

RADIAN GROUP INC  
Form 10-K  
February 27, 2017

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

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

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

Delaware 23-2691170  
(State or other jurisdiction of (I.R.S. Employer  
incorporation or organization) 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

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

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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.

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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.

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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.



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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) t