SOCIETY OF ACTUARIES®

2019 ANNUAL MEETING & EXHIBIT

October 27-30
Toronto, Canada

Session 098: The Evolution of the Corporate Bond Market and Hidden Risks

2019 ANNUAL MEETING & EXHIBIT

The Evolution of the Corporate Bond Market and Hidden Risks

October 29, 2019

Natalie Moretti, CFA, CAIA
Associate
TD Asset Management

Alex Pekker, PhD, CFA, ASA
Senior Investment Director
Cambridge Associates LLC

Karin Sullivan, CFA
Portfolio Manager
Trans-Canada Capital

Dennis Woessner, CFA, CAIA
Vice President & Director
TD Asset Management

SOCIETY OF ACTUARIES®

Understanding the Risks

Back to the Basics

2019 ANNUAL MEETING & EXHIBIT

SOCIETY OF ACTUARIES®

Role of Fixed Income in U.S. Pensions

	SINGLE-EMPLOYER (CORPORATE) PENSIONS	TAFT-HARTLEY AND PUBLIC PENSIONS
Framework	Funded status: Assets/Liabilities	Funded status: Assets/Liabilities
Discount Rate	AA bond yields[1]	Long-term expected return
Total Portfolio Investment Objective	Balance (1) **hedging mark-to-market liability** and (2) **generating returns** to close asset-liability gap and offset future accruals and costs	Generate **total returns** to close asset-liability gap and offset future accruals and costs
Primary Role of Fixed Income	Liability hedge Primary source of liquidity *Potentially* modest excess return generation relative to liabilities	Diversifier to equities Deflation or inflation hedge[2] Primary source of liquidity

[1] Under US and international accounting standards, pension liabilities are valued using high quality bond yields, generally interpreted as AA; for funding purposes (i.e., under ERISA), liabilities are valued using long-term averages of bonds rated A-AAA. [2] Nominal bonds serve as a deflation hedge, while inflation-linked bonds (e.g., TIPS) serve as an inflation hedge.

Role of Corporate Bonds in U.S. Pension

Single-Employer (Corporate) Plans

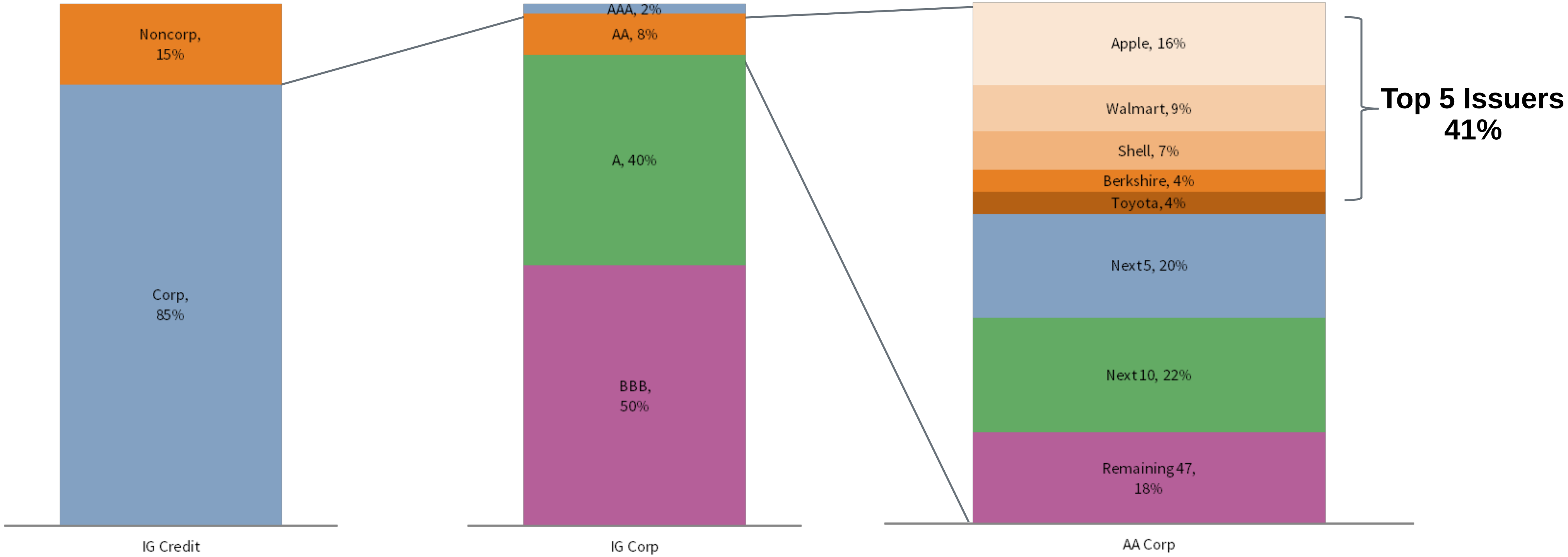
- Pension liabilities have a long duration (typically 12-16 years), so a natural hedge would be long duration AA bonds
- However, the fixed income portfolio should not be entirely in AA bonds
    - The AA bond universe is extremely narrow
    - The credit spread component of corporate bond return is highly correlated to equity returns
    - Active management is necessary to mitigate downgrades and defaults

Taft-Hartley and Public Plans

- These plans generally have much higher allocation to equities
- Consequently, they need to even more carefully consider the correlation between corporate bonds and equities

AA Universe is Small and Concentrated

- 7.8% of US investment grade corporate bonds are rated AA, and within the AA universe, the top 5 issuers represent 41%; the concentration is even more acute in long investment grade corporates
- Any pure AA portfolio would be highly concentrated

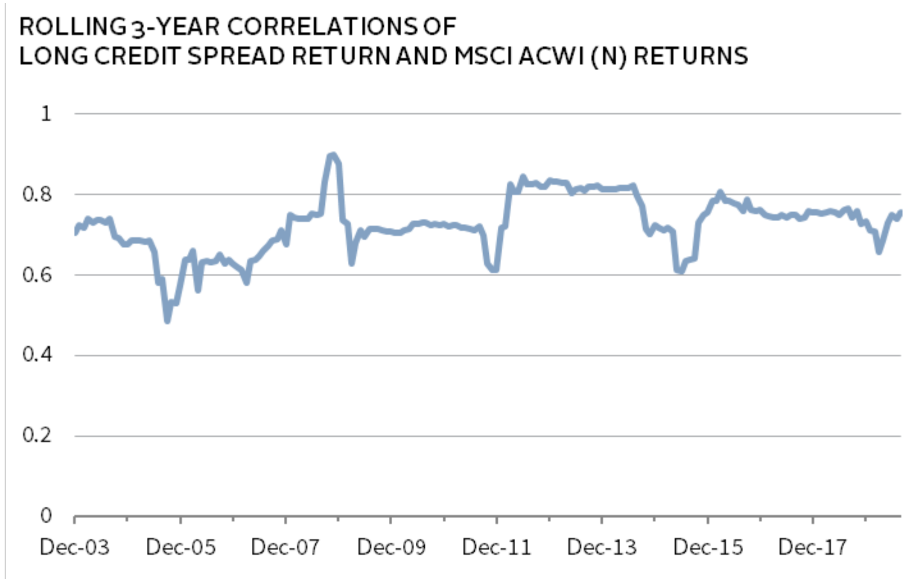


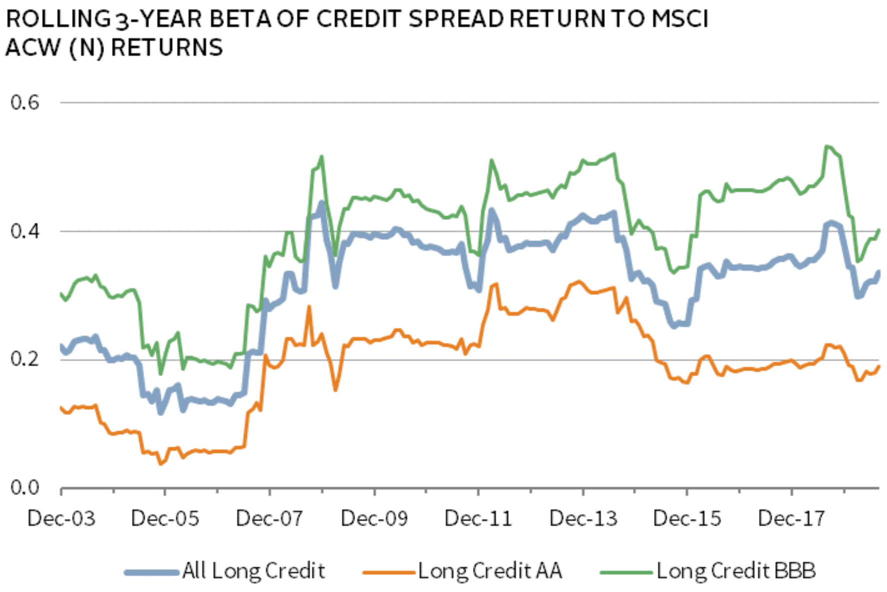
Source: Bloomberg and Cambridge Associates, as of August 31, 2019. Data represents Bloomberg Barclays indices as shown.

Corporate Bonds and Equities

CORPORATE BOND SPREAD RETURNS ARE HIGHLY CORRELATED TO EQUITIES

- Long-term correlation of corporate bond spread returns to equity returns is 0.7 with an average beta of 0.3 (over the last 15 years)
- The beta of BBB corporate bond spread returns to equities is higher than that of AA, roughly by a factor of 2





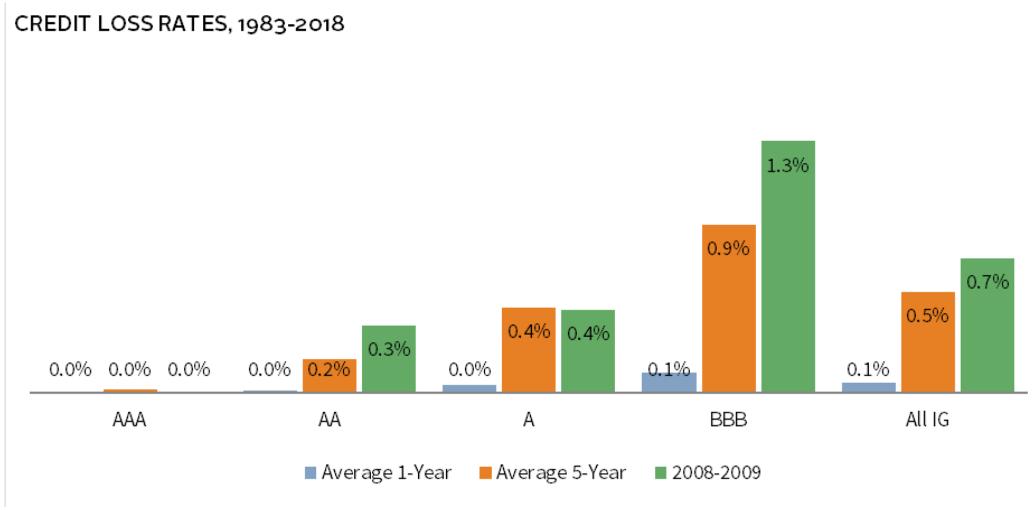
Source: Bloomberg and Cambridge Associates. Credit spread return represents excess return as defined by Bloomberg Barclays; data reflect monthly observations.

Corporate Bonds are Subject to Defaults and Downgrades

- IG downgrades are common, with more than 50% of AA bonds in any given cohort being downgraded or the rating withdrawn within 5 years
  - This creates a headwind to hedging liabilities valued with a AA discount rate
- IG defaults and credit losses are relatively low, but can spike in periods of stress
- Active management can alleviate these challenges

5-YEAR MIGRATION RATE, 1970-2018

	AAA	AA	A	BBB	Below IG	Withdrawn	Default
AAA	53.7%	23.3%	4.9%	0.6%	0.4%	17.1%	0.1%
AA	2.2%	46.1%	**23.7%**	**3.9%**	**1.2%**	**22.8%**	**0.3%**
A	0.2%	7.2%	51.7%	14.5%	3.4%	22.4%	0.7%
BBB	0.1%	1.0%	12.2%	49.7%	11.2%	24.4%	1.4%
BB	0.0%	0.2%	2.5%	14.4%	41.7%	34.5%	6.7%



Source: Moody's.

Role of Fixed Income in U.S. Insurance

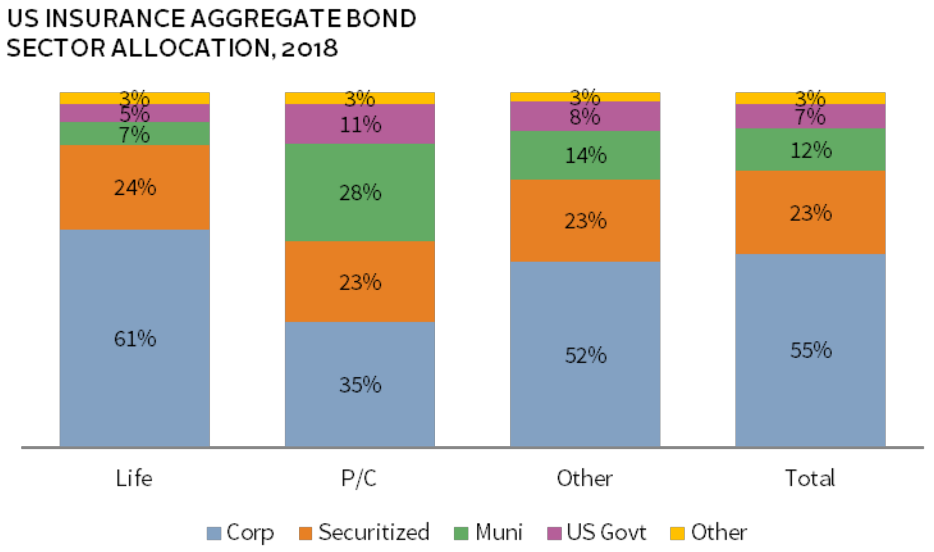
Framework	NAIC risk-based capital (RBC) relative to book value of assets[1]
Total Portfolio Investment Objective	Balance (1) **matching expected losses and expenses** and (2) **generating returns** for growth and profitability, after taxes
Primary Role of Fixed Income	Pay losses and expenses Generate high book yield

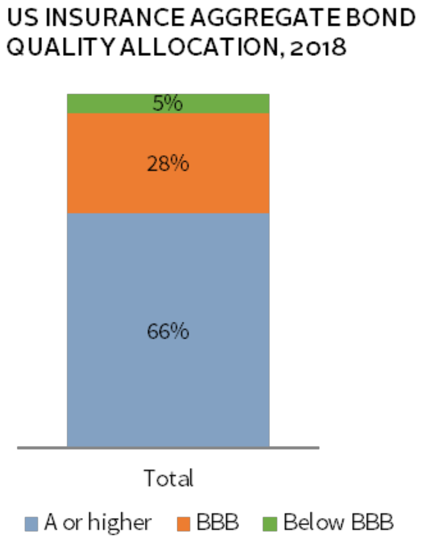
- Fixed income is typically the largest component of insurance asset allocations
- Companies with higher RBC ratios (large surpluses) typically will have lower fixed income allocations

[1] Under NAIC rules, assets rates NAIC-1 to NAIC-5 are held at book value, and NAIC-6 at the smaller of book value and market value.

Role of Corporate Bonds in U.S. Insurance

- Unlike pensions, since most insurance companies hold their assets at book value rather than mark them to market**, book yield**, rather than total return, is a larger driver of bond selection
- Sector allocation within fixed income is driven by yield, risk based capital requirements, profitability and taxes (especially for P/C companies), and the size of surplus relative to reserves





Source: NAIC. A or higher represents NAIC-1 (which includes A- or higher); BBB represents NAIC-2 (which includes BBB+, BBB, and BBB-).

Risk-Based Capital Charges in the NAIC Framework

- NAIC is likely moving to a more granular system of RBC charges for corporate bonds
  - This approach would more accurately reflect default risk over a typical holding period for different types of insurers (e.g., 10 years for life and 5 years for P/C)
  - Additional factors would account for portfolio diversification (not shown here)
- Proposed factors would increase RBC for most companies, putting a greater focus on portfolio quality

		Life		P/C	
		Current	Proposed	Current	Proposed
NAIC-1	**AAA**	**0.40%**	**0.31%**	**0.30%**	**0.20%**
	AA+		**0.43%**		**0.40%**
	AA		**0.57%**		**0.60%**
	AA-		**0.72%**		**0.80%**
	A+		**0.86%**		**1.00%**
	A		**1.06%**		**1.30%**
	A-		**1.24%**		**1.50%**
NAIC-2	**BBB+**	**1.30%**	**1.42%**	**1.00%**	**1.80%**
	BBB		**1.69%**		**2.10%**
	BBB-		**2.00%**		**2.50%**
NAIC-3	BB+	4.60%	3.75%	2.00%	5.50%
	BB		4.76%		6.00%
	BB-		6.16%		6.60%
NAIC-4	B+	10.00%	6.35%	4.50%	7.10%
	B		8.54%		7.70%
	B-		11.82%		8.70%
NAIC-5	CCC+	23.00%	17.31%	10.00%	9.80%
	CCC		23.22%		10.90%
	CCC-		30.00%		12.00%
NAIC-6	Default	30.00%	30.00%	30.00%	30.00%

Source: NAIC, AAA.

Canadian Considerations

Corporate Pension Plans

- International accounting standards are similar to US accounting standards and reflect mark-to-market accounting even more so than the US standards
- Funding requirements are evolving to focus more on a going concern (long-term expected return) rather than solvency (mark-to-market) liabilities

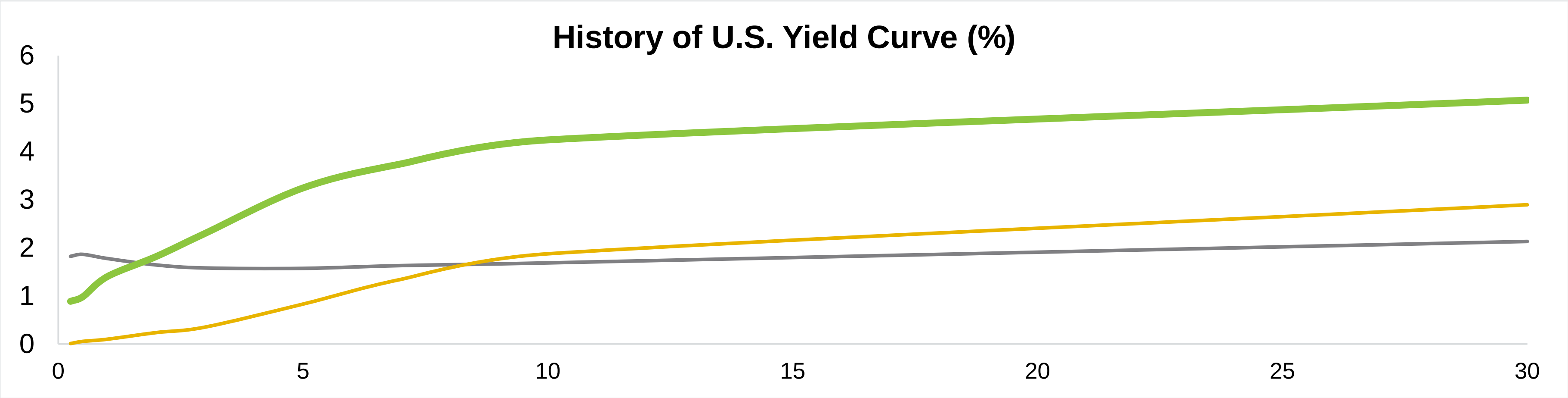
Provincial Pension Plans

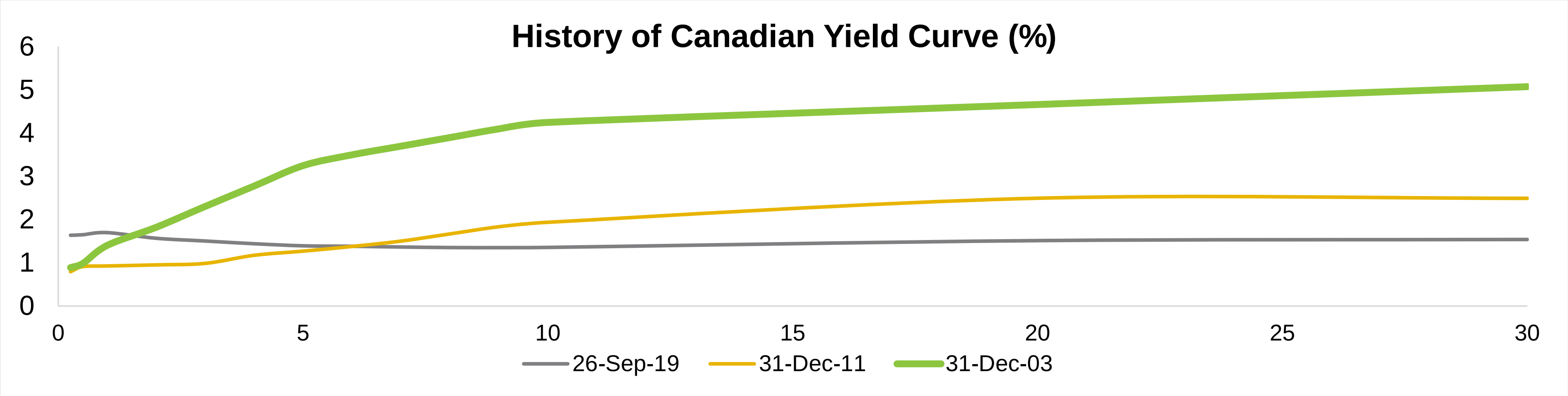
- Generally greater focus on long-term expected return, as in the US

Insurance

- Similar risk-based capital approach with charges for different types of assets, reflecting maturity and quality for bonds

History of Yield Curves





Economic Growth expectation

Expectation of Falling Rates

Supply & Demand

Central Banking System

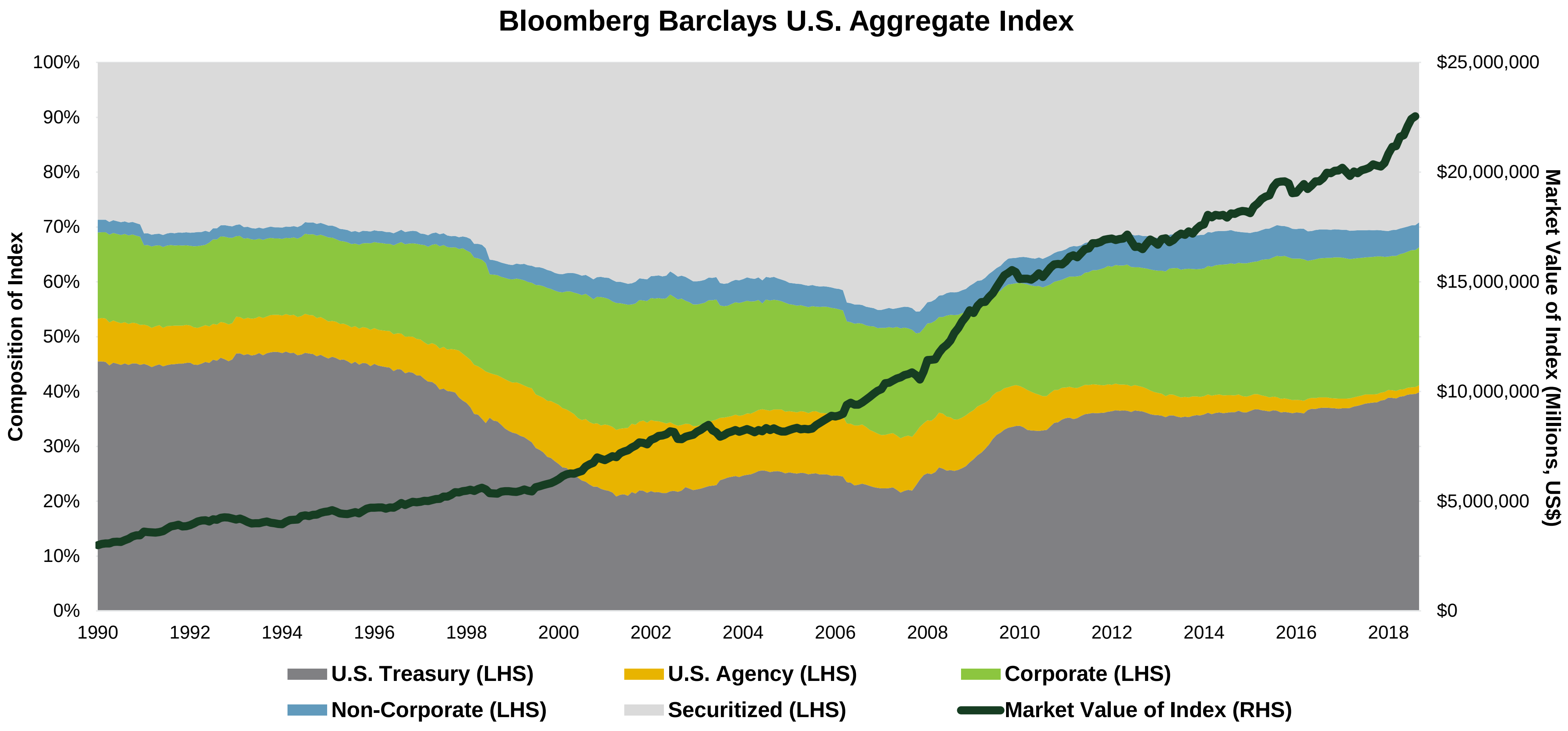
Inflation expectation

Government Financial Health

Source: TD Asset Management, Bloomberg Finance L.P.. For illustrative purposes only. Data as of August 2019.

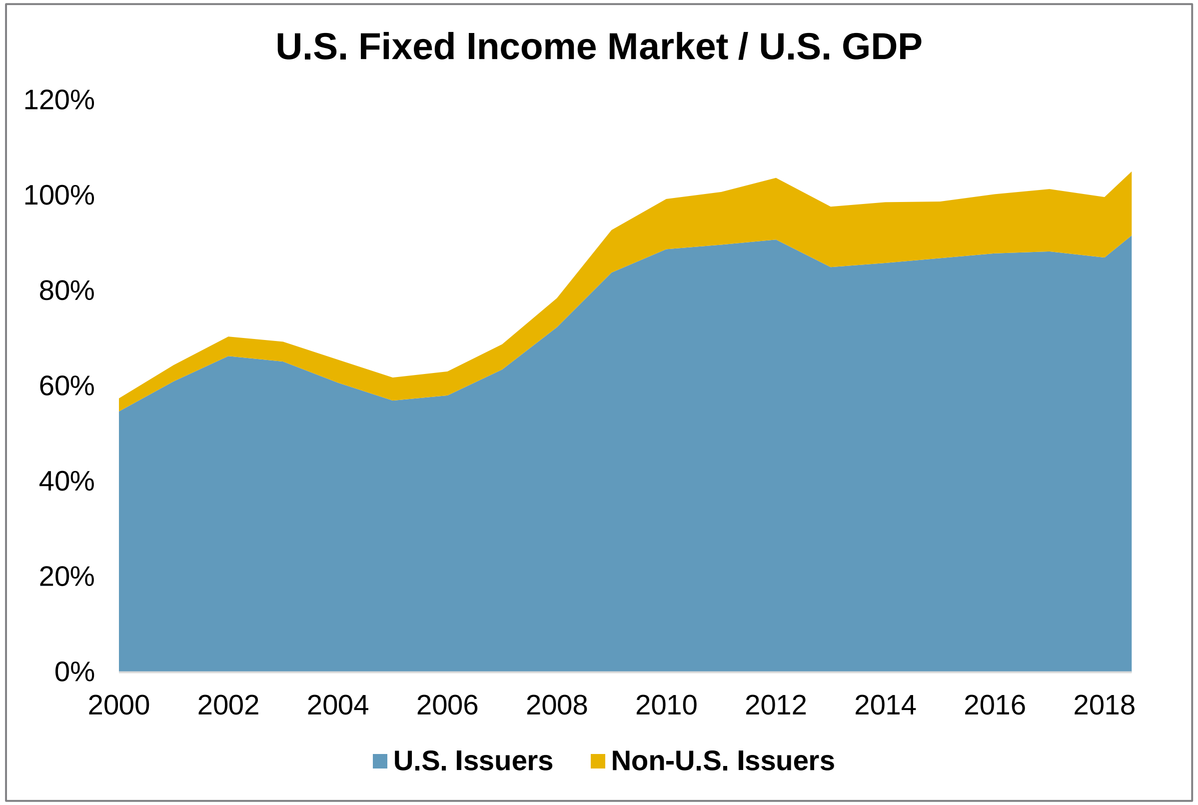
Evolution of the U.S. Corporate Bond Market

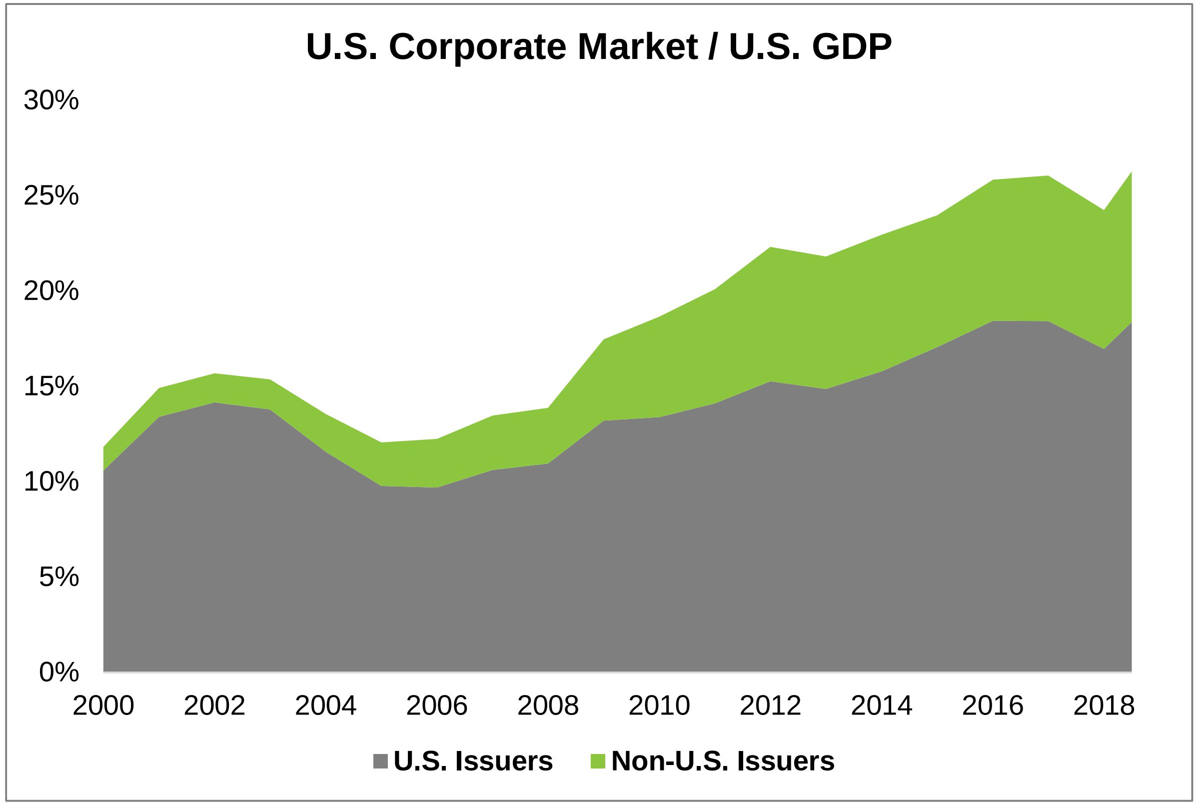
Investment-Grade by Industry Sector



Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

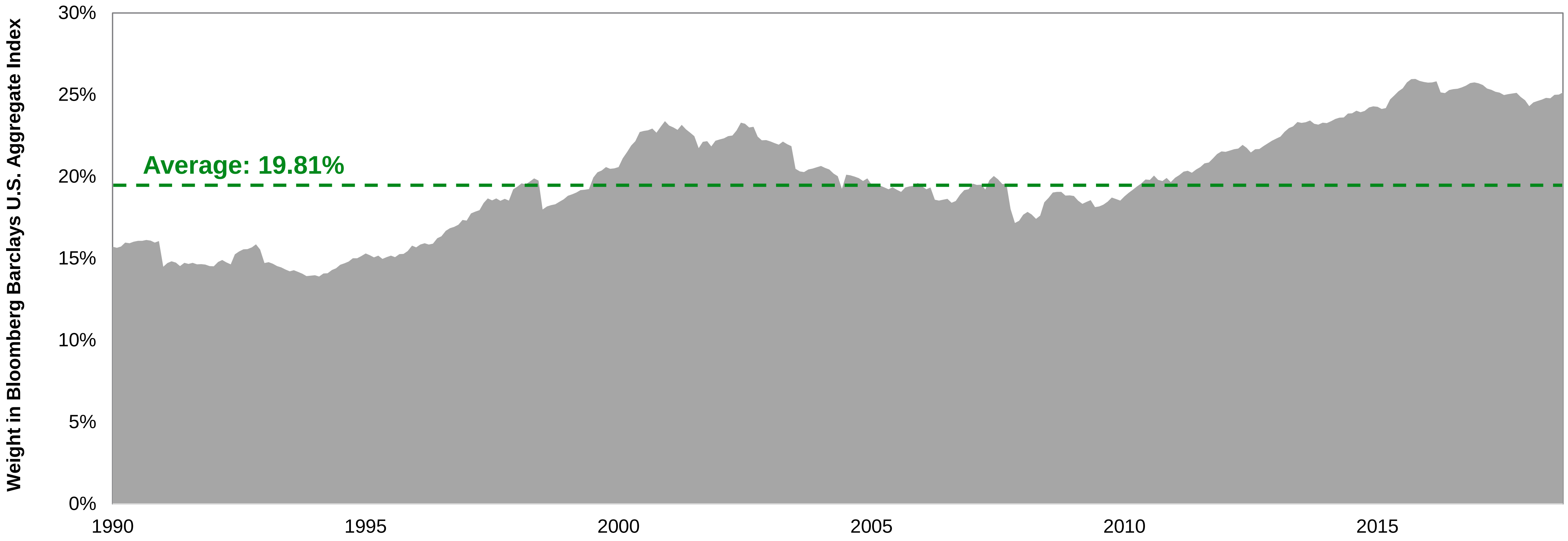
Growth Relative to U.S. GDP





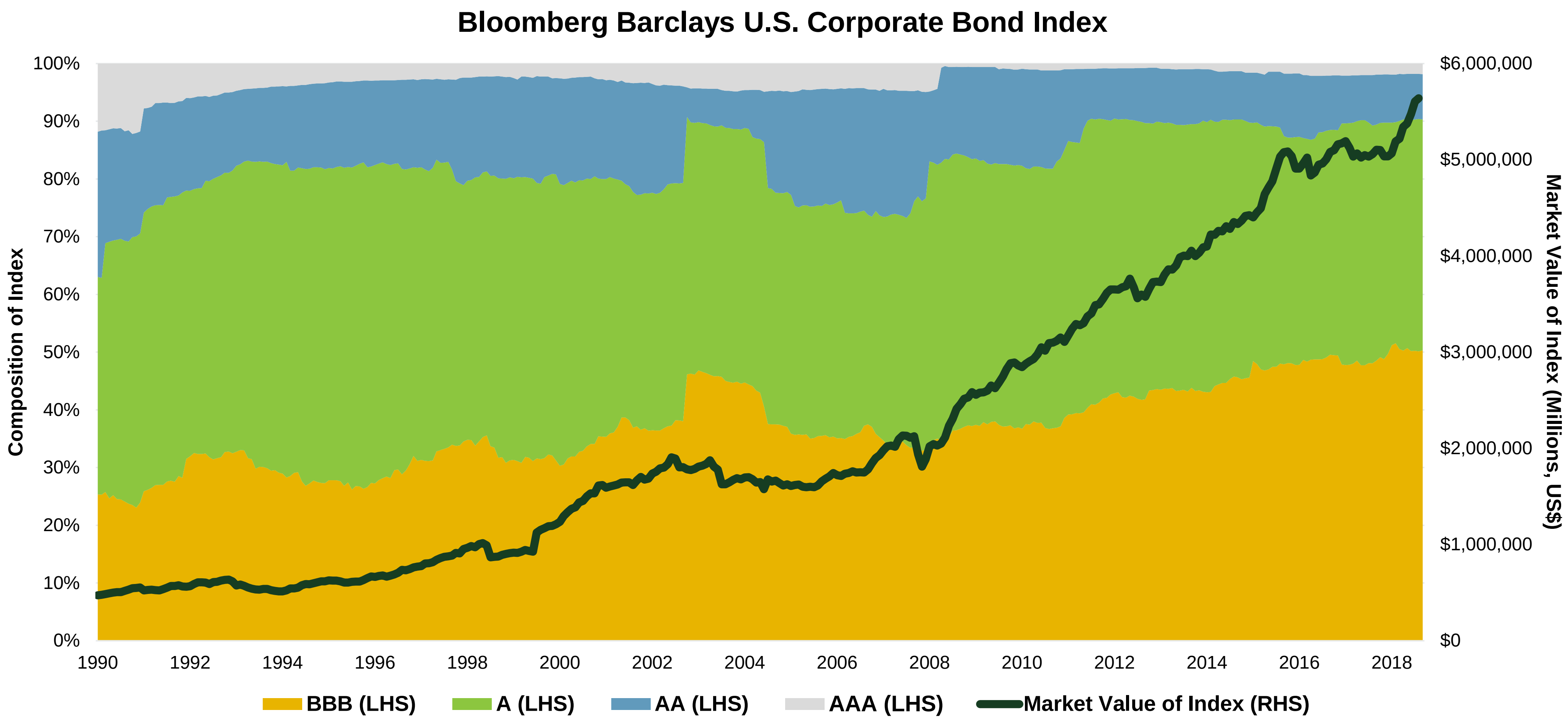
Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

Corporate Weighting of the Index



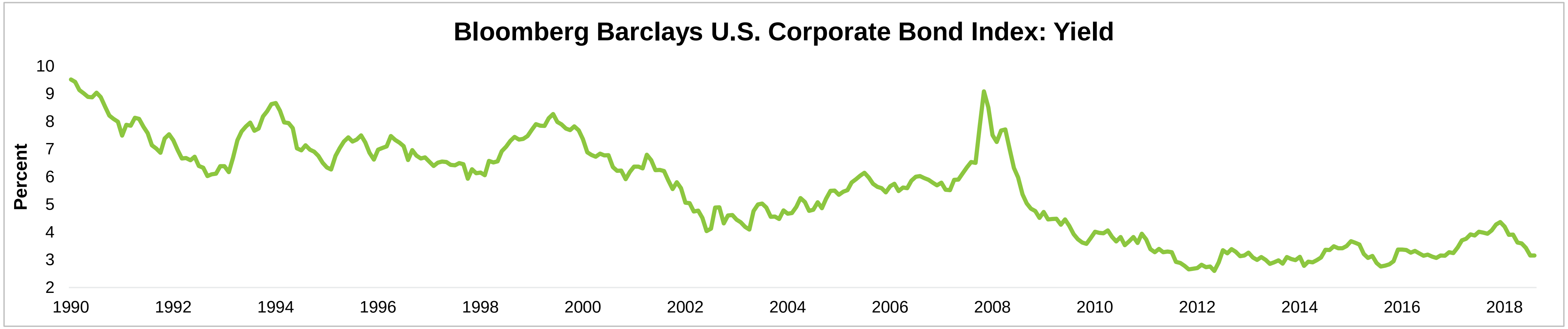
Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

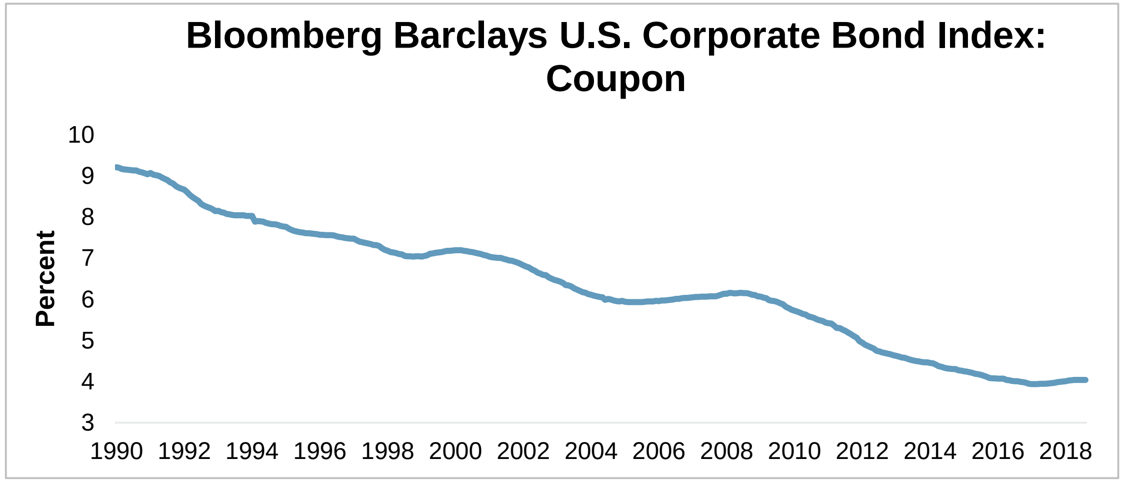
Corporate Sector by Quality

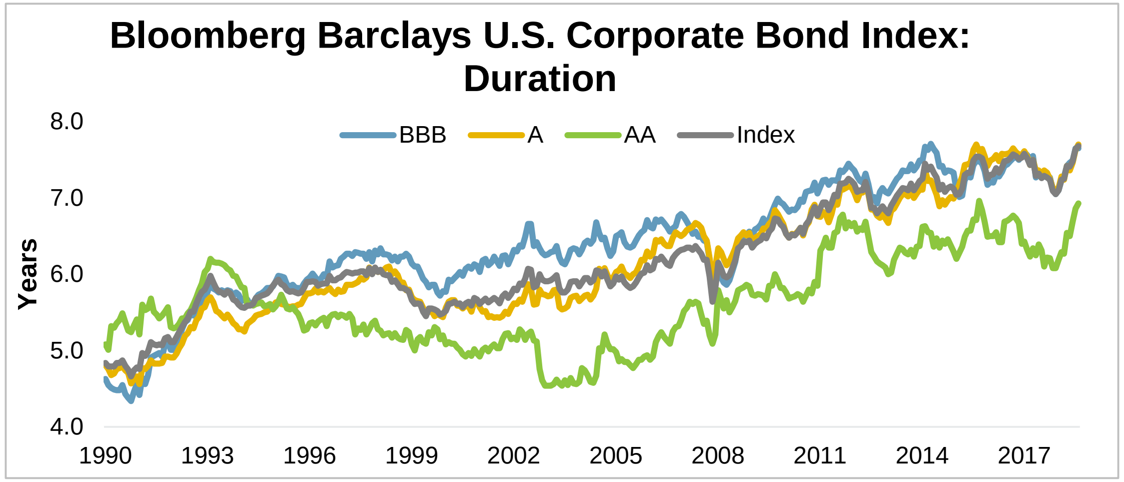


Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

Corporate Sector: Characteristics

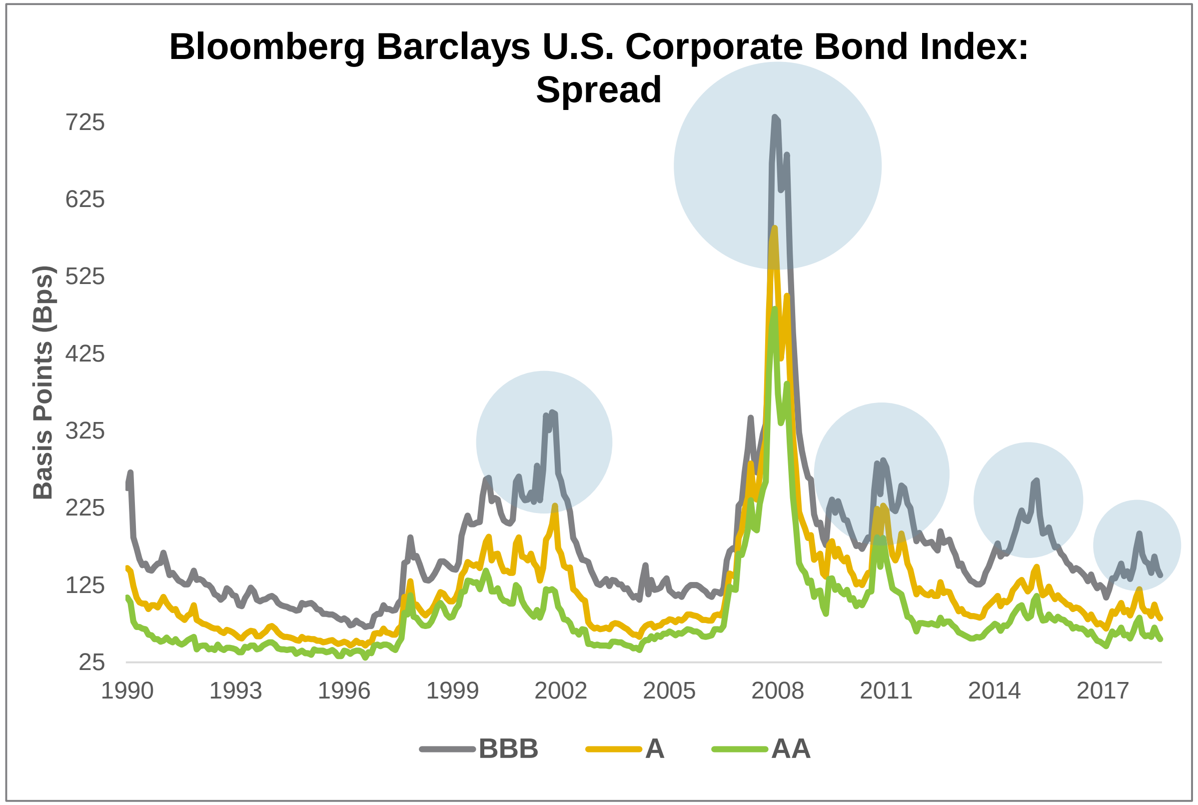


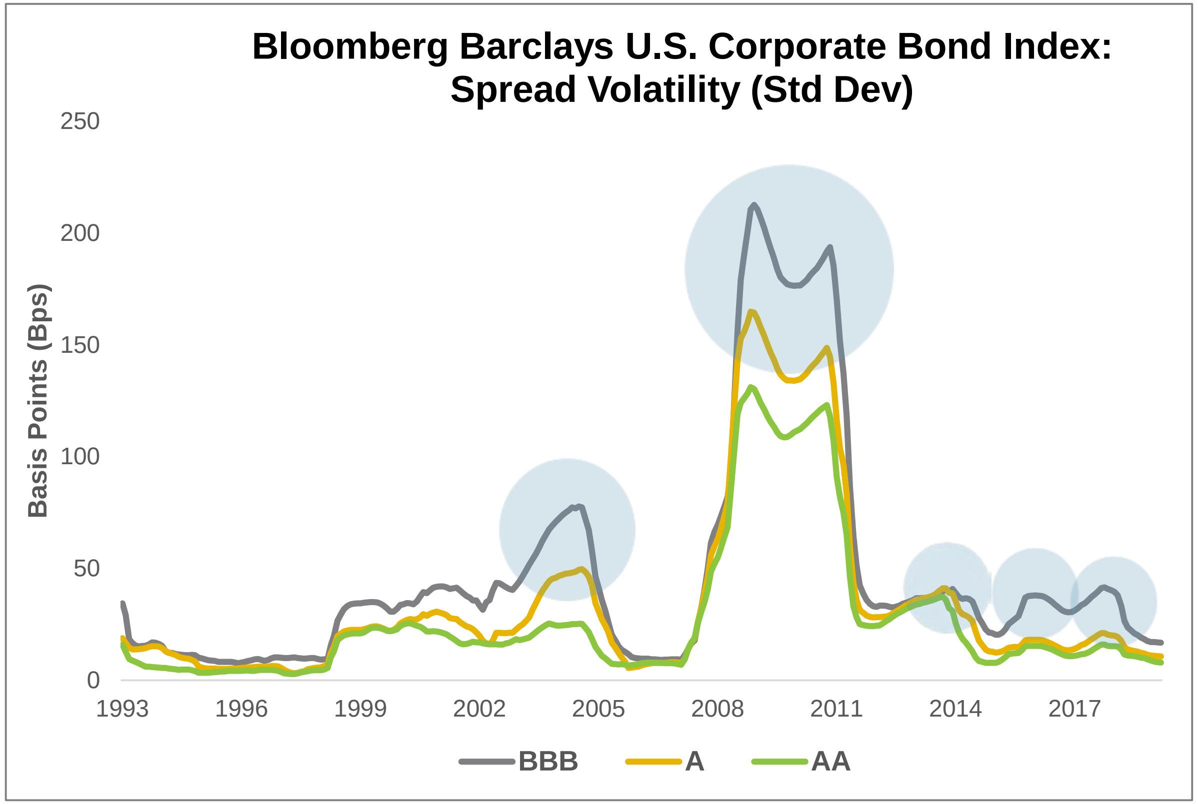




Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

Magnitude and Frequency of Spread Increases





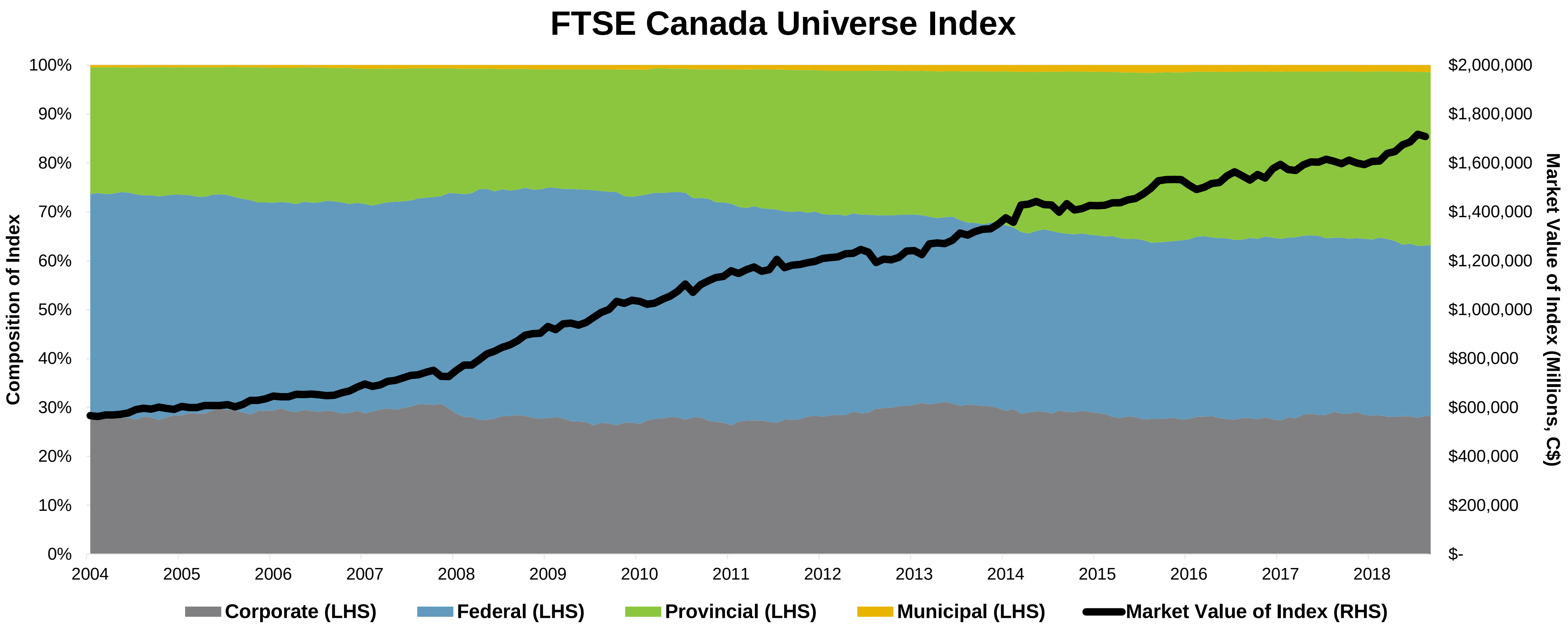
Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

2019 ANNUAL MEETING & EXHIBIT

Evolution of the Canadian Corporate Bond Market

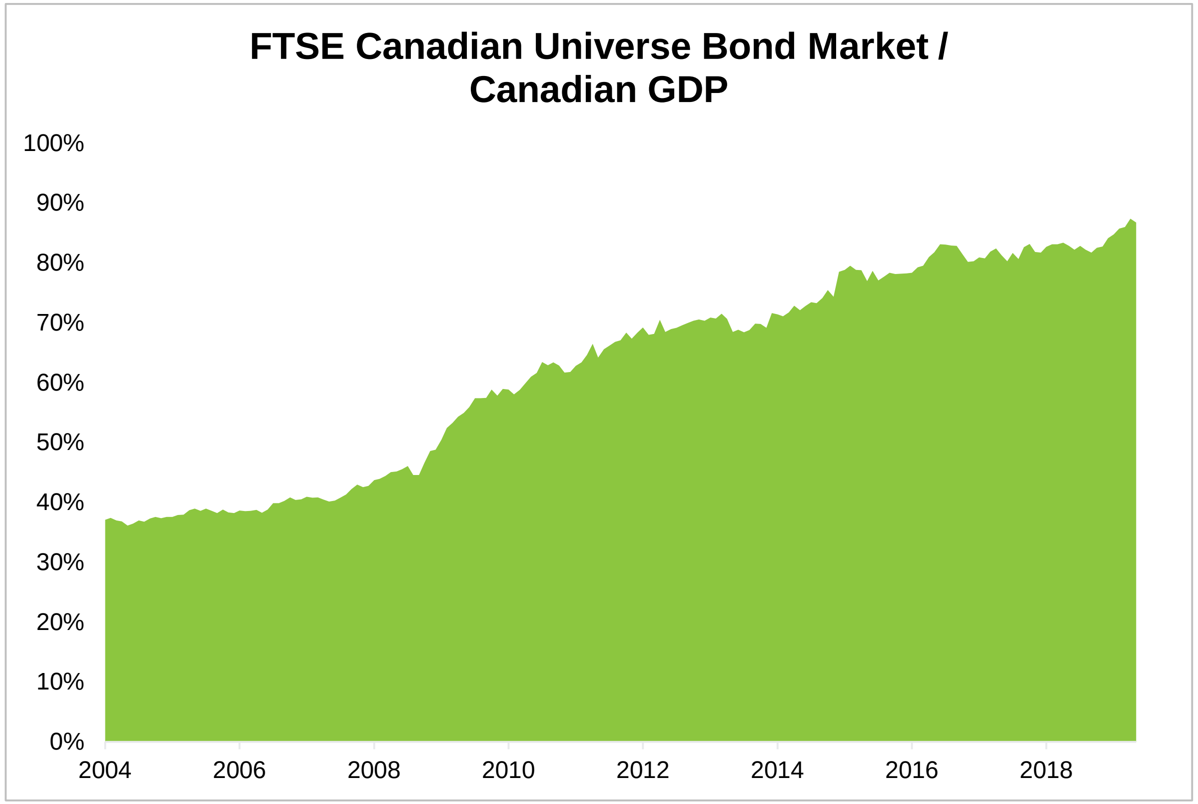
SOCIETY OF ACTUARIES®

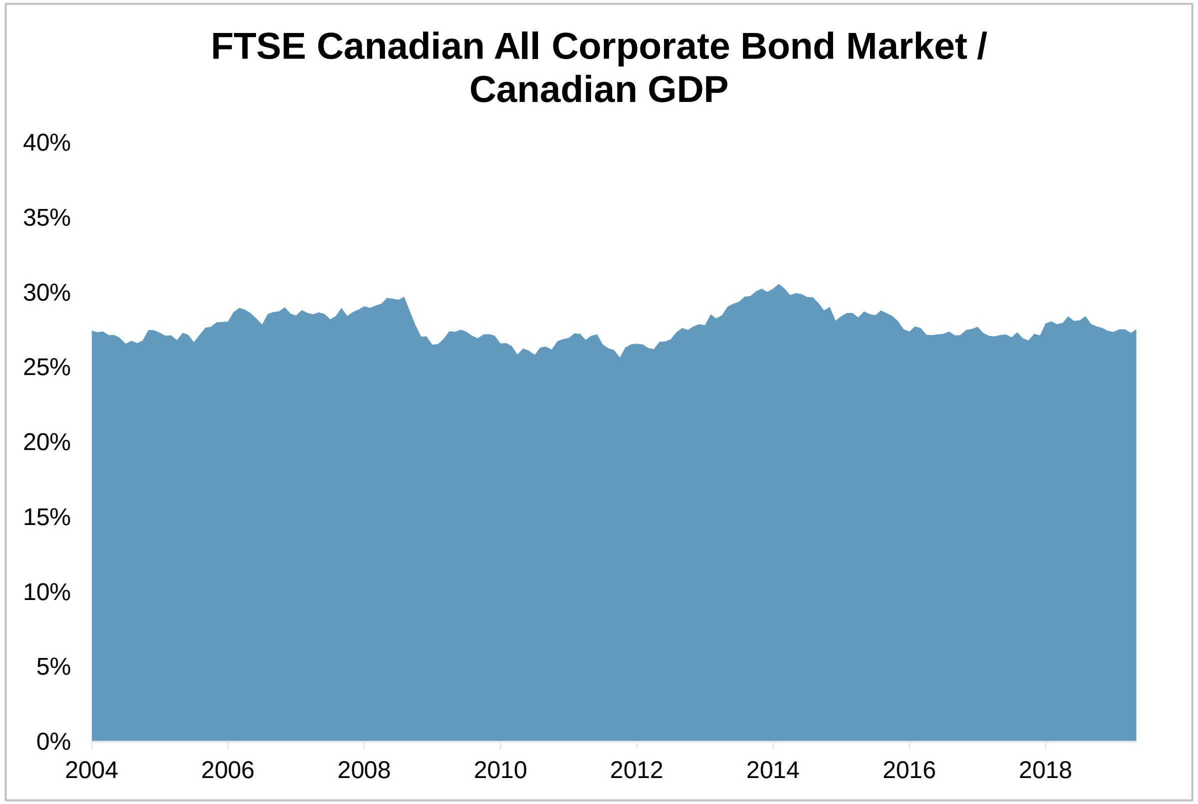
Investment-Grade by Industry Sector



Source: TD Asset Management, Bloomberg Finance L.P. Data as of June 2019.

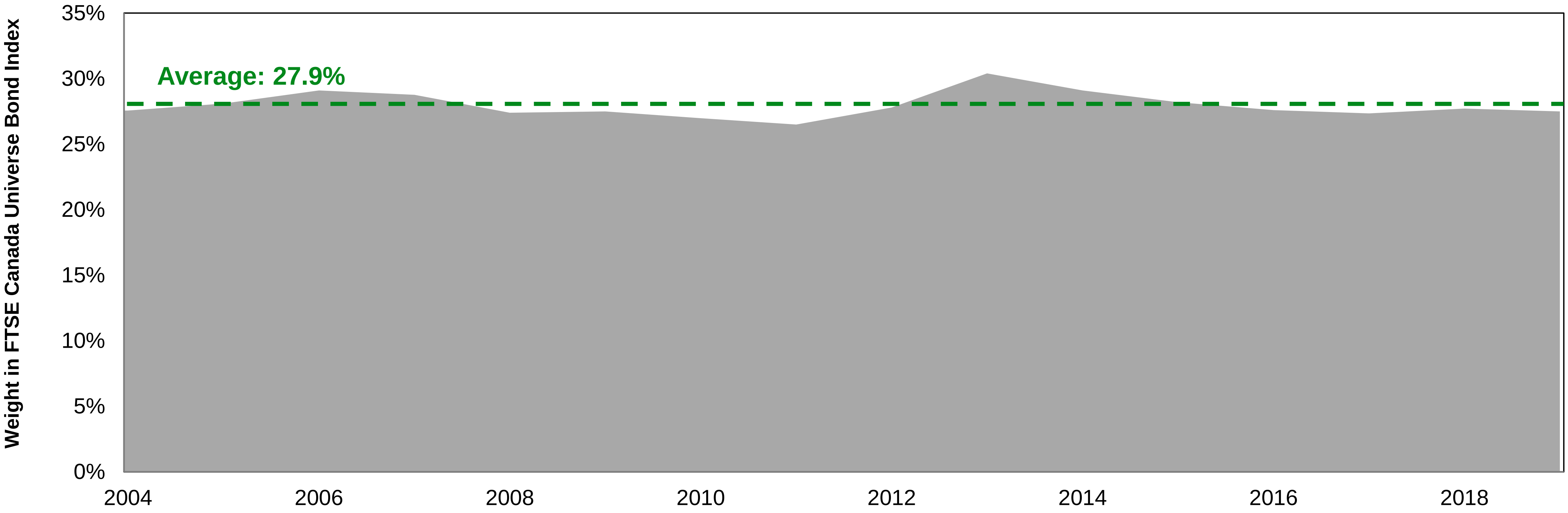
Growth Relative to Canadian GDP





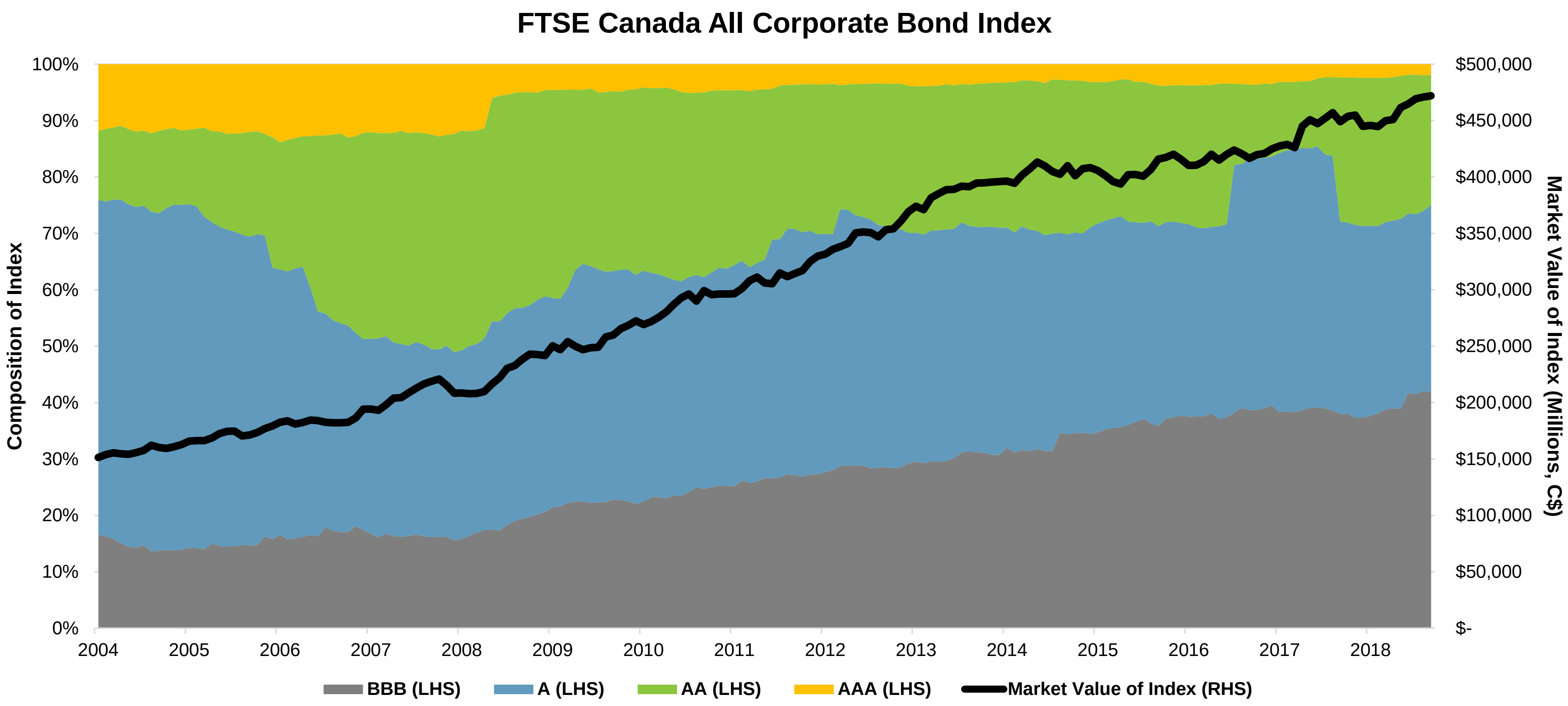
Source: TD Asset Management, Bloomberg Finance L.P. Data as of June 2019.

Corporate Weighting of the Index



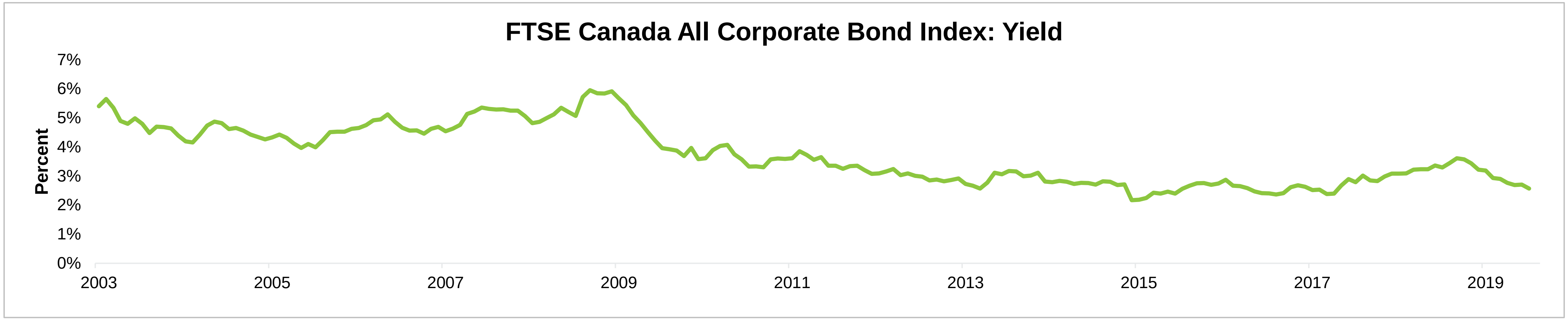
Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

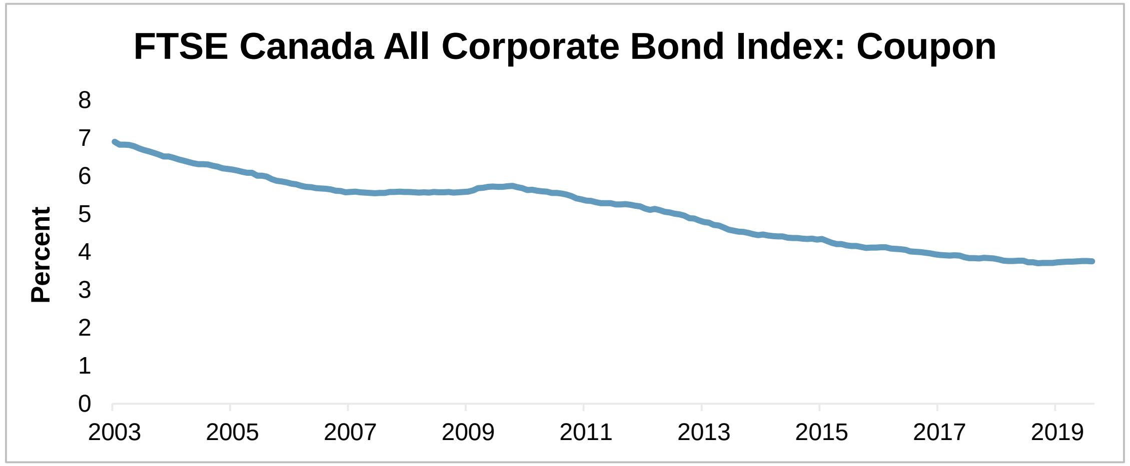
Corporate Sector by Quality



Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

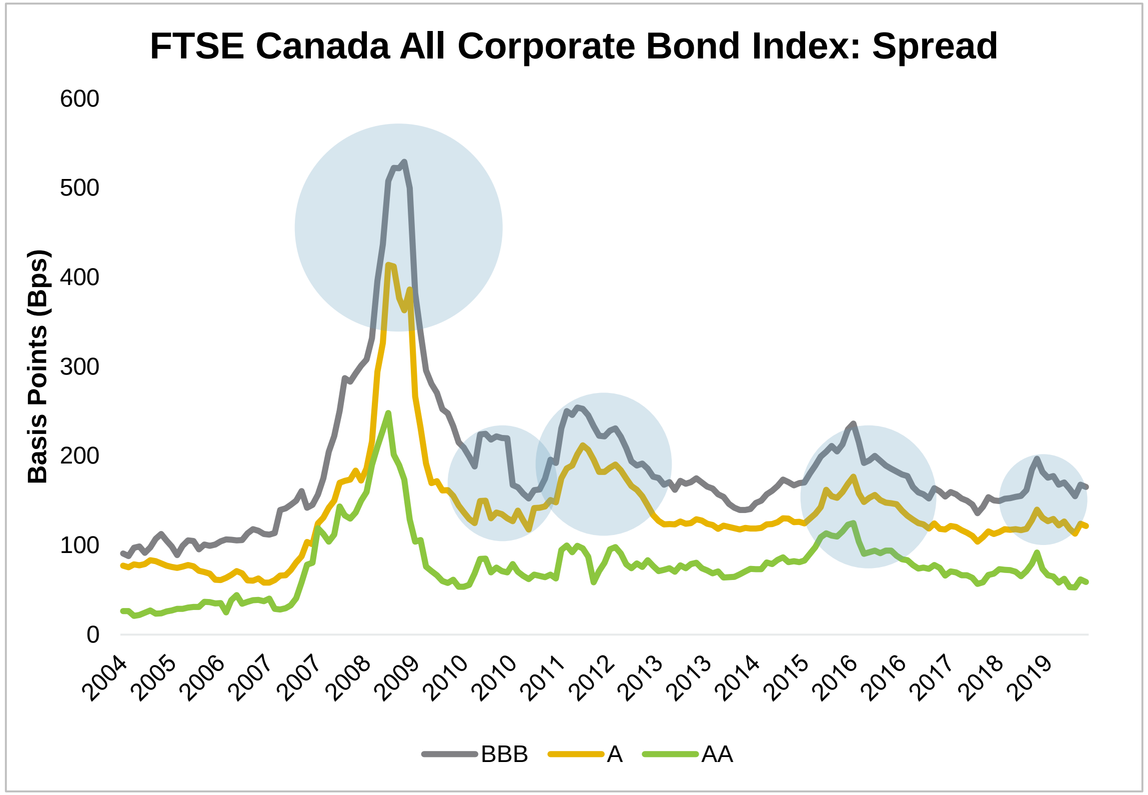
Corporate Sector: Characteristics

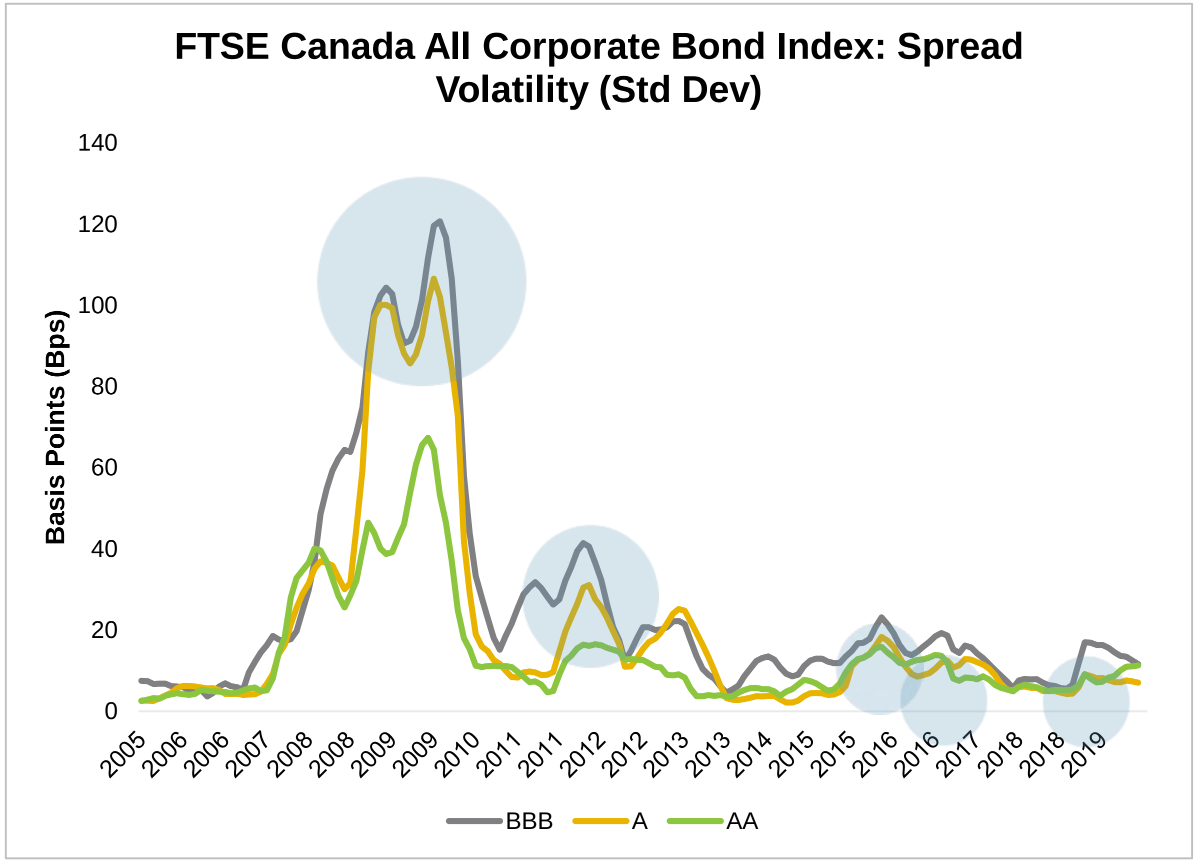




Source: TD Asset Management, Bloomberg Finance L.P. Data as of August 2019.

Magnitude and Frequency of Spread Increases





Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

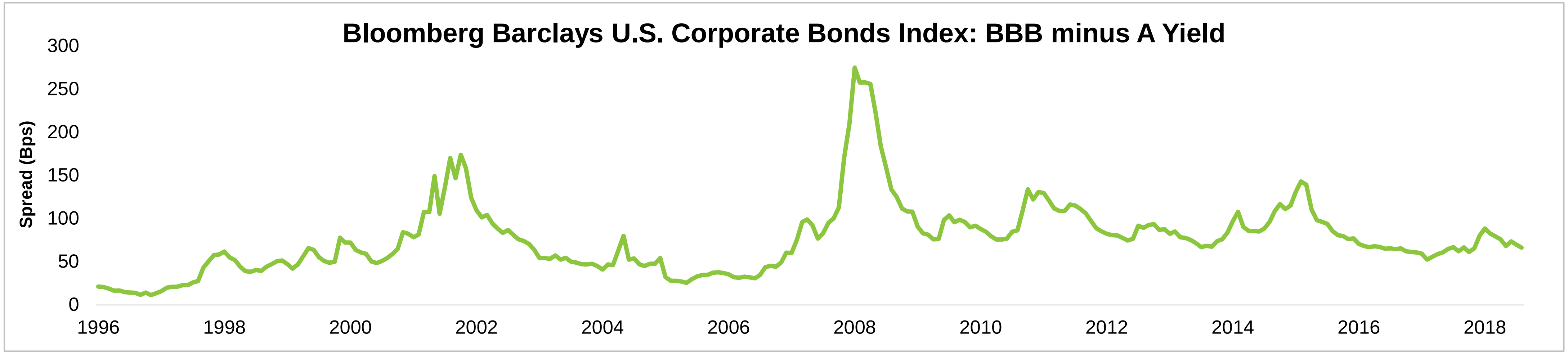
2019 ANNUAL MEETING & EXHIBIT

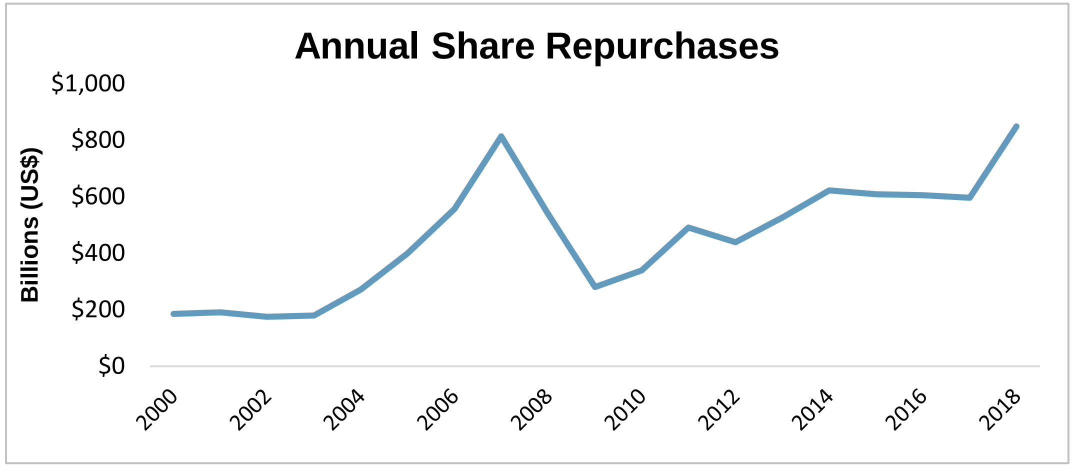
Fundamental Analysis

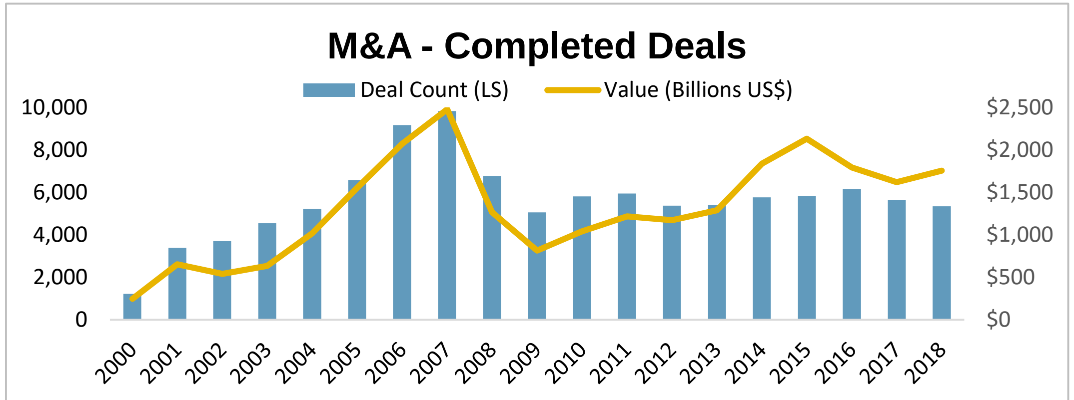
Investment Implications
in the Corporate Space

SOCIETY OF ACTUARIES®

What is Driving the Increase in BBBs



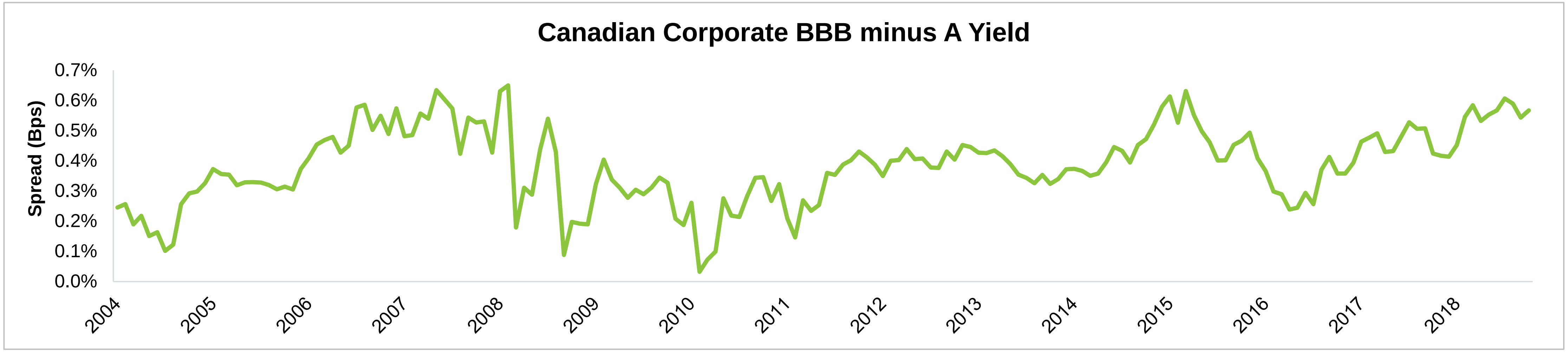


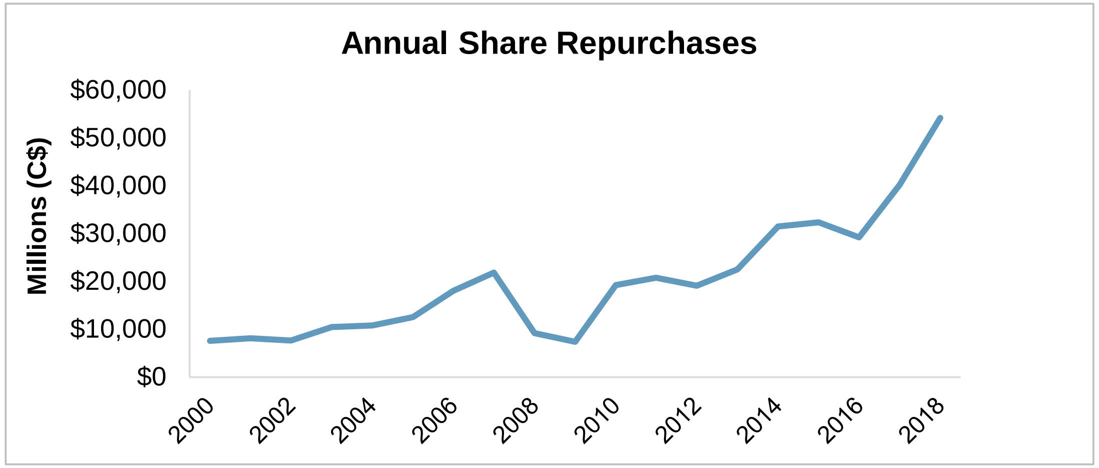


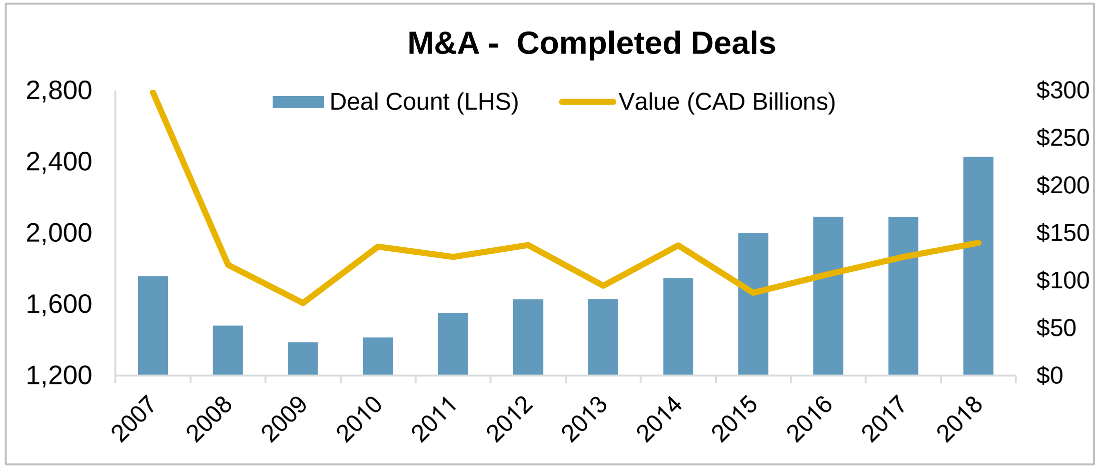
Excludes stock-only deals
Includes: N. America, Western Europe, Eurozone, Asia Pacific (Developed)

Source: TD Asset Management, Bloomberg Finance L.P. Data as of July 2019.

What is Driving the Increase in BBBs







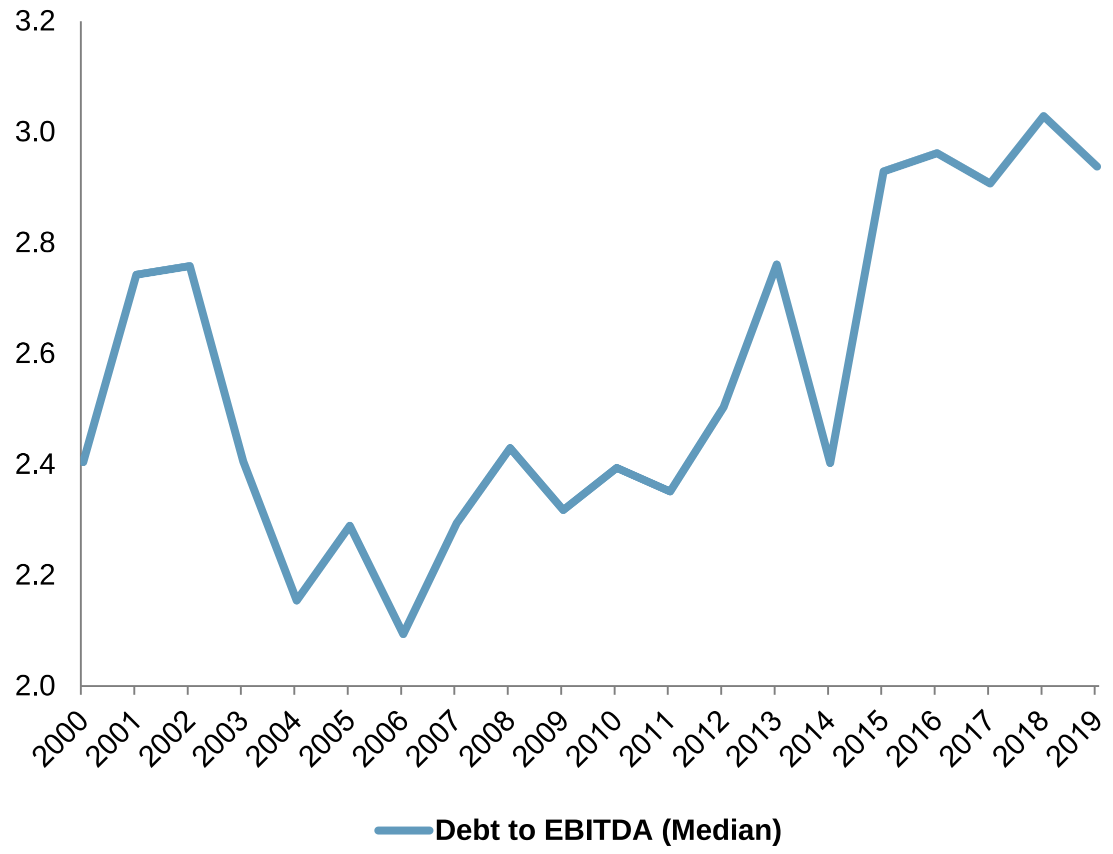
Source: TD Asset Management, Bloomberg Finance L.P. Data as of August 2019.

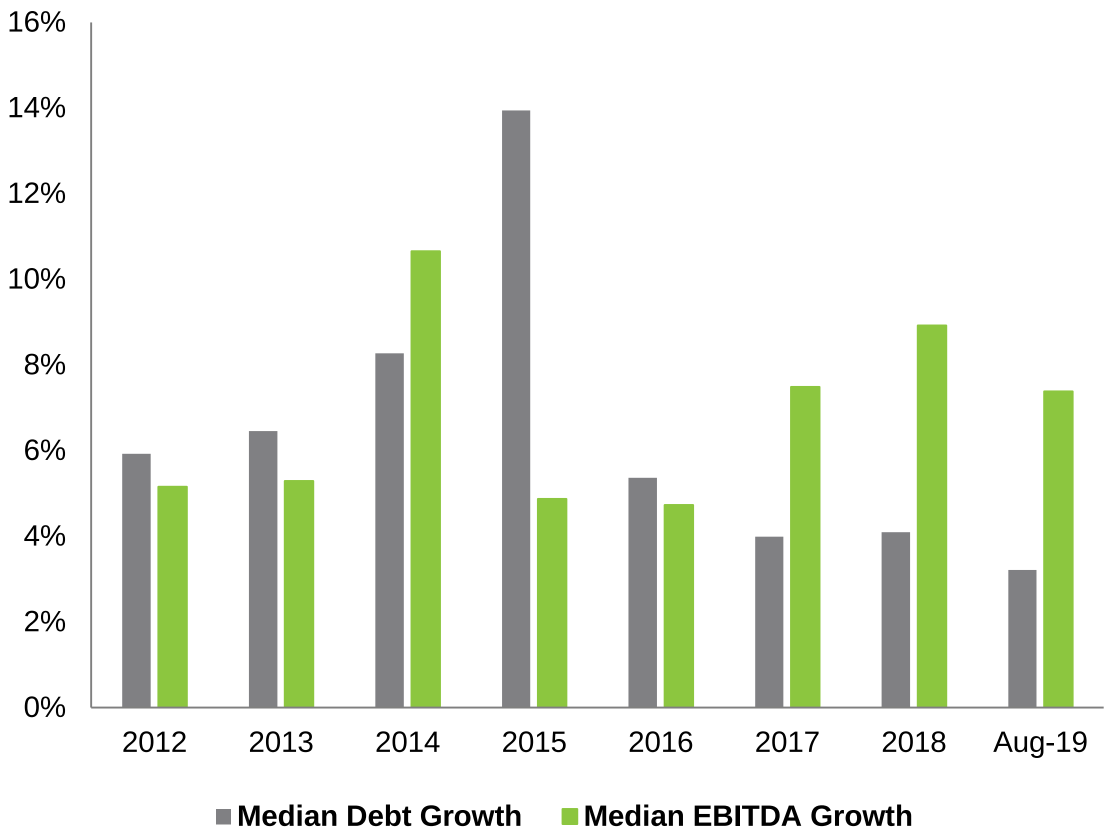
Debt to EBITDA: Threshold Changing

Debt to EBITDA (Adj.)													
Rating	10 Year Change	5 Year Change	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AAA	+0.1	+0.2	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.2
AA	+1.0	+0.9	0.4	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.7	1.1	1.3
A	+0.5	+0.4	1.0	1.0	1.3	1.2	1.2	1.1	1.1	1.1	1.2	1.4	1.5
BBB	+0.7	+0.6	1.7	1.8	1.9	1.9	1.8	1.8	1.8	1.8	2.0	2.2	2.4
BB	+0.7	+0.5	2.5	2.7	2.8	2.7	2.7	2.7	2.8	2.9	3.1	3.2	3.2
B	+2.0	+2.2	3.6	3.3	3.4	3.3	3.5	3.4	3.8	4.2	4.9	5.2	5.6

Source: TD Asset Management, Bloomberg Finance L.P. Data through fiscal year 2017.

Fundamental Analysis Demonstrates that Leverage is High but Improving

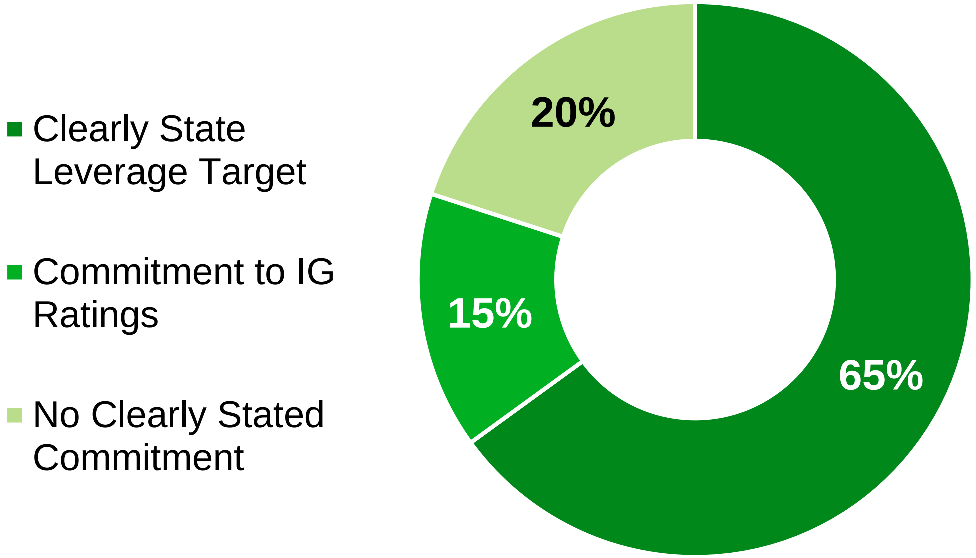




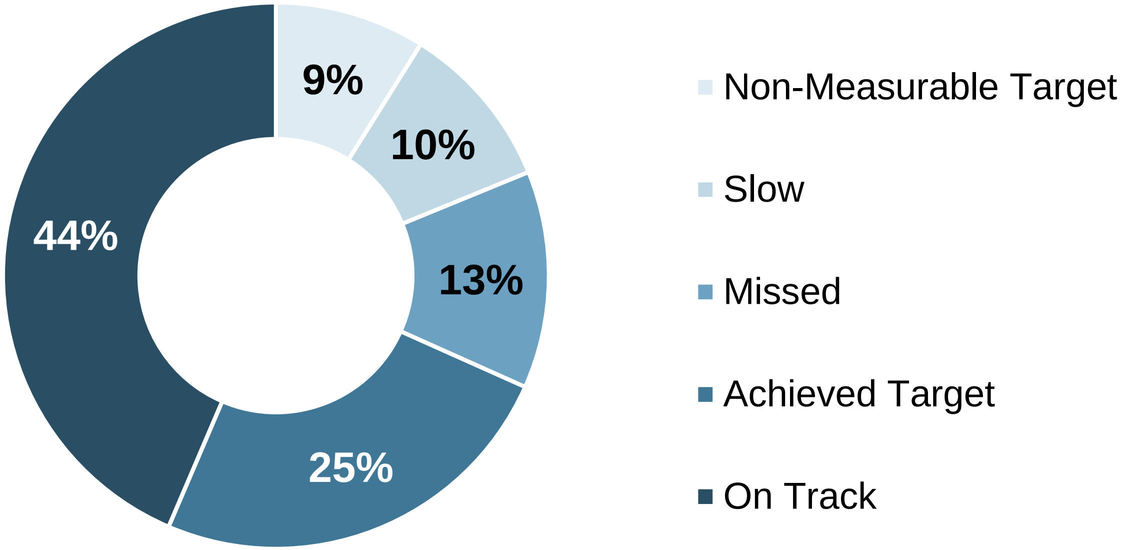
Source: TD Asset Management, Bloomberg Finance L.P. Data as of August 2019.

Clear Deleveraging Commitment Among Majority of BBB Issuers

80% of the top 100 issuers are committed to retaining IG rating



De-leveraging progress broadly on track



Source: TD Asset Management, Bloomberg Finance L.P. Data as of August 2019.

Ongoing Risk Assessments

Risks to Fundamentals

- Ability and/or commitment to de-lever declines among many BBB issuers
- Ratings downgrade pressure on any large BBBs

Macroeconomic Risk

- Large increase in BBB supply
- Higher spread widening than fundamentals warrant
    - Slowdown or recession

Source: TD Asset Management, Bloomberg Finance L.P. Data as of August 2019.

Identifying Opportunities As They Arise

2019 ANNUAL MEETING & EXHIBIT

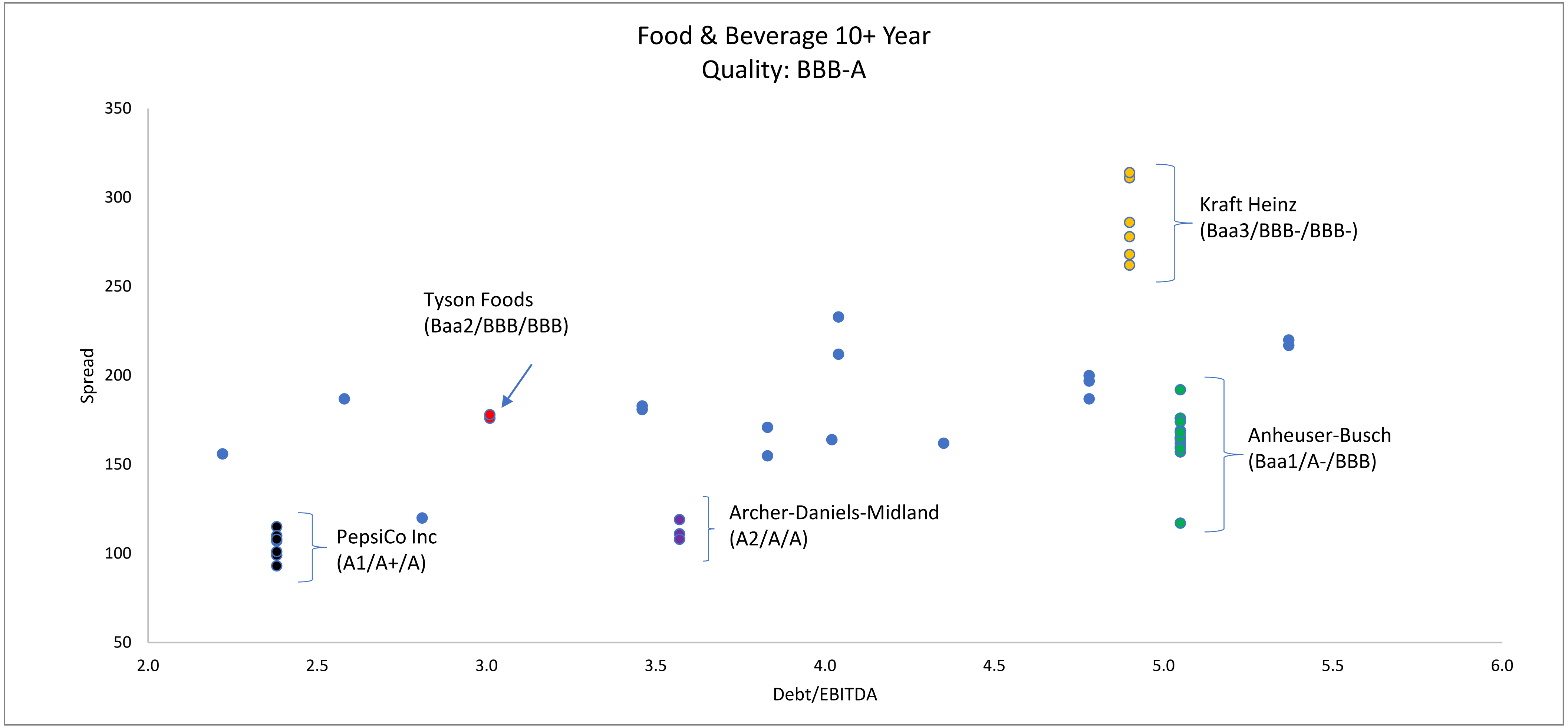
SOCIETY OF ACTUARIES®

Ratings Migration: Top 50 Corporate Issuers (December 2000 to July 2019)

Company Name	% Mkt Value YE 2000	Year End 2000	Year End 2010	July 2019	Company Name	% Mkt Value YE 2000	Year End 2000	Year End 2010	July 2019
Ford Motor Co	4.46	A	CCC	BBB	Raytheon Company	0.76	BBB	A	A
Citigroup Inc	3.42	AA	A	A	Altria Group Inc	0.71	A	BBB	BBB
General Electric Co	1.90	AAA	AA	BBB	FleetBoston Financial Corp	0.69	A	Acquired	
Bank of America Corp	1.90	A	A	A	Chase Manhattan Corp	0.67	A	Acquired	
General Motors Acceptance Corp	1.80	A	Bankrupt		Bear Stearns Co	0.65	A	Bankrupt	
AT&T Inc	1.76	A	A	BBB	BellSouth LLC	0.64	AA	Acquired	
Verizon Communications Inc	1.34	A	A	BBB	International Business Machine	0.58	A	A	A
Household Finance	1.30	A	Acquired		News America Inc	0.57	BBB	Acquired	
Lehman Brothers Holdings Inc	1.24	A	Bankrupt		Dominion Energy Inc	0.55	A	BBB	A
Wells Fargo & Co	1.19	AA	AA	A	Viacom Inc	0.50	BBB	BBB	BBB
Merrill Lynch & Co Inc	1.16	AA	Acquired		Unilever PLC	0.50	A	A	A
Daimler Chrysler	1.14	A	Chrysler Bankrupt		Coca-Cola Enterprises	0.49	A	Acquired	BBB
WorldCom Inc - WorldCom Group	1.11	A	Bankrupt		Boeing Co/The	0.49	A	A	A
Time Warner Inc	1.10	BBB	BBB	Acquired	Goldman Sachs Group Inc/The	0.48	A	A	A
Morgan Stanley	1.06	AA	A	A	Phillips Petroleum	0.47	BBB	Acquired	
Banc One Corp	1.04	A	Acquired		BP PLC	0.47	AA	A	A
First Union Corp	0.96	A	Acquired		JPMorgan Chase & Co	0.46	A	AA	A
Qwest Communications Intl	0.92	BBB	BBB	Acquired	Kroger Co/The	0.46	BBB	BBB	BBB
CIT Group Inc	0.90	A	Bankrupt		Norfolk Southern Corp	0.45	BBB	BBB	BBB
Walmart Inc	0.86	AA	AA	AA	Burlington Northern Santa Fe	0.45	BBB	Acquired	
SBC Communications Inc	0.82	AA	Acquired		Equity Office Properties Trust	0.45	BBB	Acquired	
Deutsche Telekom	0.80	A	BBB	BBB	Sears Roebuck Co	0.45	A	BB	
Lockheed Martin Corp	0.80	BBB	A	A	Texas Utilities	0.45	BBB	CCC	
British Telecommunications PLC	0.77	A	BBB	BBB	Procter & Gamble Co/The	0.44	AA	AA	AA
Sprint Communications Inc	0.76	BBB	BB	B	Telefonica Europe	0.43	A	A	BBB

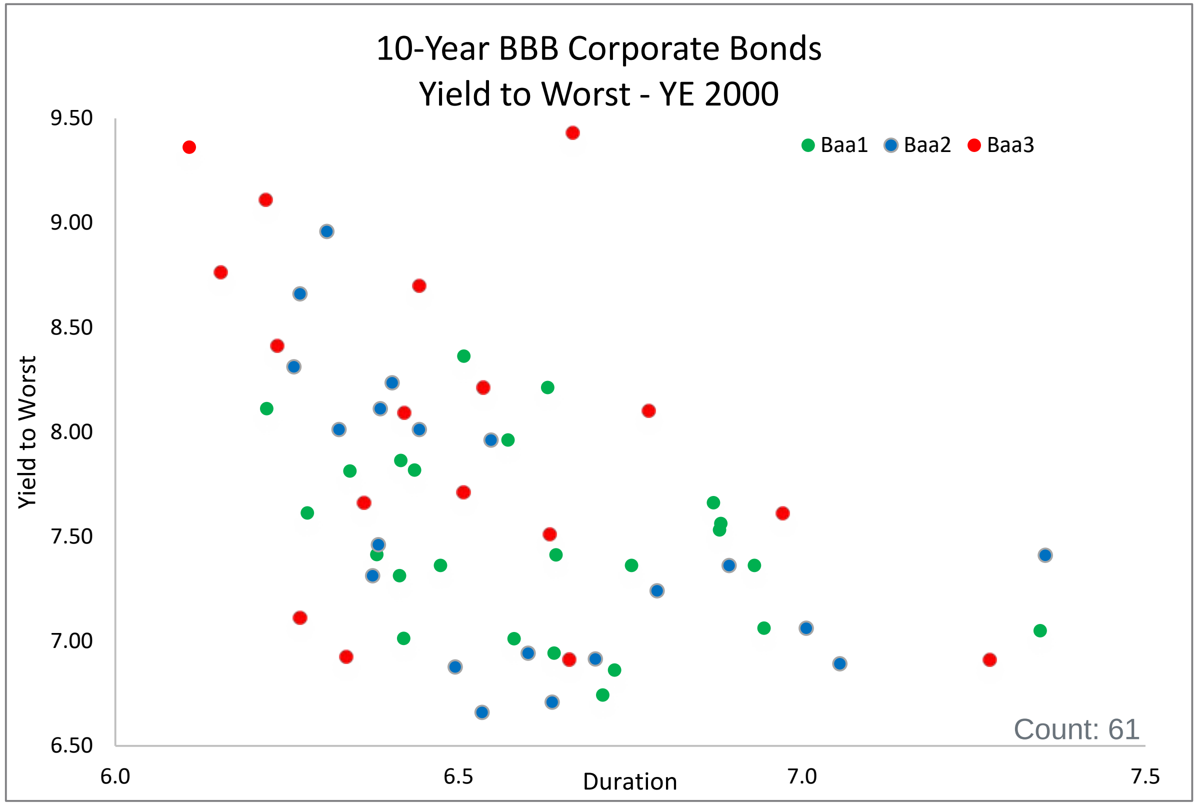
Source: TD Asset Management, ICE BofAML US Corporate Index.

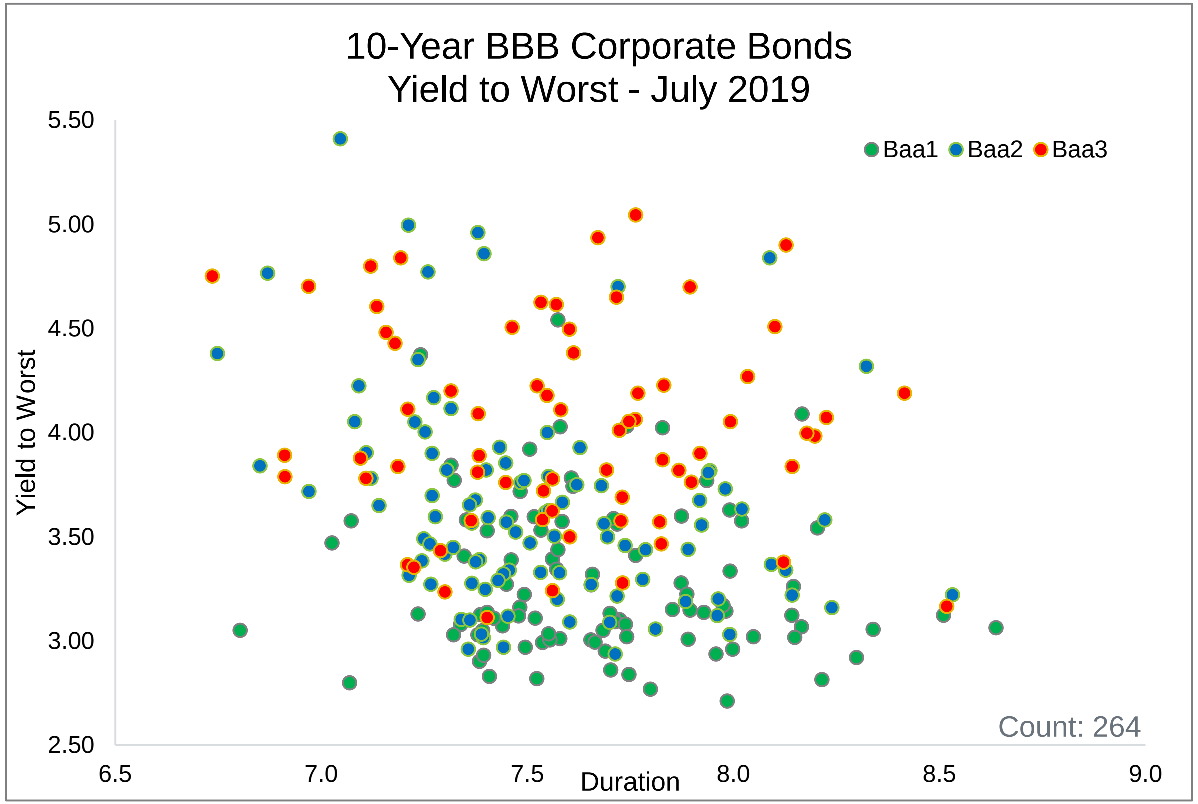
Leverage and Ratings: Large Differences Within the Same Sector



Source: TD Asset Management, Bloomberg Finance L.P. Data as of September 2019.

BBB Sector: More Issuers, Less Yield





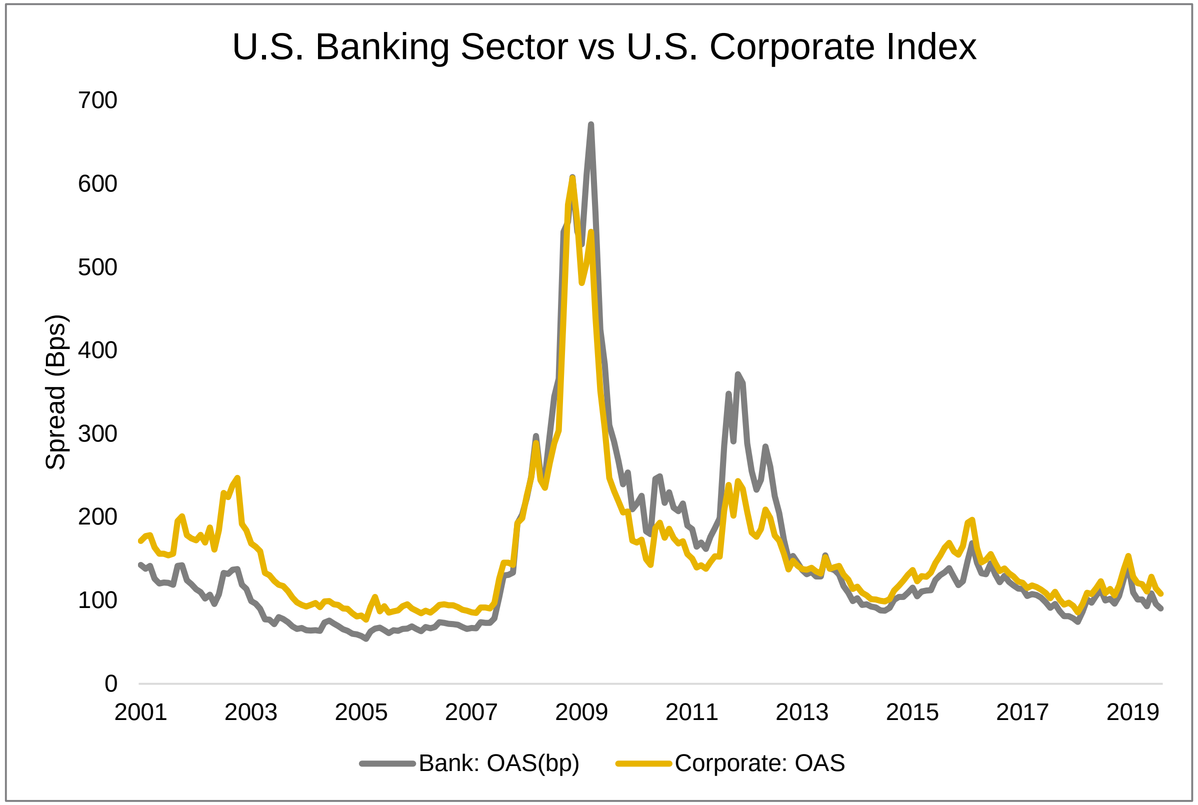
Source: TD Asset Management, Bloomberg Finance L.P. Data as of August 2019.

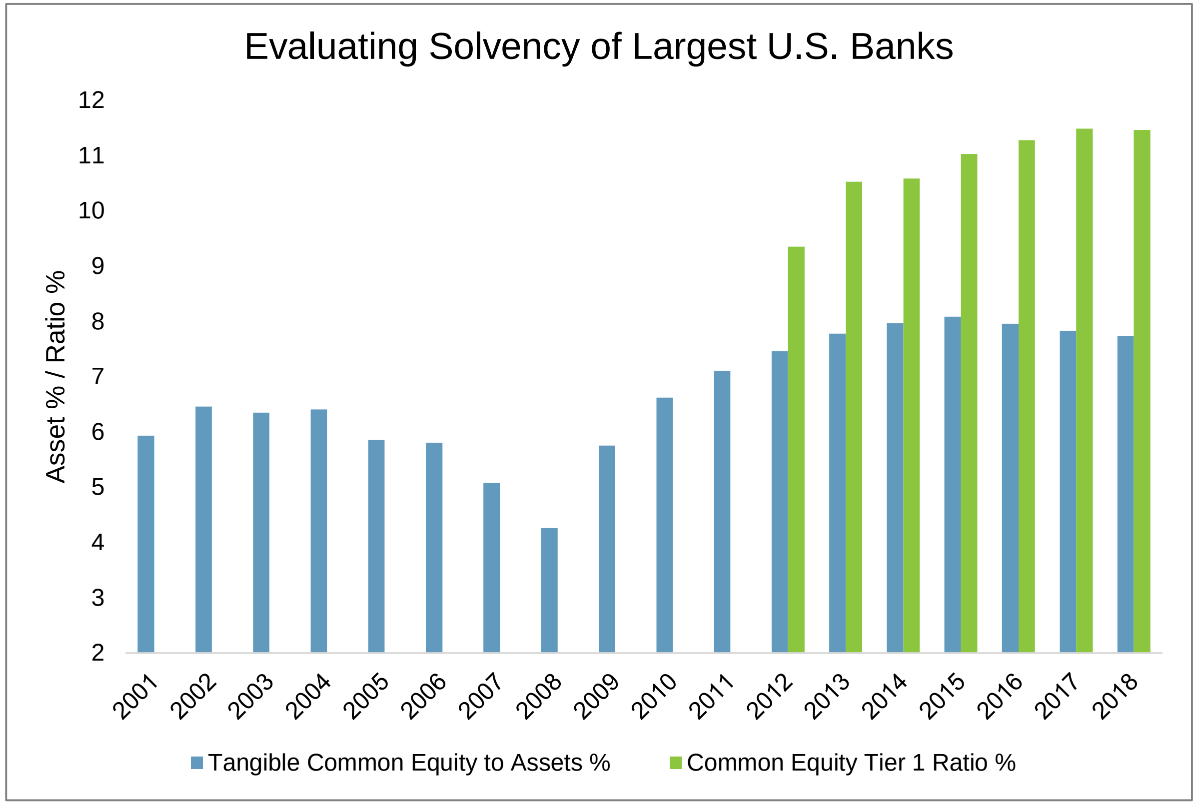
Credit Drivers: Portfolio Manager Assessment

- Leverage
- Credit Metrics
- Quality
- Rank in Capital Structure
- Valuation
- Regulation
- Industry
- Covenant Review

- Product Mix
- Competitive Position
- Stability of Sector / Company
- Volatility of Financials
- Management Team
- Asset Performance
- Stage of the Credit Cycle

Credit Drivers: Regulation and the Banking Sector





Source: Bloomberg Barclay's Index and represents USD bonds. As of July 2019.

2019 ANNUAL MEETING & EXHIBIT

Evolution of the Corporate Bond Market

What does this mean for investors?

SOCIETY OF ACTUARIES®

"Big Picture" Implications for Investors

- Assess various sources of risk and determine appropriate risk posture, both long-term and short-term
- Select investment universe and benchmark based on investment objectives and risk… or consider a benchmark-agnostic approach
- Credit research is more critical than ever
- Consider alternatives or supplements to corporate bonds
- Be nimble

Practical Implications for U.S. Pensions

	SINGLE-EMPLOYER (CORPORATE) PENSIONS	TAFT-HARTLEY AND PUBLIC PENSIONS
Corporate bond market is bigger than ever	Understand relationship between the entire investment grade market and the AA discount rate	Evaluate risk, return, diversification, and liquidity vs. other assets in the portfolio
Corporate bond yields are lower and durations are longer	Ensure that fixed income duration matches the liability hedge target and total portfolio yield is similar to (or greater than) the liability yield	Yield/duration trade-off is less attractive, but longer duration helps diversify equity exposure
The BBB space is growing	Do not paint all BBB's with the same brush Potentially cap, but don't avoid, BBB exposure	
The universe is concentrated but diverse	Diversification is critical Apply active management to avoid defaults and downgrades (and potentially add additional value through credit selection)	

Practical Implications for U.S. Insurance

Corporate bond market is bigger than ever	Evaluate implications of changing NAIC risk-based capital charges
Corporate bond yields are lower and durations are longer	Ensure that fixed income duration matches the expected loss profile Given book yield focus, may need to reach for yield but be mindful of risk
The BBB space is growing	Do not paint all BBB's with the same brush Evaluate BBB exposure in light of changing NAIC risk-based capital charges
The universe is broad but concentrated	Diversification is critical Apply active management to mitigate defaults and downgrades (and potentially select bonds with highest risk-adjusted yield)

Supplements, Not Alternatives, to Corporate Bonds

	PROFILE	PENSION	INSURANCE
High quality securitized assets	Generally low duration Potentially higher yield than A or AA corporates	Limited use, some long-duration CMBS	High use by P/C, limited use by life companies NAIC-1
BB-rated high yield and bank loans	Potential replacement for lower BBB, upgrade potential	Generate higher yield **Not** a duration hedge	Yield, but NAIC-3
Investment grade private credit	Various durations Higher yield due to **lower liquidity**	Generate yield, match cashflows **Is** a duration hedge	Yield NAIC-1 or NAIC-2
Private credit lockup vehicle	**Illiquid**, 6+ year lock-up Potentially much higher yield	Generate yield, match cashflows **Not** a duration hedge	Yield Schedule BA asset

This is an illustrative description of the asset classes presented and their applications to pensions and insurance; actual description and application will depend on the specific security and investment strategy.

Disclosures

TD Asset Management operates through TD Asset Management Inc. in Canada and through TDAM USA Inc. in the United States. TD Asset Management Inc., TDAM USA Inc., Greystone Managed Investments, Inc. and Epoch Investment Partners are wholly-owned subsidiaries of The Toronto-Dominion Bank and comprise the asset management arm of the TD Bank Group. The TD Bank Group means The Toronto-Dominion Bank and its affiliates, who provide deposit, investment, loan, securities, trust, insurance and other products or services.

The information contained herein has been provided by TD Asset Management Inc. and is for information purposes only. The information has been drawn from sources believed to be reliable. Graphs and charts are used for illustrative purposes only and do not reflect future values or future performance of any investment. The information does not provide financial, legal, tax or investment advice. Particular investment, tax, or trading strategies should be evaluated relative to each individual's objectives and risk tolerance.

Certain statements in this document may contain forward-looking statements ("FLS") that are predictive in nature and may include words such as "expects", "anticipates", "intends", "believes", "estimates" and similar forward-looking expressions or negative versions thereof. FLS are based on current expectations and projections about future general economic, political and relevant market factors, such as interest and foreign exchange rates, equity and capital markets, the general business environment, assuming no changes to tax or other laws or government regulation or catastrophic events. Expectations and projections about future events are inherently subject to risks and uncertainties, which may be unforeseeable. Such expectations and projections may be incorrect in the future. FLS are not guarantees of future performance. Actual events could differ materially from those expressed or implied in any FLS. A number of important factors including those factors set out above can contribute to these digressions. You should avoid placing any reliance on FLS.

Index returns are shown for comparative purposes only. Indexes are unmanaged and their returns do not include any sales charges or fees as such costs would lower performance. It is not possible to invest directly in an index.

The TD Mutual Funds/Products (the "Funds/Products") have been developed solely by TD Asset Management Inc. The Funds/Products are not in any way connected to or sponsored, endorsed, sold or promoted by the London Stock Exchange Group plc and its group undertakings (collectively, the "LSE Group"). FTSE Russell is a trading name of certain of the LSE Group companies.

All rights in the FTSE Russell Index/Indices referred to in this document/publication (the "Index/Indices") vest in the relevant LSE Group company which owns the Index/Indices. "FTSE®" "Russell®", "FTSE Russell®", " are trade mark[s] of the relevant LSE Group company and [is/are] used by any other LSE Group company under license. "TMX®" is a trade mark of TSX, Inc. and used by the LSE Group under license.

The Index is calculated by or on behalf of FTSE International Limited or its affiliate, agent or partner. The LSE Group does not accept any liability whatsoever to any person arising out of (a) the use of, reliance on or any error in the Index or (b) investment in or operation of the Funds/Products. The LSE Group makes no claim, prediction, warranty or representation either as to the results to be obtained from the Funds/Products or the suitability of the Index for the purpose to which it is being put by TD Asset Management Inc.

TD Asset Management Inc. is a wholly-owned subsidiary of The Toronto-Dominion Bank.

Disclosures

CAMBRIDGE ASSOCIATES

This document may not be displayed, reproduced, distributed, transmitted, or used to create derivative works in any form, in whole or part, without written permission from Cambridge Associates ("CA"). This document does not represent investment advice or recommendations, nor does it constitute an offer to sell or a solicitation of an offer to buy any securities. Information in this document or on which the information is based may be based on publicly available data. CA considers such data reliable but does not represent it as accurate, complete, or independently verified, and it should not be relied on as such. Nothing contained in this document should be construed as the provision of tax, accounting, or legal advice. Past performance is not indicative of future performance. Broad-based securities indexes are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index. Any information provided in this document is as of the date of the document, and CA is under no obligation to update the information or communicate that any updates have been made. This document has been prepared solely for institutional, professional, or qualified investors. As such, it should not be relied on by any person who would qualify as a retail investor in any jurisdiction or by any person or entity in a jurisdiction where use of this document would be in violation of local law or regulation.

With respect to ERISA prospects and clients, this document contains information about CA's services and is not intended to provide impartial investment advice or to give advice in a fiduciary capacity in connection with your decision to enter into or modify an agreement with CA. In light of the fact that the contents of this document could be construed as fiduciary investment advice under the Department of Labor's fiduciary rule, the following disclosure is required to confirm that certain facts about the recipient of this material are true. To that end, unless you inform us in writing otherwise, we understand and assume that the recipient of this information is a sophisticated fiduciary since you are (a) a fiduciary of your ERISA plan(s) that is responsible for exercising independent judgment in evaluating the decision to enter into an agreement with CA; (b) capable of evaluating the decision to engage CA and to make any decisions pursuant to or in accordance with your agreement with CA; (c) a registered investment adviser, a broker-dealer, insurance carrier, a bank, or an independent fiduciary that has at least $50 million in total assets under management or control (within the meaning of the DOL Regulation §2510.3-21(c)(1)(i)); and (d) not affiliated with CA and do not otherwise have a relationship with CA that would affect your best judgment as a fiduciary in connection with your decisions to enter into an agreement with CA and any decisions made pursuant to or in accordance with such agreement.

The terms "CA" or "Cambridge Associates" may refer to any one or more CA entity including: Cambridge Associates, LLC (a registered investment adviser with the US Securities and Exchange Commission, a Commodity Trading Adviser registered with the US Commodity Futures Trading Commission and National Futures Association, and a Massachusetts limited liability company with offices in Arlington, VA; Boston, MA; Dallas, TX; Menlo Park, CA, New York, NY; and San Francisco, CA), Cambridge Associates Limited (a registered limited company in England and Wales, No. 06135829, that is authorized and regulated by the UK Financial Conduct Authority in the conduct of Investment Business, reference number: 474331); Cambridge Associates Limited, LLC (a registered investment adviser with the US Securities and Exchange Commission, an Exempt Market Dealer and Portfolio Manager in the Canadian provinces of Alberta, British Columbia, Manitoba, Newfoundland and Labrador, Nova Scotia, Ontario, Québec, and Saskatchewan, and a Massachusetts limited liability company with a branch office in Sydney, Australia, ARBN 109 366 654), Cambridge Associates Investment Consultancy (Beijing) Ltd (a wholly owned subsidiary of Cambridge Associates, LLC which is registered with the Beijing Administration for Industry and Commerce, registration No. 110000450174972), and Cambridge Associates Asia Pte Ltd (a Singapore corporation, registration No. 200101063G, which holds a Capital Market Services License to conduct Fund Management for Accredited and/or Institutional Investors only by the Monetary Authority of Singapore).