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# Welcome to Radian’s 2019 Investor Day

# Agenda

| Event | Time |
|---|---|
| **Emily Riley**<br>Welcome | 09:30 AM |
| **Rick Thornberry**<br>Strategic Overview | 09:35 AM |
| **Frank Hall**<br>Value Drivers | 10:15 AM |
| **Derek Brummer**<br>Mortgage Insurance and Risk Services | 11:00 AM |
| **Panel Discussion** | 11:30 AM |
| **LUNCH** | 12:15 PM |

| Event | Time |
|---|---|
| **Ted Hoffman**<br>Government Relations/Legislative Update | 12:45 PM |
| **Eric Ray**<br>Technology and Transaction Services | 01:30 PM |
| **Brien McMahon**<br>Customer Franchise | 02:00 PM |
| **Panel Discussion** | 02:30 PM |
| **Rick Thornberry**<br>Wrap Up and Q&A | 03:00 PM |
| **Cocktail Reception** | 03:30 PM |

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# Strategic Overview

Rick Thornberry
Chief Executive Officer

# Discover The New

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## So You Can See What We See!

# Key Takeaways From Today

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We are developing an innovative, high value mortgage and real estate enterprise

We are leveraging our core competencies to develop next generation, disruptive business models

We are focused on enabling better ways to do business for all market participants and build value for our shareholders

# Key Takeaways

- We have significant **future earnings potential** – and growing – from our **highly valuable,** off balance sheet **mortgage insurance portfolio**
- We have broad **customer relationships** across the key mortgage and real estate market segments
- We are building a **more durable, less volatile business model** focused on reducing cyclical exposure and improving shareholder returns through **risk distribution**
- We are executing a **capital management strategy** that enhances shareholder returns and provides **financial strength** and **strategic flexibility**

# Key Takeaways

- We have an **enterprise core competency** – **aggregating, managing and distributing residential mortgage credit risk** – that is becoming increasingly valuable as credit risk shifts from the government to private capital
- We have a **competitive advantage** from our **diversification strategy** that we believe will deliver enhanced shareholder returns and value over the long term
- We are building value through our **digital transformation** leveraging unique **data**, informed by proprietary **analytics** and powered by innovative **technologies**
- We have a highly **experienced and committed team** leading the execution of the strategy

# Let’s Get Started

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## Today…

Radian is a

# market leading mortgage insurance company.



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We are delivering

# strong financial results

…And are

# strategically positioned for growth

We are building a market leading residential **mortgage and real estate enterprise** delivering a diversified set of high-value **risk and transaction management products and services.**

We do this through innovative next generation digital business models that are powered by data, analytics and technology and delivered to participants across the value chain driving strong growth, value creation and shareholder returns.

At Radian, we are committed to **ensuring the American dream** of homeownership **responsibly and sustainably** through products and services that span the mortgage and real estate spectrum.

This is the new…

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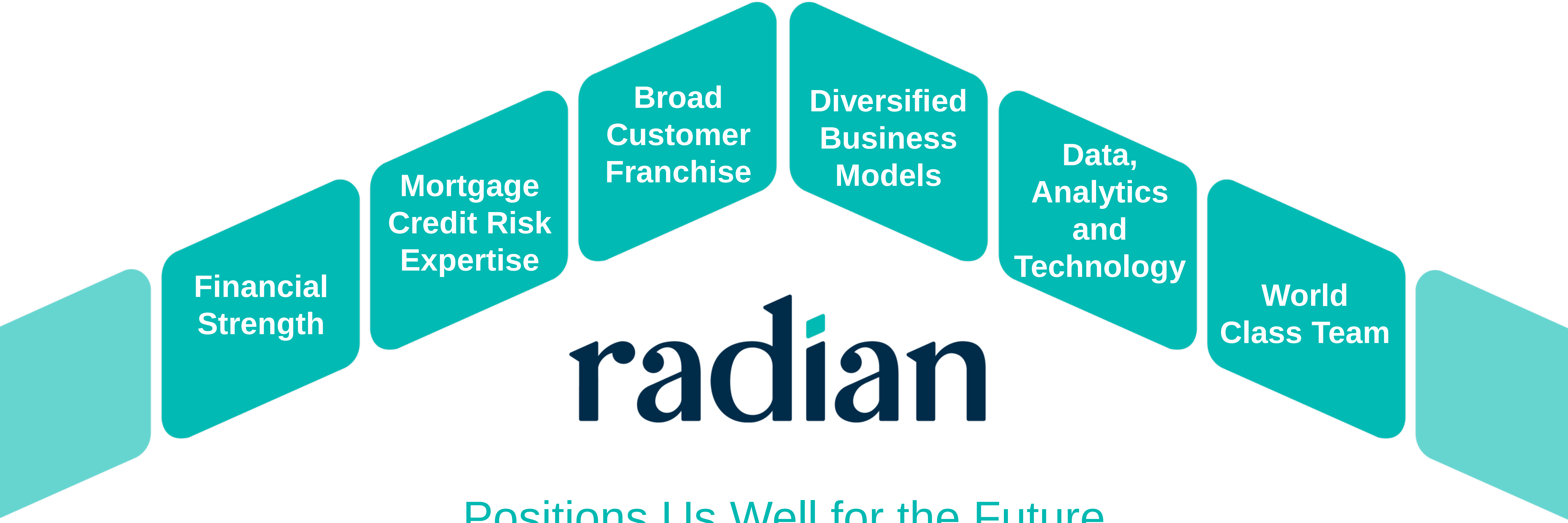
ensuring the American dream

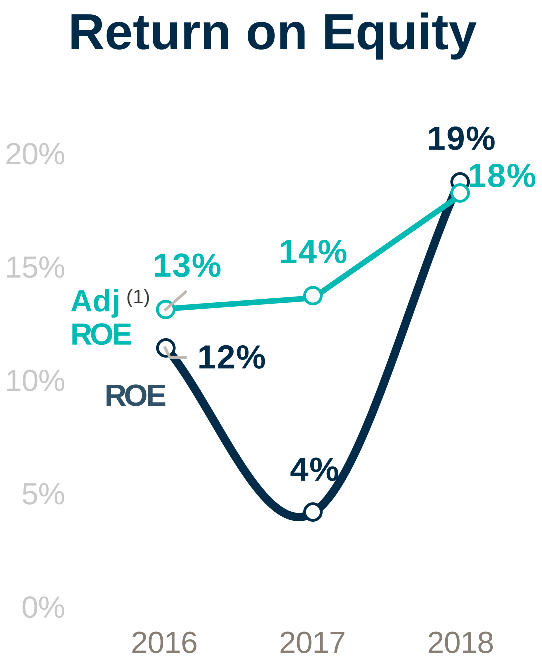
# We Are Building From A Position of Strength

# A Strong Business Foundation




## Positions Us Well for the Future

# Strong Financial Performance



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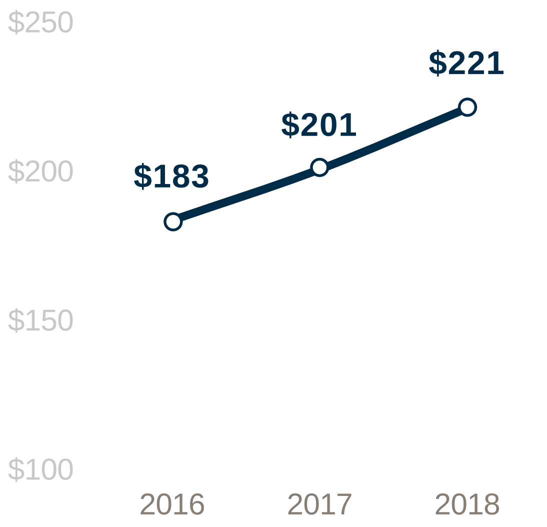
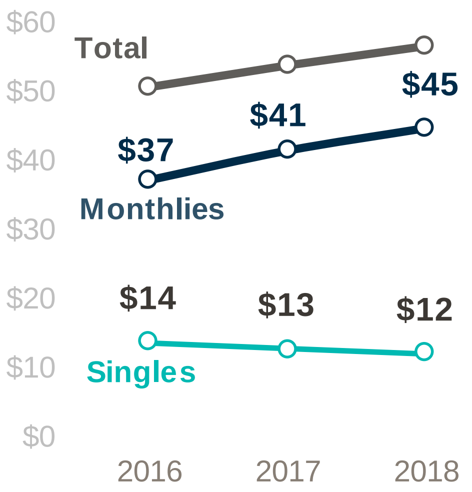
# Strong Financial Performance

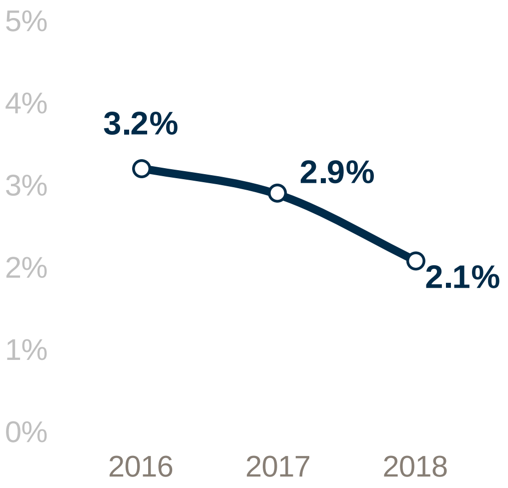
## Insurance in Force ($B)




## New Insurance Written ($B)




## Primary Default Rate





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# Strong Customer Franchise

Our **established relationships** span the mortgage and real estate ecosystem providing **valuable strategic insights** into the market needs

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**1,200+**
**Mortgage Lenders**

**300+**
**Mortgage and Real Estate Investors**

**18,000+**
**Real Estate Brokers and Agents**

These relationships provide an **excellent foundation to distribute our products and services,** and serve as an intermediary **connecting the participants across the mortgage and real estate ecosystem**

# Valuable Scale

**Insured** nearly
7 million loans.

**Wrote** $240 billion
in new insurance **covering**
983,000 loans
over the last five years.



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# Valuable Scale

Developed a high value and high quality
Insurance in Force
portfolio of $224 billion
comprised of over
1 million loans.

…and the scale of our business
goes well beyond
our mortgage insurance business



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# Valuable Scale

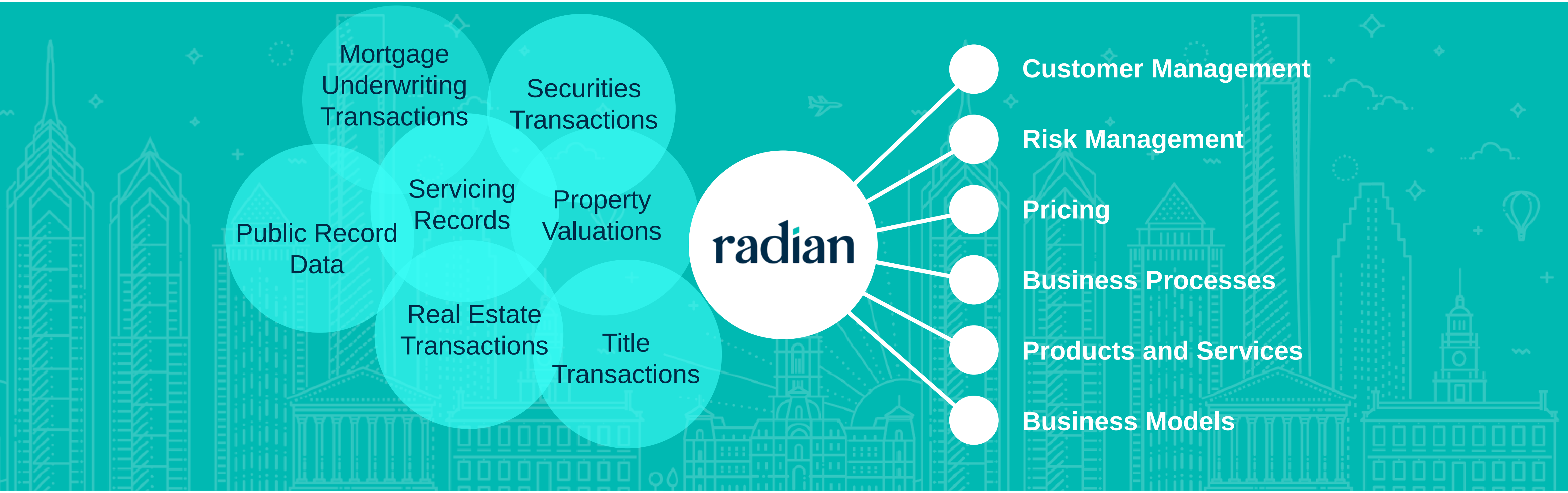
**Reviewed** more than 17 million loans
and maintain a **database of mortgage loans**
with more than $2 trillion
in original loan balance.

**Aggregated** more than
130 million property records in our
**proprietary database** including
1.4 billion photographs.

**Generated** approximately
40 million valuations
and **completed** over 200,000
property dispositions.

# Competitively Differentiated Data and Analytics Platform

Radian gathers data from a **broad base of internal and external sources** and applies **proprietary predictive analytics to inform the data**




We use the data and analytics to drive **better ways of doing business** for our customers and us

# What We Believe

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# We are managing our business forward based on **what we believe**

Mortgage Securitization

Credit Environment

Competitive Environment

Housing Finance Reform

Mortgage Market

Market Digitalization

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# The Value Of Our “Private Capital” Platform

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We believe that the mortgage world is evolving…

We are at the front end of an
epic shift of mortgage credit risk
from the government to private capital.

# We have the strategic ability to…

aggregate high quality mortgage credit risk through strong customer relationships,

manage the risk through our highly experienced credit risk management platform, and

distribute all or a portion of the risk to the capital markets and reinsurance markets.

# Therefore, in a new mortgage world, we believe…

Our ability to aggregate, manage and distribute high quality mortgage credit risk across our "private capital" platform

combined with our overall financial strength

…is strategically valuable!

# The Value Added By Our Services Businesses

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# We believe our Services businesses add important value

**Today:**

- Competitive Differentiation
- Data and Analytics

**Future:**

- Strategic Diversification
- Financial Contribution
- Enterprise Valuation

We believe **enterprise value** may build in certain businesses ahead of the financial contribution

# Our Strategic Blueprint

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## Today, we have the **core building blocks** in place for a market leading, diversified, next generation **mortgage and real estate enterprise**

### Mortgage Insurance Segment

**Radian Mortgage Insurance** promotes responsible and sustainable homeownership and allows lenders to offer affordable mortgage financing options to prospective homeowners. Our products also facilitate the sale of low-down payment mortgages in the secondary market and enable homebuyers to purchase homes more quickly with down payments of less than 20%.

**Radian Risk Services** offers proprietary mortgage risk analytics and custom insurance products to help lenders more efficiently manage risk and help investors participate in mortgage risk sharing.

### Services Segment

**Radian Mortgage Services** helps loan originators and investors evaluate, acquire, surveil and securitize mortgages. These services include loan review, RMBS securitization and distressed asset reviews, review and valuation services related to single family rental properties, servicer and loan surveillance and underwriting.

**Radian Real Estate Services** helps lenders, investors and real estate agents evaluate, manage, monitor and sell properties. These real estate services include software as a service solutions and platforms, as well as managed services, such as REO asset management, real estate valuation services and real estate brokerage services.

**Radian Title Services** provides a comprehensive suite of title insurance products, title settlement services and both traditional and digital closing services.

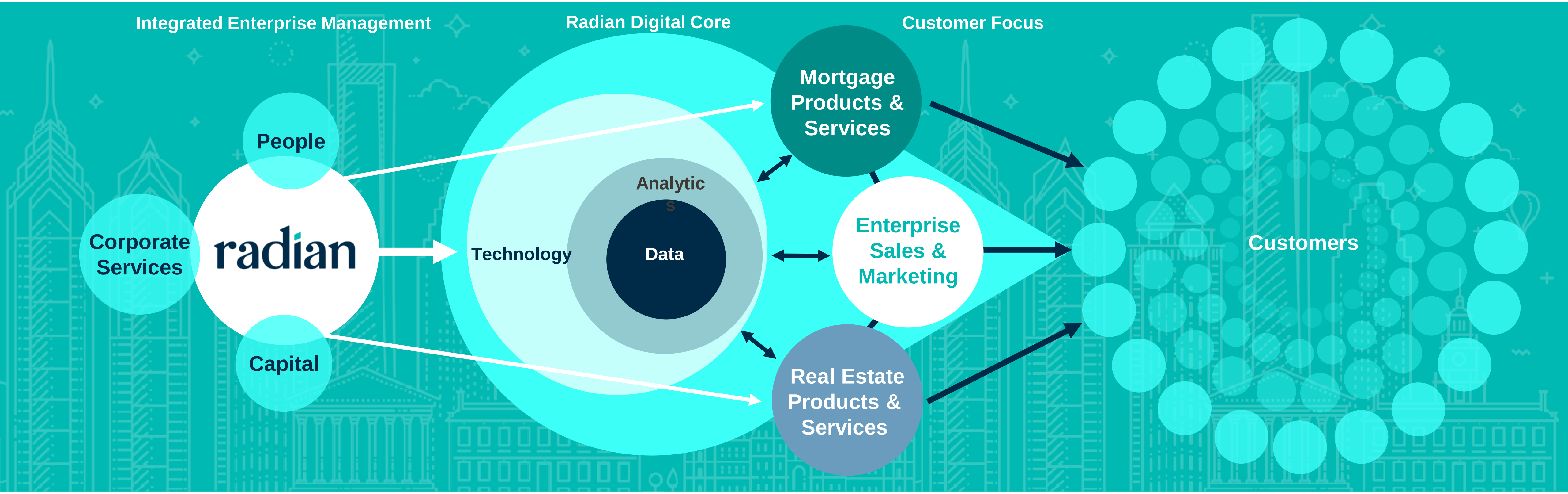
Our valuable **customer franchise** combined with a **strong capital base**, **diversified set of services**, and **broad data and analytics framework** position us for the future

# Our Simple "One Radian" Business Model

| Market Focus | Operational Excellence | Financial Management |
|---|---|---|
| ▪ Brand Strength | ▪ Customer Service | ▪ Financial Performance |
| ▪ Customer Relationships | ▪ Enterprise Risk | ▪ Insurance Portfolio |
| ▪ Diversified Products | ▪ Data and Analytics | ▪ Risk Distribution |
| ▪ Innovative Approach | ▪ Digital Platforms | ▪ Capital Management |

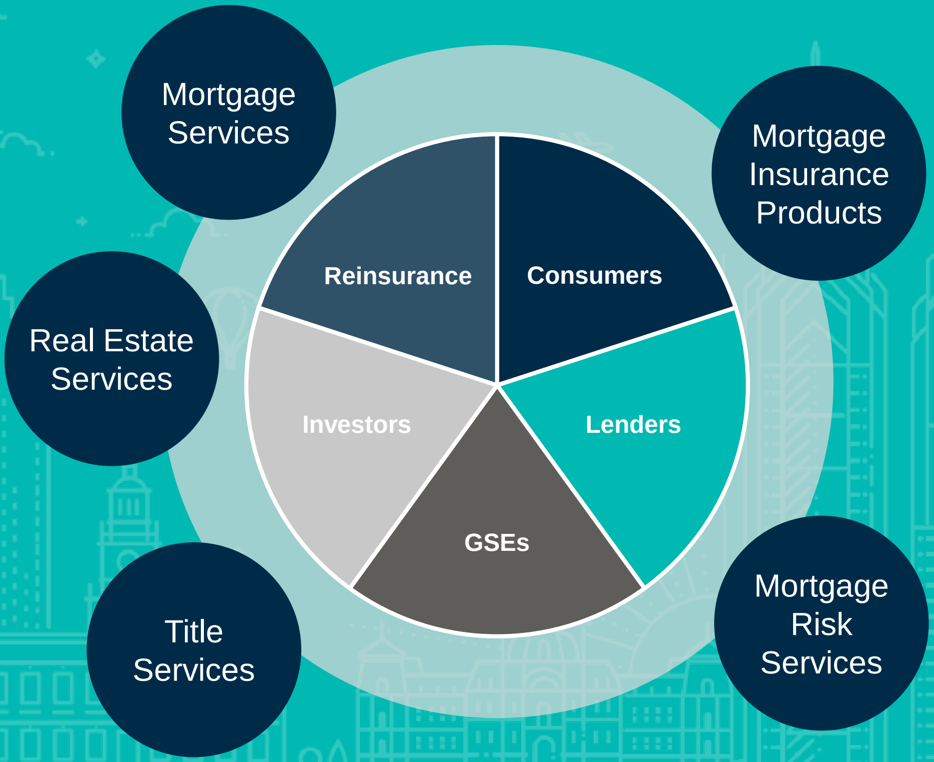
**World Class Team**

## We are evolving quickly by leveraging our **core competencies** and **financial strength** to address the strategic needs of the **residential mortgage and real estate markets**




Radian is transforming into a **diversified and integrated business** informed by **data and analytics**, **powered by technology**, and driven to deliver new and **better ways with enhanced transparency** for all market participants to **manage risks and transact across the mortgage and real estate spectrum**

# All of Radian's capabilities serve the key players in the **mortgage market**




The **value** we generate from our presence in the mortgage market is our ability to **underwrite mortgage credit risk** – borrower, property, compliance, servicing, etc. – and to **invest in the credit risk**

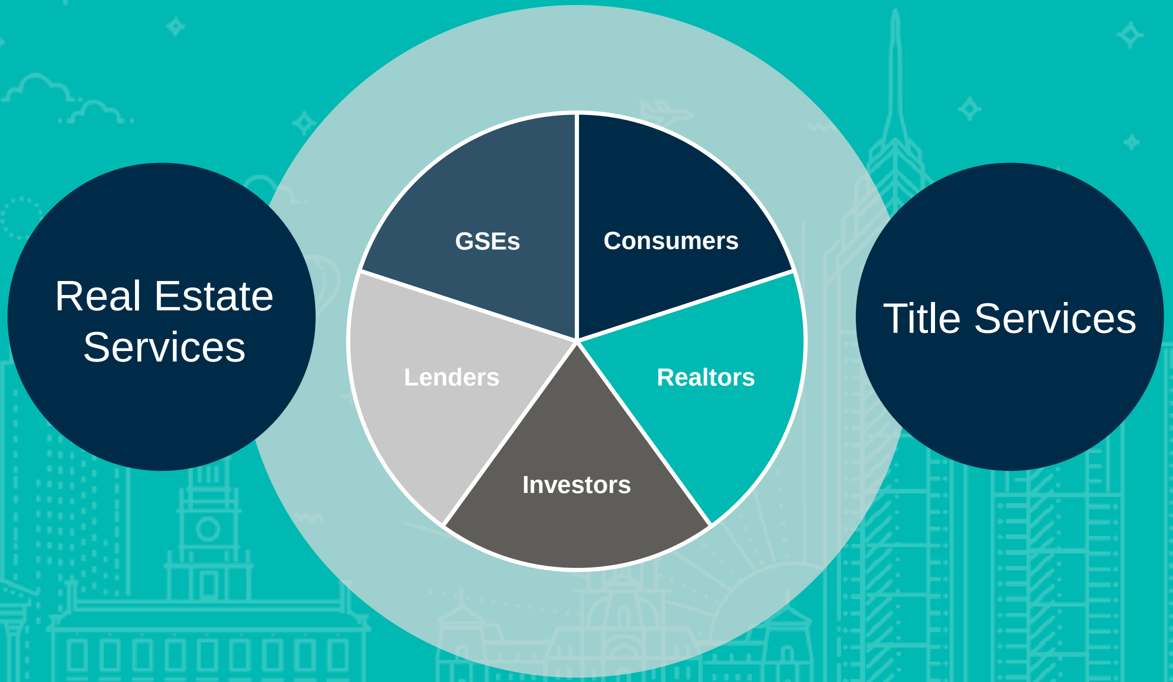
# Our broad set of **mortgage capabilities**, enable us to be an important and **trusted business partner** to **mortgage market players**

| Mortgage Products and Services | Consumers | Lenders | GSEs | Investors | Reinsurance |
|---|---|---|---|---|---|
| Mortgage Insurance | ● | ● | ● | ● | ● |
| Structured Mortgage Solutions | | ● | ● | ● | ● |
| Mortgage Risk Data and Analytics | | ● | | ● | ● |
| Real Estate Data and Analytics | ● | ● | ● | ● | ● |
| Loan Underwriting | | ● | | ● | ● |
| Securities Due Diligence | | ● | ● | ● | ● |
| Servicing Surveillance | | ● | | ● | ● |
| REO Management | | ● | ● | ● | |
| Real Estate Valuation | ● | ● | ● | ● | |
| Title Insurance | ● | ● | ● | ● | |
| Settlement Services | ● | ● | ● | ● | |

Radian Mortgage Insurance and Risk Services (Mortgage Insurance through Mortgage Risk Data and Analytics)

Radian Mortgage, Real Estate and Title Services (Real Estate Data and Analytics through Settlement Services)

## Radian's real estate and title services serve the key players in the **real estate market**




The **value** we generate from our presence in the real estate market is built around our **unique set of assets,** which we believe position us to be a **disruptive "PropTech" player**

## Our unique set of **real estate businesses** enable us to provide **enhanced transparency** and **reduced transaction friction and costs** across the key **real estate market players**

| Real Estate Products and Services | Consumers | Realtors | Investors | Lenders | GSEs |
|---|---|---|---|---|---|
| Real Estate Data and Analytics | ● | ● | ● | ● | ● |
| Real Estate Brokerage | ● | ● | ● | | |
| Real Estate Valuation | ● | ● | ● | ● | ● |
| Real Estate Asset Management | | | ● | ● | ● |
| Single Family Residential | | | ● | | |
| Title Insurance | ● | ● | ● | ● | ● |
| Settlement Services | ● | ● | ● | ● | ● |
| Technology | ● | ● | ● | ● | ● |

Radian Real Estate and Title Services





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## The execution of our **strategic blueprint** will progress through **strategic phases**


We will drive significant **value to shareholders** by **successfully transforming** our strategic products and services into **disruptive digital business models**

# Building Value Across Radian

## We believe we are on a path to **grow earnings, returns and shareholder value**

- Continue to grow the economic value of our mortgage insurance portfolio
- Grow and expand the financial contribution from our structured mortgage solutions
- Continue to distribute credit risk to capital and reinsurance markets investors
- Grow and expand the financial contribution of our mortgage, real estate and title services
- Leverage digital platforms to drive growth across all businesses
- Continue to execute our capital management strategy to maximize the returns to our shareholders
- Drive earnings growth through improving operating leverage
- Focus on the key value drivers across each our businesses

Possibly the most important **strategic catalyst** for **value creation** is the **talented Radian team!**

# Thank You

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# Value Drivers

Frank Hall
Chief Financial Officer

# Value Drivers for Radian

Value Overview – Market Perspective

Investment Portfolio

Mortgage Insurance – In Force Portfolio and NIW

Impact of Rising Rates

Capital Strategy

Managing the Enterprise Risk

# Value Overview – Market Perspective

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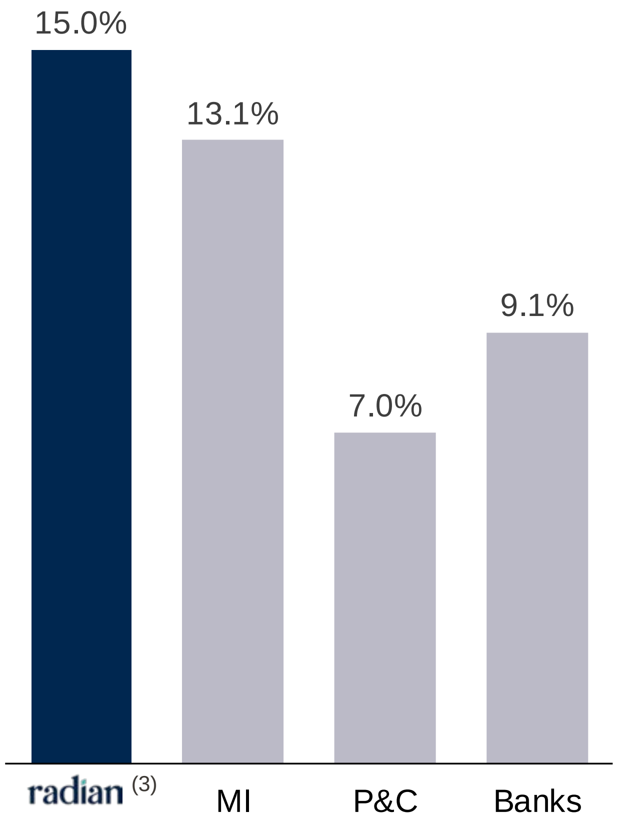
# Outstanding Value Creation Track Record

## TBVPS CAGR and TSR since 12/31/15

**Tangible Book Value per Share (1)**


**Annualized TSR**


## 3-Year Average Operating ROE (1)(2)

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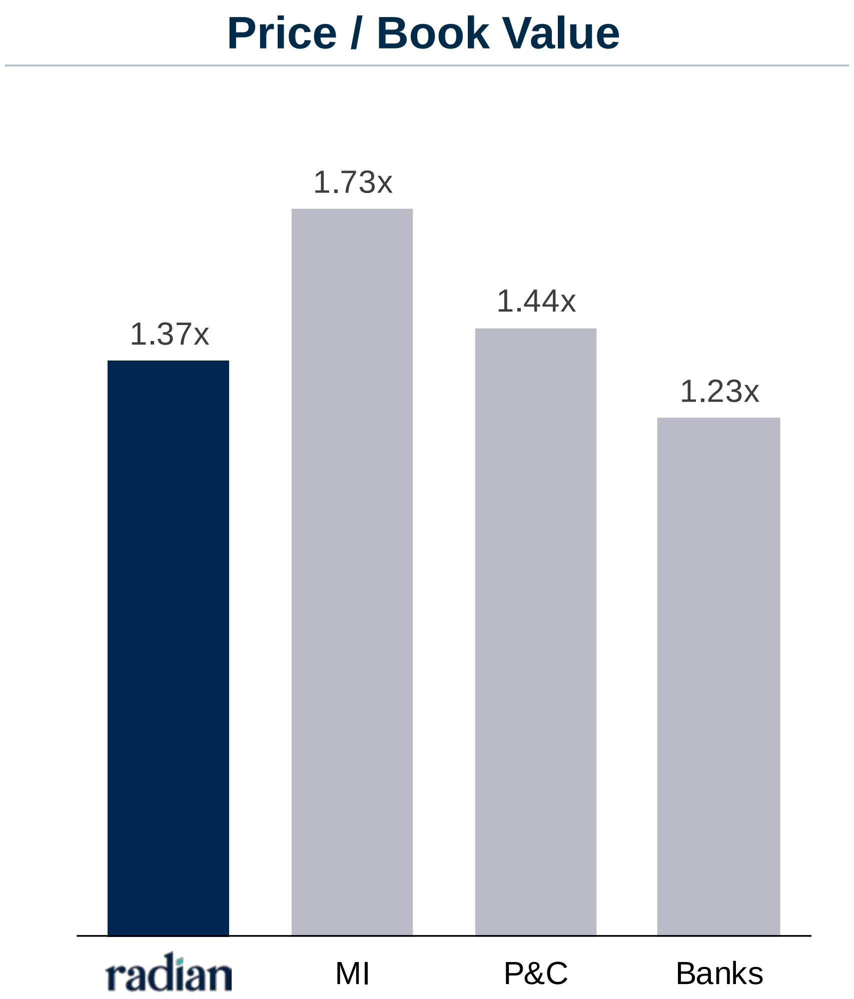
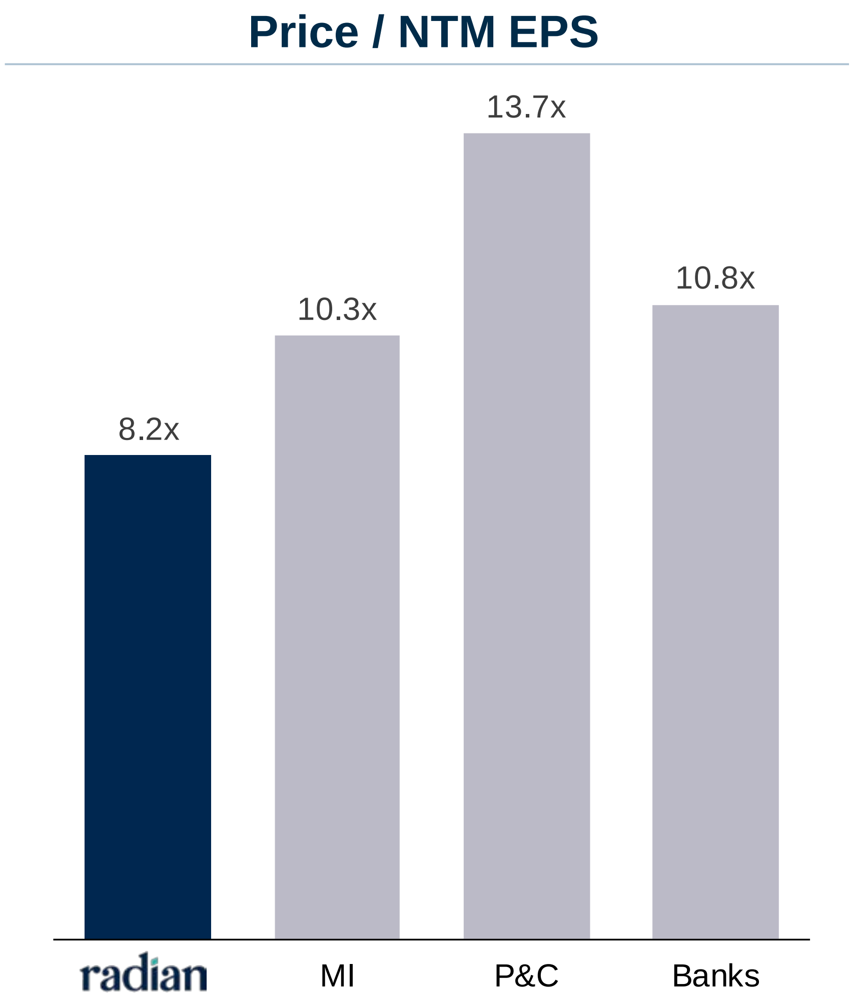
Source: Company Filings, SNL Financial and FactSet. Market Data as of 5/2/2019. (2) Average over the period of 2016, 2017 and 2018. (3) Represents adjusted net operating return on equity.

Note: Mortgage Insurance index consists of MTG, ESNT, NMIH, and ACGL. P&C index consists of AXS, RNR, ARGO, RE, SIGI, THG, WRB, ORI, AIZ, RLI, CNA, AFG, Y, and MKL . Banks index consists of JPM, BAC, WFC, C, STI, USB, BBT, PNC, COF, FITB, CFG, KEY, RF, MTB, HBAN, FRC, CMA, ZION, SIVB, NYCB, PBCT, BPOP, SBNY, CHFC, SNV, EWBC, FHN, BOKF, ASB, FNB, CFR, BKU, VLY, STL, WTFC, IBKC, TCBI, HWC, WBS, UMPQ, ISBC, CBSH, PACW, PNFP.

# Compelling Valuation Opportunity

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# Investment Portfolio

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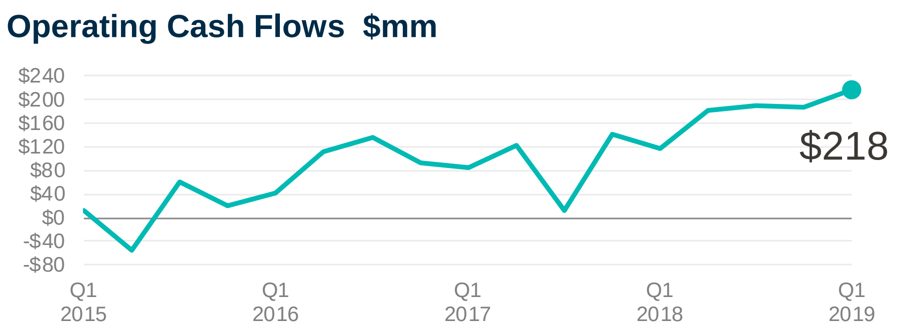
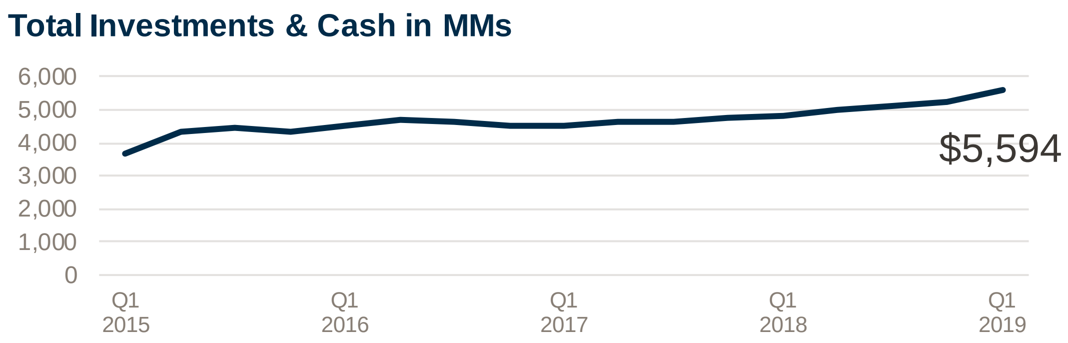
# Investment Portfolio

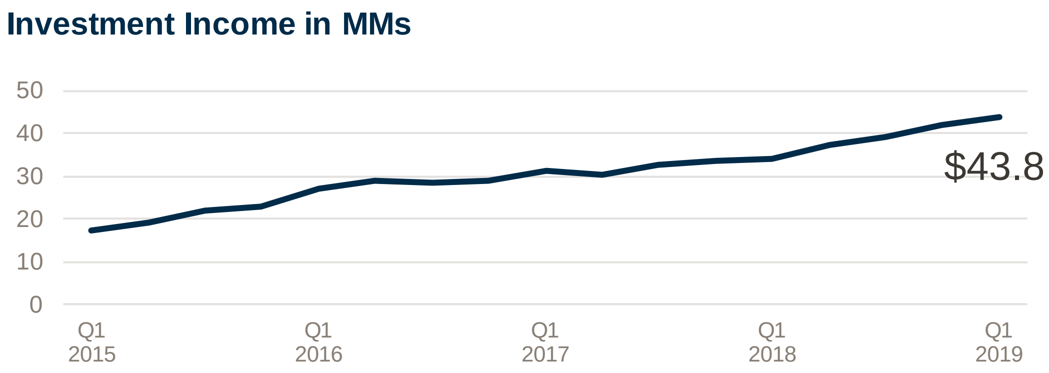
- Largest tangible asset for the franchise
- Managed within risk appetite and PMIERs constraints
- Managed in different legal entities
- Managed in context of the needs of the business

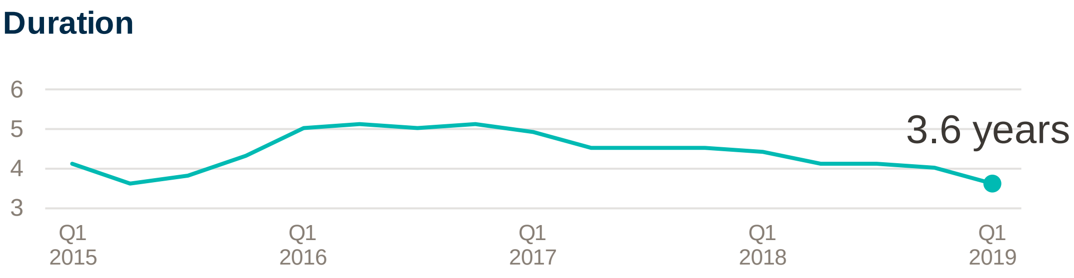
# Significant Investment Portfolio Growth







# Investment Portfolio Strategic Asset Allocation Process

## Analyze and Risk Assessment

### Asset Liability Management

- Radian Current Portfolio Holdings
- RADAR Output (Base and Stress)
- Corporate Liabilities
- Entity Constraints & Limitations

### Constraints and Assumptions

- Capital Market Risk and Return Assumption
- Corporate Objectives
- PMIERs, Rating Agency and Insurance Regulatory Constraints

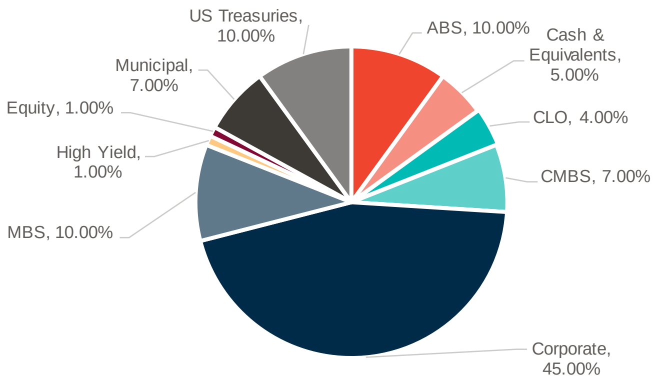
### Risk and Return Objectives

- Risk Tolerance
- Return Hurdles

## Portfolio Construction

### Model Portfolio

- Optimize based on Objectives, Constraints and Assumptions
- Create Investment Benchmarks



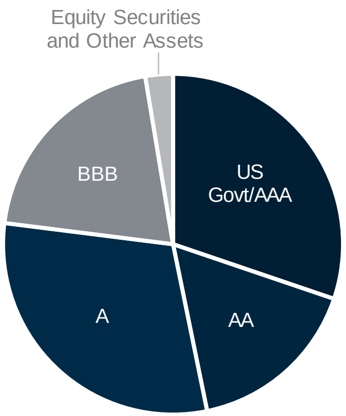

## Manage and Monitor

### Investment Managers

- Create Investment Manager Benchmarks
- Create guidelines and portfolio constraints
- Allow managers to allocate within constraints
- Review Manager performance relative to benchmark

# Investment Portfolio Overview

## By Rating*



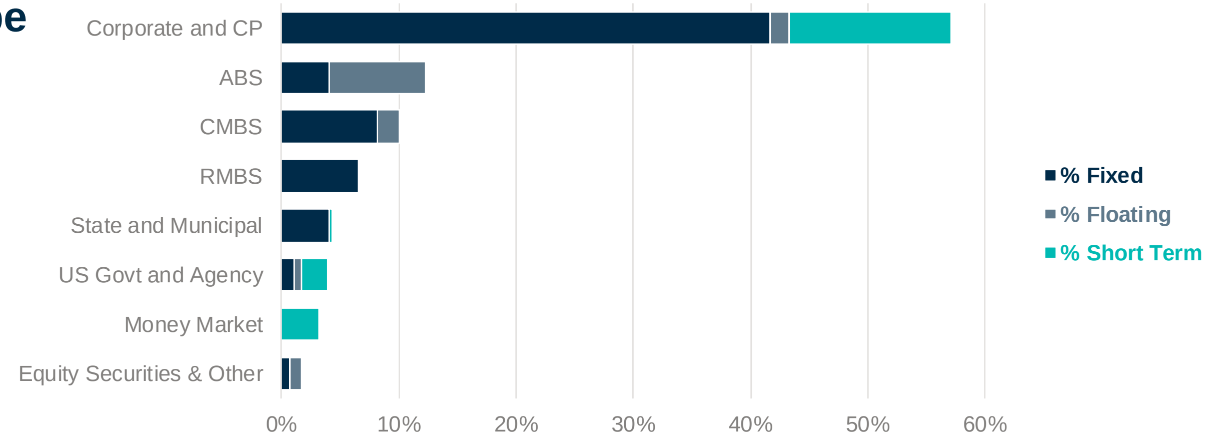

*Ratings reflect the highest NRSRO rating.

| | Portfolio |
|---|---|
| Duration | 3.55 |
| Convexity | 0.20 |
| Market Yield | 3.30% |
| Book Yield | 3.36% |
| Average Rating | A+ |
| Unrealized G/L ($mm) | $31.9 |
| **Market Value ($mm)** | **$5,594.0** |

## By Tenor/Type

| | Fixed | Floating | Short Term | Equity | Grand Total |
|---|---|---|---|---|---|
| Short term Investments | 0% | 0% | 19% | 0% | 19% |
| Due in one year or less | 2% | 0% | 0% | 0% | 2% |
| Due in one year through 5 years | 16% | 2% | 0% | 0% | 18% |
| Due in five years through 10 years | 19% | 0% | 0% | 0% | 19% |
| Due after ten years | 9% | 0% | 0% | 0% | 9% |
| RMBS | 7% | 0% | 0% | 0% | 7% |
| CMBS | 8% | 2% | 0% | 0% | 10% |
| Other ABS | 4% | 8% | 0% | 0% | 12% |
| Other Investments | 1% | 1% | 0% | 1% | 3% |
| **Grand Total** | **66%** | **13%** | **19%** | **1%** | **100%** |

## By Asset Type



# Rating Agencies

## Standard & Poor's

- Radian Group BB+ (stable outlook)
- Radian Guaranty BBB+ (stable outlook)

## Rating Factors:

- Continued improvement in capital adequacy per our risk-based capital (RBC) model
- One of the leading U.S. mortgage insurers
- Exposure to mortgage volume volatility due to the nature of its mono-line business
- Exposure to regulatory changes

"We view Radian's liquidity as exceptional stemming from its high-quality investment portfolio and positive operating cash flow for insurance operating subsidiaries."
*Standard & Poor's - October 11, 2018*

## Moody's Investors Service

- Radian Group Ba2 (stable outlook)
- Radian Guaranty Baa2 (stable outlook)

## Rating Upgrade Drivers:

- Continued improvements in the company's debt laddering structure
- Adjusted financial leverage in the 20% range
- Sustained PMIERs compliance with the maintenance of a comfortable capital adequacy buffer
- Profitability metrics with returns on capital consistent with those of its peers

"We expect the firm to continue to improve its financial leverage metrics over the next year through organic capital generation in an operating environment that remains favorable for mortgage credit."
*Moody's Investors Service - September 21, 2018*

# Mortgage Insurance In Force Portfolio and NIW

# Insurance In Force – Off Balance Sheet Value Generator

- **Insurance in Force (IIF)** is the largest earning "asset" for Radian
- Our **$224 billion portfolio of IIF** does not appear on our GAAP financial statements but drives our primary source of revenue – earned premiums
- Our **financial results** show the accounting value of earned premiums realized in a given period, but **not the full value we create nor the value that's yet to be realized** remaining in the portfolio
- These remaining future earnings are not reflected in current period book value, but are **expected to be earned over time**

# Value Drivers of Our Business

New Insurance Written

Insurance in Force

# Mortgage Insurance

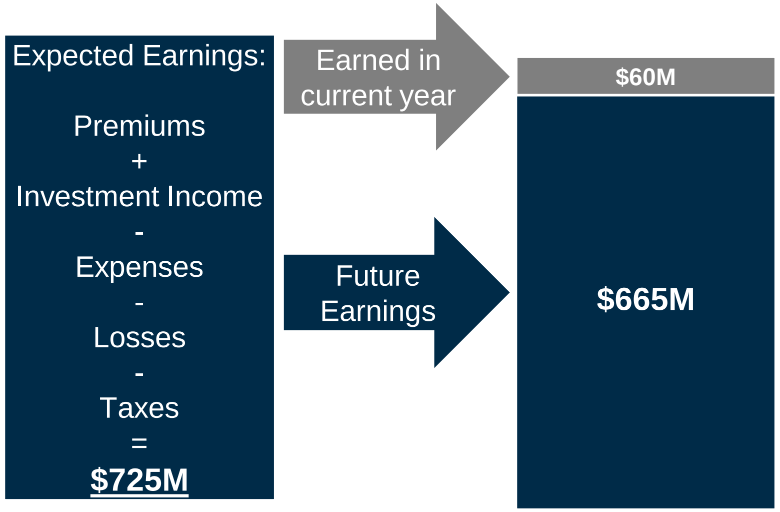
**Future Earnings**

The estimated undiscounted GAAP earnings yet to be recognized from the in force portfolio

**Radian Economic Value**

The discounted Future Earnings less an estimated cost of PMIERs required capital

# Future Earnings – NIW Example





## EXAMPLE:

### A $50B vintage of NIW with the following assumptions:

**50 bps** premium yield
**6 year** average life

**20%** loss ratio
**25%** expense ratio
**21%** effective tax rate

**3%** investment income yield

… is expected to generate approximately **$725M** in lifetime GAAP net income

Of this amount, *less than 10%* is expected to be recognized in the year of origination, leaving approximately **$665M** of GAAP net income to be recognized in future periods

These future earnings are not reflected in current period book value, but are expected to be earned in the future

# Future Earnings

2018
New
Insurance
Written

~$0.8 billion
~$3.70 / share

Insurance in Force

~$2.5 billion
~$11.80 / share

***Amounts shown reflect Moody's baseline economic scenario.***
***Per share amounts reflect outstanding share count as of 3/31/19.***

## Future Earnings

the estimated undiscounted GAAP earnings yet to be recognized from the in force portfolio

Derived from estimated:

- Earned premiums
- Investment Income on required PMIERs capital and Unearned Premium Reserve
- Losses
- Expenses of current portfolio over time
- Taxes

# Radian Economic Value

**Radian Economic Value** is an economic concept utilized for managing **our pricing, portfolio management** and has some application for **estimating enterprise value**

- Concept used in other insurance lines, mostly life insurance ("Value of In Force")
- Useful for insurance lines with policies that have expected multi-year cash flows / benefit
- Economic vs accounting concept that takes into account the expected future results of the portfolio less a cost of capital
- Has different application for management than Future Earnings

# Radian Economic Value – Example

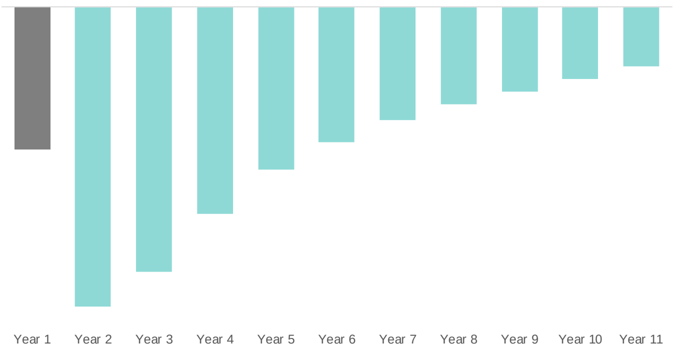
Total Cost of Capital:

RIF
x
PMIERs asset factor
x
Average Life
x
Cost of Capital %
=
**$300M**

Current year → **$25M**

Future → **$275M**

Projected Cost of Capital by Year




## Cost of Capital

### A $50B vintage of NIW with the following assumptions:

**25%** RIF coverage
**7.5%** Gross PMIERs minimum required asset factor

**4%** Net PMIERs minimum required asset factor after considering risk distribution

**10%** cost of capital

… is expected to have a lifetime Total Cost of Capital of **$300M**

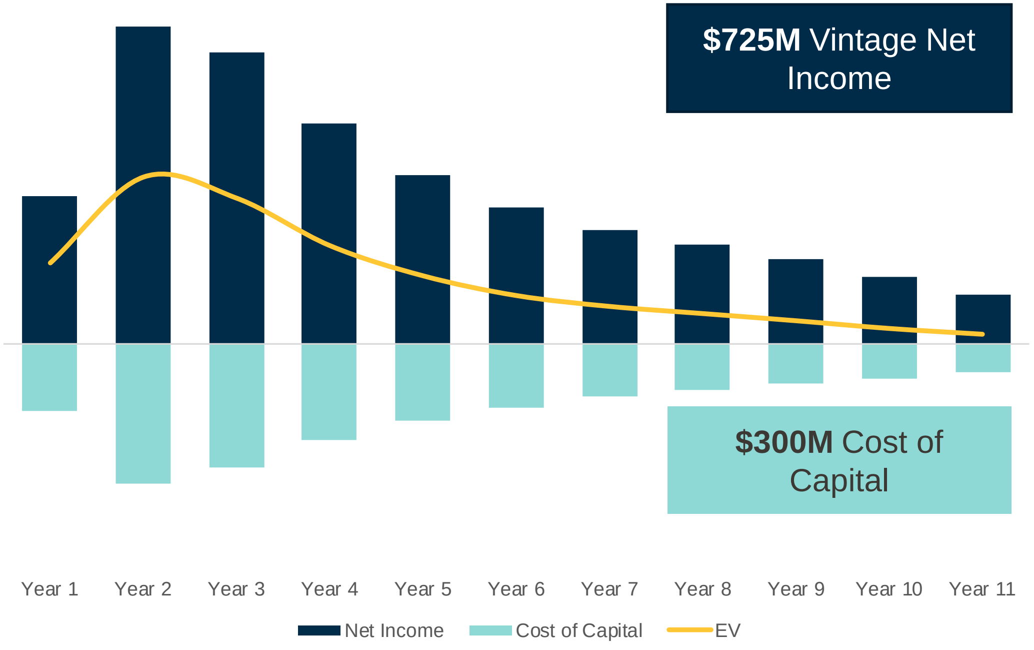
In addition to discounted Future Earnings, our Radian Economic Value framework considers the cost of holding required PMIERs capital to support the outstanding risk in force

Similar to Future Earnings, a small percentage of the cost of capital is reflected in the year of origination, while the balance is seen in future years

# Radian Economic Value – Example

## Putting it all together

- The Radian Economic Value of NIW is simply the amount of **Future Earnings less the cost of holding required capital**, discounted to present value
- Using the given assumptions for a **$50B vintage of NIW**, the Radian Economic Value is **$450M**
- **Radian's Economic Value** framework incorporates **MI policy pricing, capital requirements, risk distribution strategies, and operational assumptions**, all evaluated through an economic cycle




The resulting measure allows for effective comparisons across various opportunities to deploy and manage capital, including the pricing of new MI business

# Radian Economic Value

2018 New Insurance Written

~$0.5 billion

Insurance in Force

~$1.3 billion

*Amounts shown reflect Moody's baseline economic scenario*

## Radian Economic Value

The discounted future earnings less an estimated cost of capital

## NIW Radian EV

Ensures that our pricing decisions are made in a "fully loaded" economic context and with the expectation of achieving AT LEAST a hurdle rate of return – positive Radian EV means that we are expected to earn returns ABOVE the hurdle rate

## IIF Portfolio Radian EV

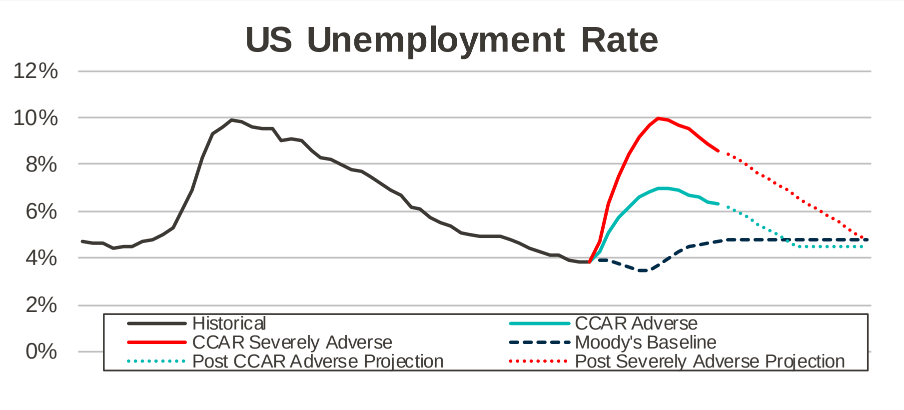
Helps us evaluate portfolio enhancements such as risk distribution.  Possible to increase Radian EV after origination through managing expected losses, investment income, cost of capital and expenses.

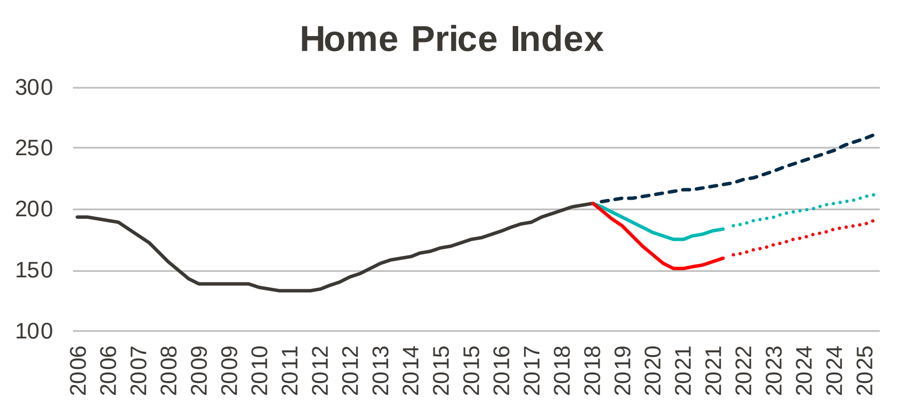
# Impact of Economic Stress

Both **Future Earnings** and **Economic Value** are sensitive to economic assumptions, primarily house price appreciation, unemployment, and interest rates

As shown at right, <u>Future Earnings remain **in excess of $1B**</u> even in a CCAR Severely Adverse scenario, which includes a **26% decline in house prices** and **10% unemployment**

In addition, **Economic Value is positive in all three scenarios** shown, including the CCAR Severely Adverse scenario, meaning **Radian is able to achieve its cost of capital hurdle even through a severe economic shock**




**Projected Future Earnings:**

Baseline: ~**<u>$2.5B</u>**

CCAR Adverse*: ~**<u>$1.4B</u>**

CCAR Severely Adverse*: ~**<u>$1.1B</u>**

* CCAR scenarios are modified to accommodate, among other things, the time horizon required for our analysis





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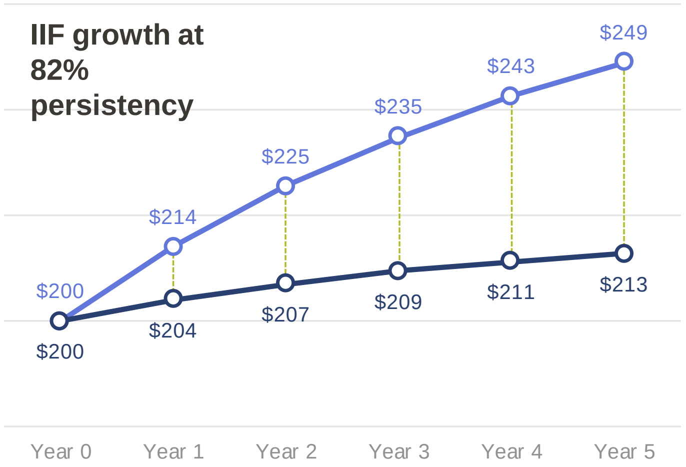
# Impact of Rising Rates

# Impact of Rising Interest Rates

## Rising interest rates **benefit Radian in several ways**

### Persistency




After 5 years, the difference in growth **adds up to $36 billion** in IIF.

**IIF growth at 77% persistency**

Lower refinance activity generally translates into **higher persistency** (the percentage of policies that remains in force after a twelve-month period), and current Insurance in Force (IIF) stays in effect longer.

The illustration above illustrates the difference in IIF growth between 77% persistency and 82%. (1)

### Life of Coverage

The **number of years** into a 30 year fixed rate mortgage that a borrower reaches 78% LTV **increases with higher interest rates**.

| Mortgage Interest Rate / Initial Loan to Value | 85% | 90% | 95% |
|---|---|---|---|
| **4%** | 4.4 | 6.8 | 8.7 |
| **5%** | 5.1 | 7.7 | 9.7 |
| **6%** | 5.8 | 8.6 | 10.8 |

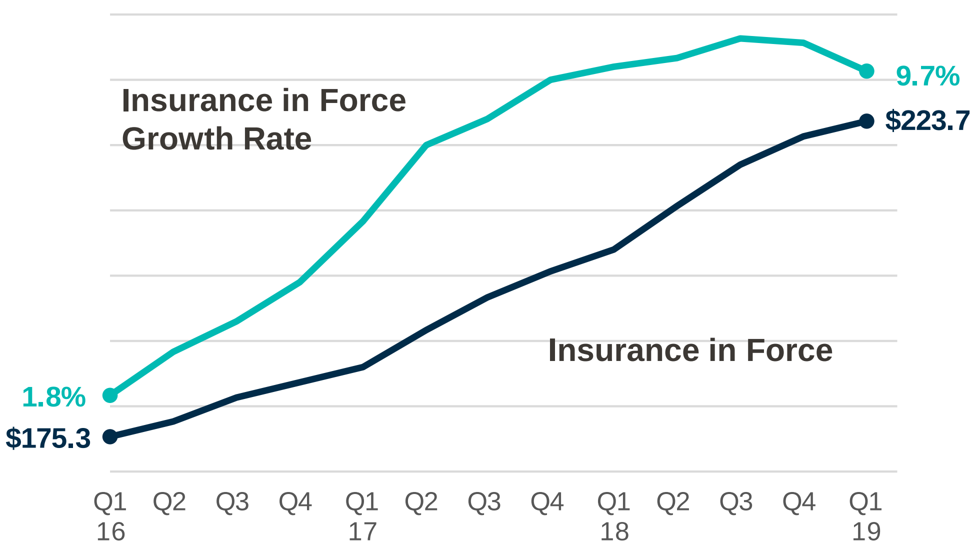
Rising interest rates also **extend the time period** for which newly originated borrower-paid loans reach 78% LTV – a trigger for automatic cancellation under the Homeowner Protection Act. This results in sustained earnings power of new business.

(1) Assumes $200B beginning Insurance in Force, and $50B annual New Insurance Written

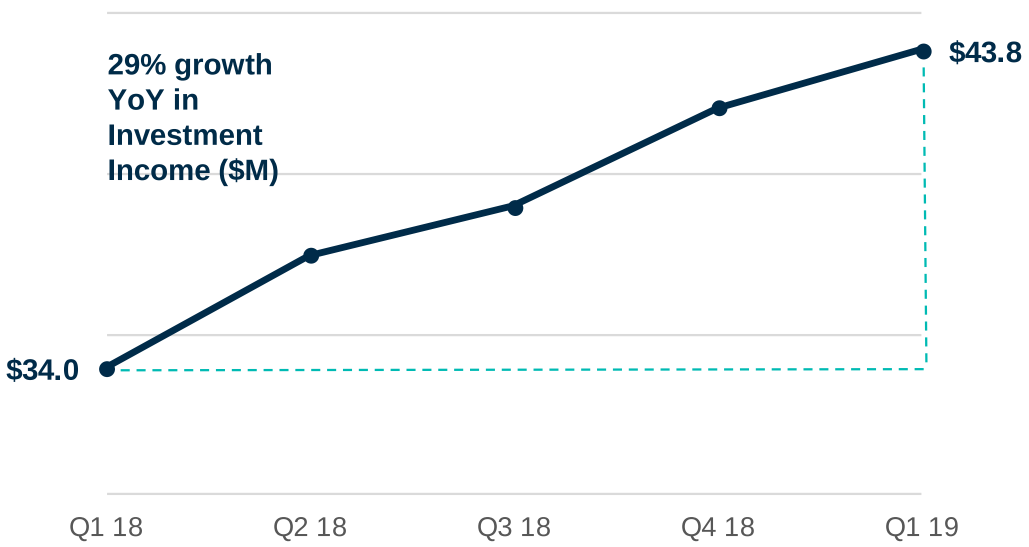
# Impact of Rising Interest Rates

## Rising interest rates **benefit Radian in several ways**

### Insurance In Force




### Investment Income




Due to positive persistency trends along with record new business, Radian's IIF **has grown over $48 billion** over the past 12 quarters, with growth rates increasing to 10% over the most recent 5 quarters

In addition to helping drive higher IIF growth, rising interest rates directly benefit investment yields, helping to drive higher investment income. Radian's investment portfolio was **approximately $5.6 billion** as of Q1 2019.

# Capital Planning

# Why we use “Planning” and not a single “Plan”

## Famous Thoughts on Plans…

> No battle plan survives first contact with the enemy.
>
> \- Colin Powell

> In preparing for battle, I have always found that plans are useless but planning is indispensable.
>
> \- Dwight Eisenhower

> Plans are of little importance, but planning is essential.
>
> \- Winston Churchill

# Capital Planning Considerations

Multiple constituents and guidelines to manage

**Planning Guardrails** ensure we **stay within acceptable operating parameters** for the **GSEs,** our **insurance regulators** and **our own risk tolerance**

Some of our recent capital actions have various effects on our key planning variables

The impact of our actions can be more material on certain variables and may not impact all variables the same, if at all

**Planning Guardrails**

| | HoldCo Liquidity | PMIERs | Statutory Capital |
|---|---|---|---|
| Risk Distribution (ILN) | ~0 | + | ~0 |
| Return of Capital from RGI to Group | + | – | – |
| Ongoing Earnings | ~0 | + | + |





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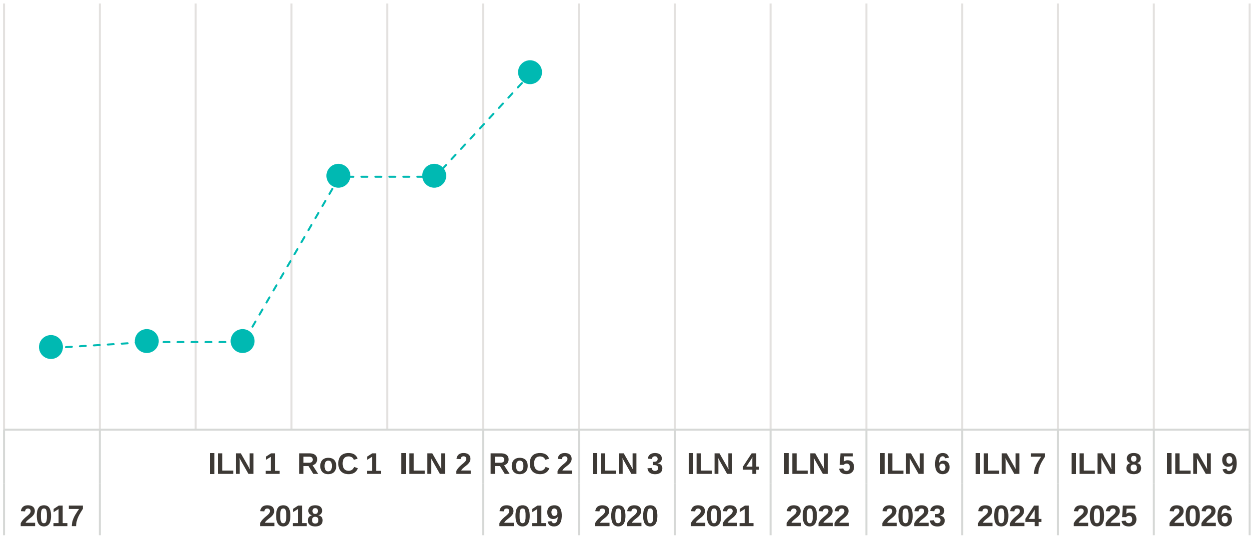
# Capital Planning Considerations

## Holding Company Liquidity




Holding Company liquidity supports corporate actions such as share repurchase and debt repayment

Excess capital and liquidity is best positioned at the Holding Company for maximum flexibility for future use

Enhanced by unsecured credit facility



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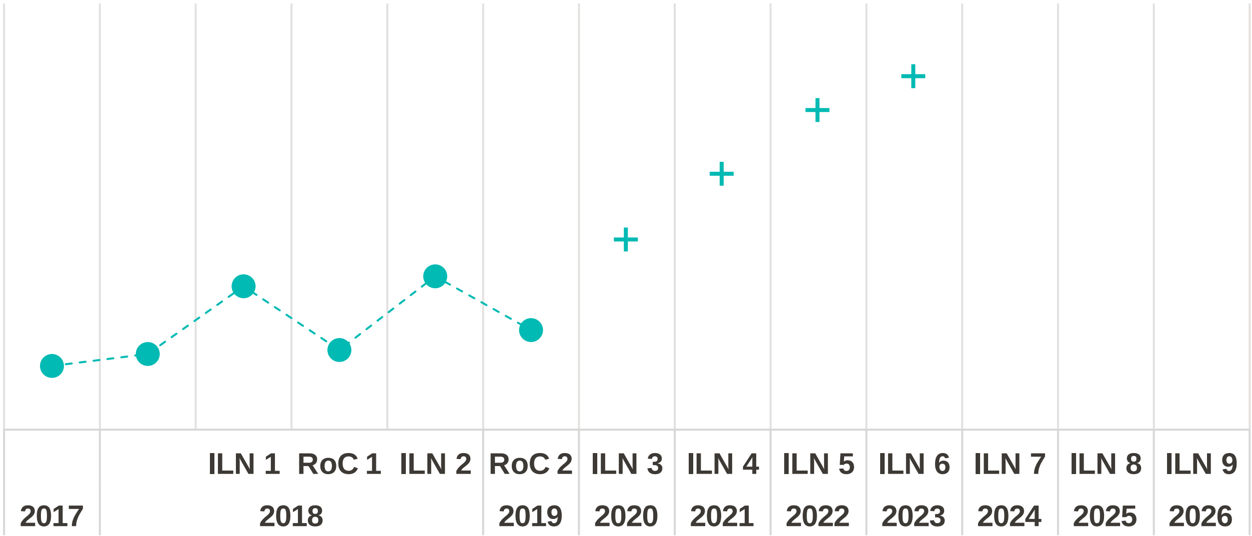
# Capital Planning Considerations

## PMIERs Cushion



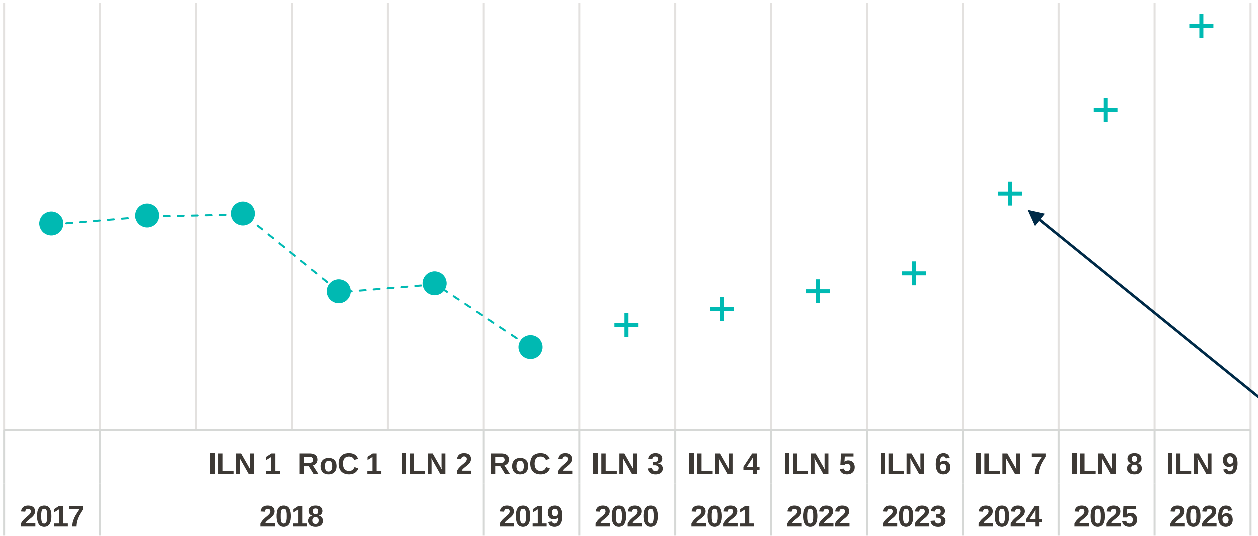

PMIERs cushion is enhanced by risk distribution

Expect to be an ongoing distributor of risk utilizing both the capital markets and reinsurance markets

PMIERs capital will likely continue to build in Radian Guaranty

# Capital Planning Considerations

## Statutory Surplus




Statutory capital becomes the most restrictive planning variable as any additional return of capital would need to be less than PMIERs capital benefit of future risk distribution in order to maintain or build

2024 is the expected date of the beginning of contingency reserve releases and drives the pace of increase from 2024 forward





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# Capital Planning Considerations – Statutory Capital

| ($ in millions) | ACTUAL | | | PRO FORMA* |
|---|---|---|---|---|
| | December 31, 2017 | December 31, 2018 | March 31, 2019 | March 31, 2019 |
| RIF, net | $ 36,793.5 | $ 40,711.3 | $ 41,283.5 | $ 40,721.5 |
| Common stock and paid in capital | $ 1,866.0 | $ 1,416.0 | $ 1,416.0 | $ 1,041.0 |
| Surplus note | 100.0 | 100.0 | 100.0 | 100.0 |
| Unassigned funds (deficit) | (765.0) | (701.9) | (651.1) | (651.1) |
| Statutory policyholders' surplus | 1,201.0 | 814.1 | 864.9 | 489.9 |
| Contingency reserve | 1,667.0 | 2,109.9 | 2,224.5 | 2,224.5 |
| Total statutory capital | $ 2,868.0 | $ 2,924.0 | $ 3,089.4 | $ 2,714.4 |

Forecast

**Common stock and paid in capital without further action will stay flat**

**Surplus Note may be redeemed**

**Unassigned deficit continues to shrink**

**Contingency Reserves continue to build as we earn premiums**

**Total Statutory Capital grows due to future earnings, which impact Unassigned Funds and Contingency Reserves**

* Proforma for the impact of the second quarter 2019 ILN and return of capital from RGI to Group





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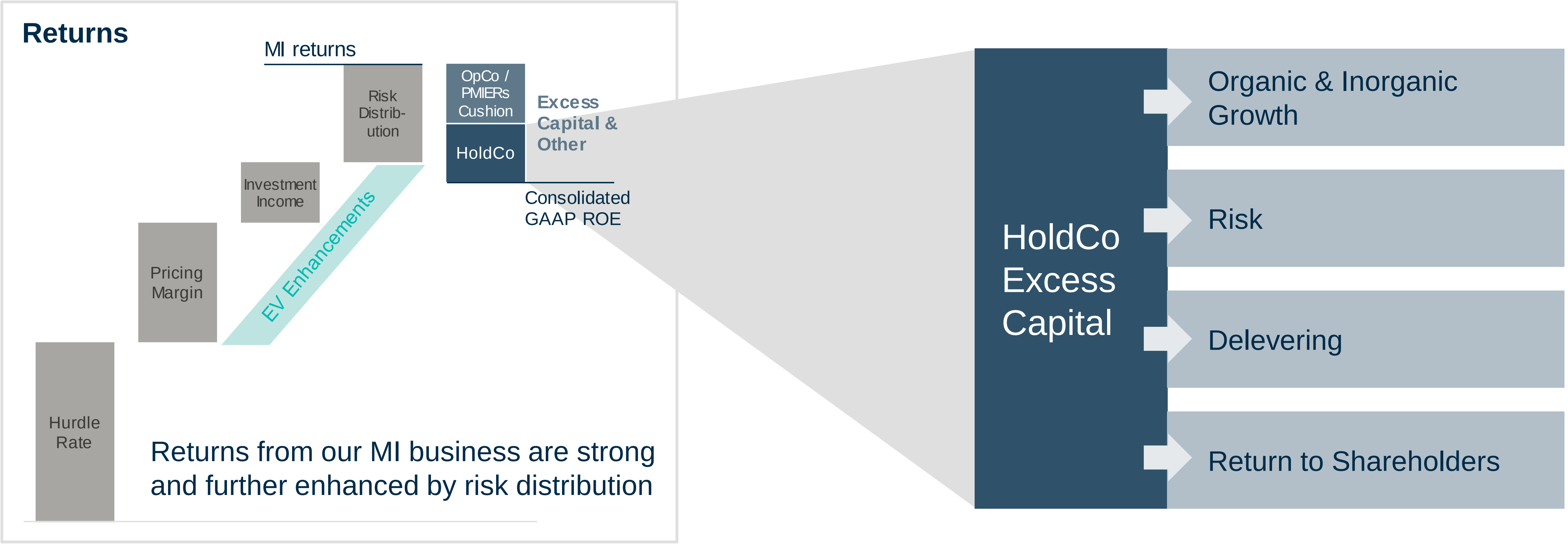
# Capital Planning Considerations

## Creation and Management of Excess Capital



# Enterprise Risk Management

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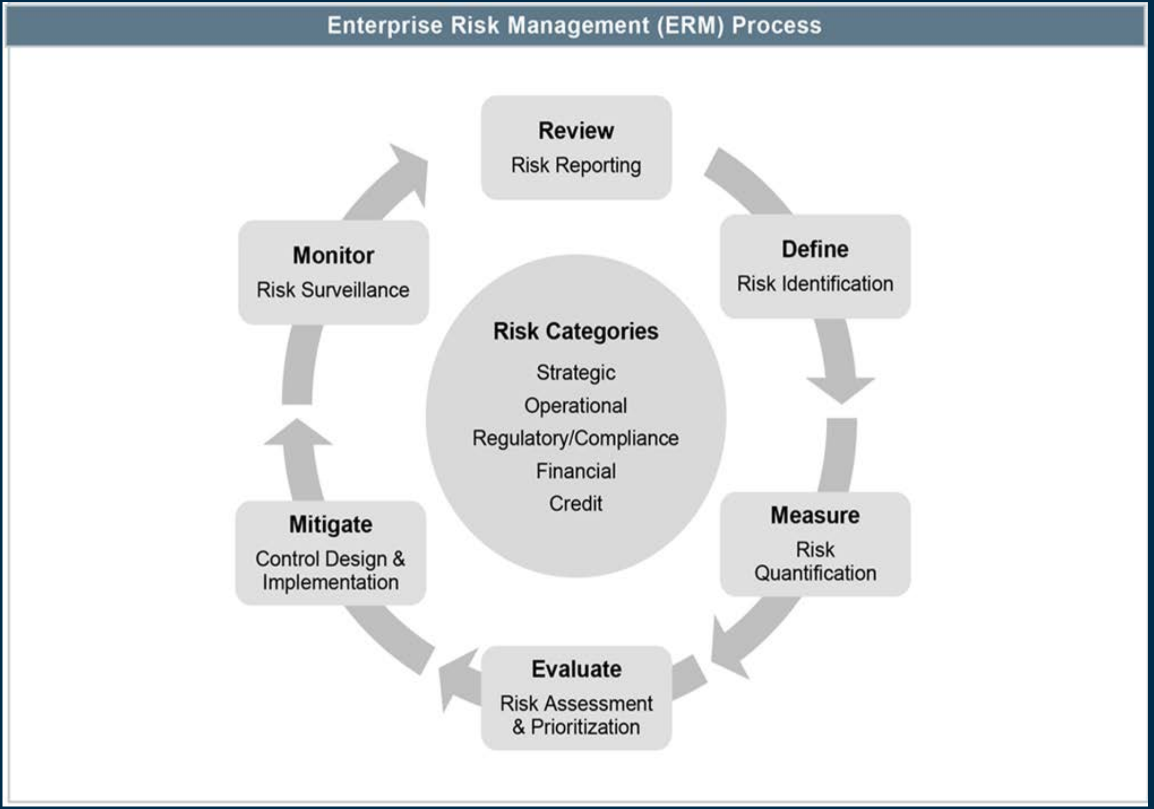
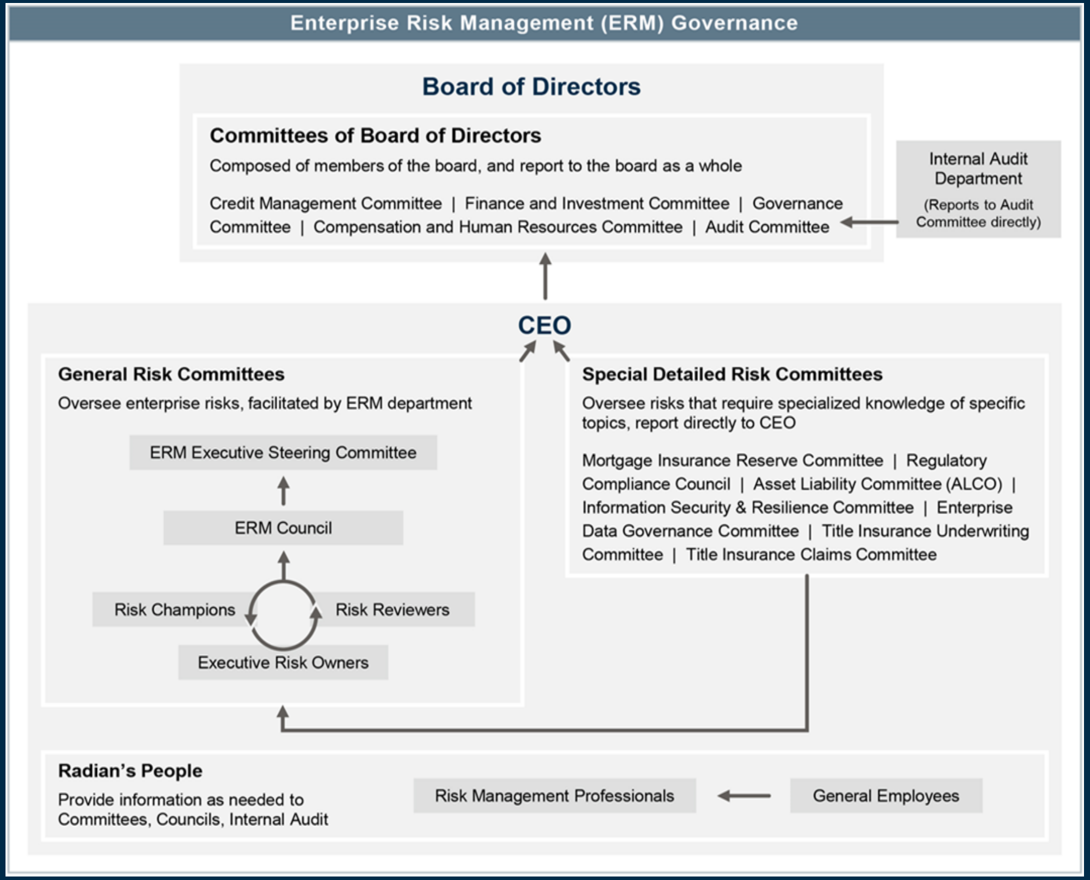
# Enterprise Risk Management Operational Process

Our integrated **ERM process** is designed to **identify the risks** we are facing for the enterprise, and **to assess, manage and mitigate those risks**.



# Enterprise Risk Management Governance

Our **ERM program** is subject to a comprehensive governance structure.





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# Questions?

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# Panel & Questions

**Dan Kobell**

SVP, Financial Planning & Analysis

**Rob Quigley**

SVP, Controller and Chief Accounting Officer

**Bill Tomljanovic**

SVP, Chief Investment Officer, Treasurer

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# Mortgage Insurance and Risk Services

Derek Brummer
Senior Executive Vice President

# Mortgage Insurance and Risk Services (MIRS) Overview

**MIRS**

- Credit Policy & Underwriting
- Quality Control
- Lender & Servicer Segmentation
- Quantitative Analytics
- Pricing & Valuation
- Portfolio Surveillance & Management
- Data Management & Strategy
- Loss Forecasting & Reserving
- Operations
- Customer Experience



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# MI Industry Evolution

The MI industry has **significantly evolved** over the past several years…

…and its evolution continues and plays to **Radian's strengths**

| Past | | Present |
|---|---|---|
| Exposure-based Capital (Statutory) | → | Risk-based Capital (PMIERs) |
| Less granular, relatively static pricing | → | More granular, dynamic pricing |
| Consistent, transparent pricing across industry | → | Differentiated, opaque pricing across industry |
| Manage risk through credit policy | → | Manage risk through credit policy and pricing |
| Focus on avoiding adverse credit selection | → | Focus on proactive portfolio selection based on value |
| Relationships a primary driver | → | Data and analytics the primary driver |
| Buy and hold risk-taker | → | Active risk manager (aggregate, distribute, and manage risk) |
| Minimize risk for a given level of price | → | Maximize value for a given level of risk |

# Radian Economic Value

**Radian Economic Value (“EV”) is our comprehensive framework to evaluate business opportunities with a goal of maximizing long-term, risk-adjusted shareholder returns**

EV provides a consistent framework to evaluate and price all capital deployment and risk distribution opportunities. For instance:

- Mortgage Insurance vs. GSE Credit Risk Transfer
- Borrower-paid Singles vs. Lender-paid Singles
- Low LTV vs. High LTV
- Lender A vs. Lender B
- Retain Risk vs. Distribute Risk
- Insurance-Linked Notes vs. Reinsurance
- Quota Share Reinsurance vs. Excess of Loss Reinsurance

***EV = Volume x Required Capital x Duration x (Return on Capital % – Cost of Capital %)***

**Levers to increase EV:**

- Target and increase the most EV-accretive business **Volume**
- Decrease **Required Capital**
- Increase/decrease **Duration** based on product type
- Increase **Return on Capital**
  - Increase premium rates
  - Increase investment income
  - Decrease expenses
  - Decrease losses
  - Decrease taxes
- Decrease **Cost of Capital**
  - Distribute risk
  - Optimize capital structure

# RADAR® Overview

Today's dynamic pricing and risk distribution environment requires intensified data and analytics agility – **RADAR is Radian's solution**

RADAR is Radian's proprietary credit modeling suite and pricing engine

RADAR projects premiums, losses and required capital over time to calculate projected returns and EV at a loan, cohort and portfolio level. Its two central components are:

- Economic Scenario Generator: simulates interest rates, house prices and unemployment paths across regions and time
- Loan Performance Models: tailors predictions to any economic scenario – single (deterministic) and stochastic (Monte Carlo) paths

RADAR is utilized to evaluate all capital allocation opportunities and aspects of risk selection

- MI pricing and portfolio shaping
- GSE Credit Risk Transfer and other structured products
  - Conforming and non-conforming loans (whole loan risk analysis, <80 LTV, etc.)
  - Incorporates structural cash flow terms
- Risk distribution decisions and design (insurance-linked notes and reinsurance)

# **RADAR** Analytics Platform

## Data

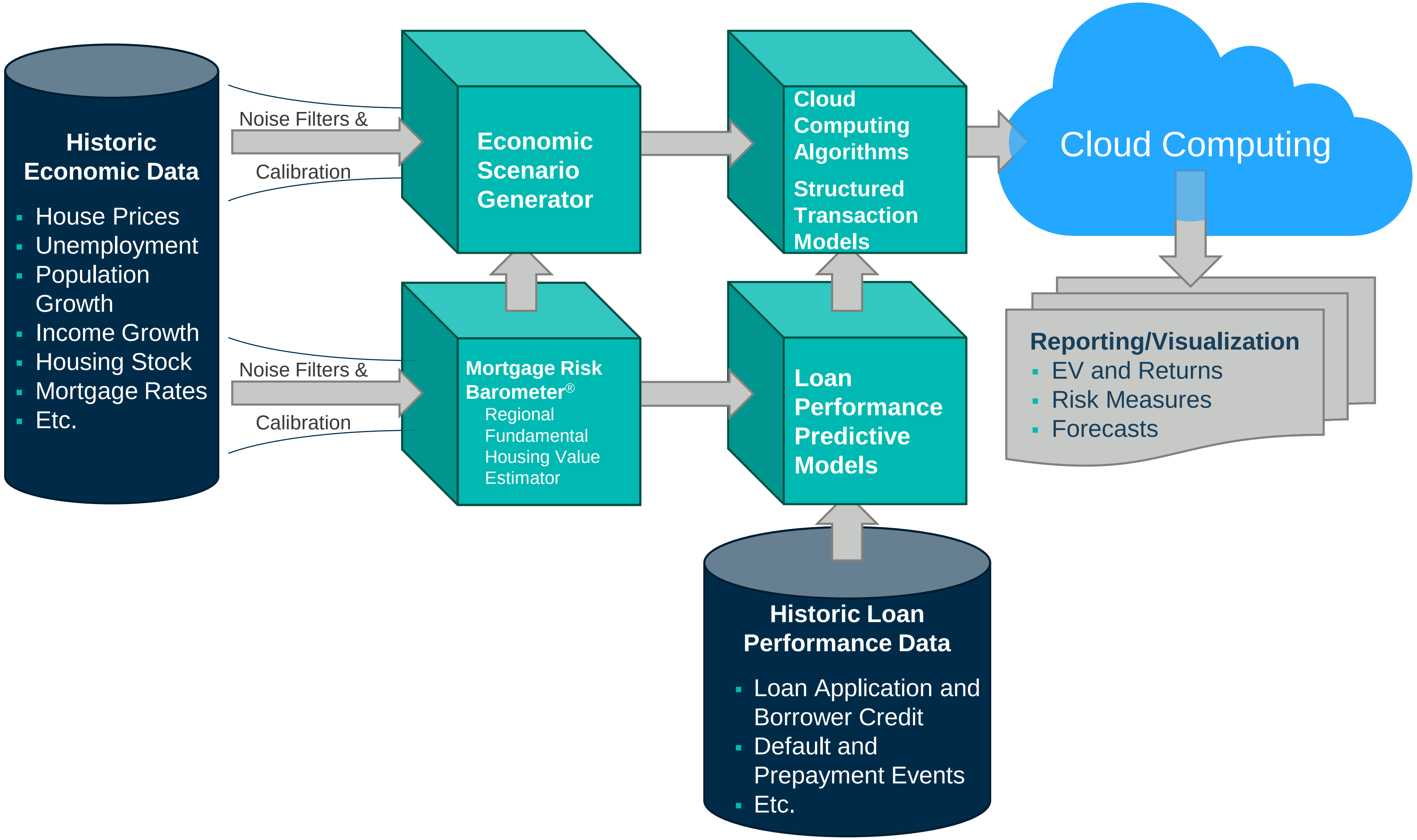
- Proprietary historical loan performance
- Procured third-party data
- Curated public data

## Analytics

- Econometric, AI and Machine Learning models
- ~20,000 lines of code
- Calibrated to the past; designed for the future
- Structured risk transfer cash flow modeling
- In-house developed distributed computing software

## Cloud Computing

- Big data processing and analysis (e.g. 100+ terabyte files)
- State-of-the-art computational ability
  - Simulate millions of loans
  - Thousands of economic scenarios
  - Thousands of distributed virtual CPUs
  - $10^{18}$ calculations (a million trillion)
  - On demand delivery



# **RADAR** Data is the Foundation

**Optimal usage of the best data will determine winners and losers**

Radian's unique position across **multiple facets** of the residential real estate and mortgage finance markets provides us with **unmatched data and analytics**

**Performance data from Radian's historical loans**

- Origination/application files provide a comprehensive borrower profile for loans back to >20 years ago (assets, credit reports, income sources, etc.)
- Only "legacy" MI companies have this in-house data
- Loan performance data: delinquencies, refinancing activity, claims, etc.
- The pairing of household finance details with loan performance data creates a rare and valuable foundation to model mortgage credit risk

**External loan performance data**

- GSE data
- Non-agency loans

**Lender and servicer data**

- Historical performance data
- Proprietary Lender and Servicer Segmentation metrics, rankings and dashboards

**Market pricing and volume data**

- Market share levels and trends (by loan type, region, etc.)
- Continuous real-time internal reporting supports strategic pricing decisions

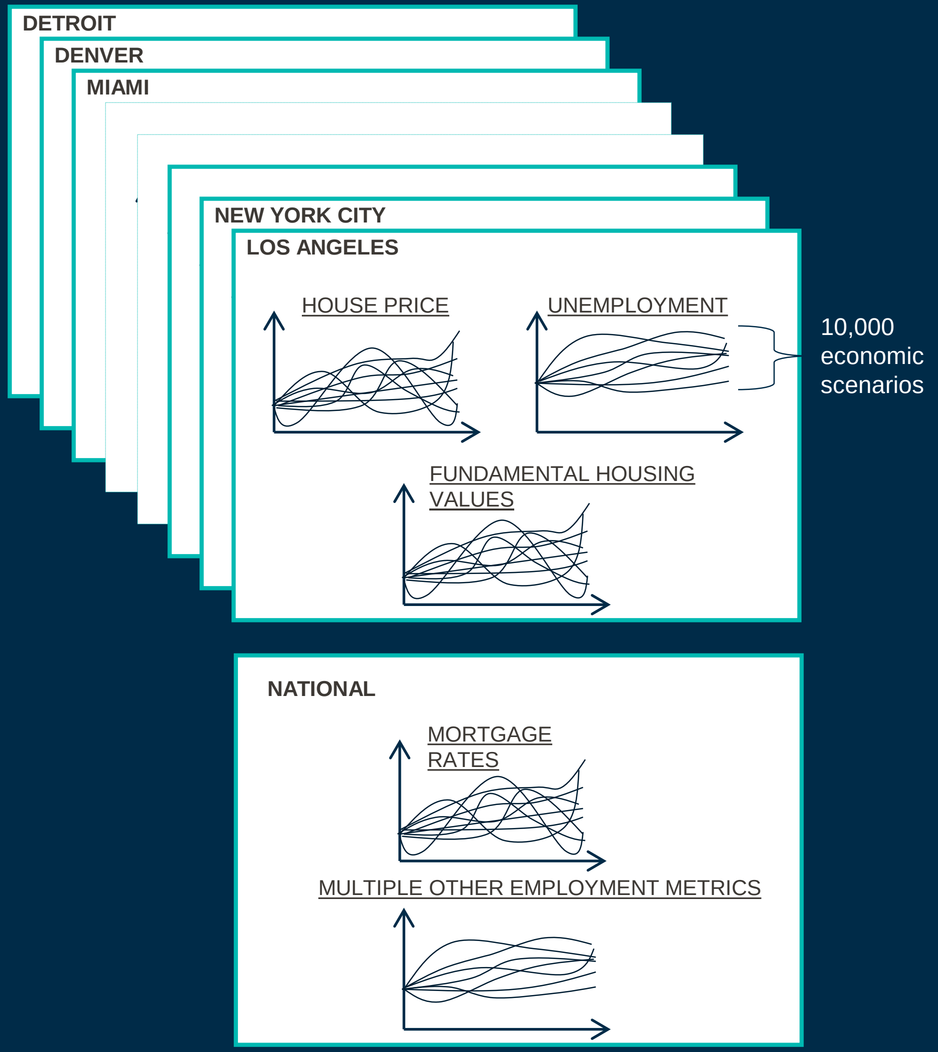
**Services data**

- Historic and current MLS data for over 400 MLSs
- RMBS, mortgage servicing, REO management data
- Consolidated and curated public records data

# **RADAR** Economic Scenario Generator

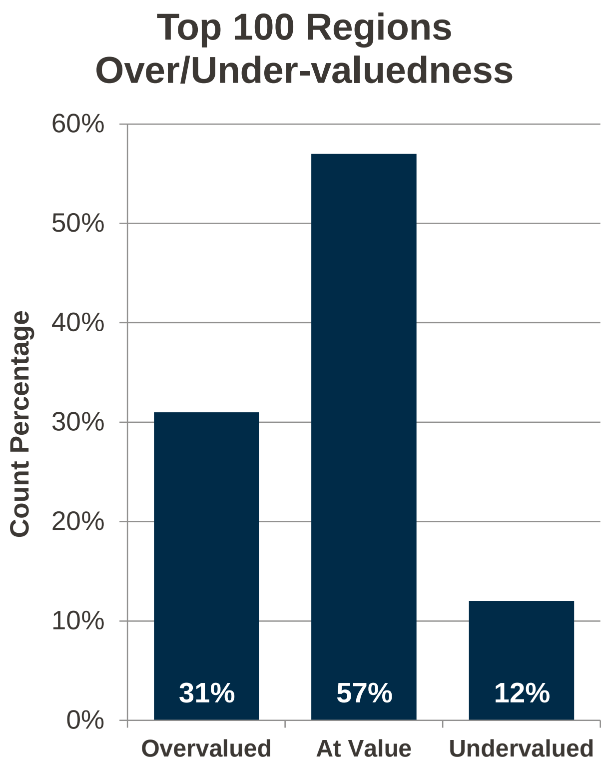
## Accurate and Granular Economic Forecasting Ability

- **Millions** of geographic-specific scenarios are simulated
- **1,000+** model parameters are calibrated to history using multiple fit statistics
- Regional output includes **forecasts** and **simulations** of:
  - House price appreciation (HPA)
  - Unemployment
  - Fundamental housing values
- Regional results are aggregated to a national level where other **national metrics are produced**
- **Geographic-specific pricing and returns** for each combination of loan attributes (FICO, LTV, DTI, etc.)
  - Expected returns for any selected premium rate
  - Required premium rate for any selected return target



# **RADAR** Overvaluedness and Geographic Pricing Example

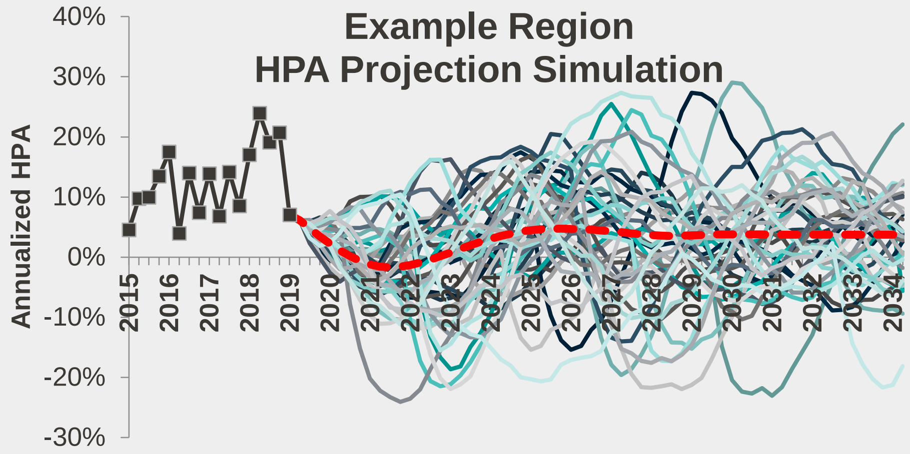
## We view the majority of MSAs as currently At Value




The example region shown below represents one of our highest risk MSAs and we are accordingly assigning it one of our highest geographic-based price adjustments

Radian's proprietary **Mortgage Risk Barometer®** assigns this region an 18% overvaluedness and is a key driver of our forecast and risk assessment

- Other drivers of our forecast for this MSA include:
  - Higher than average historical HPA and unemployment volatilities
  - Low long-term average unemployment and low recent unemployment levels are partially mitigating factors
  - HPA has been trending downward in recent quarters, but still remains positive





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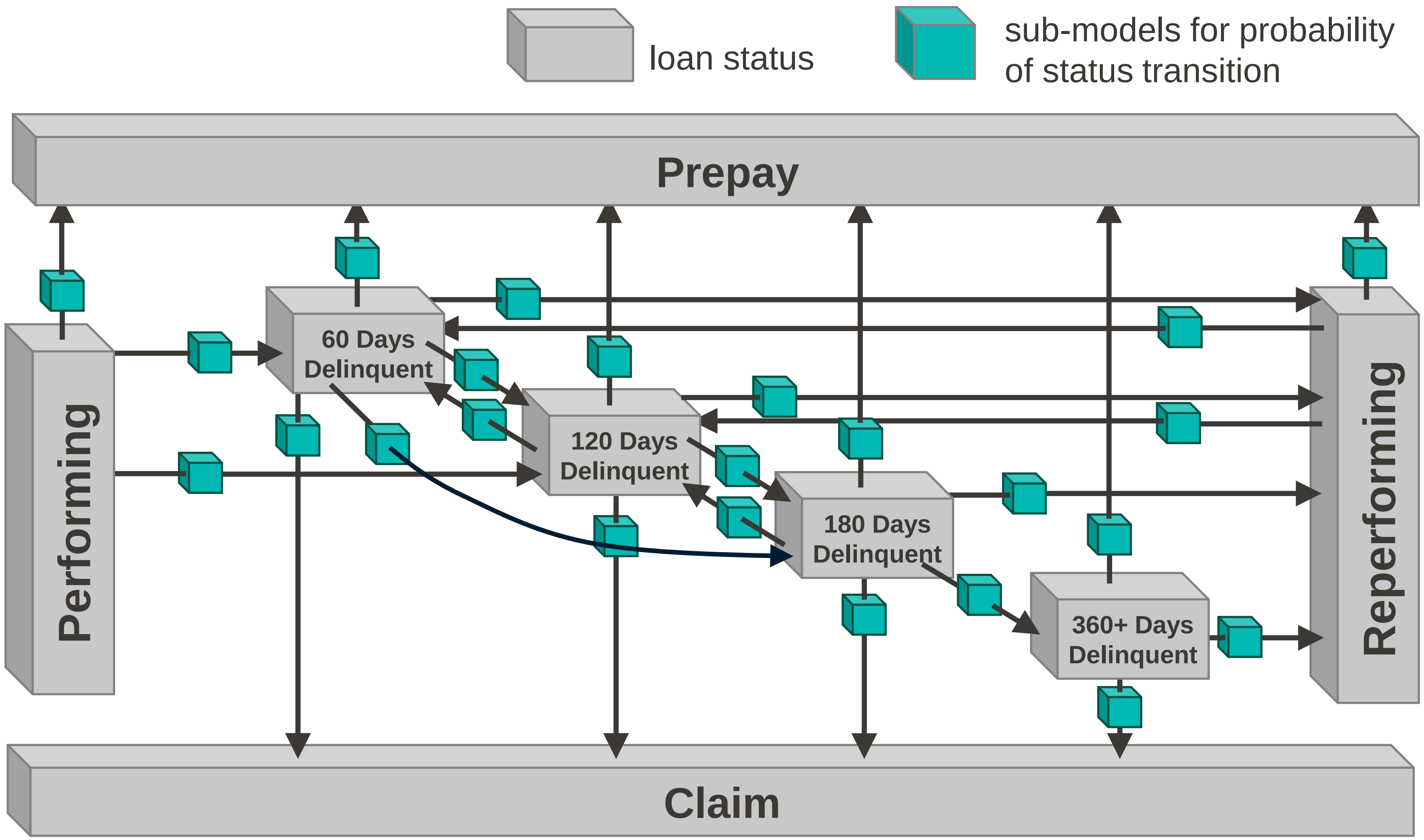
# **RADAR** Loan Performance Models

- 24 sub-models determine the probability of each type of transition (performing to delinquent, delinquent to claim, etc.)
- Each sub-model is calculated at each simulated time-step
- Inputs to the models include
  - Loan attributes (LTV, FICO, DTI, etc.)
  - Economic variables (HPA, unemployment, interest rates, etc.)
- Predictions tailored to any economic scenario – single (deterministic) and stochastic (Monte Carlo) paths





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# **RADAR** Rigorous Testing and Controls

### Validation and calibration

- Robust backtesting prior to deployment and continuous accuracy monitoring
- Demonstrated improvements with each new version of RADAR
- Persistently reviewed and challenged, including ongoing comparisons to “challenger” AI/Machine Learning models

### Strong governance and a controlled production environment

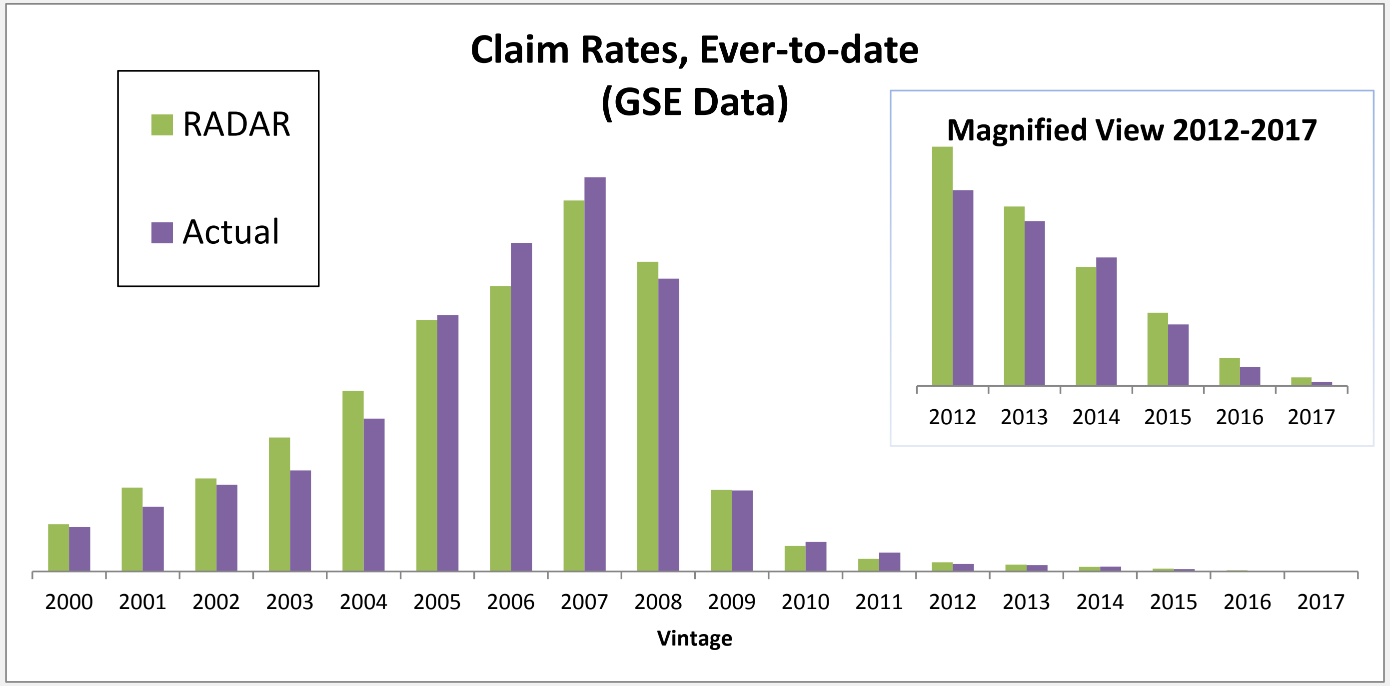
- Model Risk Management Policy/Standards co-developed with a leading consulting firm
- Version control and user applications internally developed to minimize operational risks and ensure repeatability

Tested against third-party models and confirmed RADAR has state-of-the-art predictive accuracy

External validation performed by a leading mortgage analytics consulting firm

### Backtesting Example #1: Loan Performance Models

1. Use actual historic economic conditions
2. Run loan performance models to predict ever-to-date claim rate
3. Assess each vintage cohort
4. Compare to actual claim rates





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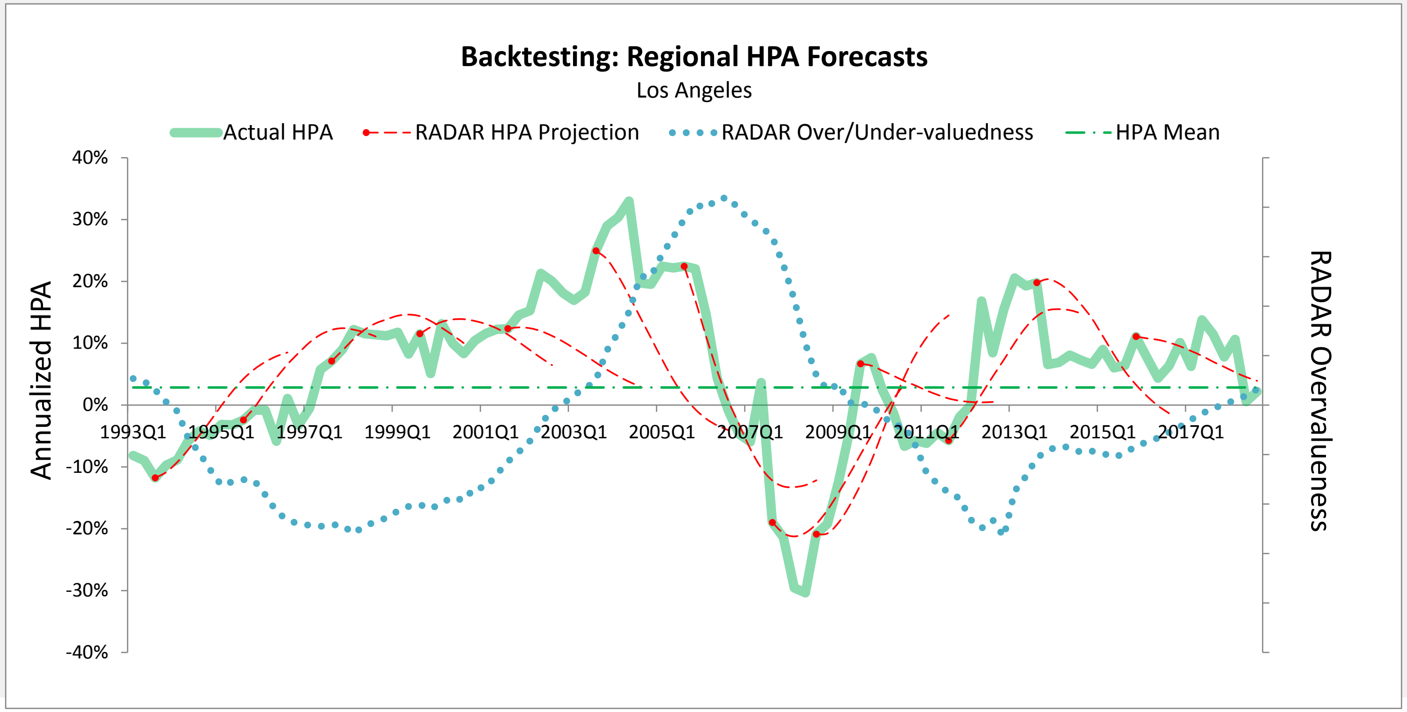
# **RADAR** Proven Economic Forecasting Accuracy

- Forecast backtesting is performed on every region and measured for accuracy
- A significant driver of our regional forecast is Radian's Mortgage Risk Barometer
  - The key output is fundamental housing value
  - "Over/under-valuedness" measures the *difference* between fundamental and market housing values
- For example, in Los Angeles throughout history, RADAR™ makes accurate HPA forecasts
  - 1990's: housing is assessed as undervalued and HPA is forecast to rise to above average levels
  - 2004: RADAR is pessimistic, forecasting an end to the growing overvaluedness
  - 2005: RADAR is very pessimistic, forecasting a severe and rapid downturn
  - 2009: RADAR is turning optimistic, forecasting a significant recovery to above average HPA levels
- All geographic regions are tested
- Sound econometrics, calibration and monitoring is used to avoid over-fitting the models

## Backtesting Example #2: Economic Scenario Generator

1. Forecast HPA at each historic date for each region
2. Compare to actual HPA
3. Assess drivers of the forecast such as Radian's Mortgage Risk Barometer "over/under-valuedness"



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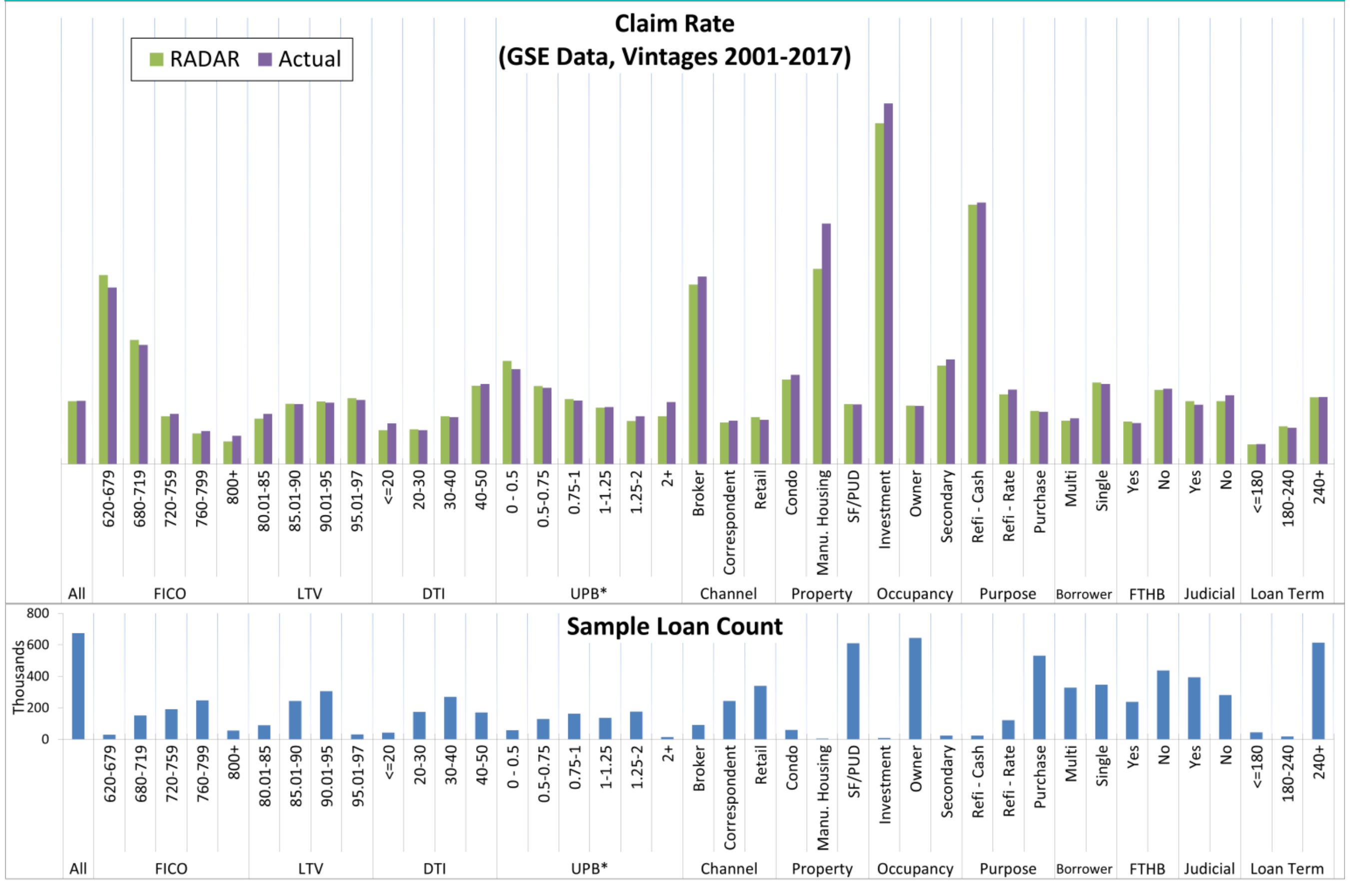
# **RADAR** Actual vs. Expected Testing

- Subject new model development to **extensive granular testing**
- Compare to **pre-existing** models and **alternative** model designs
- **Successful backtesting** along many dimensions of loan attributes and "layered risk" ensures accurate projections and pricing

Here we show RADAR™ predictions vs. actual ever-to-date claim rates, which provides a detailed view of the accuracy of RADAR across various loan types




*Unpaid principal balance normalized by the regional average





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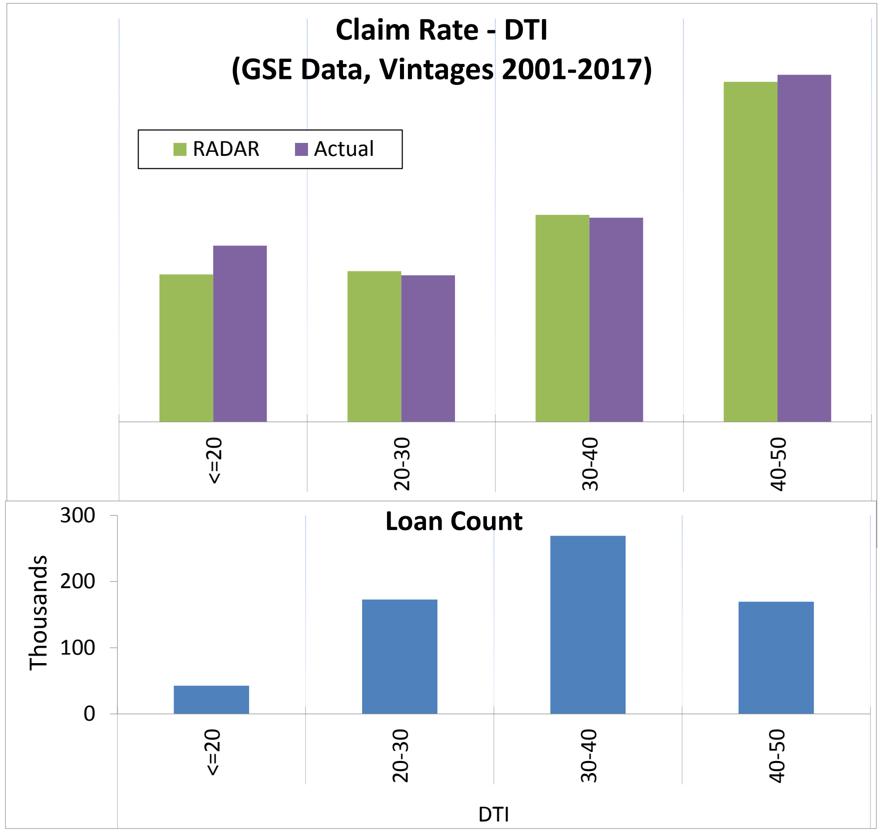
# **RADAR** DTI Example

## What do we do when we see a significant change in loan attributes or new trends in mortgage origination volume?

**Example:**
>45 DTI volume began increasing in mid-2017 following changes to Fannie Mae’s automated underwriting system




### We quickly respond on multiple fronts

- Drill down to the loan type and scrutinize past and recent RADAR accuracy
- Consult published research and industry experts
- Compare RADAR’s expected loss and prepayment sensitivities to DTI with third-party model sensitivities (Note: many industry-standard models do not even use DTI as an explanatory variable)
- Review underwriting process for measuring DTI and variability of measurement
- Discuss and share findings and concerns with key mortgage market stakeholders (e.g., GSEs, FHFA)
- Scrutinize pricing and profitability from a projected return on capital and EV perspective
- Implement credit policy and pricing changes

# Radian Pricing Strategy

Radian’s pricing strategy is to pursue multiple, lender-customized approaches to pricing, including “Black Box” pricing — meaning off-card pricing that is not publicly disclosed, and is more granular, less transparent, more flexible, and subject to more frequent changes than traditional rate card pricing.

Overall, our pricing approach is to be **customer-centric, flexible, customizable** and focused on helping customers meet their business needs, balanced with Radian’s objective of managing the risk/return profile and EV of our insured portfolio.

Consistent with our focus on lender customization, Radian offers a **spectrum of risk-based pricing solutions** for our customers, ranging from minimal granularity of bulk bids and forward commitments to maximum granularity of RADAR Rates (i.e., Radian’s “Black Box” pricing option).

# Radian Pricing Strategy

**Increasing Granularity and Flexibility with Decreasing Transparency**

### Bulk Bid Card:

- Risk of adverse selection offset by large (up to 100%) or pro rata share of production
- Leveraged by larger lenders
- Generally updated every 3-6 months

### Standard Card:

- Simplest solution
- Leveraged by lenders unable to implement other pricing options
- Historically updated every 1-2 years

### Custom Card:

- Customizable to lenders' needs and tailored to Radian's risk/return appetite
- Premiums designed on lender-specific volume and credit mix
- Updated as needed

### RADAR Rates:

- Fine-tuned to specific risk profile of each loan
- More granular and flexible than card-based pricing
- Better enables new pricing inputs (e.g., geography)
- Updated on a frequent basis

# Risk-based pricing is not a new concept

**Standard rate cards** have evolved over time to (1) incorporate the key risk dimensions that drive loan performance and (2) provide increased granularity for many of those risk dimensions. Standard rate card risk dimensions include:

- FICO
- LTV
- DTI
- Purpose
- Occupancy
- Term
- Coverage Level
- Fixed vs. ARM
- Number of Units
- Number of borrowers
- Relocation
- Etc.

## Examples of new risk dimensions and increased granularity on standard rate cards:

- DTI and Number of Borrowers added as risk dimensions in 2018
- FICO not used (<2004) → 3 FICO buckets (2010) → 4 FICO buckets (2012) → 5 FICO buckets (2015) → 8 FICO buckets (Today)

# Risk-based pricing is not a new concept

Out of the 15,000+ combinations derived from a standard rate card, as a practical matter, there are less than 300 or so potential premium rates that could be charged regardless of granularity

- Granularity matters, but it is generally less meaningful for lower credit risk loans
- For example, standard card premium rate for a 30 year Fixed Rate, 85% LTV policy is 19 bps for >=760 FICO and 20 bps for 740-759 FICO

While standard rate cards address key risk dimensions that drive loan performance, there **are limitations**

- Lack of ability to react quickly to market changes
- Subject to adverse selection based on more granular pricing options in the market
- Fall short on accurately pricing interaction effects of multiple risk dimensions within a single loan
- Limited ability to add certain risk dimensions (e.g., geography)

# RADAR Rates

Given market changes and limitations with standard rate cards, Radian has shifted its volume toward **RADAR Rates** and other pricing options that better balance customers needs with Radian's risk/return and EV objectives

- <25% of Radian's current volume is being priced on standard rate cards

Adoption of RADAR Rates has been **rapid and seamless**

- >50% of Radian's recent volume is being priced through RADAR Rates

**Black Box pricing** does not work well for all customers, as it presents operational, technological, disclosure and implementation challenges for certain customers (e.g., wholesale lenders)

- Radian works with these customers to achieve a solution that addresses their needs, while balancing our portfolio return objectives

# Implications of RADAR Rates and Black Box pricing in general

- Increased flexibility to rapidly implement more frequent and targeted pricing changes without publicly disclosing to competitors
- Increased risk-based granularity (e.g., more FICO and DTI buckets), enabling more precise pricing
- Greater ability to incorporate additional risk dimensions to pricing (e.g., geography)
- Better addresses interaction effect of multiple risk variables (i.e., risk layering)
- Increased ability to more dynamically manage the risk/return profile of Radian’s insured portfolio and respond to market shifts and emerging risks
- Need for real-time surveillance and decisioning (e.g., daily pricing meetings)
- Better leverages Radian’s proprietary data and analytics (e.g., economic scenario generator, loan-level models, customer segmentation)
- Potential for increased volatility in volume, market share and credit mix

# EV-Driven Capital Allocation Strategy

## Radian's pricing strategies and tactics are designed to allocate capital in a manner that maximizes the long-term EV of our insured portfolio

Setting prices to maximize EV involves the consideration of a number of factors including:

- Price levels and granularity required to achieve targeted risk-neutral returns
  - Example: For the same price, a loan with a 739 FICO has a higher projected return than a loan with a 720 FICO (due to the standard rate card having a single 720-739 FICO price bucket). Today, with our various pricing options, we can better target a similar projected return by varying the price (i.e., risk-neutral pricing).
  - Example: As a first step, for each geographic region, a required pricing adjustment is calculated to attain an expected return equal to our targeted risk-neutral return (based on our assessment of that particular region).
- Competitor pricing levels
- Ability of customers to implement and ease of operations
- Current market mix of business
- Desired insured portfolio mix

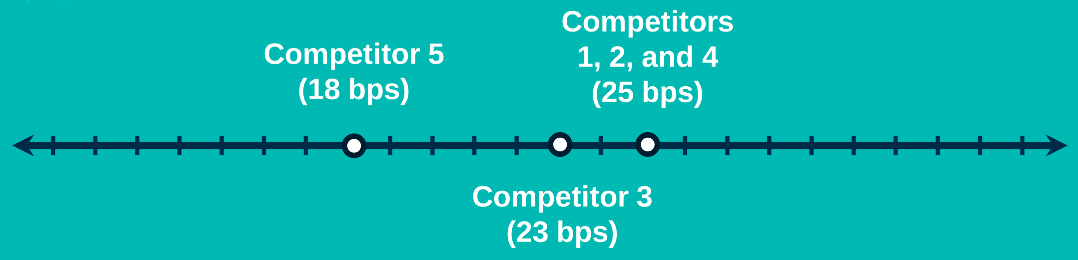
# EV-Driven Capital Allocation Strategy

Radian’s EV-driven capital allocation strategy guides where we are willing to **over/under allocate our capital** (e.g., within certain credit segments/characteristics, geographies, lenders) relative to our competitors and the overall market

- Any over/under allocation will be based on our view of the relative returns and EV; however, we are mindful of the market mix of business and will not “bet the farm” on any particular segment or characteristic

Where we allocate capital to maximize EV will shift over time in response to market changes (e.g., competitors’ pricing, lender volume shifts) and changes in our view of relative risk

Illustrative example of pricing on a high credit quality loan that a competitor is chasing, but has priced to a level that is unattractive from an EV perspective. We would choose to let Competitor 5 have the business and under allocate our capital here.





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# Lender and Servicer Segmentation Frameworks

## Lender Segmentation

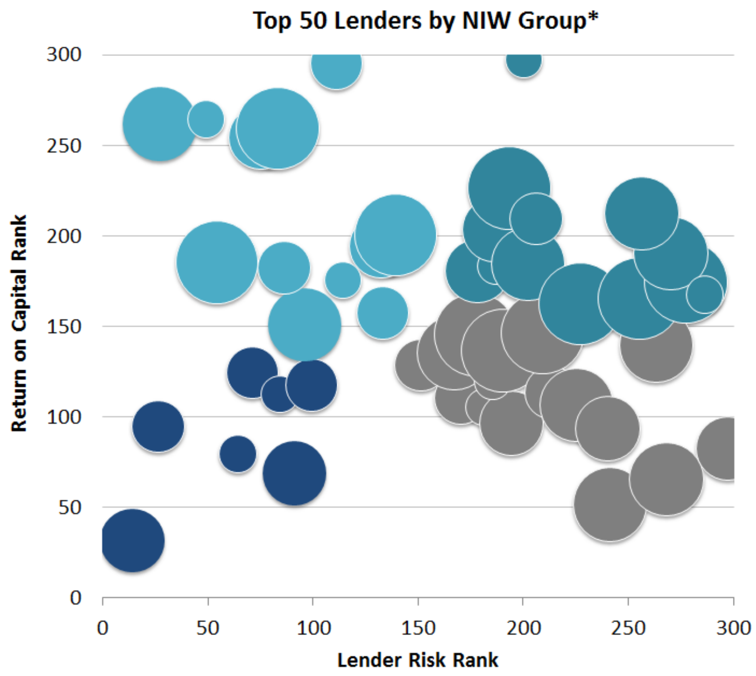
- Radian's Lender Segmentation Framework leverages a multitude of credit, performance, operational, risk/return and economic value metrics to rank order lenders on a monthly basis, providing Radian with a common view of its lenders' business performance and relative value.
- Lender-specific Dashboards, incorporating 100+ Lender Segmentation metrics, are utilized in every lender-level decision, including pricing, and are leveraged on a daily basis across the organization (e.g., Risk Management, Pricing, Underwriting, Operations, Sales) to drive portfolio, operational and strategic decisions.
- On a monthly basis, Radian produces Lender Insight reports for over 500 of our top customers. These reports summarize our Lender Segmentation information, evaluations and analytics on a customer-specific basis, providing valuable information for our customers and setting clear expectations regarding performance, mix of business and underwriting quality.

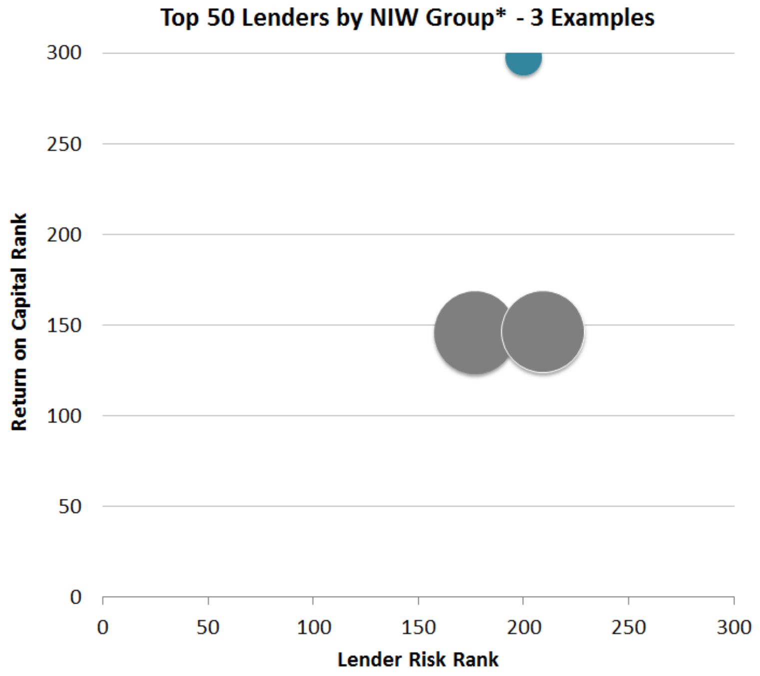
## Servicer Segmentation

- Radian's Servicer Segmentation Framework utilizes a robust set of servicer-level metrics to evaluate and score servicers on a quarterly basis, and is used to generate servicer-specific Dashboards.
- Servicers are evaluated on an absolute and relative basis on a variety of operational and performing, default and claims servicing metrics, including persistency, default prevention, loss mitigation activities and foreclosure timelines.

In addition to utilizing quantitative metrics, **Radian's Lender and Servicer Segmentation Frameworks** incorporate market and competitor intelligence, Sales feedback and other qualitative information (e.g., a lender's risk management discipline and operational controls, leveraging our experienced risk managers who engage directly with our lenders and servicers on a daily basis).

# Lender Segmentation Strategy




- Radian's Lender Risk Rank and Return on Capital Rank are weighted and combined to determine an Overall Lender Rank
- While all lenders shown are producing EV-accretive volume, our strategy is to shift volume from the upper right on the chart toward the lower left (i.e., from higher risk / lower returns to lower risk / higher returns)

- On a lender-by-lender basis, Radian works to increase the EV of our business by:
  - For lower ranked lenders: improving risk mix, increasing premium rates, shifting volume to higher return products, reducing lender's relative share, reducing lender-level expenses, etc.
  - For higher ranked lenders: growing lender's relative share, deepening and broadening relationship (e.g., Services offerings), etc.

Note: Bubble size is based on recent volume with larger bubbles indicating more volume



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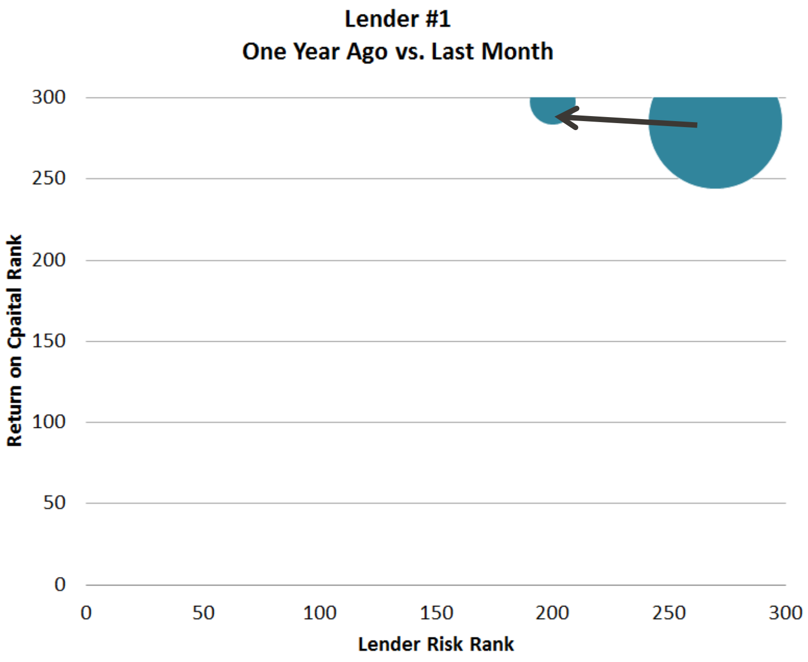
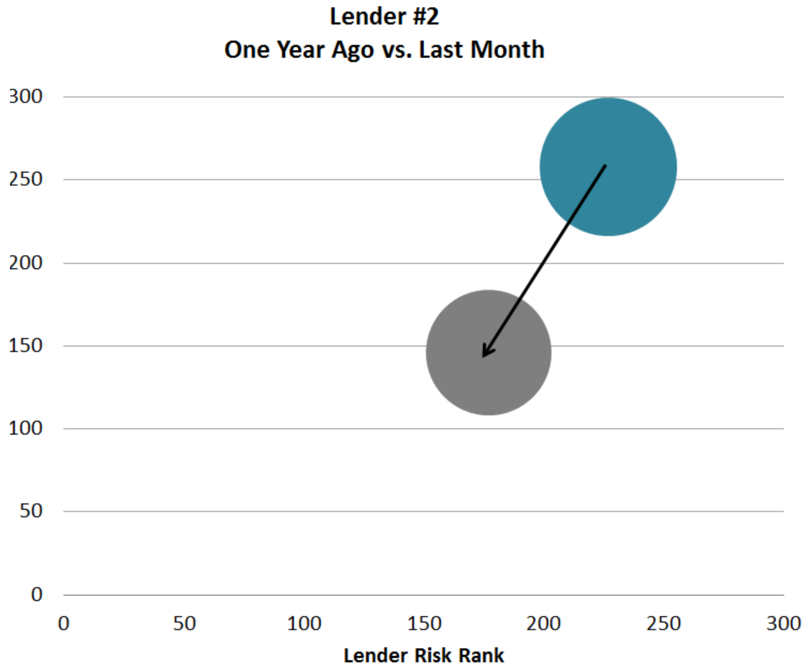
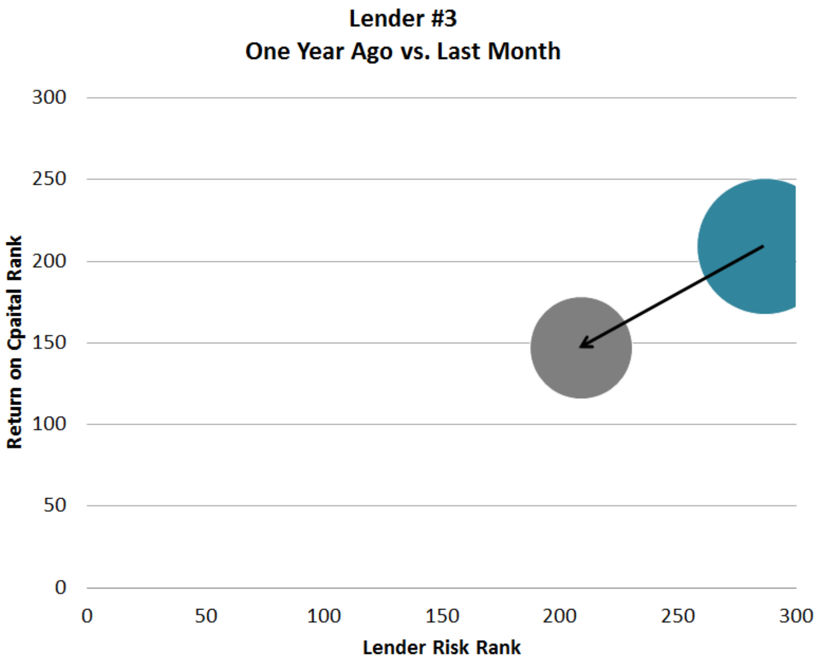
# Lender Segmentation Strategy

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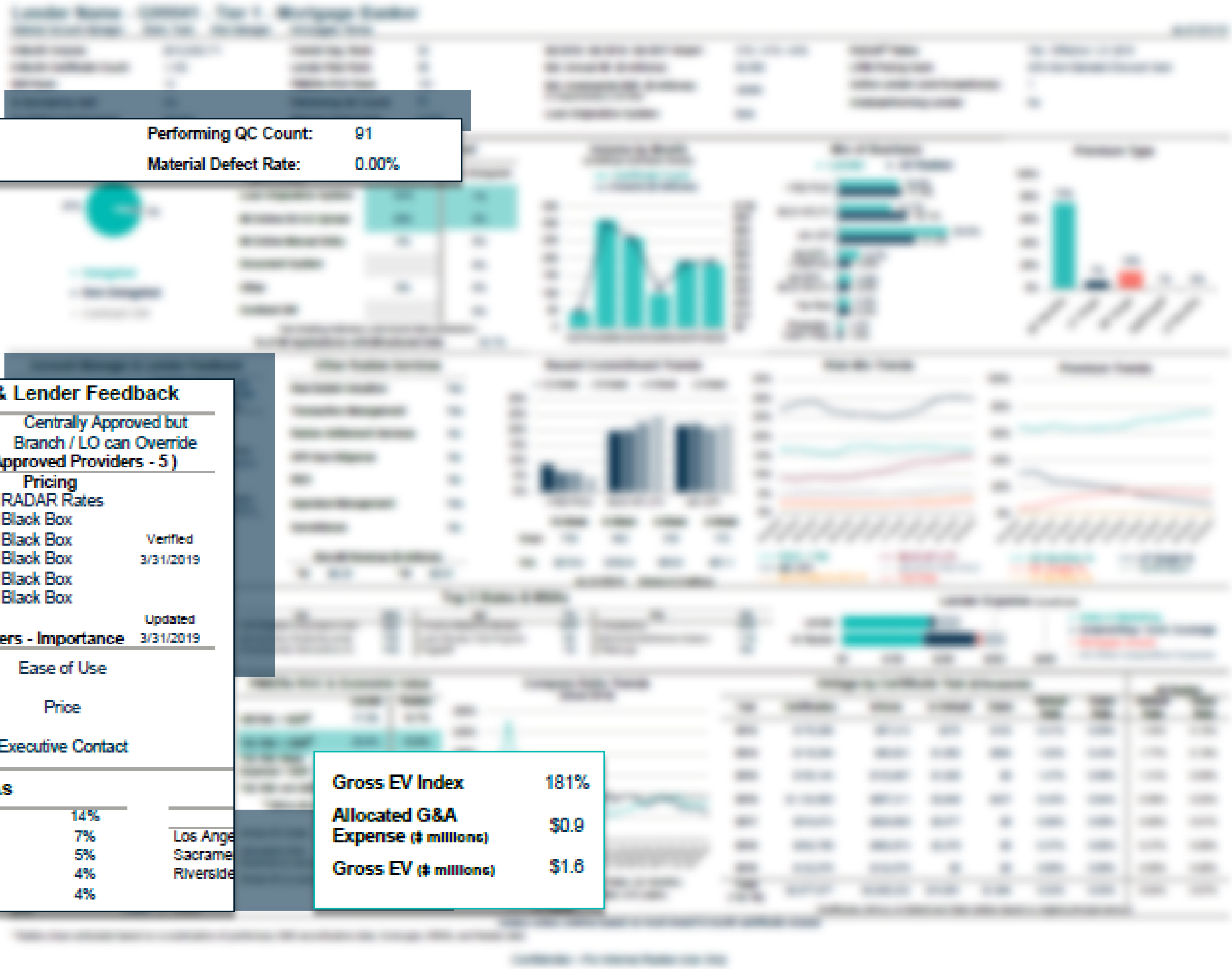


| | | | |
|---|---|---|---|
| % Serviced by Self: | 4% | Performing QC Count: | 91 |
| Qualitative Assessment: | Neutral | Material Defect Rate: | 0.00% |

## Account Manager & Lender Feedback

| | | | |
|---|---|---|---|
| MI Decision Method | | Centrally Approved but Branch / LO can Override | |
| Competitive Intel (# of Approved Providers - 5 ) | | | |
| | Est. Share | Pricing | |
| Radian | 33% | RADAR Rates | |
| MI #2 | 17% | Black Box | |
| MI #3 | 15% | Black Box | Verified |
| MI #4 | 21% | Black Box | 3/31/2019 |
| MI #5 | 8% | Black Box | |
| MI #6 | 6% | Black Box | |

Updated 3/31/2019

| Lender Decision Drivers - Importance | |
|---|---|
| Most | Ease of Use |
| 2nd Most | Price |
| 3rd Most | Executive Contact |

### Top 5 MSAs

| | |
|---|---|
| Los Angeles-Long Beach-Glen | 14% |
| Phoenix-Mesa-Scottsdale | 7% |
| Sacramento–Roseville–Arde | 5% |
| Philadelphia | 4% |
| Riverside-San Bernardino-On | 4% |

| | |
|---|---|
| Gross EV Index | 181% |
| Allocated G&A Expense ($ millions) | $0.9 |
| Gross EV ($ millions) | $1.6 |

# Risk Distribution

**Radian is not the best holder of certain risk positions from a capital perspective**

Risk distribution is a means to optimize our retained exposure and **benefits Radian** in a number of ways:

- Significantly reduces the capital that would otherwise be needed to support the risk
- Access to low cost of capital
- Increases projected returns on capital
- Decreases tail risk associated with stress scenarios, thereby reducing financial volatility
- Increases rating agency claims-paying resources
- Increases potential dividend capacity

Factors considered when **evaluating risk distribution** opportunities and structures:

- Cost of capital
- Certainty and amount of capital credit through time
- Insured portfolio impact
- Benefit in stress scenarios
- Rating agency credit
- Ease of execution and administration
- Flexibility of terms
- Counterparty risk

Radian expects to continue to leverage **multiple forms** of risk distribution:

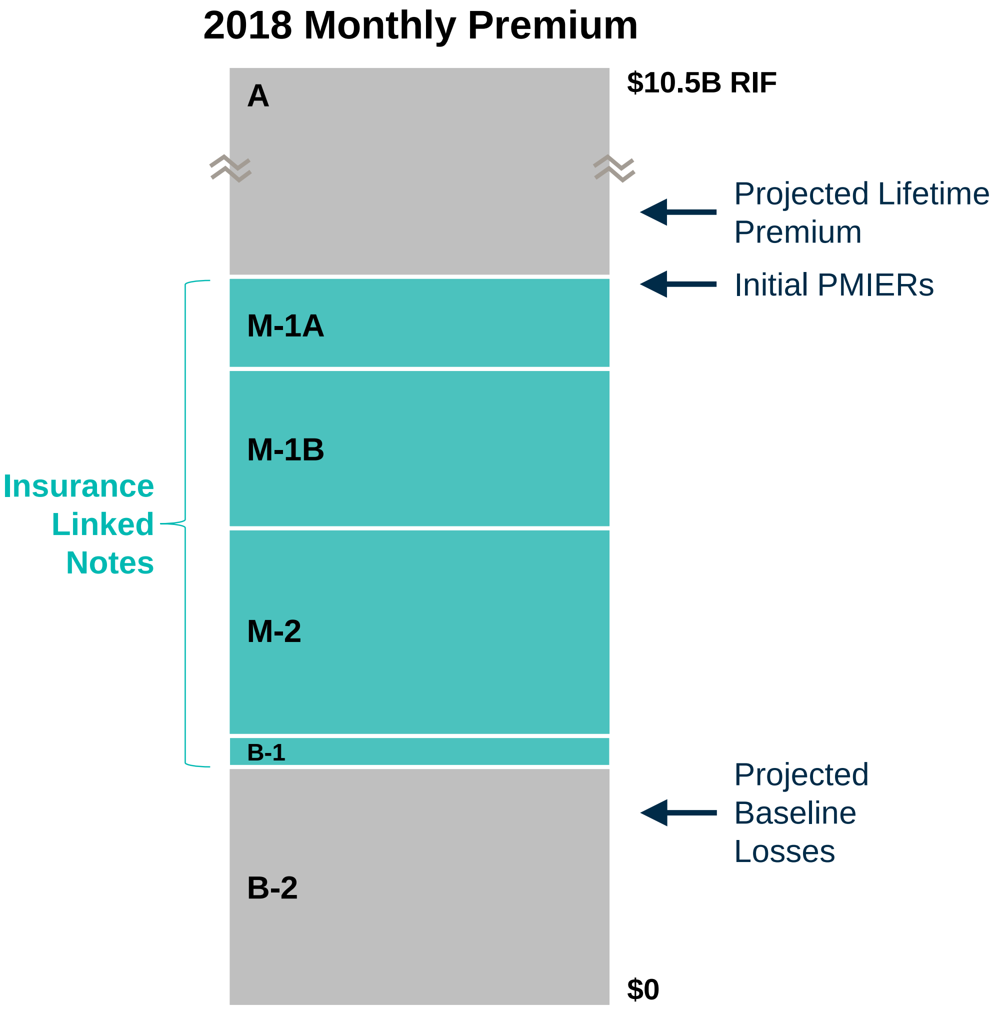
- To date, Radian has utilized Insurance-Linked Notes, forward Quota Share Reinsurance, and Excess of Loss Reinsurance
- 68% of Radian’s Primary risk in force (“RIF”) is subject to a form of risk distribution, with approximately 39% of RIF being ceded
- Risk distribution has reduced Radian’s PMIERs minimum required assets by over $1.5B on a consolidated basis

# Stress Scenario: New Business Impact

Radian covers its new business via **various risk distribution structures** that protect against stress scenarios

These risk distribution structures have been sized **to achieve full credit** under the PMIERs

- Under a modified CCAR Severely Adverse scenario (see next slide for scenario details), we project that our recent Insurance-Linked Notes structures would attach and absorb losses without exhausting the structures
  - As a result, Radian projects a cumulative loss ratio for its 2018 Monthly Premium business of approximately 28% under a modified CCAR Severely Adverse scenario
- In addition to reducing its tail loss exposure via risk distribution, Radian benefits from premium and investment income, neither of which is given capital credit under the PMIERs
  - Forecasted lifetime premium exceeds the initial PMIERs requirements
  - With risk distribution structures such as EMIR 2019-1 (i.e., our recently issued Insurance-Linked Notes), the premium generated fully covers Radian's first-loss retained exposure as well as the cost of the program, with ample earnings left to cover losses in excess of the detachment point



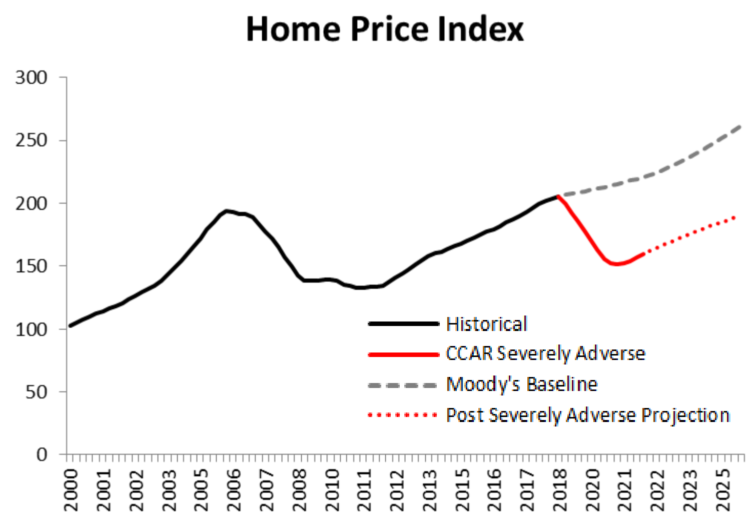
# Stress Scenario: Portfolio Impact

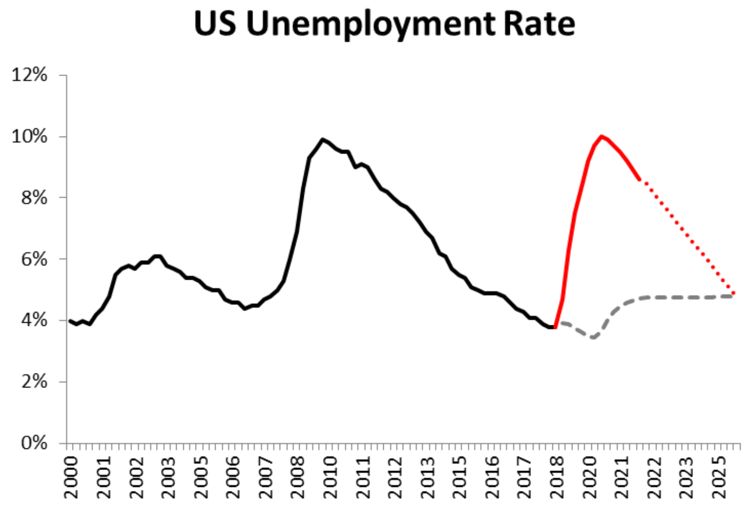
Given the current credit profile of Radian's insured portfolio (i.e., much less volatile than historic MI portfolios), significant risk distribution, and strong capital levels, Radian is **well positioned to withstand significant stress scenarios**

- Most stress scenarios would result in earnings events, but not capital events
  - Premium and future investment income, neither of which are captured as claims-paying resources under the PMIERs, provide significant earnings to offset losses and serve as buffers in stress scenarios
  - Risk distribution further insulates Radian from stress losses
- For example, under a modified CCAR Severely Adverse scenario, Radian projects:
  - A loss ratio of less than 70% for our Primary MI Portfolio
  - It would generate $1.1B in projected future earnings

The charts at right show home price and unemployment paths under a modified CCAR Severely Adverse Scenario.

Under a CCAR Severely Adverse scenario, home prices decline 26% and unemployment peaks at 10%.



# Thank You



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# Panel & Questions

**Meghan Bartholomew**

SVP, Credit and Counterparty Risk Management

**Ted Cubbin**

SVP, Chief Analytics Officer

**Marshall Gayden**

SVP, Mortgage Insurance Sales

**Steve Keleher**

SVP, Portfolio Management

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# Technology and Transaction Services

Eric Ray
Senior Executive Vice President

A Digital Enterprise driven by Data and Analytics.

Services powered by technology and fueled by data.

Disruptive Business Models that deliver new levels of customer service and innovation.

# One Radian: five market-facing businesses

- Mortgage Insurance
- Risk Services
- Mortgage Services
- Real Estate Services
- Title Services

# One Radian: five market-facing businesses

**Mortgage Insurance**

**Risk Services**

**Mortgage Services**

**Real Estate Services**

**Title Services**

- ✓ Loan Reviews
- ✓ RMBS Securitization & Distressed Asset Reviews
- ✓ Single Family Rental Property Review & Valuation Services
- ✓ Servicer Loan Surveillance & Underwriting

# One Radian: five market-facing businesses

**Mortgage Insurance**

**Risk Services**

**Mortgage Services**

**Real Estate Services**

**Title Services**

- ✓ Valuation Services
- ✓ REO Asset Management
- ✓ Real Estate Brokerage
- ✓ Software as a Service Solutions

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# One Radian: five market-facing businesses

- Mortgage Insurance
- Risk Services
- Mortgage Services
- Real Estate Services
- Title Services

✓ Title Insurance
✓ Title Search
✓ Settlement and Closing Services

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# Our strategic focus

**Radian Digital**

**Radian DNA**
(Data & Analytics)

**Industry Disruption**

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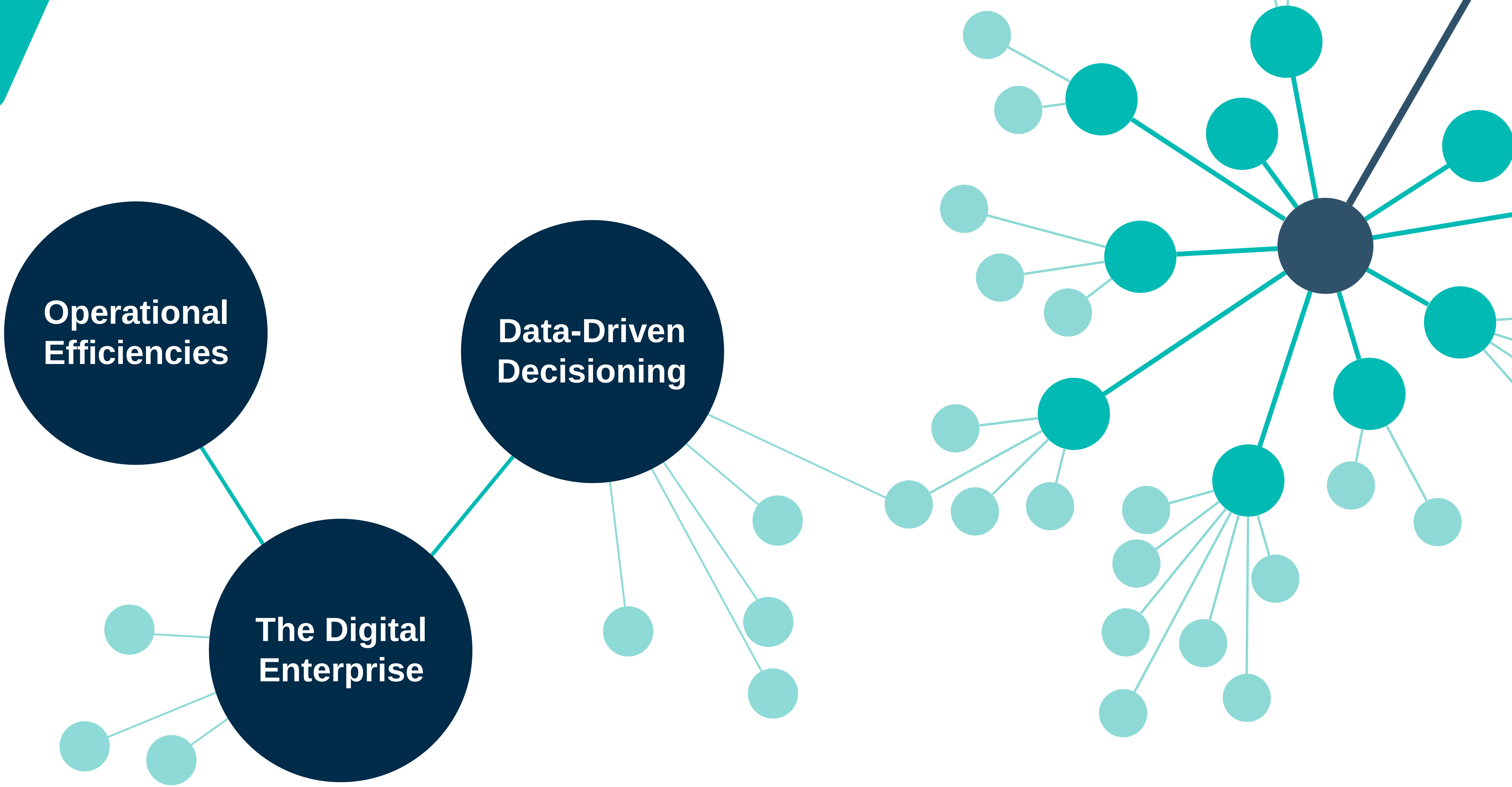
# Building our Digital Enterprise

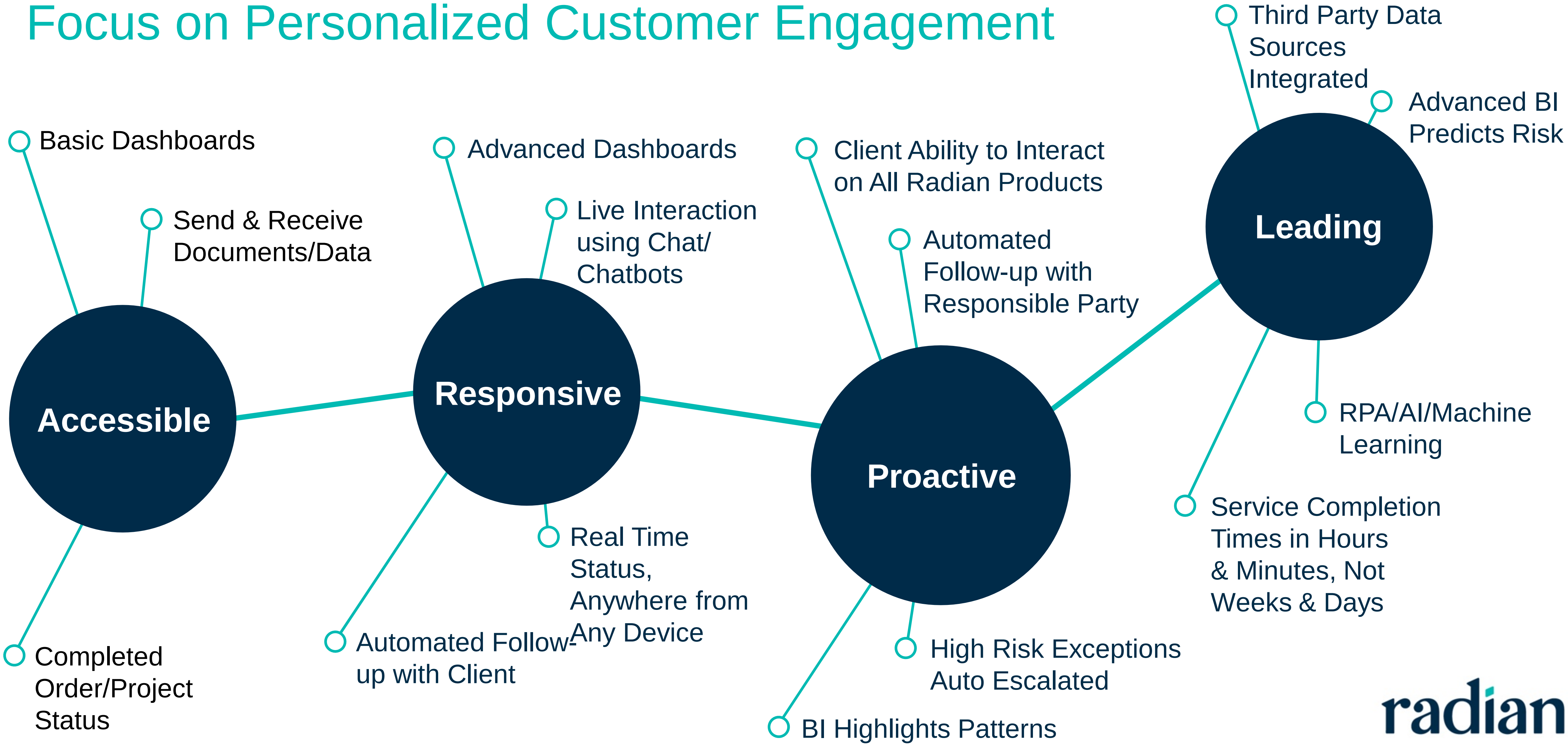
# Partnering for Success …

salesforce workday box MEDALLIA ORACLE

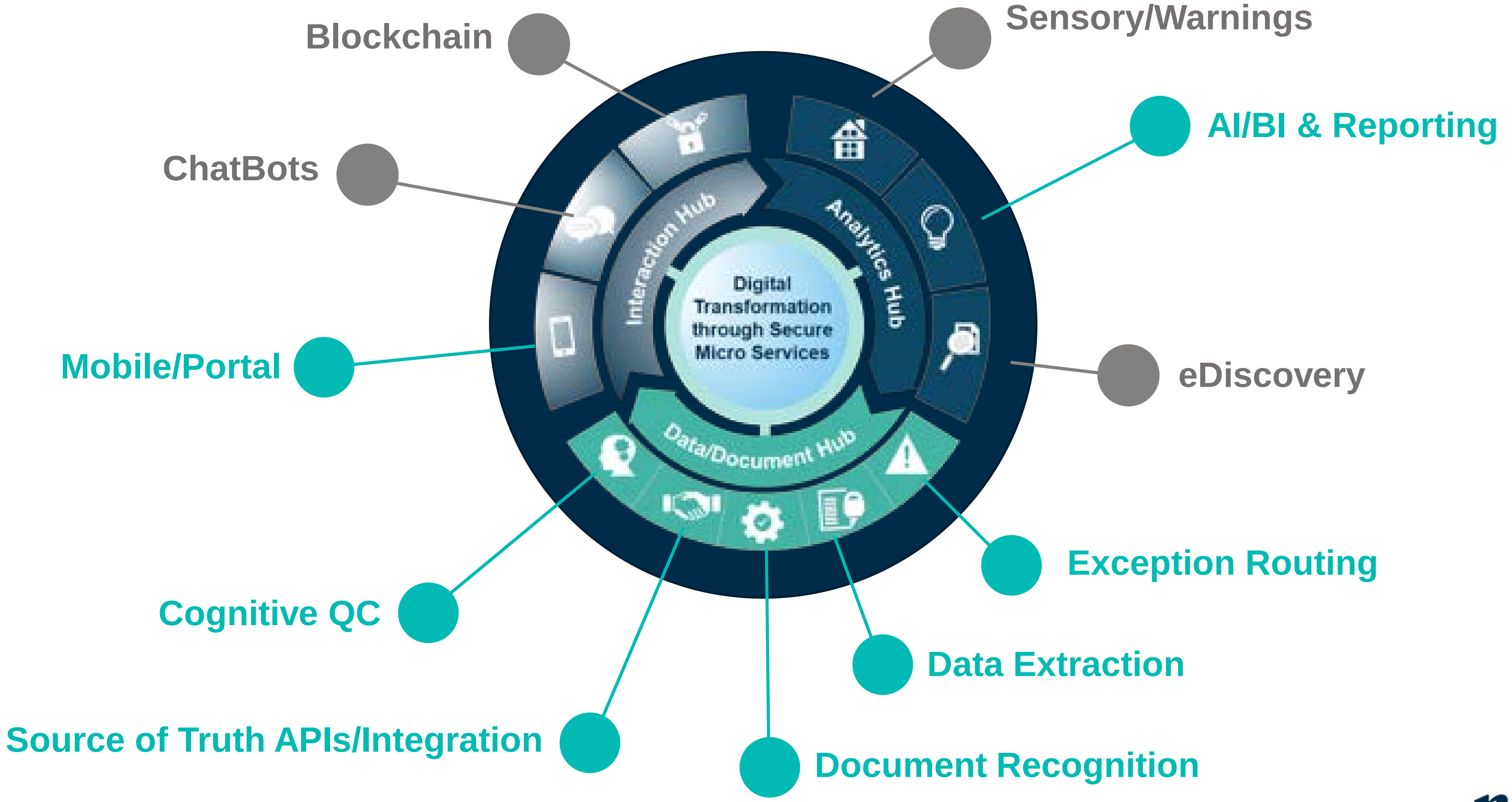
… and building to create and differentiate.


Operational Efficiencies
Data-Driven Decisioning
The Digital Enterprise

# Focus on Personalized Customer Engagement



# Building a Digital Enterprise





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# Data
## and
# Analytics

Access to more types of data

Data on a national scale

Both historical and current

Very granular data

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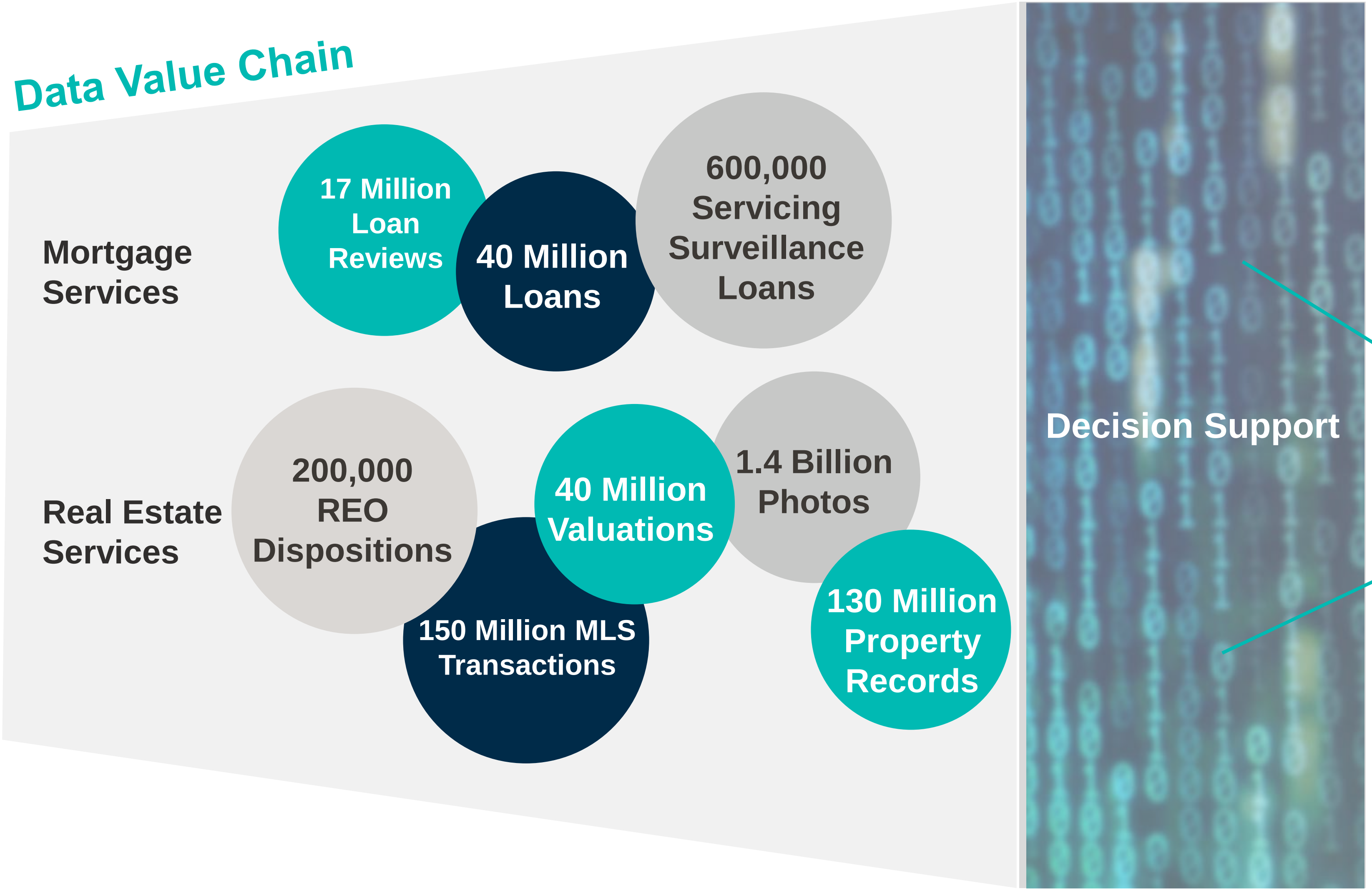


Innovative Products & Services for **Customers** Driven by **Data & Analytics**

# Spanning the mortgage & real estate spectrum

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# What does Disruption Look Like?

# From Labor Intensive to **Smart Solutions**

# Unbundling the processes, connecting the ecosystems, improving the experience

- Home owner
- Realtor
- Lender
- Appraiser
- Insurer
- Investor






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# The future of property valuation services

- Automated Valuation Estimator (AVE) & Automated Valuation Model (AVM)
- Hybrid appraisals
- AI-based photo recognition

***Intelligence that's timely, accurate and smart.***

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# The future of title transactions

- Centralized platform
- Agentless
- Digital

***Reimagining the consumer experience.***

# The future of real estate transactions

- Next generation of PropTech
- Augments agents and provides insight with data and integration through technology
- Enhanced transparency via Consumer/Agent/Broker dashboard

***Empowering the agent.***


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# Thank you

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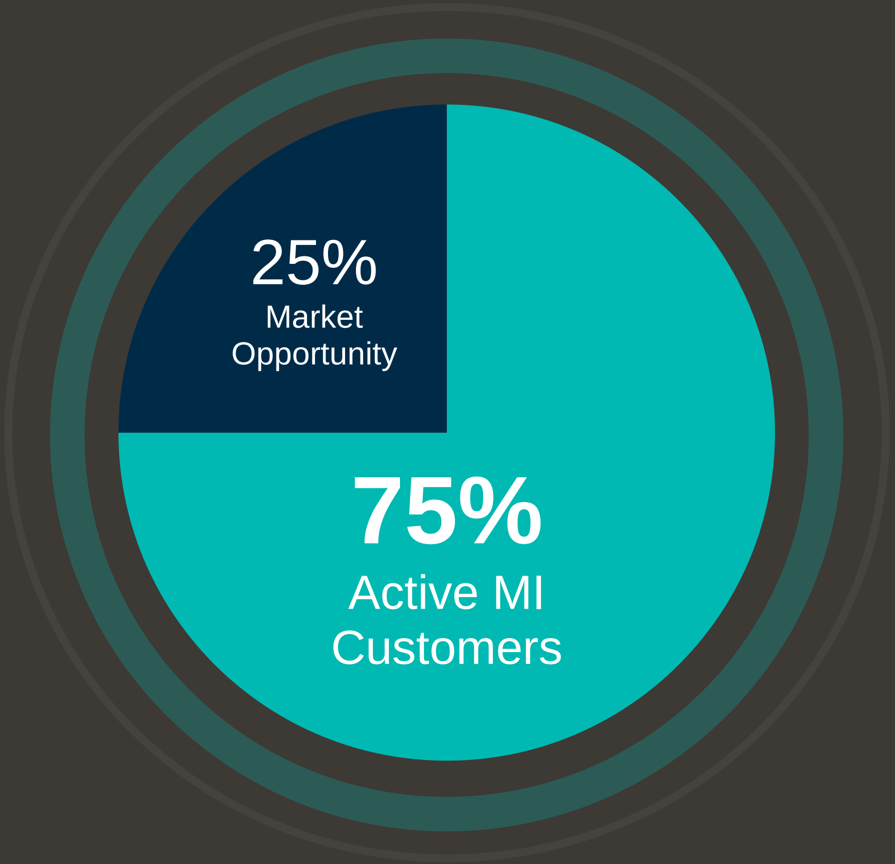
# The Customer Franchise

Brien McMahon
Chief Franchise Officer

# The Customer Franchise

- Radian's active MI relationships with over **1,200 customers** give us direct access to **75%** of the mortgage originations market
- Our coverage is **even greater** when our relationships with investors, servicers, the GSEs, and realtors are factored in
- We have a long history with many of our clients, at both the company and personal level:
  - About **60%** of our MI relationships date back 10 or more years, with **30%** stretching 20 years or more
  - Within our experienced MI sales team, **30%** have been with Radian for 10 or more years and **15%** 20 or more years




**Radian Mortgage Originations Market Coverage**

# Knowing Our Customers

- Our customers include national banks, community banks, credit unions, independent mortgage bankers, servicers, Single Family Residential investors, mortgage investors, GSEs, realtors, and asset managers
- Leveraging our close customer relationships as well as a variety of internal and external data, we endeavor to know as much as possible about our customers, their business, their operations, their competitors, and their needs

- Do they originate mortgages?
  *How much? Where? What kind?*
- Do they service mortgages? *How much?*
- Do they hold loans in portfolio? *How much?*
- Do they have real estate owned investments?
- Are they centralized or decentralized?

- Who makes the vendor decisions and based on what?
- Who are their title companies?
- What keeps them up at night?
- How can we help them transform their business?
- How do we create more stickiness and become an indispensable partner?

# Sales Structure Tailored to Customers

Leveraging our in-depth understanding of our customers through relationships and data and analytics, our dynamic sales structure allows Radian to focus sales efforts on key decision makers of profitable opportunities - making us more **effective** and more **efficient**

Enterprise Relationship Management

National Accounts

Field Sales

Inside Sales

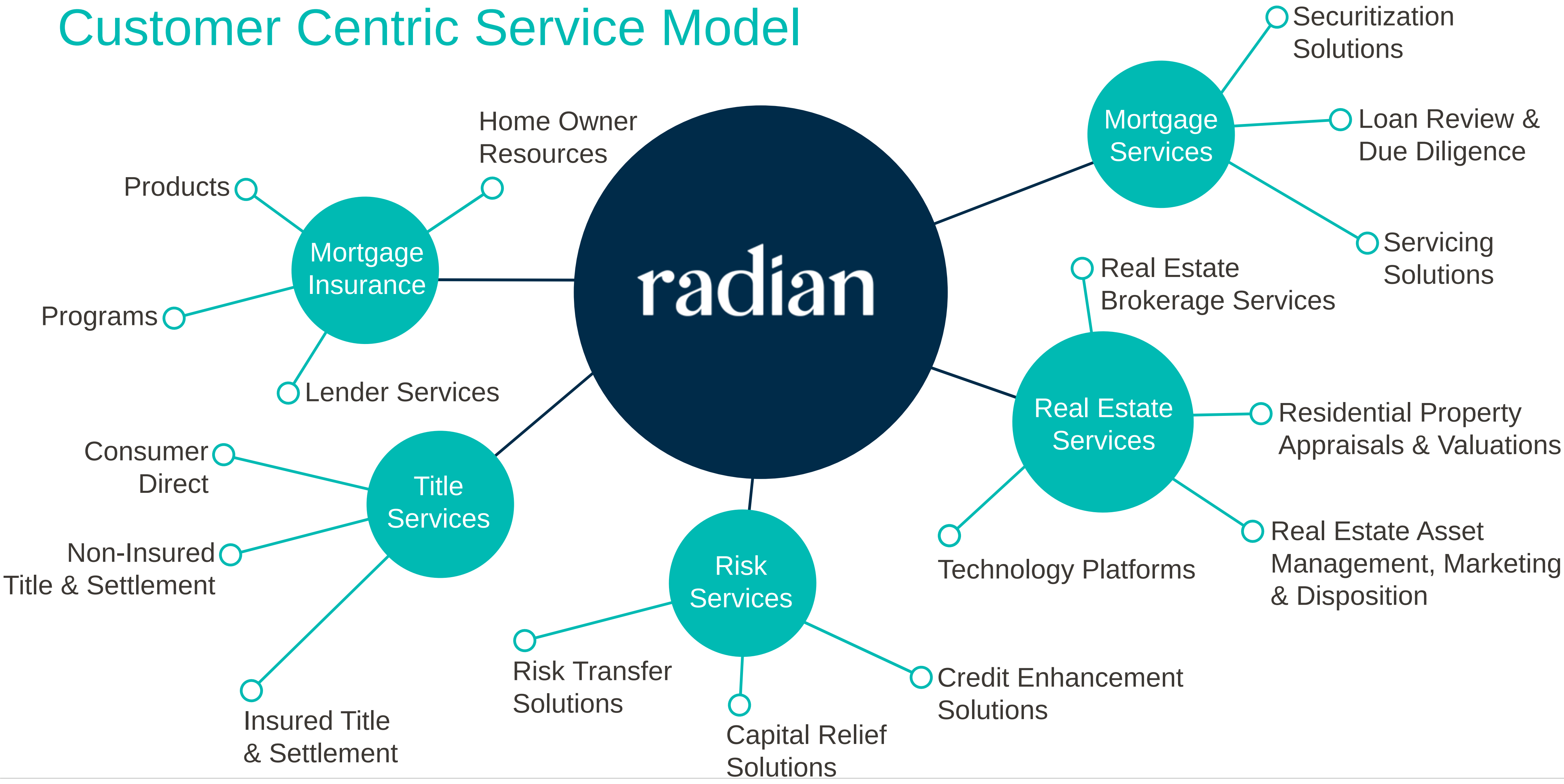
### Enterprise Relationship Management team:

- **Dedicated** to the largest, most complex, diversified organizations
- **Focused** on learning everything about these entities and how Radian can help, engaging key decision makers and driving interest, then bringing in subject matter experts throughout the organization to close the deal

### Mortgage Insurance and Services Sales Teams:

- Experts in their segments and aligned closely to customers at the product / service level
- Includes mix of field sales and inside sales, with sales coverage and efforts balanced to **customer needs**, **operations**, and **opportunity**
- Utilize our Inside Sales team to manage smaller customers and engage remote employees who make MI decisions
- Focus on products and services within the segments and **proactively promote** across the business lines

# Customer Centric Service Model



# Success Stories

## National Bank

- MI relationship spanning more than **20 years**
- Able to assist them with credit and compliance reviews in **2018** which then led to loan review and securitization reporting opportunities within our **Mortgage Services** segment
- Leveraged real estate services and began partnership with our **Title and Settlement Services** business this year

## Credit Union

- Largest credit union in its state with **$4 billion** in assets and a 10-year long MI relationship with Radian, including participating on our annual **Credit Union Advisory Board** for a number of years
- We have been able to assist them with a variety of real estate valuation services including **ARBPO**, **AVE**, **BPO**, and inspections which led to surveillance opportunities and now we are actively discussing **AMC** and **HELOC Settlement** services with them
- These early successes have helped them see us as a partner in a broader sense and expanded our relationship with them

**Not only are we expanding the revenue opportunities, we are strengthening the MI relationship**

# Success Stories

## Independent Mortgage Bank

- Strong MI relationship spanning more than **10 years**
- Radian has helped them manage a large portfolio of **REO** where we managed the disposition of properties in certain **MSAs** and provided valuations through the **AVE** product
- We are in discussions with the management company about moving to **Pyramid** system to manage these assets
- We have also had numerous discussions about co-creating a **Digital Mortgage** product with a valuation and title insurance component where the settlement/closing is done virtually

## Mortgage Investor

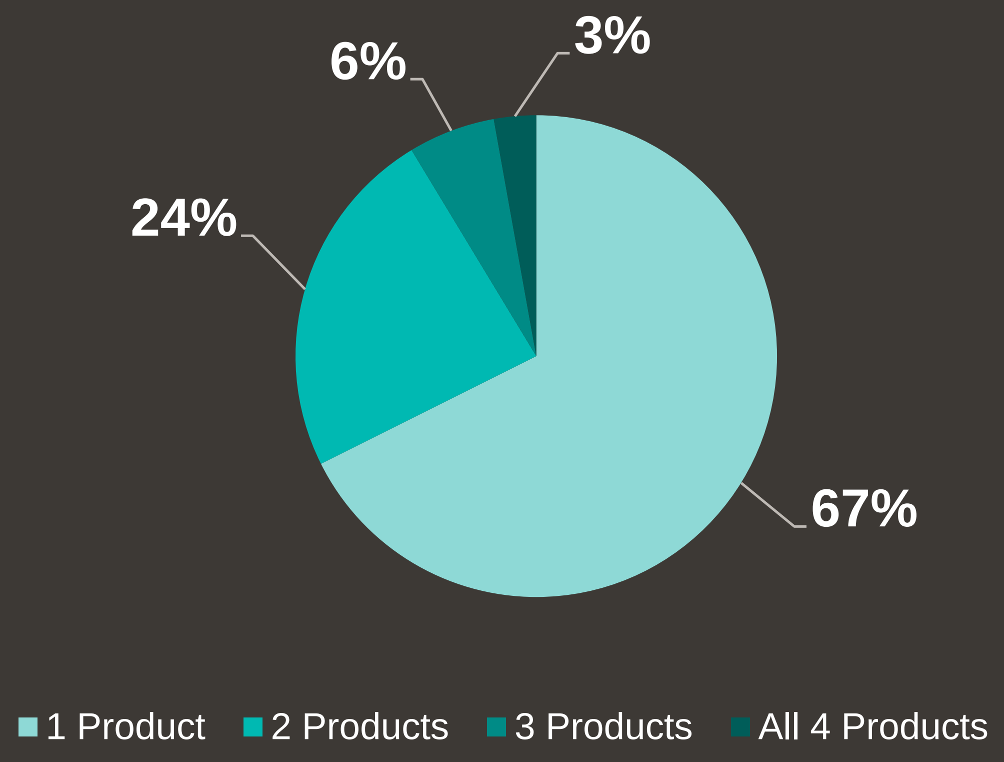
- Large mortgage aggregator with a **7-year long** MI relationship and active **Mortgage Services** customer for securitization reviews
- Long-time user of automated valuations from **Radian Real Estate Services** to benchmark values on purchased loans
- In the process of entering the **Home Equity** origination space and we are discussing the recently released **HERO** insured title/valuation/settlement product for **Home Equity** loans as the solution to assist them in successfully growing this business line
- We have recently opened discussions about providing **Title and Appraisal** services for their centralized platform

**Not only are we expanding the revenue opportunities, we are strengthening the MI relationship**

# Customer Opportunity Landscape

- Approximately a third of Radian's customers across the enterprise are currently active in multiple products of our business *(mortgage insurance, title, mortgage services, and real estate services)*, with significant opportunity to continue to expand
- Many customers indicate they would prefer to reduce the number of vendors they work with
- We are using our relationships not only to promote our **current** services, but also to actively engage in conversations about customer needs and pain points to continue to refine and evolve our service offerings for the **future**

**Radian Customers by Number of Products They Are Active In**



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# Wrap Up

- Radian’s suite of products and services is a key differentiator in both the **MI** and **Services** market
- Our long-standing relationships give us the opportunity to **work collaboratively** with our customers and continue to **grow** and **expand** those relationships across our entire enterprise
- Radian’s **sales team** has the experience, industry recognition, and passion to continue to **grow our business** and they are supported by strong operations, marketing, technology, data, and analytics teams
- Working collaboratively to make **OneRadian** more relevant throughout the mortgage and real estate industries

# Panel & Questions

**Katie Brewer**

SVP, Real Estate Services Operations

**Jill Cadwell**

SVP, Settlement Services Operations

**Mike Dziuba**

SVP, Enterprise and Real Estate Services Management

**Steve Gaenzler**

SVP, Data and Analytics

**Dave McCormick**

SVP, Enhanced Sales





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# Summary

Rick Thornberry
CEO Radian

We are developing an innovative, high value mortgage and real estate enterprise

We are leveraging our core competencies to develop next generation, disruptive business models

We are focused on enabling better ways to do business for all market participants and build value for our shareholders

# Key Takeaways

- Our large, off balance sheet **mortgage insurance portfolio** is very valuable
- Our broad **customer relationships** position us for the future
- Our business model is **more durable** and **less volatile** through **risk distribution**
- Our **capital strength** enhances **shareholder returns** and provides **strategic flexibility**
- Our **mortgage credit risk expertise** is highly valuable in the new mortgage world
- Our **diversification strategy** provides competitive differentiation and future value
- Our **digital transformation** positions us to lead the markets into the future
- Our **experienced team** is an important strategic asset

# Now, Can You See What We See?

Our

strategic positioning

and our

unique value opportunity

now and in the future.

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# Thank You





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# Thank you for attending Radian's 2019 Investor Day

# Safe Harbor Statements

# Safe Harbor Statements

**All statements in today's presentation 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," "goal," "contemplate," "believe," "estimate," "predict," "project," "potential," "continue," "seek," "strategy," "future," "likely" or the negative or 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 economic and political conditions that impact the size of the insurable market, the credit performance of our insured portfolio, and our business prospects;
- changes in the way customers, investors, ratings agencies, regulators or legislators perceive our performance, financial strength and future prospects;
- Radian Guaranty's ability to remain eligible under the Private Mortgage Insurance Eligibility Requirements ("PMIERs") and other applicable requirements imposed by the Federal Housing Finance Agency ("FHFA") and by Fannie Mae and Feddie Mac (collectively, the "GSEs") to insure loans purchased by the GSEs, including potential future changes to the PMIERs which, among other things, may be impacted by the general economic environment and housing market, as well as the proposed Conservatorship Capital Framework ("CCF") that would establish capital requirements for the GSEs, if the CCF is finalized;
- our ability to successfully execute and implement our capital plans, including our risk distribution strategy through the capital markets and reinsurance markets, 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 to reposition and grow our Services segment as well as plans and strategies that require GSE and/or regulatory approvals and licenses;
- 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, which may include changes in the requirements to remain an approved insurer to the GSEs, the GSEs' interpretation and application of the PMIERs, as well as changes impacting loans purchased by the GSEs, such as the GSEs' requirements regarding mortgage credit and loan size and the GSEs' pricing;
- changes in the current housing finance system in the U.S., including the role of the Federal Housing Administration ("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 decrease in the persistency rates of our mortgage insurance on monthly premium products;
- competition in our mortgage insurance business, including price competition and competition from the FHA and the U.S. Department of Veterans Affairs ("VA") as well as from other forms of credit enhancement, including GSE sponsored alternatives to traditional mortgage insurance;
- the effect of the Dodd-Frank Act on the financial services industry in general, and on our businesses in particular, including future changes to the Qualified Mortgage (QM) loan requirements;
- legislative and regulatory activity (or inactivity), including the adoption of (or failure to adopt) new laws and regulations, or changes in existing laws and regulations, or the way they are interpreted or applied;
- legal and regulatory claims, assertions, actions, reviews, audits, inquiries and investigations that could result in adverse judgments, settlements, fines, injunctions, restitutions or other relief that could require significant expenditures, increased reserves or have other effects on our business;
- the amount and timing of potential settlements, payments or adjustments associated with federal or other tax examinations;
- the possibility that we may fail to estimate accurately the likelihood, magnitude and timing of losses in establishing loss reserves for our mortgage insurance business or to accurately calculate and/or project our Available Assets and Minimum Required Assets, each as defined under the PMIERs, which will be impacted by, among other things, the size and mix of our insurance in force, the level of defaults in our portfolio, the level of cash flow generated by our insurance operations and our risk distribution strategies;
- 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;
- potential future impairment charges related to our goodwill and other acquired intangible assets;
- changes in generally accepted accounting principles in the U.S. ("GAAP") or statutory accounting principles and practices ("SAPP") rules and guidance, or their interpretation;
- our ability to attract and retain key employees; and
- legal and other limitations on amounts we may receive from our subsidiaries, including dividends or ordinary course distributions under our internal tax- and expense-sharing arrangements.

**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 our Annual Report on Form 10-K for the year ended December 31, 2018, and to subsequent reports filed from time to time with the U.S. Securities and Exchange Commission. 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 presentation. 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.**

# Consolidated Non-GAAP Financial Measures Reconciliations

# Use of Non-GAAP Financial Measures

In addition to the traditional GAAP financial measures, we have presented “adjusted pretax operating income”, “adjusted diluted net operating income per share,” and “adjusted net operating return on equity,” non-GAAP financial measures for the consolidated company, among our key performance indicators to evaluate our fundamental financial performance. These non-GAAP financial measures align with the way the Company’s business performance is evaluated by both management and the board of directors. These measures have been established in order to increase transparency for the purposes of evaluating our operating trends and enabling more meaningful comparisons with our peers. Although on a consolidated basis “adjusted pretax operating income,” “adjusted diluted net operating income per share” and “adjusted net operating return on equity” are non-GAAP financial measures, we believe these measures aid in understanding the underlying performance of our operations. Our senior management, including our Chief Executive Officer (Radian's chief operating decision maker), uses adjusted pretax operating income (loss) as our primary measure to evaluate the fundamental financial performance of the Company’s business segments and to allocate resources to the segments.

Adjusted pretax operating income is defined as GAAP consolidated pretax income from continuing operations excluding the effects of: (i) net gains (losses) on investments and other financial instruments; (ii) loss on induced conversion and debt extinguishment; (iii) acquisition-related expenses; (iv) amortization or impairment of goodwill and other acquired intangible assets; and (v) net impairment losses recognized in earnings and losses from the sale of lines of business. Adjusted diluted net operating income per share is calculated by dividing (i) adjusted pretax operating income attributable to common shareholders, net of taxes computed using the Company’s statutory tax rate, by (ii) the sum of the weighted average number of common shares outstanding and all dilutive potential common shares outstanding. Interest expense on convertible debt, share dilution from convertible debt and the impact of share-based compensation arrangements have been reflected in the per share calculations consistent with the accounting standard regarding earnings per share, whenever the impact is dilutive. Adjusted net operating return on equity is calculated by dividing annualized adjusted pretax operating income, net of taxes computed using the Company's statutory tax rate, by average stockholders' equity, based on the average of the beginning and ending balances for each period presented.

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

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

   Trends in the profitability of our fundamental operating activities can be more clearly identified without the fluctuations of these realized and unrealized gains or losses and changes in fair value of other financial instruments. We do not view them to be indicative of our fundamental operating activities. Therefore, these items are excluded from our calculation of adjusted pretax operating income (loss).

2. *Loss on induced conversion and debt extinguishment.* Gains or losses on early extinguishment of debt and losses incurred to purchase our convertible debt prior to maturity are discretionary activities that are undertaken in order to take advantage of market opportunities to strengthen our financial and capital positions; therefore, we do not view these activities as part of our operating performance. Such transactions do not reflect expected future operations and do not provide meaningful insight regarding our current or past operating trends. Therefore, these items are excluded from our calculation of adjusted pretax operating income (loss).

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

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

5. *Net impairment losses recognized in earnings and losses from the sale of lines of business.* The recognition of net impairment losses on investments and the impairment of other long-lived assets does not result in a cash payment and can vary significantly in both amount and frequency, depending on market credit cycles and other factors. Losses from the sale of lines of business are highly discretionary as a result of strategic restructuring decisions, and generally do not occur in the normal course of our business. We do not view these losses to be indicative of our fundamental operating activities. Therefore, whenever these losses occur, we exclude them from our calculation of adjusted pretax operating income (loss).

We have also presented a non-GAAP measure for tangible book value per share, which represents book value per share less the per-share impact of goodwill and other acquired intangible assets, net. We use this measure to assess the quality and growth of our capital. Because tangible book value per share is a widely-used financial measure which focuses on the underlying fundamentals of our financial position and operating trends without the impact of goodwill and other acquired intangible assets, we believe that current and prospective investors may find it useful in their analysis of the Company.

See Slides 159-162 for the reconciliation of the most comparable GAAP measures, consolidated pretax income, diluted net income per share, return on equity and book value per share to our non-GAAP financial measures for the consolidated company, adjusted pretax operating income, adjusted diluted net operating income per share, adjusted net operating return on equity and tangible book value per share, respectively.

Total adjusted pretax operating income, adjusted diluted net operating income per share, adjusted net operating return on equity and tangible book value per share should not be considered in isolation or viewed as substitutes for GAAP pretax income, diluted net income per share, return on equity or book value per share. Our definitions of adjusted pretax operating income, adjusted diluted net operating income per share, adjusted net operating return on equity or tangible book value per share may not be comparable to similarly-named measures reported by other companies.

# Reconciliation of Consolidated Pretax Income to Adjusted Pretax Operating Income

| *($ in thousands)* | Year Ended December 31, | | |
|---|---|---|---|
| | **2018** | **2017** | **2016** |
| **Consolidated pretax income** | **$684,186** | $346,737 | $483,686 |
| **Less reconciling income (expense) items:** | | | |
| **Net gains (losses) on investments and other financial instruments** | **(42,476)** | 3,621 | 30,751 |
| **Loss on induced conversion and debt extinguishment** | **–** | (51,469) | (75,075) |
| **Acquisition-related expenses** [(1)] | **(881)** | (105) | (519) |
| **Impairment of goodwill** | **–** | (184,374) | – |
| **Amortization and impairment of other acquired intangible assets** | **(12,429)** | (27,671) | (13,221) |
| **Impairment of other long-lived assets and loss from the sale of a business line** [(2)] | **(5,523)** | (10,440) | – |
| **Total adjusted pretax operating income** [(1)] | **$745,495** | $617,175 | $541,750 |

1. Please see slide 158 for the definition of this line item and additional information regarding our use of non-GAAP financial measures.
2. All amounts are included within restructuring and other exit costs on the consolidated statements of operations, except for $1.6 million in 2018 related to the impairment of other long-lived assets, included in other operating expenses.

# Reconciliation of Diluted Net Income Per Share to Adjusted Diluted Net Operating Income Per Share

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2018 | 2017 | 2016 |
| **Diluted net income per share** | **$2.77** | $0.55 | $1.37 |
| **Less per-share impact of reconciling income (expense) items:** | | | |
| **Net gains (losses) on investments and other financial instruments** | **(0.19)** | 0.02 | 0.14 |
| **Loss on induced conversion and debt extinguishment** | **–** | (0.23) | (0.33) |
| **Impairment of goodwill** | **–** | (0.84) | – |
| **Amortization and impairment of other acquired intangible assets** | **(0.06)** | (0.13) | (0.06) |
| **Impairment of other long-lived assets and loss from the sale of a business line** | **(0.03)** | (0.05) | – |
| **Income tax provision (benefit) on reconciling income (expense) items (1)** | **(0.06)** | (0.43) | (0.04) |
| **Difference between statutory and effective tax rates (2)** | **0.30** | (0.47) | 0.02 |
| **Per-share impact of reconciling income (expense) items** | **0.08** | (1.27) | (0.19) |
| **Adjusted diluted net operating income per share (1) (3)** | **$2.69** | $1.82 | $1.56 |

1. Calculated using the company's federal statutory tax rates of 21% for 2018 and 35% for both 2017 and 2016. Any permanent tax adjustments and state income taxes on these items have been deemed immaterial and are not included.
2. For 2018, includes $0.34 of tax benefit related to the settlement of the IRS Matter, which includes both the impact of the settlement with the IRS as well as the reversal of certain previously accrued state and local tax liabilities. All of the 2017 amount represents additional tax expense related to the remeasurement of our net deferred tax assets as a result of the Tax Cuts and Jobs Act enacted in December 2017.
3. Please see Slide 158 for additional information regarding our use of non-GAAP financial measures.

# Reconciliation of Return on Equity to Adjusted Net Operating Return on Equity

| | Year Ended December 31, | | |
|---|---|---|---|
| | **2018** | **2017** | **2016** |
| **Return on equity [(1)]** | **18.7%** | 4.1% | 11.5% |
| **Less impact of reconciling income (expense) items: [(2)]** | | | |
| **Net gains (losses) on investments and other financial instruments** | **(1.3)** | 0.1 | 1.1 |
| **Loss on induced conversion and debt extinguishment** | **–** | (1.8) | (2.8) |
| **Impairment of goodwill** | **–** | (6.3) | – |
| **Amortization and impairment of other acquired intangible assets** | **(0.4)** | (0.9) | (0.5) |
| **Impairment of other long-lived assets and loss from the sale of a business line** | **(0.2)** | (0.4) | – |
| **Income tax provision (benefit) on reconciling income (expense) items [(3)]** | **(0.4)** | (3.2) | (0.8) |
| **Difference between statutory and effective tax rates [(4)]** | **2.0** | (3.5) | (0.2) |
| **Impact of reconciling income (expense) items** | **0.5** | (9.6) | (1.6) |
| **Adjusted net operating return on equity [(5)]** | **18.2%** | 13.7% | 13.1% |

1. Calculated by dividing net income by average stockholders' equity.
2. Stated as a percentage of average stockholders' equity.
3. Calculated using the company's federal statutory tax rates of 21% for 2018 and 35% for 2017 and 2016. Any permanent tax adjustments and state income taxes on these items have been deemed immaterial and are not included.
4. The difference in 2018 includes the tax benefit related to the settlement of the IRS Matter, which includes both the impact of the settlement with the IRS as well as the reversal of certain related previously accrued state and local tax liabilities. All of the 2017 amount represents additional tax expense related to the remeasurement of our net deferred tax assets as a result of the Tax Cuts and Jobs Act enacted in December 2017.
5. Please see Slide 158 for additional information regarding our use of non-GAAP financial measures.

# Reconciliation of Book Value Per Share to Tangible Book Value Per Share (1)

| | Q1 2019 | 2017 | 2016 | 2015 |
|---|---|---|---|---|
| **Book value per share** | **$17.49** | $13.90 | $13.39 | $12.07 |
| **Less: Goodwill and other acquired intangible assets, net per share** | **0.27** | 0.30 | 1.29 | 1.40 |
| **Tangible book value per share (2)** | **$17.22** | $13.60 | $12.10 | $10.67 |

1. All book value per share items are calculated based on the number of shares outstanding at the end of each respective period
2. Please see Slide 158 for additional information regarding our use of non-GAAP financial measures..





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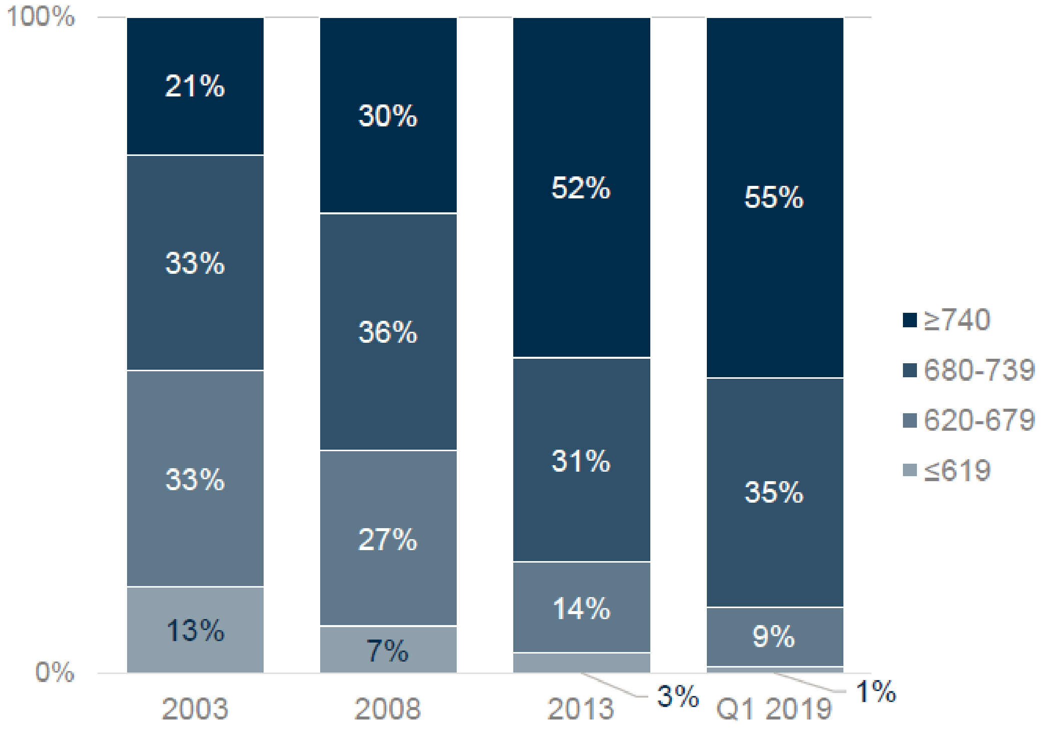
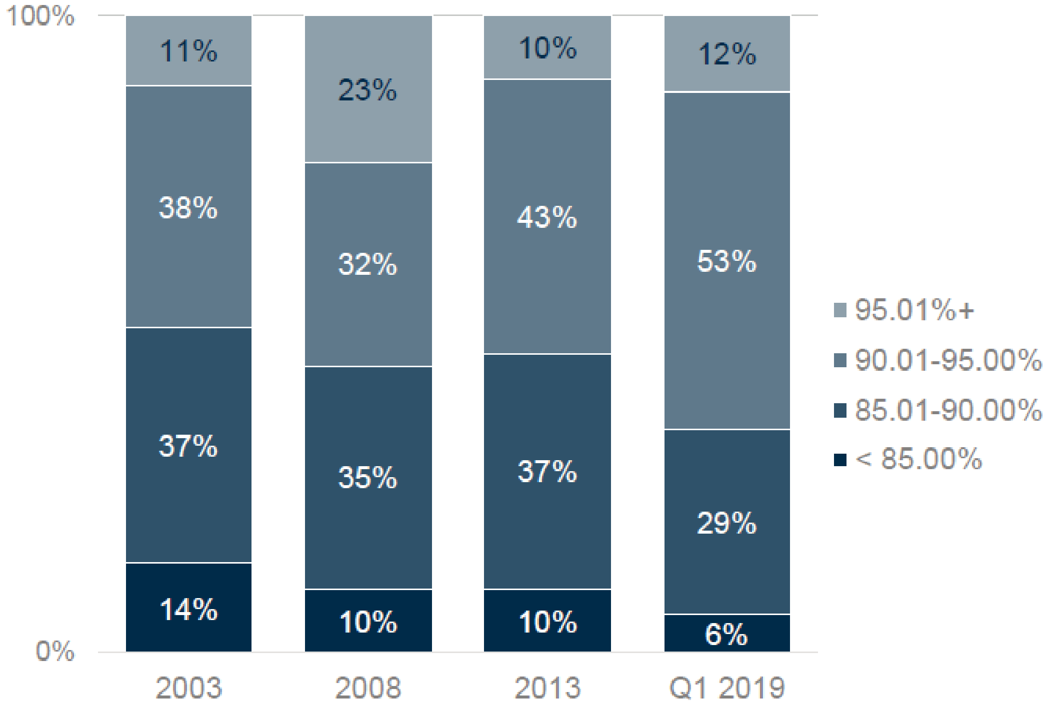
# Appendix

# MI Portfolio Composition by FICO and LTV

### Primary RIF Distribution by FICO SCORE

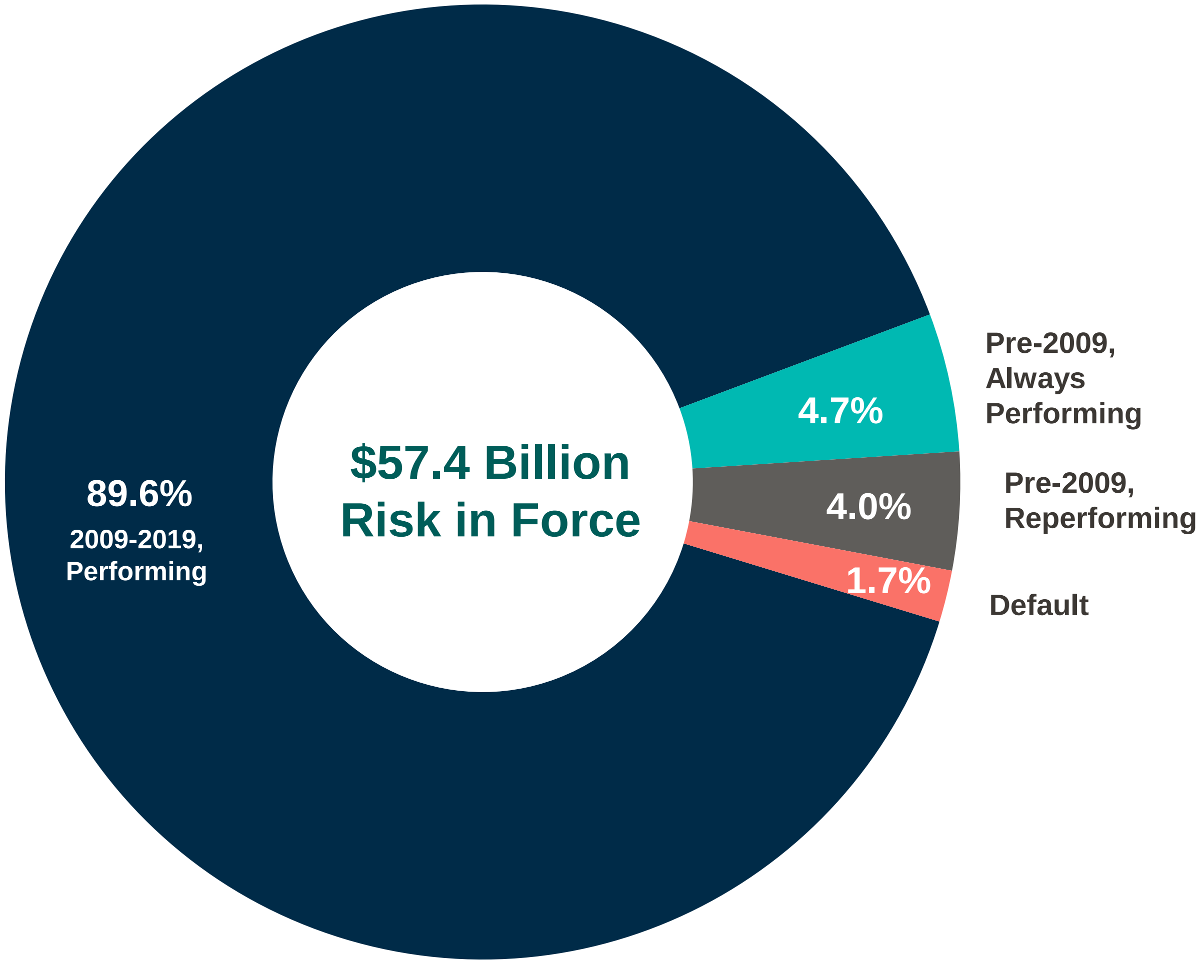



### Primary RIF Distribution by LTV



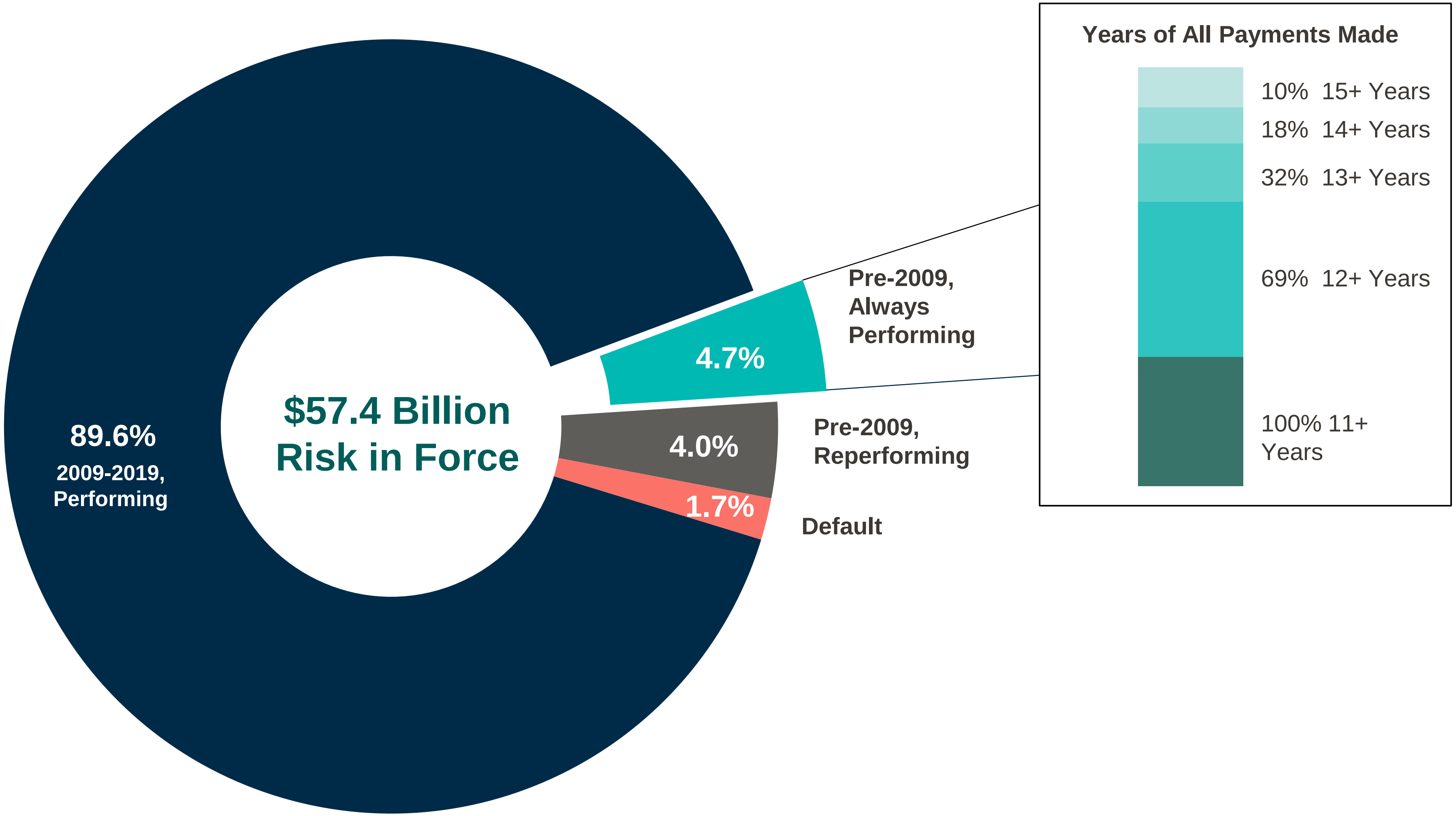

1) Data provided for 2003-2013 is as of year-end.

# MI Portfolio Benefits from Strong Payment History




- 98% of mortgage insurance primary risk in force is currently performing and 93% has never been in default (i.e., Always Performing)
- Pre-2009 portfolio benefits from continuing “credit burnout”

# ~50% of Pre-2009 Portfolio Has Never Been in Default





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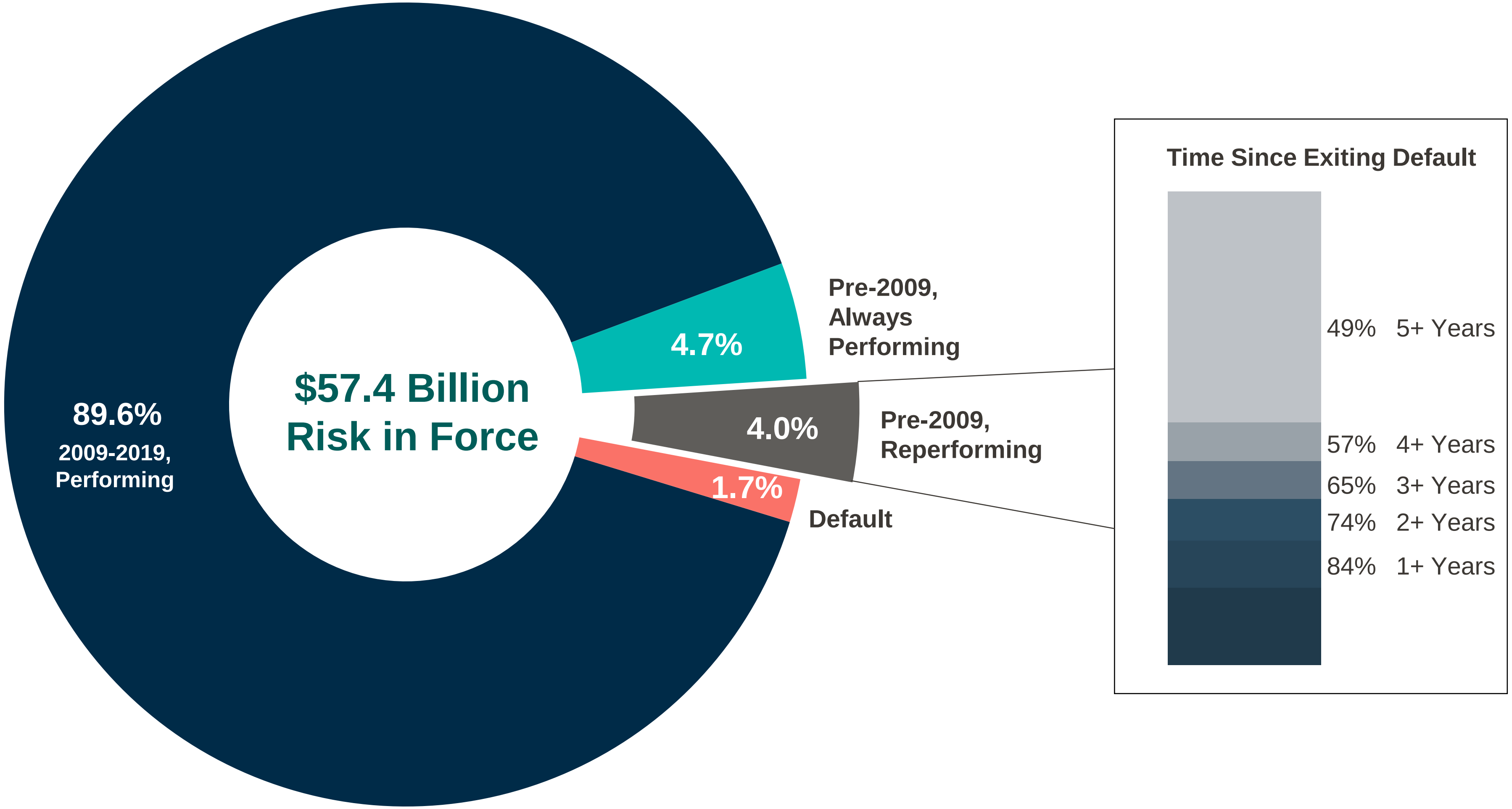
# ~50% of Pre-2009 Reperforming Loans Have Not Been in Default in 5+ Years



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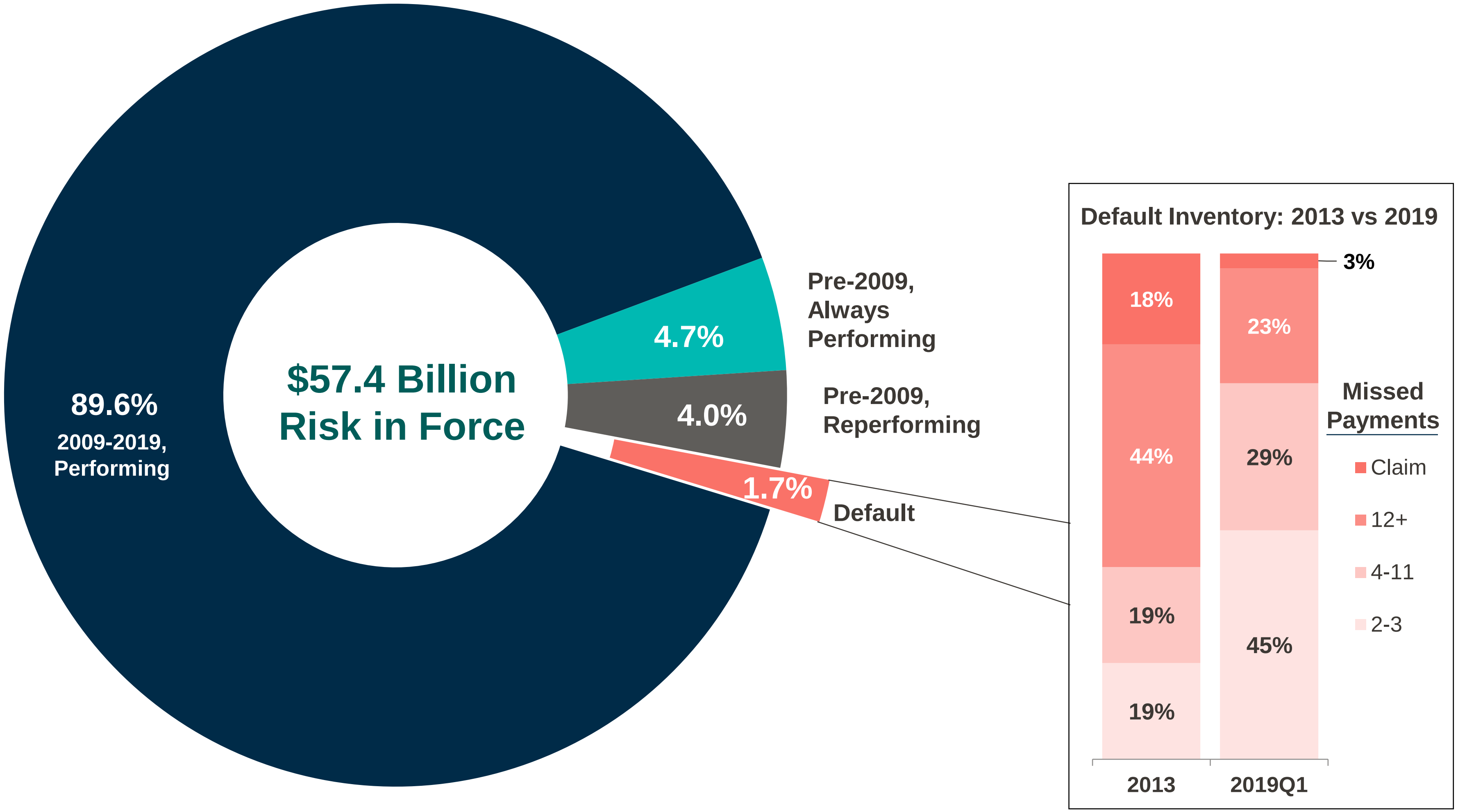
# Default Inventory Continues to Decrease and Composition Improve





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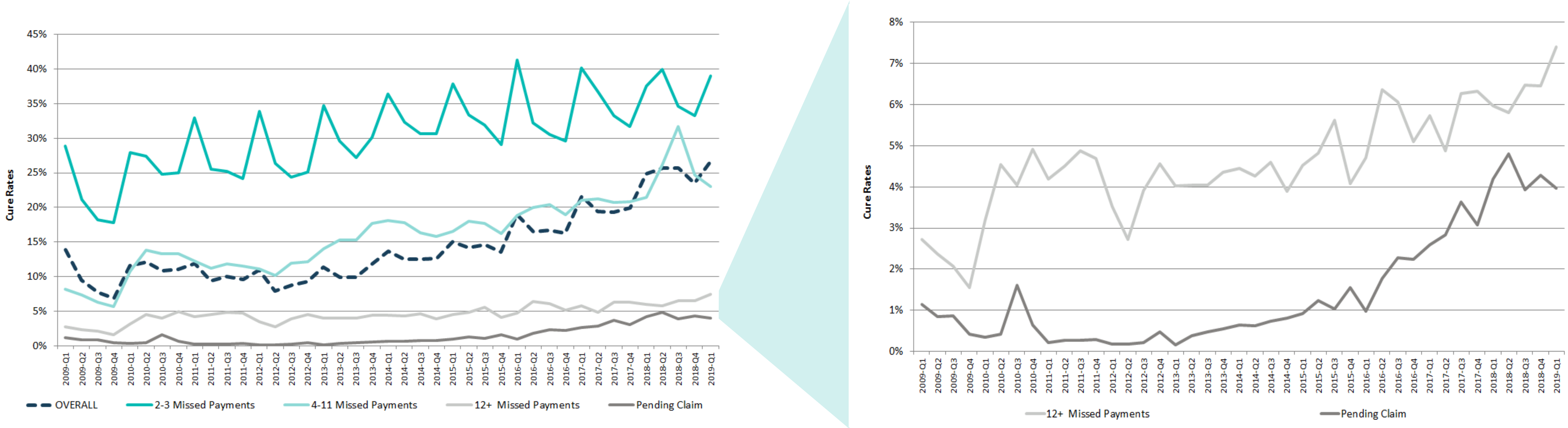
# Cure Rates Continue to Increase




- Continued improvement in primary cure activity: 26.7% in 1Q 2019, as compared to 24.8% in 1Q 2018 and 21.7% in 1Q 2017
- While seasonal variation exists, cure rates have been gradually increasing over the last 10 years
- The 7.4% cure rate observed for 12+ missed payment defaults in 1Q 2019 is one of the highest rates observed since the financial crisis
- Strong cure rates contributed to a 18% year-over-year decrease in Radian's Default Inventory in 1Q 2019

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