December 2022

Portfolio Construction Report Card

Don't Insist on Straight A's

Investment grade bonds are typically considered an avenue for capital preservation, income generation and diversification given their traditionally lower risk profile relative to other asset classes, such as equities. While investment grade comprises BBB-rated securities (BBBs) and above, we regularly encounter client investment policy statements that winnow the investment grade-universe down to only A-rated and above in an attempt to limit risk. Although well intentioned, we believe avoiding BBBs altogether, ironically, introduces unforeseen risks. Based on our analysis, avoiding BBBs can result in unwanted exposures and/or increased risk of underperformance due to lack of diversification, when in fact, BBB-rated credit often offers compelling opportunities on a risk-adjusted basis.

Before limiting one's investment universe to exclude BBBs, we believe investors should consider the following:

- The proportion of BBB-rated securities in the Bloomberg U.S. Corporate Bond Index has grown significantly in recent years and now comprises nearly 50% of the index.
- As the proportion of the index has grown, so has the sector composition of BBBs. Therefore, limiting portfolio quality to A-rated or higher materially changes the sector diversification of the investment universe.
- Excluding large portions of the investable universe could lead to unintentional over- or under-exposure to exogenous factors like energy prices.
- Many BBBs are issued by familiar, established companies with significant market capitalizations.

Maintaining a diversified portfolio is a key tenet of our corporate credit allocation process. We also believe identifying and investing in securities with favorable risk-reward attributes enables return consistency through economic cycles. Because BBB-rated securities largely provide adequate compensation for their added volatility risk, in our experience, the selective addition of BBBs can materially improve a portfolio's expected risk-return profile. Like any investment, knowing what you own by performing proper due diligence is key.

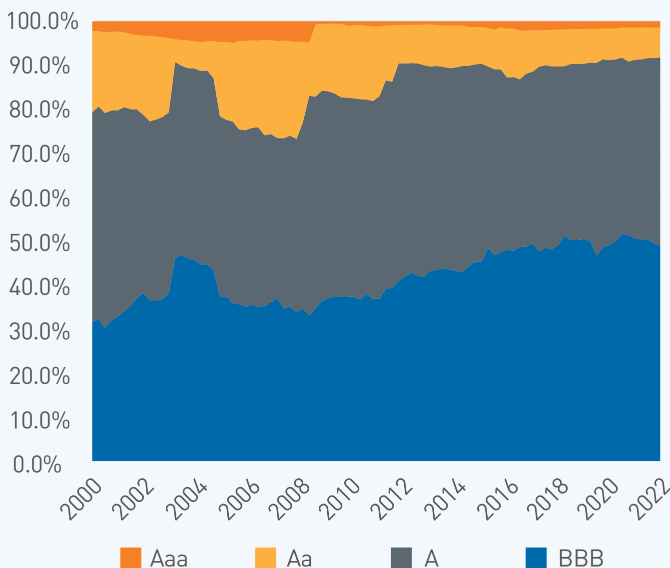
MAINTAINING A DIVERSIFIED PORTFOLIO IS A KEY TENET OF OUR CORPORATE CREDIT ALLOCATION PROCESS

We're Living in a BBB World

To understand the potential impact of excluding BBB-rated bonds from a portfolio, one must first consider their modern ubiquity. Over the last decade, the market value of the Bloomberg U.S. Corporate Bond Index has grown by more than 70% in par value outstanding, during which time, the credit quality of the index has shifted toward BBB-rated issuers. In fact, as of August 31, 2022, almost half of the index is now BBB-rated compared to 37% a decade ago (Figure 1). As a result, excluding BBBs would materially constrain the available investment options in Credit.

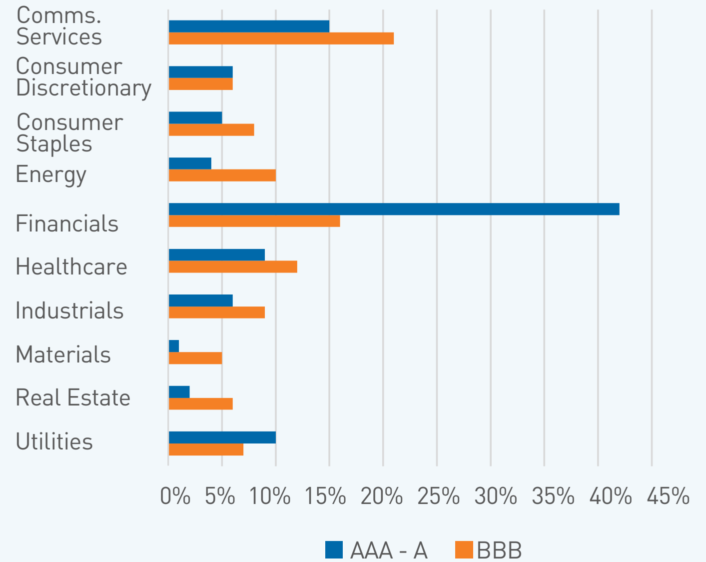
Within a given rating category, sector diversification can vary quite significantly. Large portions of certain sectors such as telecommunications, energy and healthcare are unavailable if a portfolio's minimum quality is restricted to A-or-better-rated issuers. Notably, excluding BBBs from a portfolio's Credit allocation unduly concentrates issuers in the Financials sector (Figure 2). This is exacerbated in short-duration mandates as 60% of the 1- to 3-year A-or-better index is represented by Financials (Figure 3).

Figure 1. Bloomberg U.S. Corporate Bond Index Quality Migration
BBBs as a percent of par value have increased substantially over the last decade.



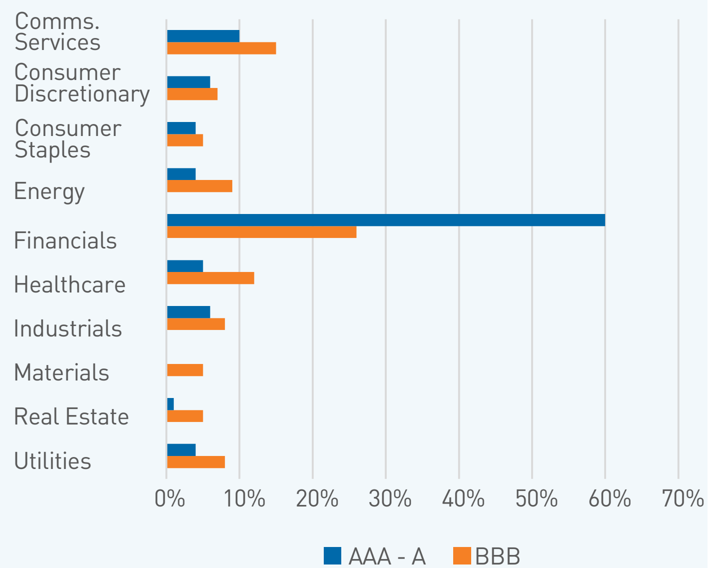
As of 9/30/22. Source: Bloomberg, L.P.

Figure 2. Bloomberg U.S. Corporate Bond Index by Quality and Sector
Portfolio diversification becomes more limited when excluding BBBs.



As of 9/26/22. Source: Bloomberg, L.P.

Figure 3. Bloomberg 1-3 Year U.S. Corporate Bond Index by Quality and Sector
Sector concentrations by quality are exacerbated in short-duration cohorts.



As of 9/26/22. Source: Bloomberg, L.P.

Furthermore, restricting BBBs can result in a portfolio that is over- and/or under-exposed to sectors influenced by changes in external factors, such as commodity price risk and changes in interest rates.

Investors should also understand that many modern BBB-rated issuers are familiar, established companies with solid fundamentals. The top 10 BBB-rated issuers total more than 8.5% of the par value of the index and boast an average equity market capitalization of more than $125 billion (Figure 4).

To BBB, or Not to BBB?

Hesitancy toward BBBs may be due in part to broader macroeconomic concerns and the potential impact on BBB-rated issuers. In the current environment, slower economic growth, higher interest rates and potential near-term refinancing risk — not to mention a company's ability to navigate these conditions — are important factors to consider. However, while macro risks are rising, fundamentals generally remain strong. Many companies took meaningful steps to shore up balance sheets and strengthen liquidity profiles early in the pandemic, which should provide a cushion to navigate softer economic conditions and service debt. As it relates to BBBs in particular, leverage relative to single-As has compressed over the last several years (Figure 5). A strategy that limited BBB exposure would have missed out on a long cycle of improving credit trends at the expense of potential excess returns.

WHILE MACRO RISKS ARE RISING, FUNDAMENTALS GENERALLY REMAIN STRONG

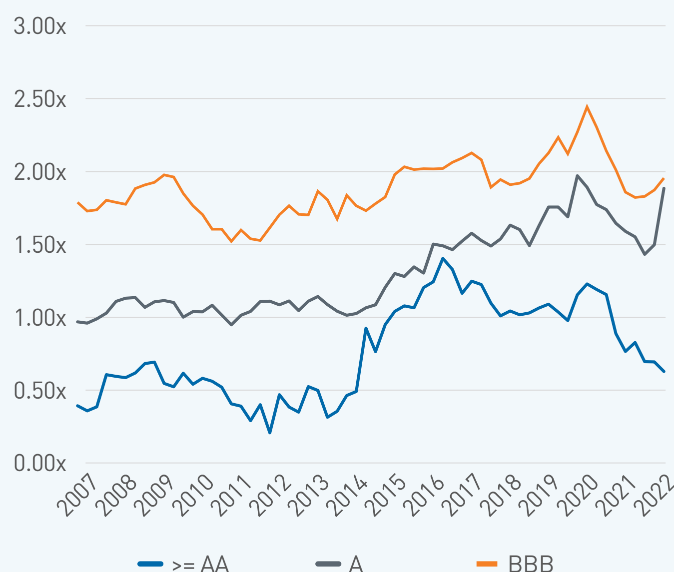
Another often cited concern around BBBs is the potential for further rating downgrades. It is worth noting, historically, the likelihood of a downgrade from the A-rated to BBB-rated category is higher than the probability of a downgrade from BBB to BB (Figure 6, page 4). This likely reflects the broadening diversity of sectors and issuers among the BBB-rated cohort as the segment has grown. In making a relative value determination, our team assesses whether an issuer's prospective ratings trajectory is reflected in the incremental spread of their securities.

Figure 4. Bloomberg U.S. Corporate Bond Index, Largest BBB Issuers by Index Market Value
The top-10 BBB-rated issuers are well-known, established companies.

Name	Rating	Equity Market Cap (mil $)	% Index by Market Value
Verizon Communications Inc	BBB+	159,463.17	1.21%
AT&T Inc	BBB	109,312.84	1.19%
Oracle Corp	BBB	164,654.88	0.98%
Anheuser-Busch InBev	BBB+	92,407.54	0.88%
AbbVie Inc	BBB	237,296.23	0.82%
The Boeing Co	BBB-	71,898.66	0.77%
General Motors Co	BBB-	46,788.79	0.75%
T-Mobile US Inc	BBB-	168,254.71	0.71%
CVS Health Corp	BBB	125,204.48	0.70%
Charter Communications Inc	BBB-	56,203.79	0.61%

As of 9/30/22. Source: Bloomberg, L.P.

Figure 5. U.S. Investment Grade Net Leverage by Rating
Since 2020, leverage among BBB has compressed more than single-As.



As of 6/30/22. Source: CreditSights, ICE BofA Indices

Seeing is B-B-Believing: BBBs Can Improve Risk-Return Profiles

When building client portfolios, we evaluate sectors, issuers and securities using a consistent F-V-T (Fundamentals, Valuations and Tactics) framework to provide a common lens to evaluate relative risk and potential volatility. At the security level, one key metric we rely on is the modified information ratio (MIR), which allows us to focus on securities that have historically demonstrated *attractive return per unit of risk*. MIRs are calculated by dividing realized excess returns by the volatility of those excess returns. When we analyze BBBs through the lens of MIRs, we believe BBB-rated securities provide adequate compensation for the added volatility risk by materially improving a portfolio's expected return (Figure 7). This is especially pronounced in short duration portions of the market.

BBB-quality categories have shown the highest average excess returns across all maturity groups since the global financial crisis. In fact, 5- to 7-year BBBs have generated the highest average returns across all maturity and quality segments. BBBs have also reflected significant increases in return volatility relative to higher-quality segments. However, investors are compensated for the higher volatility as the MIRs exhibit remarkable consistency between BBB and A-rated categories across maturities.

5- TO 7-YEAR BBBS HAVE GENERATED THE HIGHEST AVERAGE RETURNS ACROSS ALL MATURITY AND QUALITY SEGMENTS

Figure 6. Average Global Corporate Downgrade & Default Rates (1981-2021)
There is a higher liklihood of a downgrade from the A-rated to the BBB-rated category.

Downgrade to next rating category (% over two years)

AAA	AA	A	BBB	BB	B	CCC
15.15	13.69	8.64	5.59	10.01	5.82	38.26

As of 9/30/22. Source: S&P Global Ratings

Figure 7. Bloomberg U.S. Corporate Bond Index, Characteristics by Maturity and Quality (10/2009-9/2022)
BBBs historically provide proportional return per unit of risk.

Average Excess Return (% per year)

	AAA-AA	A	BBB
1-3 Year	0.74	1.10	1.63
3-5 Year	0.93	1.49	2.20
5-7 Year	1.24	1.74	2.48
7-10 Year	0.92	1.24	1.66
10+ Year	0.79	0.48	1.34

Volatility (% per year)

	AAA-AA	A	BBB
1-3 Year	1.00	1.35	2.28
3-5 Year	1.90	2.48	3.83
5-7 Year	2.43	3.60	4.91
7-10 Year	3.67	4.41	6.18
10+ Year	6.44	7.11	9.40

Modified Information Ratio

	AAA-AA	A	BBB
1-3 Year	0.74	0.82	0.71
3-5 Year	0.49	0.60	0.57
5-7 Year	0.51	0.48	0.51
7-10 Year	0.25	0.28	0.27
10+ Year	0.12	0.07	0.14

Source: ICE BofA Indices, PNC Capital Advisors

Overall MIR relationships across quality and maturity are consistent with the credit matrix published in our Risk Return Outcomes white paper. Excess returns in BBB-rated Corporate Credit have been slightly less correlated to 30-year Agency Mortgage-Backed Securities than higher-quality credit segments (Figure 8).

Let it BBB

As we have illustrated in this piece, BBB-rated securities offer a compelling investment proposition. Leveraging the breadth of our sector expertise and research capabilities, we seek to identify securities we believe offer adequate additional return opportunities for the inherent risk. Importantly, incorporating BBB-rated securities into our portfolio construction process allows us to broaden sector and issuer diversification and materially reduce concentration risk in Finance-related issuers. Finally, we believe including BBB-rated bonds can result in better risk-adjusted return outcomes for portfolios.

Figure 8. Bloomberg U.S. Corporate Bond Index Correlation to ICE BofA US 15-Year Mortgage Backed Securities Index (10/31/2009-9/30-2022)
BBBs have been slightly less correlated to 30-year Agency MBS.

	AAA-AA	A	BBB
1-3 Year	0.42	0.44	0.40
3-5 Year	0.44	0.46	0.42
5-7 Year	0.48	0.48	0.44
7-10 Year	0.47	0.48	0.45
10+ Year	0.47	0.48	0.47

Source: ICE BofA Indices, PNC Capital Advisors

For more information, please contact your PNC advisor.

Indices

The Bloomberg US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD-denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

ICE BofA Conventional 30-Year Mortgage Backed Securities Index (MF30) is a subset of ICE BofA US Mortgage Backed Securities Index including all 30-year securities issued by Fannie Mae and Freddie Mac except for interest-only fixed rate mortgage pools and hybrids.

ICE BofA US 15-Year Mortgage Backed Securities Index (M15A)is a subset of ICE BofA US Mortgage Backed Securities Index including all 15-year securities except for interest-only fixed rate mortgage pools and hybrids.

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