Fourth Quarter 2018 Bond Market Review and Outlook

Cincinnati Asset Management, Inc.
Investment Grade & High Yield Bond Specialists

"We're in a place where we can be patient and flexible and wait and see what does evolve" Federal Reserve chairman, Powell 1/11/19 regarding future interest rate increases

These comments made by the Fed chairman exemplify the changed position of the Fed. Given the moderating growth of the global economy and some U.S. economic measures, the Fed is signaling that they can now be patient about further increases in interest rates. Powell's deputy, Richard Clarida, reinforced Powell's more sensitive outlook noting that, "moderating global growth and tighter financial conditions represent "crosswinds" to the economy" (source: Bloomberg 1/11/19). Minutes of the December meeting released on 1/9/19 document the changed position of many officials to one of moderation in further interest rate increases, stating that the central bank "could afford to be patient about further policy firming" (source: *Bloomberg* 1/11/19).

The Fed has raised short term interest rates nine times since late 2015 with four of those increases made in 2018, three in 2017 and once in December of 2016 and 2015. Just a month ago the consensus outlook was for another three increases in 2019 to 3.25% from today's target rate of 2.5%. Now, the Fed is signaling restraint, with a number of regional chiefs having no bias toward either higher or lower rates. At the December meeting the 2019 rate forecasts from 17 officials ranged from 2.5% to 3.5% with the median forecast at 2.8% (source: *Wall Street Journal* 1/15/19). Importantly, Chicago Fed President, Evans, observed a lack of evidence that inflation was moving noticeably above the Fed's 2% target.

The inflation data remains low. The CPI in December 2018 was 1.9% for the 12-month period. The index less food and energy rose 2.2% (source; Bureau of Labor Statistics 1/11/19).

The very recent measures of business inflation showing annual price increases of 2.5% in December (Dept.of Labor 1/15/19), moderating from a peak of 3.45, in July provides justification for the Fed's more balanced approach.

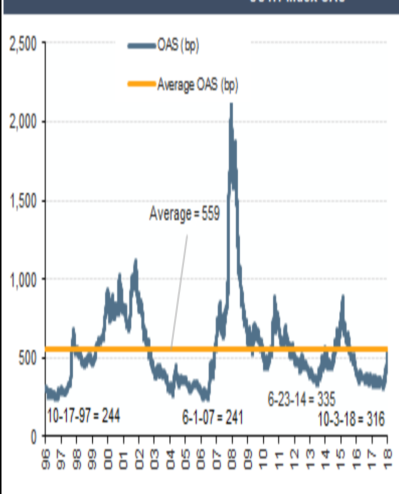
Another positive for the credit markets is the central bankers' December projection of above trend economic growth for 2019. Supporting their outlook was the strong December job market report showing the economy added 312,000 nonfarm jobs (source: BLS 1/4/19). However, softening in some more interest rate sensitive sectors, such as housing, is contributing to the fed's more cautious outlook. Another Fed consideration is the moderating of growth in the global economy.

The rapidly changing macroeconomic trends and the Federal Reserve's newly adopted rate caution has led a number of strategists to recommend allocations to both Investment Grade and High Yield Corporate Bonds. The graphs and charts on pages 1 and 3 providing spread data for High Yield and Investment Grade Bonds provides additional compelling data. Yield spreads have widened near to their historical averages. Also, equity market volatility, economic uncertainty revolving around the trade disputes with China, Europe, Canada and Mexico and expected gridlock in Congress until the next election cycle in 2020 are factors driving investors to a higher "risk off" allocation.

2018 was the worst year for corporate credit since 2008, when the corporate index returned -4.94%. For the fourth quarter, the

(Continued on page 3)

US HY Index OAS



Index OAS Metrics		
Latest 12/31/2018		533
End prior week		530
End prior month		429
Weekly Change		3
MTD Change		104
YTD Change		170
Historic Ranges		
All-time High	12/15/2008	2,147
All-time Low	6/01/2007	241
52-week High	12/27/2018	538
52-week Low	10/3/2018	316
Latest Spread by Rating		
BB		360
B		574
CCC		1,104

Source: CreditSights, ICE BofA ML Indices long term average from 12/31/1996 long term median = 493

Yields* on 12/31/2018	Yield*
CAM Broad Market (corporate core plus) Strategy (7.0 year maturity; 5.7 duration)	4.90%
CAM Investment Grade (100% corporate bonds) Strategy (7.4 year maturity; 6.1 duration)	4.09%
CAM High-Yield Strategy (only BB & B rated purchased) (6.6 year maturity; 5.2 duration)	6.62%
CAM Short Duration Strategy (3.5 year maturity; 3.1 duration; 50% IG & 50% HY)	4.75%
CAM Short Duration Investment Grade Strategy (3.3 year maturity; 3.0 duration)	3.48%
Tax Equivalent Muni GO Bond (7 year, 2.28%) Bloomberg Barclays Institutional Index (Yield to right is after 40% tax equivalency and 3-point retail price markup for small buys under $1 M)	2.90%
U.S. Treasury** (10 year maturity)	2.69%
U.S. Treasury** (5 year maturity)	2.51%
U.S. Treasury** (2 year maturity)	2.49%

* The lower of yield to maturity or yield to worst call date ** Source: Bloomberg Barclays

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CAM's Key Strategic Elements

- Bottom-up credit analysis determines value and risk.
- Primary objective is preservation of capital.
- Larger, more liquid issues preferred.
- Target is always intermediate maturity.
- No interest rate forecasting.
- All clients benefit from institutional trading platform and multi-firm competitive bids and offers.

CAM returns are after CAM's average management fee & all transaction costs but before any broker, custody or consulting fees.	Total Return (%)	Annualized Returns (%)			
	4Q '18	1-YEAR	3-YEARS	5-YEARS	10-YEARS
CAM Broad Market Strategy—Net 1/3 high yield, 2/3 investment grade	-0.77	-2.37	2.77	2.38	5.85
CAM High Yield "Upper Tier" Strategy—Net only purchase BB and B; no purchases of CCC & lower	-3.49	-3.71	3.73	0.99	7.04
Lipper High Yield Mutual Funds Average	-5.20	-3.09	5.38	2.52	9.05
CAM Investment Grade Strategy—Net 100% corporate bonds	0.65	-1.67	2.33	3.01	5.36
Lipper A-rated Bond Funds Average	0.24	-2.08	2.94	3.39	5.07
CAM Short Duration Strategy—Net 1/2 investment grade, 1/2 high yield	-0.56	0.02	3.10	0.61	4.97
CAM Short Duration Investment Grade Strategy—Net 100% corporate bonds	0.88	0.37	1.63	1.84	4.43

Relative Performance Review 12/31/2018

CAM's **Investment Grade Strategy** ("**IG**") produced a gross total return of 0.71% in the quarter ended December 31, 2018, compared to -0.18% for the Bloomberg Barclays U.S. Corporate Index. The 12-month return for the CAM IG strategy was -1.44% compared to the index return of -2.51%. IG's Q4 performance and 12-month performance exceeded its benchmark as BBB-rated corporate bonds underperformed in both periods relative to A-rated corporate bonds. IG's investment policy caps BBB-rated bonds at 30%. The index weighting for BBB-rated bonds currently approximates 51%. IG also outperformed over 10 years and since inception.

The **High Yield Strategy** ("**HY**") delivered a gross total return of -3.41% in the Q4 while the Bloomberg Barclays High Yield Index returned -4.53%. The HY 12-month return was -3.39% while the Bloomberg Barclays High Yield Index returned -2.08%. HY outperformed for the quarter because of the under-performance in "CCC" and lower credit subsectors of the Index. HY is always underweight these low credit subsectors believing their credit profiles and price volatility are inappropriate for many investors. HY trailed in the 12-month period in part because of under-performance in the Aerospace Defense and Automotive industry groups and our longer duration, which also is a function of not owning the lowest rated subsectors.

Our **Broad Market Strategy ("BM")** – a 67%-33% blend of IG-HY bonds – produced a gross total return of -0.70% for the quarter ended December 31 compared to -1.64% for its Bloomberg Barclays blended benchmark. The 12-month return for the CAM Broad Market strategy was -2.09% compared to blended index return -2.35%. It is important to note that our BM strategy achieves its BBB average credit quality via a barbell strategy of higher and lower rated securities. Our outperformance relative to the Weighted Benchmark is due to the underperformance of the lowest rated investment grade and high yield cohorts.

The CAM **Short Duration Strategy** ("**SD**") blends equal weights of IG and HY short duration bonds. The strategy's gross total return in the quarter ended December 31 was -0.48% while its benchmark, a similar blend of the intermediate components of Bloomberg Barclays IG and HY corporates, returned -1.74%. At December 31, the 12-month return was 0.36% compared to the blended benchmark return of -0.32%.

The **Short Duration Investment Grade Strategy** (**SD-IG**) slightly outperformed in the quarter ended December 31, 2018 compared to its benchmark, the Bloomberg Barclays U.S. Credit 1-5 Index. SD-IG returned 0.94% compared with the benchmark's 0.93%. Over a 12-month period, SD-IG delivered 0.61% versus a benchmark return of 1.11% and outperformed over 5 years, 7 years, and since inception.

Bloomberg Barclays Bond Indices Returns vs. CAM Gross (annualized %)

Periods ended 12/31/2018	10-yrs	20-yrs
U.S. Aggregate	3.48	4.55
U.S. Corporate	5.92	5.24
CAM Investment Grade Strategy	5.62	5.30

Better Asset Allocation Might Result from More Exacting Analysis

The chart to the right shows that BB rated bonds returned approximately 50% of S&P 500 stocks for the 5-year period, 70% over 10 years, and exceeded the returns of the S&P 500 over the last 20-years. Lower rated CCC bonds have underperformed the S&P 500 for the 5-year period, while the lowest rated (CC & D) have produced negative returns. Both BB and B rated bonds outperformed the Bloomberg Barclays US Aggregate Index for all periods.

The chart also indicates that CCC rated securities underperformed BB rated and B rated bonds for the 20-year period. For shorter 5-year and 10-year periods, the lower credit CCC cohort outperformed. Not shown in the table is the pronounced and extreme volatility that has characterized the CCC sector. For example, during 2008, when the High Yield Index was down 26%, CCC rated bonds were down 44%, and during 2009, the Index was up 58% while CCC bonds were up 91%. In each calendar year since 1997, CCC rated bonds ranked either best or worst in Credit Sights Annual Excess Return Rankings for US corporate credit tiers, a trend that continued in 4Q18. The CCC longer term results were achieved with significantly more volatility than the Index.

Finally, not only have BB rated bonds approximated the S&P 500 for the 20-year period, but they have done so with about half the volatility of that Index (Ibbotson), suggesting that better credit quality high yield bonds deserve consideration as a core holding in an investor's portfolio allocation.

Performance of High-Yield Bonds by Credit Quality
(periods ended 12/31/2018) Source: Credit Suisse First Boston
(annualized %)

High-Yield Bond Sectors	5-years	10-years	20-years
BB-rated bonds	4.18	9.29	7.37
B-rated bonds	2.91	9.72	6.26
CCC-rated bonds	3.80	14.07	5.91
CC & D-rated bonds	-12.69	2.18	-5.73
Performance of Other Asset Classes (periods ended 12/31/2018) Source: Bloomberg Barclays & Lipper			
S & P 500 Stocks	8.49	13.07	5.60
Bloomberg Barclays U.S. Aggregate	2.52	3.48	4.55

Absolute spreads for all credit subsectors approximate the long-term averages but have risen from the lows of 1Q2018. The December 31 spread levels (indicated at the right) enhance the value of corporate bonds versus U.S. Treasuries. The 10-year U.S. Treasury ended the Q4 at 2.69% compared to recent year-ends: 2.45% (2016) and 2.41% (2017). With the U.S. Treasury yield curve flatter following Federal Reserve actions to remove monetary policy accommodation, active corporate bond managers may find opportunistic values with credit spreads wider than earlier this year.

*1981-2018 Average
**1987-2018 Average

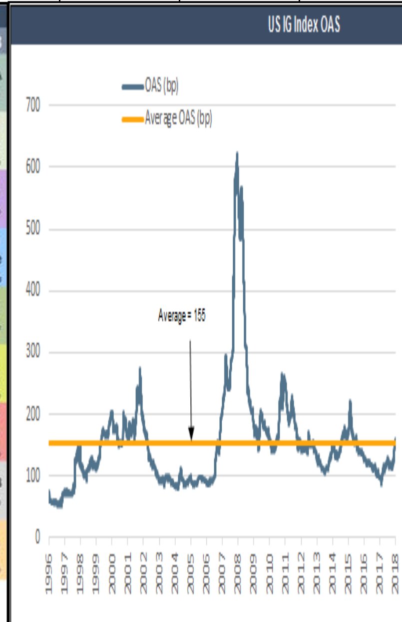
Credit Rating	Average Spread	12/31/2018	12/31/2017	12/31/2016	12/31/2015	Tightest This Decade
A*	1.20%	1.18%	0.73%	1.01%	1.22%	0.71%
BBB*	1.87%	1.97%	1.24%	1.60%	2.24%	1.15%
BB**	3.52%	3.54%	2.11%	2.70%	4.17%	1.30%
B**	5.30%	5.31%	3.43%	3.82%	6.54%	2.28%
CCC**	10.14%	9.89%	6.15%	8.07%	13.51%	3.78%

Annual Excess Return Rankings - USD Corporate Credit Ratings Tiers

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
US CCC 13.6%	US AA -10%	US CCC 8.4%	US AAA -14%	US A 3.5%	US AA 0.5%	US CCC 58.5%	US CCC 13.2%	US B 17%	US CCC 15.2%	US AAA -2.3%
US B 6.3%	US A -14%	US B 6.7%	US AA -2.4%	US BBB 3.4%	US AAA 0.1%	High Yield 25.6%	High Yield 7.9%	US BB 0.8%	High Yield 8.3%	US AA -4.4%
High Yield 5.8%	US AAA -15%	High Yield 6.1%	US A -4.2%	High Grade 3.4%	US A -0.1%	US B 23.5%	US B 7.5%	High Yield 0.6%	US B 7.8%	High Grade -5.0%
US BB 3.9%	High Grade -2.2%	US BB 4.4%	High Grade -4.7%	US BB 3.2%	High Grade -2.5%	US BB 16.9%	US BB 6.0%	US AA 0.1%	US BB 6.5%	US BBB -5.4%
US BBB 0.3%	US BB -3.1%	US BBB 2.7%	US BBB -6.7%	US AA 3.0%	US BBB -5.9%	US BBB 9.1%	US BBB 2.3%	US AAA 0.1%	US BBB 16%	US A -5.5%
US AA 0.0%	US BBB -4.2%	High Grade 14%	US BB -10.6%	US AAA 2.2%	US B -10.6%	High Grade 5.9%	High Grade 17%	US A -0.2%	High Grade 13%	US B -6.4%
High Grade -0.3%	High Yield -5.0%	US A 0.8%	High Yield -15.3%	High Yield -3.3%	High Yield -13.4%	US A 3.6%	US A 14%	High Grade -0.8%	US A 12%	US BB -7.3%
US AAA -0.3%	US B -5.6%	US AA 0.4%	US B -17.2%	US B -6.9%	US BB -15.0%	US AAA 2.6%	US AAA 1.1%	US BBB -2.0%	US AAA 1.1%	High Yield -7.3%
US A -0.8%	US CCC -9.5%	US AAA 0.1%	US CCC -21.7%	US CCC -8.6%	US CCC -16.2%	US AA 2.0%	US AA 10%	US CCC -2.4%	US AA 10%	US CCC -9.2%

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
US AAA -9.3%	US CCC 97.4%	US CCC 13.2%	US AAA -2.2%	US CCC 18.7%	US CCC 14.4%	US BB 0.7%	US AAA 0.0%	US CCC 35.2%	US CCC 9.6%	US AA -12%
US AA -14.0%	High Yield 58.7%	High Yield 9.8%	US BB -2.5%	High Yield 13.6%	High Yield 9.5%	US A 0.0%	US AA 0.0%	High Yield 16.2%	High Yield 6.1%	US AAA -17%
High Grade -21.3%	US B 48.7%	US B 9.0%	US B -2.6%	US B 13.2%	US B 9.2%	High Grade 0.0%	US A -0.3%	US B 15.7%	US BB 5.6%	US A -2.6%
US A -22.4%	US BB 46.8%	US BB 8.9%	High Yield -3.3%	US BB 12.2%	US BB 7.8%	US AA -0.1%	High Grade -16%	US BB 11.9%	US B 5.4%	High Grade -2.8%
US BBB -25.6%	US BBB 35.0%	US BBB 4.0%	US AA -3.6%	US BBB 9.4%	US BBB 3.3%	US BBB -0.1%	US BB -2.4%	US BBB 6.9%	US BBB 4.6%	US B -3.0%
US BB -31.5%	High Grade 23.5%	High Grade 2.8%	High Grade -4.1%	High Grade 7.9%	High Grade 2.8%	US AAA -0.4%	US BBB -3.2%	High Grade 4.7%	High Grade 3.8%	US BBB -3.4%
High Yield -38.1%	US A 20.0%	US A 2.3%	US BBB -4.3%	US A 7.5%	US A 2.2%	High Yield -13%	High Yield -5.9%	US A 3.2%	US AAA 3.3%	High Yield -3.7%
US B -39.6%	US AA 12.4%	US AA 15%	US A -4.3%	US AA 5.3%	US AA 19%	US B -2.0%	US B -6.3%	US AA 24%	US A 3.1%	US BB -3.8%
US CCC -48.7%	US AAA 4.1%	US AAA 13%	US CCC -7.6%	US AAA 2.1%	US AAA 10%	US CCC -5.2%	US CCC -16.2%	US AAA 2.3%	US AA 24%	US CCC -5.8%

Source: CreditSights, ICE BofAML Indexes data through 12/31/2018
(Excess return = the total return of the asset class minus the total return of a duration matched basket of government securities. Essentially the excess return metrics remove the yield curve piece of the return picture. In its basic form, it is mainly a function of coupon differentials and spread changes).



Index OAS Metrics		
Latest	12/31/2018	159
End prior week		155
End prior month		145
MTD Change		14
YTD Change		61
Historic Ranges		
All-time High	12/5/2008	622
All-time Low	10/3/1997	53
52-week High	12/31/2018	159
52-week Low	2/1/2018	90
Latest Spread by Rating		
AAA		78
AA		87
A		124
BBB		202

Source: CreditSights, ICE BofA ML Indices Long term average from 12/31/1996, long term median = 142bp; current as of 12/31/2018

(Continued from page 1)

Bloomberg Barclays Corporate Index posted a total return of -0.18%. This compares to CAM's quarterly gross total return of +0.71%. For the full year 2018, the corporate index total return was -2.51% while CAM's gross return was -1.44%. CAM outperformed the corporate index for the full year due in part to our cautious stance toward BBB-rated credit and due to our duration, which is shorter relative to the index.

In the fourth quarter of 2018, the Bloomberg Barclays US Corporate High Yield Index ("Index") return was -4.53%. For the year, the Index return was -2.08%. The 10 year US Treasury rate ("10 year") spent most of quarter going lower. It finished at 2.69% which was down 0.37% from the end of the third quarter. While generally range bound between 2.80% and 3.10% for the majority of the year, the 10 year popped both the top and bottom of the range during the fourth quarter as volatility made a comeback. During the quarter, the Index option adjusted spread ("OAS") widened a massive 210 basis points moving from 316 basis points to 526 basis points. For context, the Index hasn't posted an OAS north of 500 basis points in over two years. During the fourth quarter, every quality grouping of the High Yield Market participated in the spread widening as BB rated securities widened 148 basis points, B rated securities widened 219 basis points, and CCC rated securities widened 408 basis points.

In the fourth quarter of 2018, the Bloomberg Barclays US Corporate High Yield Index ("Index") return was -4.53%, and the CAM High Yield Composite gross total return was -3.41%. For the year, the Index returned -2.08%, and the CAM Composite returned -3.39%. The S&P 500 stock index return was -4.39% (including dividends reinvested) for 2018.

(Continued on page 4)

Footnotes and disclosure Cincinnati Asset Management, Inc., ("CAM") an independent privately held corporation established in 1989, is registered with the United States Securities and Exchange Commission as an investment advisor. The CAM High Yield, Investment Grade, Broad Market, and Short Duration composites consist of all discretionary portfolios under management, including all securities and cash held in the portfolios, and have been appropriately weighted for the size of the account. All accounts are included after they are substantially invested.

Returns are calculated monthly in U.S. dollars and include reinvestment of dividends and interest. Figures for periods of less than one year are cumulative returns. All other figures represent average annual returns. Past performance is no guarantee of future results.

When compared to mutual funds' performance, CAM results are after deduction of all transaction costs and CAM advisory fees. CAM advisory fees used are the composite averages. Accounts managed through brokerage firm programs usually will include additional fees. "Net of fees" herein refers only to CAM's management fee. Returns audited annually. Most recent audit available upon request.

Mutual fund averages and S&P 500, as published quarterly in Barron's as supplied by Lipper Analytics.

The indices and information shown for comparative purposes are based on or derived from information generally available to the public from sources believed to be reliable. No representation is made to its accuracy or completeness.

High yield bonds may not be suitable investments for all individuals. Before investing a thorough reading of all materials and consultation with an independent third party financial consultant may be appropriate. Fixed Income securities may be sensitive to changes in prevailing interest rates. When rates rise the value generally declines. For example, a bond's price drops as interest rates rise. For a depository institution, there is also risk that spread income will suffer because of a change in interest rates. The Indices are referred to for informational purposes only and the composition of the Index is different from the composition of the accounts included in the performance shown above. Index returns do not reflect the deduction of fees, trading costs or other expenses.

This material was not intended or written to be used, and it cannot be used, by any taxpayer, for the purpose of avoiding penalties that may be imposed on the taxpayer under U.S. federal tax laws.

This information is intended solely to report on investment strategies and opportunities identified by CAM. Opinions and estimates offered constitute our judgment and are subject to change without notice, as are statements of financial market trends, which are based on current market conditions. This material is not intended as an offer or solicitation to buy, hold or sell of any financial instrument. References to specific securities and their issuers are for illustrative purposes only and are not intended to be, and should not be interpreted as, recommendations to purchase or sell such securities.

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Finally, the chart on the right provides relative performance rankings. Returns normally rise as the investor assumes more risk. Historically, high yield has outperformed high grade in 12 of 22 years represented in the chart. Also, the high grade corporate sector similarly outperformed the U.S. Government sector in 13 of 22 calendar years.

Relative performance is one useful measure. Perhaps more significant are the differences in actual wealth creation documented through the cumulative total returns. Credit Sights data shows the investor over the past 15-years fared well in the U.S. Corporate Bond sectors. The cumulative returns through 2018 were:

High Grade Corporates 97.7%

High Yield Corporates 171.7%

U.S. Treasuries 68.3%

U.S. Mortgages 78.2%

Cash 20.2%

FTSE EUROTOP 100 stocks 110.0%

S&P 500 Stocks 207.0%

(source: CreditSights 1/2/19).

It appears that in the fixed income sector allocations to U.S. Corporates, both High Grade and High Yield were preferable to Treasuries, Mortgages and Cash, especially for the long term investor. Also, of note is their performance relative to the top 100 capitalized European equities, the FTSE Eurotop 100 index.

We appreciate your confidence. Please contact us anytime we may be of service.

Sharpe Ratios (risk & reward relative value) Inception-Q4 2018

CAM Investment Grade Strategy 0.40
Bloomberg Barclays U.S. Corp Bonds 0.37

CAM High Yield Strategy 0.52
Bloomberg Barclays High Yield Corp Bonds 0.49

CAM Short Duration 0.49
Bloomberg Barclays Weighted Benchmark
(1/2 Interm. HY & 1/2 U.S. Interm. Credit 1-5) 0.34

CAM Short Duration IG Strategy 1.22
Bloomberg Barclays U.S. Interm. Credit 1-5 Yr 1.31

CAM Broad Market Strategy 0.75
Bloomberg Barclays Weighted Benchmark
(2/3 Corporate and 1/3 High Yield) 0.75

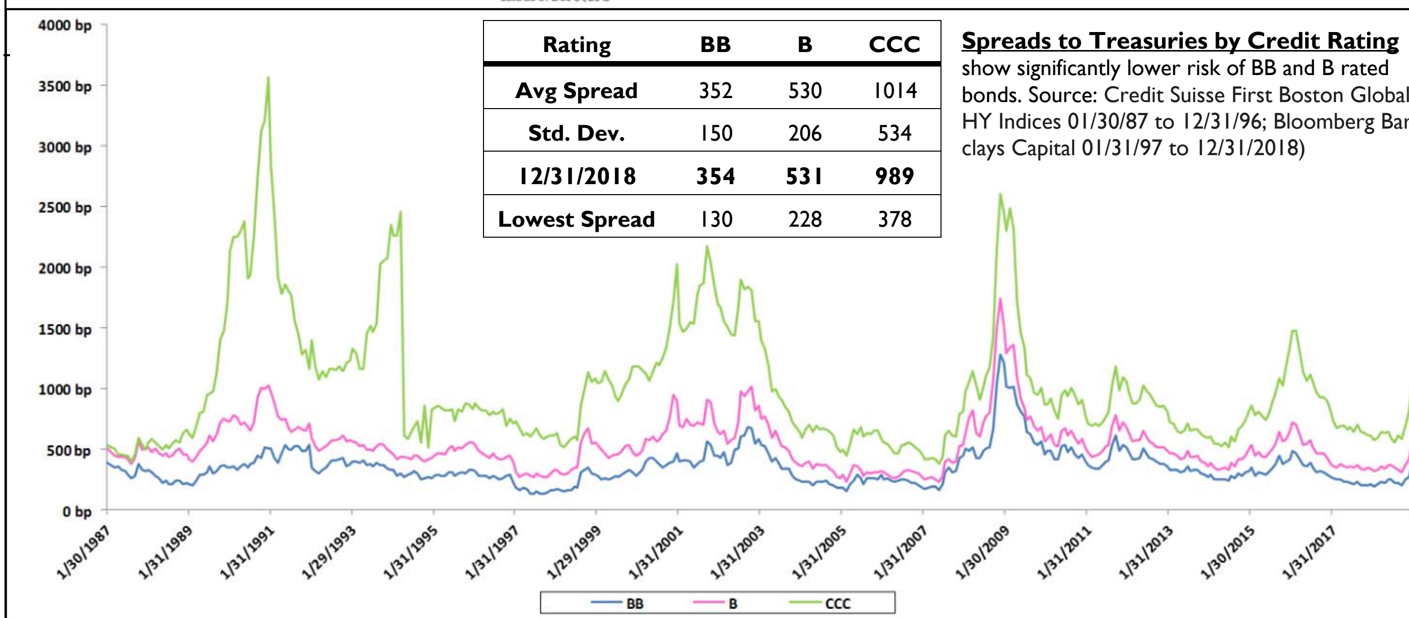
An important objective for all Cincinnati Asset Management investment strategies is to deliver superior risk-weighted returns. A quantitative indication of our success is the Sharpe Ratio that calculates total return per unit of risk. The data on the left indicate we have been largely successful. Sharpe Ratios of the Investment Grade and High Yield Strategies exceeded their respective benchmarks by approximately 8% and 6%, respectively. The Short Duration Strategy's Sharpe Ratio exceeded its benchmark's ratio by 31%, and Short Duration Investment Grade approximated its benchmark. The Broad Market Strategy produced a Sharpe Ratio equal to the benchmark's ratio.

Annual Relative Total Return Ranking - USD Multi-Asset Class

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
S&P 500 33.3%	CCMP 40.2%	CCMP 86.1%	REITs 26.4%	REITs 13.9%	EM Sov 13.7%	EM Equity 55.8%	REITs 31.6%	EM Equity 34.3%	REITs 35.1%	EM Equity 39.7%
Mid Cap 32.2%	S&P 500 28.5%	EM Equity 67.1%	Mid Cap 17.5%	High Grade 10.7%	US Gov't 11.6%	CCMP 50.8%	EM Equity 26.0%	Mid Cap 12.6%	EM Equity 32.5%	CCMP 10.7%
Russell 2000 22.4%	Mid Cap 19.1%	Conv 36.0%	Munis 17.1%	Prefs 9.8%	Munis 10.7%	Russell 2000 47.3%	Russell 2000 18.3%	REITs 12.2%	Russell 2000 18.3%	US Gov't 9.1%
CCMP 22.2%	Conv 12.2%	EM Sov 23.6%	Prefs 16.2%	Mtges 8.1%	High Grade 10.2%	REITs 37.1%	Mid Cap 16.5%	EM Sov 12.0%	S&P 500 15.8%	Mid Cap 8.0%
REITs 20.3%	US Gov't 10.0%	Russell 2000 21.3%	EM Sov 14.7%	EM Corp 7.0%	EM Corp 9.4%	Mid Cap 35.6%	EM Sov 11.8%	EM Corp 5.7%	Conv 12.0%	Mtges 7.0%
Conv 15.5%	High Grade 8.7%	S&P 500 21.0%	US Gov't 13.4%	US Gov't 6.7%	Mtges 9.4%	S&P 500 28.7%	S&P 500 10.9%	Loans 5.3%	High Yield 11.8%	EM Sov 6.4%
EM Sov 15.1%	Mtges 7.2%	Mid Cap 14.7%	Mtges 11.3%	EM Sov 4.8%	Prefs 7.7%	High Yield 28.1%	High Yield 10.9%	S&P 500 4.9%	CCMP 10.9%	S&P 500 5.6%
High Yield 13.3%	Munis 7.1%	EM Corp 14.5%	EM Corp 9.8%	High Yield 4.5%	REITs 3.8%	EM Sov 27.6%	CCMP 10.3%	Russell 2000 4.5%	EM Sov 10.6%	Cash 4.8%
Munis 10.9%	Prefs 6.7%	Cash 4.7%	High Grade 9.1%	Munis 4.5%	Loans 2.6%	Conv 23.0%	EM Corp 8.9%	Munis 3.9%	Mid Cap 10.3%	High Grade 4.6%
High Grade 10.4%	Loans 5.6%	Loans 4.1%	Cash 6.0%	Cash 4.1%	Cash 17%	EM Corp 14.5%	Conv 8.3%	Cash 3.0%	Prefs 8.1%	EM Corp 4.4%
Prefs 10.0%	Cash 5.1%	High Yield 2.5%	Loans 5.1%	Loans 3.3%	High Yield -1.9%	Loans 9.8%	Munis 5.5%	US Gov't 2.8%	Loans 6.9%	Conv 3.9%
US Gov't 9.6%	High Yield 3.0%	Mtges 16%	Russell 2000 -3.1%	Russell 2000 2.5%	Conv -3.1%	Prefs 9.4%	High Grade 5.4%	High Yield 2.7%	EM Corp 6.6%	Munis 3.3%
Mtges 9.3%	Russell 2000 -2.5%	High Grade -19%	High Yield -5.1%	Mid Cap -0.6%	EM Equity -5.9%	High Grade 8.3%	Loans 5.3%	Mtges 2.6%	Mtges 5.3%	High Yield 2.2%
Loans 7.5%	EM Sov -15.3%	US Gov't -2.4%	Conv -7.5%	EM Equity -2.4%	Mid Cap -14.5%	Munis 6.2%	Prefs 5.1%	CCMP 2.1%	Munis 5.0%	Loans 2.0%
Cash 5.3%	REITs -17.5%	Prefs -4.4%	S&P 500 -9.1%	Conv -2.9%	Russell 2000 -20.5%	Mtges 3.3%	Mtges 4.7%	High Grade 2.0%	Cash 4.8%	Russell 2000 -16%
EM Equity -11.6%	EM Equity -26.0%	REITs -4.6%	EM Equity -30.7%	S&P 500 -11.9%	S&P 500 -22.1%	US Gov't 2.3%	US Gov't 3.5%	Prefs 10%	High Grade 4.4%	Prefs -11.3%
EM Corp na	EM Corp na	Munis -6.3%	CCMP -39.2%	CCMP -20.8%	CCMP -31.2%	Cash 1.1%	Cash 1.3%	Conv -0.2%	US Gov't 3.1%	REITs -15.7%

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
US Gov't 14.0%	EM Equity 78.9%	REITs 27.9%	Munis 11.2%	REITs 19.7%	CCMP 40.2%	REITs 28.0%	Prefs 7.6%	Russell 2000 21.3%	EM Equity 37.8%	Cash 18%
Mtges 8.3%	High Yield 57.5%	Russell 2000 26.8%	US Gov't 9.8%	EM Equity 18.6%	Russell 2000 38.8%	Prefs 15.4%	CCMP 7.1%	Mid Cap 20.7%	CCMP 29.7%	Munis 10%
Cash 17%	Loans 52.5%	Mid Cap 26.6%	REITs 8.3%	EM Sov 18.3%	Mid Cap 33.5%	CCMP 14.8%	Munis 3.6%	High Yield 17.5%	S&P 500 21.8%	Mtges 10%
Munis -4.0%	Conv 45.6%	EM Equity 19.2%	EM Sov 8.2%	Mid Cap 17.8%	S&P 500 32.4%	S&P 500 13.7%	REITs 2.8%	S&P 500 12.0%	Mid Cap 16.2%	US Gov't 0.8%
High Grade -6.8%	CCMP 45.3%	CCMP 18.1%	High Grade 7.5%	CCMP 17.7%	Conv 26.6%	Conv 10.0%	Mtges 15%	Conv 11.9%	Conv 16.0%	Conv 0.7%
EM Sov -10.2%	EM Corp 38.3%	Conv 15.7%	Mtges 6.1%	Russell 2000 16.4%	High Yield 7.4%	Munis 9.8%	S&P 500 14%	EM Equity 11.8%	Russell 2000 14.6%	Loans 0.6%
EM Corp -17.5%	Mid Cap 37.3%	High Yield 15.2%	High Yield 4.4%	S&P 500 16.0%	Loans 5.4%	Mid Cap 9.7%	EM Corp 13%	Loans 10.4%	Prefs 10.6%	EM Corp -13%
Prefs -25.2%	REITs 28.0%	S&P 500 15.1%	EM Corp 4.2%	High Yield 15.6%	REITs 2.9%	High Grade 7.5%	US Gov't 0.8%	EM Corp 9.8%	EM Sov 10.0%	High Grade -2.2%
High Yield -26.4%	EM Sov 27.2%	Prefs 13.7%	Prefs 4.1%	EM Corp 15.5%	Cash 0.0%	EM Sov 7.3%	EM Sov 0.6%	EM Sov 9.5%	REITs 8.7%	High Yield -2.3%
Loans -29.3%	Russell 2000 27.1%	EM Corp 12.8%	S&P 500 2.1%	Conv 13.6%	EM Corp -13%	Mtges 6.1%	Loans 0.1%	CCMP 9.0%	High Yield 7.5%	CCMP -2.8%
Conv -29.4%	S&P 500 26.4%	EM Sov 12.5%	Loans 15%	Prefs 13.6%	Mtges -14%	US Gov't 6.0%	Cash 0.0%	REITs 8.6%	EM Corp 7.3%	REITs -4.0%
Russell 2000 -33.8%	Prefs 20.1%	Loans 10.4%	Cash 0.1%	High Grade 10.4%	High Grade -15%	Russell 2000 4.9%	High Grade -0.6%	High Grade 6.0%	High Grade 6.5%	Prefs -4.3%
Mid Cap -36.2%	High Grade 19.8%	High Grade 9.5%	CCMP -0.8%	Loans 9.8%	EM Equity -2.3%	EM Corp 3.7%	Conv -12%	Prefs 2.3%	Munis 5.4%	S&P 500 -4.4%
S&P 500 -37.0%	Munis 14.5%	US Gov't 5.9%	Mid Cap -17%	Munis 7.3%	Munis -2.9%	High Yield 2.5%	Mid Cap -2.2%	Mtges 17%	Loans 4.3%	EM Sov -4.6%
REITs -37.7%	Mtges 5.8%	Mtges 5.7%	Conv -3.8%	Mtges 2.6%	US Gov't -3.3%	Loans 18%	Russell 2000 -4.4%	US Gov't 1.1%	Mtges 2.4%	Russell 2000 -11.0%
CCMP -40.0%	Cash 0.1%	Munis 2.3%	Russell 2000 -4.2%	US Gov't 2.2%	Prefs -3.7%	Cash 0.0%	High Yield -4.6%	Munis 0.4%	US Gov't 2.4%	Mid Cap -11.1%
EM Equity -53.2%	US Gov't -3.7%	Cash 0.1%	EM Equity -18.2%	Cash 0.1%	EM Sov -5.8%	EM Equity -2.0%	EM Equity -14.6%	Cash 0.2%	Cash 0.8%	EM Equity -14.5%

Source: CreditSights, ICE BofAML, S&P/LSTA, Bloomberg. EM Equity is USD MSCI Emerging Market Index, Mid Cap is S&P Mid Cap 400 Index, CCMP = NASDAQ
EM Sov is USD EM Sovereign <= BBB index, EM Corp is USD EM Corporate Plus Index, Cash = 0-3 US Treasury Bill Index, REITs= FTSE NAREIT equity REIT index
data as of Dec 31, 2018



Rating	BB	B	CCC
Avg Spread	352	530	1014
Std. Dev.	150	206	534
12/31/2018	**354**	**531**	**989**
Lowest Spread	130	228	378

<u>Spreads to Treasuries by Credit Rating</u> show significantly lower risk of BB and B rated bonds. Source: Credit Suisse First Boston Global HY Indices 01/30/87 to 12/31/96; Bloomberg Barclays Capital 01/31/97 to 12/31/2018)