



Life Insurance Industry Investments

Book Yields Flattening as Rates Rise

2018

ASSET ALLOCATIONS

The Life Insurer Investment Landscape

2017 Net Admitted Assets and Net Premiums by Business Focus

\$ in millions

Business Focus	Number of Insurers	Net Admitted Assets	% of Total	Net Premiums	% of Total
Life	120	\$560,781	7.7%	\$47,377	7.8%
Annuity	70	\$2,878,523	39.7%	\$189,279	31.3%
A&H	47	\$83,186	1.1%	\$69,615	11.5%
Mixed	128	\$3,554,030	49.0%	\$288,606	47.7%
Reinsurance	39	\$173,688	2.4%	\$10,069	1.7%
Total Industry	404	\$7,250,209		\$604,946	

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Focusing on Investable Assets

Invested and Investable Assets—2017

\$ in millions

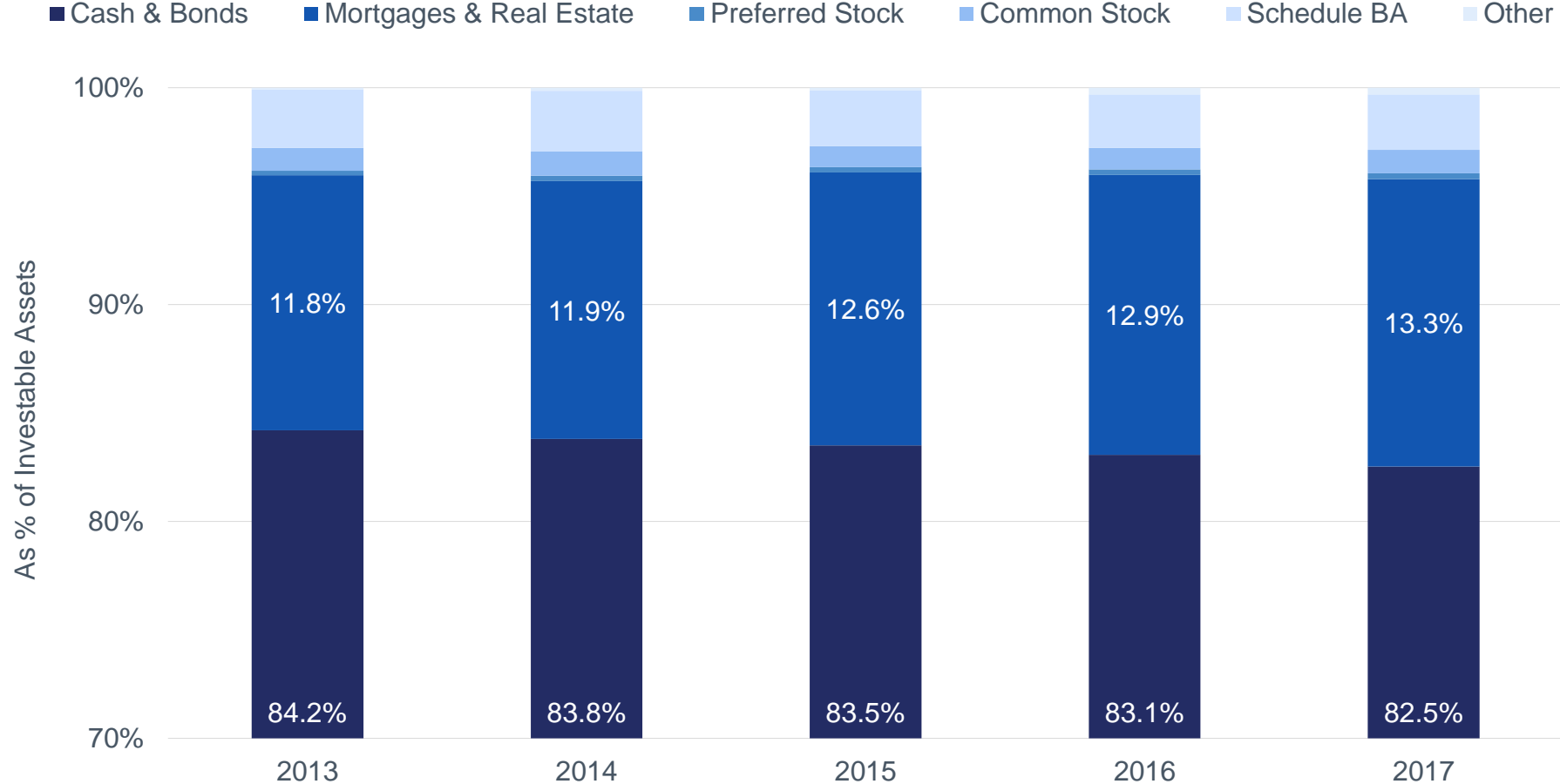
Business Focus	Net Admitted Assets	Cash and Invested Assets	Investable Assets	% of Total Investable Assets
Life	\$560,781	\$437,473	\$393,464	10%
Annuity	2,878,523	1,617,282	1,462,399	38%
A&H	83,186	73,364	69,740	2%
Mixed	3,554,030	2,013,489	1,770,585	46%
Reinsurance	173,688	136,802	125,024	3%
Total Industry	\$7,250,209	\$4,278,410	\$3,821,212	

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Allocation Trend: Increasing Mortgage Holdings, Decreasing Bonds

Allocation by Asset Class

As % of Investable Assets

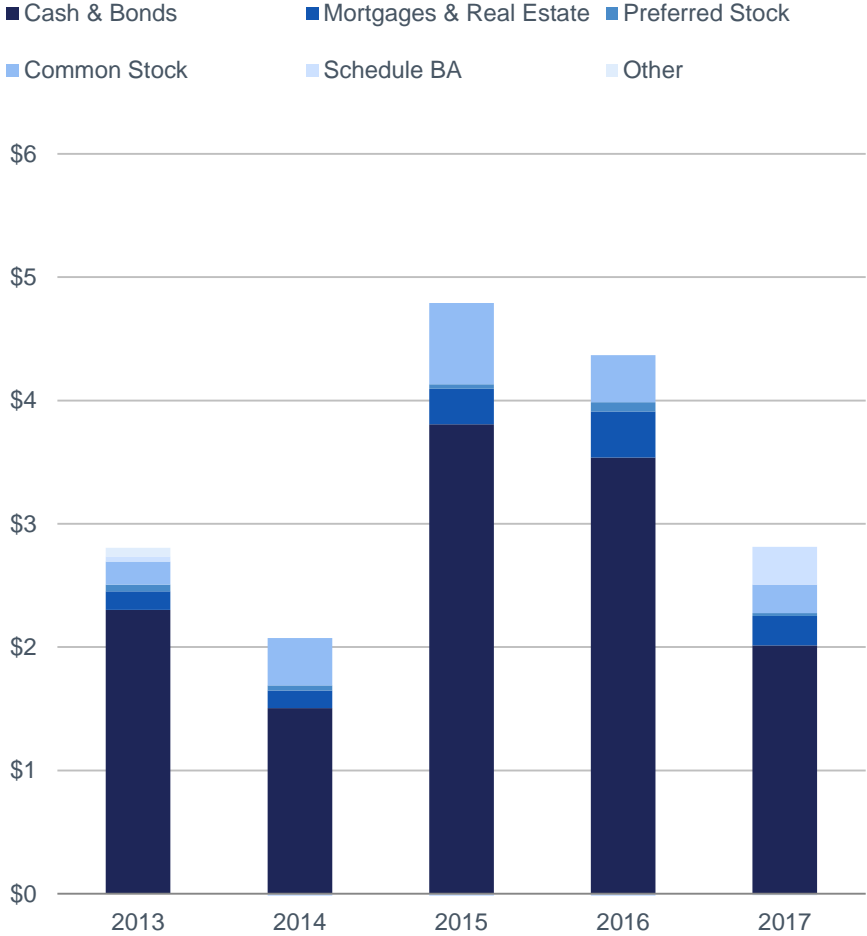


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Asset Impairments Remain Moderate

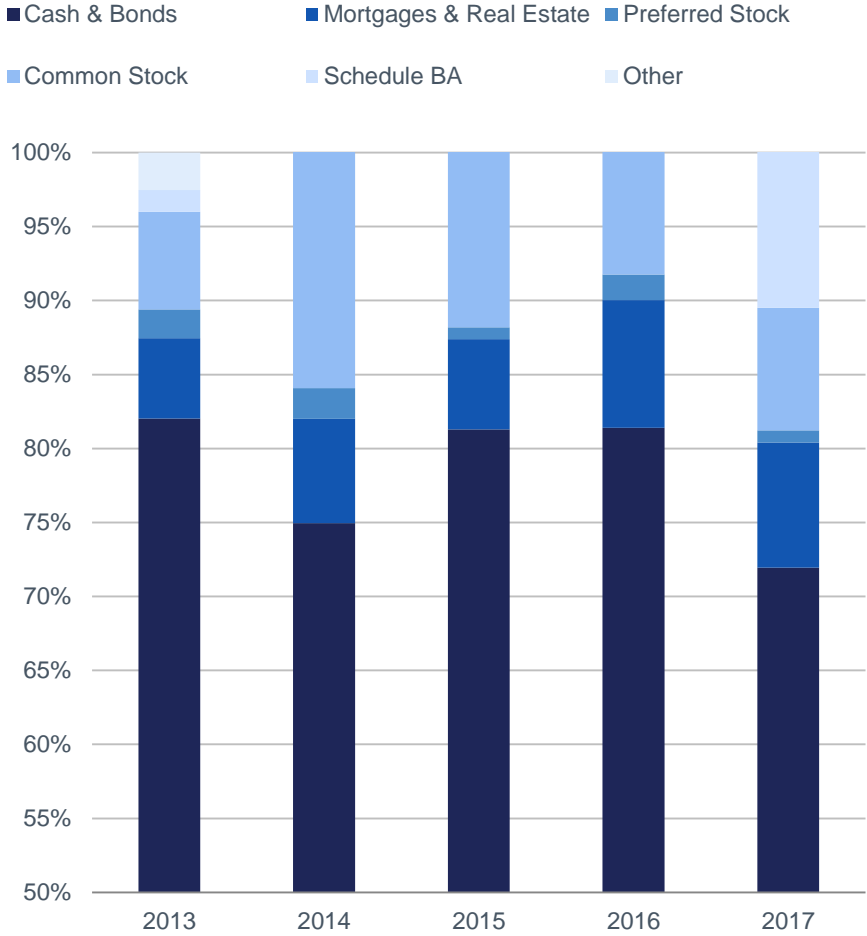
Impairments by Asset Class

\$ in billions



Impairments by Asset Class

As % of total impairments

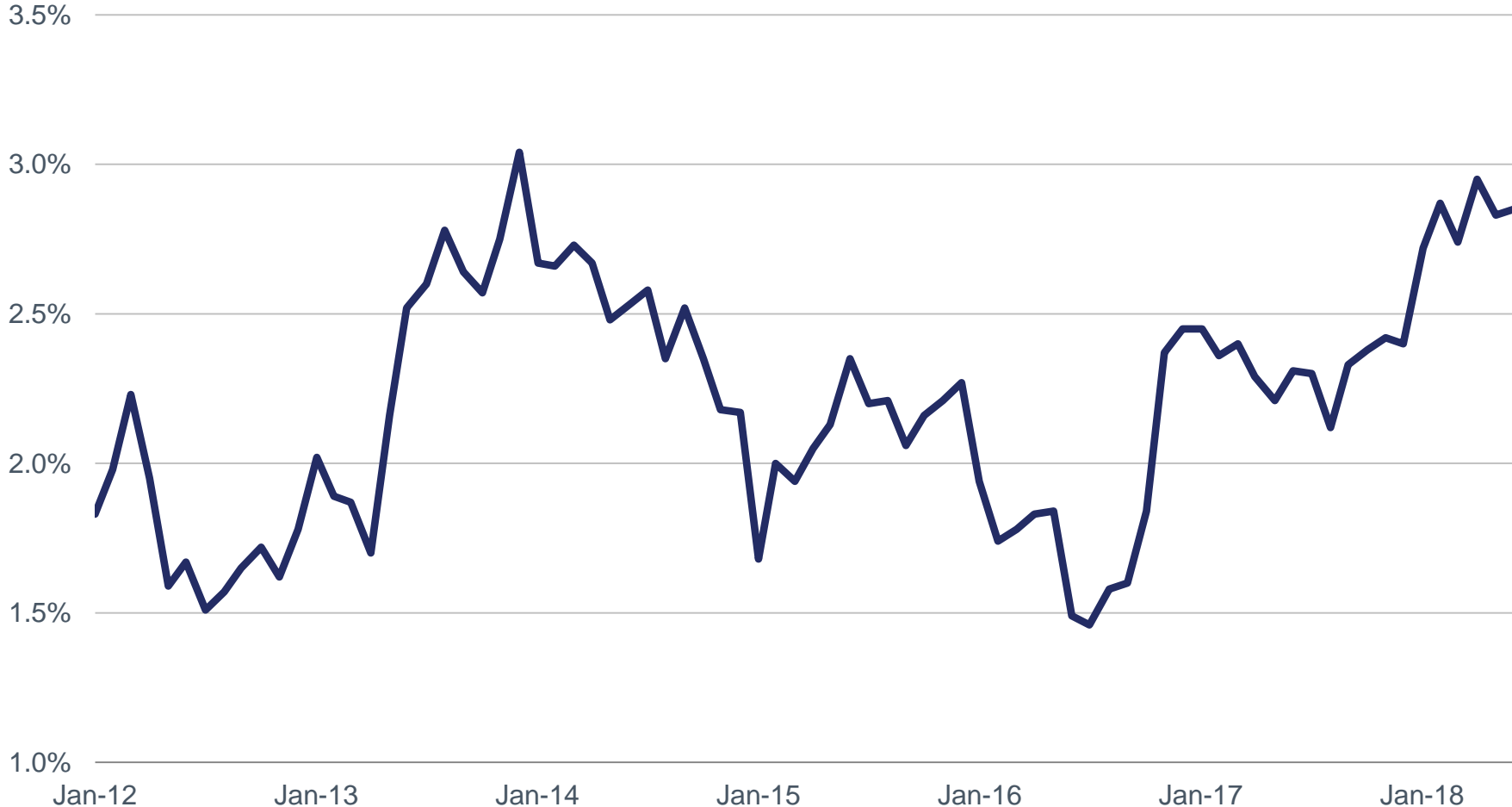


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INVESTMENT RETURNS

Interest Rate Environment Rising in Last Half of 2017

10-Year Constant Maturity Treasury Rates



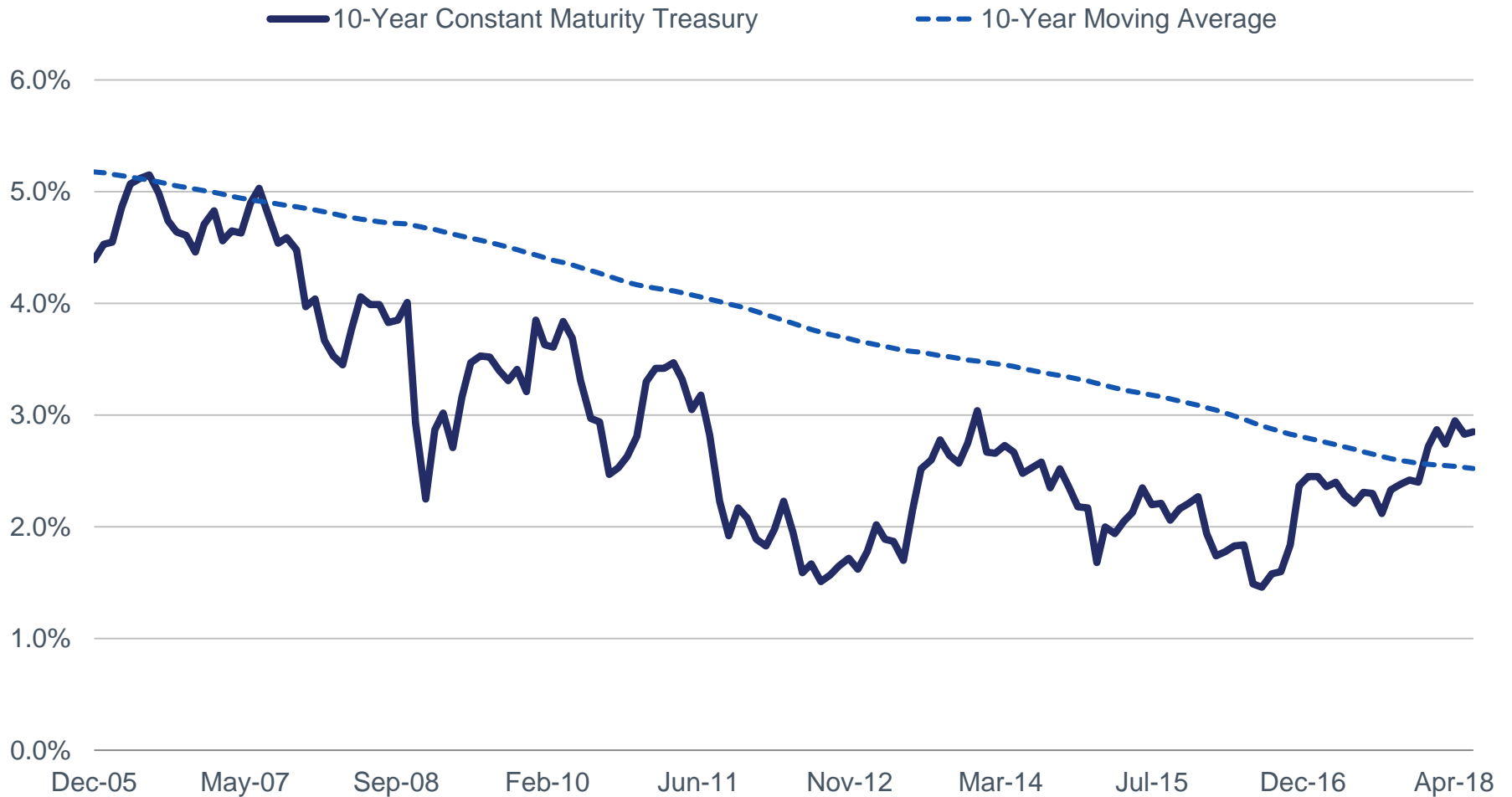
Prepared by Conning, Inc. Source: U.S. Department of the Treasury, Federal Reserve Economic Data (2018).



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Rate Environment Improving, But Still Low

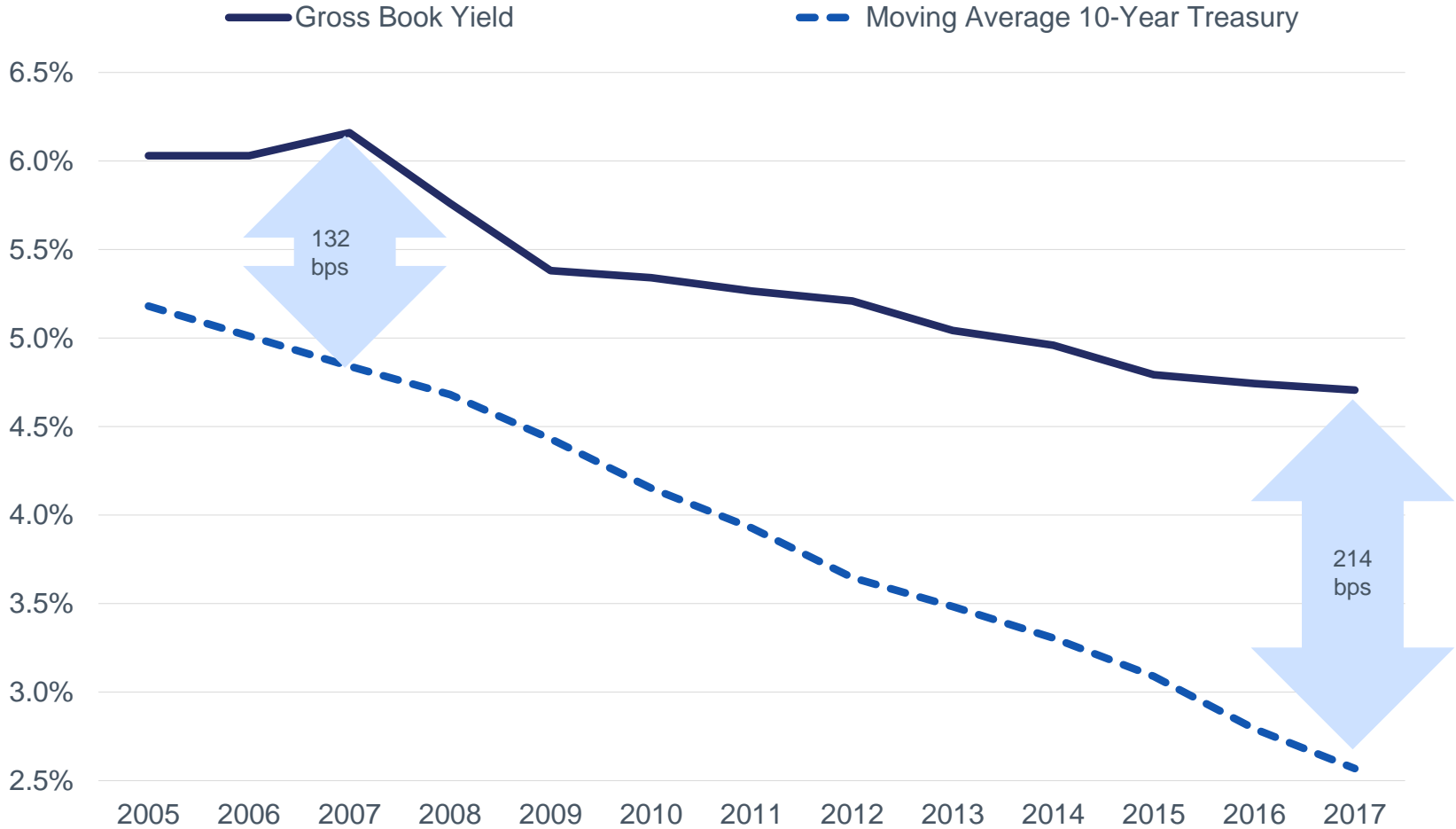
10-Year Treasury Rates Compared to 10-Year Moving Average



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Increasing Spread, Increasing Risk?

Industry Gross Book Yield versus 10-year Moving Average of 10-year Treasuries

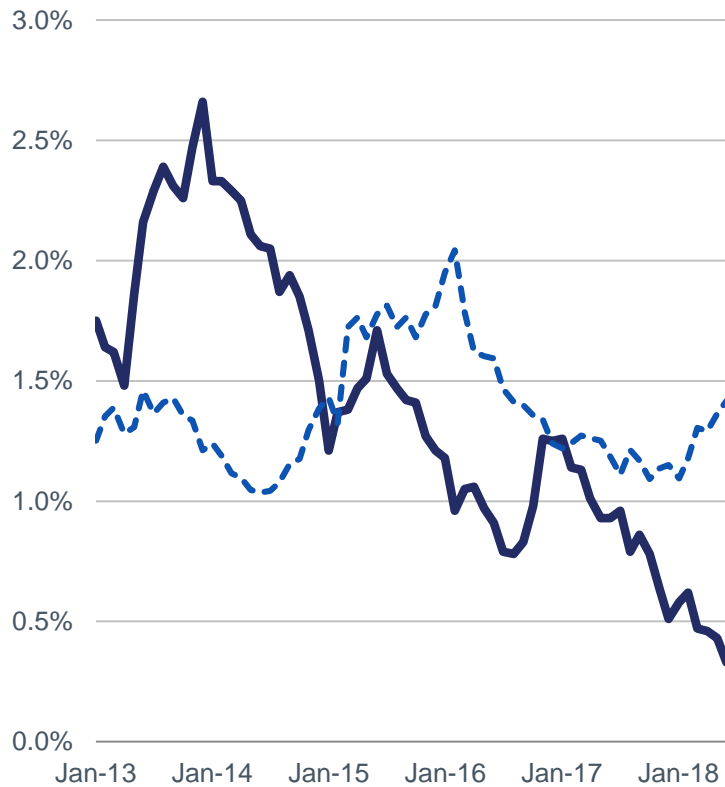


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Investment Results Driven By Economic Environment

Bond Spreads

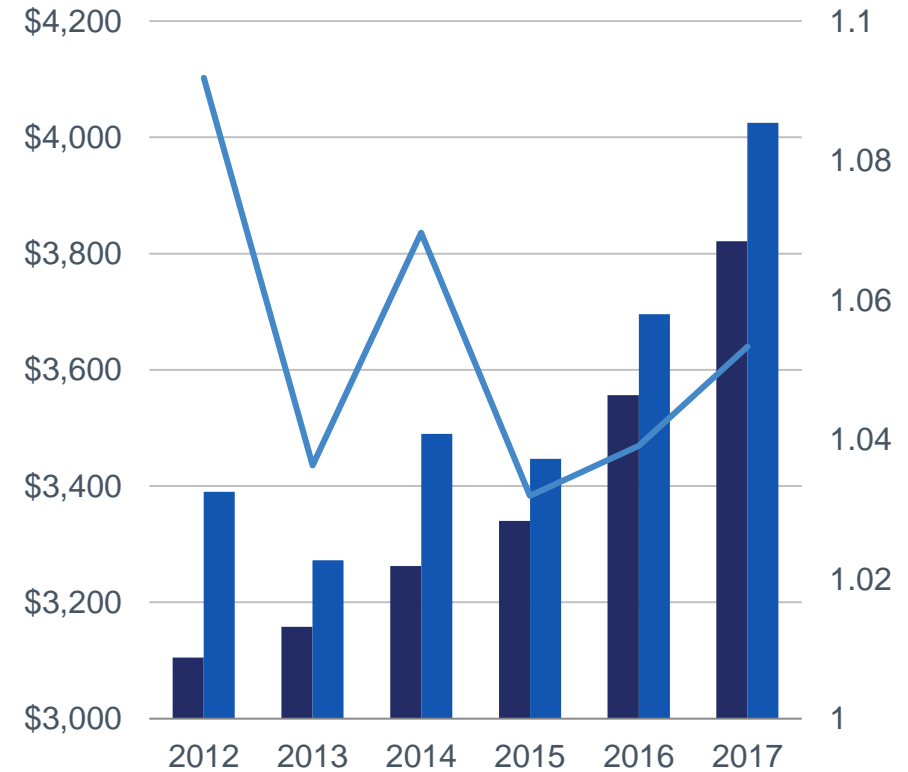
- 10-Year Treasury Spread over 2-Year Treasury
- - - 10-Year BBB Corporate Bond Spread Over 10-Year Treasury



Fair Values versus Book Values for Investable Assets

\$ in billions

- Stat Reporting Value (LH)
- Fair Value (LH)
- FV/BV Ratio (RH)



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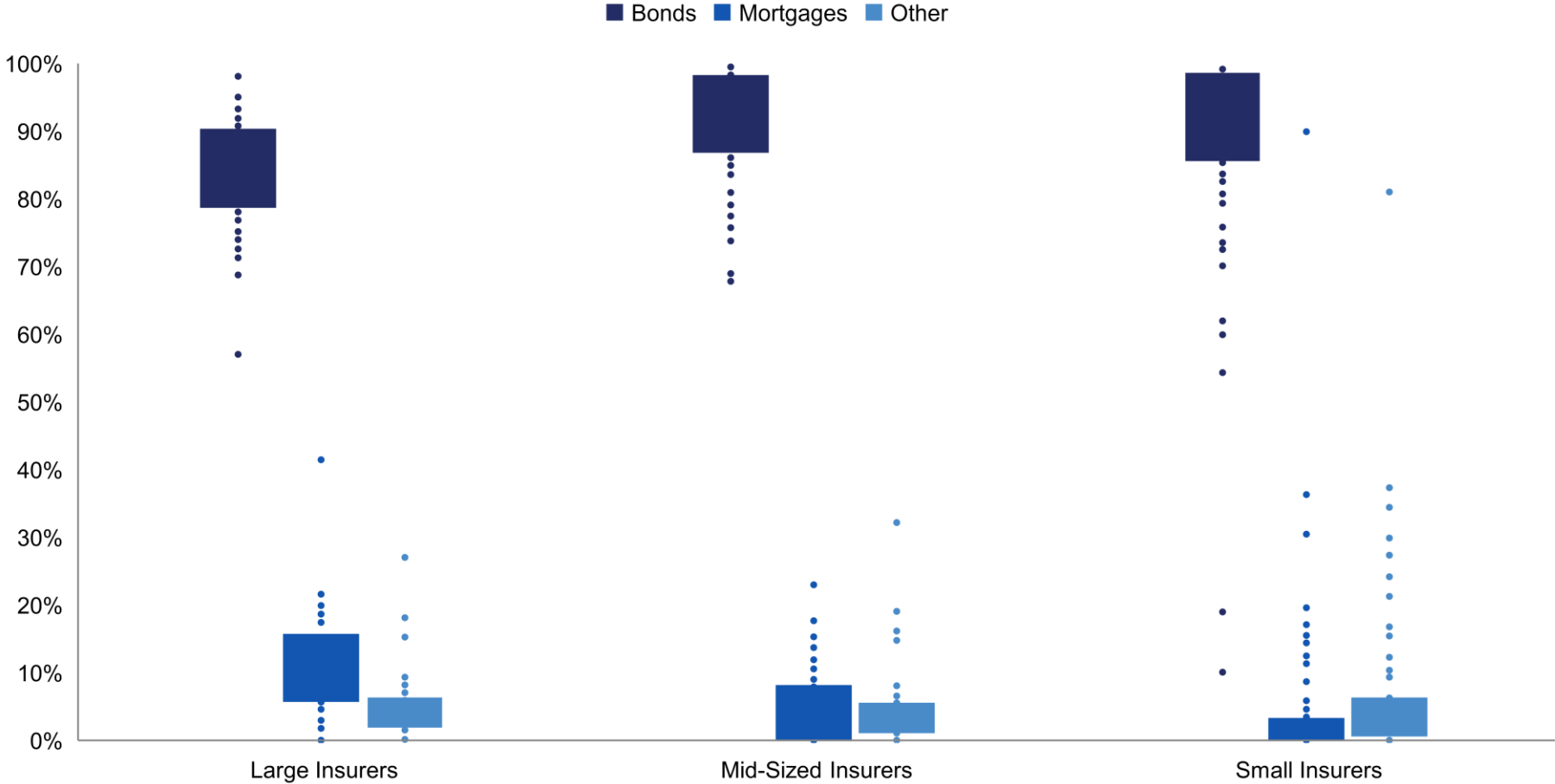
ALLOCATION OUTLIERS

Individual Insurer Allocations Vary Greatly

Many Insurers Have Allocations Far From Average

Asset Allocation Distribution by Size Category

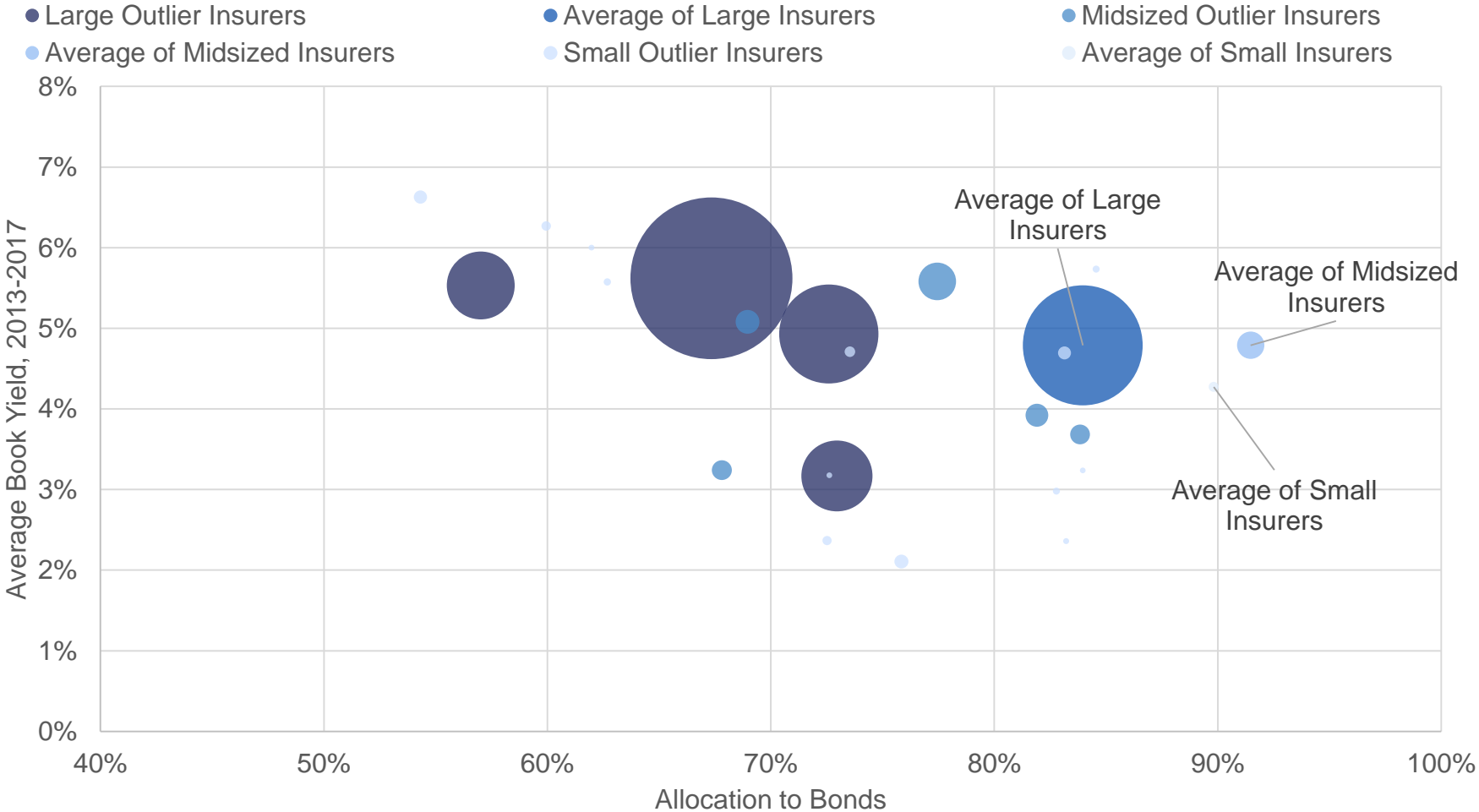
As % of Investable Assets



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No Clear Effect of Outlier Bond Allocations on Book Yields

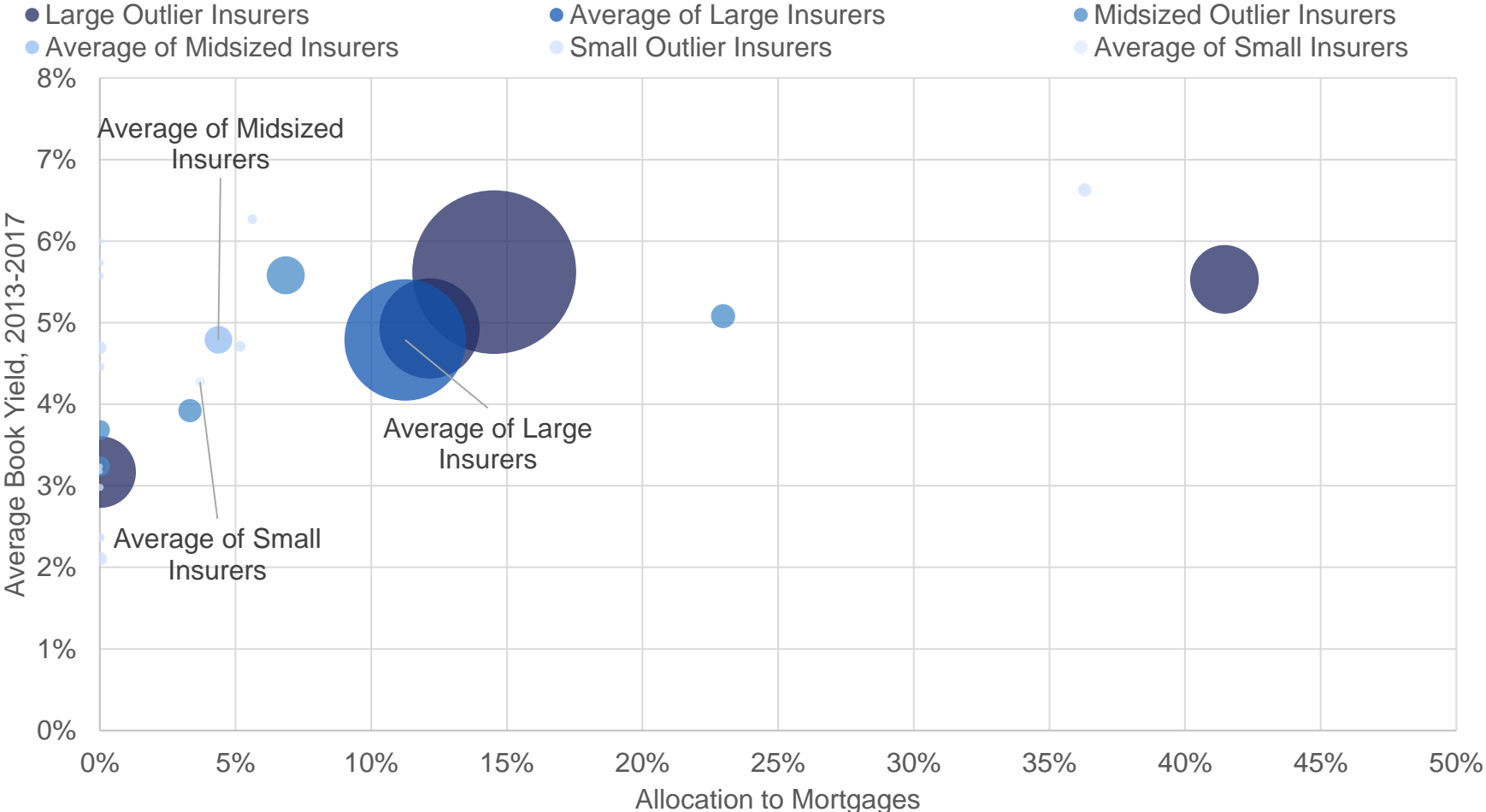
Comparison of Bond Allocations and Investment Results



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Mortgage Allocations Seem to Have Yield Implications

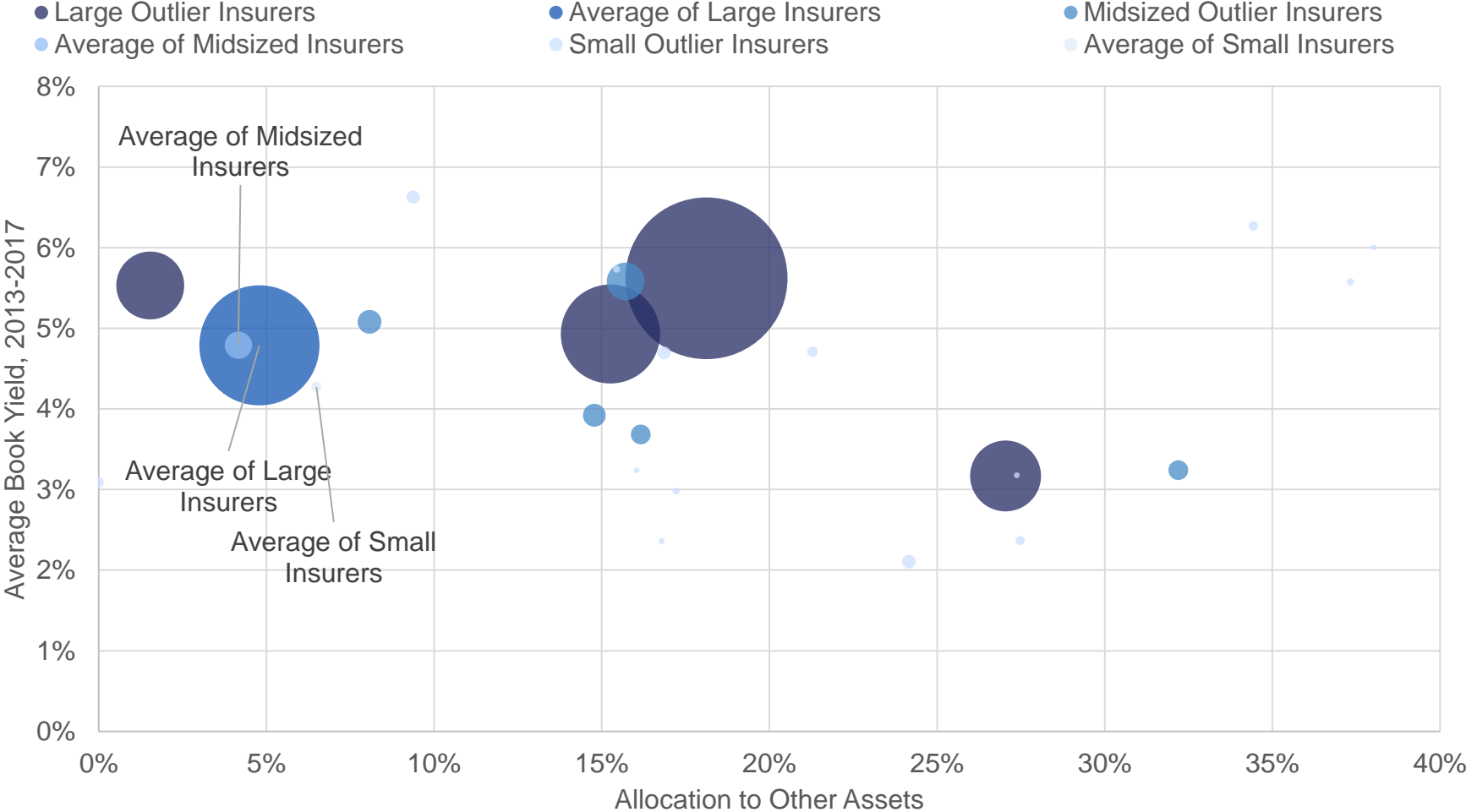
Comparison of Mortgage Allocations and Investment Results



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Other Allocations Do Not Have Yield Implications

Comparison of Other Allocations and Investment Results



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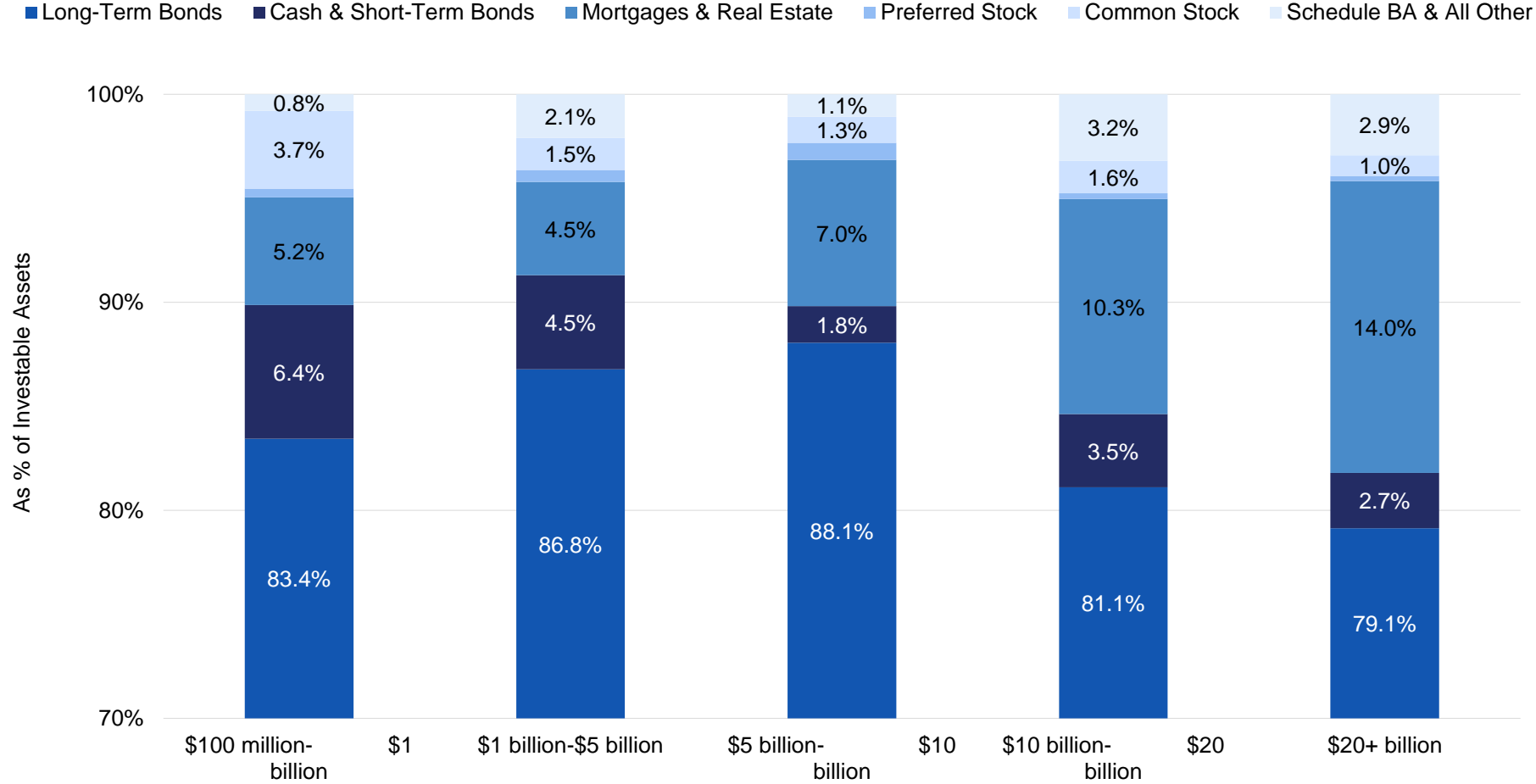
A CLOSER LOOK AT INVESTMENT RETURNS

Size and Allocation Effects

Mortgages and Schedule BA Assets Used More by Largest Insurers

Allocations to Major Asset Classes in 2017 by Insurer Size

As a % of investable assets

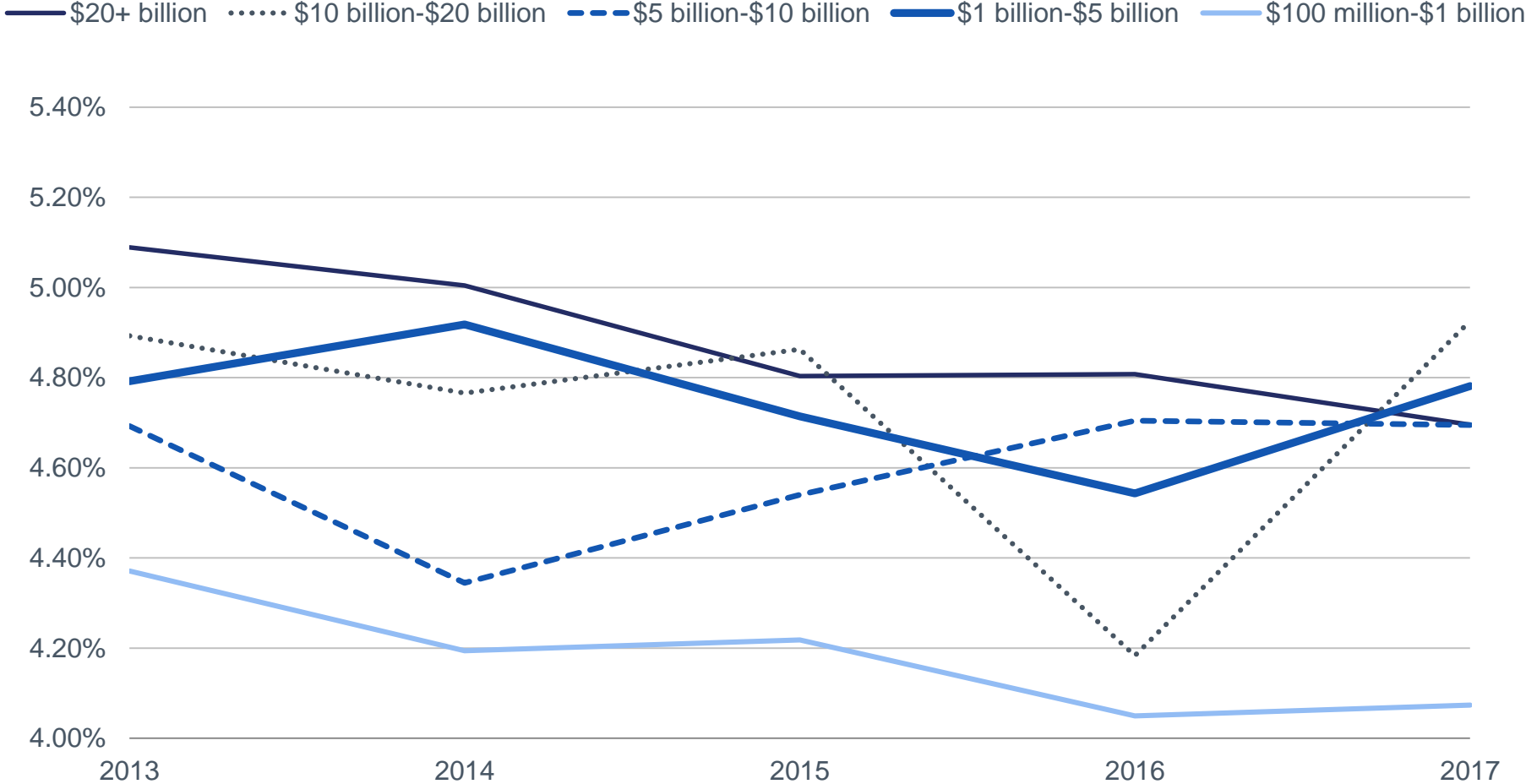


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Size Effect on Book Yield Less Clear

Gross Book Yield by Insurer Size

As a % of average investable assets



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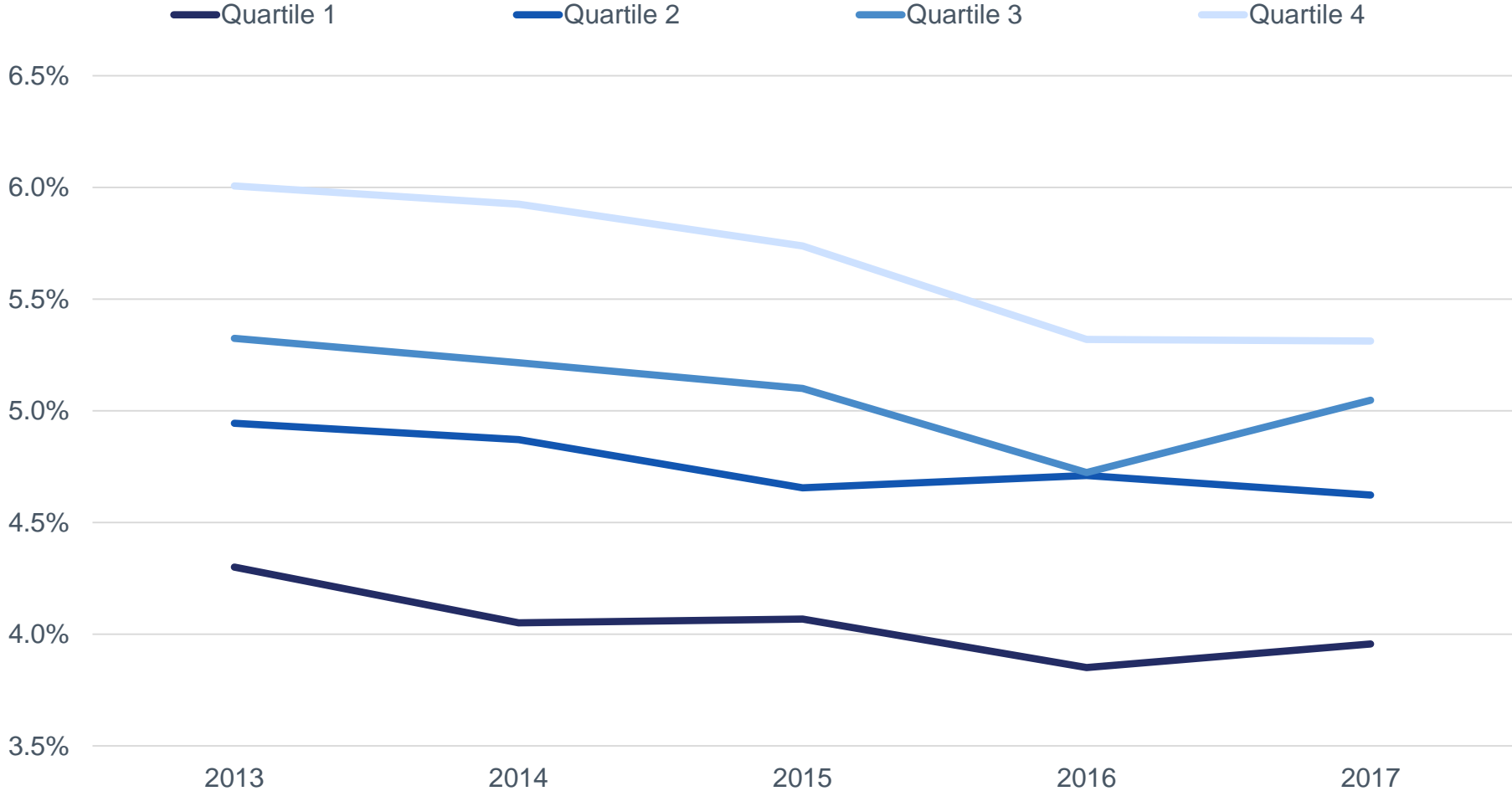


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Clear Ranking of Insurers by Investment Results

Average Gross Book Yield by Quartile Groups

As a % of average investable assets

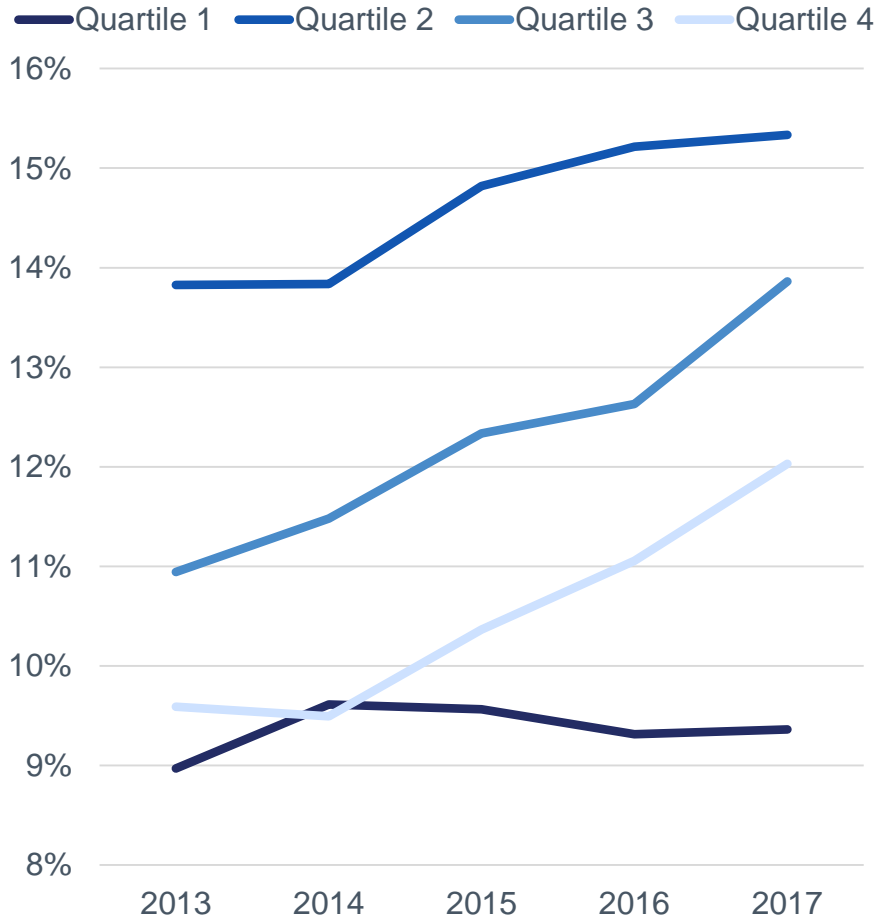


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No Clear Advantage to High Non-Bond Allocations

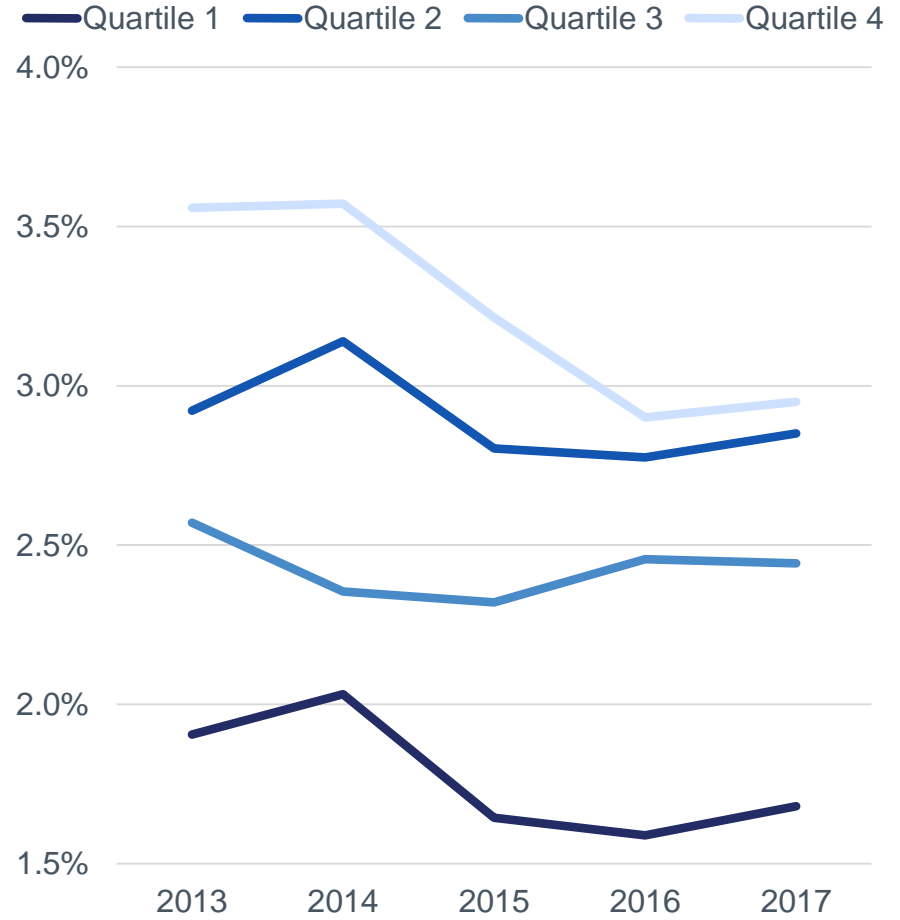
Allocation to Mortgages

As % of investable assets



Allocation to Schedule BA Assets

As % of investable assets

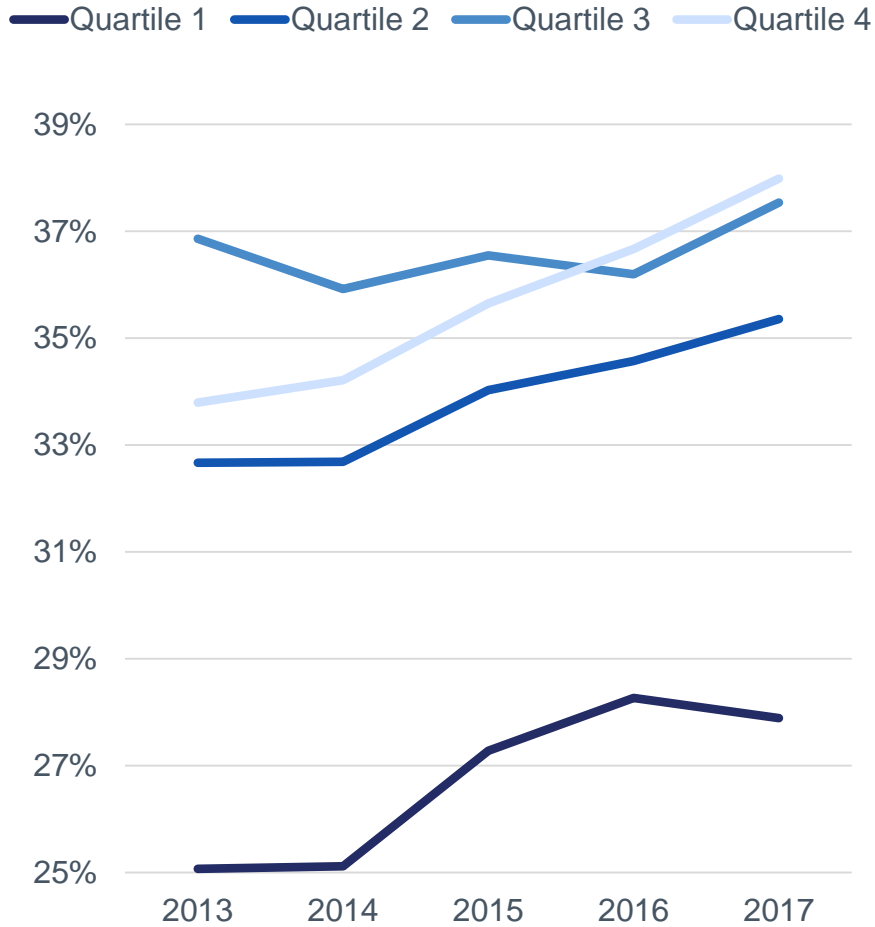


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Differences in Bond Credit Quality May Drive Differences in Yield

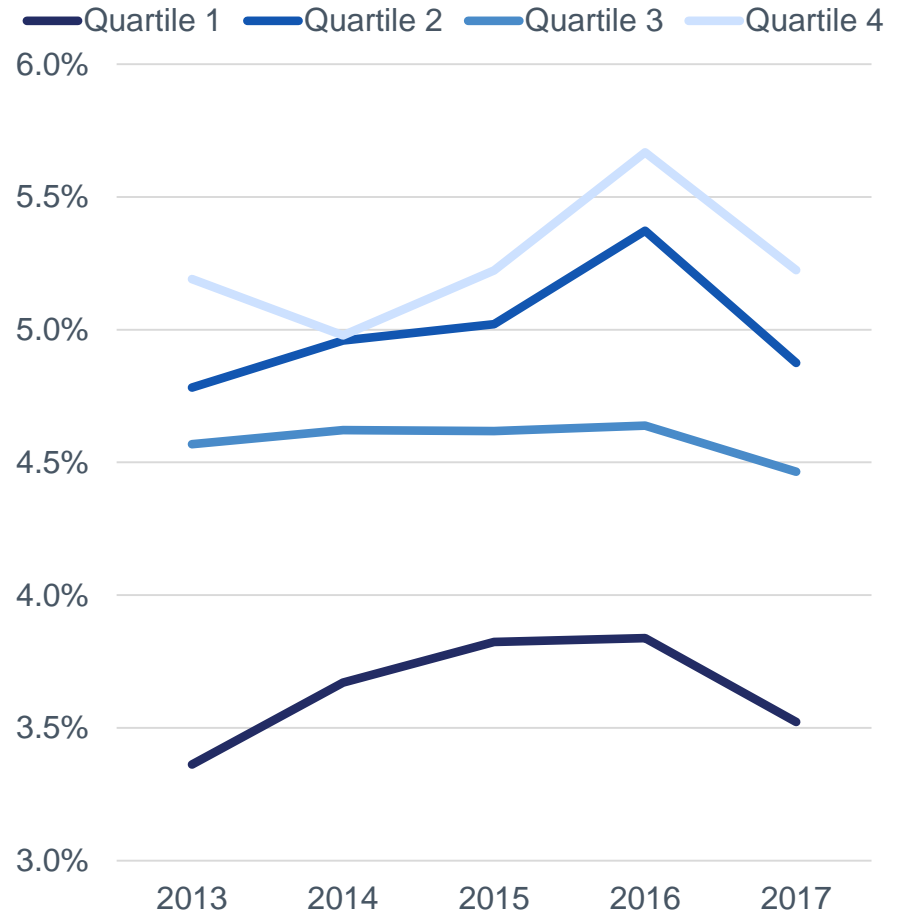
Allocation to BBB-rated Bonds

As % of total bonds



Allocation to Below Investment Grade Bonds

As % of total bonds



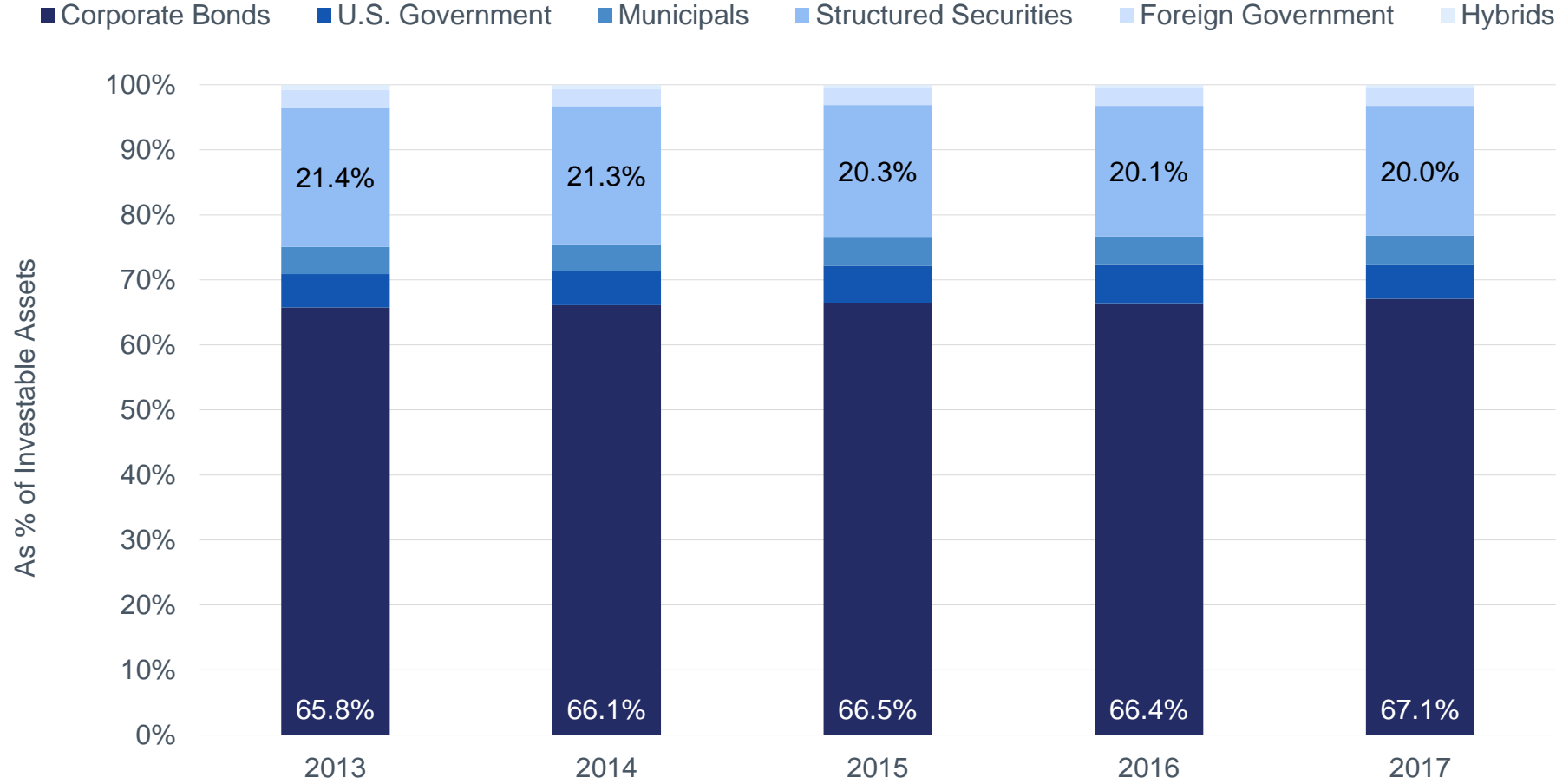
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BONDS

Bonds Shifting to Corporates from Structured Securities

Distribution of Bond Holdings by Type

As % of total bonds

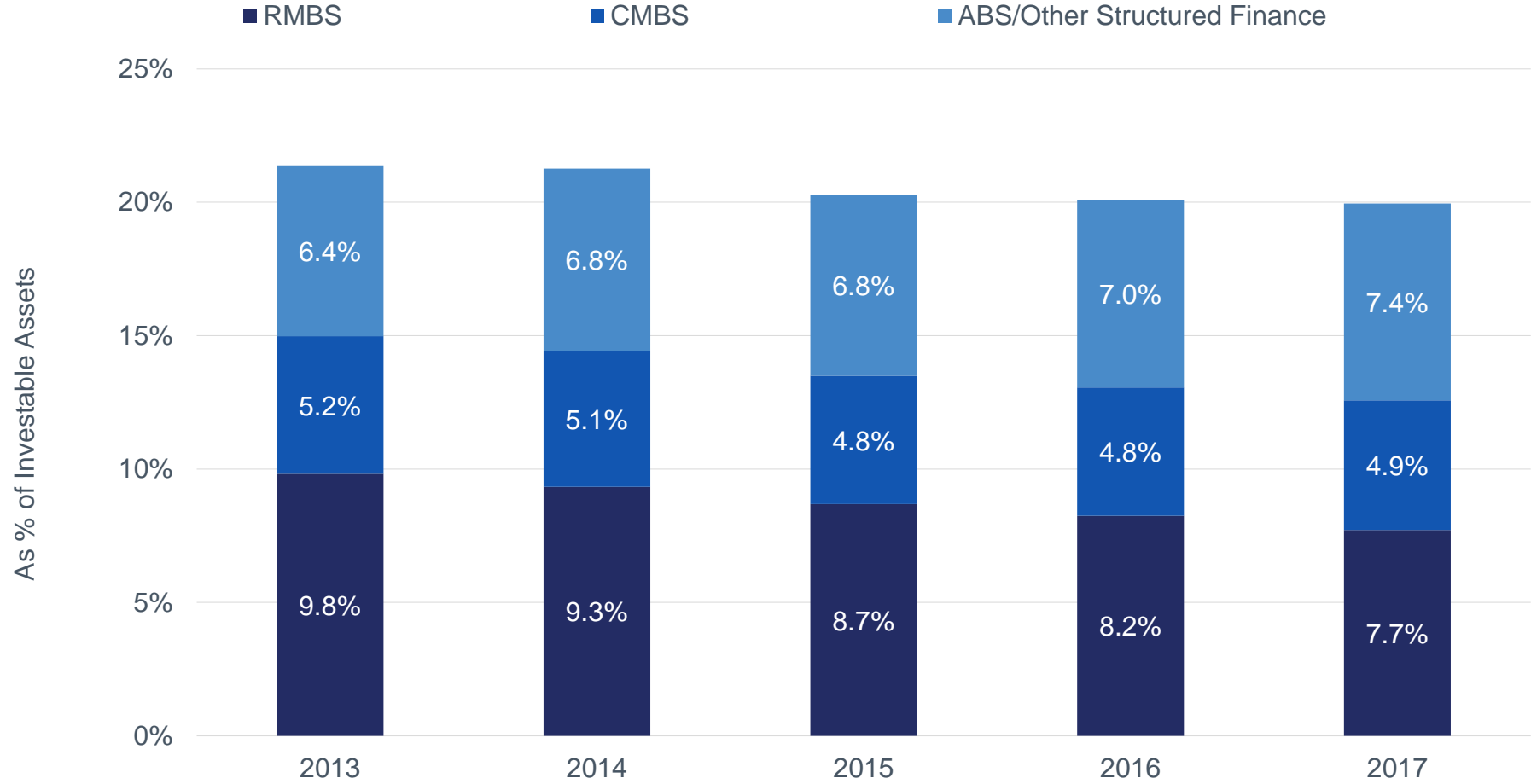


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Structured Securities Decreases Driven by Lower RMBS Holdings

Distribution of Structured Securities by Type

As % of total bonds

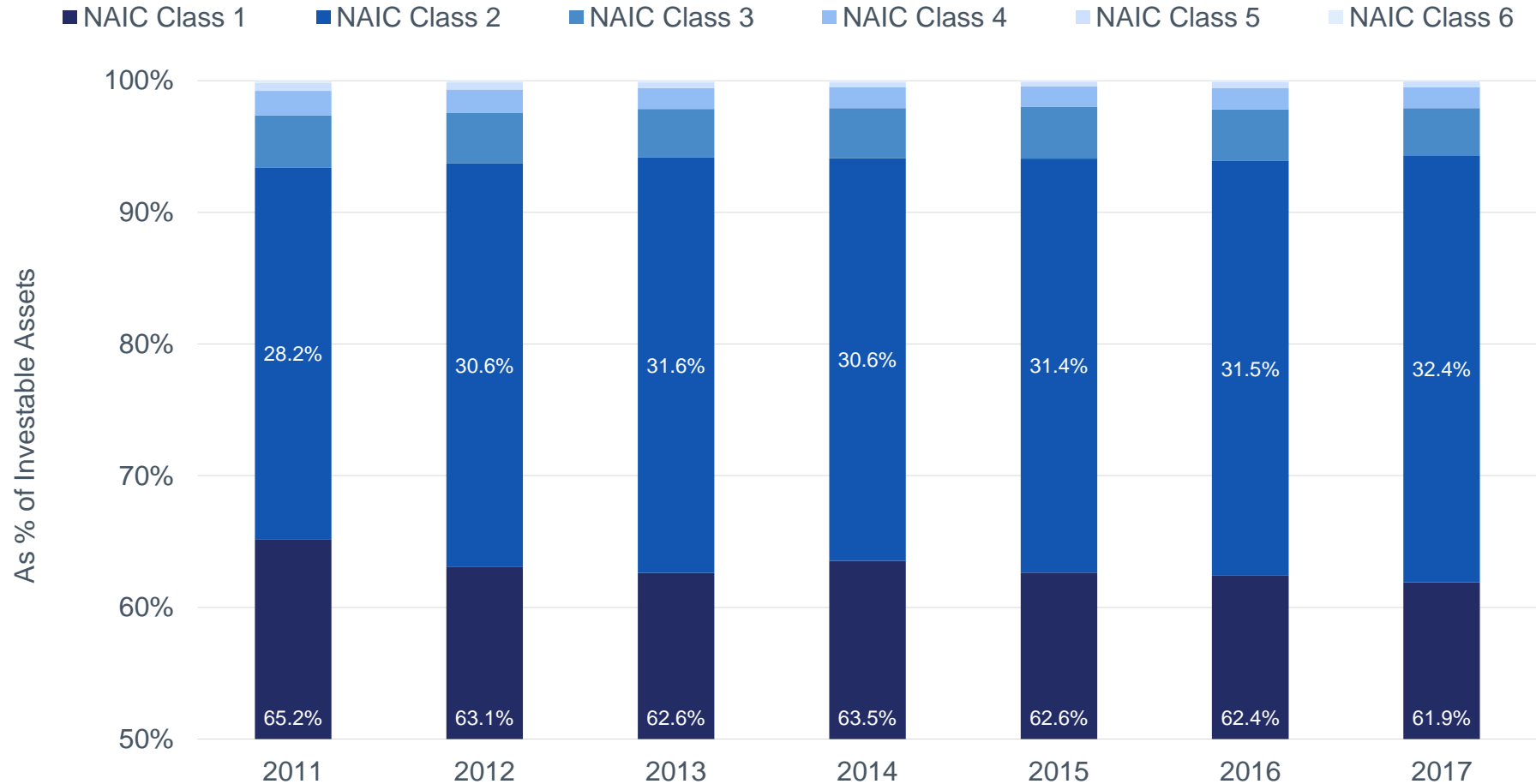


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Shifting Credit Quality in the Bond Portfolio to BBB-Rated Bonds

Bond Quality Distribution

As % of Total Bonds

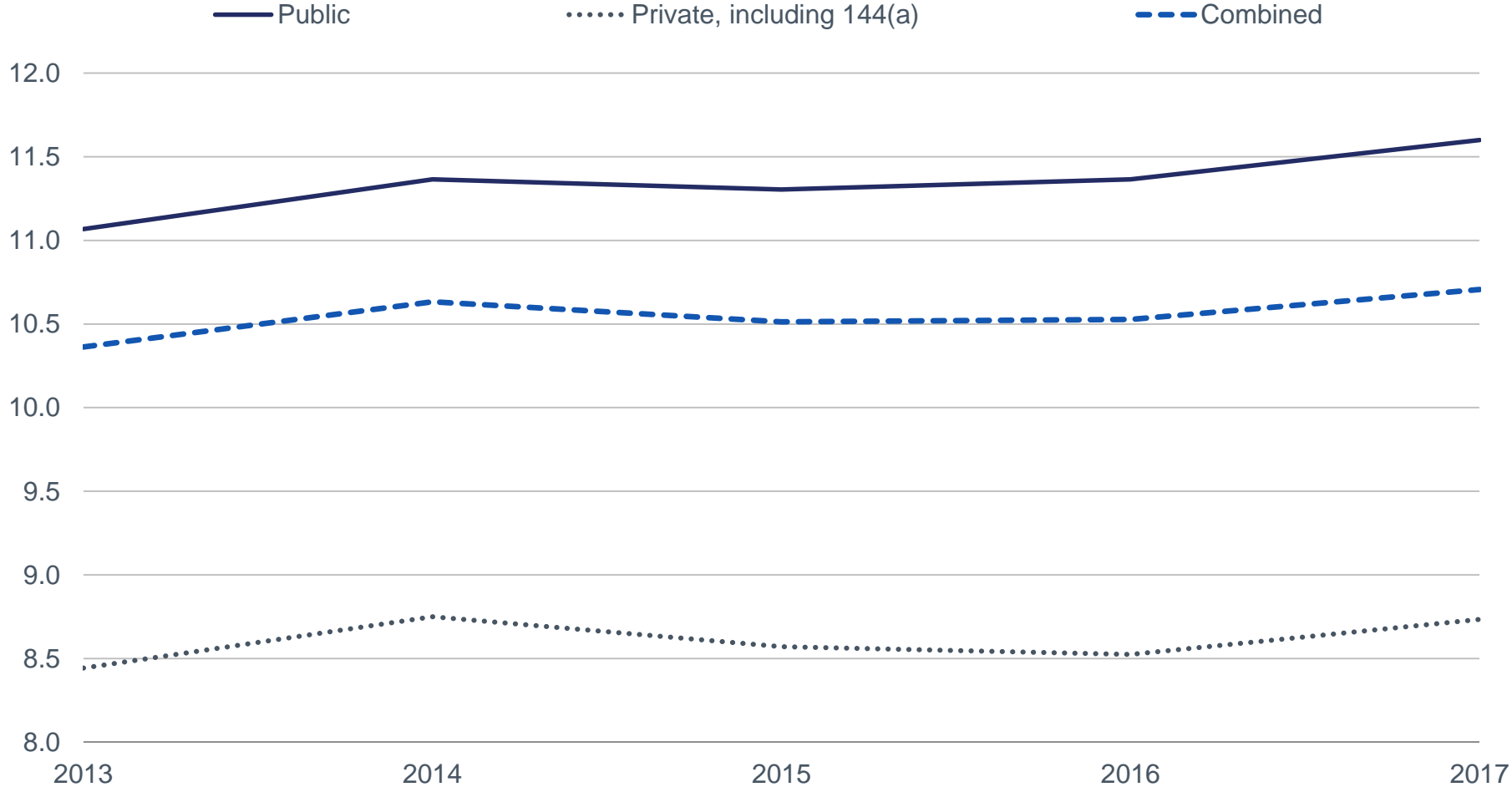


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Increasing Bond Maturity

Average Bond Maturity

Years

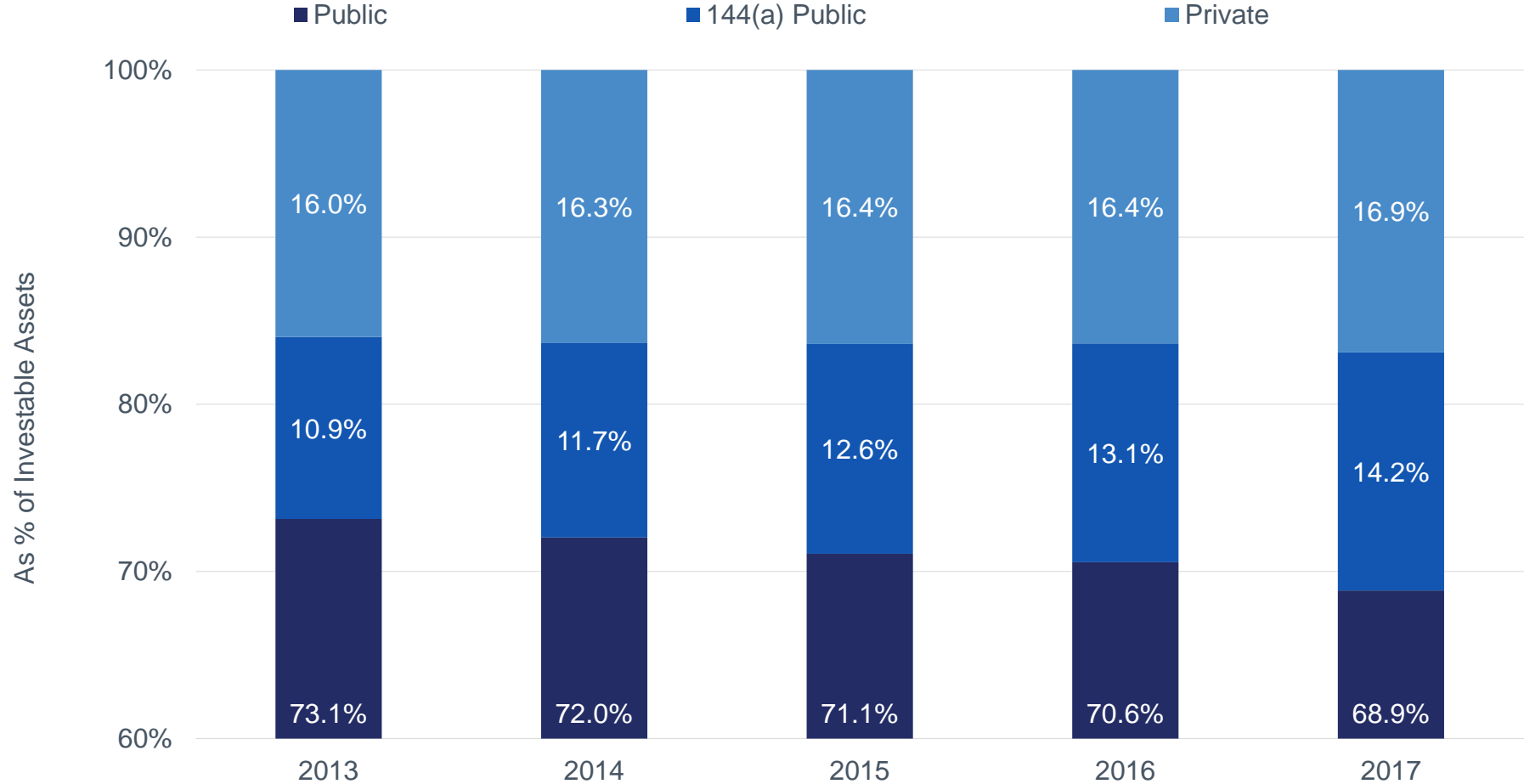


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Increasing Holdings of Private Placements

Bond Quality Distribution

As % of Total Bonds

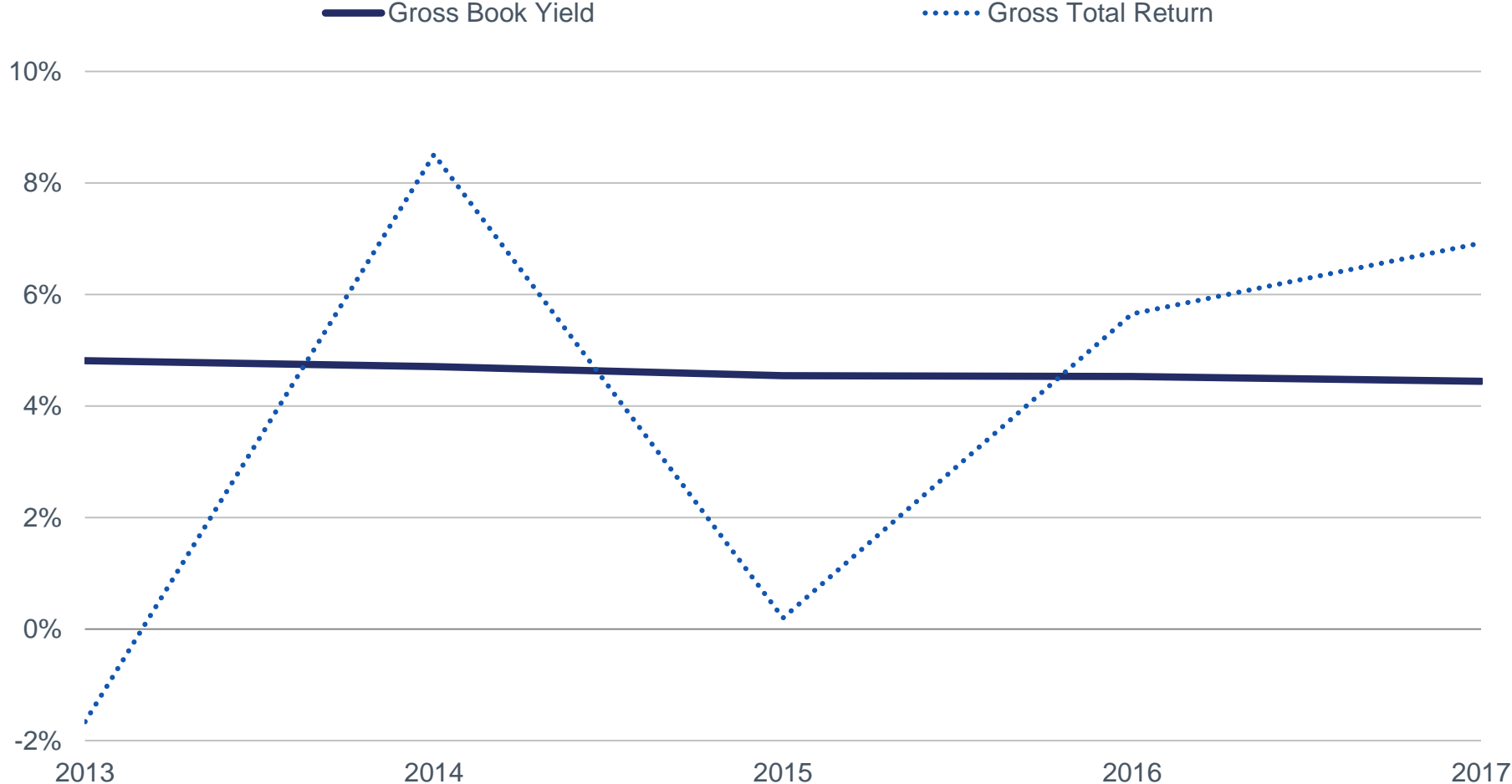


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Bond Yields Decrease and Total Returns Fluctuate

Gross Book Yields and Total Returns on Bonds

As a % of average underlying bonds



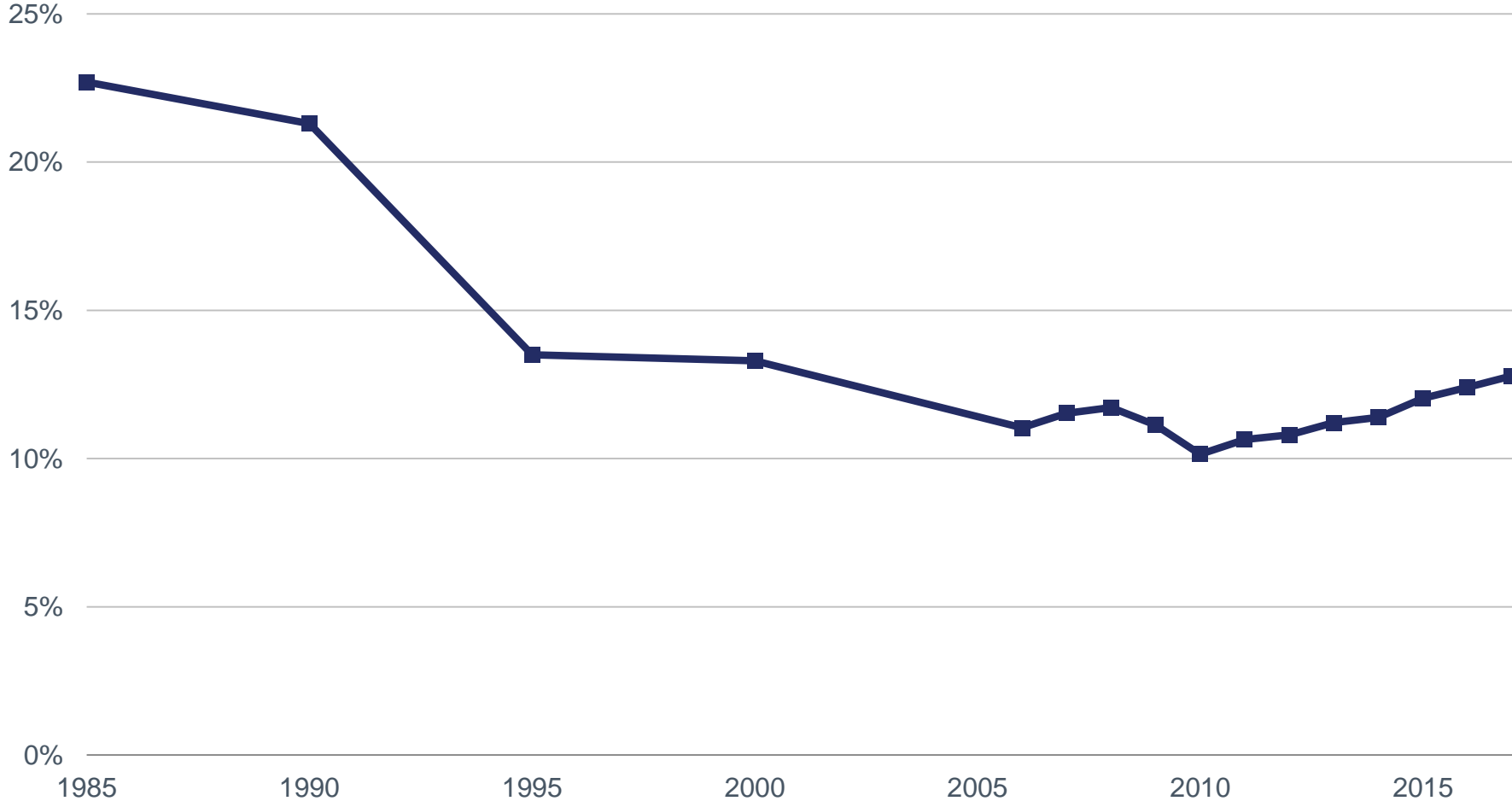
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MORTGAGES AND REAL ESTATE

Mortgage Holdings Increasing Since 2010

Mortgage Holdings—Total Industry

As a % of investable assets

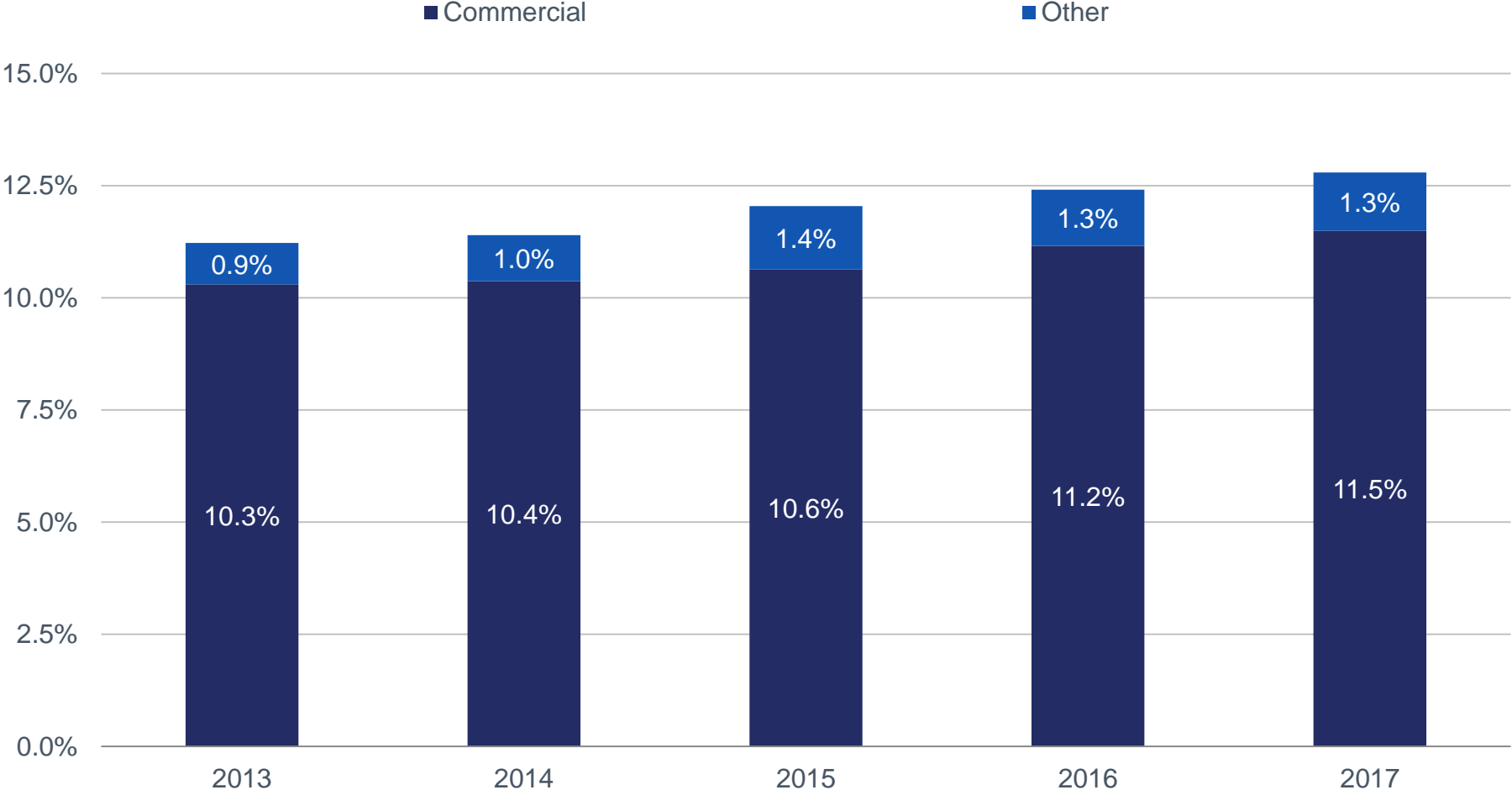


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Commercial Mortgages Dominate Industry Holdings

Mortgage Holdings by Type

As a % of investable assets

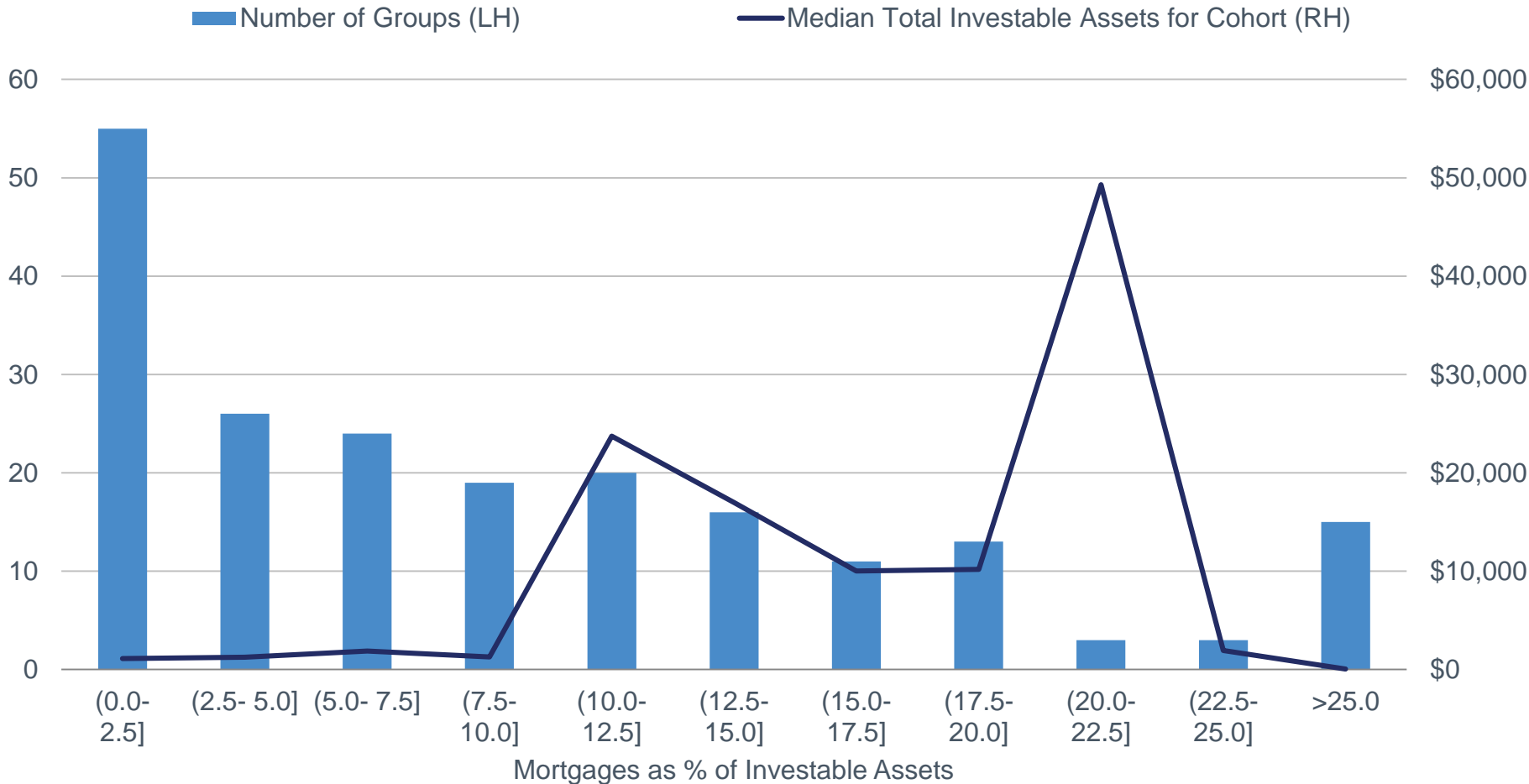


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High Concentration of Mortgage Holdings in Industry

Insurer Allocations to Mortgages in 2017

Number of insurers by range of mortgage allocation, median size of insurers in \$ in millions

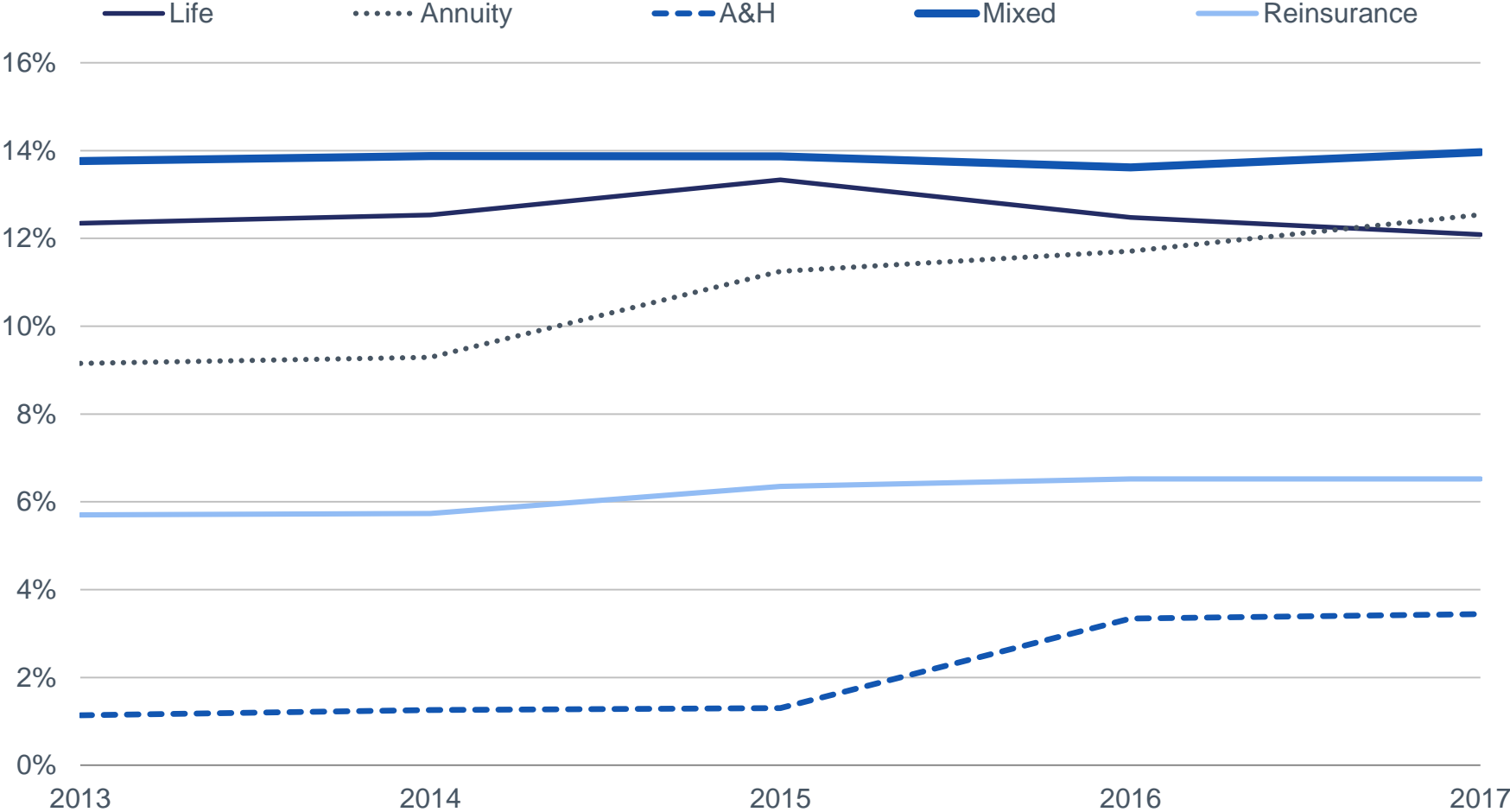


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Business Focus Type Strongly Related to Mortgage Holdings

Direct Mortgage Holdings by Business Focus

As a % of investable assets

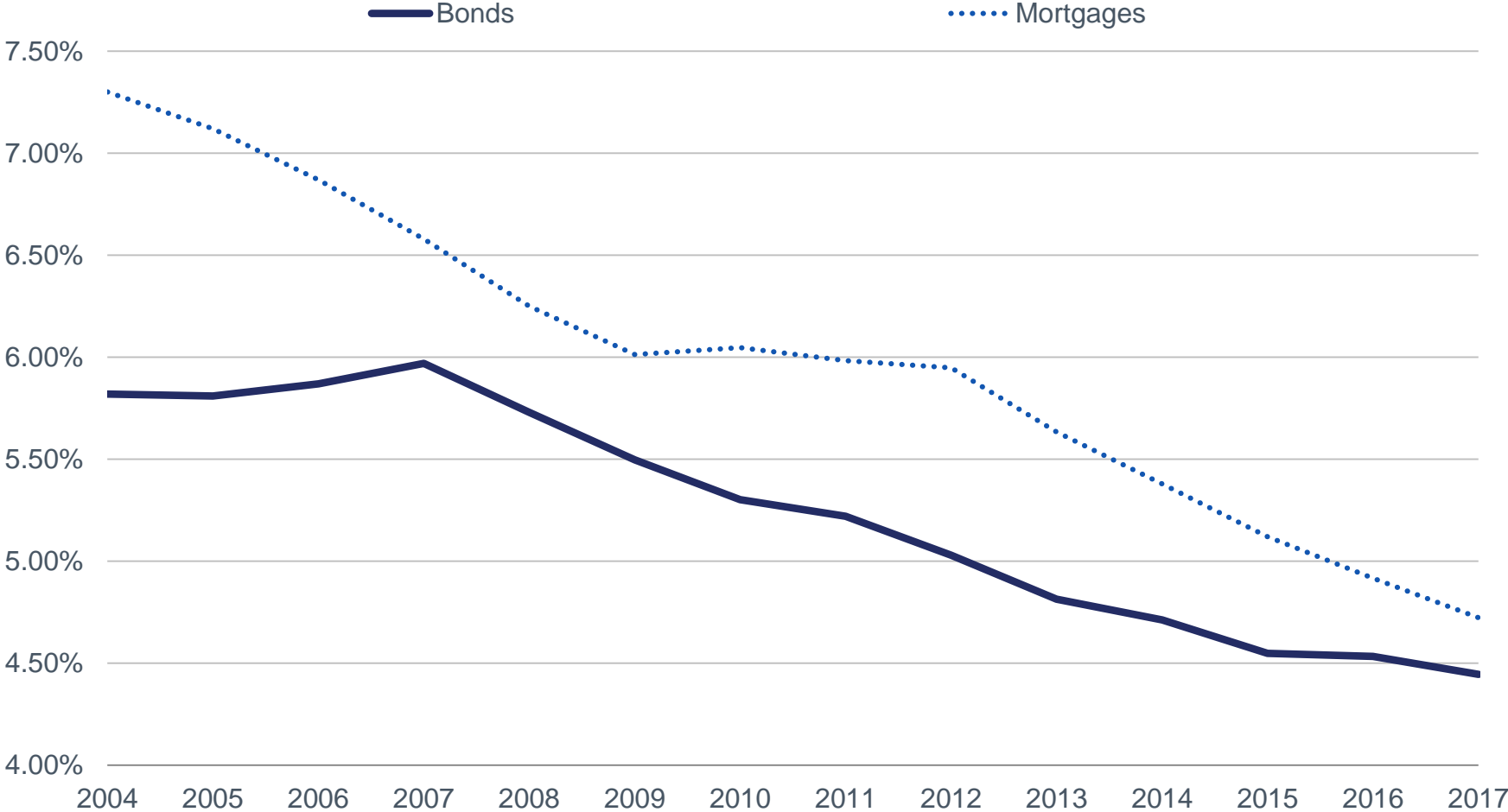


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Mortgages Yield Higher Than Bonds, But Less Spread Over Time

Gross Book Yields, Bonds vs. Mortgages

As a % of average underlying investable assets

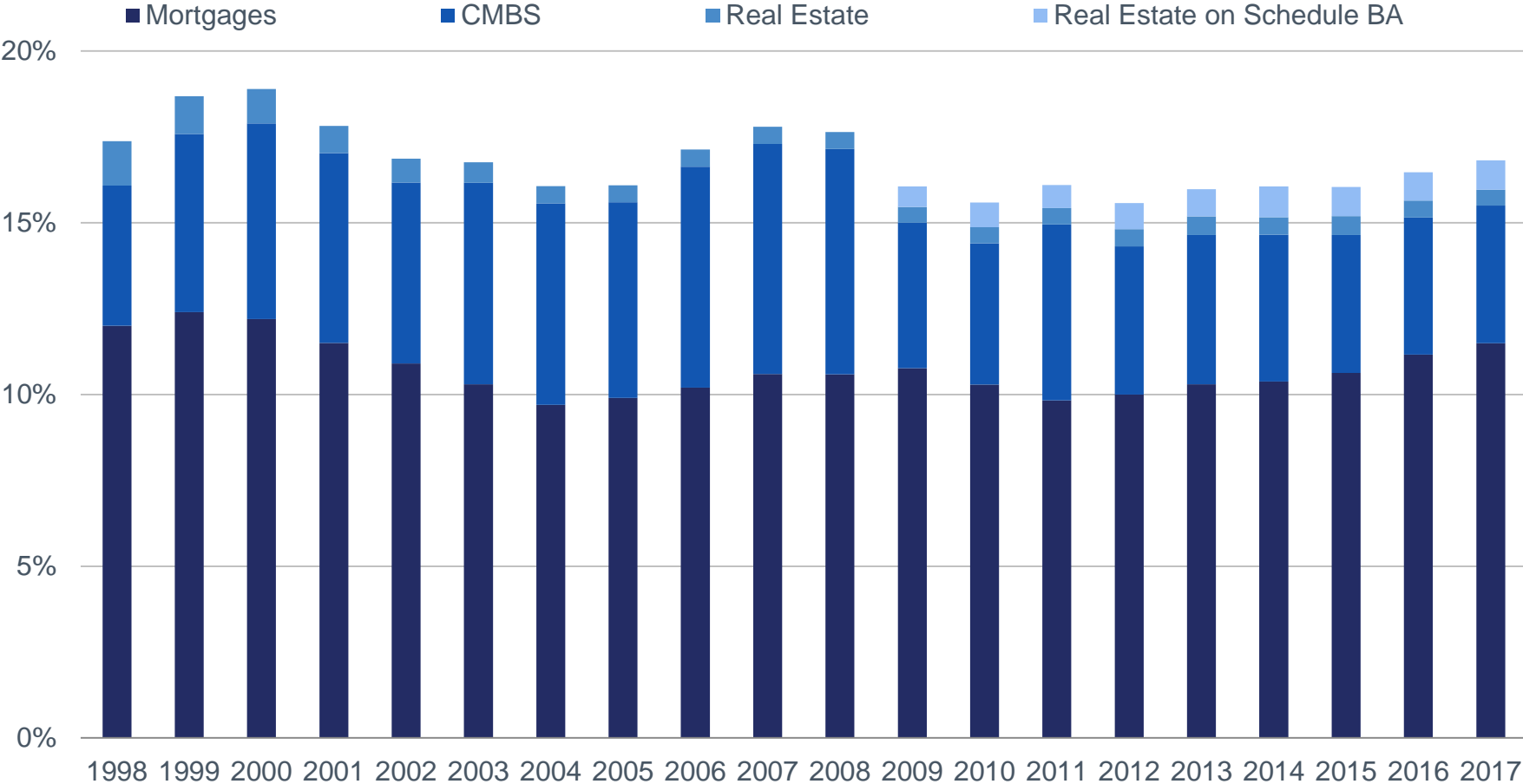


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Increasing Exposure to Commercial Real Estate

Approximate Direct and Indirect Investment in Commercial Real Estate

As a % of investable assets



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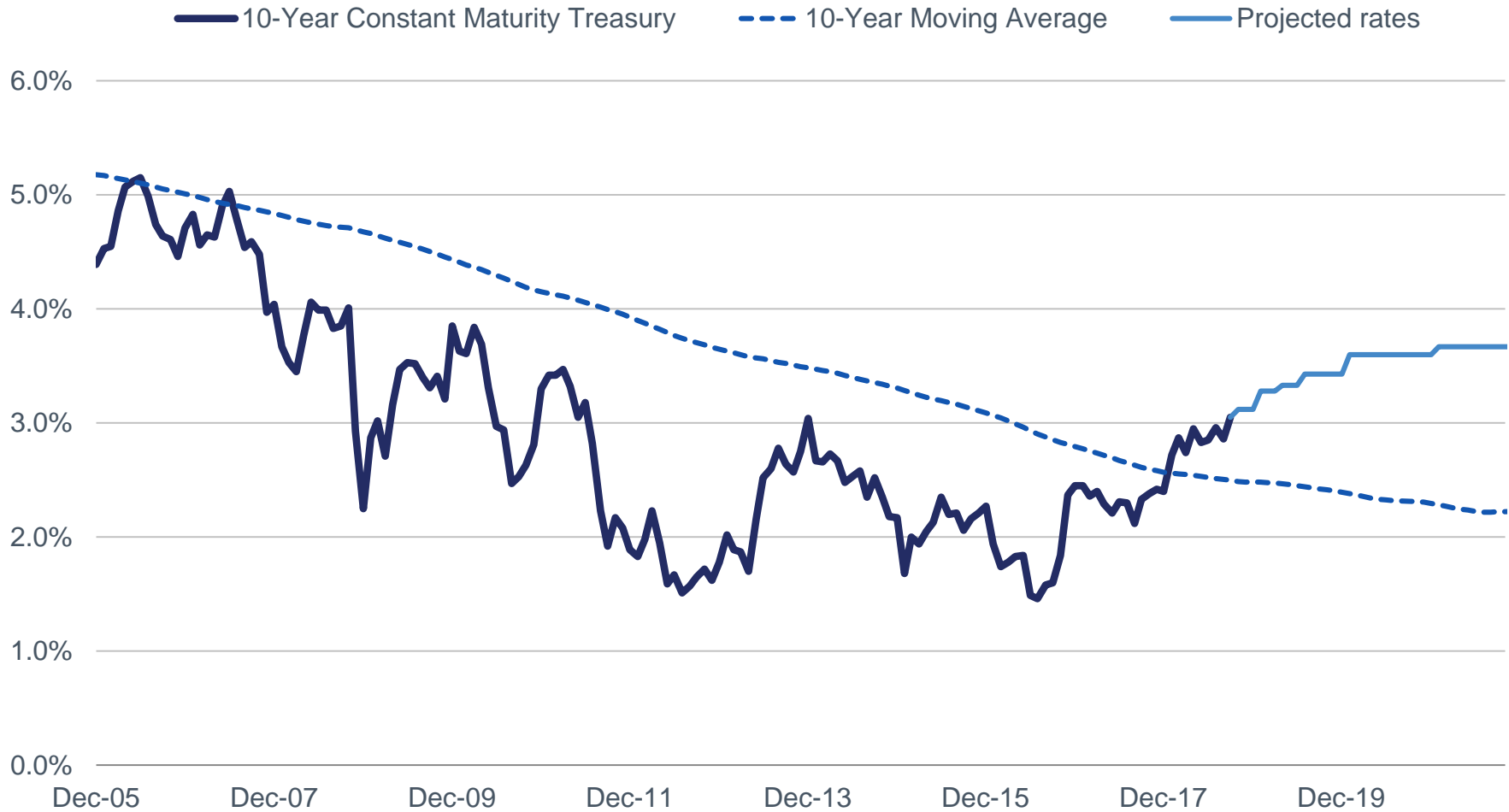


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FUTURE DEVELOPMENTS?

Rates Projected to Increase

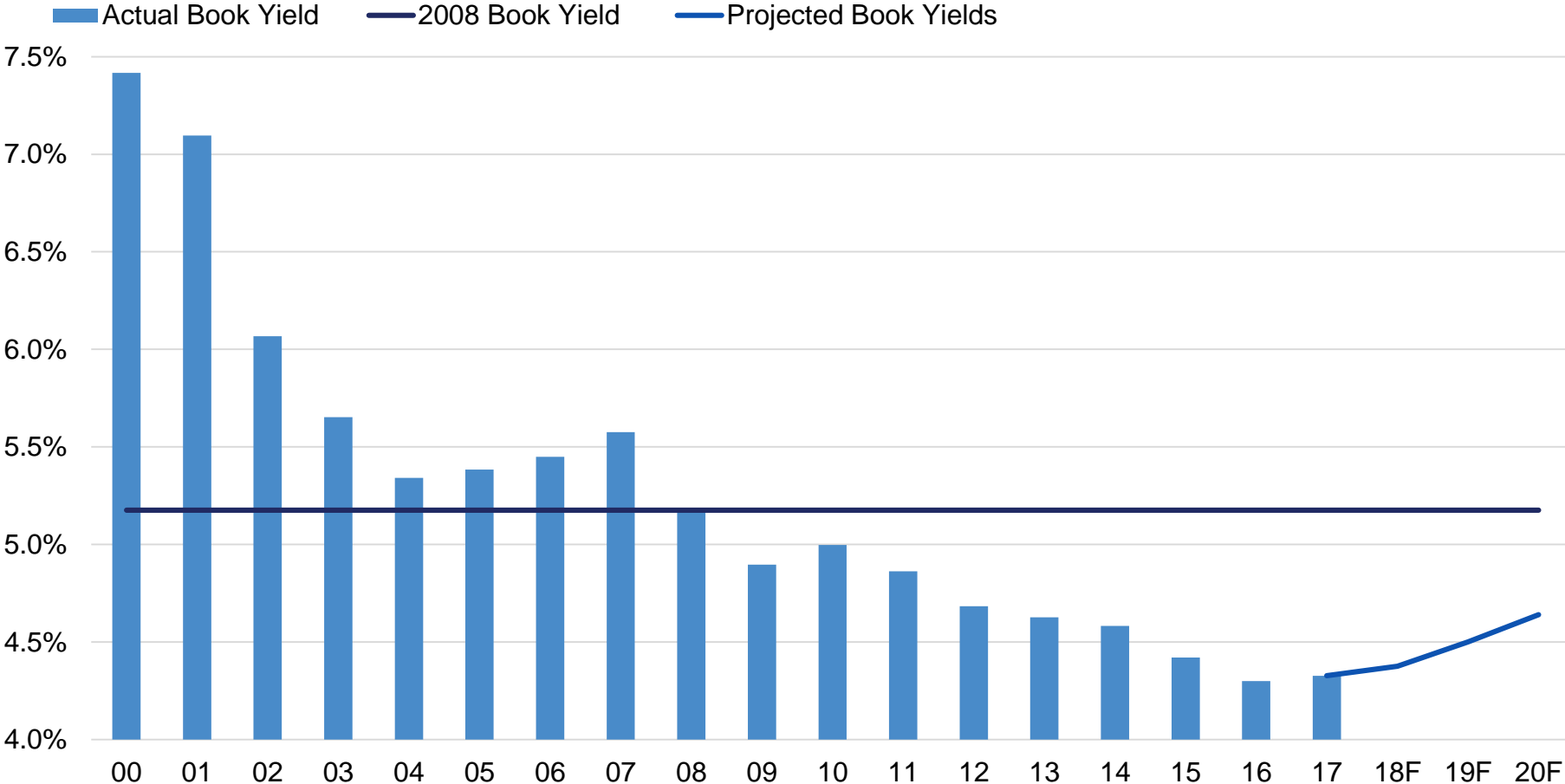
10-Year Treasury Rates Compared to 10-Year Moving Average, Historical and Projected



Prepared by Conning, Inc. Source: ©Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters* (<https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters>) (2018), U.S. Department of the Treasury, Federal Reserve Economic Data (2018)

Spread Compression: Years of Recovery Ahead for Net Book Yields

Life Industry Portfolio Book Yield Rates, Historical and Projected

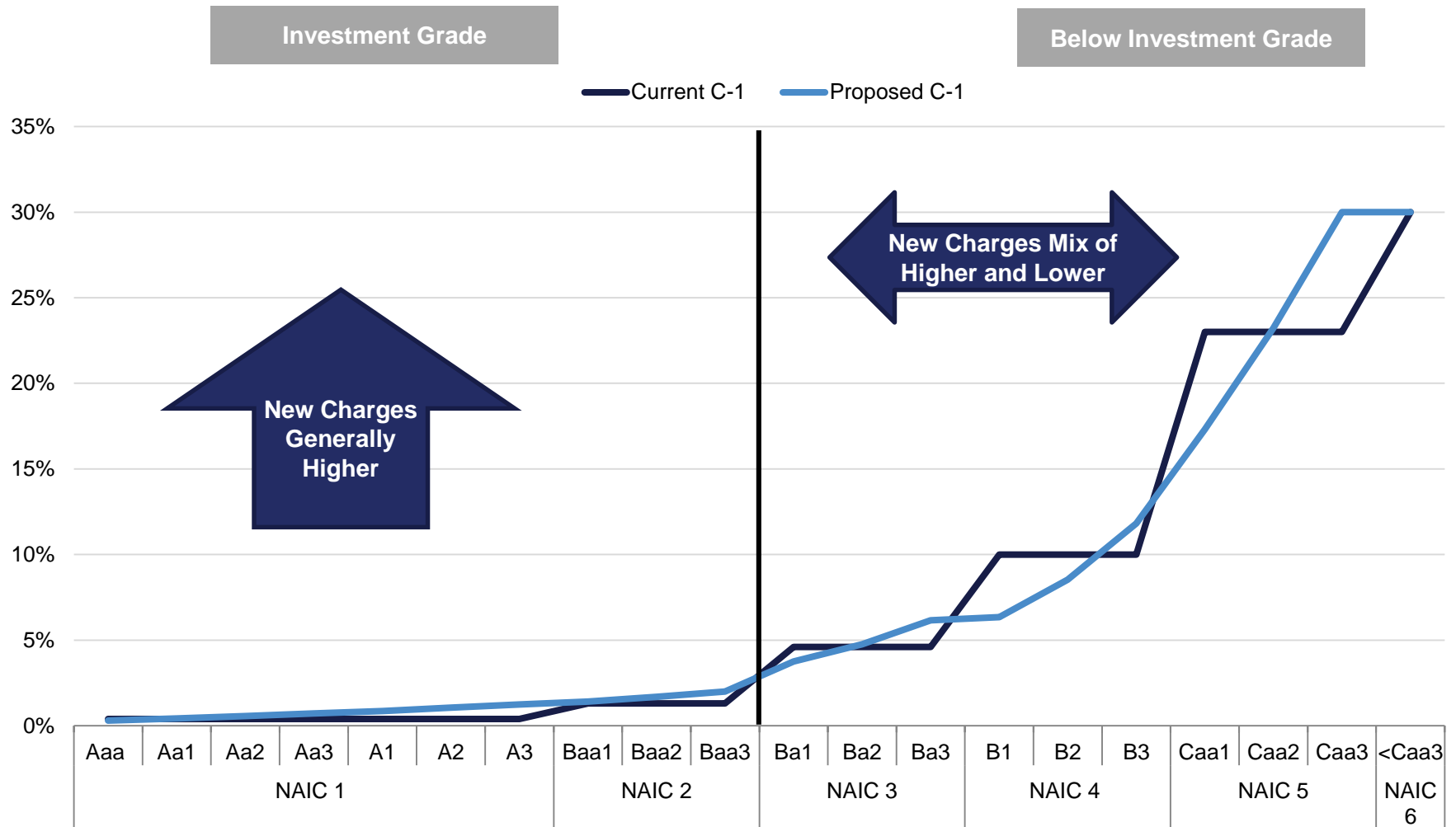


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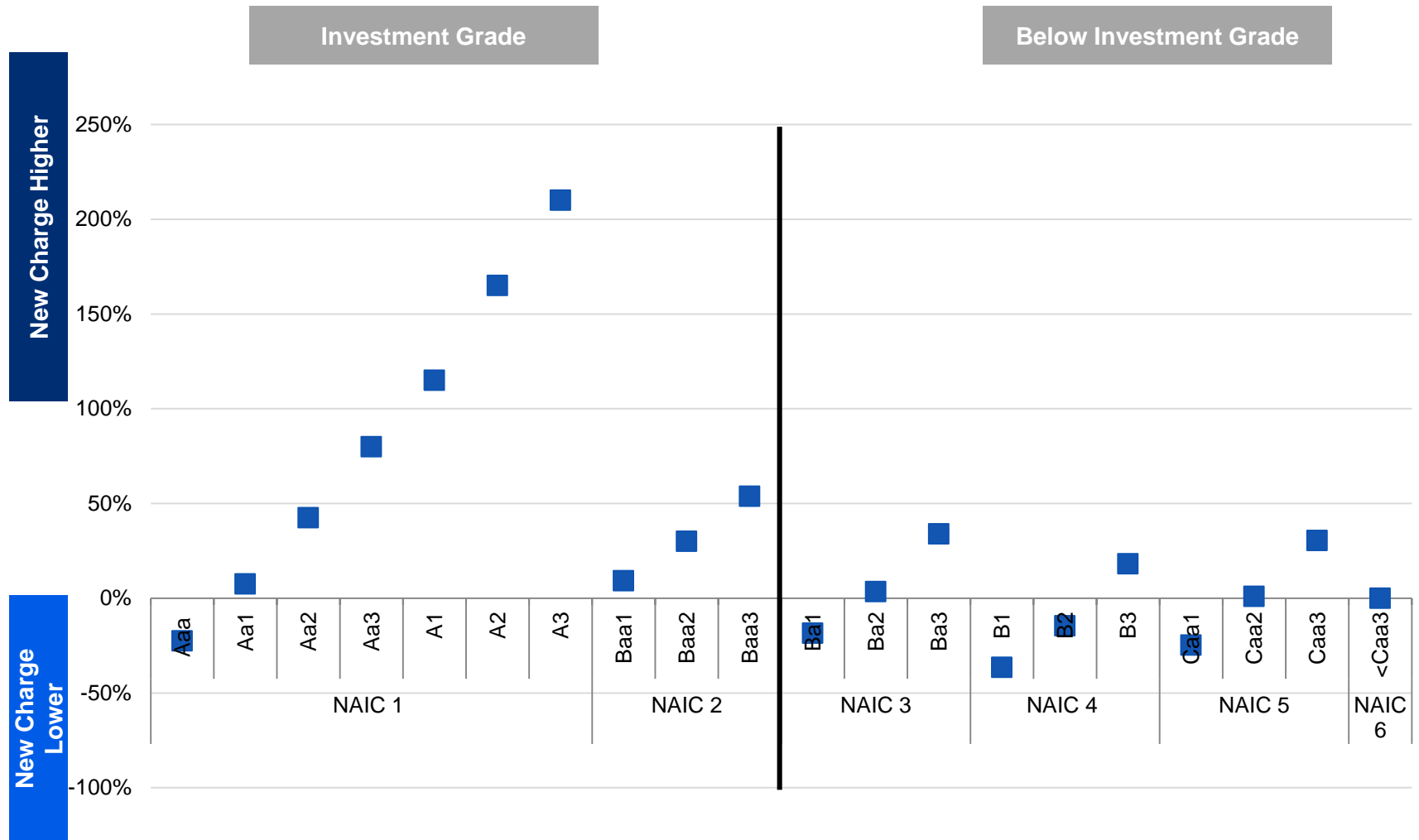
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Proposed Changes (Sept 2017) to Asset Risk Charges (C1) For Bonds



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Percentage Difference Of New Charge and Old Charge



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