealized losses of 12 months or greater duration as of December 31, 2016, were generally caused by interest rate or credit spread movements since the purchase date, and as such, we expect the present value of cash flows to be collected from these securities to be sufficient to recover the amortized cost basis of these securities. As of December 31, 2016, other than as discussed above, we did not have the intent to sell any debt securities in an unrealized loss position and we determined that it is more likely than not that we will not be required to sell the securities before recovery of their cost basis, which may be at maturity; therefore, we did not consider these investments to be other-than-temporarily impaired at December 31, 2016.

#### Trading Securities

The trading securities within our investment portfolio, which are recorded at fair value, consisted of the following as of the dates indicated:

(In thousands)	December 31,	
	2016	2015
Trading securities:		
U.S. government and agency securities	\$33,042	\$129,913
State and municipal obligations	259,573	303,946
Corporate bonds and notes	453,617	580,993
RMBS	38,214	72,192
CMBS	78,984	137,678
Other ABS	8,219	16,131
Foreign government and agency securities	8,213	13,268
Equity securities	—	25,016
Total	\$879,862	\$1,279,137

For trading securities that were held at December 31, 2016 and 2015, we had net unrealized gains of \$16.8 million during 2016, compared to net unrealized losses of \$25.2 million during 2015.

As of December 31, 2016 and 2015, our investment portfolio included no securities of countries that have obligations that have been under particular stress due to economic uncertainty, potential restructuring and ratings downgrades. For the years ended December 31, 2016, 2015 and 2014, we did not sell or transfer any fixed-maturity investments classified as held to maturity. For the years ended December 31, 2016, 2015 and 2014, we did not transfer any securities from the available for sale or trading categories.





Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## Net Investment Income

Net investment income consisted of:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Investment income:			
Fixed-maturities	\$115,880	\$81,127	\$62,352
Equity securities	86	4,539	6,287
Short-term investments	3,086	745	246
Other	1,161	600	1,848
Gross investment income	120,213	87,011	70,733
Investment expenses	(6,747 )	(5,474 )	(5,078 )
Net investment income	\$113,466	\$81,537	\$65,655

## Net Gains (Losses) on Investments and Other Financial Instruments

Net realized and unrealized gains (losses), including impairment losses, on investments and other financial instruments consisted of:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net realized gains (losses) on investments:			
Fixed-maturities held to maturity	\$—	\$—	\$(9 )
Fixed-maturities available for sale (1)	4,160	(1,176 )	(1,599 )
Equities available for sale (2)	(170 )	69,150	—
Trading securities	(237 )	(9,231 )	(6,996 )
Short-term investments	(135 )	(24 )	1
Other invested assets	631	3,267	—
Other gains (losses)	64	110	246
Net realized gains (losses) on investments	4,313	62,096	(3)(8,357 )
Other-than-temporary impairment losses	(526 )	—	—
Unrealized gains (losses) on trading securities	27,217	(27,015 )	92,226
Total gains (losses) on investments	31,004	35,081	83,869
Net gains (losses) on other financial instruments	(253 )	612	(3,880 )
Net gains (losses) on investments and other financial instruments	\$30,751	\$35,693	\$79,989

(1) Components of net realized gains (losses) on fixed-maturities available for sale include:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Gross investment gains from sales and redemptions	\$10,326	\$ 64	\$ 99
Gross investment losses from sales and redemptions	(6,166 )	(1,240)	(1,698)

(2) Net realized gains (losses) on equities available for sale for the years ended December 31, 2016 and 2015 represent the gross amount of losses and gains, respectively, realized for those periods.

(3) During the second quarter of 2015, we sold equity securities in our portfolio and reinvested the proceeds in assets that qualify as PMIERS-compliant Available Assets, recognizing pretax gains of \$69.2 million.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## Change in Unrealized Gains (Losses) Recorded in Accumulated Other Comprehensive Income (Loss)

The change in unrealized gains (losses) recorded in accumulated other comprehensive income (loss) consisted of the following:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
<b>Fixed-maturities:</b>			
Unrealized holding gains (losses) arising during the period, net of tax	\$8,822	\$(24,246)	\$4,531
Less reclassification adjustment for net gains (losses) included in net income (loss), net of tax	2,361	(764)	(1,039)
Net unrealized gains (losses) on investments, net of tax	\$6,461	\$(23,482)	\$5,570
<b>Equities:</b>			
Unrealized holding gains (losses) arising during the period, net of tax	\$(40)	\$1,673	\$9,119
Less reclassification adjustment for net gains (losses) included in net income (loss), net of tax	(110)	44,947	—
Net unrealized gains (losses) on investments, net of tax	\$70	\$(43,274)	\$9,119

**Contractual Maturities**

The contractual maturities of fixed-maturity investments available for sale are as follows:

(In thousands)	December 31, 2016	
	Amortized	Fair
	Cost	Value
Due in one year or less (1)	\$40,639	\$40,570
Due after one year through five years (1)	316,744	317,728
Due after five years through ten years (1)	851,375	841,208
Due after ten years (1)	426,788	425,361
RMBS (2)	358,262	350,628
CMBS (2)	429,057	428,289
Other ABS (2)	433,603	434,728
Total	\$2,856,468	\$2,838,512

(1) Actual maturities may differ as a result of calls before scheduled maturity.

(2) RMBS, CMBS, and Other ABS are shown separately, as they are not due at a single maturity date.

**Other**

As of December 31, 2016, we did not have any investment in any person and its affiliates that exceeded 10% of our total stockholders' equity.

Securities on deposit with various state insurance commissioners amounted to \$10.8 million and \$10.4 million at December 31, 2016 and 2015, respectively.

At December 31, 2016 and 2015, Radian Guaranty had \$63.9 million and \$74.7 million, respectively, in a collateral account pursuant to the Freddie Mac Agreement. This collateral account, which contains investments primarily invested in trading securities, is pledged to cover Loss Mitigation Activity on the loans subject to the Freddie Mac Agreement. Subject to certain conditions in the Freddie Mac Agreement, amounts in the collateral account may be released to Radian Guaranty over time to the extent that Loss Mitigation Activity becomes final in accordance with the terms of that agreement. See Note 11 for additional information.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 7. Goodwill and Other Intangible Assets, Net

All of our goodwill and other intangible assets relate to our Services segment, as a result of our acquisition of Clayton in 2014 and its subsequent acquisitions of Red Bell and ValuAmerica in 2015, as discussed further below and in Note 2. The following table shows the changes in the carrying amount of goodwill as of and for the years ended December 31, 2016 and 2015:

(In thousands)	Goodwill	Accumulated	
		Impairment Losses	Net
Balance at December 31, 2014	\$ 194,027	\$ (2,095	) \$ 191,932
Goodwill acquired	3,238	—	3,238
Impairment losses	—	—	—
Balance at December 31, 2015	197,265	(2,095	) 195,170
Goodwill acquired	—	—	—
Impairment losses	—	—	—
Balance at December 31, 2016	\$ 197,265	\$ (2,095	) \$ 195,170

During the first quarter of 2015, Clayton expanded its service offerings by acquiring Red Bell, a real estate brokerage, valuation and technology company that provides products and services that include automated valuation models; broker price opinions used by investors, lenders and loan servicers; and advanced technology solutions for: (i) monitoring loan portfolio performance; (ii) tracking non-performing loans; (iii) managing REO assets; and (iv) valuing and selling residential real estate through a secure platform. The transaction was treated as a purchase for accounting purposes, with the excess of the acquisition price over the estimated fair value of the net assets acquired resulting in goodwill of \$2.4 million. In addition, in October 2015, Clayton acquired ValuAmerica, a national title agency and appraisal management company with a technology platform that helps mortgage lenders and their vendors streamline and manage their supply chains and operational workflow. The transaction was treated as a purchase for accounting purposes, with the excess of the acquisition price over the estimated fair value of the net assets acquired resulting in goodwill of \$0.8 million. Neither of these acquisitions met the criteria to be considered a material business combination. These acquisitions expand Clayton's scope of services and are consistent with our strategy to be positioned to offer products and services throughout the entire mortgage value chain.

The goodwill in these acquisitions is an asset representing the estimated future economic benefits arising from the assets we have acquired that were not individually identified and separately recognized, and includes the value of the discounted expected future cash flows, the workforce, expected synergies with our other affiliates and other unidentifiable intangible assets. Goodwill is deemed to have an indefinite useful life and is subject to review for impairment annually, or more frequently, whenever circumstances indicate potential impairment. Events that could result in an interim assessment of goodwill impairment and/or a potential impairment loss include, but are not limited to: (i) significant under-performance relative to historical or projected future operating results; (ii) significant changes in the strategy for the Services segment; (iii) significant negative industry or economic trends; and (iv) a decline in market capitalization below book value attributable to the Services segment. Management regularly updates certain assumptions related to our projections, including the likelihood of achieving the assumed potential revenues from new initiatives and business strategies, and if these or other items have a significant negative impact on the reporting unit's projections we may perform additional analysis to determine whether an impairment charge is needed. Lower earnings over sustained periods also can lead to impairment of goodwill, which could result in a charge to earnings. The value of goodwill is primarily supported by revenue projections which are driven primarily by projected transaction volume and margins.

We conducted our annual goodwill impairment analysis in the fourth quarters of 2015 and 2016. For purposes of performing our annual goodwill impairment tests, we concluded that the Services segment constitutes one reporting unit to which all of our recorded goodwill is related. As part of the annual goodwill impairment assessment in 2016, we estimated the fair value of the reporting unit using primarily an income approach and, to a lesser extent, a market approach. The key factor in our fair value analysis was forecasted future cash flows, which were less than originally had been expected at the acquisition date. Given that the current goodwill impairment analysis relies significantly on projected high growth rates of future cash flows, failure to meet those projections may result in an impairment in a future period.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

We considered both positive and negative factors and concluded that, after considering all of the factors and evidence available, there is no impairment of goodwill as of December 31, 2016. The goodwill impairment test is a two-step process as required by the accounting standard related to intangible assets. Step one compares a reporting unit's estimated fair value to its carrying value. If the carrying amount exceeds the estimated fair value, the second step must be completed to measure the amount of the reporting unit's goodwill impairment loss, if any. In 2016, the estimated fair value of the reporting unit exceeded our carrying amount.

The following is a summary of the gross and net carrying amounts and accumulated amortization of our other intangible assets as of and for the year to date periods indicated:

(In thousands)	December 31, 2016		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Client relationships	\$83,316	\$ (19,696 )	\$ 63,620
Technology	15,250	(5,497 )	9,753
Trade name and trademarks	8,340	(2,125 )	6,215
Client backlog	6,680	(5,235 )	1,445
Non-competition agreements	185	(160 )	25
Total	\$ 113,771	\$ (32,713 )	\$ 81,058

(In thousands)	December 31, 2015		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Client relationships	\$83,471	\$ (11,038 )	\$ 72,433
Technology	15,100	(2,949 )	12,151
Trade name and trademarks	8,340	(1,243 )	7,097
Client backlog	6,680	(4,184 )	2,496
Non-competition agreements	185	(115 )	70
Total	\$ 113,776	\$ (19,529 )	\$ 94,247

Generally, for tax purposes, substantially all of our goodwill and other intangible assets are deductible and will be amortized over a period of 15 years. For financial reporting purposes, other intangible assets with finite lives will be amortized over their applicable estimated useful lives in a manner that approximates the pattern of expected economic benefit from each intangible asset, as follows:

	Estimated Useful Life
Client relationships	3 years - 15 years
Technology	3 years - 8 years
Trade name and trademarks	10 years
Client backlog	3 years - 5 years
Non-competition agreements	2 years - 3 years



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

For the years ended December 31, 2016, 2015 and 2014, amortization expense was \$13.2 million, \$13.0 million and \$8.6 million, respectively. The amortization expense for 2014 includes an impairment loss of \$2.1 million, related to a small subsidiary within our Services segment that we acquired in 2013. The estimated aggregate amortization expense for 2017 and thereafter is as follows:

(In thousands)

2017	\$12,646
2018	12,052
2019	10,793
2020	9,185
2021	7,375
Thereafter	29,007
Total	\$81,058

#### 8. Reinsurance

In our mortgage insurance business, we have used reinsurance as a capital and risk management tool to, among other things, manage Radian Guaranty's regulatory Risk-to-capital and compliance with the PMIERS Financial Requirements. Premiums are ceded under the QSR Transactions, the Single Premium QSR Transaction and captive arrangements.

The effect of reinsurance on net premiums written and earned is as follows:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net premiums written—insurance:			
Direct	\$1,000,111	\$1,009,409	\$982,976
Assumed	29	104	(882 )
Ceded (1)	(266,306 )	(41,008 )	(56,913 )
Net premiums written—insurance	\$733,834	\$968,505	\$925,181
Net premiums earned—insurance:			
Direct	\$999,093	\$973,645	\$905,502
Assumed	35	43	43
Ceded (1)	(77,359 )	(57,780 )	(61,017 )
Net premiums earned—insurance	\$921,769	\$915,908	\$844,528

(1) Net of profit commission.

Under the Initial QSR Transaction, Radian Guaranty agreed to cede to the third-party reinsurance provider 20% of its NIW beginning with the business written in the fourth quarter of 2011 up to \$1.6 billion of ceded RIF. We have ceded the maximum amount permitted under the Initial QSR Transaction. As of December 31, 2016, RIF ceded under the Initial QSR Transaction declined to \$0.6 billion. Radian Guaranty had the ability, at its option, to recapture two-thirds of the reinsurance ceded as part of this transaction on December 31, 2014. However, we chose not to recapture that risk and negotiated an amendment to the transaction pursuant to which we received a \$9.2 million profit commission based on experience through December 31, 2014, which increased net premiums earned, and a \$15.0 million upfront supplemental ceding commission, the recognition of which has been deferred and is being amortized as a reduction to our policy acquisition costs over approximately five years beginning January 1, 2015. In addition, pursuant to the original agreement and effective January 1, 2015, the ceding commission was reduced from 25% to 20% for two-thirds of the remaining reinsurance ceded under the Initial QSR Transaction.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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In the fourth quarter of 2012, Radian Guaranty and the same third-party reinsurance provider entered into the Second QSR Transaction, pursuant to which Radian Guaranty agreed to cede 20% of its NIW beginning with the business written in the fourth quarter of 2012. Effective April 1, 2013, Radian Guaranty amended the original terms of the Second QSR Transaction to reduce the percentage of all premiums and losses incurred on new business ceded to the reinsurer under this reinsurance agreement on a prospective basis from 20% to 5% with respect to NIW on conventional GSE loans. As of December 31, 2015, we had ceded the maximum of \$1.6 billion of RIF under the Second QSR Transaction. As of December 31, 2016, RIF ceded under the Second QSR Transaction declined to \$1.0 billion.

Similar to the Initial QSR Transaction, pursuant to the Second QSR Transaction Radian Guaranty had the ability, at its option, to recapture one-half of the reinsurance ceded as of December 31, 2015. Radian Guaranty chose not to recapture that risk and negotiated an amendment to the Second QSR Transaction pursuant to which we received a profit commission of \$8.3 million based on performance through December 31, 2015, which increased net premiums earned during 2015. In addition, pursuant to the amendment, Radian Guaranty received an \$8.5 million prepaid supplemental ceding commission, the recognition of which has been deferred and is expected to be amortized as a reduction to our other operating expenses over approximately five years. Pursuant to the original agreement and effective January 1, 2016, the ceding commission was reduced from 35% to 30% for one-half of the remaining reinsurance ceded under the Second QSR Transaction.

In the first quarter of 2016, in order to proactively manage the risk and return profile of Radian Guaranty's insured portfolio and continue managing its position under the PMIERS Financial Requirements in a cost-effective manner, Radian Guaranty entered into the Single Premium QSR Transaction with a panel of third-party reinsurers. Under the Single Premium QSR Transaction, effective January 1, 2016, Radian Guaranty began ceding the following Single Premium IIF and NIW, subject to certain conditions:

- 20% of its existing performing Single Premium Policies written between January 1, 2012 and March 31, 2013;
- 35% of its existing performing Single Premium Policies written between April 1, 2013 and December 31, 2015; and
- 35% of its Single Premium NIW from January 1, 2016 to December 31, 2017, subject to a limitation on ceded premiums written equal to \$195 million for policies issued between January 1, 2016 and December 31, 2017.

Radian Guaranty receives a 25% ceding commission for premiums ceded pursuant to this transaction. Radian Guaranty also receives a profit commission, provided that the loss ratio on the loans covered under the agreement generally remains below 55%. Losses on the ceded risk above this level reduce Radian Guaranty's profit commission on a dollar-for-dollar basis.

Notwithstanding the limitation on ceded premiums for Single Premium NIW written between January 1, 2016 and December 31, 2017, the parties may mutually agree to increase the amount of ceded risk on December 31, 2017. Radian Guaranty is entitled to discontinue ceding new policies under the agreement at the end of any calendar quarter. The agreement is scheduled to terminate on December 31, 2027; however, Radian Guaranty has the option, based on certain conditions and subject to a termination fee, to terminate the agreement as of January 1, 2020, or at the end of any calendar quarter thereafter, which would result in Radian Guaranty reassuming the related RIF in exchange for a net payment from the reinsurer calculated in accordance with the terms of the agreement. RIF ceded under the Single Premium QSR Transaction was \$3.8 billion as of December 31, 2016.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The following tables show the amounts related to the QSR Transactions and the Single Premium QSR Transaction for the periods indicated:

	QSR Transactions			Single Premium QSR Transaction		
	Year Ended December 31,			Year Ended December 31,		
(In thousands)	2016	2015	2014	2016	2015	2014
Ceded premiums written (1)	\$28,097	\$30,213	\$43,968	\$233,206	\$ —	—
Ceded premiums earned (1)	42,515	46,975	47,139	29,808	—	—
Ceding commissions written	8,019	11,443	16,675	66,153	—	—
Ceding commissions earned (2)	16,573	14,453	13,275	15,303	—	—
Ceded losses	1,858	1,187	2,165	2,262	—	—

(1) Net of profit commission.

(2) Includes amounts reported in policy acquisition costs and other operating expenses.

In the past, we and other companies in the mortgage insurance industry also participated in reinsurance arrangements with mortgage lenders commonly referred to as “captive reinsurance arrangements.” Under captive reinsurance arrangements, a mortgage lender typically established a reinsurance company that assumed part of the risk associated with the portfolio of that lender’s mortgages insured by us on a Flow Basis. In return for the reinsurance company’s assumption of a portion of the risk, we ceded a portion of the mortgage insurance premiums paid to us to the reinsurance company.

During the financial crisis, losses increased significantly and almost all captive reinsurance arrangements attached, thereby requiring our captive reinsurers to make payments to us. The reinsurance recoverable on loss reserves related to captive agreements was \$0.4 million at December 31, 2016, compared to \$7.3 million as of December 31, 2015. All of our existing captive reinsurance arrangements are operating on a run-off basis, meaning that no new business is being placed in these captives. We have not entered into any new captives since 2007 and, pursuant to consent orders with the CFPB and the Minnesota Department of Commerce, we have agreed not to enter into any new captives until 2025. See Note 13 regarding our Consent Order with the Minnesota Department of Commerce. During 2016, our RIF ceded under captive reinsurance arrangements declined to \$12.7 million as of December 31, 2016, compared to \$71.4 million as of December 31, 2015, as we terminated a significant number of captive reinsurance arrangements during the year.

Although we use reinsurance as a risk management tool, reinsurance does not relieve us of our obligations to our policyholders. In the event the reinsurers are unable to meet their obligations to us, our insurance subsidiaries would be liable for any defaulted amounts. However, in all of our reinsurance transactions, the reinsurers have established a trust to help secure our potential cash recoveries. In addition, for the Single Premium QSR Transaction, Radian Guaranty holds amounts received from ceded premiums written to collateralize the reinsurers’ obligations, which is reported in reinsurance funds withheld on the consolidated balance sheets. Any loss recoveries and profit commissions to Radian Guaranty related to the Single Premium QSR Transaction are expected to be realized from this account.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 9. Other Assets

The following table shows the components of other assets for the periods indicated:

(In thousands)	December 31,	
	2016	2015
Deposit with the IRS (Note 10)	\$88,557	\$88,557
Company-owned life insurance	83,248	82,543
Property and equipment (1) (2)	70,665	46,802
Accrued investment income	29,255	25,620
Deferred policy acquisition costs	14,127	14,267
Reinsurance recoverables	7,368	11,044
Other	50,615	45,096
Total other assets	\$343,835	\$313,929

Property and equipment at cost, less accumulated depreciation of \$118.5 million and \$106.9 million at December (1)31, 2016 and 2015, respectively. Depreciation expense was \$11.7 million, \$6.7 million and \$4.2 million for the years ended December 31, 2016, 2015 and 2014 respectively.

(2)Includes \$49.7 million and \$35.9 million in 2016 and 2015, respectively, related to our technology upgrade project.

## 10. Income Taxes

## Income Tax Provision (Benefit)

The components of our consolidated income tax provision (benefit) from continuing operations are as follows:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Current provision (benefit)	\$4,546	\$120	\$(26,575 )
Deferred provision (benefit)	170,887	156,170	(825,843 )
Total income tax provision (benefit)	\$175,433	\$156,290	\$(852,418)

The reconciliation of taxes computed at the statutory tax rate of 35% to the provision (benefit) for income taxes on continuing operations is as follows:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Provision for income taxes computed at the statutory tax rate	\$169,290	\$153,240	\$142,504
Change in tax resulting from:			
Repurchase premium on convertible notes	9,988	(6,674 )	—
State tax (benefit)	(8,974 )	(7,619 )	(451 )
Valuation allowance	10,663	11,931	(995,008 )
Other, net	(5,534 )	5,412	537
Provision (benefit) for income taxes	\$175,433	\$156,290	\$(852,418)

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## Deferred Tax Assets and Liabilities

The significant components of our net deferred tax assets and liabilities from continuing operations are summarized as follows:

(In thousands)	December 31,	
	2016	2015
DTAs:		
Accrued expenses	\$41,219	\$38,456
Unearned premiums	67,538	87,609
NOL	179,128	342,002
Differences in fair value of financial instruments	—	7,767
Net unrealized loss on investments	6,285	9,801
State income taxes	51,875	46,914
Partnership investments	73,918	74,309
Loss reserves	3,801	4,720
Alternative minimum tax credit carryforward	7,367	5,923
Other	49,511	34,241
Total DTAs	480,642	651,742
DTLs:		
Convertible and other long-term debt	2,212	16,654
Differences in fair value of financial instruments	1,758	—
Depreciation	10,626	6,397
Other	7,356	14,516
Total DTLs	21,952	37,567
Less: Valuation allowance	46,892	36,230
Net DTA	\$411,798	\$577,945

## Current and Deferred Taxes

As of December 31, 2016, we recorded a net current income tax payable of \$130.9 million, which primarily consists of liabilities related to applying the standards of accounting for uncertainty in income taxes, and a current federal income tax recoverable of \$3.5 million. Before consideration of uncertain tax positions, we have approximately \$653.8 million of U.S. NOL carryforwards, \$7.4 million of alternative minimum tax credit carryforwards and \$5.6 million of research and development tax credit carryforwards as of December 31, 2016. To the extent not utilized, the U.S. NOL carryforwards will expire during tax years 2030 through 2032, the research and development tax credit carryforwards will expire during tax years 2031 through 2036 and the alternative minimum tax credit carryforwards have no expiration date. Certain entities within our consolidated group have also generated DTAs of approximately \$52 million, relating primarily to state and local NOL carryforwards which, if unutilized, will expire during various future tax periods.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### Valuation Allowances

At each balance sheet date, we assess our need for a valuation allowance against our DTA, based on whether it is more likely than not that all or some portion of our DTA will not be realized. We weigh the potential effect of positive and negative evidence, with the weight given to the evidence commensurate with the extent to which it can be objectively verified. In the fourth quarter of 2014, we reversed substantially all of our previously established DTA valuation allowance based on our analysis of significant positive, objectively verifiable evidence that outweighed all negative evidence and supported a conclusion that it was more-likely-than-not that substantially all of the Company's DTAs will be realized.

In evaluating negative evidence, consideration was given to the extensive U.S. NOL Carryforward period. Based on management's projections, including adverse scenarios considered in our sensitivity analysis, we expect to fully utilize our U.S. NOL Carryforward over approximately the next two years. Additionally, we currently have no Section 382 or other limitations on our ability to utilize our existing NOL.

We have determined that certain non-insurance entities within Radian may continue to generate taxable losses on a separate company basis in the near term and may not be able to fully utilize certain state and local NOLs on their state and local tax returns. Therefore, with respect to DTAs relating to these state and local NOLs and other state timing adjustments, we retained a valuation allowance of \$46.9 million at December 31, 2016 and \$36.2 million at December 31, 2015.

#### Tax Benefit Preservation Plan

Our ability to fully use our tax assets such as NOLs and tax credit Carryforwards would be substantially limited if we experience an "ownership change" within the meaning of Section 382. Section 382 rules governing when a change in ownership occurs are complex and subject to interpretation; however, in general, an ownership change would occur if any "five-percent shareholders," as defined under Section 382, collectively increase their ownership by more than 50 percentage points over a rolling three-year period. As of December 31, 2016, we have not experienced an ownership change under Section 382. However, if we were to experience a change in ownership under Section 382 in a future period, then we may be limited in our ability to fully utilize our NOL and tax credit Carryforwards in future periods. In 2009, we adopted a Tax Benefit Preservation Plan (the "Plan"), which, as amended, was approved by our stockholders at our 2010, 2013 and 2016 annual meetings. We also adopted certain amendments to our amended and restated bylaws (the "Bylaw Amendment") and at our 2010, 2013 and 2016 annual meetings, our stockholders approved certain amendments to our amended and restated certificate of incorporation (the "Charter Amendment"). These steps were taken to protect our ability to utilize our NOLs and other tax assets and to attempt to prevent an "ownership change" under U.S. federal income tax rules by discouraging and in most cases restricting certain transfers of our common stock that would: (i) create or result in a person becoming a five-percent shareholder under Section 382 or (ii) increase the stock ownership of any existing five-percent shareholder under Section 382. The continued effectiveness of the Plan, the Bylaw Amendment and the Charter Amendment are subject to periodic examination by the Board and the reapproval of the Plan and the Charter Amendment by our stockholders every three years. There can be no assurance that our stockholders will reapprove the Plan and the Charter Amendment if we elect to present them to our stockholders again in the future.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

**IRS Matter**

As previously disclosed, we are contesting adjustments resulting from the examination by the IRS of our 2000 through 2007 consolidated federal income tax returns. The IRS opposes the recognition of certain tax losses and deductions that were generated through our investment in a portfolio of non-economic REMIC residual interests and has proposed denying the associated tax benefits of these items. We appealed these proposed adjustments to Appeals and made “qualified deposits” with the U.S. Treasury of \$85 million in June 2008 relating to the 2000 through 2004 tax years and \$4 million in May 2010 relating to the 2005 through 2007 tax years in order to avoid the accrual of incremental above-market-rate interest with respect to the proposed adjustments.

We attempted to reach a compromised settlement with Appeals, but in September 2014 we received Notices of Deficiency covering the 2000 through 2007 tax years that assert unpaid taxes and penalties of \$157 million. The Deficiency Amount has not been reduced to reflect our NOL carryback ability. As of December 31, 2016, there also would be interest of approximately \$136 million related to these matters. Depending on the outcome, additional state income taxes, penalties and interest (estimated in the aggregate to be approximately \$35 million as of December 31, 2016) also may become due when a final resolution is reached. The Notices of Deficiency also reflected additional amounts due of \$105 million, which are primarily associated with the disallowance of the previously filed carryback of our 2008 NOL to the 2006 and 2007 tax years. We currently believe that the disallowance of our 2008 NOL carryback is a precautionary position by the IRS and that we will ultimately maintain the benefit of this NOL carryback claim.

On December 3, 2014, we petitioned the Tax Court to litigate the Deficiency Amount. On September 1, 2015, we received a notice that the case had been scheduled for trial. However, the parties jointly filed, and the Tax Court approved, motions for continuance in this matter to postpone the trial date. Also, in February 2016, the Tax Court approved a joint motion to consolidate for trial, briefing and opinion our case with a similar case involving MGIC Investment Corporation. During 2016, we held several meetings with the IRS in an attempt to reach a compromised settlement on the issues presented in our dispute. In January 2017, the parties informed the Tax Court that they believe they have reached a basis for a compromised settlement on the primary issues present in the case. The resolution must be reported to the JCT for review and cannot be finalized until the IRS considers the views, if any, expressed by the JCT about the matter. If we are unable to complete a compromised settlement, then the ongoing litigation could take several years to resolve and may result in substantial legal expenses. We can provide no assurance regarding the outcome of any such litigation or whether a compromised settlement with the IRS will ultimately be reached. We currently believe that an adequate provision for income taxes has been made for the potential liabilities that may result from this matter. However, if the ultimate resolution of this matter produces a result that differs materially from our current expectations, there could be a material impact on our effective tax rate, results of operations and cash flows.

**Unrecognized Tax Benefits**

As of December 31, 2016, we have \$68.1 million of unrecognized tax benefits, including \$63.5 million of interest and penalties, that would affect the effective tax rate, if recognized. Our policy for the recognition of interest and penalties associated with uncertain tax positions is to record such items as a component of our income tax provision (benefit), of which \$1.8 million, \$0.8 million and \$2.5 million were recorded for the years ended December 31, 2016, 2015 and 2014, respectively.

A reconciliation of the beginning and ending unrecognized tax benefits is as follows:

	Year Ended	
	December 31,	
(In thousands)	2016	2015
Balance at beginning of period	\$ 124,246	\$ 120,223



Tax positions related to the current year:

Increases	1,203	6,461
Decreases	(1,835 )	(336 )

Tax positions related to prior years:

Increases	22,389	22,734
Decreases	(1,406 )	(2,102 )
Lapses of applicable statute of limitation	(21,569 )	(22,734 )
Balance at end of period	\$123,028	\$124,246

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Notes to Consolidated Financial Statements - (Continued)

In previous years, we took a return position in various jurisdictions that we are not required to remit taxes with regard to the income generated from our investment in certain partnership interests. Although we believe that these tax positions are more likely than not to succeed if adjudicated, measurement of the potential amount of liability for state and local taxes and the potential for penalty and interest thereon is performed on a quarterly basis. Our net unrecognized tax benefits related to prior years increased by \$20.9 million during 2016. This net increase primarily reflects the impact of unrecognized tax benefits associated with our recognition of certain premium income. Although unrecognized tax benefits for this item decreased by \$21.6 million due to the expiration of the applicable statute of limitations for the taxable period ended December 31, 2012, the related amounts continued to impact subsequent years, resulting in a corresponding increase to the unrecognized tax benefits related primarily to the 2013 taxable year. As discussed above, we believe we have reached a basis for a compromised settlement with the IRS on the primary issues present in our case. The resolution must be reported to the JCT for review and cannot be finalized until the IRS considers the views, if any, expressed by the JCT about the matter. However, over the next 12 months, if we are able to achieve a compromised settlement with the IRS, then it is estimated that approximately \$70.0 million of unrecognized tax benefits in the above tabular reconciliation may be reversed pursuant to the accounting standard for uncertain tax positions.

In the event we are not successful in defense of our tax positions taken for U.S. federal income tax purposes, and for which we have recorded unrecognized tax benefits, then such adjustments originating in NOL or NOL carryback years may serve as a reduction to our existing NOL.

The following calendar tax years, listed by major jurisdiction, remain subject to examination:

U.S. Federal Corporation Income Tax (1) 2000 - 2007, 2013 - 2015

Significant State and Local Jurisdictions (2) 2000 - 2015

(1) For the 2000 through 2007 calendar tax years, we petitioned the Tax Court to litigate the IRS Notices of Deficiency resulting from the examination of our 2000 through 2007 consolidated federal income tax returns. This litigation relates to the recognition of certain tax benefits associated with our investment in a portfolio of non-economic REMIC residual interests.

(2) California, Florida, Georgia, New York, Ohio, Pennsylvania and New York City.

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Notes to Consolidated Financial Statements - (Continued)

## 11. Losses and Loss Adjustment Expenses

All of the balance and activity of our consolidated reserve for losses and loss adjustment expense relate to the Mortgage Insurance segment. The following table shows our reserve for losses and LAE by category at the end of each period indicated:

(In thousands)	Year Ended	
	December 31,	
	2016	2015
Reserves for losses by category:		
Prime	\$379,845	\$480,481
Alt-A	148,006	203,706
A minus and below	101,653	129,352
IBNR and other (1)	71,107	83,066
LAE	18,630	26,108
Reinsurance recoverable (2)	6,816	8,286
Total primary reserves	726,057	930,999
Pool	31,853	42,084
IBNR and other	673	1,118
LAE	932	1,335
Reinsurance recoverable (2)	35	—
Total pool reserves	33,493	44,537
Total first-lien reserves	759,550	975,536
Second-lien and other (3)	719	863
Total reserve for losses	\$760,269	\$976,399

(1) Primarily related to expected payments under the Freddie Mac Agreement.

(2) Represents ceded losses on captive transactions, the QSR Transactions and the Single Premium QSR Transaction.

(3) Does not include our Second-lien PDR that is included in other liabilities.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

For the periods indicated, the following table presents information relating to our reserve for losses, including our IBNR reserve and LAE, but excluding our Second-lien PDR:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Balance at January 1,	\$976,399	\$1,560,032	\$2,164,353
Less: reinsurance recoverables (1)	8,286	26,665	38,363
Balance at January 1, net of reinsurance recoverables	968,113	1,533,367	2,125,990
Add losses and LAE incurred in respect of default notices reported and unreported in:			
Current year (2)	206,383	229,061	351,184
Prior years	(3,516)	(29,647)	(105,545)
Total incurred	202,867	199,414	245,639
Deduct paid claims and LAE related to:			
Current year (2)	11,410	10,837	13,562
Prior years	406,152	753,831	824,700
Total paid	417,562	764,668	838,262
Balance at end of period, net of reinsurance recoverables	753,418	968,113	1,533,367
Add: reinsurance recoverables (1)	6,851	8,286	26,665
Balance at December 31,	\$760,269	\$976,399	\$1,560,032

(1) Related to ceded losses recoverable, if any, on captive reinsurance transactions, the QSR Transactions and the Single Premium QSR Transaction. See Note 8 for additional information.

(2) Related to underlying defaulted loans with a most recent default notice dated in the year indicated. For example, if a loan had defaulted in a prior year, but then subsequently cured and later re-defaulted in the current year, that default would be considered a current year default.

#### Reserve Activity

##### 2016 Activity

Our loss reserves at December 31, 2016 declined as compared to December 31, 2015, primarily as a result of the amount of paid claims continuing to exceed losses incurred related to new default notices reported in the current year. Reserves established for new default notices were the primary driver of our total incurred loss for 2016, and they were impacted primarily by the number of new primary default notices received in the period and our related gross Default to Claim Rate assumption applied to those new defaults, which declined from 13% at December 31, 2015 to 12% as of December 31, 2016. The impact to incurred losses from reserve development on default notices reported in prior years was not significant during 2016.

Total claims paid decreased for 2016 compared to 2015, primarily due to the elevated claim payments in 2015 associated with the BofA Settlement Agreement (discussed below).

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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#### 2015 Activity

Our loss reserve declined in 2015 from December 31, 2014, primarily as a result of the volume of paid claims, Cures and Rescissions and Claim Denials having exceeded new default notices received. Total incurred losses for 2015 decreased by \$46.2 million as compared to 2014. This decrease was driven primarily by a continued decline in the number of new current year defaults and a decrease in the Default to Claim Rate assumptions applied to such defaults. During the year ended December 31, 2015, we reduced our gross Default to Claim Rate assumption for new primary defaults from 16% to 13%, based on continued improvement observed in actual claim development trends. This favorable impact to current year defaults was partially offset by a decline in the favorable reserve development from prior year defaults, which, although still positive, provided less of a benefit to our provision for losses in 2015 as compared to 2014. The \$29.6 million favorable development on prior year defaults observed in 2015 was driven primarily by a decrease in our actual and estimated Default to Claim Rate assumptions on prior year defaults, as a result of higher Cures than were previously estimated, partially offset by a decline in our estimates for future Rescissions and Claim Denials.

Total paid claims decreased for 2015 as compared to 2014 primarily due to the overall decline in defaulted loans and ongoing reduction in pending claims.

#### 2014 Activity

Our loss reserve declined in 2014 from December 31, 2013, primarily as a result of the volume of paid claims, Cures and Rescissions and Claim Denials having exceeded new default notices received. Total incurred losses during 2014 primarily were the result of new default notices during 2014. The impact to incurred losses from default notices reported in 2014 was partially mitigated by favorable reserve development on prior year defaults, which was driven primarily by higher Cures and lower Claim Severity rates than were previously estimated. Our results of 2014 also include the impact of the BofA Settlement Agreement, as described below.

#### Reserve Assumptions

##### Default to Claim Rate

Our aggregate weighted average Default to Claim Rate assumption (net of Claim Denials and Rescissions) used in estimating our primary reserve for losses was 42% (40% excluding pending claims) at December 31, 2016 compared to 46% (42% excluding pending claims) at December 31, 2015. The change in our Default to Claim Rate in 2016 resulted primarily from a decrease in the proportion of pending claims, which have higher Default to Claim Rates, and a decrease in the assumed gross Default to Claim Rate for new defaults from 13% to 12%, as of December 31, 2016 as well as a decrease in our estimated claim rate on aged defaults not in Foreclosure Stage. As of December 31, 2016, our gross Default to Claim Rates on our primary portfolio ranged from 12% for new defaults, to 62% for other defaults not in Foreclosure Stage, and 81% for Foreclosure Stage Defaults. As of December 31, 2015, these gross Default to Claim Rates ranged from 13% for new defaults, to 65% for other defaults not in Foreclosure Stage, and 81% for Foreclosure Stage Defaults. Our Default to Claim Rate estimates on defaulted loans are mainly developed based on the Stage of Default and Time in Default of the underlying defaulted loans grouped according to the period in which the default occurred, as measured by the progress toward foreclosure sale and the number of months in default. Our estimate of expected Rescissions and Claim Denials (net of expected Reinstatements) embedded in our estimated Default to Claim Rate is generally based on our recent experience. Consideration is also given for differences in characteristics between those rescinded policies and denied claims and the loans remaining in our defaulted inventory, as well as the estimated impact of the BofA Settlement Agreement, as described below.

##### Loss Mitigation

Although our estimates of future Loss Mitigation Activities have been declining, they remain elevated compared to levels experienced before 2009. The elevated levels of our rate of Rescissions, Claim Denials and Claim Curtailments have significantly reduced our paid losses and have resulted in a reduction in our loss reserve. Our estimate of net

future Loss Mitigation Activities reduced our loss reserve as of December 31, 2016 and 2015 by approximately \$39 million and \$53 million, respectively. The amount of estimated Loss Mitigation Activities incorporated into our reserve analysis at any point in time is affected by a number of factors, including not only our estimated rate of Rescissions, Claim Denials and Claim Curtailments on future claims, but also the volume and attributes of our defaulted insured loans, our estimated Default to Claim Rate and our estimated Claim Severity, among other assumptions. Our assumptions also reflect the estimated impact of the BofA Settlement Agreement, as further discussed below.

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Notes to Consolidated Financial Statements - (Continued)

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As our Legacy Portfolio has become a smaller percentage of our overall insured portfolio, we have undertaken a reduced amount of Loss Mitigation Activity with respect to the claims we receive, and we expect this trend to continue. As a result, our future Loss Mitigation Activity is not expected to mitigate our paid losses to the same extent as in recent years.

Our reported Rescission, Claim Denial and Claim Curtailment activity in any given period is subject to challenge by our lender and servicer customers. We expect that a portion of previous Rescissions will be reinstated and previous Claim Denials will be resubmitted with the required documentation and ultimately paid; therefore, we have incorporated this expectation into our IBNR reserve estimate. Our IBNR reserve estimate of \$14.3 million and \$26.6 million at December 31, 2016 and 2015, respectively, includes reserves for this activity.

We also accrue for the premiums that we expect to refund to our lender customers in connection with our estimated Rescissions.

#### Sensitivity Analysis

We considered the sensitivity of first-lien loss reserve estimates at December 31, 2016 by assessing the potential changes resulting from a parallel shift in Claim Severity and Default to Claim Rate estimates for primary loans. For example, assuming all other factors remain constant, for every one percentage point change in primary Claim Severity (which we estimate to be 101.0% of risk exposure at December 31, 2016), we estimated that our loss reserves would change by approximately \$6.3 million at December 31, 2016. Assuming all other factors remain constant, for every one percentage point change in our overall primary net Default to Claim Rate (which we estimate to be 42% at December 31, 2016, including our assumptions related to Rescissions and Claim Denials), we estimated a \$14.5 million change in our loss reserves at December 31, 2016.

#### Agreements

##### BofA Settlement Agreement

On September 16, 2014, Radian Guaranty entered into the BofA Settlement Agreement in order to resolve various actual and potential claims or disputes related to the parties' respective rights and duties as to mortgage insurance coverage on certain Subject Loans. Implementation of the BofA Settlement Agreement commenced on February 1, 2015 and was effectively completed by December 31, 2015.

The BofA Settlement Agreement provides that all claims decisions by Radian Guaranty on Legacy Loans covered by the agreement (including claims paid, coverage Rescissions, Claim Denials and Claim Curtailments) that were communicated on or before February 13, 2013 will become final and will not be subject to future challenge or adjustment. With respect to a group of loans referred to as Future Legacy Loans, the BofA Settlement Agreement provides that, subject to certain limited exceptions and conditions, Radian Guaranty will limit Rescissions, Claim Denials or Claim Curtailments on these loans. To the extent any such Loss Mitigation Activities previously have been taken on Future Legacy Loans, Radian Guaranty agreed to reinstate coverage and pay a reimbursement amount equal to the difference between the amount actually paid by Radian Guaranty and the eligible claim amount. Radian Guaranty further agreed that with respect to Future Legacy Loans it will not assert any origination error or servicing defect as a basis for a decision not to pay a claim, nor will it effect a Claim Curtailment of such claims; provided however, that Radian Guaranty retains the right to curtail Legacy Loans that were less than 90 days delinquent as of July 31, 2014 ("Potential Claim Curtailment Loans") and any Future Legacy Loans serviced by a servicer other than the Insureds (a "Protected Claim Curtailment").

The BofA Settlement Agreement further provides that for certain loans referred to as Servicing Only Loans: (i) if Radian Guaranty effected a claim payment on or before May 30, 2014, any Claim Curtailments on such loans will become final and will not be subject to future challenge, appeal or adjustment and (ii) for claim payments for Servicing Only Loans paid after May 30, 2014, Radian Guaranty will not make any Claim Curtailments (excluding Protected Claim Curtailments, which may continue in the ordinary course) and, to the extent any Claim Curtailments

previously have been effected on such loans, Radian Guaranty will pay a reimbursement amount equal to the Claim Curtailment amount. The BofA Settlement Agreement does not affect Radian Guaranty's right to effect Rescissions or Claim Denials on any Servicing Only Loans and any such Rescissions or Claim Denials will continue to be governed by the applicable Master Policies, subject to certain requirements in the BofA Settlement Agreement regarding the documents required to perfect such claims. Radian Guaranty further agreed not to assert any right to cancel coverage on any Subject Loan for failure to initiate certain proceedings (most commonly foreclosure proceedings) within the timelines set forth in the applicable Master Policies.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## Freddie Mac Agreement

In August 2013, Radian Guaranty entered into the Freddie Mac Agreement, related to a group of first-lien mortgage loans guaranteed by Freddie Mac that were insured by Radian Guaranty and were in default as of December 31, 2011. At December 31, 2016 and 2015, Radian Guaranty had \$63.9 million and \$74.7 million, respectively, in the collateral account pursuant to the Freddie Mac Agreement. Subject to certain conditions in the Freddie Mac Agreement, amounts in the collateral account may be released to Radian Guaranty over time to the extent that Loss Mitigation Activity becomes final in accordance with the terms of that agreement. In accordance with these provisions, Radian Guaranty withdrew \$11.7 million from this account in October 2016 related to Loss Mitigation Activity that had become final as of August 31, 2016. Following this withdrawal, if, as of August 29, 2017, the amount of additional Loss Mitigation Activity that has become final in accordance with the Freddie Mac Agreement is less than \$64 million, then any shortfall will be paid to Freddie Mac from the funds remaining in the collateral account, subject to certain adjustments designed to allow for any Loss Mitigation Activity that has not become final or any claims evaluation that has not been completed as of that date. As of December 31, 2016, we have \$57.4 million, recorded in reserve for losses, that we expect to be paid to Freddie Mac from the funds expected to be remaining in the collateral account as of the August 29, 2017 measurement date.

## Additional Disclosures

The following tables provide information as of and for the periods indicated about: (i) incurred losses, net of reinsurance; (ii) the total of IBNR liabilities plus expected development on reported claims, included within the net incurred loss amounts; (iii) the cumulative number of reported defaults; and (iv) cumulative paid claims, net of reinsurance. The default year represents the period that a new default notice is first reported to us by loan servicers, related to borrowers that missed two monthly payments.

The information about net incurred losses and paid claims development for the years ended prior to 2016 is presented as supplementary information.

## Incurred Losses, Net of Reinsurance

Year Ended December 31,

(\$ in thousands)

Unaudited

Default Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	\$ 1,119,529	\$ 1,211,075	\$ 1,051,097	\$ 1,126,173	\$ 1,131,490	\$ 1,135,617	\$ 1,179,600	\$ 1,174,723	\$ 1,175,919	\$ 1,178,745
2008		1,957,510	1,715,144	1,969,581	2,009,551	2,018,794	2,074,295	2,088,719	2,110,922	2,115,083
2009			1,671,239	1,894,783	1,930,263	1,939,479	1,974,568	1,991,796	2,016,412	2,018,907
2010				1,102,856	1,215,136	1,192,482	1,195,056	1,207,774	1,220,289	1,218,264
2011					1,058,625	1,152,016	1,052,277	1,050,555	1,062,579	1,061,161
2012						803,831	763,969	711,213	720,502	715,646
2013							505,732	405,334	401,444	404,333

2014	337,784	247,074	265,891	1,
2015		222,555	198,186	2,
2016			201,016	3,
		Total	\$9,377,232	

- 
- Represents reserves as of December 31, 2016 related to IBNR liabilities and expected development on claims paid
- (1) related to the Freddie Mac Agreement. As described above, we paid an initial claim amount related to that agreement in 2013.
- Represents total number of new default notices received in each calendar year as compiled monthly based on reports received from loan servicers. As reflected in our Default to Claim Rate assumptions, a significant portion of reported defaults generally do not result in a claim. In certain instances, a defaulted loan may cure, and then
- (2) subsequently re-default in a later period. Consistent with our reserving practice, each new event of default is treated as a unique occurrence and therefore certain loans that cure and re-default may be included as a reported default in multiple periods.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Cumulative Paid Claims, Net of Reinsurance										
Year Ended December 31,										
(In thousands)										
Unaudited										
Default Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	\$100,435	\$649,961	\$860,777	\$995,161	\$1,055,536	\$1,076,665	\$1,098,686	\$1,111,468	\$1,130,932	\$1,140,053
2008		189,458	740,578	1,297,867	1,635,069	1,744,559	1,872,804	1,932,283	2,022,019	2,051,495
2009			136,413	619,496	1,236,210	1,471,264	1,711,019	1,807,031	1,921,134	1,958,660
2010				11,810	394,278	700,316	956,598	1,055,935	1,145,497	1,178,546
2011					40,392	323,216	756,820	892,959	982,830	1,016,855
2012						19,200	295,332	528,744	631,982	672,271
2013							34,504	191,040	307,361	357,087
2014								13,108	115,852	200,422
2015									10,479	84,271
2016										11,061
									Total	\$8,670,721
									All outstanding liabilities before 2007, net of reinsurance	27,327
									Liabilities for claims, net of reinsurance (1)	\$733,838

(1) Calculated as follows:

(In thousands)

Incurring losses, net of reinsurance	\$9,377,232
Add: All outstanding liabilities before 2007, net of reinsurance	27,327
Less: Cumulative paid claims, net of reinsurance	8,670,721
Liabilities for claims, net of reinsurance	\$733,838

The following table provides a reconciliation of the net incurred losses and paid claims development tables above to the reserve for losses and LAE in the consolidated balance sheet at December 31, 2016:

(In thousands) December 31, 2016

Net outstanding liabilities - Mortgage Insurance:	
Reserve for losses and LAE, net of reinsurance	\$ 733,838
Reinsurance recoverables on unpaid claims	6,851
Unallocated LAE	19,580
Total gross reserve for losses and LAE	\$ 760,269

The following is supplementary information about average historical claims duration as of December 31, 2016, representing the average distribution of when claims are paid relative to the year of default:

Years	Average Annual Percentage Payout of Incurred Losses by Age, Net of Reinsurance (Unaudited)									
	1	2	3	4	5	6	7	8	9	10
Mortgage Insurance	5.6%	34.2%	29.2%	14.2%	7.4%	4.6%	3.3%	2.4%	1.5%	0.8%



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 12. Long-Term Debt

The carrying value of our long-term debt at December 31, 2016 and 2015 was as follows:

(\$ in thousands)		December 31,	
		2016	2015
9.000%	Senior Notes due 2017	\$—	\$192,261
5.500%	Senior Notes due 2019	296,907	295,751
5.250%	Senior Notes due 2020	345,308	344,113
7.000%	Senior Notes due 2021	344,362	—
3.000%	Convertible Senior Notes due 2017	20,947	46,115
2.250%	Convertible Senior Notes due 2019	62,013	341,214
	Total long-term debt	\$1,069,537	\$1,219,454

## Extinguishment of Debt

## 2016 Activity

Repurchases of Convertible Senior Notes due 2017 and 2019. During 2016, we entered into privately negotiated agreements to purchase, for cash or a combination of cash and shares of Radian Group common stock, aggregate principal amounts of \$30.1 million and \$322.0 million, respectively, of our outstanding Convertible Senior Notes due 2017 and 2019. We funded the purchases with \$235.0 million in cash (plus accrued and unpaid interest due on the purchased notes) and by issuing to certain of the sellers 17.0 million shares of Radian Group common stock. These purchases of Convertible Senior Notes due 2017 and 2019 resulted in a pretax charge of \$60.1 million. This loss represents:

the \$41.8 million market premium representing the excess of the fair value of the total consideration delivered to the sellers of the Convertible Senior Notes due 2017 and 2019 over the fair value of the common stock issuable pursuant to the original conversion terms of the purchased notes;

the \$17.2 million difference between the fair value and the carrying value, net of unamortized issuance costs, of the liability component of the purchased notes; and

the \$1.1 million impact of related transaction costs.

In connection with our privately negotiated purchases of Convertible Senior Notes due 2017 in March 2016, we terminated a corresponding portion of the capped call transactions we had entered into in 2010 related to the initial issuance of the Convertible Senior Notes due 2017. As a result of this termination, we received consideration of 0.2 million shares of Radian Group common stock, which was valued at \$2.6 million based on a stock price on the closing date of \$11.86. In accordance with the accounting standards regarding equity and contracts in an entity's own equity, the total consideration received was recorded as an increase to additional paid-in capital. The shares of Radian Group common stock received were retired, resulting in a decrease in shares issued and outstanding and a corresponding increase in unissued shares.

Redemption of Senior Notes due 2017. On August 12, 2016, we redeemed the remaining \$195.5 million aggregate principal amount of our Senior Notes due 2017 for the price established in accordance with the indenture governing the notes. We paid \$211.3 million in cash (including accrued interest through the redemption date) to holders of the notes at redemption and recorded a loss on debt extinguishment of \$15.0 million.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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**Announced Redemption of Convertible Senior Notes due 2019.** In November 2016, we announced our intent to exercise our redemption option for the remaining Convertible Senior Notes due 2019, of which \$68.0 million aggregate principal was outstanding at December 31, 2016. Our obligations in connection with this redemption were settled on January 27, 2017. See Note 21 for additional details.

#### 2015 Activity

**Repurchase of Convertible Senior Notes due 2017.** In June 2015, we entered into privately negotiated agreements with certain holders of our Convertible Senior Notes due 2017 to purchase an aggregate principal amount of \$389.1 million of our outstanding Convertible Senior Notes due 2017 for a combination of cash and shares of Radian Group common stock. We funded the purchases with \$126.8 million in cash (plus accrued and unpaid interest due on the purchased notes) and by issuing to the sellers 28.4 million shares of Radian Group common stock. These purchases of Convertible Senior Notes due 2017 resulted in a pretax charge of \$91.9 million. This charge represents:

the \$35.5 million market premium representing the excess of the fair value of the total consideration delivered to the sellers of the Convertible Senior Notes due 2017 over the fair value of the common stock issuable pursuant to the original conversion terms of the purchased notes;

the \$52.3 million difference between the fair value and the carrying value of the liability component of the purchased notes; and

the \$4.1 million net impact of transaction costs and unamortized debt issuance costs on the purchased notes.

In connection with our June 2015 purchases of our Convertible Senior Notes due 2017, we terminated a corresponding portion of the capped call transactions we had entered into in 2010 related to the initial issuance of the Convertible Senior Notes due 2017. As a result of this termination, we received total consideration of \$54.9 million, consisting of 2.3 million shares of Radian Group common stock and \$13.2 million in cash. In accordance with the accounting standards regarding equity and contracts in an entity's own equity, the total consideration received was recorded as an increase to additional paid-in capital. The shares of Radian Group common stock received were retired, resulting in a decrease in shares issued and outstanding and a corresponding increase in unissued shares.

#### Senior Notes

**Senior Notes due 2019.** In May 2014, in anticipation of the Clayton acquisition, we issued \$300 million principal amount of Senior Notes due 2019 and received net proceeds of \$293.8 million. The notes bear interest at a rate of 5.500% per annum, payable semi-annually on June 1 and December 1 of each year, commencing on December 1, 2014. These notes mature on June 1, 2019.

**Senior Notes due 2020.** In June 2015, we issued \$350 million aggregate principal amount of Senior Notes due 2020 and received net proceeds of \$343.3 million. These notes mature on June 15, 2020 and bear interest at a rate of 5.250% per annum, payable semi-annually on June 15 and December 15 of each year, commencing on December 15, 2015.

**Senior Notes due 2021.** In March 2016, we issued \$350 million aggregate principal amount of Senior Notes due 2021 and received net proceeds of \$343.4 million. These notes mature on March 15, 2021 and bear interest at a rate of 7.000% per annum, payable semi-annually on March 15 and September 15 of each year, commencing on September 15, 2016.

**Redemption Terms in Senior Notes.** We have the option to redeem the Senior Notes due 2019, 2020 and 2021 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 or (ii) a "make-whole amount," which is the sum of the present value of the remaining scheduled payments of principal and interest (excluding any portion of interest accrued to the redemption date) in respect of the notes, discounted at the applicable treasury rate plus 50 basis points, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Covenants in Senior Notes. The Senior Notes due 2019, 2020 and 2021 have covenants customary for securities of this nature, including covenants related to the payments of the notes, reports, compliance certificates and modification of the covenants. Additionally, the indentures governing the Senior Notes due 2019, 2020 and 2021 include covenants restricting us from encumbering the capital stock of a designated subsidiary (as defined in the respective indentures for the notes) or disposing of any capital stock of any designated subsidiary unless either all of the stock is disposed of or we retain more than 80% of the stock.

#### Convertible Senior Notes

Convertible Senior Notes due 2017. In November 2010, we issued \$450 million principal amount of 3.000% Convertible Senior Notes due 2017 and received proceeds of \$391.3 million, which was net of underwriting expenses and the cost of capped call transactions as discussed further below. Interest on these notes is payable semi-annually on May 15 and November 15 of each year. The effective interest rate for the liability component of this debt is 9.75%. Pursuant to the original terms, holders of the remaining Convertible Senior Notes due 2017 may convert their notes from August 15, 2017 up to the close of business on the second scheduled trading day immediately preceding the maturity date (the "Conversion Period"), subject to certain conditions. Upon a conversion, we will pay cash up to the aggregate principal amount of the notes to be converted and pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, in respect of the remainder, if any, of our conversion obligation that is in excess of the aggregate principal amount of the notes being converted. The conversion rate initially is 85.5688 shares of our common stock per \$1,000 principal amount of notes (corresponding to an initial conversion price of approximately \$11.69 per share of common stock prior to the consideration of the capped call transactions discussed below). The conversion rate is subject to adjustment in certain events, but is not adjusted for any accrued and unpaid interest. In addition, following certain corporate events, we will, under certain circumstances increase the conversion rate for a holder who elects to convert their notes in connection with that corporate event. At December 31, 2016, we had approximately 13 million shares reserved to cover the potential issuance of shares under the Convertible Senior Notes due 2017.

Holders of the notes will be able to exercise their conversion rights prior to the Conversion Period, subject to certain conditions, only under the following circumstances:

1. During any calendar quarter after December 31, 2010 (and only during such calendar quarter), if the last reported sale price of our common stock for each of at least 20 trading days (whether or not consecutive) during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter, is greater than or equal to 130% of the applicable conversion price on each applicable trading day;

2. During the five business day period after any five consecutive trading day period in which the trading price per \$1,000 principal amount of the notes (for each trading day during that measurement period) was less than 98% of the product of the last reported sale price of the common stock and the applicable conversion rate on such trading day; or

3. Upon the occurrence of specified corporate events as described in the indenture for the notes.

See "—Convertible Senior Notes due 2017 and 2019" below for information on accounting considerations related to convertible debt instruments that may be settled in cash upon conversion, including the balance sheet classification of the equity component of certain convertible debt instruments, such as the Convertible Senior Notes due 2017, that require the issuer to settle the aggregate principal amount of the notes in cash. During the three-month period ended December 31, 2016, our closing stock price did not exceed the threshold required for the holders of our Convertible Senior Notes due 2017 to be able to exercise their conversion rights during the three-month period ending March 31, 2017.





Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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In connection with the November 2010 offering of the convertible notes, we also entered into capped call transactions with an affiliate of Morgan Stanley, whose obligations have been guaranteed by Morgan Stanley. The capped call transactions are intended to offset the potential dilution to our common stock and/or any potential cash payments that may be required to be made by us upon conversion of the notes in excess of the principal amount of the notes, up to a stock price of approximately \$14.11 per share, which is the initial cap on the counterparty's share delivery obligation under the call options. If the market value per share of our common stock, as measured under the terms of the capped call transactions, exceeds the applicable cap price of the capped call transactions, the number of shares of our common stock and/or the amount of cash we expect to receive upon the exercise of the capped call transactions will be capped and the anti-dilutive and/or offsetting effect of the capped call transactions will be limited. We paid \$46.1 million from the net proceeds from the issuance and sale of the convertible notes to purchase the capped call transactions. The premium paid for the capped call transactions was recorded in additional paid-in capital in accordance with the accounting standard for derivative financial instruments indexed to, and potentially settled in, an entity's own common stock and the accounting standard for determining whether an instrument (or embedded feature) is indexed to an entity's own stock.

See “—Extinguishment of Debt—2016 Activity” and “—Extinguishment of Debt—2015 Activity,” above, for information on repurchases of a substantial portion of the Convertible Senior Notes due 2017 and the termination of a corresponding portion of the related capped call transactions.

Convertible Senior Notes due 2019. In March 2013, we issued \$400 million principal amount of 2.25% Convertible Senior Notes due 2019 and received proceeds of \$389.8 million, net of underwriting expenses. Interest was payable semi-annually on March 1 and September 1 of each year. The effective interest rate for the liability component of this debt was 6.25%.

In November 2016, we announced our intent to exercise our redemption option for the remaining Convertible Senior Notes due 2019. Our obligations in connection with this redemption were settled on January 27, 2017. See above “—Extinguishment of Debt—2016 Activity—Announced Redemption of Convertible Senior Notes due 2019” and Note 21. Convertible Senior Notes due 2017 and 2019. The Convertible Senior Notes due 2017 and 2019 are both accounted for under the accounting standard for convertible debt instruments that may be settled in cash upon conversion (including partial cash settlement), which states that issuers of such instruments should separately account for the liability and equity components in a manner that reflects the entity's nonconvertible debt borrowing rate when the interest cost is recognized in subsequent periods. Our convertible notes fall within the scope of this standard due to our ability to elect to repay the conversion premium in cash. We have determined that the embedded conversion options in the convertible notes are not required to be separately accounted for as derivatives under the accounting standard for derivatives and hedging.

The carrying amount of each liability component was calculated by measuring the fair value of a similar liability that does not have an associated equity component. The carrying amount of each equity component, representing the embedded conversion option, was determined by deducting the fair value of the liability component from the initial proceeds ascribed to each convertible note issuance as a whole. The excess of the principal amount of each liability component over its carrying amount is amortized as a component of interest expense over the expected life of a similar liability that does not have an associated equity component using the effective interest method. The equity components are not remeasured as long as they continue to meet the conditions for equity classification as prescribed in the accounting standard for derivative financial instruments indexed to, and potentially settled in, an entity's own common stock and the accounting standard for determining whether an instrument (or an embedded feature) is indexed to an entity's own stock.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Upon the original issuance of the Convertible Senior Notes due 2017 and 2019, in accordance with accounting standards related to convertible debt instruments that may be settled in cash upon conversion, the Company recorded a pretax equity component of \$101.0 million and \$77.0 million, respectively, net of the capped call transaction (with respect to the Convertible Senior Notes due 2017) and related issuance costs (with respect to the Convertible Senior Notes due 2017 and 2019). The pretax equity component is not subject to remeasurement, and therefore remains unchanged unless a reduction of outstanding principal occurs. As a result of our purchases during 2016, the remaining pretax equity component associated with the Convertible Senior Notes due 2017 and 2019 decreased from \$11.3 million and \$75.1 million, respectively, at December 31, 2015 to \$5.0 million and \$13.1 million, respectively, at December 31, 2016. See Note 10 for information on DTLs associated with our convertible and other long-term debt. In any period when holders of the Convertible Senior Notes due 2017 are eligible to exercise their conversion option, the related equity component is reflected as mezzanine (temporary) equity rather than permanent equity, because we are required to settle the aggregate principal amount of the notes in cash. This equity component is the difference between: (i) the amount of cash deliverable upon conversion (i.e., par value of debt) and (ii) the carrying value of the debt.

Issuance and transaction costs incurred at the time of the issuance of the convertible notes were allocated to the liability and equity components in proportion to the allocation of proceeds and accounted for as debt issuance costs and equity issuance costs, respectively. The convertible notes are reflected on our consolidated balance sheets as follows:

	Convertible Senior Notes due 2017		Convertible Senior Notes due 2019	
	December 31, 2016	December 31, 2015	December 31, 2016	December 31, 2015
(In thousands)				
Liability component:				
Principal	\$22,233	\$52,370	\$68,024	\$389,992
Debt discount, net (1)	(1,221 )	(5,941 )	(5,461 )	(44,313 )
Debt issuance costs (1)	(65 )	(314 )	(550 )	(4,465 )
Net carrying amount	\$20,947	\$46,115	\$62,013	\$341,214

(1) Included within long-term debt and is being amortized over the life of the convertible notes.

The following table sets forth total interest expense recognized related to the convertible notes for the periods indicated:

	Convertible Senior Notes due 2017		Convertible Senior Notes due 2019	
	December 31, 2016	December 31, 2015	December 31, 2016	December 31, 2015
(In thousands)				
Contractual interest expense	\$872	\$7,359	\$3,426	\$8,925
Amortization of debt discount	1,674	12,621	5,016	12,487
Amortization of debt issuance costs	88	696	505	1,292
Total interest expense	\$2,634	\$20,676	\$8,947	\$22,704

Covenants in Convertible Senior Notes due 2017 and 2019. The Convertible Senior Notes due 2017 and 2019 have covenants generally customary for securities of this nature, including covenants related to payments of the notes, reports, compliance certificates, the modification of covenants and maintaining Radian Group's corporate existence.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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Furthermore, the indentures for the Convertible Senior Notes due 2017 and 2019 include, among other terms, provisions under which the bankruptcy of Radian Group or the appointment of a receiver for Radian Group or for certain of its subsidiaries or other material assets would constitute an event of default under the indentures. Upon such a default, the note holders of the Convertible Senior Notes due 2017 or 2019 could declare the applicable notes due and payable (which may, under certain circumstances, be automatically accelerated), which would constitute an event of default under the indentures for the Senior Notes due 2019, 2020 and 2021. Certain events could cause our applicable insurance regulator to appoint a receiver for our insurance subsidiaries. If this occurred, it would, unless waived by a majority of the applicable note holders, constitute an event of default under the indentures for the Convertible Senior Notes due 2017 and 2019, and therefore, also cause an event of default under the indentures for the Senior Notes due 2019, 2020 and 2021.

### 13. Commitments and Contingencies

#### Legal Proceedings

We are routinely involved in a number of legal actions, reviews and audits, as well as inquiries and investigations by various regulatory entities involving compliance with laws or other regulations, the outcome of which are uncertain. These legal proceedings could result in adverse judgments, settlements, fines, injunctions, restitutions or other relief that could require significant expenditures or have other effects on our business. In accordance with applicable accounting standards and guidance, we establish accruals only when we determine both that it is probable that a loss has been incurred and the amount of the loss is reasonably estimable. We accrue the amount that represents our best estimate of the probable loss; however, if we can only determine a range of estimated losses, we accrue an amount within the range that, in our judgment, reflects the most likely outcome, and if none of the estimates within the range is more likely, we accrue the minimum amount of the range.

In the course of our regular review of pending legal and regulatory matters, we determine whether it is reasonably possible that a potential loss may have a material impact on our liquidity, results of operations or financial condition. If we determine such a loss is reasonably possible, we disclose information relating to such potential loss, including an estimate or range of loss or a statement that such an estimate cannot be made. On a quarterly basis, we review relevant information with respect to loss contingencies and update our accruals, disclosures and estimates of reasonably possible losses or range of losses based on such reviews. We are often unable to estimate the possible loss or range of loss until developments in such matters have provided sufficient information to support an assessment of the range of possible loss, such as quantification of a damage demand from plaintiffs, discovery from other parties and investigation of factual allegations, rulings by the court on motions or appeals, analysis by experts, and the progress of settlement negotiations. In addition, we generally make no disclosures for loss contingencies that are determined to be remote. For matters for which we disclose an estimated loss, the disclosed estimate reflects the reasonably possible loss or range of loss in excess of the amount accrued, if any.

Loss estimates are inherently subjective, based on currently available information, and are subject to management's judgment and various assumptions. Due to the inherently subjective nature of these estimates and the uncertainty and unpredictability surrounding the outcome of legal and other proceedings, actual results may differ materially from any amounts that have been accrued.

On December 22, 2016, Ocwen Loan Servicing, LLC and Homeward Residential, Inc. (collectively, "Ocwen") filed a complaint against Radian Guaranty (the "Complaint"). Ocwen has also initiated legal proceedings against several other mortgage insurers. The action filed against Radian Guaranty, titled Ocwen, et al. v. Radian Guaranty, is pending in the U.S. District Court for the Eastern District of Pennsylvania. The Complaint alleges breach of contract and bad faith claims and seeks monetary damages and declaratory relief in regard to certain claims handling practices on future insurance claims. On December 17, 2016, Ocwen separately filed an arbitration petition against Radian Guaranty (the

“Petition”) before the American Arbitration Association that asserts substantially the same allegations as contained in the Complaint (the Complaint and the Petition are collectively referred to as the “Filings”). The Filings list 9,420 mortgage insurance certificates issued under multiple insurance policies, including Pool Insurance policies, as being the subject of these proceedings. Radian Guaranty believes that the claims in the Filings are without merit and plans to defend these claims vigorously. We are not able to estimate a reasonably possible loss, if any, or range of loss in this matter because of the preliminary stage of the proceedings.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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We are also involved in litigation that has arisen in the normal course of our business. We are contesting the allegations in each such pending action and management believes, based on current knowledge and after consultation with counsel, that the outcome of such litigation will not have a material adverse effect on our consolidated financial condition. However, the outcome of litigation and other legal and regulatory matters is inherently uncertain, and it is possible that one or more of the matters currently pending or threatened could have an unanticipated adverse effect on our liquidity, financial condition or results of operations for any particular period.

We are subject to regulatory inquiries, investigations and reviews. In the past, we and other mortgage insurers have been subject to inquiries from the Minnesota Department of Commerce requesting information relating to captive reinsurance. We have cooperated with these requests for information. In June 2015, Radian Guaranty executed a Consent Order with the Minnesota Department of Commerce that resolved the Minnesota Department of Commerce's outstanding inquiries related to captive reinsurance arrangements involving mortgage insurance in Minnesota without any findings of wrongdoing. As part of the Consent Order, Radian Guaranty paid an immaterial amount to Minnesota and agreed not to enter into new captive reinsurance arrangements for a period of ten years ending in June 2025. We have not entered into any new captive reinsurance arrangements since 2007.

In June 2015, we and other mortgage insurers received a letter from the Wisconsin OCI requesting information pertaining to customized insurance rates and terms offered to mortgage insurance customers. We submitted a response to the Wisconsin OCI in June 2015, as requested. Although we believe we are in compliance with applicable Wisconsin state law requirements for mortgage guaranty insurance, we cannot predict the outcome of this matter or whether additional inquiries, actions or proceedings may be pursued against us by the Wisconsin OCI or other regulators.

As described in Note 10, on September 4, 2014 we received formal Notices of Deficiency from the IRS related to certain losses and deductions resulting from our investment in a portfolio of non-economic REMIC residual interest. We believe that an adequate provision for income taxes has been made for the potential liabilities that may result from this matter. However, if the ultimate resolution of this matter produces a result that differs materially from our current expectations, there could be a material impact on our effective tax rate, results of operations and cash flows.

Our Master Policies establish the timeline within which any suit or action arising from any right of an insured under the policy generally must be commenced. In general, any suit or action arising from any right of an insured under the policy must be commenced within two years after such right first arose for primary insurance and within three years for certain other policies, including certain Pool Insurance policies. Although we believe that our Loss Mitigation Activities are justified under our policies, we continue to face challenges from certain lender and servicer customers regarding our Loss Mitigation Activities, which have resulted in some reversals of our decisions regarding Rescissions, Claim Denials or Claim Curtailments. We are currently in discussions with these customers regarding Loss Mitigation Activities and our claim payment practices, which if not resolved, could result in arbitration or judicial proceedings and we may need to reassume the risk on, and increase loss reserves for, those policies or pay additional claims. See Note 11 for further information.

Further, there are loans in our total defaulted portfolio (in particular, our older defaulted portfolio) for which actions or proceedings (such as foreclosure that provide the insured with title to the property) may not have been commenced within the outermost deadline in our Prior Master Policy. We are evaluating these loans regarding this potential violation and our corresponding rights under the Prior Master Policy. While we can provide no assurance regarding the ultimate resolution of these issues, it is possible that arbitration or legal proceedings could result.

Other

Securities regulations became effective in 2005 that impose enhanced disclosure requirements on issuers of ABS (including MBS). To allow our customers to comply with these regulations at that time, we typically were required, depending on the amount of credit enhancement we were providing, to provide: (i) audited financial statements for the



insurance subsidiary participating in the transaction or (ii) a full and unconditional holding company-level guarantee for our insurance subsidiaries' obligations in such transactions. Radian Group has guaranteed two structured transactions for Radian Guaranty involving approximately \$110.2 million of remaining credit exposure as of December 31, 2016.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

We provide contract underwriting as an outsourced service to our customers. Under our current contract underwriting program the remedy we offer is limited indemnification to our contract underwriting customers only with respect to those loans that we simultaneously underwrite for both secondary market compliance and for potential mortgage insurance eligibility. In 2016, we did not pay any losses related to contract underwriting remedies. In 2016, our provision for contract underwriting expenses was \$0.2 million and our reserve for contract underwriting obligations at December 31, 2016 was \$0.5 million. We monitor this risk and negotiate our underwriting fee structure and recourse agreements on a client-by-client basis. We also routinely audit the performance of our contract underwriters. We lease office space for use in our operations. The lease agreements, which expire periodically through August 2032, contain provisions for scheduled periodic rent increases. Net rental expense in connection with these leases totaled \$5.0 million in 2016, \$5.0 million in 2015 and \$3.9 million in 2014, excluding the net rental expense related to discontinued operations. The commitment for non-cancelable operating leases in future years is as follows:

(In thousands)

2017	\$7,020
2018	3,924
2019	7,148
2020	7,151
2021	6,927
Thereafter	56,429
Total	\$88,599

At December 31, 2016, there were no future minimum receipts expected from sublease rental payments.

#### 14. Capital Stock

##### 2016 Activity

In the first quarter of 2016, we announced and completed a share repurchase program. Pursuant to this program, we purchased an aggregate of 9.4 million shares of Radian Group common stock for \$100.2 million, at a weighted average price per share of \$10.62, including commissions. No further purchase authority remains under this share repurchase program.

As partial consideration for our March 2016 privately negotiated purchases of a portion of our Convertible Senior Notes due 2017 and 2019, we issued to the sellers 17.0 million shares of Radian Group common stock. In addition, in connection with our termination of the corresponding portion of the related capped call transactions, we received consideration of 0.2 million shares of Radian Group common stock. See Note 12 for additional information regarding these transactions.

All shares of Radian Group common stock that we received from the above transactions were retired, resulting in a decrease in shares issued and outstanding and a corresponding increase in unissued shares.

On June 29, 2016, Radian Group's board of directors authorized a new share repurchase program to spend up to \$125 million to repurchase Radian Group common stock. In order to implement the program, we adopted a trading plan under Rule 10b5-1 of the Exchange Act during the third quarter of 2016. As of December 31, 2016, no shares had been purchased and therefore the full purchase authority of up to \$125 million remained available under this program, which expires on June 30, 2017.

##### 2015 Activity

As partial consideration for our June 2015 privately negotiated purchases of a portion of our Convertible Senior Notes due 2017, we issued to the sellers 28.4 million shares of Radian Group common stock. In addition, in partial consideration for our termination of the corresponding portion of the related capped call transactions, we received 2.3 million shares of Radian Group common stock. See Note 12 for additional information regarding these transactions.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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On June 18, 2015, we authorized an ASR program to repurchase an aggregate of \$202 million of Radian Group common stock. Under the ASR program, the total number of shares ultimately delivered to Radian Group was based on the average of the daily volume-weighted average price of Radian Group common stock during the term of the transaction, less a negotiated discount and subject to certain other adjustments pursuant to the terms and conditions of the program. During the three-month period ended June 30, 2015, 9.2 million shares were repurchased under this program. The counterparty delivered to Radian Group 1.8 million additional shares of Radian Group common stock at final settlement of the ASR program in August 2015, based on the calculated price of \$18.32 during the term of the transaction. The shares of Radian Group common stock received pursuant to the ASR and the termination of the capped call transactions were retired, resulting in a decrease in shares issued and outstanding and a corresponding increase in unissued shares. All share repurchases pursuant to the ASR program were funded in the second quarter of 2015 from the proceeds of the Senior Notes due 2020.

#### Other Purchases

We may purchase shares on the open market to settle stock options exercised by employees and to fund 401(k) matches and purchases under our ESPP. In addition, upon the vesting of certain restricted stock awards under our equity compensation plans, we may withhold from such vested awards shares of our common stock to satisfy the tax liability of the award recipients.

#### 15. Share-Based and Other Compensation Programs

On May 14, 2014, our stockholders approved our most recent equity compensation plan, the 2014 Equity Plan. The 2014 Equity Plan replaced our prior equity plan, the 2008 Equity Compensation Plan, which replaced our 1995 Equity Plan. We have awards outstanding under all three of these Equity Plans. The last awards granted pursuant to the 2008 and 1995 Equity Plans were granted in 2014 and 2008, respectively. All awards granted under the Equity Plans have been performance-based or time-vested awards in the form of non-qualified stock options, restricted stock, RSUs, phantom stock, or SARs. The maximum contractual term for all awards under the Equity Plans is 10 years. The 2014 Equity Plan authorizes the issuance of up to 6,423,163 shares of our common stock, plus such number of shares of common stock subject to outstanding awards that are payable in shares under the 2008 Equity Plan and which awards subsequently terminate, expire or are cancelled ("Prior Plan Shares"). There were 1,004,109 shares remaining available for grant under the 2014 Equity Plan as of December 31, 2016 (the "share reserve"), which includes Prior Plan Shares. Each grant of restricted stock, RSUs, or performance share awards under the 2014 Equity Plan (other than those settled in cash) reduces the reserve available for grant under the 2014 Equity Plan by 1.31 shares for every share subject to such grant. Awards under the 2014 Equity Plan that provide for settlement solely in cash (and not common shares) do not count against the share reserve. Absent this reserve adjustment for restricted stock, RSUs, phantom stock or performance share awards, our shares remaining available for grant under the 2014 Equity Plan would have been 4,269,701 shares as of December 31, 2016.

Unless otherwise described below, awards under the Equity Plans include the following terms:

Generally, all awards require the grantee to remain in service with us through the vesting period, except in the event of the grantee's death, disability, retirement or upon a change of control (subject to certain conditions discussed below).

Generally, the awards vest immediately upon a grantee's death or disability, or at the end of the performance or service period in the event of retirement.

Awards granted under the Equity Plans provide for "double trigger" vesting in the event of a change of control, meaning that awards will vest in connection with a change of control only in the event the grantee's employment is terminated by us without cause or the grantee terminates employment for "good reason," in each case within 90 days before or one year after the change of control.

Generally, effective July 9, 2015, the performance RSUs granted to executive officers include a one-year post-vesting holding period, such that the vested awards will not be convertible into shares (other than shares withheld to pay taxes due at vesting) until the one-year anniversary following the vesting date of the awards, except in the event of death or disability.

In the event of a hypothetical change of control as of December 31, 2016, we estimate that the vesting of awards, assuming for purposes of this hypothetical that “double trigger” vesting occurred, would have resulted in a pretax accounting charge to us of approximately \$11.3 million, representing the acceleration of compensation expense.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

We use the Monte Carlo valuation model to determine the fair value of all cash-settled awards where stock price is a factor in determining the vesting, as well as for cash- or equity-settled performance awards where there exists a similar stock price-based market condition. The Monte Carlo valuation model incorporates multiple input variables, including expected life, volatility, risk-free rate of return and dividend yield for each award to estimate the probability that a vesting condition will be achieved. In determining these assumptions for the Monte Carlo valuations, we consider historic and observable market data.

Depending on certain characteristics of the awards granted under the various Equity Plans noted above, they are accounted for as either liabilities or equity instruments. The following table summarizes awards outstanding and compensation expense recognized for each type of share-based award as of and for the years ended:

(\$ in thousands)	December 31,		
	2016	2015	2014
	Liability	Liability	Liability
	Recorded Compensation	Recorded Compensation	Recorded Compensation
Share-Based Compensation Programs	Equity Cost	Equity Cost	Equity Cost
	Instrument Recognized (1)	Instrument Recognized (1)	Instrument Recognized (1)
	Outstanding	Outstanding	Outstanding
<b>Liabilities:</b>			
RSUs—Cash-Settled	\$ 18 \$ (718 )	\$ 3,595 \$ 10,244	\$ 65,157 \$ 31,834
SARs—Cash-Settled	— —	— 159	595 915
Liabilities	\$ 18 \$ (718 )	\$ 3,595 \$ 10,403	\$ 65,752 \$ 32,749
<b>Equity:</b>			
RSUs—Equity Settled	3,208,452	2,472,861	2,056,596
Non-Qualified Stock Options	2,839,786	2,692,457	3,029,348
Phantom Stock	234,174	230,196	284,645
ESPP	449	396	267
Equity	17,022	12,625	10,262
Total all share-based plans	\$ 16,304	\$ 23,028	\$ 43,011

For purposes of calculating compensation cost recognized, we generally consider time-vested awards effectively vested (and we recognize the full compensation costs) when grantees become retirement eligible. However, under the terms of our stock option awards granted in 2016, 2015, and 2014, legal vesting for retirement occurs when the (1) grantee actually separates from service, with the exception of certain senior executives for whom vesting remains dependent on the stock price hurdle being met regardless of when the executive separates from service.

Performance-based RSU awards granted in 2016, 2015, and 2014 provide that vesting remains dependent on the Company's performance for the full term of the awards, notwithstanding the grantee's earlier retirement. The following table reflects additional information regarding all share-based awards for the years indicated:

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Total compensation cost recognized	\$ 16,304	\$ 23,028	\$ 43,011
Less: Costs deferred as acquisition costs	206	500	1,047
Stock-based compensation expense	\$ 16,098	\$ 22,528	\$ 41,964
RSUs (Cash-Settled)			

Performance-Based RSUs— In 2012, a total of 2,211,640 performance-based RSUs (to be settled in cash) were granted to eligible officers under the 2008 Equity Plan. These performance-based RSUs entitled grantees to a cash amount equal to the fair market value of RSUs that vested at the end of a three-year performance period in 2015. There were no cash-settled performance-based RSUs granted after 2012.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Vesting of awards granted to both non-executives and executives in 2012 was dependent upon the performance of Radian Group's TSR relative to the TSR of a performance peer group. Based on performance during the three-year performance period, grantees were entitled to a maximum payout of 200% of their target number of RSUs.

Timed-Vested RSUs—In 2014 and 2013, certain non-executive officers were granted 1,470 and 7,670, respectively, of cash-settled time-vested RSUs under the 2008 Equity Plan. The estimated fair value of the time-vested RSUs was based on the closing price of our common stock on the measurement date. These RSU awards entitle award recipients to a cash amount equal to the closing price of our common stock on the NYSE on the vesting date. These RSU awards vest in their entirety three years from the date of grant, or earlier, upon retirement, death or disability. No cash-settled time-vested RSUs were granted subsequent to 2014.

RSUs (Equity Settled)

Information with regard to RSUs to be settled in stock for the periods indicated is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Unvested, December 31, 2015	2,472,861	\$ 12.62
Granted	1,264,858	\$ 11.79
Vested	(431,520 )	\$ 13.47
Forfeited	(97,745 )	\$ 16.00
Unvested, December 31, 2016	3,208,454	\$ 12.08

Performance-Based RSUs—In 2016, 2015 and 2014, executive and non-executive officers were granted a total of 701,110; 499,740; and 702,180; respectively, of performance-based RSUs to be settled in common stock. The maximum payout at the end of the three-year performance period is 200% of a grantee's target number of RSUs, subject to a maximum cap of six times the value of the grantee's award on the grant date.

The vesting of 50% of the target awards granted to each executive officer in 2016 is dependent upon (i) Radian Group's TSR compared to the median TSR of a designated peer group of companies as of the date of grant (the "Relative TSR Measure") and (ii) Radian Group's absolute TSR ("Absolute TSR Measure," and together with the Relative TSR Measure, the "TSR Measures"), in each case measured over a three-year performance period and subject to certain conditions. The remaining 50% of each executive officer's target award will vest based on the cumulative growth in Radian's book value per share, adjusted for certain defined items, over a three-year performance period. The vesting of performance-based RSUs granted to non-executives in 2016 is entirely based on the Relative TSR Measures described above.

The vesting of 100% of the target awards granted to executive officers and non-executives in 2015 and 2014 is dependent upon Radian Group's TSR Measures, as described above.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The grant date fair value of performance-based RSUs is determined using the Monte Carlo valuation model. The following are assumptions used in our calculation of the grant date fair value of performance-based RSUs to be settled in common stock:

	2016		2015		2014
Expected life	3 years		3 years		3 years
Risk-free interest rate (1)	0.9	%	1.0	%	1.0
Volatility of Radian's stock (2)	29.7	%	40.6	%	71.9
Average volatility of peer companies (3)	38.2	%	24.0	%	30.0
Dividend yield	0.08	%	0.05	%	0.06
Discount rate (4)	10.7	%	13.9	%	—

(1) The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant.

(2) Volatility of Radian's stock is used in the calculation of the grant date fair value of the portion of the awards based on TSR Measures, as described above. Volatility of Radian's stock is not an applicable assumption for valuing the portion of the awards based on the cumulative growth in Radian's book value per share. Volatility is determined at the date of grant using the historical share price volatility and the expected life of each award.

(3) Average volatility of peer companies is used in the calculation of the grant date fair value of the portion of the awards based on the Relative TSR Measures, as described above.

(4) A discount is applied to executive officer awards to reflect illiquidity during the one-year post-vesting holding period.

**Time-Vested RSUs**—In 2016, a total of 273,726 shares of time-vested RSUs to be settled in common stock were granted, including 180,380 shares awarded to certain executives and non-executive officers and 93,346 shares awarded to non-employee directors. In 2015, a total of 113,141 shares of time-vested RSUs to be settled in common stock were granted, including 56,970 shares awarded to non-executive officers and 56,171 shares awarded to non-employee directors. In 2014, a total of 170,176 shares of time-vested RSUs to be settled in common stock were granted, including 85,133 shares awarded to non-executive officers and 85,043 shares awarded to non-employee directors. The grant date fair value of the time-vested RSUs was calculated based on the closing price of our common stock on the NYSE on the date of grant and is recognized as compensation expense over the vesting period. All of these awards generally are subject to three-year cliff vesting.

#### Non-Qualified Stock Options

Information with regard to stock options for the periods indicated is as follows:

(\$ in thousands, except per-share amounts)	Number of Shares	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding, December 31, 2015	2,692,457	\$ 6.94		
Granted	342,090	\$ 12.18		
Exercised	(162,998 )	\$ 4.40		
Forfeited	(31,811 )	\$ 14.17		
Expired	—	\$ —		
Outstanding, December 31, 2016	2,839,738	\$ 7.64	5.3	\$ 29,450
Exercisable, December 31, 2016	1,970,659	\$ 4.57	3.9	\$ 26,440
Available for grant, December 31, 2016	1,004,109			



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The following table summarizes information concerning stock option activity for the periods indicated:

(\$ in thousands, except per-share amounts)	Years Ended December 31,		
	2016	2015	2014
Granted (number of shares)	342,090	212,230	289,500
Weighted average grant date fair value per share (1)	\$9.72	\$ 14.68	\$ 12.18
Aggregate intrinsic value of options exercised	\$1,519	\$ 7,146	\$ 192
Tax benefit of options exercised	\$532	\$ 2,501	\$ 67
Cash received from options exercised	\$717	\$ 1,285	\$ 259

(1) We use the Monte Carlo valuation model in determining the grant date fair value of stock options issued to executives and non-executives using the assumptions noted in the following table:

	Year Ended December 31,			
	2016	2015	2014	
Derived service period (years)	3.02 - 4.00	3.02 - 4.00	2.99 - 3.96	
Risk-free interest rate (a)	1.72	% 2.32	% 2.57	%
Volatility (b)	94.20	% 93.70	% 94.26	%
Dividend yield	0.08	% 0.05	% 0.06	%

(a) The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant.

(b) Volatility is determined at the date of grant using historical share price volatility and expected life of each award. Upon the exercise of stock options, we generally issue shares from the authorized, unissued share reserves when the exercise price is less than the treasury stock repurchase price and from treasury stock when the exercise price is greater than the treasury stock repurchase price.

The following table summarizes information concerning outstanding and exercisable options at December 31, 2016:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted Average		Number Exercisable	Weighted Average Exercise Price
		Remaining Contractual Life (Years)	Weighted Average Exercise Price		
\$2.45 - \$3.58	1,592,785	4.1	\$ 2.83	1,592,785	\$ 2.83
\$5.76 - \$7.06	43,674	1.2	\$ 6.91	43,674	\$ 6.91
\$10.42 - \$15.44	1,006,456	6.7	\$ 13.17	320,270	\$ 12.27
\$18.42	196,823	8.5	\$ 18.42	13,930	\$ 18.42
	2,839,738	5.3	\$ 7.64	1,970,659	\$ 4.57

Generally, the stock option awards have a 10-year term, with 50% of the award vesting on or after the third anniversary of the grant date and the remaining 50% of the award vesting on or after the fourth anniversary of the grant date, provided the applicable stock price performance hurdle is met, as described below. The fair value of stock options vested during the year ended December 31, 2016 was \$3.8 million.

For stock option awards granted in 2016, 2015 and 2014, in addition to the time-based vesting requirements, the options contain a performance hurdle whereby the options will only vest if the closing price of our common stock on the NYSE exceeds approximately \$15.20, \$23.03 and \$19.30 (in each case, 125% of the option exercise price), respectively, for 10 consecutive trading days ending on or after the third anniversary of the date of grant.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

We elected to apply the short-cut method, under the accounting standard regarding share-based payment, to account for the windfall tax benefits that may result from the exercise of stock options. Effective January 1, 2017, upon the implementation of the update to the accounting standard regarding stock-based compensation, future windfalls and shortfalls resulting from cancellations, expirations or exercises of stock options will be reflected in the consolidated statements of operations as part of our income tax provision (benefit), as they occur. See Note 2.

#### Employee Stock Purchase Plan

We have an ESPP, the 2008 ESPP, under which 2,000,000 shares of our authorized but unissued common stock have been reserved for issuance. Under the 2008 ESPP, we sold 151,121; 94,676; and 67,743 shares to employees during the years ended December 31, 2016, 2015 and 2014, respectively.

The 2008 ESPP is designed to allow eligible employees to purchase shares of our common stock at a discount of 15% off the lower of the fair market value of our common stock at the beginning or end of a six month offering period (each period being the first and second six months in a calendar year).

The following are assumptions used in our calculation of ESPP compensation expense during 2016:

	January 1, 2016	July 1, 2016		
Expected life	6 months	6 months		
Risk-free interest rate	0.83	% 0.92	%	
Volatility	32.99	% 37.52	%	
Dividend yield	0.08	% 0.10	%	

#### Unrecognized Compensation Expense

As of December 31, 2016, 2015 and 2014, unrecognized compensation expense related to the unvested portion of all of our share-based awards was \$11.3 million, \$11.7 million and \$17.5 million, respectively. Absent a change of control under the Equity Plans, this expense is expected to be recognized over a weighted average period of approximately 2.1 years.

#### 16. Benefit Plans

The Radian Group Inc. Savings Incentive Plan (“Savings Plan”) covers substantially all of our full-time and our part-time employees. Participants can contribute up to 100% of their base earnings as pretax and/or after-tax (Roth IRA) contributions up to a maximum amount of \$18,000 for 2016. The Plan also includes a catch-up contribution provision whereby participants who are or will be age 50 and above during the Plan year may contribute an additional contribution. The maximum catch-up contribution for Plan Year 2016 was \$6,000. Effective January 1, 2016, we match up to 100% of the first 4.5% of base earnings contributed in any given year. Previously, the match was up to 100% of the first 6% of annual base earnings exclusive of Clayton, which had its own employee match of 25% of the first 6% of base earnings contributed in any given year. Beginning January 1, 2016, Clayton was merged into the Savings Plan. Our expense for matching funds for the years ended December 31, 2016, 2015 and 2014 was \$4.9 million, \$3.1 million and \$3.1 million, respectively.

Certain of the benefits of this plan are as follows:

- allows for the immediate eligibility of new hire participation and provides for the automatic enrollment of eligible employees;
- provides for the immediate vesting of matching contributions (including existing unvested matching contributions attributable to prior periods) and the elimination of all restrictions (other than Radian Group’s Policy Regarding Securities Trading) on a participant’s ability to diversify his/her position in matching contributions; and
- permits Radian Group to make discretionary, pro rata (based on eligible pay) cash allocations to each eligible participant’s account, with vesting upon completion of three years of service with us.

#### Other Contributions

We contributed immaterial amounts to other postretirement benefit plans in 2016.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 17. Accumulated Other Comprehensive Income (Loss)

The following table shows the rollforward of AOCI as of the periods indicated:

(In thousands)	Year Ended December 31, 2016		
	Before Tax	Tax Effect	Net of Tax
Balance at beginning of period	\$(28,425)	\$(9,948)	\$(18,477)
Other comprehensive income (loss) ("OCI"):			
Unrealized gains (losses) on investments:			
Unrealized holding gains (losses) arising during the period	13,510	4,728	8,782
Less: Reclassification adjustment for net gains (losses) included in net income (1)	3,463	1,212	2,251
Net unrealized gains (losses) on investments	10,047	3,516	6,531
Net foreign currency translation adjustments	(724)	(250)	(474)
Net actuarial gains (losses)	39	14	25
OCI	9,362	3,280	6,082
Balance at end of period	\$(19,063)	\$(6,668)	\$(12,395)
(In thousands)			
Balance at beginning of period	\$79,208	\$27,723	\$51,485
OCI:			
Unrealized gains (losses) on investments:			
Unrealized holding gains (losses) arising during the period	(34,728)	(12,155)	(22,573)
Less: Reclassification adjustment for net gains (losses) included in net income (1) (2)	67,974	23,791	44,183
Net unrealized gains (losses) on investments	(102,702)	(35,946)	(66,756)
Net foreign currency translation adjustments	(333)	(116)	(217)
Activity related to investments recorded as assets held for sale (3)	(5,006)	(1,752)	(3,254)
Net actuarial gains (losses)	408	143	265
OCI	(107,633)	(37,671)	(69,962)
Balance at end of period	\$(28,425)	\$(9,948)	\$(18,477)

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

(In thousands)	Year Ended December 31, 2014		
	Before Tax	Tax Effect	Net of Tax
Balance at beginning of period	\$57,345	\$19,962	\$37,383
OCI:			
Unrealized gains (losses) on investments:			
Unrealized holding gains (losses) arising during the period	21,204	7,554	13,650
Less: Reclassification adjustment for net gains (losses) included in net income (1)	(1,599 )	(560 )	(1,039 )
Net unrealized gains (losses) on investments	22,803	8,114	14,689
Net foreign currency translation adjustments	(326 )	(100 )	(226 )
Activity related to investments recorded as assets held for sale (4)	(329 )	(27 )	(302 )
Net actuarial gains (losses)	(285 )	(226 )	(59 )
OCI	21,863	7,761	14,102
Balance at end of period	\$79,208	\$27,723	\$51,485

(1) Included in net gains (losses) on investments and other financial instruments on our consolidated statements of operations.

(2) During the second quarter of 2015, we sold equity securities in our portfolio and reinvested the proceeds in assets that qualify as PMIERS-compliant Available Assets, recognizing pretax gains of \$69.2 million.

For 2015, this amount represents the recognition of investment gains included in income from discontinued (3) operations, net of tax, as a result of the completion of the sale of Radian Asset Assurance on April 1, 2015.

Previously, pursuant to accounting standards, such investment gains had been deferred and recorded in AOCI.

Represents the unrealized holding gains (losses) arising during the period on investments recorded as assets held (4) for sale, net of reclassification adjustments for net gains (losses) included in net income from discontinued operations.

## 18. Discontinued Operations

On April 1, 2015, Radian Guaranty completed the sale of 100% of the issued and outstanding shares of Radian Asset Assurance for a purchase price of approximately \$810 million, pursuant to the Radian Asset Assurance Stock Purchase Agreement.

Radian Asset Assurance provided direct insurance and reinsurance on credit-based risks. The assets and liabilities associated with the discontinued operations had historically been a source of significant volatility to Radian's results of operations, due to various factors including fluctuations in fair value and credit risk. The divestiture was intended to better position Radian Guaranty to comply with the PMIERS (which are discussed in Note 1) and to support Radian's strategic focus on the mortgage and real estate industries. After closing costs and other adjustments, Radian Guaranty received net proceeds of \$789 million.

Based upon the applicable terms of the Radian Asset Assurance Stock Purchase Agreement, we determined that Radian Asset Assurance met the criteria for held for sale and discontinued operations accounting at December 31, 2014. As a result, we recognized a pre-tax impairment charge of \$467.5 million for the year ended December 31, 2014 and an additional pre-tax impairment charge of \$14.3 million through April 1, 2015, when the sale was completed. We recorded total net income from discontinued operations of \$5.4 million related to this sale in 2015, consisting primarily of the recognition of investment gains previously deferred and recorded in AOCI and recognized as a result of the completion of the sale of Radian Asset Assurance to Assured on April 1, 2015, as well as adjustments to



estimated transaction costs and taxes. The operating results of Radian Asset Assurance are classified as discontinued operations for all periods presented in our consolidated statements of operations. No general corporate overhead or interest expense was allocated to discontinued operations.

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Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

The table below summarizes the components of income (loss) from discontinued operations, net of tax, for the periods indicated. There was no activity for discontinued operations in the year ended December 31, 2016.

(In thousands)	Year Ended	
	December 31,	
	2015	2014
Net premiums earned—insurance	\$1,007	\$37,194
Net investment income	9,153	35,633
Net gains (losses) on investments and other financial instruments	21,486	55,312
Change in fair value of derivative instruments	2,625	130,617
Other income	—	88
Total revenues	34,271	258,844
Provision for losses	502	2,853
Policy acquisition costs	(191 )	6,340
Other operating expense	4,107	23,726
Total expenses	4,418	32,919
Equity in net income (loss) of affiliates	(13 )	(13 )
Income (loss) from operations of businesses held for sale	29,840	225,912
Income (loss) on sale	(14,280)	(467,527 )
Income tax provision (benefit)	10,175	58,442
Income (loss) from discontinued operations, net of tax	\$5,385	\$(300,057)

#### 19. Statutory Information

We prepare our statutory financial statements in accordance with the accounting practices required or permitted, if applicable, by the insurance departments of the respective states of domicile of our insurance subsidiaries. Required SAPP are established by a variety of NAIC publications, as well as state laws, regulations and general administrative rules. In addition, insurance departments have the right to permit other specific practices that may deviate from prescribed practices. As of December 31, 2016, we did not have any prescribed or permitted statutory accounting practices that resulted in reported statutory surplus or risk-based capital being different from what would have been reported had NAIC statutory accounting practices been followed.

Radian Group serves as the holding company for our insurance subsidiaries, through which we conduct our mortgage insurance business. These insurance subsidiaries are subject to comprehensive, detailed regulation by the insurance departments in the various states where our insurance subsidiaries are domiciled or licensed to transact business. Insurance laws vary from state to state, but generally grant broad supervisory powers to state agencies or officials to examine insurance companies and enforce rules or exercise discretion affecting almost every significant aspect of the insurance business, including the power to revoke or restrict an insurance company's ability to write new business. The state insurance regulations include various capital requirements and dividend restrictions based on our insurance subsidiaries' statutory financial position and results of operations, as described below. Our failure to maintain adequate levels of capital could lead to intervention by the various insurance regulatory authorities, which could materially and adversely affect our business, business prospects and financial condition. As of December 31, 2016, the amount of restricted net assets held by our consolidated insurance subsidiaries (which represents our equity investment in those insurance subsidiaries) totaled \$3.0 billion of our consolidated net assets.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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The ability of Radian's insurance subsidiaries to pay dividends on their common stock is restricted by certain provisions of the insurance laws of Pennsylvania, their state of domicile. Under Pennsylvania's insurance laws, dividends and other distributions may only be paid out of an insurer's positive unassigned surplus, measured as of the end of the prior fiscal year, unless the Pennsylvania Insurance Commissioner approves the payment of dividends or other distributions from another source. In 2015 we effectuated a reorganization of our mortgage insurance subsidiaries, which included a significant redistribution of assets and RIF among our legal entities. As a result of these actions, substantially all of the RIF and assets previously held by RGRI, RMAI, Radian Insurance and Radian Mortgage Insurance were transferred to Radian Guaranty and a new exclusive affiliated reinsurer, Radian Reinsurance. None of the distributions from these entities were retained by Radian Group, as all proceeds were distributed to either Radian Guaranty or Radian Reinsurance.

At December 31, 2016, Radian Guaranty had negative unassigned surplus of \$691.3 million, compared to negative unassigned surplus of \$679.9 million at December 31, 2015. Radian Reinsurance, which began operations in December 2015, had negative unassigned surplus of \$118.4 million at December 31, 2016, compared to negative unassigned surplus of \$127.3 million at December 31, 2015 as a result of the establishment of contingency reserves. If either of these insurers had positive unassigned surplus as of the end of the prior fiscal year, such insurer only may pay dividends or other distributions during any 12-month period in an aggregate amount less than or equal to the greater of: (i) 10% of the preceding year-end statutory policyholders' surplus; or (ii) the preceding year's statutory net income. Due to the negative unassigned surplus at the end of 2016, no dividends or other distributions can be paid from Radian Guaranty or Radian Reinsurance without approval from the Pennsylvania Insurance Commissioner. Neither Radian Guaranty nor Radian Reinsurance paid any dividends in 2016 or 2015.

#### Radian Guaranty

Radian Guaranty is domiciled and licensed in Pennsylvania as a stock casualty insurance company authorized to carry on the business of credit insurance, which includes the authority to write mortgage guaranty insurance. It is a monoline insurer, restricted to writing first-lien residential mortgage guaranty insurance.

Under state insurance regulations, Radian Guaranty is required to maintain minimum surplus levels and, in certain states, a minimum ratio of statutory capital relative to the level of net RIF, or Risk-to-capital. There are 16 RBC States that currently impose a Statutory RBC Requirement. The most common Statutory RBC Requirement is that a mortgage insurer's Risk-to-capital may not exceed 25 to 1. In certain of the RBC States, a mortgage insurer must satisfy an MPP Requirement. The statutory capital requirements for the non-RBC States are de minimis (ranging from \$1 million to \$5 million); however, the insurance laws of these states generally grant broad supervisory powers to state agencies or officials to enforce rules or exercise discretion affecting almost every significant aspect of the insurance business, including the power to revoke or restrict an insurance company's ability to write new business. Unless an RBC State grants a waiver or other form of relief, if a mortgage insurer, such as Radian Guaranty, is not in compliance with the Statutory RBC Requirement of that state, the mortgage insurer may be prohibited from writing new mortgage insurance business in that state. Radian Guaranty's domiciliary state, Pennsylvania, is not one of the RBC States.

Radian Guaranty was in compliance with the Statutory RBC Requirements or MPP Requirements, as applicable, in each of the RBC States as of December 31, 2016. The NAIC is in the process of developing a new Model Act for mortgage insurers, which is expected to include, among other items, new capital adequacy requirements for mortgage insurers. 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. While the outcome and timing of this process are uncertain, the new Model Act, if and when finalized by the NAIC, has the potential to increase capital requirements in those states that adopt the Model Act. However, we continue to believe the changes to the Model Act will not result in financial requirements that require greater capital than the level currently required under the PMIERS Financial

Requirements. See Note 1 for information regarding the PMIERS, which set requirements for private mortgage insurers to remain eligible insurers of loans purchased by the GSEs.

Radian Guaranty's statutory net income, statutory policyholders' surplus and contingency reserve as of or for the years ended December 31, 2016, 2015 and 2014 were as follows:

	December 31,		
(In millions)	2016	2015	2014
Statutory net income	\$480.8	\$754.8	\$273.7
Statutory policyholders' surplus	1,349.7	1,686.5	1,325.2
Contingency reserve	1,260.6	860.9	389.4

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

Radian Guaranty's Risk-to-capital calculation appears in the table below. For purposes of the Risk-to-capital requirements imposed by certain states, statutory capital is defined as the sum of statutory policyholders' surplus plus statutory contingency reserves.

(\$ in millions)	December 31,	
	2016	2015
RIF, net (1)	\$35,357.8	\$36,396.1
Common stock and paid-in capital	\$2,041.0	\$2,041.4
Surplus Note	—	325.0
Unassigned earnings (deficit)	(691.3 )	(679.9 )
Statutory policyholders' surplus	1,349.7	1,686.5
Contingency reserve	1,260.6	860.9
Statutory capital	\$2,610.3	\$2,547.4
Risk-to-capital	13.5:1	14.3:1

(1) Excludes risk ceded through reinsurance contracts (to third parties and affiliates) and RIF on defaulted loans. The net decrease in Radian Guaranty's Risk-to-capital in 2016 was primarily due to a decrease in net RIF at Radian Guaranty, resulting from insurance ceded pursuant to the Single Premium QSR Transaction during 2016, combined with statutory net income, which had the effect of increasing statutory policyholders' surplus. The effect of both of these items was mainly offset by the repayment of the \$325 million Surplus Note on June 30, 2016.

We have actively managed Radian Guaranty's capital position in various ways, including: (i) through internal and external reinsurance arrangements; (ii) by seeking opportunities to reduce our risk exposure through commutations and other negotiated transactions; and (iii) by contributing additional capital from Radian Group.

Radian Guaranty did not receive capital contributions from Radian Group in the year ended December 31, 2016. For the years ended December 31, 2015 and 2014, Radian Guaranty received capital contributions from Radian Group totaling \$100.0 million and \$100.0 million, respectively. In addition, in December 2015, Radian Group transferred \$325 million of cash and marketable securities to Radian Guaranty in exchange for a Surplus Note issued by Radian Guaranty. This Surplus Note had a 0% interest rate and was scheduled to mature on December 31, 2025. However, Radian Guaranty repaid the Surplus Note in full on June 30, 2016.

#### Radian Reinsurance

Effective December 2015, Radian Reinsurance is domiciled and licensed in Pennsylvania as a stock casualty insurance company authorized to carry on the business of credit insurance, which includes the authority to reinsure policies of mortgage guaranty insurance. Radian Reinsurance is only licensed or authorized to write direct mortgage guaranty insurance in Pennsylvania. Radian Reinsurance is required to maintain a minimum statutory surplus of \$20 million to remain an authorized reinsurer in all states. Radian Reinsurance did not receive capital contributions from Radian Group in the year ended December 31, 2016. During 2015, Radian Reinsurance received cash capital contributions from Radian Group totaling \$50 million.

Radian Reinsurance's statutory net income, statutory policyholders' surplus and contingency reserve as of and for the years ended December 31, 2016 and 2015 were as follows:

(In millions)	December 31,	
	2016	2015
Statutory net income (loss)	\$60.3	\$(1.0)

Statutory policyholders' surplus	147.6	138.7
Contingency reserve	180.3	128.8

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Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

**Combined Risk-to-Capital Ratio and Other Mortgage Insurance Subsidiaries**

The Risk-to-capital ratio for our combined mortgage insurance operations was 13.6 to 1 as of December 31, 2016, compared to 14.6 to 1 as of December 31, 2015. In addition to Radian Guaranty and Radian Reinsurance, this combined ratio also includes RGRI, RMAI, Radian Investor Surety Inc., Radian Insurance, Radian Mortgage Insurance, and Radian Mortgage Guaranty Inc. Radian Insurance is the only entity that had any remaining RIF as of December 31, 2016, totaling \$35.8 million. The aggregate statutory net income, statutory policyholders' surplus and contingency reserve for these six subsidiaries as of and for the years ended December 31, 2016, 2015 and 2014 were as follows:

(In millions)	December 31,		
	2016	2015	2014
Statutory net income (loss)	\$(6.1)	\$92.9	\$112.9
Statutory policyholders' surplus	57.1	55.0	473.7
Contingency reserve	1.5	1.1	140.7

During 2015, Radian Mortgage Guaranty Inc. was newly established as a mortgage guaranty insurer domiciled in Pennsylvania, and received capital contributions from Radian Group totaling \$20 million.

**Principal Differences between GAAP and SAPP**

The differences between the statutory financial statements and financial statements presented on a GAAP basis represent differences between GAAP and SAPP principally for the following reasons:

Under SAPP, mortgage guaranty insurance companies are required each year to establish a contingency reserve equal to 50% of premiums earned in such year. Such amount must be maintained in the contingency reserve for 10 (a) years, after which time it is released to unassigned surplus. Prior to 10 years, the contingency reserve may be reduced with regulatory approval to the extent that losses in any calendar year exceed 35% of earned premiums for such year.

Under SAPP, insurance policy acquisition costs are charged against operations in the year incurred. Under GAAP, (b) such costs, other than those incurred in connection with the origination of derivative contracts, are deferred and amortized.

Under SAPP, income tax expense is calculated on the basis of amounts currently payable. Generally, DTAs are recognized under both SAPP and GAAP when it is more likely than not that the DTA will be realized. However, SAPP standards impose additional admissibility requirements whereby DTAs are only recognized to the extent (c) they are expected to be recovered within a one- to three-year period subject to a capital and surplus limitation. Changes in DTAs and DTLs are recognized as a direct benefit or charge to unassigned surplus, whereas under GAAP changes in DTAs and DTLs, except for changes in unrealized gains and losses on available-for-sale securities, are recorded as a component of income tax expense.

Under SAPP, investment grade fixed-maturity investments are valued at amortized cost and below-investment grade securities are carried at the lower of amortized cost or market value. Under GAAP, those investments that the (d) statutory insurance entities do not have the ability or intent to hold to maturity are considered to be either available for sale or trading securities and are recorded at fair value, with the unrealized gain or loss recognized, net of tax, as an increase or decrease to stockholders' equity or current operations, as applicable.



Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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(e) Under SAPP, certain assets, designated as non-admitted assets, are charged directly against statutory surplus. Such assets are reflected on our GAAP financial statements.

Prior to January 1, 2013, under SAPP, the accounting standard regarding share-based payments was not applicable, with regard to the recognition and measurement of stock option issuances. However, effective January 1, 2013, the NAIC adopted SSAP No. 104, Share-Based Payments (“SSAP 104”), on a prospective basis. Therefore, expenses (f) related to stock options granted subsequent to the date of adoption of SSAP 104 are recognized under SAPP but expenses related to stock options granted prior to the date of adoption continue to not be recognized under SAPP. Expenses related to stock options, regardless of the date of grant, are reflected on our GAAP financial statements in accordance with this standard.

Under SAPP, premiums written on a multi-year basis are initially deferred as unearned premiums. A portion of the (g) premium written, which corresponds to the insurance policy acquisition costs, is earned immediately and the remaining premiums written are earned over the policy term. Under GAAP, these premiums written on a multi-year basis are initially deferred as unearned premiums and are earned over the policy term.

Under SAPP, capital contributions satisfied by receipt of cash or readily marketable securities subsequent to the balance sheet date but prior to the filing of the statutory financial statement are treated as a recognized subsequent (h) event and, as such, are considered an admitted asset based on the evidence of collection and approval of the domiciliary commissioner. Under GAAP, such capital contributions are treated as a non-recognized subsequent event.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

## 20. Quarterly Financial Data (Unaudited)

(In thousands, except per-share amounts)	2016 Quarters (1)				
	First	Second	Third	Fourth	Year
Net premiums earned—insurance	\$220,950	\$229,085	\$238,149	\$233,585	\$921,769
Services revenue	32,849	40,263	45,877	49,905	168,894
Net investment income	27,201	28,839	28,430	28,996	113,466
Net gains (losses) on investments and other financial instruments	31,286	30,527	7,711	(38,773)	30,751
Provision for losses	42,991	49,725	55,785	54,287	202,788
Policy acquisition costs	6,389	5,393	6,119	5,579	23,480
Cost of services	23,550	27,365	29,447	33,812	114,174
Other operating expenses	57,188	63,173	62,119	62,416	244,896
Loss on induced conversion and debt extinguishment	55,570	2,108	17,397	—	75,075
Amortization and impairment of intangible assets	3,328	3,311	3,292	3,290	13,221
Net income	66,249	98,112	82,803	61,089	308,253
Diluted net income per share (2)	\$0.29	\$0.44	\$0.37	\$0.27	\$1.37
Weighted average shares outstanding-diluted	239,707	226,203	225,968	224,776	229,258
	2015 Quarters (1)				
	First	Second	Third	Fourth	Year
Net premiums earned—insurance	\$224,595	\$237,437	\$227,433	\$226,443	\$915,908
Services revenue (3)	31,135	44,558	43,185	38,338	157,216
Net investment income	17,328	19,285	22,091	22,833	81,537
Net gains (losses) on investments and other financial instruments	16,779	28,448	3,868	(13,402)	35,693
Provision for losses	45,028	32,560	64,192	56,805	198,585
Policy acquisition costs	7,750	6,963	2,880	4,831	22,424
Cost of services	19,184	25,326	26,018	23,187	93,715
Other operating expenses	53,843	65,925	64,013	58,624	242,405
Loss on induced conversion and debt extinguishment	—	91,876	11	2,320	94,207
Amortization and impairment of intangible assets	3,023	3,281	3,273	3,409	12,986
Net income from continuing operations	91,727	45,193	70,091	74,528	281,539
Income (loss) from discontinued operations, net of tax (4)	530	4,855	—	—	5,385
Net income	92,257	50,048	70,091	74,528	286,924
Diluted net income per share (2)	\$0.39	\$0.22	\$0.29	\$0.32	\$1.22
Weighted average shares outstanding-diluted	243,048	246,650	250,795	247,981	246,332

For all periods presented, reflects changes to align our segment reporting structure with recent changes in personnel reporting lines and management oversight related to contract underwriting performed on behalf of third (1) parties. Revenue and expenses for this business are now reflected in the Services segment. As a result, for all periods presented, Services revenue and cost of services have increased, with offsetting reductions in other operating expenses.

Diluted net income per share is computed independently for each period presented. Consequently, the sum of the (2) quarters may not equal the total net income per share for the year. For all calculations, the determination of whether potential common shares are dilutive or anti-dilutive is based on net income from continuing operations.

(3)

Services revenue for the first quarter of 2015 includes \$0.1 million that had previously been included in other income.

(4) Radian completed the sale of Radian Asset Assurance to Assured on April 1, 2015, pursuant to the Radian Asset Assurance Stock Purchase Agreement. Until the April 1, 2015 sale date, the operating results of Radian Asset Assurance were classified as discontinued operations for all periods presented in our consolidated statements of operations. See Note 18 for additional information.

Radian Group Inc.

Notes to Consolidated Financial Statements - (Continued)

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21. Subsequent Events

In November 2016, we announced our intent to exercise our redemption option for the remaining Convertible Senior Notes due 2019, of which \$68.0 million aggregate principal was outstanding at December 31, 2016. Radian elected to redeem all of the notes surrendered for conversion or redemption with cash. We settled our obligations on January 27, 2017 with a \$110.1 million cash payment. At the time of settlement, this transaction resulted in a pretax charge of \$4.5 million and reduced Radian Group's diluted shares by 6.4 million.

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.  
None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to provide reasonable assurance that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Our management, including our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act) as of December 31, 2016 pursuant to Rule 15d-15(e) under the Exchange Act. Management necessarily applied its judgment in assessing the costs and benefits of such controls and procedures, which by their nature, can provide only reasonable assurance regarding management's control objectives. Management does not expect that our disclosure controls and procedures will prevent or detect all errors and fraud. A control system, irrespective of how well it is designed and operated, can only provide reasonable assurance and cannot guarantee that it will succeed in its stated objectives.

Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2016, our disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Our 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 GAAP. Our 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 our transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our 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.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting, as of December 31, 2016, using the criteria described in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our evaluation under the updated internal control framework in Internal Control-Integrated Framework (2013), management concluded that our internal control over financial reporting was effective as of December 31, 2016. The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report appearing in Item 8 of this Annual Report on Form 10-K.

There was no change in the internal control over financial reporting that occurred during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

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## PART III

## Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item is incorporated by reference to, and will be contained in, our definitive proxy statement, which will be filed within 120 days after December 31, 2016. Accordingly, we have omitted the information from this Item pursuant to General Instruction G (3) of Form 10-K.

## Item 11. Executive Compensation.

The information required by this Item is incorporated by reference to, and will be contained in, our definitive proxy statement, which will be filed within 120 days after December 31, 2016. Accordingly, we have omitted the information from this Item pursuant to General Instruction G (3) of Form 10-K.

## Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item is incorporated by reference to, and will be contained in, our definitive proxy statement, which will be filed within 120 days after December 31, 2016. Accordingly, we have omitted the information from this Item pursuant to General Instruction G (3) of Form 10-K.

## Equity Compensation Plans

The following table sets forth certain information relating to the Company's equity compensation plans as of December 31, 2016. Each number of securities reflected in the table is a reference to shares of our common stock.

Plan Category (1)	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column(a))	
Equity compensation plans approved by stockholders (2)	6,282,366	(3)\$ 5.84	(4)2,034,273	(5)
Equity compensation plans not approved by stockholders	—	—	—	
Total	6,282,366	(3)\$ 5.84	(4)2,034,273	(5)

(1) The table does not include information for equity compensation plans assumed by us in mergers, under which we do not grant additional awards.

(2) These plans consist of our 1995 Equity Plan, 2008 Equity Plan, 2014 Equity Plan and our 2008 ESPP Plan.

Represents 2,839,738 non-qualified stock options and 234,174 shares of phantom stock issued under our 1995 Equity Plan and our 2008 Equity Plan and 3,208,454 RSUs issued under our 2008 Equity Plan. Of the RSUs included herein, 1,761,853 are performance-based stock-settled RSUs that could potentially pay out between 0% and 200% of this represented target.

The shares of phantom stock and RSUs were granted at full value, and therefore, have a weighted average exercise price of \$0. Excluding shares of phantom stock and RSUs from this calculation, the weighted average exercise price of outstanding non-qualified stock options was \$7.64 at December 31, 2016.

(5) Includes 1,004,109 shares available for issuance under our 2014 Equity Plan and 1,030,164 shares available for issuance under our 2008 ESPP Plan, in each case as of December 31, 2016. In January 2017, we issued 74,684 shares from the shares available for issuance under our 2008 ESPP Plan. As a result, 955,480 shares currently remain available for issuance under the 2008 ESPP Plan.





Part III

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Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item is incorporated by reference to, and will be contained in, our definitive proxy statement, which will be filed within 120 days after December 31, 2016. Accordingly, we have omitted the information from this Item pursuant to General Instruction G (3) of Form 10-K.

Item 14. Principal Accountant Fees and Services.

The information required by this Item is incorporated by reference to, and will be contained in, our definitive proxy statement, which will be filed within 120 days after December 31, 2016. Accordingly, we have omitted the information from this Item pursuant to General Instruction G (3) of Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a)

1. Financial Statements—See the “Index to Consolidated Financial Statements” included in Item 8 of this report for a list of the financial statements filed as part of this report.

2. Financial Statement Schedules—See the “Index to Financial Statement Schedules” on page 215

of this report for a list of the financial statement schedules filed as part of this report.

3. Exhibits—See “Index to Exhibits” on page

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of this report for a list of exhibits filed as part of this report.

Item 16. Form 10-K Summary.

None.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on February 27, 2017.

Radian Group Inc.

By: /s/ SANFORD A. IBRAHIM  
Sanford A. Ibrahim,  
Chief Executive Officer

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Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on February 27, 2017, by the following persons on behalf of the registrant and in the capacities indicated.

Name	Title
/s/ SANFORD A. IBRAHIM Sanford A. Ibrahim	Chief Executive Officer (Principal Executive Officer) and Director
/s/ J. FRANKLIN HALL J. Franklin Hall	Executive Vice President, Chief Financial Officer (Principal Financial Officer)
/s/ CATHERINE M. JACKSON Catherine M. Jackson	Senior Vice President, Controller (Principal Accounting Officer)
/s/ HERBERT WENDER Herbert Wender	Non-Executive Chairman of the Board
/s/ DAVID C. CARNEY David C. Carney	Director
/s/ HOWARD B. CULANG Howard B. Culang	Director
/s/ LISA W. HESS Lisa W. Hess	Director
/s/ STEPHEN T. HOPKINS Stephen T. Hopkins	Director
/s/ BRIAN D. MONTGOMERY Brian D. Montgomery	Director
/s/ GAETANO MUZIO Gaetano Muzio	Director
/s/ GREGORY V. SERIO Gregory V. Serio	Director
/s/ NOEL J. SPIEGEL Noel J. Spiegel	Director

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<u>Schedule II—Financial information of Registrant (December 31, 2016)</u>	<u>F-2</u>
<u>Schedule IV—Reinsurance (December 31, 2016)</u>	<u>F-8</u>

All other schedules are omitted because the required information is not present or is not present in amounts sufficient to require submission of the schedules, or because the information required is included in our Consolidated Financial Statements and notes thereto.

Radian Group Inc. and Its Consolidated Subsidiaries  
 Schedule I  
 Summary of Investments—Other Than Investments in Related Parties  
 December 31, 2016

Type of Investment	Amortized Cost	Fair Value	Amount Reflected on the Balance Sheet
(In thousands)			
Fixed-Maturities:			
Bonds:			
U.S. government and agency securities	\$78,931	\$75,474	\$75,474
State and municipal obligations (1)	66,124	67,171	67,171
Corporate bonds and notes	1,463,720	1,455,628	1,455,628
RMBS	358,262	350,628	350,628
CMBS	429,057	428,289	428,289
Other ABS	433,603	434,728	434,728
Foreign government and agency securities	24,771	24,594	24,594
Other investments	2,000	2,000	2,000
Total fixed-maturities	2,856,468	2,838,512	2,838,512
Trading securities (2)	874,764	879,862	879,862
Equity securities available for sale:			
Common stocks	830	830	830
Nonredeemable preferred stocks	500	500	500
Total equity securities available for sale	1,330	1,330	1,330
Short-term investments	741,605	741,531	741,531
Other invested assets	1,195	3,789	1,195
Total investments other than investments in related parties	\$4,475,362	\$4,465,024	\$4,462,430

(1) Available for sale.

(2) Includes foreign government and agency securities.

Radian Group Inc.  
Schedule II—Financial Information of Registrant  
Condensed Balance Sheets  
Parent Company Only

	December 31,	
	2016	2015
(\$ in thousands, except per-share amounts)		
Assets		
Investments		
Fixed-maturities available for sale—at fair value	\$79,336	\$41,176
Equity securities available for sale—at fair value	—	25,510
Trading securities—at fair value	—	5,482
Short-term investments—at fair value	311,418	158,658
Total investments	390,754	230,826
Cash	8,256	3,301
Restricted cash (Note B)	124	124
Investment in subsidiaries, at equity in net assets (Note C)	3,383,089	3,001,846
Accounts and notes receivable (Note D)	305,316	631,636
Other assets (Note E)	166,098	124,983
Total assets	\$4,253,637	\$3,992,716
Liabilities and Stockholders' Equity		
Long-term debt (Note F)	\$1,069,537	\$1,219,454
Federal income taxes—current and deferred	266,289	229,939
Other liabilities	45,525	46,392
Total liabilities	1,381,351	1,495,785
Common stockholders' equity		
Common stock: par value \$.001 per share; 485,000,000 shares authorized at December 31, 2016 and 2015; 232,091,921 and 224,432,465 shares issued at December 31, 2016 and 2015, respectively; 214,521,079 and 206,871,768 shares outstanding at December 31, 2016 and 2015, respectively	232	224
Treasury stock, at cost: 17,570,842 and 17,560,697 shares at December 31, 2016 and 2015, respectively	(893,332 )	(893,176 )
Additional paid-in capital	2,779,891	2,716,618
Retained earnings	997,890	691,742
Accumulated other comprehensive income (loss)	(12,395 )	(18,477 )
Total common stockholders' equity	2,872,286	2,496,931
Total liabilities and stockholders' equity	\$4,253,637	\$3,992,716

See Supplemental Notes.

Radian Group Inc.  
 Schedule II—Financial Information of Registrant  
 Condensed Statements of Operations  
 Parent Company Only

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Revenues:			
Net investment income	\$20,834	\$17,917	\$9,515
Net gains (losses) on investments and other financial instruments	(150 )	2,975	(2,732 )
Other income	49	—	7
Total revenues	20,733	20,892	6,790
Expenses:			
Loss on induced conversion and debt extinguishment	75,075	94,207	—
Interest expense	29,002	55,768	57,366
Total expenses (Note G)	104,077	149,975	57,366
Pretax loss from continuing operations	(83,344 )	(129,083 )	(50,576 )
Income tax provision (benefit)	(8,676 )	(43,854 )	143,912
Equity in net income of affiliates	382,921	371,949	1,172,032
Net income from continuing operations	308,253	286,720	977,544
Income (loss) from discontinued operations, net of taxes	—	204	(18,027 )
Net income	308,253	286,924	959,517
Other comprehensive income (loss), net of tax	6,082	(69,962 )	14,102
Comprehensive income	\$314,335	\$216,962	\$973,619



See Supplemental Notes.

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Radian Group Inc.  
Schedule II—Financial Information of Registrant  
Condensed Statements of Cash Flows  
Parent Company Only

(In thousands)	Year Ended December 31,		
	2016	2015	2014
Net cash provided by (used in) operating activities, continuing operations	\$38,902	\$(128,879)	\$(27,152)
Net cash provided by (used in) operating activities, discontinued operations	—	—	(18,027 )
Net cash provided by (used in) operating activities	38,902	(128,879 )	(45,179 )
Cash flows from investing activities:			
Proceeds from sales of:			
Fixed-maturity investments available for sale	47,058	—	—
Equity securities available for sale	24,992	—	—
Trading securities	30,350	—	—
Proceeds from redemptions of:			
Fixed-maturity investments available for sale	49,578	—	—
Trading securities	10,000	—	—
Purchases of :			
Fixed-maturity investments available for sale	(137,431)	(39,667 )	—
Equity securities available for sale	—	(25,545 )	—
Sales, redemptions and (purchases) of :			
Short-term investments, net	(40,288 )	473,350	1,372
Other assets, net	239	(688 )	(1,351 )
Capital distributions from subsidiaries and affiliates	15,000	113,784	—
Capital contributions to subsidiaries and affiliates	(1,500 )	(182,307 )	(139,103 )
Acquisition of subsidiaries	(30,443 )	—	—
(Issuance) repayment of note receivable from affiliate (Note D)	201,631	(208,527 )	(300,000 )
Net cash provided by (used in) investing activities	169,186	130,400	(439,082 )
Cash flows from financing activities:			
Dividends paid	(2,105 )	(1,996 )	(1,865 )
Issuance of long-term debt, net	343,417	343,334	293,809
Purchases and redemptions of long-term debt	(445,072)	(156,172 )	(57,223 )
Proceeds from termination of capped calls	—	13,150	—
Issuance of common stock	717	1,285	247,188
Purchase of common shares	(100,188)	(202,000 )	—
Excess tax benefits from stock-based awards	98	2,228	—
Net cash provided by (used in) financing activities	(203,133)	(171 )	481,909
Increase (decrease) in cash and restricted cash	4,955	1,350	(2,352 )
Cash and restricted cash, beginning of period	3,425	2,075	4,427
Cash and restricted cash, end of period	\$8,380	\$3,425	\$2,075

See Supplemental Notes.

Radian Group Inc.  
Schedule II—Financial Information of Registrant  
Parent Company Only  
Supplemental Notes

Note A

The Radian Group Inc. (the “Parent Company”, “we” or “our”) financial statements represent the stand-alone financial statements of the Parent Company. These financial statements have been prepared on the same basis and using the same accounting policies as described in the consolidated financial statements included herein, except that the Parent Company uses the equity-method of accounting for its majority-owned subsidiaries. These financial statements should be read in conjunction with our consolidated financial statements and the accompanying notes thereto.

Certain prior period amounts have been reclassified to conform to current period presentation, including the adoption of an update to the accounting standard for the treatment of restricted cash in the statement of cash flows. See Note 2 of Notes to Consolidated Financial Statements for additional information.

On April 1, 2015, Radian Guaranty completed the sale of Radian Asset Assurance pursuant to the Radian Asset Assurance Stock Purchase Agreement. See Note 18 of Notes to Consolidated Financial Statements for additional information related to discontinued operations.

Under our current tax-sharing agreement between the Parent Company and its subsidiaries, we are required to refund to each subsidiary any amount that the subsidiary could utilize through existing carryback provisions of the Internal Revenue Code had such subsidiary filed its federal tax return on a separate company basis. Pursuant to this, we had paid Radian Asset Assurance for losses and foreign tax credits it had generated, and Radian Group had recorded the DTA for the related consolidated carryforward on its balance sheet. However, the Internal Revenue Code consolidation provisions do not allocate consolidated carryovers based on tax-sharing agreements, but rather on an allocation to all subsidiaries that generated the carryforward. Upon a stock sale of a subsidiary, any consolidated attributes allocated to a subsidiary under these regulations transfer to the subsidiary and are no longer part of the consolidated carryforward. As such, for the year ended December 31, 2014, the Parent Company classified the DTAs pertaining to Radian Asset Assurance’s foreign tax credit and allocated NOL as assets held for sale and recorded a related loss from discontinued operations. These DTAs were transferred to Assured upon completion of the sale of Radian Asset Assurance in 2015.

Note B

We had restricted cash of \$0.1 million at both December 31, 2016 and 2015, held as collateral for our insurance trust agreement for our health insurance policy.

Note C

During 2016, the Parent Company made total capital contributions of \$2.5 million to its subsidiaries. This amount included a cash contribution of \$1.5 million to RDN Investments, Inc. and a \$1.0 million contribution of marketable securities to Clayton Group Holdings Inc. In addition, during 2016, the Parent Company purchased Radian Insurance, Radian Mortgage Insurance and RMAI from Radian Guaranty for \$19.0 million, \$2.8 million and \$8.6 million, respectively. The purchase price of each subsidiary represented its total statutory capital and surplus as of September 30, 2016.

During 2016, the Parent Company received dividends from its subsidiaries totaling \$40.4 million in cash and marketable securities. This amount included cash of \$15.0 million from Enhance Financial Services Group Inc. and marketable securities from RDN Investments, Inc. of \$25.4 million. In addition, the Parent Company received a dividend from Radian MI Services Inc. of its full investment in Radian Investor Surety Inc., which was valued at \$5.0 million at the date of transfer. The Parent Company also received tax payments of \$51.2 million from its subsidiaries under our tax sharing agreement.

During 2015, the Parent Company made total capital contributions of \$398.3 million to its subsidiaries. This amount included a cash contribution of \$100.0 million to Radian Guaranty, contributions of cash (\$50.0 million) and marketable securities (\$216.0 million) totaling \$266.0 million to Radian Reinsurance, and cash contributions of \$20.0 million, \$12.1 million and \$0.2 million to Radian Mortgage Guaranty Inc., Clayton Group Holdings Inc., and Radian Mortgage Reinsurance Company, respectively.

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During 2015, the Parent Company received dividends from its subsidiaries totaling \$446.2 million in cash and marketable securities. This amount included marketable securities of \$216.0 million from Enhance Financial Services Group Inc. and cash of \$15.0 million from Radian MI Services Inc., which were used to partially fund the creation of Radian Reinsurance as part of an approved reorganization of our mortgage insurance subsidiaries. In addition, the Parent Company received a total of \$215.2 million (\$98.7 million in cash and \$116.5 million in marketable securities) from RDN Investments, Inc., to partially fund the acquisition of a Surplus Note from Radian Guaranty (see Note D for additional information). The Parent Company also received tax payments of \$16.0 million from its subsidiaries in 2015 under our tax-sharing agreement.

During 2014, the Parent Company made total capital contributions of \$139.1 million to its subsidiaries. This amount included cash contributions of \$100 million to Radian Guaranty, \$20 million to Radian MI Services Inc., \$19 million to Radian Clayton Holdings Inc. and \$0.1 million to Radian Mortgage Reinsurance Company. The Parent Company did not receive any dividends from its subsidiaries in 2014. The Parent Company did receive tax payments of \$8.8 million from its subsidiaries in 2014 under our tax-sharing agreement.

Note D

Accounts and notes receivable included a \$300 million note receivable from Clayton Group Holdings Inc. as of December 31, 2016 and 2015. This represents the principal amount related to the Senior Notes due 2019, which funded the acquisition of Clayton in June 2014. Interest on the note is payable semi-annually on June 1 and December 1, beginning December 1, 2014. The interest payment represents coupon interest plus issuance costs (amortized on a straight line basis over the term of the note). The principal is due on June 1, 2019. See Note E for additional information.

Accounts and notes receivable also included, as of December 31, 2015, a \$325 million Surplus Note from Radian Guaranty. In December 2015, the Parent Company transferred \$325 million (\$208.5 million in cash and \$116.5 million in marketable securities) to Radian Guaranty in exchange for a Surplus Note issued by Radian Guaranty. On June 30, 2016, Radian Guaranty transferred \$325 million (\$201.6 million in cash and \$123.4 million in marketable securities) in repayment of the outstanding Surplus Note. See Note 19 of Notes to Consolidated Financial Statements for additional information related to the Surplus Note.

Note E

Other assets increased as of December 31, 2016, compared to December 31, 2015, primarily as a result of an increase in the intercompany receivable balance related to the reimbursement of the Parent Company's allocated expenses by all of its subsidiaries, including related to the \$300 million note receivable from Clayton Group Holdings Inc. (See Notes D and G for additional information). In particular, the Services segment has not generated sufficient cash flow to reimburse the Parent Company for its direct and allocated operating expenses and interest expense, which contributed \$31.2 million to the increase during 2016. Other assets also includes an \$89 million deposit with the IRS. See Note 10 of Notes to Consolidated Financial Statements for additional information related to this "qualified deposit" and the status of the examination by the IRS of our 2000 through 2007 consolidated federal income tax returns.

Note F

During 2016, the Parent Company successfully completed a series of transactions to strengthen its capital position, including reducing its overall cost of capital and improving the maturity profile of its debt. See Notes 12 and 14 of Notes to Consolidated Financial Statements for additional information on our loss on induced conversion and debt extinguishment, long-term debt and capital stock.

At December 31, 2016, the maturities of the principal amount of our long-term debt in future years are as follows:  
(In thousands)

2017	\$22,233
2019	368,024
2020	350,000
2021	350,000
Total	\$1,090,257



In November 2016, the Parent Company announced its intent to exercise its redemption option for the remaining Convertible Senior Notes due 2019, of which \$68.0 million aggregate principal was outstanding at December 31, 2016. The redemption was settled on January 27, 2017. See Note 21 of Notes to Consolidated Financial Statements for additional information.

Note G

The Parent Company provides certain services to its subsidiaries. The Parent Company allocates to its subsidiaries expenses it incurs in the capacity of supporting those subsidiaries, including operating expenses, which are allocated based on a percentage of time spent, and interest expense, which is allocated based on relative capital. These expenses are presented net of allocations in the Statements of Operations. Substantially all operating expenses and interest expense, except for discount amortization on our long-term debt, as well as coupon interest attributable to the Convertible Senior Notes due 2019, have been allocated to the subsidiaries for 2016, 2015 and 2014.

Amounts allocated to the subsidiaries for expenses are based on actual cost, without any mark-up. The Parent Company considers these charges fair and reasonable. The subsidiaries generally reimburse the Parent Company for these costs in a timely manner, which has the impact of temporarily improving the cash flows of the Parent Company, if accrued expenses are reimbursed prior to actual payment. See Note E for additional information.

The following table shows the components of our Parent Company expenses that have been allocated to our subsidiaries for the periods indicated:

(in thousands)	Year Ended December 31,		
	2016	2015	2014
Allocated operating expenses	\$56,446	\$53,738	\$59,434
Allocated interest expenses	52,092	35,300	33,098
Total allocated expenses	\$108,538	\$89,038	\$92,532

Note H

Net investment income increased in 2016 compared to 2015, primarily due to an increase in the Parent Company's investment portfolio during the year.

Interest expense reflects the discount amortization on our long-term debt, as well as coupon interest attributable to the Convertible Senior Notes due 2019 and the Senior Notes due 2019, which are not allocated directly to our subsidiaries. The reduction in interest expense in 2016 was primarily attributable to lower expense following the induced conversion and extinguishment of \$30.1 million of our remaining Convertible Senior Notes due 2017 and \$322.0 million of our Convertible Senior Notes due 2019 during the year.

Note I

We and certain of our subsidiaries have entered into the following intercompany guarantees:

Radian Group and RMAI are parties to a guaranty agreement, which provides that Radian Group will make sufficient funds available to RMAI to ensure that RMAI has a minimum of \$5 million of statutory policyholders' surplus every calendar quarter. RMAI had \$8.6 million of statutory policyholders' surplus and no RIF exposure as of December 31, 2016.

To allow our mortgage insurance customers to comply with applicable securities regulations for issuers of ABS (including MBS), we have been required, depending on the amount of credit enhancement we were providing, to provide: (i) audited financial statements for the insurance subsidiary participating in these transactions or (ii) a full and unconditional holding-company level guarantee for our insurance subsidiaries' obligations in such transactions. Radian Group has guaranteed two structured transactions for Radian Guaranty with approximately \$110.2 million of aggregate remaining credit exposure as of December 31, 2016.

Radian Group and RGRI are parties to an Assumption and Indemnification Agreement with regard to RGRI's portion of the Deficiency Amounts relating to the IRS litigation. This indemnification agreement was made in lieu of an immediate capital contribution to RGRI that otherwise would have been required for RGRI to maintain its minimum statutory policyholders' surplus requirements in light of the remeasurement as of December 31, 2011 of uncertain tax positions related to the portfolio of REMIC residual interests. See Note E for additional information.





Radian Group Inc.  
 Schedule IV—Reinsurance  
 Insurance Premiums Earned  
 Year Ended December 31, 2016, 2015 and 2014

(\$ in thousands)	Gross Amount	Ceded to Other Companies	Assumed from Other Companies	Net Amount	Assumed Premiums as a Percentage of Net Premiums
2016	\$999,093	\$ 77,359	\$ 35	\$ 921,769	0.00 %
2015	\$973,645	\$ 57,780	\$ 43	\$ 915,908	0.00 %
2014	\$905,502	\$ 61,017	\$ 43	\$ 844,528	0.01 %

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INDEX TO EXHIBITS

Exhibit Number	Exhibit
2.1	Unit Purchase Agreement, dated as of May 6, 2014, by and among (i) the Registrant, (ii) Clayton Holdings LLC and (iii) Cobra Green LLC, a Delaware limited liability company, and Paul T. Bossidy (incorporated by reference to Exhibit 2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended March 31, 2014)
2.2	Stock Purchase Agreement dated as of December 22, 2014, between Radian Guaranty Inc. and Assured Guaranty Corp. (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated December 23, 2014, and filed on December 23, 2014)
3.1	Third Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 11, 2004 and filed on May 12, 2004)
3.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 22, 2008 and filed on May 29, 2008)
3.3	Second Amendment to the Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 12, 2010 and filed on May 18, 2010)
3.4	Certificate of Amendment of Certificate of Incorporation of the Registrant effective as of May 15, 2013 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 14, 2013 and filed on May 20, 2013)
3.5	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Registrant effective as of May 11, 2016 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 11, 2016 and filed on May 17, 2016)
3.6	Certificate of Change of Registered Agent and Registered Office of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 10, 2010 and filed on November 16, 2010)
3.7	Certificate of Designation of Series A Junior Participating Preferred Stock (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated October 9, 2009 and filed on October 13, 2009)
3.8	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 9, 2016 and filed on November 14, 2016)
4.1	Specimen certificate for Common Stock (incorporated by reference to Exhibit 4.1 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 1999)
4.2	Amended and Restated Tax Benefit Preservation Plan, dated as of February 12, 2010, between the Registrant and The Bank of New York Mellon (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 12, 2010 and filed on February 17, 2010)

- 4.3 First Amendment to the Amended and Restated Tax Benefit Preservation Plan, dated as of May 3, 2010, between the Registrant and The Bank of New York Mellon (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 3, 2010 and filed on May 4, 2010)
- 4.4 Senior Indenture, dated as of June 7, 2005, between the Registrant and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated June 2, 2005 and filed on June 7, 2005)
- 4.5 Senior Indenture, dated as of November 15, 2010, between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 10, 2010 and filed on November 16, 2010)

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- | Exhibit<br>Number | Exhibit  |
|-------------------|--|
| 4.6               | First Supplemental Indenture, dated as of November 15, 2010, between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 10, 2010 and filed on November 16, 2010)   |
| 4.7               | Form of 3.00% Convertible Senior Notes Due 2017 (included within Exhibit 4.6)  |
| 4.8               | Officers' Certificate, dated as of January 4, 2013, including the terms of the Registrant's 9.000% Senior Notes due 2017, as Attachment A, and including the form of the Notes as Exhibit A-1 to Attachment A (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated January 4, 2013 and filed on January 7, 2013)              |
| 4.9               | Form of 9.000% Senior Notes Due 2017 (included within Exhibit 4.8)   |
| 4.10              | Registration Rights Agreement, dated as of January 4, 2013, between the Registrant and Morgan Stanley & Co. LLC (incorporated by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated January 4, 2013 and filed on January 7, 2013)  |
| 4.11              | Senior Indenture dated as of March 4, 2013 between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 27, 2013 and filed on March 4, 2013)   |
| 4.12              | First Supplemental Indenture dated as of March 4, 2013 between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 27, 2013 and filed on March 4, 2013)   |
| 4.13              | Form of 2.25% Convertible Senior Notes due 2019 (included within Exhibit 4.12)   |
| 4.14              | Second Supplemental Indenture, dated as of May 13, 2014, between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 7, 2014, and filed on May 13, 2014)   |
| 4.15              | Form of 5.500% Senior Note due 2019 (included within Exhibit 4.14)   |
| 4.16              | Officers' Certificate, dated as of February 28, 2013, including the terms of the Registrant's 9.000% Senior Notes due 2017, as Attachment A, and including the form of the Registered Notes as Exhibit A-1 to Attachment A (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 28, 2013 and filed on March 6, 2013) |
| 4.17              | Form of 9.000% Senior Notes due 2017 (included within exhibit 4.16)  |
| 4.18              | Third Supplemental Indenture dated as of June 19, 2015 between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated June 16, 2015 and filed on June 19, 2015)   |
| 4.19              | Form of 5.250% Senior Notes due 2020 (included within Exhibit 4.18)  |
| 4.20              | Fourth Supplemental Indenture dated as of March 18, 2016 between the Registrant and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form  |

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8-K (file no. 1-11356) dated March 15, 2016 and filed on March 18, 2016)

4.21 Form of 7.000% Senior Note due 2021 (included within Exhibit 4.20)

+10.1 Employment Agreement between the Registrant and Sanford A. Ibrahim, dated as of November 12, 2014 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 12, 2014 and filed on November 18, 2014)

+10.2 Stock Appreciation Right Agreement under 2008 Equity Compensation Plan, dated as of May 13, 2009, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.25 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2009)

+10.3 Restricted Stock Award Agreement under 2008 Equity Compensation Plan, dated as of May 13, 2009, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.26 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2009)

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Exhibit  
Number Exhibit

- +10.4 Restricted Stock Award Agreement under 2008 Equity Compensation Plan, dated as of May 16, 2009, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.27 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2009)
- +10.5 Amendments to Restricted Stock and Stock Option Grants between the Registrant and Sanford A. Ibrahim, dated as of February 10, 2010 (incorporated by reference to Exhibit 10.11 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2009)
- +10.6 2010 Performance-Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan, dated May 12, 2010 between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2010)
- +10.7 2010 Stock Option Agreement under the 2008 Equity Compensation Plan, dated May 12, 2010 between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2010)
- +10.8 Form of Severance Agreement (including for Richard I. Altman, Derek Brummer, Edward J. Hoffman, C. Robert Quint and H. Scott Theobald) (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated December 30, 2010 and filed on January 6, 2011)
- +10.9 Radian Group Inc. Amended and Restated Benefit Restoration Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 6, 2007 and filed on November 13, 2007)
- +10.10 Amendment No. 1 to the Radian Group Inc. Amended and Restated Benefit Restoration Plan, effective January 1, 2008 (incorporated by reference to Exhibit 10.16 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2008)
- +10.11 Radian Group Inc. Savings Incentive Plan (Amended and Restated Effective January 1, 2010 incorporating all amendments through December 31, 2012) (incorporated by reference to Exhibit 10.13 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2013)
- +10.12 Amendment No. 1 to the Radian Group Inc. Savings Incentive Plan (Amended and Restated Effective January 1, 2010), effective May 22, 2013 (incorporated by reference to Exhibit 10.14 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2013)
- +10.13 Radian Group Inc. 1995 Equity Compensation Plan (Amended and Restated May 9, 2006) (incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement for the 2006 Annual Meeting of Stockholders (file no. 1-11356), as filed with the Securities and Exchange Commission on April 18, 2006).
- +10.14 Amendment to Radian Group Inc. 1995 Equity Compensation Plan (Amended and Restated May 9, 2006) dated February 5, 2007 (incorporated by reference to Exhibit 10.17 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2006)
- +10.15 Amendment No. 2 to Radian Group Inc. 1995 Equity Compensation Plan, dated November 6, 2007 (incorporated by reference to Exhibit 10.23 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2007)

- Form of Stock Option Grant Letter under 1995 Equity Compensation Plan (incorporated by reference to Exhibit 10 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2004)
- +10.16
- Form of Restricted Stock Award Agreement for awards granted before February 5, 2007 under 1995 Equity Compensation Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2005)
- +10.17
- Form of Restricted Stock Award Agreement for awards granted on or after February 5, 2007 under 1995 Equity Compensation Plan (incorporated by reference to Exhibit 10.20 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2006)
- +10.18
- Form of Phantom Stock Agreement for Non-Employee Directors under 1995 Equity Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 8, 2005 and filed on February 14, 2005)
- +10.19

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- +10.20 Radian Group Inc. Amended and Restated 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-8 (file no. 333-174428) filed on May 23, 2011)
- +10.21 Form of Stock Option Grant Letter under 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2008)
- +10.22 Form of Restricted Stock Award Agreement under 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2008)
- +10.23 Form of Phantom Stock Agreement for Non-Employee Directors under 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2008)
- +10.24 Amendment to Form of 2008 Phantom Stock Agreement for Non-Employee Directors under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2009)
- +10.25 Form of 2009 Restricted Stock Award Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2009)
- +10.26 Form of 2009 Stock Appreciation Right Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2009)
- +10.27 Form of Restricted Stock Unit Award Agreement for Employees under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.34 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2010)
- +10.28 Form of 2009 Restricted Stock Unit Award Agreement for Non-Employee Directors under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2009)
- +10.29 Amended and Restated Radian Group Inc. 2008 Executive Long-Term Incentive Cash Plan (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended March 31, 2011)
- +10.30 Form of 2010 Performance-Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2010)
- +10.31 Form of 2010 Stock Option Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2010)



+10.32 Form of 2010 Executive Long-Term Incentive Cash Plan Award (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2010)

+10.33 Radian Group Inc. Amended and Restated Performance Share Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Amended Current Report on Form 8-K (file no. 1-11356) dated February 8, 2005 and filed on February 14, 2005)

+10.34 Amended and Restated Radian Group Inc. Voluntary Deferred Compensation Plan for Directors (incorporated by reference to Exhibit 10.34 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2014)

+10.35 Amended and Restated Radian Voluntary Deferred Compensation Plan for Officers (incorporated by reference to Exhibit 10.35 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2014)

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+10.36 Radian Group Inc. 2008 Employee Stock Purchase Plan, as amended and restated on December 11, 2012 (incorporated by reference to Exhibit 10.42 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2012)

+10.37 Radian Group Inc. STI/MTI Incentive Plan for Executive Employees (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 12, 2009 and filed on November 18, 2009)

+10.38 Radian Group Inc. STI Incentive Plan For Financial Guaranty Employees (incorporated by reference to Exhibit 10.42 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2013)

+10.39 Enhance Financial Services Group Inc. 1997 Long-Term Incentive Plan for Key Employees (As Amended Through June 3, 1999) (incorporated by reference to Exhibit 10.2.2 to the Quarterly Report on Form 10-Q (file no. 1-10967) for the period ended June 30, 1999, of Enhance Financial Services Group Inc.)

+10.40 Enhance Reinsurance Company Supplemental Pension Plan (incorporated by reference to Exhibit 10.4 to the Annual Report on Form 10-K (file no. 1-10967) for the year ended December 31, 1999, of Enhance Financial Services Group Inc.)

+10.41 Amendment to Enhance Reinsurance Company Supplemental Pension Plan, effective January 1, 2008 (incorporated by reference to Exhibit 10.40 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2008)

+10.42 Certain Compensation Arrangements with Directors (Effective May, 2008) (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2008)

10.43 Net Worth and Liquidity Maintenance Agreement, dated as of October 10, 2000, between Radian Guaranty Inc. and Radian Insurance Inc. (incorporated by reference to Exhibit 10.26 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2002)

10.44 Form of Expense Allocation and Services Agreement between the Registrant and each of Radian Guaranty Inc., Radian Insurance Inc., Radian Asset Assurance Inc. and Amerin Guaranty Corporation (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2005)

10.45 Form Amendment to Expense Allocation and Services Agreement between the Registrant and each of Radian Guaranty Inc. Radian Insurance Inc., Radian Asset Assurance Inc. and Amerin Guaranty Corporation (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on form 10-Q (file no. 1-11356) for the period ended March 31, 2009)

10.46 Radian Group Inc. Allocation of Consolidated Tax Liability Agreement between the Registrant and each of its subsidiaries, dated January 1, 2002, including Addendums 1 through 6 dated between January 1, 2002 and July 10, 2008 (incorporated by reference to Exhibit 10.49 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2008)

10.47

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Capped Call Confirmation (Reference No. 99AMQGZY8) dated as of November 8, 2010 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 8, 2010 and filed on November 10, 2010)

10.48 Capped Call Confirmation (Reference No. 99AMQM627) dated as of November 10, 2010 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated November 8, 2010 and filed on November 10, 2010)

10.49 Securities Purchase Agreement, dated as of May 3, 2010, by and between Radian Guaranty Inc. and Sherman Financial Group LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated April 30, 2010 and filed on May 4, 2010)

+10.50 Amendment to Incentive Awards under 2008 Executive Long-Term Incentive Cash Plan, dated April 5, 2011 (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated April 5, 2011 and filed on April 7, 2011)

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- +10.51 Form of 2011 Performance Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2011)
- +10.52 Form of 2011 Stock Option Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2011)
- +10.53 2011 Performance Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan, dated June 9, 2011, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2011)
- +10.54 2011 Performance Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan, dated June 9, 2011, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2011)
- +10.55 2011 Stock Option Agreement under the 2008 Equity Compensation Plan, dated June 9, 2011, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.9 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2011)
- +10.56 2011 Stock Option Agreement under the 2008 Equity Compensation Plan, dated June 9, 2011, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.10 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2011)
- +10.57 Severance Agreement, dated December 23, 2011, between Teresa Bryce Bazemore and the Registrant (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) filed December 29, 2011)
- +10.58 Transfer Letter Agreement between the Registrant and Derek Brummer, dated April 3, 2013 (incorporated by reference to Exhibit 10.63 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2013)
- 10.59 Commutation, Reassumption and Release Agreement, effective as of January 1, 2012 (signed January 24, 2012), between Assured Guaranty Municipal Corp. (formerly Financial Security Assurance Inc.), Assured Guaranty (Europe) Ltd. (formerly Financial Security Assurance (U.K.) Limited), and Radian Asset Assurance Inc. (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated January 30, 2012 and filed on January 30, 2012)
- +10.60 Form of 2012 Performance Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)
- +10.61 Form of 2012 Stock Option Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)
- +10.62 2012 Performance Based Restricted Stock Unit Grant Letter under the 2008 Equity Compensation Plan, dated as of June 6, 2012, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.1

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to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)

+10.63 2012 Performance Based Restricted Stock Unit Grant Letter under the 2008 Equity Compensation Plan, dated as of June 6, 2012, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)

+10.64 2012 Stock Option Agreement under the 2008 Equity Compensation Plan, dated as of June 6, 2012, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)

+10.65 2012 Stock Option Agreement under the 2008 Equity Compensation Plan, dated as of June 6, 2012, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)

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- +10.66 Waiver Letter, dated May 30, 2012, under Employment Agreement between the Registrant and S.A. Ibrahim, dated April 5, 2011 (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2012)
- +10.67 Letter Agreement, dated May 16, 2013, between the Registrant and S.A. Ibrahim (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated May 14, 2013 and filed on May 20, 2013)
- +10.68 2013 Performance-Based Restricted Stock Unit Grant Letter under the 2008 Equity Compensation Plan, dated as of May 14, 2013, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2013)
- +10.69 2013 Stock Option Agreement under the 2008 Equity Compensation Plan, dated as of May 14, 2013, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2013)
- +10.70 2013 Performance-Based Restricted Stock Unit Grant Letter under the 2008 Equity Compensation Plan, dated as of May 14, 2013, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2013)
- +10.71 2013 Stock Option Agreement under the 2008 Equity Compensation Plan, dated as of May 14, 2013, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2013)
- +10.72 Form of 2013 Performance-Based Restricted Stock Unit Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2013)
- +10.73 Form of 2013 Stock Option Agreement under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2013)
- 10.74 Master Transaction Agreement, dated as of August 29, 2013, by and between Radian Guaranty Inc. and Federal Home Loan Mortgage Corporation (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated August 29, 2013 and filed on August 30, 2013)
- +10.75 2014 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan, dated as of June 17, 2014, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)
- +10.76 2014 Stock Option Agreement under the 2014 Equity Compensation Plan, dated as of June 17, 2014, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)
- +10.77 2014 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan, dated as of June 17, 2014, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)

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+10.78 2014 Stock Option Agreement under the 2014 Equity Compensation Plan, dated as of June 17, 2014, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)

+10.79 Form of 2014 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)

+10.80 Form of 2014 Stock Option Agreement under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)

+10.81 Employment Agreement between the Registrant and Paul T. Bossidy, dated as of May 1, 2014 (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2014)

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- 10.82 Confidential Settlement Agreement and Release, dated as of September 16, 2014, by and among Radian Guaranty Inc., Countrywide Home Loans, Inc., and Bank of America, N.A., as a successor to BofA Home Loans Servicing f/k/a Countrywide Home Loans Servicing LP on its own behalf and as successor in interest by de jure merger to Countrywide Bank FSB, formerly Treasury Bank (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated September 16, 2014, and filed on September 19, 2014)
- +10.83 Letter Agreement, effective as of December 10, 2014, between the Registrant and J. Franklin Hall (including Attachment A - Severance Agreement and Attachment B - Restrictive Covenant Agreement) (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated December 10, 2014, and filed on December 15, 2014)
- +10.84 Consulting Services Agreement, dated December 16, 2014, between the Registrant and C. Robert Quint (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated December 16, 2014, and filed on December 18, 2014)
- +10.85 Radian Group Inc. 2014 Equity Compensation Plan (incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement on Schedule 14A (file no. 1-11356) filed on April 7, 2014 for the 2014 Annual Meeting of Stockholders)
- 10.86 Accelerated Share Repurchase Agreement, dated as of June 18, 2015, between the Registrant and Deutsche Bank AG, London Branch with Deutsche Bank Securities Inc. acting as agent (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2015)
- +10.87 2014 Stock Option Agreement under the 2014 Equity Compensation Plan, dated as of July 9, 2015, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2015)
- +10.88 2015 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan, dated as of July 9, 2015, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2015)
- +10.89 Form of 2015 Stock Option Agreement under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2015)
- +10.90 Form of 2015 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2015)
- +10.91 Form of Amendment to Restricted Stock Unit Award Agreement for Non-Employee Directors under the 2008 Equity Compensation Plan (incorporated by reference to Exhibit 10.91 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2015)
- +10.92



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Form of 2015 Time-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.92 to the Registrant's Annual Report on Form 10-K (file no. 1-11356) for the year ended December 31, 2015)

+10.93 Severance Agreement and Release, effective March 30, 2016, between the Registrant and Joseph D'Urso (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended March 31, 2016)

+10.94 2016 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan, dated as of May 11, 2016, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2016)

+10.95 2016 Stock Option Agreement under the 2014 Equity Compensation Plan, dated as of May 11, 2016, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2016)

+10.96 Form of 2016 Performance-Based Restricted Stock Unit Grant Letter under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2016)

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+10.97 Form of 2016 Stock Option Agreement under the 2014 Equity Compensation Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended June 30, 2016)

+10.98 Form of Executive Severance Agreement (including for Jeffrey Tennyson) (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2016)

+10.99 Form of Restrictive Covenant Agreement (including for Jeffrey Tennyson) (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (file no. 1-11356) for the period ended September 30, 2016)

+10.100 Employment Agreement, dated as of February 8, 2017, between the Registrant and Richard G. Thornberry (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

+10.101 Restrictive Covenants Agreement, dated as of February 8, 2017, between the Registrant and Richard G. Thornberry (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

+10.102 Form of Restricted Stock Unit Agreement between the Registrant and Richard G. Thornberry (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

+10.103 Retirement Agreement, dated as of February 8, 2017, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

+10.104 Consulting Agreement, dated as of February 8, 2017, between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

+10.105 Form of Performance Based Restricted Stock Unit Agreement between the Registrant and Sanford A. Ibrahim (incorporated by reference to Exhibit 10.6 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

+10.106 Radian Group Inc. STI/MTI Incentive Plan for Executive Employees, as amended and restated (incorporated by reference to Exhibit 10.7 to the Registrant's Current Report on Form 8-K (file no. 1-11356) dated February 7, 2017 and filed on February 13, 2017)

\*12 Ratio of Earnings to Fixed Charges and to Combined Fixed Charges and Preferred Stock Dividends

\*21 Subsidiaries of the Registrant

\*23.1 Consent of PricewaterhouseCoopers LLP

\*31 Rule 13a-14(a) Certifications

\*\*32 Section 1350 Certifications

The following financial information from Radian Group Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016, is formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of December 31, 2016 and December 31, 2015, (ii) Consolidated Statements of Operations for the years ended December 31, 2016, 2015, and 2014, (iii) Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2016, 2015, and 2014, (iv) Consolidated Statements of Changes in Common Stockholders' Equity for the years ended December 31, 2016, 2015, and 2014, (v) Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015, and 2014, and (vi) the Notes to Consolidated Financial Statements.

\* Filed herewith.

\*\* Furnished herewith.

+ Management contract, compensatory plan or arrangement.