POLICY
SPOTLIGHT

AUGUST 2019

BLACKROCK®

US BBB-Rated Bonds: A Primer

The amount of US investment grade (IG) BBB-rated corporate debt outstanding is at an all-time high, as measured by par value as well as by the proportion of the total IG debt market. With this recent growth in BBB debt outstanding, there has been focus on the risk of potential downgrades of BBB issuers to high yield (HY) status and the potential consequences these downgrades would have on the market, including speculation about widespread forced selling. While this is a valid question to raise, an examination of the market and investment guidelines suggests the likelihood of broad forced selling due to downgrades is more muted than some have suggested. In this Policy Spotlight, we explore the growth of the BBB-rated corporate bond market, examine various credit scenarios and the likelihood of widespread downgrades, as well as potential market reactions and impacts.

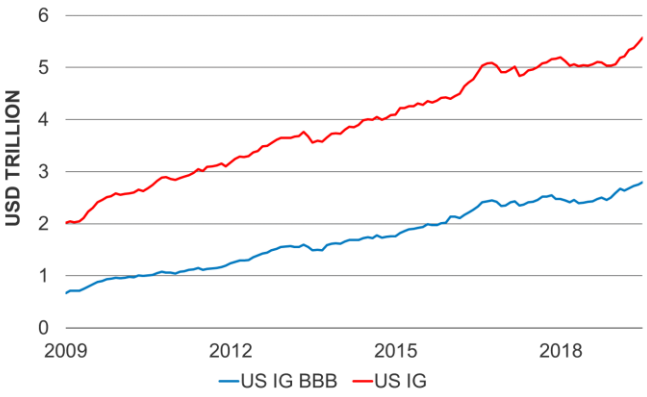
The growth of BBBs in the US

Since 2009, the size of the overall US IG corporate bond market has grown 1.76x, surpassing $5.5 trillion as of June 2019 (see Exhibit 1). In the same period, the BBB-rated segment of this market has more than tripled in size to $2.8 trillion, now representing 50% of all IG debt, up from 33% in 2009 (see Exhibit 2).

We attribute this growth largely to:

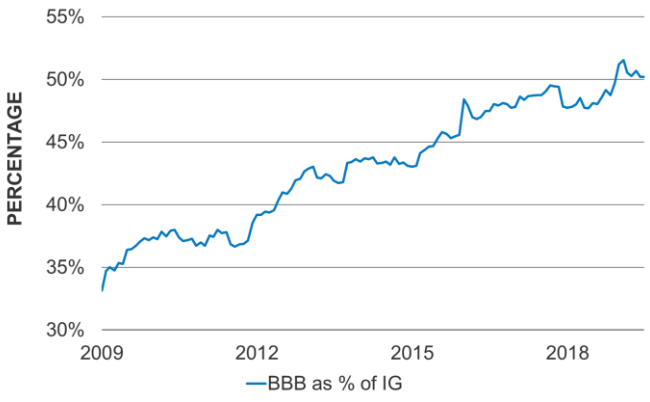
- **Accommodative monetary policy and a low-rate environment, driving international capital flows to fund the US corporate debt market.** This environment of increased demand for corporate debt most notably encouraged the emergence of many first-time issuers across the credit spectrum. The number of AAA, AA, A, and BBB bond issuers grew 33%, 47%, 22%, and 68%, respectively, between 2007 and 2018.[1]
- **The low cost of debt, coupled with a tepid growth environment post-financial crisis, encouraging share repurchases and M&A activity.** In an environment of slowing organic growth, companies have taken advantage of the low cost of debt by returning more cash to shareholders and undertaking M&A deals, resulting in increased leverage and rating downgrades.[2]
- **The shift from bank borrowing to capital markets due to a combination of regulatory and market structure changes.**

Exhibit 1: Growth of Total US IG Bond Market and US IG BBB Bond Market



Source: Bloomberg, BlackRock (July 2019).

Exhibit 2: US BBB Bond Market as a Percentage of Overall US IG Bond Market



Source: Bloomberg, BlackRock (July 2019).

Summary Observations

1. The US BBB corporate bond market has more than tripled since the beginning of 2009, now representing 50% of all IG debt.

2. While concerns have been expressed regarding potential BBB bond downgrades resulting in widespread forced selling, the likelihood of this occurring is mitigated by factors including:
    - Low bond yields as a result of dovish monetary policies from central banks coupled with tightening BBB credit spreads, reduce the likelihood of a rise in financing costs.
    - Issuers concentrated in resilient, non-cyclical sectors.
    - Issuers with several "levers to pull" (including cutting or reducing dividends, share repurchase programs, and M&A activity) to avoid being downgraded to HY.
    - IG companies taking advantage of a lower, flatter yield curve by issuing longer-dated bonds, thereby extending the maturity profile and reducing refinancing risk over the next several years.

3. While it is possible that some portion of BBB bonds will be downgraded, we anticipate limited forced selling, as market activity would likely differ, based on where the bonds are being held:
    a) **Separate Accounts:** Separate accounts, utilized by a wide variety of institutional investors, have specific investment guidelines that are customized. Downgraded bonds could lead to forced selling in accounts where it is required by the account's investment guidelines; however, many separate account investment guidelines allow flexibility in holding downgraded bonds.
    b) **Insurance Companies**: While some mandates may compel selling, most insurance mandates include some flexibility. Previous case studies have demonstrated that in times of downgrades, forced selling by insurers is limited.
    c) **Actively Managed Mutual Funds:** Managers of active mutual funds generally have discretion in under- or over-weighting securities and sectors relative to benchmarks, and may also include securities not represented in the benchmark. Generally, investment strategies for these funds incorporates a level of discretion that does not require forced selling of downgraded bonds.
    d) **Index Mutual Funds and Exchange-Traded Funds (ETFs):** Index bond fund strategies generally replicate the risk characteristics of the bond index. However, the investment strategy often incorporate flexibility for the asset manager to review downgraded securities and make the determination on holding or selling. While we do not expect that downgraded securities that are removed from the benchmark will be held over the long term, most funds have flexibility to hold up to a certain percentage of non-index names; this flexibility in a fund's investment strategy would not require forced selling.
    e) **Other:** Other asset owners, including offshore funds, direct holdings by households, and foreign buyers, are typically the least constrained among bond holders by investment mandates, reducing the likelihood of forced selling.

4. "Fallen angels" can be considered an investment opportunity for investors to continue to hold or to buy, providing a higher yield and an opportunity for price appreciation. For those bonds that are sold on a downgrade, HY buyers may see these as undervalued.

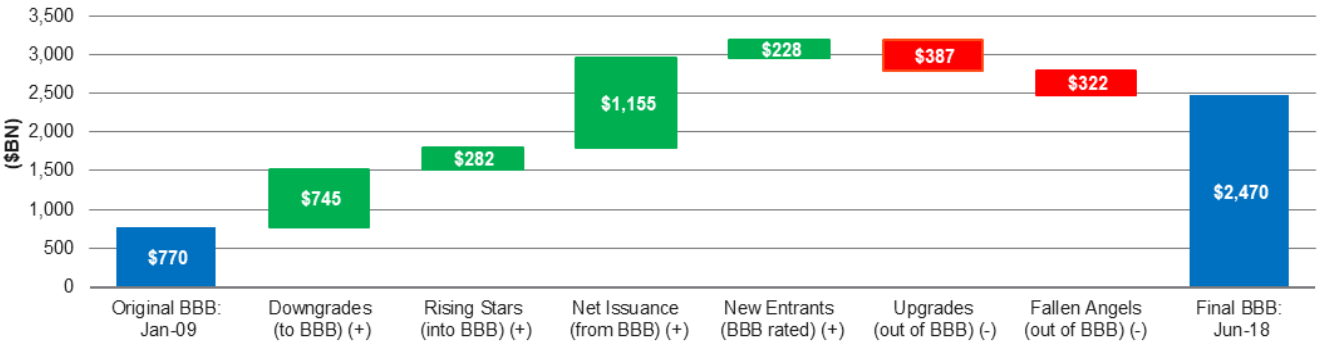
5. Given the limited downgrades expected and the flexibility for many portfolios to hold downgraded bonds, we believe that the US BBB corporate bond market does not present a systemic risk in the current global market environment.

Composition of BBB bonds

Most of the growth in the BBB-rated segment of the corporate bond market stems from net issuance, driven by companies that continue to grow their outstanding debt in the years subsequent to being downgraded to BBB. The growth has secondarily been propelled by outstanding debt that has been downgraded. Much of this downgraded debt has been driven by increased M&A activity, with $752 billion of IG bonds issued to fund M&A activity between 2015 and Q1 2019, resulting in higher leverage for acquirers and consequent downgrades.[3] Exhibit 3 highlights these two catalysts, along with other drivers of growth of BBB bonds outstanding.

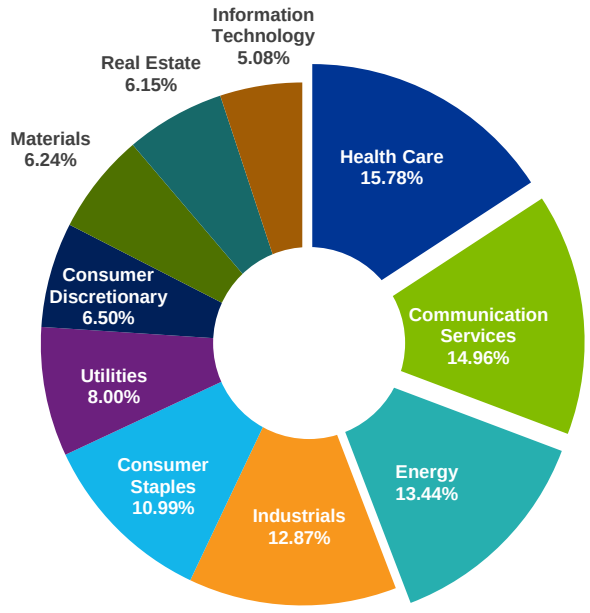
Issuers of BBB bonds by market weight are concentrated in the non-financial sectors that MSCI categorizes as defensive/non-cyclical, including health care, communications, and energy (see Exhibit 4). Breaking down the data further and isolating bonds issued by large-cap companies reveals an even more dominant concentration in non-cyclical sectors, with just the communications, health care, and energy sectors in aggregate comprising over two-thirds of outstanding bonds (see Exhibit 5).

Exhibit 3: Changes in the IG BBB Universe (2009 – 2018)



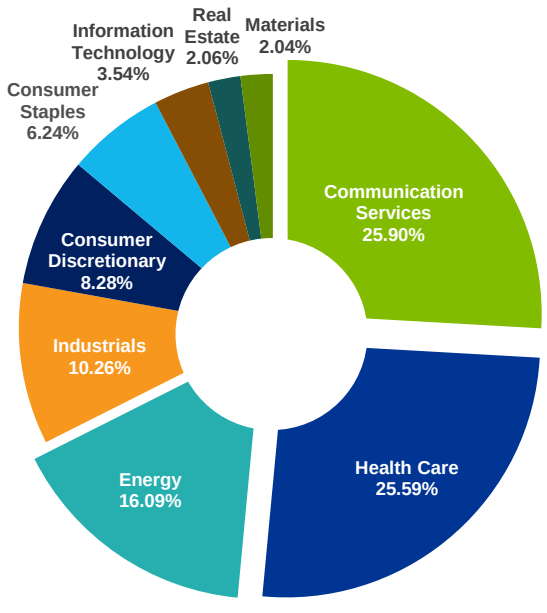
Source: Morgan Stanley Corporate Credit Research, "Nature of the BBBeast" (Oct. 5, 2018).
Note: Downgrades / upgrades counted for debt outstanding in year of downgrade; issuance in subsequent years, less maturities, included in "net" BBB issuance.

Exhibit 4: BBB-Rated Non-Financial Corporate Bond Sector Breakdown



Source: Bloomberg, BlackRock (August 2019).
Note: Weightings represent the Bloomberg Barclays US Corporate BBB-Only Index (BCRBTRUU) benchmark characteristics as of August 2019. Financial weightings removed.

Exhibit 5: Large-Cap BBB Non-Financial Corporate Bond Sector Breakdown



Source: Bloomberg, BlackRock (August 2019).
Note: Weightings represent the Bloomberg Barclays US Corporate BBB-Only Index (BCRBTRUU) benchmark characteristics as of August 2019. Large cap defined as $10bn+ IG corporate index weight, or 0.2%. Financial weightings removed.

Credit scenarios for issuers

Assessing likely credit scenarios for issuers requires consideration of various factors, at both (a) the macroeconomic level, including credit spreads, and (b) the company-level, including the resiliency of its business, the amount and maturity profile of leverage it carries, and the company's ability to decrease that debt. Looking at the current market, we observe both positive and negative factors for different issuers and for the BBB sector as a whole. We find that BBB issuers on average have more stability—with strong cash flow generation, multiple levers to pull, and low refinancing risk— all of which lower the likelihood of widespread downgrades. The following discussion explains some of these important factors.

Global Monetary Policy

Global economic expansion has been spurred by the decisively dovish pivot in monetary policy by central banks since the beginning of 2019. The BlackRock Investment Institute, a team of investment professionals who leverage BlackRock's expertise to provide financial insights, expects that central banks, including the Federal Reserve and the European Central Bank, will continue to support looser financial conditions, which underlies their base case for a slowing but still growing global economy.[4] The resulting depressed long-term yields are expected to foster a continued appetite for credit as an attractive source of income in a low-yield environment.

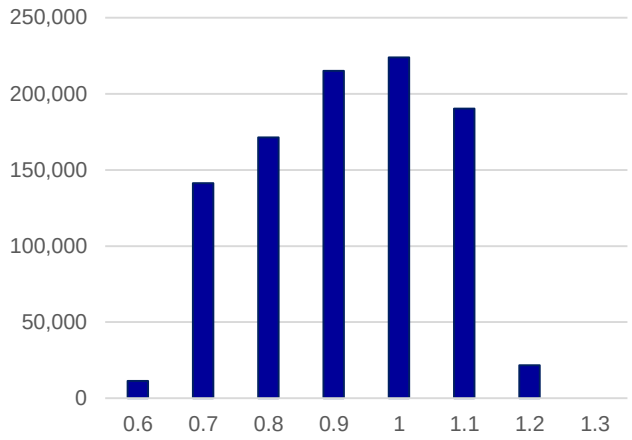
This environment has been coupled with tightening yield spreads. As of July 31, 2019, BBB bond yield spreads averaged 147bps, well below the long-term average of 200bps, and below the 780bps during the financial crisis.[5] The decline in government bond yields and tightening credit spreads have led to credit yields that have fallen to the bottom of recent ranges, as demonstrated by Exhibit 6. Given the low benchmark risk free yields globally and the current low spread levels, a rise in overall financing costs to levels that cause widespread problems for companies appears remote.

Business Resiliency

Second, as highlighted in the previous section, ~63% of all BBB non-financial corporate bond issuers and ~74% of the large-cap non-financial issuers are in non-cyclical, defensive industries, or industries that tend to be more resilient to pullbacks in the market. The sectors that MSCI traditionally classifies as defensive are consumer staples, energy, health care, telecommunications, and utilities. (Note that utilities are not represented amongst the large-cap non-financial issuers.)

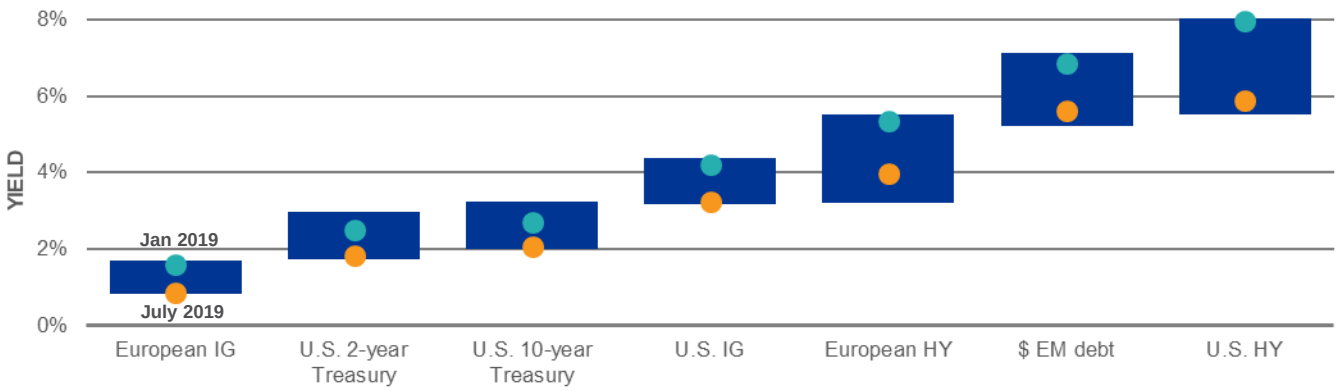
The equity beta of the population of large-cap industrial corporate bond issuers is skewed below 1.0, implying that in a market downturn, they are theoretically poised to experience less volatility than the rest of the market and to continue generating a steady cash flow (Exhibit 7). While the BlackRock Investment Institute does not consider recession to be an immediate market risk, the largest BBB companies are in businesses that are expected to enable them to protect their earnings and avoid downgrades.[6]

Exhibit 7: Distribution of Large-Cap BBBs by Equity Beta ($mm)



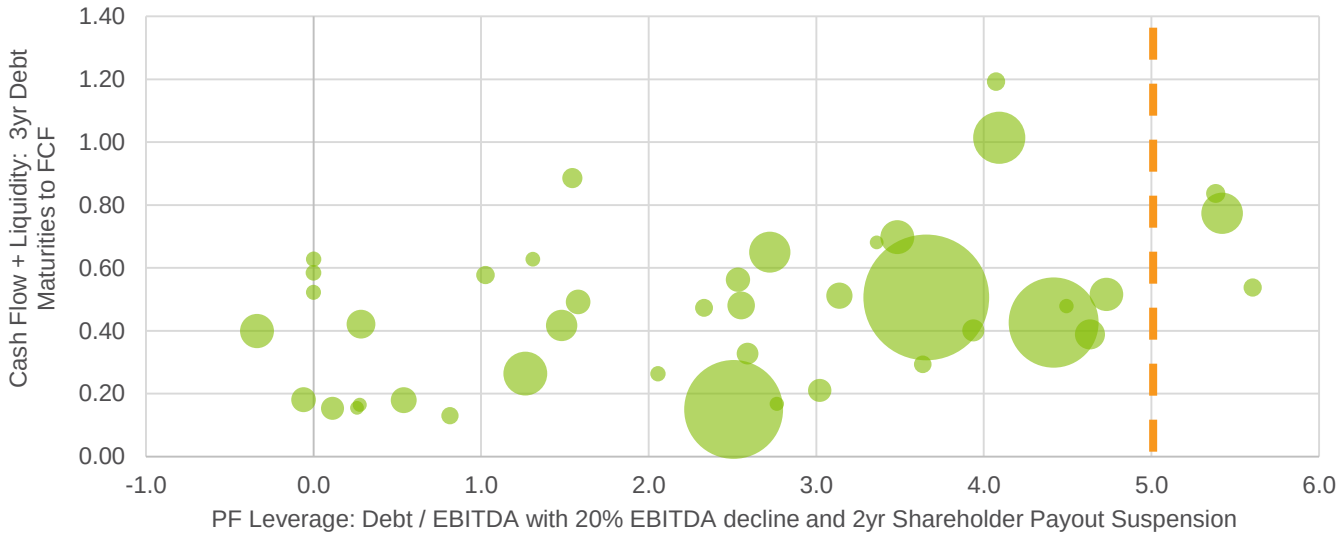
Source: BlackRock, Bloomberg, as of August 2019.

Exhibit 6: Income Wanted – Yield Ranges on Various Fixed Income Asset Classes, 2018 – 2019



Source: BlackRock Investment Institute, "Global Investment Outlook: Midyear 2019" (July 2019).

Exhibit 8: Debt / EBITDA vs. 2018-2021 Debt Maturities to Free Cash Flow Assuming a 20% Decline in EBITDA



Source: Bloomberg, BlackRock. Index concentration data as of November 2018.

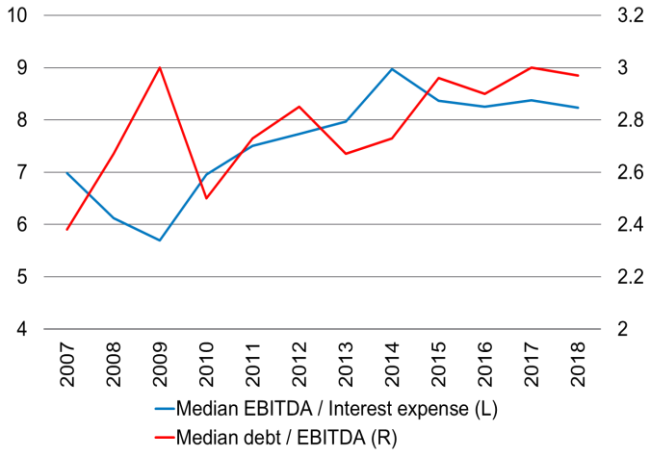
The IG credit team in BlackRock's Fundamental Fixed Income group conducted an analysis on this population of large-cap industrial BBB bond issuers, which reinforced this view. The analysis assumed that all companies would experience a 20% decline in EBITDA caused by an economic downturn, which the companies would attempt to mitigate in part by imposing a two-year shareholder payout suspension. The investment team found that even in this downturn scenario, because these large-cap companies skewed towards low equity beta, very few of the companies would come to carry a leverage over 5x, which the analysis assumed was the demarcation between IG and HY (see Exhibit 8).[7]

Leverage of BBB-rated Companies

Third, increases in median leverage of BBB-rated companies is partially offset by improved interest coverage and the ability to service debt. A comparison of 2007 to 2018 shows that the number of BBB-rated companies increased by 13%, and the median leverage increased by 270%.[8] As of 2018, 31% of BBB debt by par had a leverage greater than 4x.[9] However, leverage and interest coverage are interconnected, and leverage should not be considered in isolation. While the average BBB-rated company carries more leverage, it is also larger, more profitable, and less burdened by interest expense. As Exhibit 9 shows, leverage (measured by median debt / EBITDA) increased from around 2.4x in 2007 to 3.0x in 2018, and interest coverage, or the ability to cover debt (measured by EBITDA / interest expense), increased from 7.0x to 8.2x and offset the increased leverage.

Notably, of the current US BBB-rated companies that carry a leverage greater than 4x, the majority are in relatively stable industries and were temporarily boosted to a leverage about 4x due to recent acquisitions.[10]

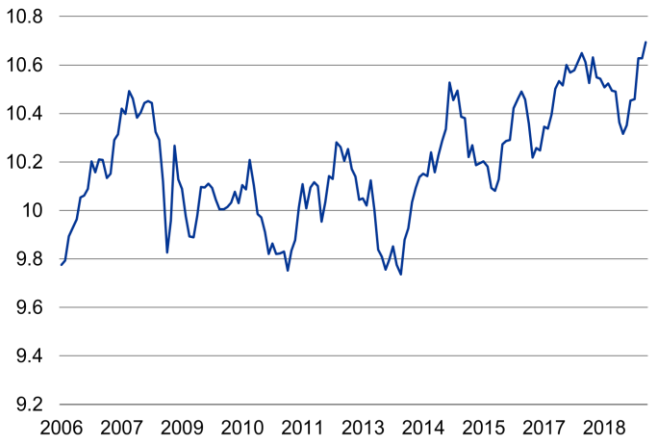
Exhibit 9: Higher Coverage Offsets Higher Leverage of BBB-rated Companies



Source: Kenneth Emery et al., Moody's Investor Service, "Credit Strengths of Baa-rated Companies Mitigate Risks of Higher Leverage" (January 2019).

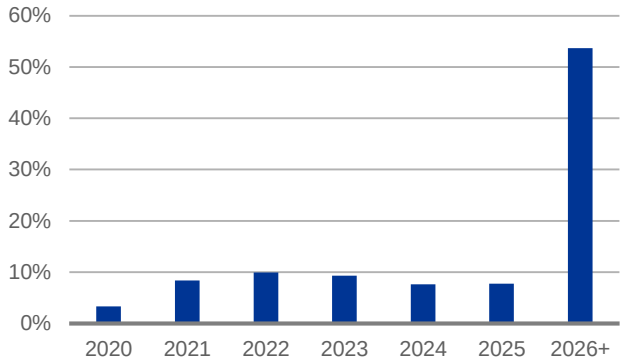
Furthermore, many IG issuers have taken advantage of a lower, flatter yield curve by issuing longer-dated bonds. Exhibit 10 illustrates the extended maturity profile of US corporate bonds. This decision has reduced refinancing risk for those issuers over the next several years. Almost 54% of BBB bonds mature in or after 2026, while only a little over 3% of BBB bonds are set to mature in 2020 (see Exhibit 11). Additionally, given that many of these companies have been able to term out their debt over recent years, they are expected to be able to place new bonds in shorter and easier-to-sell maturities, which should allow them to finance at lower spreads, given a normal yield curve.

Exhibit 10: Weighted Average Life of US Corporate Bonds



Source: Bloomberg, BlackRock. Weightings represent the ICE BAML US Corporate Index (C0A0)'s weighted average life as of July 2019.

Exhibit 11: BBB Bonds Maturity Wall



Source: BlackRock, Bloomberg, BAML US IG Index as of July 2019.

Ability to Avoid Downgrades

Fourth, many of the larger companies have been downgraded to BBB as a result of having implemented more aggressive shareholder-friendly financial policies, including increased dividends and share buybacks.[11] As a result, many of these issuers have flexibility, with several "levers to pull" (including cutting or reducing dividends, share repurchase programs, and M&A activity), to avoid migrating to HY. While many assume management is incentivized to avoid these creditor-friendly policies, Exhibit 12 demonstrates the frequency with which companies have pulled these levers to avoid being downgraded to HY status. In addition to these credit-friendly balance sheet strategies, some companies have the balance sheet flexibility to curtail net debt issuance when facing rating pressure by rolling over less debt than what matures.

Exhibit 12: Examples of Leverage Reduction Plans by BBB-rated Companies

Issuer	Driver	Description
GE	Avoid HY	<2.5x target
Anheuser	Avoid HY	~4.6x to 4.0x in 2020
Kraft Heinz	Avoid HY	~4.4x, 3x target
AT&T	Post-M&A	3.3x to 2.5x in 2 years
Verizon	Post-M&A	2.7x to low 2x in 2 years
Comcast	Post-M&A	3.5x to 2.5x in 2 years
Dell	Post-M&A	~5.5x to 4x in 2 years
Apple	Repatriation	1.4x gross, declining 0.2x/year
Microsoft	Repatriation	5% annual debt reduction
Cisco	Repatriation	40% debt reduction to date
Sherwin	Post-M&A	4x to current 3.5x, ~0.75x to go
WestRock	Post-M&A	4x to current 3.5x, 2.5x target

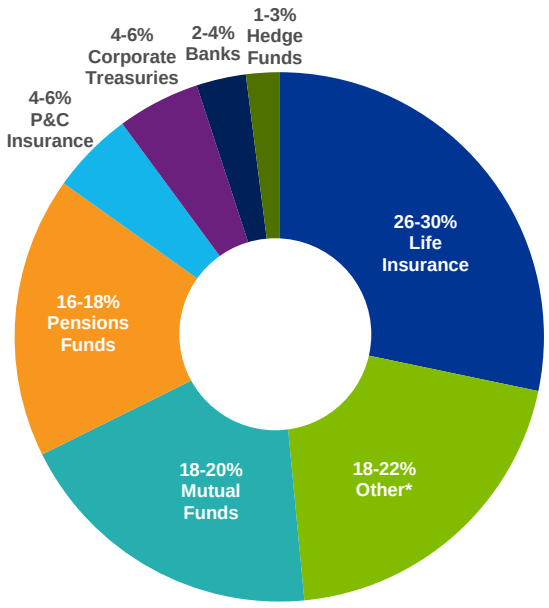
Source: Examples based on 2019 company earnings releases and 2019 earnings guidance presentations / conference calls. Compiled by BlackRock as of April 2019.

Investors and the likelihood of forced selling

With the growth of BBB IG debt in this credit cycle, policy makers are focused on potential widespread downgrades of this debt. Some policymakers have raised concerns that downgrades could generate forced selling.

> *"While attractive to investors that seek a targeted risk exposure, rating-based investment mandates can lead to fire sales. If, on the heels of economic weakness, enough issuers were abruptly downgraded from BBB to junk status, mutual funds and, more broadly, other market participants with investment grade mandates could be forced to offload large amounts of bonds quickly."*
>
> *– Bank for International Settlements, "Markets Retreat and Rebound," BIS Quarterly Review (March 2019)*

Exhibit 13: Estimates of Ownership of IG Corporate Bonds



* Includes endowments, foundations, sovereign wealth funds, offshore funds, direct holdings by households, and bonds held by foreign buyers

Source: Barclays, Bloomberg, Federal Reserve, Lipper, SNL Financial, HFR.

Assessing the potential for forced selling requires an understanding of where these bonds are held. BBB bonds are held by a diverse set of investors, as shown in Exhibit 13. Some of these bond holders manage their assets directly while others outsource management of all or a portion of their assets to external asset managers via separate accounts and/or funds. There is further heterogeneity among these bond funds, which have disparate investment strategies and different end investors. Whereas some funds are heavily retail-oriented, others are sold primarily to institutional investors, and still others are utilized mainly by retirement plans. The differences among investment objectives and end investor constraints make it unlikely that end investors will react simultaneously to market events in the exact same way. We believe that reactions to downgraded bonds would be varied, as a significant portion of bond holders have flexibility to hold downgraded securities.

Separate Accounts: Separate accounts are established by institutional investors with an asset manager. Pension funds, endowments, foundations, and sovereign wealth funds are common users of separate accounts. Separate accounts give asset owners more direct control over strategy than would investments in pooled funds, as separate accounts have specific investment strategy guidelines that can be customized. Within the framework of the clients' investment guidelines, the asset manager makes security selections. Client investment guidelines may allow the asset manager to hold downgraded bonds, or may require an evaluation and proposed plan of action, or may require sale upon downgrade, among other things.

We recommend that asset owners work with investment consultants and other advisors to ensure language in investment guidelines allows for some flexibility in the holding of securities in the event of a downgrade. Some accounts, for example, may allow for an interim period after a security has been downgraded, permitting the portfolio to continue holding the security until an evaluation can be conducted and a plan of action can be determined on a case-by-case basis.

Insurance Company Portfolios: Insurance companies, which as of 2018 represented over 30% of total US IG ownership, encompass many different types of insurance providers, including property and casualty (P&C), health, life, monoline, and reinsurers. These companies tend to be heavily weighted towards high quality fixed income securities, with each company having a different business model geared towards specific insurance products from which they project their liabilities. As a result, across insurance companies, there exists a wide range of portfolios with varying levels of risk tolerance, each of which is subject to regulatory requirements, rating agencies, risk-based-capital (RBC) charges, and internal capital restrictions. Due to this variation across insurers' risk appetites, the effects of potential downgrades are not universal.

Moreover, these portfolios shift over time, reflecting the changing needs of the insurers in different market environments. For example, the post-global financial crisis low-yield environment has driven many insurers to take on additional credit risk to sustain income. According to analysis run by the BlackRock Financial Institutions Group, from 2008 to 2018, life insurance portfolios on average experienced 6% in outflows from NAIC 1 (i.e. A-rated credit or better), and 7% in inflows to NAIC 2 (i.e. BBB-rated credit). Similarly, in the P&C industry, portfolios on average had a 10% decrease in exposure to NAIC 1 and a 8% increase to NAIC 2.[12]

While risk appetite varies among insurance companies, we find that most insurance companies have flexibility in their mandates to withstand price volatility and short-term credit pressure, limiting forced selling. This is demonstrated by an examination of insurance company holdings during a period of heightened volatility in the commodity markets in 2016, when $58 billion of commodity-related securities were downgraded from IG to HY. In the analysis, Barclays found that while it is likely that insurance companies sold out of some of the downgraded bonds, their overall ownership of HY energy bonds increased from 12% to 14%. According to the study, this increase is thought to have been primarily driven by insurance companies continuing to hold a substantial share of fallen angels as they dropped to HY, demonstrating that most mandates do not require forced selling in the event of downgrades.[13]

Actively Managed Mutual Funds: In most actively managed mutual funds, portfolio managers seek to outperform a benchmark index or generate a certain amount of yield. Actively managed open-ended funds allow managers the discretion to invest in and hold instruments, as described in the respective fund's registration statement, that the manager believes would enable the fund to achieve its investment objective. This may include the determination to over- or under-weight different securities and sectors. relative to a fund's performance benchmark, or to invest opportunistically in bond sectors outside of the benchmark.

As such, most actively managed funds do not require managers to sell downgraded securities and permit discretion to continue to hold such securities. The investment strategies for the applicable BlackRock mutual funds, for example, provide that if an investment security of a fund is downgraded below IG, the fund's manager will consider the downgrade event in determining whether the fund should continue to hold the security. Importantly, most investment strategies do not require funds to immediately sell downgraded assets, as this would not typically be in the fund's best interests.

Index Mutual Funds and ETFs: Index mutual funds and most ETFs aim to closely track the performance and risk characteristics of their respective benchmark indexes. If a security were downgraded and removed from an index based on the index provider's index inclusion rules, we would expect that the security would be similarly removed from the tracking fund. The question is how quickly this will occur. In these index strategies, we find that there can exist flexibility. In the case of applicable BlackRock index mutual funds, for example, the manager can review the downgraded security on a case-by-case basis and make the determination as to whether the fund should continue to hold the security.

Similarly, in all fixed income iShares ETFs, managers are given flexibility to invest in securities with a credit rating that is different from the credit rating specified in the methodology in certain circumstances, including when a security is downgraded but is not yet removed from the index, or when the security has been removed from the index but has not yet been removed from the fund.

Furthermore, BlackRock index mutual funds and iShares ETFs have flexibility to hold up to a certain percentage of non-index names. Therefore, while we do not expect that under normal market conditions a material number of these downgraded securities will be held over the long-term, there can be a level of flexibility mitigating the need for immediate forced selling.

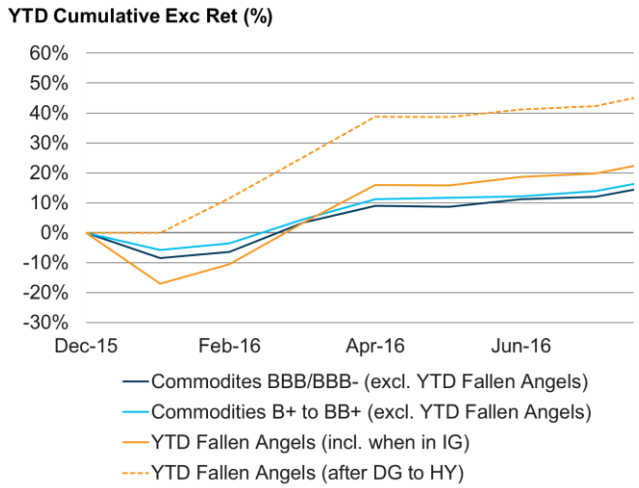
Other: Examples of other bond holders include offshore funds, direct holdings by households, and bonds held by foreign buyers. These bond holders are often direct asset owners and are typically the least constrained investors with significant control over investment strategy. The investment objective and the level of risk tolerance the strategy incorporates can vary significantly. Therefore, it is difficult to generalize what actions each of these asset owners would take in the event of a widespread downgrade. However, due to the flexibility from fewer constraints, we would expect limited immediate forced selling.

Fallen angels present investment opportunities

Fallen angels, or downgraded BBB bonds that fall out of IG and into HY, often present an attractive opportunity for investors who continue to hold the securities after they have been downgraded, and for opportunistic HY buyers. Historically, fallen angels have often outperformed the HY index as well as other IG securities after they have been downgraded.

This is demonstrated by a 2016 case study, when the commodity markets experienced significant volatility and widespread downgrades. A rebound in oil combined with an improved global economic outlook, a substantial increase in easing by central banks abroad, and a sharp surge in demand for USD corporates from yield-seeking foreign investors offset the negative technicals from the downgrades and led to roughly 50% in excess returns (see Exhibit 14).

Exhibit 14: Fallen Angels Have Been Strong Outperformers After Entering High Yield



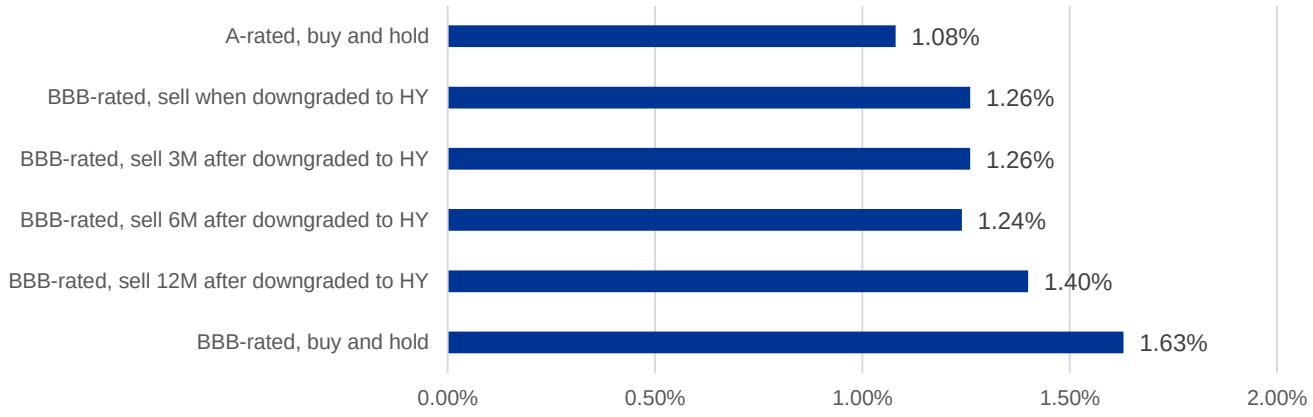
Source: Barclays Credit Research, "Steady Ownership in Unsteady Commodities," (August 19, 2016).

Recent analysis by Bank of America Merrill Lynch finds that because of the strong performance of fallen angels after being downgraded, delaying selling fallen angels is the best course of action.

Their research reveals that continuing to hold the downgraded securities led to the highest annualized excess return as compared to selling them at the time of downgrade or any other time within the subsequent year (see Exhibit 15). In fact, when the research team ran a backtest, they found that in 12 of 13 years, the "buy and hold" strategy outperformed selling bonds at the time of downgrade, underscoring the importance of allowing for flexibility within investment mandates.[14]

> *"One question we often get is: what is the optimal time to sell Fallen Angels (FA)? Our response is this: don't sell… The worst possible strategy is to follow index rules and sell at the end of the month of downgrade to HY, as there is maximum forced selling pressure before HY investors step in and stabilize matters… [F]or investors [who] must sell [fallen angels]… generally speaking performance tends to improve markedly for strategies postponing liquidation."*
>
> *– Bank of America Merrill Lynch "You're Gonna Need a Bigger Allocation to Corporates," (June 2019)*

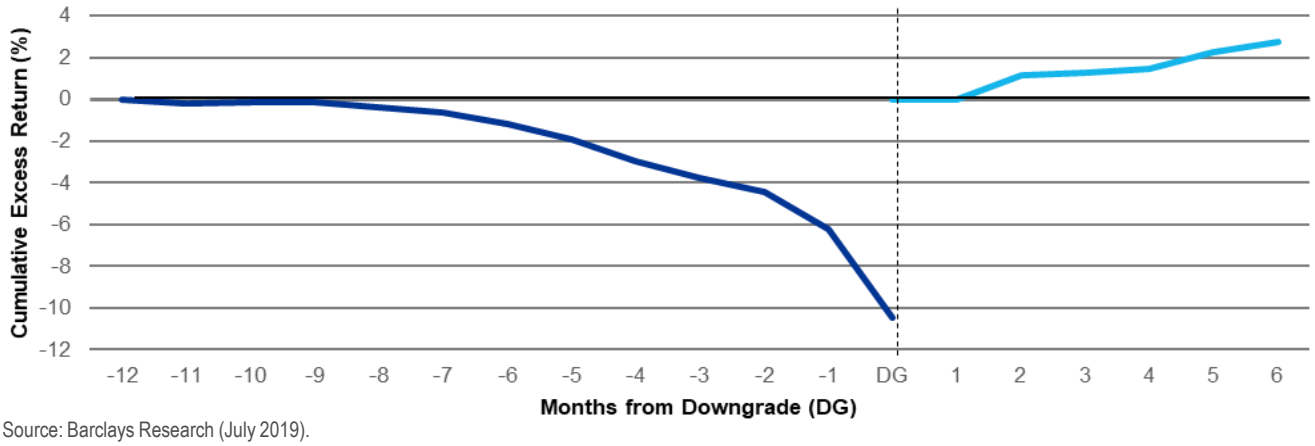
Exhibit 15: Average Annualized Excess Return, 10Y Bonds



Source: Bank of America Merrill Lynch, "You're Gonna Need a Bigger Allocation to Corporates," (June 7, 2019).

The outperformance post-downgrade occurs in part because as the risk of becoming a fallen angel rises for a bond, some investors sell pre-emptively. This defensive selling causes the downgrades to be priced into the credit about 6 to 12 months before the downgrades occur (see Exhibit 16). While there is a market impact on the average price path prior to downgrade events across the IG bond market, there is an outsized effect on the price of these fallen angels, which can then represent a notable buying opportunity for HY investors.[15] Furthermore, downgraded BBB bonds would be the highest-quality in the HY market, and many of these companies would be large-cap issuers that would improve the liquidity of the HY market, potentially making these bonds even more attractive to opportunistic HY buyers.

Exhibit 16: Fallen Angel Performance Before and After Downgrade



Source: Barclays Research (July 2019).
Note: The graph represents the historical average cumulative returns of bond constituents in the Barclays US Corporate High Yield Index issued by companies that were downgraded from investment grade to high yield from 1/1/2000 – 12/31/2015. This information is based on back-tested index data. Past performance does not guarantee future results.

Bottom Line:

While the growth of the US BBB bond market has led to concerns that there is a heightened risk of widespread downgrades of this credit, we find that many factors help to mitigate the potential of this occurring. Furthermore, we believe that if there were significant downgrades, forced selling would be limited, given the flexibility that many bond-holders have to hold fallen angels. Given the limited downgrades expected and the flexibility for many portfolios to hold downgraded bonds, we believe that the US BBB corporate bond market does not present a systemic risk in the current global market environment.

Notes

1. Wells Fargo Asset Management, "Investment Perspectives: An Inside Look at the BBB-rated Credit Market" (March 2019), available at https://www.wellsfargoassetmanagement.com/assets/public/pdf/insights/investing/inside-look-bbb-rated-credit-market.pdf. Note: Percentages calculated from percent change from information listed in Figure 2.
2. J.P.Morgan US High Grade Strategy & Credit Derivatives Research, "How Much BBB Debt Will Fall to HY?" (February 21, 2019).
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4. BlackRock Investment Institute, "Global Investment Outlook: Midyear 2019" (July 2019), available at https://www.blackrock.com/us/individual/literature/whitepaper/bii-midyear-investment-outlook-2019.pdf.
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8. Moody's Investor Service, "Credit Strengths of Baa-rated Companies Mitigate Risks of Higher Leverage" (January 23, 2019).
9. Morgan Stanley Corporate Credit Research, "The Nature of the BBBeast" (October 5, 2018), available at https://www.sec.gov/spotlight/fixed-income-advisory-committee/morgan-stanley-nature-of-the-bbbeast.pdf.
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13. Barclays Credit Research, "Steady Ownership in Unsteady Commodities" (August 19, 2016).
14. Bank of America Merrill Lynch, "You're Gonna Need a Bigger Allocation to Corporates" (June 7, 2019).
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