

Strategy

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Do BBB Corporate Bonds Belong in Treasury Management Portfolios?

A Closer Look at Their Risk-Reward Profiles

Abstract

BBB and Tier 2 rated debt instruments have evolved to a much larger presence in the short-duration corporate debt market than a decade ago. Default experiences and rating migration data suggest moderately higher credit risk than A-rated instruments, while expected returns also were higher. This ratings category opens up an opportunity set not found in money market funds. While not suitable for all treasury organizations, those that could take advantage of the new debt class may be well compensated.

Guiding Principles:

1. Expect lower market liquidity
2. Steer clear of BBB financial issuers
3. Credit research is essential
4. Use BBB debt as part of a conservatively constructed core portfolio

Introduction

About a decade ago, we wrote a white paper comparing the risk profiles of A and AA-rated corporate bonds as candidates for institutional cash portfolios. We concluded that A-rated corporate bonds offer sound liquidity, yield advantage and improved risk diversification with only negligible incremental risk when compared to a portfolio with an AA-rated mandate. (Original article [here](#).)

Since then, a lot has changed in the cash investment industry landscape. On the one hand, as the generally downward rating migration continues, AAA and AA-rated corporate bonds are fast becoming museum collections. On the other hand, credit intermediation dynamics in the capital markets since the 2008 financial crisis resulted in strong issuance and acceptance of BBB-rated (and Tier 2 short-term commercial paper) debt in recent years.

In this installment, we will take a closer look at the lower rung of the investment grade ratings ladder and discuss the suitability and considerations of BBB-rated corporate securities in a short-duration liquidity portfolio.

BBB Ratings Explained

For starters, the BBB designation refers to a level of "investment grade" creditworthiness evaluation used by nationally recognized statistical rating organizations (NRSROs, or "rating agencies"). Moody's, Standard & Poor's and Fitch, designate investment grade debt in one of four categories - AAA, AA, A and BBB - representing "highest quality", "high quality", "upper medium grade" and "medium grade," respectively. Ratings of BB, B, CCC,

CC, C and D are considered "below investment grade" or "Junk¹".

Similarly, short-term commercial paper obligations have short-term ratings, with a "Tier 1" (P-1 by Moody's, A-1 and A-1+ by S&P, F1 by Fitch) designation roughly corresponding to AAA, AA, and mid-level A ratings, "Tier 2" to lower-level A through mid-level BBB, and "Tier 3" to lower-level BBB. Below investment grade issuers typically have their short-term ratings assigned "Not Prime" (NP).

In other words, when we speak of BBB-rated securities, we are referring to debt instruments still of investment grade quality, albeit at the lower rung of the credit ladder. For simplicity's sake, we'll use BBB long-term and Tier 2 short-term designations interchangeably.

Strong Presence in the Corporate Debt Market

Since our last article on corporate ratings, the BBB segment of the debt market has grown significantly. With the Merrill Lynch 1 to 3 Year Corporate Index as a proxy, total face value tripled from \$335 billion in December 2005 to \$1,075 billion in May 2015. The number of issues in the index doubled from 619 to 1,364.

Figure 1: Growth of the Merrill 1-3 Year Corporate Index (Dec. 2005 vs. May 2015)

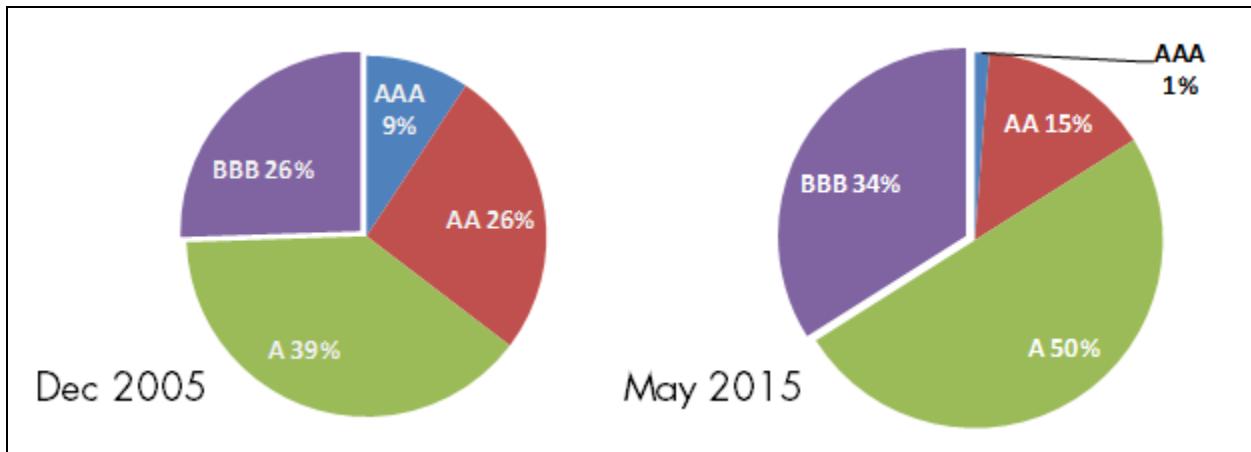


Source: All Merrill Lynch index data are as of May 31, 2015 as available on Bloomberg.

Figures 1 and **2** indicate that, over the last decade, downward ratings migration continued its recent trend. Debt rated A and BBB grew to represent 50% and 34%, respectively, of the overall index. Conversely, AA-rated debt shrank to 15%, and the AAA representation is all but eliminated.

¹ Refer to SIFMA's investinginbonds.com website. <http://www.investinginbonds.com/learnmore.asp?catid=10&subcatid=47&id=182>

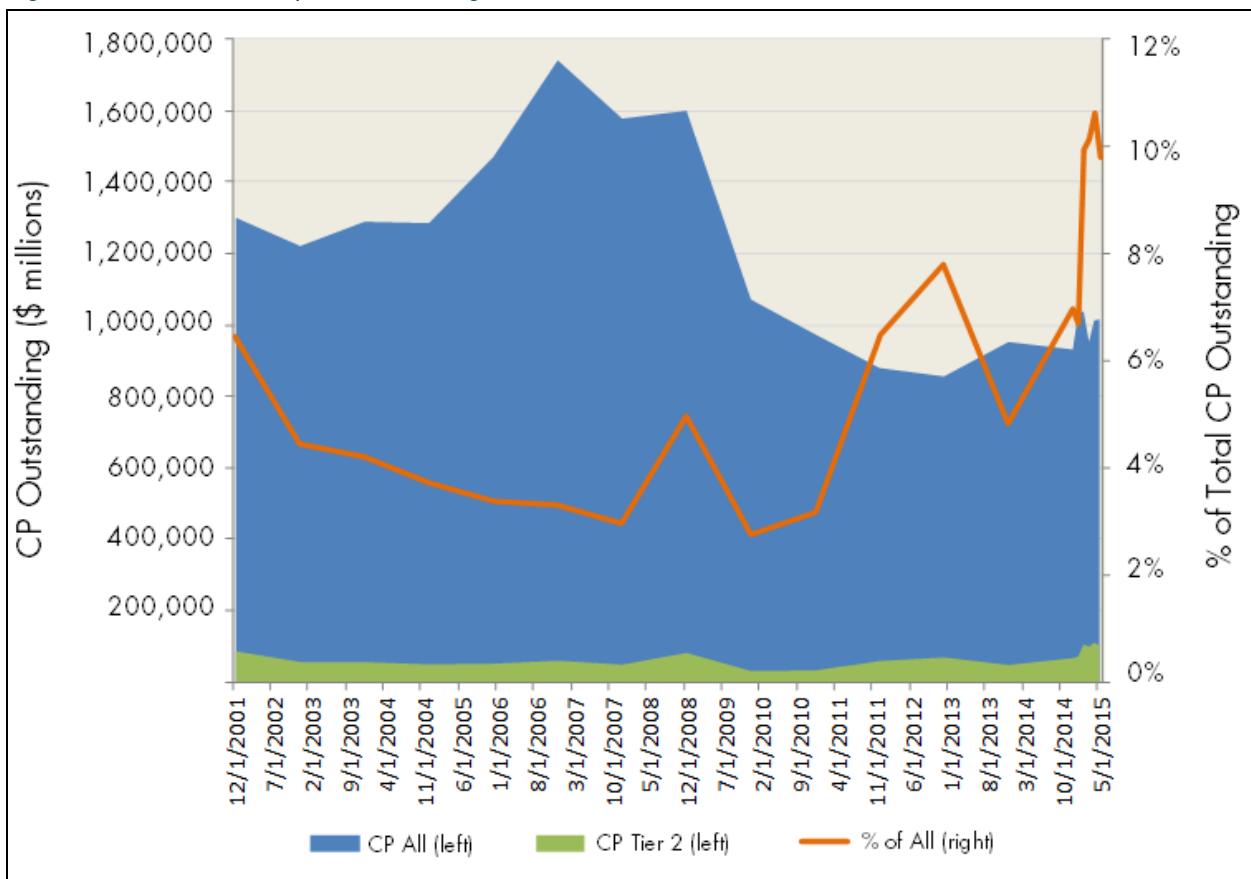
Figure 2: Merrill 1-3 Year Corporate Index Value Distribution by Ratings (Dec. 2005 vs. May 2015)



Source: All Merrill Lynch index data are as of May 31, 2015 as available on Bloomberg.

Similarly in the short-term debt market, Tier 2 commercial paper (CP) issuance grew while overall CP outstanding declined steadily since the financial crisis through 2013. From this trough, overall CP outstanding grew 6.7% to \$1.0 trillion as of May 31, 2015. Tier 2 CP outstanding grew 116% to \$99.6 billion, representing 10% of the overall market during the same period. (See Figure 3)

Figure 3: Commercial Paper Outstanding



Source: Federal Reserve Commercial Paper data download package as of May 31, 2015.

To conclude, BBB (Tier 2) debt has become a much larger component of the corporate investment grade debt market in recent years. It now represents about one third of the short-duration bond market and about 10% of the CP market.

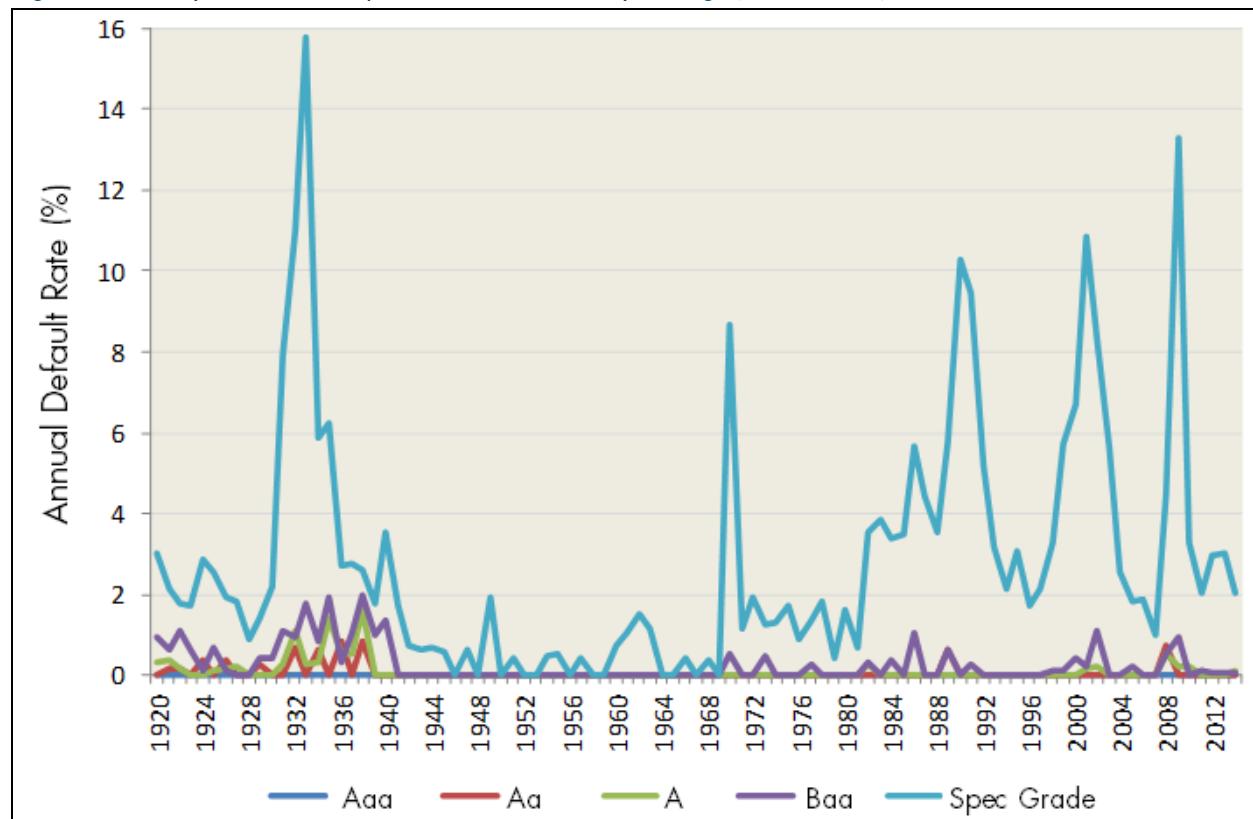
The larger representation, in and of itself, does not indicate its creditworthiness for treasury investment purposes. It does, however, speak to the breadth and liquidity of this type of debt issuance when compared to decades past and relative to debt in other rating groups. The shift in the overall ratings composition also validates the market concern for the lack of high quality liquid investments in the short-term market.

This new reality speaks to the necessity of taking a closer look at BBB non-financial issuers, as they may provide necessary risk diversification and supply relief in a market traditionally exposed to confidence-sensitive financial institutions debt.

Marginally Higher Credit Risk

For credit instruments to be considered as potential investments, the most relevant question is whether the risk assumed is consistent with the principal preservation and liquidity objectives of treasury investments. To evaluate incremental credit risk, we will review the annual default studies and ratings migration reviews conducted by Moody's²:

Figure 4: Moody's Annual Corporate Default Rates by Ratings (1920-2014)



Source: Moody's, see Endnote No.2

² Sharon Ou et al., Special Comment: Annual Default Study: Corporate Default and Recovery Rates, 1920-2014 (with Excel data package), Moody's Investors Service. March 4, 2015.

Figure 4 shows almost indistinguishable differences in default experiences among various investment grade rating categories in the past 96 years. The average annual default rate among BBB (Baa) issuers during 1920-2015 was 0.26%, compared to 0.10% for A-rated issuers and 0.06% for AA corporate.

Figure 5 lists all defaulted entities in the United States in 2014. Note that none of the entities had investment grade ratings in the one and five-year periods before the default event. In fact, very few of them had ratings above single-B, or two steps below the investment grade designation. This observation confirms common understanding that investment grade credits rarely go into default status within a short period of time. The exceptions, when they do occur, often involve extreme liquidity shortages, regulatory threats, or fraud.

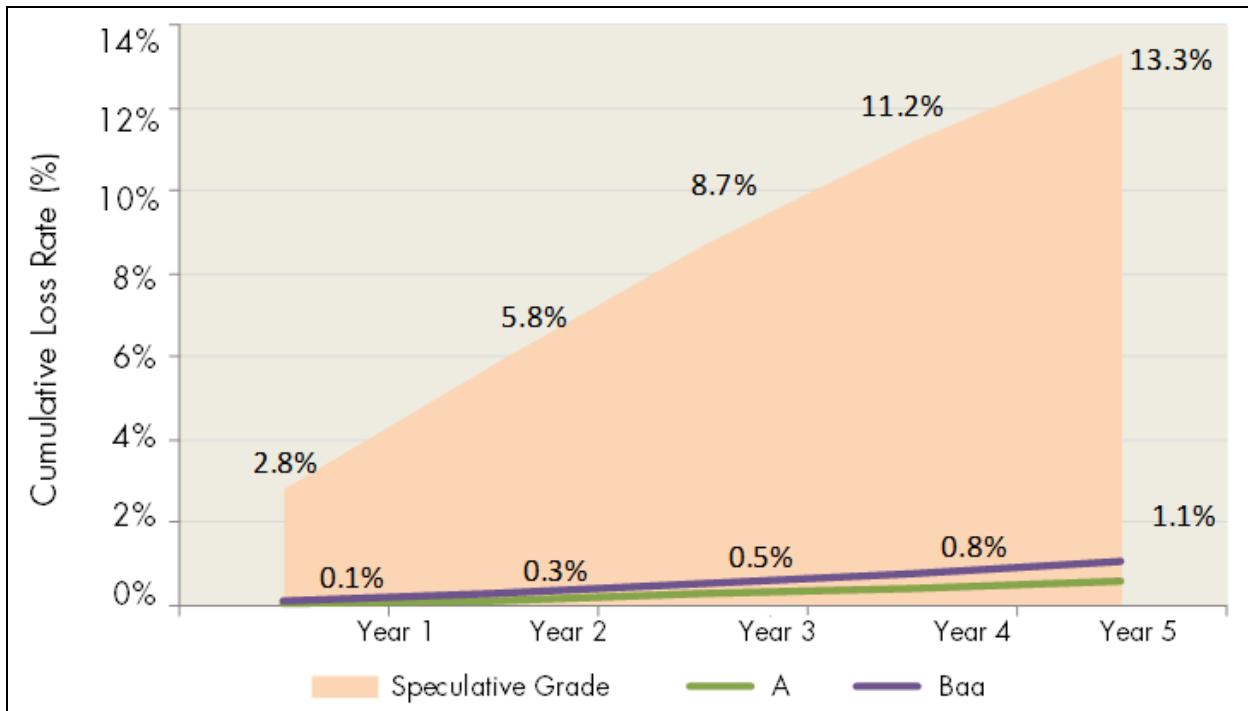
Figure 5: Moody's Rated U.S. Corporate Bond and Loan Defaults in 2014

Company	Default Type	Bonds (\$mil)	Sr. Unsec. Recovery	Rating 5 YRs Prior	Rating 1 YR Prior
Affinion Group Holdings	Distressed exchange	89		B2	B2
Alion Science and Technology	Distressed exchange	213	82%	B3	Caa2
Allen Systems Group, Inc.	Missed interest payment	300		B2	Caa2
Altegrity, Inc.	Distressed exchange	599	90%	B3	Caa2
American Media, Inc.	Distressed exchange	121		B3	B3
Endeavour International Corp.	Missed interest payment	705	3%	Caa2	Caa1
Energy Future (3 entities)	Chapter 11	8,359	52%	Caa2	Caa2
Global Geophysical Services	Chapter 11	250	55%	B3	B3
GSE Environmental, Inc.	Prepackaged Chapter 11	-		B3	B3
Guitar Center Inc.	Distressed exchange	535		B3	B3
Harlan Laboratories, Inc.	Distressed exchange	-		B3	B3
iPayment (2 entities)	Distressed exchange	134	53%	B2	B3
James River Coal Company	Chapter 11	473	7%	Caa2	Caa1
Mmodal Inc.	Chapter 11	250	5%	NR	Caa1
Momentive Performance Materials	Chapter 11	3,077		Caa1	Caa1
New Sbarro Intermediate Holdings	Prepackaged Chapter 11	-		Caa1	Caa1
NexTag, Inc.	Distressed exchange	-		B1	Caa2
Sorenson Communications, Inc.	Prepackaged Chapter 11	735		NR	Caa2
Texas Competitive Electric Holdings	Chapter 11	8,234	10%	Caa1	Caa3
Travelport LLC	Distressed exchange	389		B2	B1
UniTek Global Services	Missed interest payment	-		NR	Caa2
USEC Inc.	Chapter 11	530	34%	Caa1	Caa1
Verso Paper Holdings LLC	Distressed exchange	401		Caa2	Caa2
Waterford Gaming LLC	Missed principal payment	42		Caa2	Caa2
YRC Worldwide Inc.	Distressed exchange	51		Caa2	Ba2
	TOTAL	25,487			

Source: Moody's, see Endnote No.2

The table below (**Figure 6**) provides the cumulative loss experience for different rating categories in the more recent period of 1982-2014. The loss figures combine the occurrence of default with recovery value given defaults. The table shows that, for a given five-year period, BBB-rated debt has an expected loss of 1.06%. The figure is higher than 0.6% for A-rated debt, but far less than all of the speculative grade debt.

Figure 6: Average Cumulative Credit Loss (1982-2014)



Source: Moody's, see Endnote No.2

Instead of default and recovery statistics, let us consider ratings migration, as downgrade risk is probably a more relevant factor for investors of short-duration high grade debt. **Figure 7** shows the one-year rating migration between 1920 and 2014 that, on average, 82% of BBB ratings will remain the same or be upgraded, while 5.8% downgraded and 7.6% having their ratings withdrawn.

Figure 7: Average 1-Year Rating Migration (1920-2014)

From/To	Aaa	Aa	A	Baa	Ba	B	Caa	Ca-C	WR	Default
Aaa	86.5%	7.9%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	4.6%	0.0%
Aa	1.1%	83.5%	7.5%	0.8%	0.2%	0.0%	0.0%	0.0%	6.7%	0.1%
A	0.1%	2.7%	84.2%	5.7%	0.7%	0.1%	0.0%	0.0%	6.3%	0.1%
Baa	0.0%	0.3%	4.1%	82.1%	4.7%	0.7%	0.1%	0.0%	7.6%	0.3%
Ba	0.0%	0.1%	0.4%	5.9%	73.5%	6.9%	0.6%	0.1%	11.3%	1.2%
B	0.0%	0.0%	0.1%	0.5%	5.4%	71.6%	5.8%	0.5%	12.8%	3.2%
Caa	0.0%	0.0%	0.0%	0.1%	0.7%	8.2%	64.5%	3.4%	12.3%	10.7%
Ca-C	0.0%	0.0%	0.1%	0.1%	0.5%	2.9%	7.8%	50.6%	12.7%	25.3%

Source: Moody's, see Endnote No.2

For short-term debt, the most recent default and ratings migration study by Moody's was as of 2009. It found that, over a period of 365 days, 4.8% of initial P-2 ratings were downgraded, 6.7% of which were withdrawn and 0.1% defaulted. This data series was based on an observation period of 1972-2009³.

³ Sharon Ou et al., Special Comment: Default and Recovery Rates of Corporate Commercial Paper Issuers, 1972-2009, Moody's Investors Service, June 22, 2010.

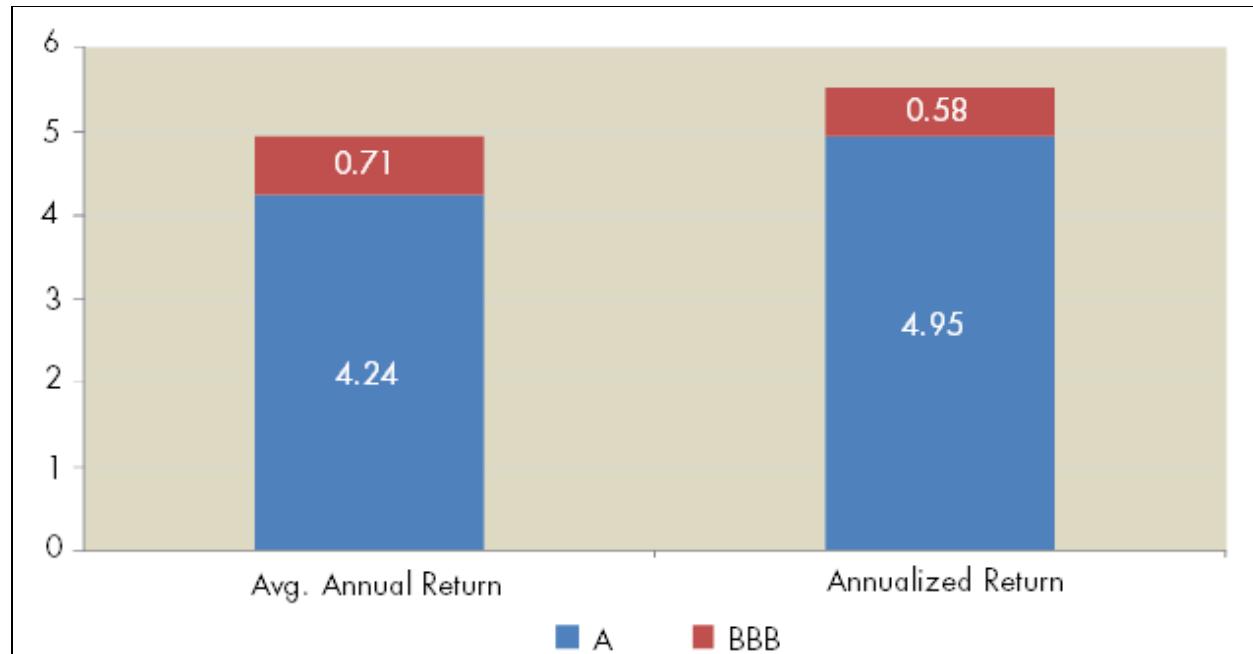
We should note that these Moody's statistics include financial firms whose ratings tend to be more vulnerable under extreme market conditions. The expected holding period of corporate securities in a typical liquidity portfolio also may be shorter than the three to five-year time horizon in our examples.

To summarize, although lower ratings generally correlate with more adverse credit experiences, both the probability of default and expected losses of BBB corporate debt are within the confines of investment grade quality and are far less onerous than in speculative ratings categories. As in all credit instruments, the expected loss rate for BBB securities is non-zero. Treasury investors should reach their own conclusions consistent with their own risk tolerance.

Incremental Return Potential

In addition to sources of supply and risk diversification, one of the expected benefits of BBB debt is higher income potential to compensate for the incremental credit risk. Empirical evidence over the last 20 years in Merrill Lynch 1-3 Year Corporate Index component returns tend to support this risk-reward expectation.

Figure 8: Excess Returns by Ratings (Merrill 1-3 Year Corporate Index components, 1995-2004)

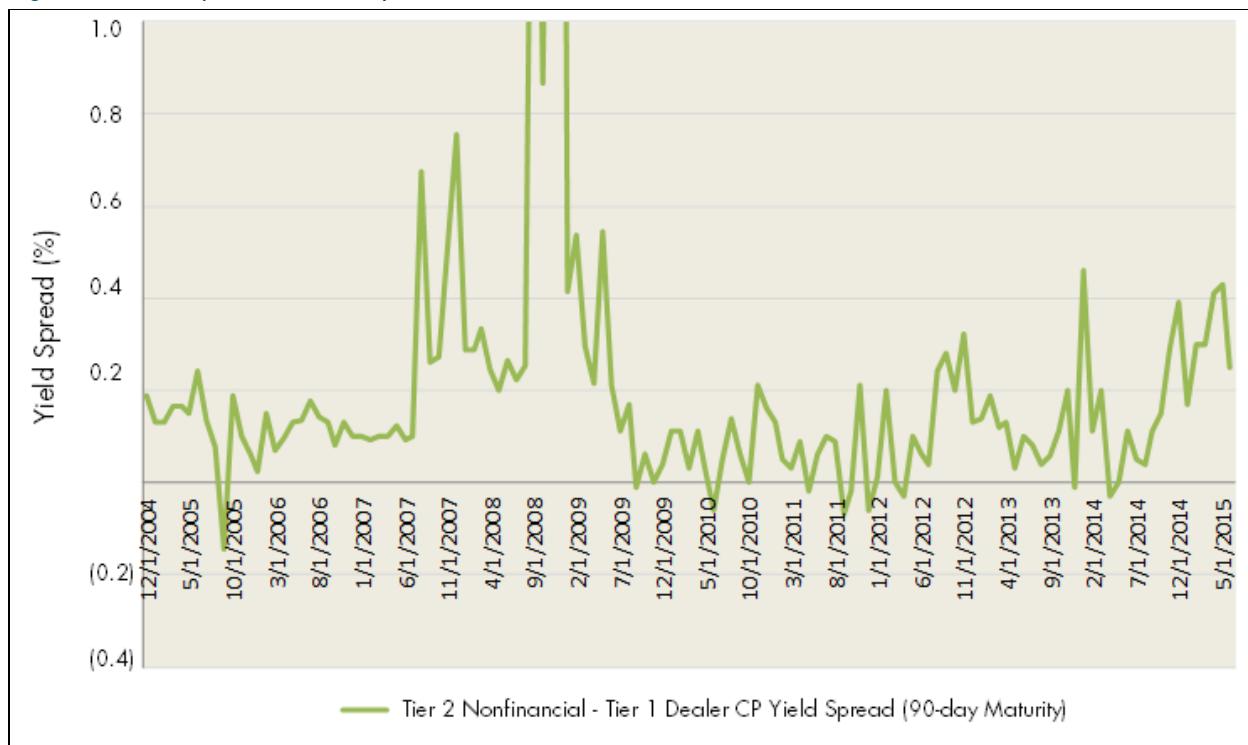


Source: All Merrill Lynch index data are as of May 31, 2015 as available on Bloomberg.

Figure 8 shows that, over the last 20 years, the A-rated cluster in the Merrill 1-3 Year Corporate Index returned 4.95% per year. The BBB cluster returned 0.58% more in the same period, or 11.8% higher on a relative basis. Similarly, the simple average of the 20 annual returns for BBB-rated debt outperformed A-rated debt by 0.71%. In terms of annual return volatility, the BBB cluster outperformed the A cluster in 15 of the 20 years.

As of June 30, 2015, the BBB rating cluster has a yield advantage of 0.48% (2.00% vs. 1.52%) over the A rating group.

Figure 9: Yield Spread of 90-Day Tier 2 Non-financial to Tier 1 Dealer Placed CP



Source: Bloomberg Money Market Rate Curve as of June 30, 2015.

In the CP market, the average yield spread of Tier-2 90-day non-financial CP to Tier-1 dealer placed CP has been 0.23% for the last twenty years, which is roughly the same level today. In 2015, the widest month-end spread was 0.43% on May 29th and the narrowest was 0.17% at January month-end. During the financial crisis in 2008, this spread understandably spiked to 4.88% shortly after the Lehman Brothers bankruptcy.

An Opportunity Set Unavailable in the Money Market Fund World

With the passage of the Securities and Exchange Commission's (SEC's) new money market fund reform in July 2014, participants in the money market fund space are acutely aware of the supply shortage in high-quality eligible investments. Rating downgrades of bank debt and counterparties further reduce eligible investments for money market funds. In fact, the general decline in average portfolio credit ratings led to Moody's changing its outlook on the money market fund industry to negative⁴.

In this backdrop, BBB-rated securities introduce an additional source of supply unavailable to most money market funds. Tier 2 ratings are typically ineligible securities for funds rated AAA. For all money market funds, SEC rules limit Tier 2 concentration to 3% of a portfolio and with a maximum maturity of 45 days. Single issuer concentrate is set at 0.5%. Note that rating agencies often have more stringent criteria for funds to retain their AAA ratings than the rules prescribed by the SEC.

Accounts unconstrained by these restrictions will have the flexibility to add credit or duration exposures to BBB securities through direct purchases or separately managed accounts.

⁴ Announcement: Moody's changes outlook for money market fund industry to negative, in face of challenging market conditions, December 2014.

Treasury Portfolio Considerations

BBB-rated corporate bonds have the positive attributes of broader supply, improved risk diversification, moderate default and ratings migration risk and attractive yield potential. These attributes need to be viewed in the context of treasury management organizations, which tend to emphasize principal preservation and liquidity more than income objectives in general fixed income portfolios. Institutional cash investors may do well observing the following guiding principles.

1. **Expect lower market liquidity:** Although BBB-rated corporate securities are of investment grade quality, market acceptance tends to be more limited. The lower acceptance often leads to lower secondary market liquidity as fewer potential buyers are available. The trend may improve as market acceptance improves. For the time being though, one should rely more on maturity proceeds than secondary market for means of liquidity from BBB-rated corporate securities.
2. **Steer clear of BBB financial issuers:** Both corporate and financial debt issues can be found in the corporate debt market. It would be a mistake to think that all BBB rated debt is alike. The creditworthiness of an issuer depends on many factors, including its business model, operating and financial conditions and susceptibility to external factors. Decades of empirical evidence has shown that ratings on financial firms tend to be more volatile due to the confidence-sensitive nature of their business models and reliance on market funding. Staying with non-financial issuers may help limit ratings risk and reduce market value swings.
3. **Credit research is essential:** Credit investors are aware that ratings may be the first line of defense; they should not be the last. BBB debt issues require more credit scrutiny than those of higher ratings as they usually have credit issues that deserve closer attention. At the lowest rung on the investment grade ladder, slippage in credit performance may land a BBB investment in "junk" status. The potential speed of credit deterioration also may be faster than higher rated debt.
4. **Use BBB debt as part of a conservatively constructed core portfolio:** For investors who deem BBB debt suitable for a treasury portfolio, portfolio construction should start with a core base of high quality liquid investments, while BBB debt is layered in as attractive risk diversifiers and yield enhancers. When this portion is managed as part of an integral portfolio or as a separate sleeve within a larger portfolio, investors should be aware of the liquidity and market value implications.

Conclusion – BBB Debt is not for Every Treasury Portfolio

In light of recent corporate debt market developments, we surveyed the landscape of BBB and Tier 2 corporate issuers and found that this rating category, long shunned by mainstream treasury investment managers, may offer benefit in supply, risk diversification, and yield enhancement without greatly sacrificing credit quality. On the other hand, BBB issues tend to have lower market liquidity and higher market-related value erosion. They are not ideal for all treasury organizations, as risk cultures, liquidity constraints, and return expectations vary. As yield and supply challenges intensify in the short-duration debt market, organizations that are able to take advantage of this new debt class may be well compensated for the moderately higher credit and liquidity risk they represent.

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