

# Perspectives

NOVEMBER 2018

OUR VIEW ON INSURANCE CAPITAL MANAGEMENT TOPICS

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## Managing the New World Order: P&C Investment Highlights

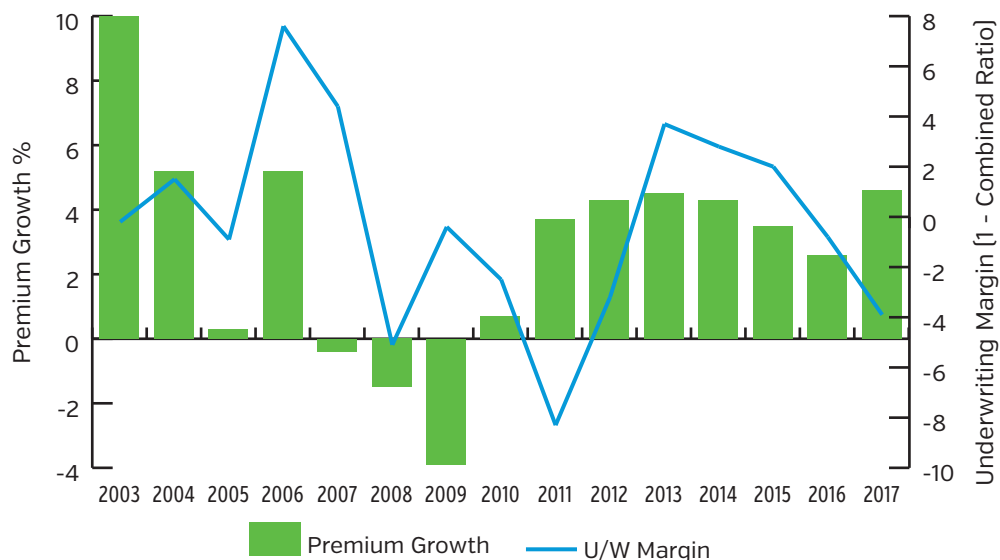
Insurance industry data can tell us much about where we've been but for a keen investor, it can help lead us to where we should be going. What insights, challenges and opportunities can be gleaned from the recent data? Are you ready for the future in a new world order?<sup>1</sup>

### FINANCIAL HIGHLIGHTS

#### Recent History and Trends

Recent premium growth for the property and casualty insurance industry has been hovering at 4% as the underwriting margin continues to show volatility and returned to unprofitable levels.

**Chart 1. Property and Casualty Premium Growth and Underwriting Margin**



Source: NEAM, S&P Global Market Intelligence

In the overview of industry financial results below, Return on Equity (ROE) remains in the low to mid single digits. Capital and surplus continues to increase despite steady capital withdrawals. Operating leverage declines to a new low reflecting these increases and trailing premium growth. And, despite robust asset growth which leads to declining investment leverage, investment earnings are significantly less than pre-crisis levels as yields remain at record lows.

**Chart 2. Reported Industry Financial Results**

Metrics (\$B)	2003	2006	2011	2016	2017
Net Premiums Written	\$404.3	\$448.9	\$442.0	\$534.0	\$558.3
Combined Ratio %	100.2	92.4	108.3	100.8	103.9
Investment earnings	39.7	53.1	50.9	47.5	49.7
Pre-tax Operating Income	34.2	85.4	15.6	43.1	20.2
Net Income	30.0	66.4	20.1	44.3	40.6
Return on Average Equity %	9.5	14.3	3.6	6.3	5.5
Underwriting Cash Flow	40.7	50.4	-27.6	18.2	3.6
Cash From Operations	73.4	90.3	19.6	58.8	53.6
Total Cash and Investments	959.6	1,230.8	1,341.9	1,587.5	1,691.0
Affiliated Investments	62.5	88.1	138.2	185.8	203.4
Total Loss/UPR Reserves	607.7	728.5	805.6	869.7	903.7
Capital and Surplus	355.2	497.1	560.3	712.2	765.3
Net Capital Contributions	9.7	-21.6	-25.9	-28.8	-48.4
<b>Leverage</b>					
Premium/Capital	1.14	0.90	0.79	0.75	0.73
Invested Assets/Capital	2.70	2.48	2.39	2.23	2.21
Affiliated Investments/Capital %	17.6	17.7	24.7	26.1	26.6

Source: NEAM, S&P Global Market Intelligence

## UNDERWRITING MARKET LEADERS

Against this backdrop of modest industry aggregate results there are underwriting market leaders that consistently outperform industry averages (see Chart 3). When compared to industry-wide averages, these insurers achieve superior results in these key criteria:

- Combined ratio
- Combined ratio volatility
- Premium growth

**Chart 3. Industry Market Leaders in Underwriting Performance**

Company/Group		2017 NWP (\$B)	Company/Group		2017 NWP (\$B)
1.	Berkshire	46.01	9.	West Bend	1.09
2.	Progressive	27.13	10.	Navigators	0.94
3.	Auto-Owners	6.69	11.	Secura Mutual	0.57
4.	Tokio Marine	6.66	12.	Vermont Mutual	0.42
5.	Cincinnati	4.84	13.	Brotherhood Mutual	0.36
6.	Markel	2.85	14.	Ocean Harbor	0.27
7.	Selective	2.37	15.	Ohio Mutual	0.22
8.	Acuity Mutual	1.37	16.	Pioneer State	0.21

Source: NEAM, S&P Global Market Intelligence

Chart 4 compares market leaders' underwriting results to industry aggregates for the last 20-year, 10-year and 5-year periods. Across the board the results are impressive, displaying stark differences to industry wide results.

**Chart 4. Industry Market Leaders Group Average Compared to Industry Aggregates**

Cohort	Premium Growth			Combined Ratio [Average]			Combined Ratio [Volatility]		
	20-Year	10-Year	5-Year	20-Year	10-Year	5-Year	20-Year	10-Year	5-Year
Industry Leaders	7.7%	6.0%	8.0%	97.2	95.8	94.0	6.6	4.8	2.9
Industry Average	5.7%	4.3%	5.0%	102.1	100.5	99.7	18.3	14.6	10.8
Industry Median	4.8%	3.2%	4.6%	100.8	99.6	98.7	10.1	8.2	6.0

Source: NEAM, S&P Global Market Intelligence. Periods ending 12/31/17

Market leaders are well-positioned with their superior underwriting results which *most often* drive favorable enterprise ROE performance and support for favorable A.M. Best ratings, as shown in story book Charts 5 to 8 below.

**Chart 5. Average Combined Ratio vs. Combined Ratio Volatility**



Source: NEAM, S&P Global Market Intelligence as of 12/31/17

**Chart 6. Asset Returns vs. Total Return Volatility**



Source: NEAM, S&P Global Market Intelligence as of 12/31/17

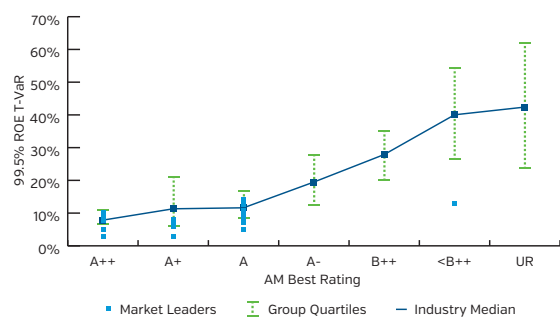
**Chart 7. ROE and Estimated ROE T-VaR [% of Capital]**



Source: NEAM, S&P Global Market Intelligence as of 12/31/17

\* Lesser of 15 years or inception of the entity

**Chart 8. Estimated ROE T-VaR and A.M. Best Rating**



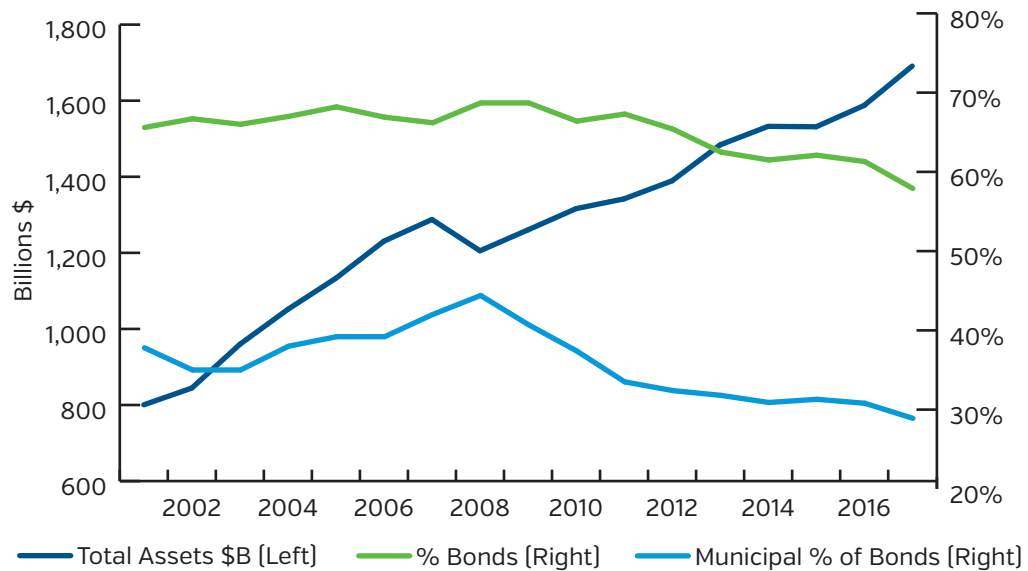
Source: NEAM, S&P Global Market Intelligence as of 12/31/17

## INVESTED ASSETS

### Key Trends to Watch

Within the realm of invested assets, the most notable trends are the declining [municipal] bond allocation and the growth of affiliated “alternative” [Schedule BA] assets. Chart 9 below specifically addresses Schedule D and [municipal] bond holdings as a percent of total invested assets. Within the last two decades, total bonds and municipal bonds peaked in 2008, however, the decline has been most severe for municipals. While whereas the decreasing municipal allocation was widely spread across the industry, four companies accounted for 100 percent of the *net* decline with one of these for very apparent underwriting loss reasons.

**Chart 9. Total Invested Assets and Bond Holdings Percentages**



Source: NEAM, S&P Global Market Intelligence

Municipal bonds historically have been favored heavily by those companies with superior underwriting results, as shown in Chart 10. These same companies further demonstrate their commitment to municipal securities by owning longer dated bonds taking advantage of the historically more dominant relative value for longer dated municipal bonds.

**Chart 10. 2010 and 2017 Tax-Exempt Municipal Bond Share of Fixed Income Assets and Duration**

Exempt Muni % Fixed Income	# Companies		Exempt Avg. %		3-Year Combined Ratio		Duration [OAD]	
	2010	2017	2010	2017	2010	2017	2010	2017
0%	85	91	0.0%	0.0%	112.1	101.9	-	-
0%-10%	74	75	3.2%	3.4%	100.8	105.2	6.09	5.37
10%-25%	75	94	17.7%	17.7%	98.8	100.5	6.67	6.30
25%-50%	148	143	36.6%	37.0%	98.7	97.2	6.90	6.35
<b>50%-75%</b>	<b>62</b>	<b>47</b>	<b>60.3%</b>	<b>60.6%</b>	<b>95.8</b>	<b>95.9</b>	<b>7.16</b>	<b>7.49</b>
75%-100%	27	22	88.3%	88.9%	93.4	93.6	7.65	6.97
<b>Total</b>	<b>471</b>	<b>472</b>	<b>37.7%</b>	<b>29.8%</b>	<b>100.8</b>	<b>100.1</b>	<b>7.07</b>	<b>6.82</b>

Source: NEAM, S&P Global Market Intelligence, Reuters, ICE BAML Global Index System, Bloomberg

Chart 11 below highlights the impact of recent tax law changes upon municipal and taxable bonds of comparable credit quality and duration. The changes have significantly lessened the after-tax return advantages of tax-exempt municipal bonds. However, their relative low volatility advantage actually increases in the lower tax rate environment. *Net-net*, widespread municipal ownership—even among underwriting leaders—will be challenged by tax law economics and further aggravated as interest rates increase as we will demonstrate in our final section.

**Chart 11. ICE BAML Municipal UOTO and Broad Market DOAO Return and Risk Metrics**

Metrics/Period	35% Tax Environment		21% Tax Environment	
	UOTO Municipals	DOAO U.S. Broad	UOTO Municipals	DOAO U.S. Broad
1990 - 2017				
Total Return (After-Tax)	4.88	4.03	4.94	4.89
Risk [StDev, After-Tax]	2.58	3.16	3.03	3.84
Duration	4.86	4.91	4.86	4.91
Credit Quality % AAA-AA/A/BBB	73/23/4	75/11/14	73/23/4	75/11/14
Total Return 99.5 VaR	3.45	5.51	4.55	6.70

Source: NEAM and ICE BAML Global Index System

The distinction between “affiliated” and “unaffiliated” invested assets can be crucial when examining asset allocations. Affiliated assets can include captive distribution systems or 100 percent owned railroads. Unaffiliated assets are arms-length investments most often in publicly traded securities and requiring less (preventing) operational involvement.

Chart 12 displays these distinctions across broad asset categories. The asset share for affiliated and unaffiliated bonds and equities had similar directional change: bonds declining and equities increasing. However, whereas Schedule BA (“alternatives”) affiliated assets increased significantly, unaffiliated assets actually declined lessening the relevance of the folklore of widespread alternative asset ownership.

**Chart 12. Broad Sector Allocation by Affiliated and Unaffiliated Categorization**

Broad Sector Distribution	2003		2017	
	Including Affiliates	Excluding Affiliates	Including Affiliates	Excluding Affiliates
Bonds	66.0%	70.3%	57.9%	65.6%
Equities	19.7%	15.3%	24.5%	21.8%
<b>Schedule BA</b>	<b>3.8%</b>	<b>3.5%</b>	<b>8.9%</b>	<b>2.9%</b>
Cash/Short-Term	9.3%	9.9%	6.9%	7.7%
Property/Other	1.2%	1.3%	1.8%	2.0%
Total	100%	100%	100%	100%

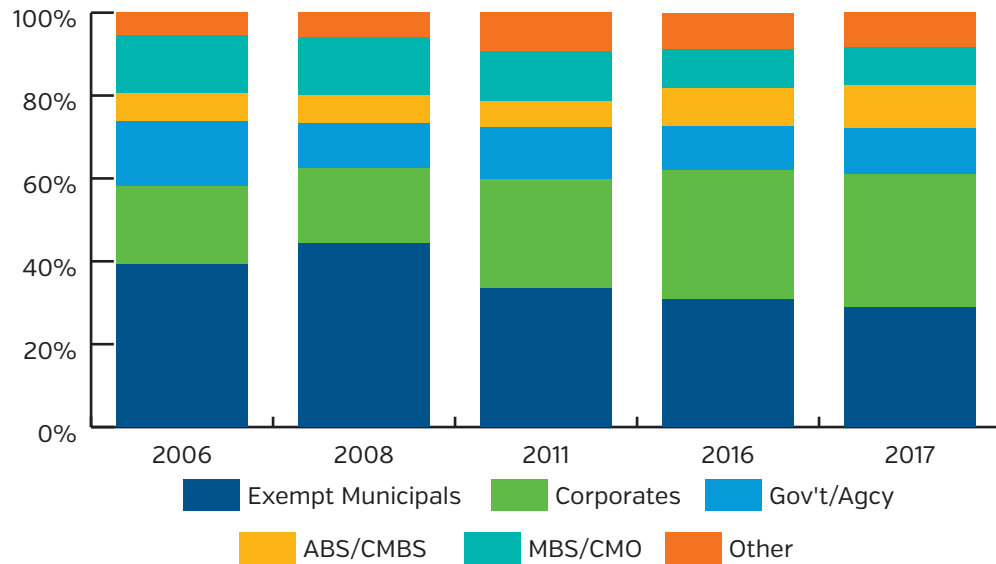
Source: NEAM, S&P Global Market Intelligence

## FIXED INCOME

### Sector Allocation – An Evolving Landscape

Within fixed income, the municipal allocation peaked in 2008. Corporates were the greatest “winner,” and structured securities (ABS/CMBS and MBS/CMO) were a wash [Chart 13].

**Chart 13. Fixed Income Sector Allocation**



Source: NEAM, S&P Global Market Intelligence

Taxable municipals gained (and have retained) fixed income share within the increasing “other” category as shown in Chart 14. Their ownership is broad based. Holdings among the remaining categories ebb and flow and are less broadly owned.

**Chart 14. “Other” Fixed Income Sector Allocations**

Sector	2006	2008	2011	2016	2017
Taxable Municipals	0.7%	1.0%	3.0%	3.2%	3.2%
Foreign Securities	1.1%	1.9%	2.5%	1.2%	1.4%
Preferreds/Equities	0.0%	0.0%	0.0%	0.4%	0.7%
Privates	1.8%	2.3%	3.0%	2.9%	2.3%
Unknown Identifiers	1.6%	0.8%	0.7%	1.2%	0.7%
<b>Grand Total</b>	<b>5.4%</b>	<b>6.0%</b>	<b>9.3%</b>	<b>8.9%</b>	<b>8.3%</b>

Source: NEAM, S&P Global Market Intelligence

### Book Yield and Option Adjusted Duration

The fixed income overall book yield declined 160 bps from 2006 to 2017. The book yield for taxable bonds exceeds the municipal exempt yield, reversing the 2012 to 2015 municipal average advantage of 20 bps. Taxable bonds book yield declined more than 180 bps while municipal bond yields decline was less than 120 bps. The differential was due to changes in market yield and a greater portion of taxable bonds maturing in the declining rate environment because of lower duration purchases and a lowering of taxable credit quality.

**Chart 15. Fixed Income Book Yield**

Sector	2006	2008	2011	2016	2017
Gov't/Agcy	4.64	3.81	2.44	1.81	1.94
Corp	5.53	5.82	4.69	3.68	3.58
ABS/CMBS	5.08	5.18	4.11	2.97	3.03
MBS/CMO	5.29	5.40	4.51	3.71	3.44
Other	5.00	5.35	4.89	3.82	4.19
Total Taxable	5.15	5.19	4.21	3.32	3.29
Exempt Municipals	4.40	4.42	4.20	3.31	3.21
<b>Total</b>	<b>4.86</b>	<b>4.85</b>	<b>4.21</b>	<b>3.31</b>	<b>3.26</b>

Source: NEAM, S&P Global Market Intelligence

The *total* year-over-year 2016 to 2017 option adjusted duration (OAD) remained basically unchanged as shown in Chart 16 although there were different directional changes among the sectors. Tax-exempt OAD was two-to two-and-a-half years greater than taxable bonds over the 2006 to 2017 period.

**Chart 16. Fixed Income Option Adjusted Duration**

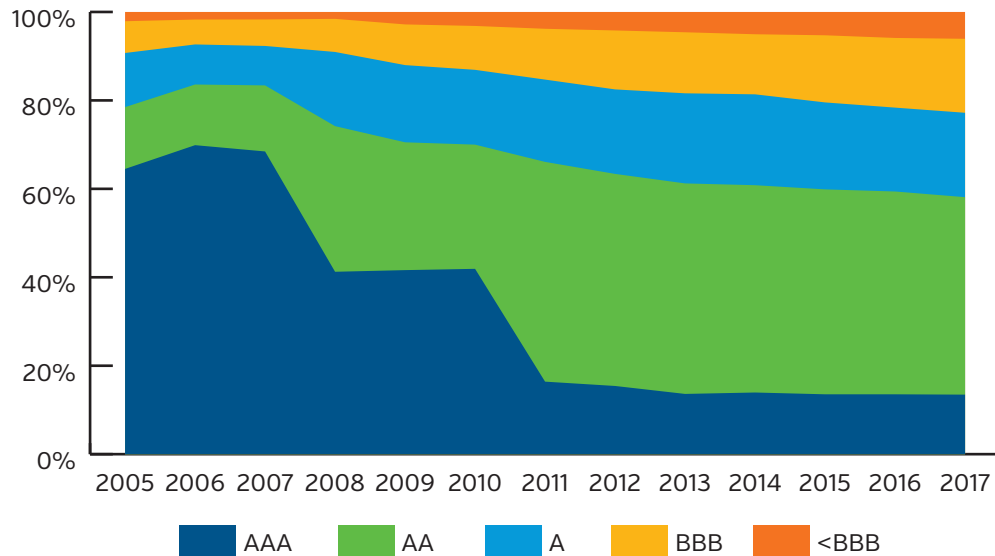
Sector	2006	2008	2011	2016	2017
Gov't/Agcy	4.10	4.82	4.38	4.41	4.18
Corp	4.28	4.33	4.49	4.54	4.56
ABS/CMBS	3.25	3.11	2.96	3.46	3.87
MBS/CMO	3.70	1.96	1.83	5.01	4.67
Other	5.68	4.60	5.87	5.37	4.83
Total Taxable	4.04	3.80	4.01	4.50	4.44
Exempt Municipals	6.72	7.83	6.44	6.57	6.81
<b>Grand Total</b>	<b>5.15</b>	<b>5.73</b>	<b>4.88</b>	<b>5.17</b>	<b>5.14</b>

Source: NEAM, S&P Global Market Intelligence, Reuters, ICE BAML Global Index System, Bloomberg

## Credit Quality

Credit quality peaked prior to the financial crisis, as shown in Chart 17. At that time, bonds rated triple BBB or less totaled 7.5%. By 2017 their share increased three-fold to 22.5%.

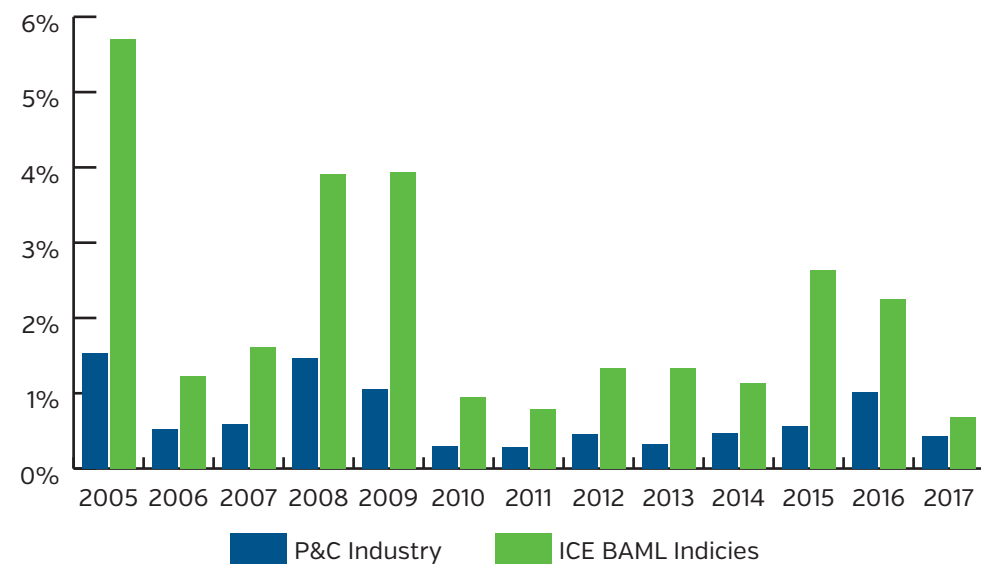
**Chart 17. Credit Migration**



Source: NEAM, S&P Global Market Intelligence, Reuters, ICE BAML Global Index System, Bloomberg

Overall, industry downgrade experience of year-end holdings is better than the U.S. corporate credit universe measured by the ICE BAML corporate bond indices' constituents. Credit deterioration is due primarily to purchases, not downgrades. While industry downgrades remain low, there is wide variation among companies and credit quality drifted downward.

**Chart 18. Corporate Bond Downgrades to Below Investment Grade (Including Downgrades to Default)**



Source: NEAM, S&P Global Market Intelligence, Reuters, ICE BAML Global Index System, Bloomberg

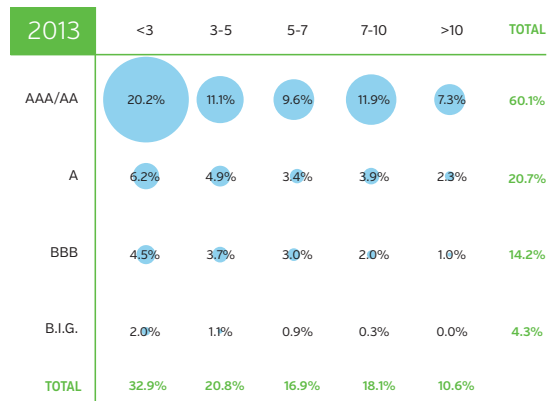


## CREDIT-DURATION

### Comparison of Taxable Bonds

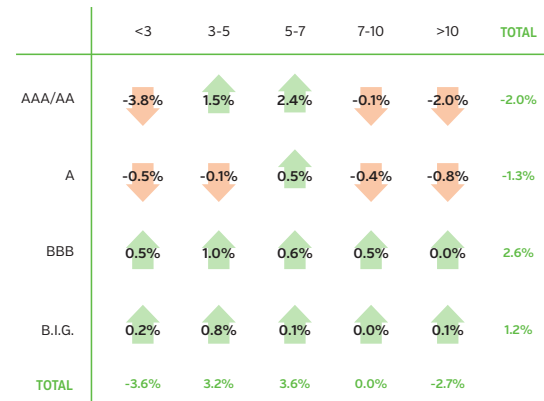
Taxable bonds displayed modest credit-duration as shown in Chart 19. Generally speaking, lesser rated bonds were proportionately shorter in duration. Chart 20 shows the directional change to 2017; BBB and lesser rated securities increased their share of holdings across the term structure and higher rated securities were mixed.

**Chart 19. All Taxable Bonds**



Source: NEAM, S&P Global Market Intelligence, Reuters, ICE BAML Global Index System, Bloomberg

**Chart 20. Directional Change from 2013 to 2017**



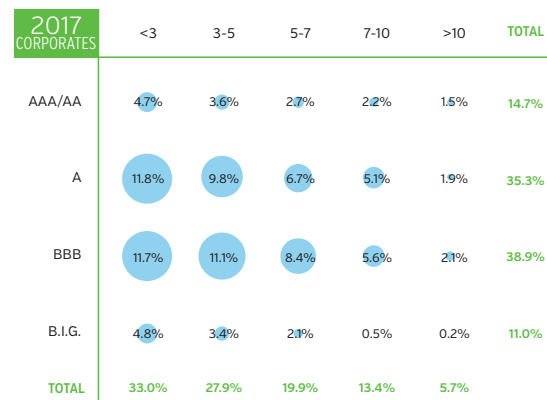
Source: NEAM, S&P Global Market Intelligence, Reuters, ICE BAML Global Index System, Bloomberg

## 2017 CORPORATE AND TAX-EXEMPT COMPARATIVE

### Considerations as Tax-Exempt Securities Wane

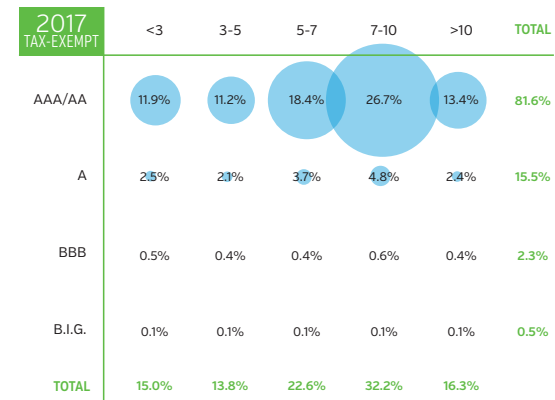
Since 2008 corporate securities have been the “go to” sector as the tax-exempt municipal bond allocation has declined. In total, structured securities have held steady despite their favorable credit quality and risk adjusted return attributes. Charts 21 and 22 below display the 2017 credit-duration profile of corporate and exempt holdings, respectively. As the municipal allocation continues to move lower, portfolio credit quality will decline unless higher quality securities, such as structured bonds, are purchased. Even market leaders will need to realign their allocations.

**Chart 21. Corporates**



Source: NEAM, S&P Global Market Intelligence

**Chart 22. Tax-Exempt**

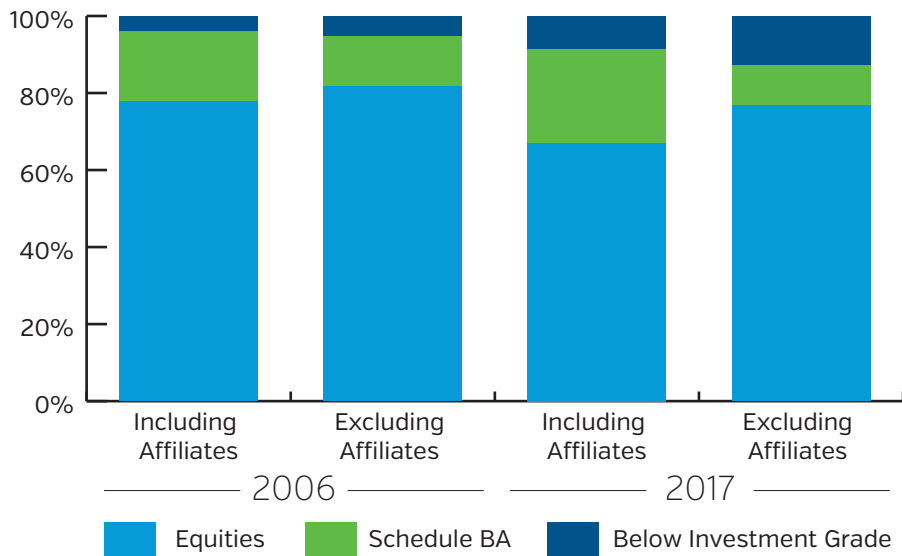


Source: NEAM, S&P Global Market Intelligence

## RISK ASSETS

Risk assets are defined as Schedule BA assets, equities and below investment grade securities. They are associated with higher capital charges, greater marked-to-market price volatility and occasionally less liquidity (other than equities). Risk assets continue to be dominated by public equities. BA assets, or “alternatives,” are most prominent when affiliated with an insurer. “Unaffiliated” risk assets are dominated by public equities and bonds, not Schedule BA “alternatives.” Chart 23 highlights these categorizations.

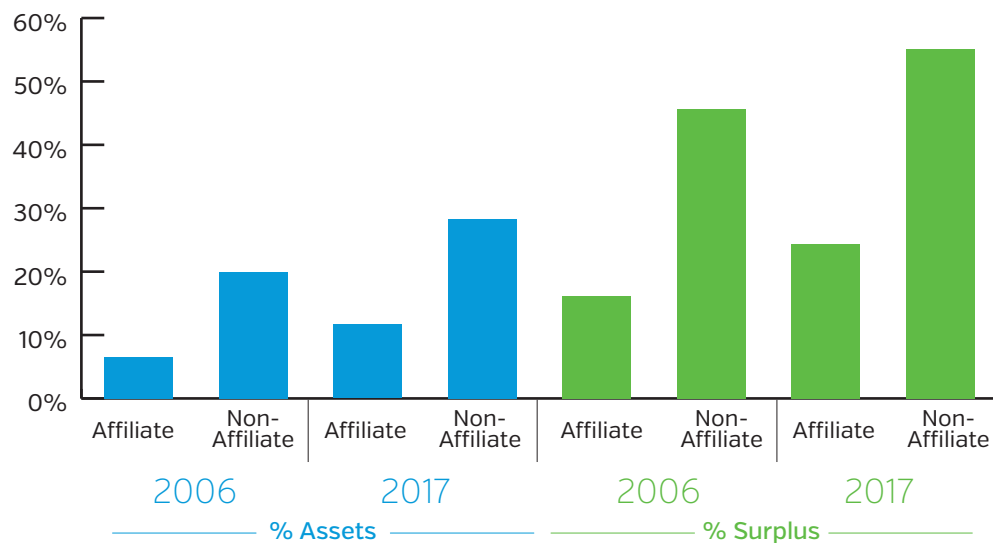
**Chart 23. Risk Asset Distribution (Including and Excluding Affiliates)**



Source: NEAM, S&P Global Market Intelligence

Affiliated and unaffiliated risk assets increased their asset share to 5 and 8 percent, respectively, from 2006 to 2017, as illustrated in Chart 24. Their corresponding share of surplus increased by 8 and 9 percentage points.

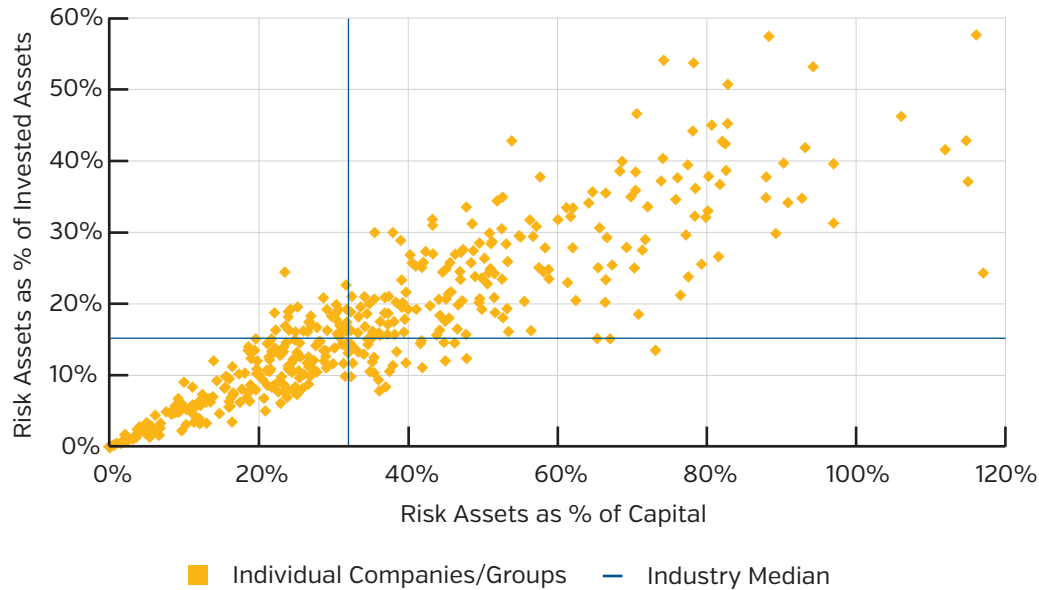
**Chart 24. Risk Asset Distribution as a Percentage of Assets and Surplus (Including and Excluding Affiliates)**



Source: NEAM, S&P Global Market Intelligence

A wide variation exists among companies' risk assets as a percentage of assets and capital, as shown in Chart 25. Publicly traded equities and below investment grade fixed income securities drive the increase in risk assets, not unaffiliated BA "alternative" assets. The dispersion amongst companies is not size dependent.

**Chart 25. 2017 Risk Assets as a Percentage of Invested Assets and Capital**



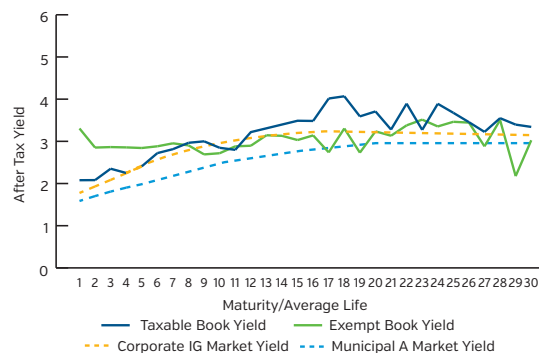
Source: NEAM, S&P Global Market Intelligence

## MOVING TO THE FUTURE

In the New World Order, optimal portfolio composition requires aligning the combined impact of tax law changes and prospective market returns with the embedded after-tax yield term structure of current fixed income holdings.<sup>2</sup> Whereas current capital market returns for eligible assets are the same for all companies, the embedded yield term structure is unique to each company, reflecting past fixed income investing decisions. By way of example, Charts 26 and 27 illustrate the after-tax embedded yield term structure of market leaders' holdings and today's *and* anticipated prospective rates one year forward.<sup>3</sup>

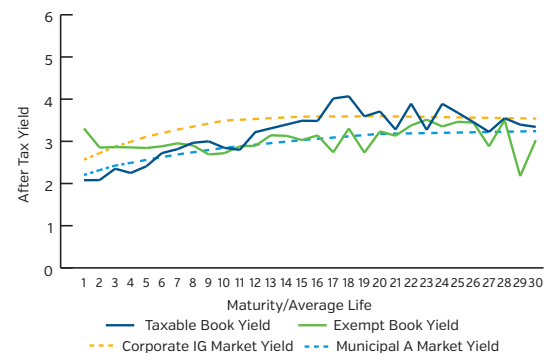
**Chart 26 & 27. After Tax Book and Market Yield Term Structure @ 21% Tax Rate (5.25% for Tax-Exempt Municipal Holdings)**

### Current Rate



Source: NEAM, S&P Global Market Intelligence

### Anticipated Rate



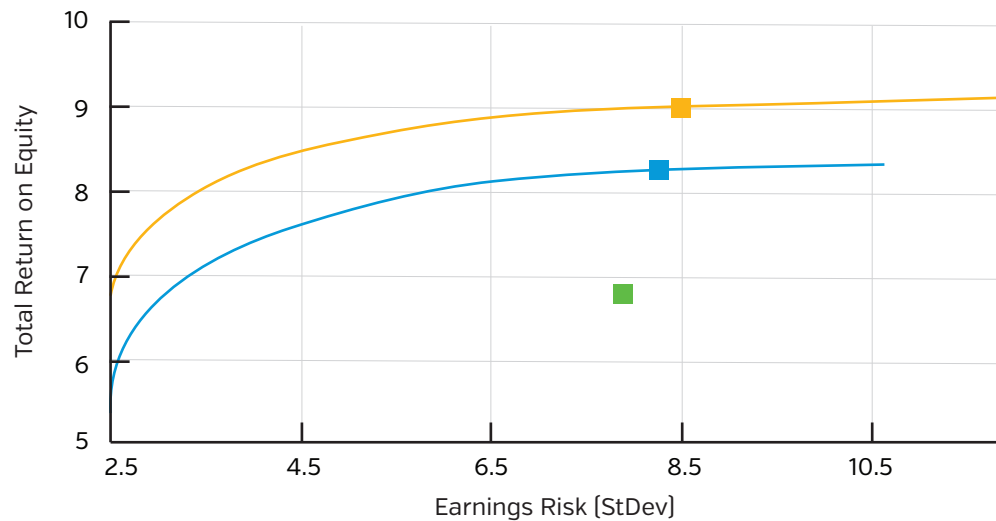
Source: NEAM, S&P Global Market Intelligence

Note that in the first chart, the current embedded after-tax exempt yield term structure dominates after-tax embedded taxable and market yields out to 9 years. Beyond 9 years, taxable bonds *most often* provide the greatest after-tax yield. If rates rise as anticipated in the second chart, the after-tax market yield term structure of taxable bonds dominates all but the first two years of the tax-exempt embedded term structure. This means that at current rate levels, tax-exempt bonds maturing after nine years are likely sale candidates and rising rates further threaten all tax-exempt holdings with maturities of more than two years.

### Enterprise Based Asset Allocation™ (EBAA™)

NEAM's EBAA™ process reflects both underwriting and investment results on an after-tax basis enabling an assessment of both changes in tax law and rising interest rates. Chart 28 depicts the expected enterprise total return and risk based upon market leaders' year-end 2017 asset allocation (green square) and two after-tax efficient frontiers (blue – current market yields and gold – one year forward projected market yields).

**Chart 28. Earnings Risk (StDev)**



Source: NEAM

The following Chart 29 displays the associated enterprise statistics, investment metrics and summarized asset allocation. The allocation associated with the blue frontier reveals a meaningful reduction in municipals from current allocation levels due to the impact of the tax law change. Rising rates further disadvantage municipal holdings in the gold frontier. Structured securities, both amortizing fixed rate and floating rate become the primary replacement asset. They are high quality, providing competitive risk adjusted returns and offering greater interest rate protection in rising rate environments than bullet fixed rate corporate bonds.

**Chart 29. Market leaders' EBAA™ Efficient Frontier Statistics<sup>4</sup>**

Results	Initial Asset Allocation	Current Markets Similar T-VaR	Rising Rates Similar T-VaR
<b>Enterprise Statistics</b>			
Total Return on Equity	6.83	8.30	9.07
Earnings Risk [Std Dev]	7.88	8.29	8.53
99.5 T-VaR % Capital	23.33	23.33	23.32
Total Return on Assets	2.71	3.49	3.89
<b>Additional Return/Risk Metrics</b>			
Default Loss [\$]	19.6	15.3	22.8
Duration [OAD]	4.56	4.83	4.56
Book Yield	3.03	3.53	4.33
Average Rating	AA-	AA-	AA-
<b>Sector Distribution</b>			
St/Gvt/Acy	9.4	3.4	3.0
Municipal	32.6	22.1	1.8
U.S. InvGrd Credit	21.6	18.3	29.4
MBS/Struct. Sec.	15.9	26.5	37.4
Risk Assets	20.5	29.7	28.4
Total	100.0	100.0	100.0

Source: NEAM, S&P Global Market Intelligence

## KEY TAKEAWAYS

- Continued underwriting volatility and return of underwriting losses spawn continuation of low return on capital.
- A very diverse group of underwriting market leaders significantly outperform industry averages consistently over extended periods of time. However, even they are not immune to the impact of The New World Order.<sup>1</sup>
- Fixed income yields continue to decline, duration holds fairly constant and credit quality has weakened, reflecting downgrades and purchases of lesser rated [corporate] securities as municipal holdings have waned.
- Growth in “alternative” and risk assets is driven by affiliated assets. The share of unaffiliated schedule BA assets [a large portion of risk assets] has declined.
- The historic decline in the municipal allocation appears due to weakened underwriting results of several large companies. The allocation will decline further and impact even market leaders due to tax law changes. The decline in municipal allocation will accelerate for all companies as [if] interest rates continue to increase.

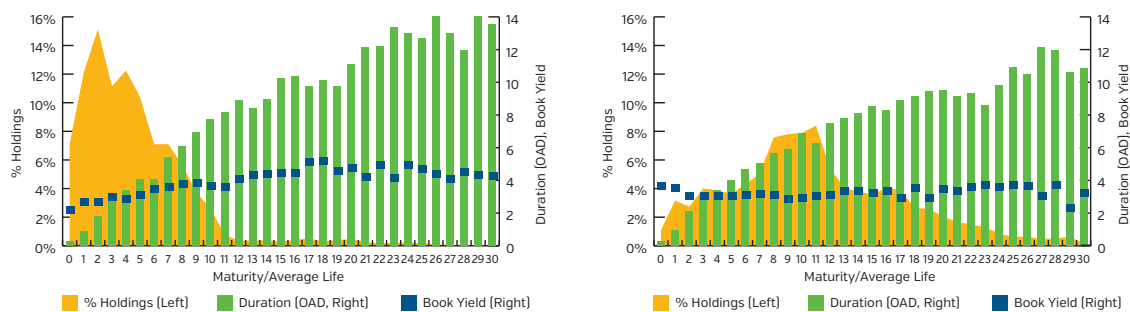
- 
- Changing tax laws require a “municipal bond replacement solution” and rising, volatile interest rates might require re-evaluation of capital preservation strategies and traditional “buy and hold” fixed income investment practices. High quality amortizing structured (and floating rate) securities help reduce interest rate risk and provide competitive risk adjusted returns.
  - NEAM's Enterprise Based Asset Allocation™ process provides unbiased investment solutions reflecting insurers' risk tolerances, underwriting results and investment opportunities consistent with tax, regulatory, rating agency and other stakeholder requirements. When was the last time your asset allocations were assessed? Do you think your current investment policy guidelines and benchmarks position you to thrive under the New World Order? Contact us if you'd like to reevaluate your financial goals with the help of NEAM's EBAA™ process.

## ENDNOTES

<sup>1</sup> The New World Order is actually driven by three financial considerations: change in tax law; rising rates; and, changes in A.M. Best BCAR capital model. We ignore the third factor in this *Perspectives* because the impact of these changes upon company positioning is, with few exceptions, inconsequential. Please see *Perspectives*, "Investment Capital Charges: Serving Many Masters – Who Matters to You?" January 10, 2017."

<sup>2</sup> The aggregated market leaders fixed income portfolios' run-off and embedded yield term structure are shown in Chart A (taxable) and B (tax-exempt). There are stark differences in the run-off distributions and the embedded yields across their respective term structures. Other fixed income metrics such as credit quality, defaults, liquidity and duration are also considerations and non-fixed income assets characteristics—including correlations effects—are relevant.

**Chart A and B. Taxable Bond Profile vs. Tax Exempt Bond Profile**



Source: NEAM, S&P Global Market Intelligence

<sup>3</sup> In the near-term NEAM expects rates will increase but unevenly by sector and maturity. Table A below summarizes one possible scenario to consider in the portfolio construction process. As rates rise, existing holdings of tax-exempt bonds are increasingly more vulnerable. Rising rates also [temporarily] diminish the market values of existing holdings.

**Table A. Assumed Rate Change (bps)**

Bond Maturity	Taxable Bonds	Exempt Bonds	Floating Rate	MBS/ Structured Securities
1 - 5 years	100	65	100	75
5 - 10 years	75	37.5		
10+ years	50	25		

Source: NEAM, S&P Global Market Intelligence

<sup>4</sup> The after-tax expected total return on equity for market leaders based upon their 2017 asset allocation and underwriting margins is estimated at 6.83 percent, assuming reduced tax rates. Although this amount is roughly 200 basis points higher than industry averages due to superior underwriting results, it is less than ideal to the relatively low premium and investment leverage of the market leaders. This sub-optimal capital structure permeates the industry and is the topic of a future *Perspectives*.



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