

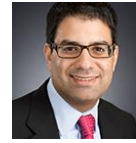
Lessons from COVID-19: U.S. BBB Bonds and Fallen Angels



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In August 2019, we published a *Policy Spotlight* entitled “US BBB Bonds: A Primer.” At the time, there was significant focus on the size and growth of the corporate bond market and the potential for downgrades. Our paper looked at the composition of the market and analyzed both the issuers and the investor base.

With the sudden, sharp economic slowdown caused by the global COVID-19 pandemic, the first broad credit downgrade cycle since the Global Financial Crisis (GFC) has commenced. This new *Policy Spotlight* builds on the former paper, providing an update on the credit cycle and the impact on the corporate bond market. This also accompanies a similar *Policy Spotlight*, “Lessons from COVID-19: European BBB Bonds and Fallen Angels,” focused on developments in the European market.

Downgrade Cycle Underway

Beginning in February 2020 and accelerating in March as the effect of COVID-19 and lower oil prices pressured global and domestic economic growth projections and company balance sheets, rating agencies began to quickly and proactively adjust company ratings and outlooks.

As of May 31, 2020, approximately \$121 billion of BBB-rated corporate bonds have been downgraded, resulting in

issuers moving from investment grade (IG) indexes such as the Bloomberg Barclays US Corporate Index and into high yield (HY) indexes such as the Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged USD. Kraft Heinz (\$22 billion) was the first large name to be downgraded below IG and has since been followed by Ford (\$36 billion), Occidental Petroleum (\$29 billion) and Western Midstream (\$8 billion).¹

Rating agencies have also adjusted forward outlooks (see Exhibit 1). As of June 17, 2020, Moody’s has \$33 billion across eight Baa3-rated issuers on negative watch, with outlooks being adjusted across the rating scale.² This suggests that while we are partly through this downgrade cycle, there is likely still further to go, both within IG and in migrations down to HY.

From a sectoral perspective, as demonstrated in Exhibit 2, we see that much of the downgraded outlooks across the rating buckets are concentrated in the energy sector. This was a result of a deep slump in the price of oil, gas, and other commodities. There were also disruptions in supply chains, with S&P Global Ratings noting that oil markets were “heading into a period of severe supply-demand imbalance.”³

The opinions expressed are as of July 2020 and may change as subsequent conditions vary.

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Key Observations

1. The size of the BBB market is \$2.776 trillion outstanding as of May 31, 2020, growing from \$822 billion outstanding since May 31, 2009 and representing about 48.8% of the total IG market, which stands at \$5.688 trillion as of May 31, 2020.⁴
2. Year-to-date as of May 31, 2020, a total of roughly \$121 billion has been downgraded out of IG into HY across 16 issuers.⁵ An additional \$33 billion across eight issuers are on Moody's Baa3 (i.e., BBB-) negative watch list as of June 17, 2020.⁶
3. In the BlackRock Global Fixed Income team's base case scenario, we estimate \$300 billion in total downgrades from IG to HY, of which \$121 billion has already been downgraded. In the downside scenario, we predict as much as \$550 billion in total downgrades.
4. One important element that distinguishes this broad credit downgrade cycle from previous ones is the change in composition of the BBB-rated credit to sectors with less cyclical, bolstering issuer resiliency.
5. Should there continue to be widespread downgrades, we believe that forced selling by asset owners would be limited, as market activity would likely differ based on where the bonds were being held, and a significant portion of bondholders would have flexibility to hold the downgraded securities. Selling that does occur is likely to be offset somewhat by the demand from opportunistic investors for the higher yields offered by lower-rated bonds.

Exhibit 1: Year-to-Date Changes to Outlooks Across Rating Buckets (Moody's and S&P)

Moody's #	AAA	AA1	AA2	AA3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2
Rating Change	-	1	2	5	11	18	26	50	54	61	21	5
Negative Outlook	-	1	2	2	9	13	16	26	34	40	11	4
Negative Watch	-	-	-	1	-	3	1	-	4	8	4	1

Moody's \$bn	AAA	AA1	AA2	AA3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2
Rating Change	-	20	43	24	110	95	202	242	129	194	83	104
Negative Outlook	-	20	43	14	84	67	90	145	89	115	21	101
Negative Watch	-	-	-	1	-	2	0	-	6	33	38	3

S&P #	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB
Rating Change	-	1	4	9	11	27	34	53	62	97	17	5
Negative Outlook	-	-	1	6	8	15	17	26	38	54	6	2
Negative Watch	-	-	-	2	-	1	4	5	7	13	4	2

S&P \$bn	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB
Rating Change	-	1	28	73	123	89	160	216	241	186	96	11
Negative Outlook	-	-	12	50	60	69	119	156	241	171	21	3
Negative Watch	-	-	-	19	-	1	40	24	49	26	74	6

Source: Moody's and S&P and based off names within the Bloomberg Barclays US Corporate Index as June 17, 2020.

Exhibit 2: Year-to-Date Changes to Outlooks Across Sectors (Moody's and S&P) (\$bn)

S&P

Sector	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB
Automotive	-	-	-	-	23	13	13	31	49	4	38	-
Banking	-	-	-	39	13	17	20	31	34	16	1	-
Basic Industry	-	-	-	-	-	15	-	19	23	42	-	5
Capital Goods	-	-	-	-	13	13	51	43	9	27	3	1
Consumer Goods	-	-	-	-	5	4	12	75	13	22	-	-
Energy	-	-	32	12	-	21	35	25	108	100	52	-
Financial Services	-	-	-	-	-	1	9	4	15	11	2	-
Healthcare	-	-	4	18	8	16	6	62	15	15	-	-
Insurance	-	-	-	-	-	1	7	-	6	2	-	-
Leisure	-	-	-	-	-	-	-	-	-	21	-	1
Media	-	-	-	-	-	-	27	4	16	-	-	-
Real Estate	-	-	-	-	-	14	5	18	3	7	5	-
Retail	-	-	-	-	-	3	-	27	2	8	-	-
Services	-	1	-	-	-	-	-	-	-	1	-	-
Technology & Electronics	-	-	-	-	-	-	6	14	7	7	-	-
Telecommunications	-	-	-	-	-	3	-	8	24	3	-	-
Transportation	-	-	-	2	1	3	14	-	17	3	1	4
Utility	-	-	-	-	-	-	13	11	11	4	1	-

Moody's

Sector	AAA	AA1	AA2	AA3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2
Automotive	-	-	-	-	22	15	38	14	7	44	2	36
Banking	-	-	-	3	4	6	-	21	3	2	1	-
Basic Industry	-	-	-	-	1	1	-	21	24	16	7	3
Capital Goods	-	-	-	-	13	15	26	74	23	3	-	-
Consumer Goods	-	-	-	-	23	2	31	12	-	1	-	-
Energy	-	20	43	13	40	9	16	13	10	32	61	63
Financial Services	-	-	-	-	-	-	2	1	7	38	-	-
Healthcare	-	-	-	7	-	-	-	11	6	4	-	-
Insurance	-	-	-	-	-	-	-	4	1	7	-	-
Leisure	-	-	-	-	-	-	-	-	10	8	-	1
Media	-	-	-	-	-	-	-	4	3	-	-	-
Real Estate	-	-	-	-	-	14	3	24	4	16	7	-
Retail	-	-	-	-	4	24	1	10	3	3	1	-
Services	-	-	-	1	-	-	-	8	3	-	6	-
Technology & Electronics	-	-	-	-	-	4	56	9	-	5	-	-
Telecommunications	-	-	-	-	1	-	8	-	7	-	-	-
Transportation	-	-	-	-	2	-	-	2	6	15	-	-
Utility	-	-	-	-	-	5	20	14	13	-	-	-

Source: Moody's and S&P and based off names within the Bloomberg Barclays US Corporate Index as of June 17, 2020.

Expectations of Further Downgrades in 2020

BlackRock's Global Fixed Income credit analysts have prepared analysis based on assumptions for a base case scenario and a downside scenario (see Exhibit 3).

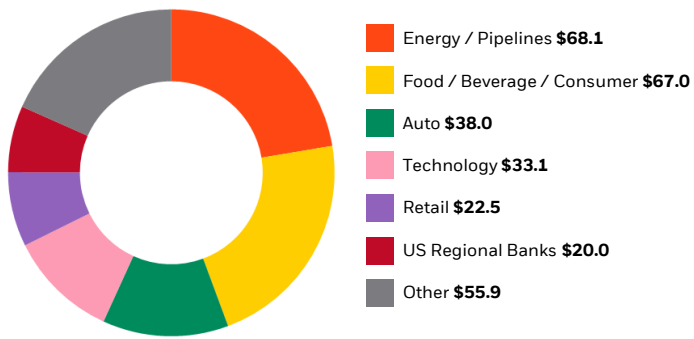
Exhibit 3: Base Case Scenario and Downside Scenario Assumptions

	2020 US GDP Growth	Peak Unemployment
Base	-6%	15+%
Downside	-9%	20+%

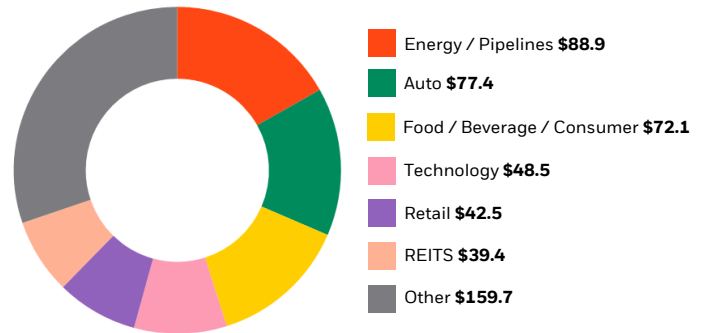
Source: BlackRock assumptions as of May 15, 2020. The above analysis is for illustrative purposes only. Estimates may not come to pass because of adjustments to the future path of the COVID-19 virus. All currency figures are in USD.

Exhibit 4: Sector Impact: Base Case Scenario and Downside Scenario (\$bn)

Base Case Scenario



Downside Scenario



Source: Base case and downside include YTD downgrades as of May 15, 2020. Other for the base case includes: Basics, Banks, Medical Products, Insurance, Technology, Leisure, and Construction. Other for the downside case includes: Media, Basics, Leisure, Insurance, REITS, Retail, Banks, Medical Products, and Construction.

Exhibit 4 displays the outcomes of the BlackRock base case scenario and downside scenario across sectors, including downgrades that have already happened to-date in 2020. The base case scenario largely focuses on a few sectors that have been particularly impacted by the economic shutdown, namely aircraft lessors, consumer products, and food/beverage. In contrast, the downside scenario anticipates downgrades across a broader set of industries, including autos, aerospace, and technology sectors, and in additional energy sectors.

2020, the amount outstanding in the US IG market was \$5.668 trillion, up from about \$2.24 trillion in May 2009. The proportion of BBBs of the total US IG market has also increased, representing 48.8% of the total market as of the end of April 2020.⁷

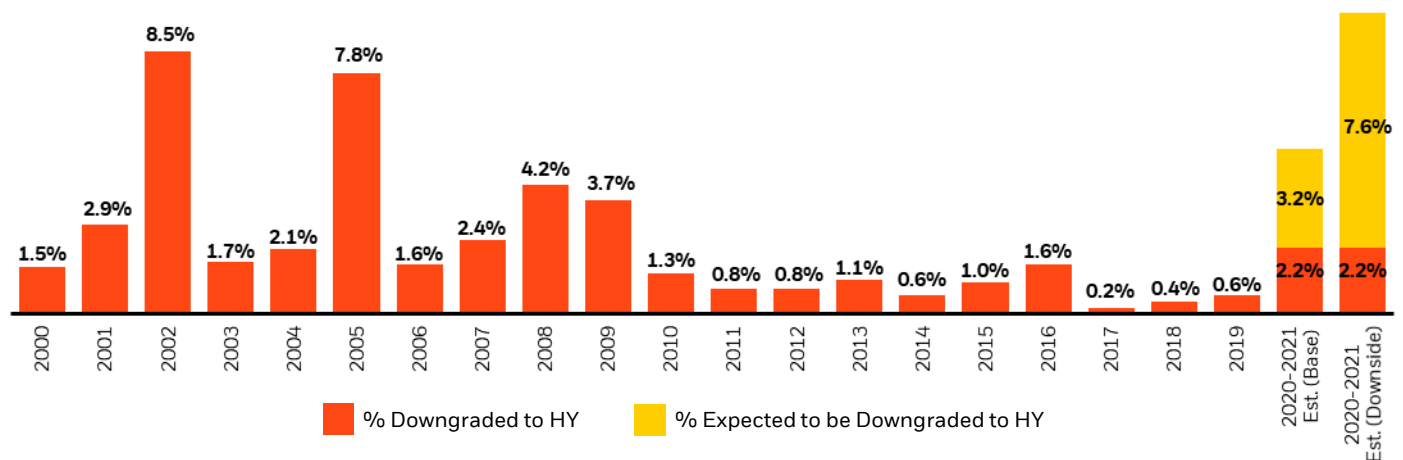
Assuming we experience \$300 billion of total downgrades as per BlackRock's Global Fixed Income team's base case scenario, this would equate to roughly 5% of the total market. While the absolute volume of downgrades exceeds previous periods of stress in credit, as a percentage, this is well below the 8.5% peak experienced in the credit crisis in 2002, and the 7.8% and the 7.9% experienced in 2005 and during the GFC, respectively.⁸ Furthermore, given that about \$121 billion of downgrades has already been announced, only about 3.2% of the index remains at risk to fall below IG in this base case scenario.

The Downgrade Cycle in Historical Context

As we discussed in detail in our original "US BBB Bonds: A Primer" *Policy Spotlight*, the size of the US IG corporate market has grown significantly since 2009. As of May 31,

Exhibit 5: Downgrade to HY in Historical Context

Fallen Angels as a % of the index



Source: JP Morgan, Bloomberg Barclays and BlackRock as of May 15, 2020.

On the other hand, the downside scenario would result in close to \$550 billion in total downgrades, which would approach 10% of the US IG credit market. This would be high relative to historical experiences in both absolute and percentage terms.

Changing Composition of the US IG Credit Sector

While the overall size of the US IG market and the percentage of BBB bonds of this IG market have increased, there have been important shifts in the composition in the BBB bond market that distinguish it from that of previous downgrade cycles.

As we noted in our August 2019 *Policy Spotlight*, sector exposures have rotated towards less cyclicity with an

increase in financials. Furthermore, there is increased diversification across individual names. For example, there are over 750 IG issuers in 2020, versus 553 in 2007. The largest ten names in May 2020 made up just 16.7% of the Bloomberg Barclays US Corporate Index in 2020, compared to 21.8% in 2007 (see Exhibit 6).⁹

While the COVID-19 crisis has put short-term fundamental pressure on industries that have not historically been classified as cyclical (e.g., theme parks, airlines, and restaurants), we nonetheless believe that these shifts in the composition of the US IG market have been important in creating a more resilient IG corporate bond market over the longer time horizon.

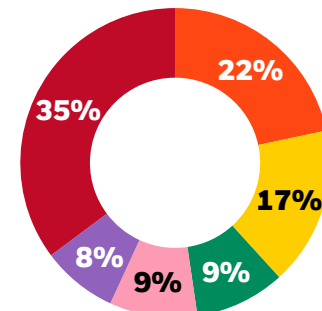
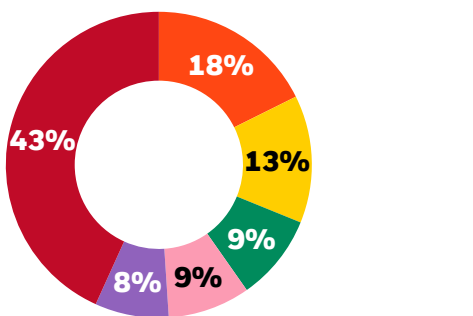
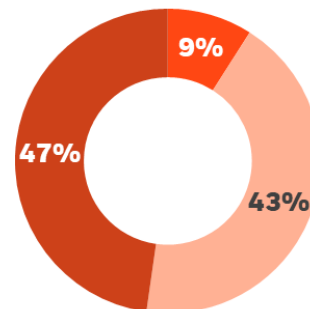
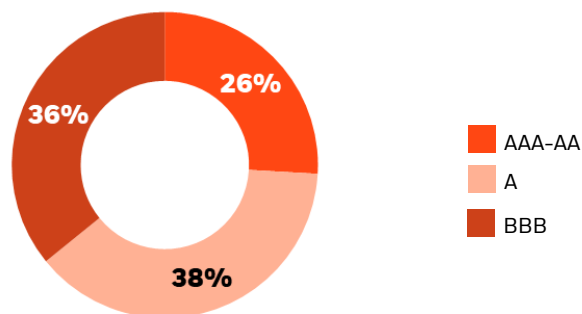
Exhibit 6: Composition of the Bloomberg Barclays US Corporate Index, 2007 vs. 2020

May 2007

Index size: \$1.75tn Number of Issuers: 553

May 2020

Index size: \$6.39tn Number of Issuers: 759



■ Banking
■ Finance Companies
■ Consumer Cyclical
■ Communications
■ Consumer Non-Cyclical
■ Other

■ Banking
■ Communications
■ Energy
■ Consumer Non-Cyclical
■ Technology
■ Other**

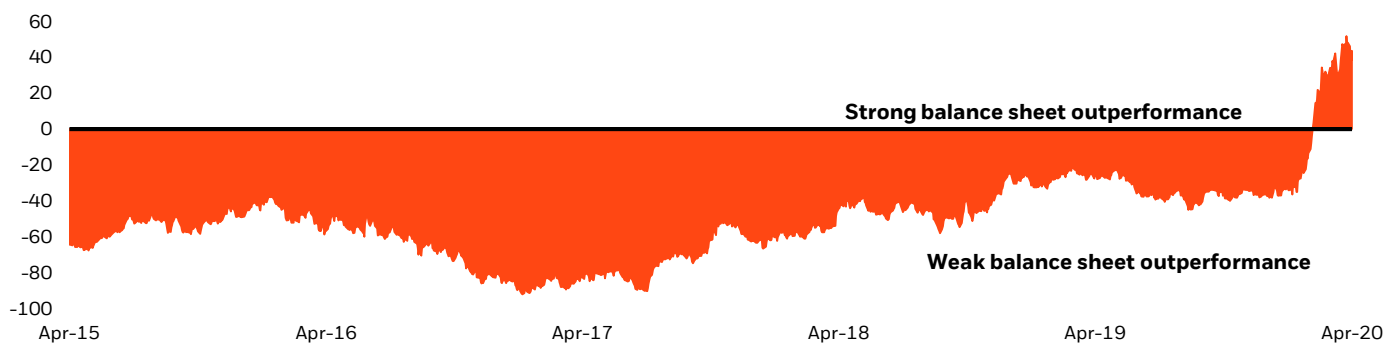
Ten Largest Issuers			
GE	3.2%	BAC	2.2%
T	2.5%	JPM	1.9%
GS	2.4%	MS	1.9%
HSBC	2.3%	AIG	1.7%
C	2.3%	CMCSA	1.4%

Ten Largest Issuers			
JPM	2.3%	GS	1.5%
BAC	2.1%	CMCSA	1.5%
WFC	1.9%	MS	1.4%
T	1.8%	AAPL	1.3%
C	1.7%	VZ	1.2%

Source: Bloomberg Barclays as of May 31, 2020.

Exhibit 7: Equity Performance Rewarding Corporations with Stronger Balance Sheets

Indexed returns of strong and weak balance sheet baskets



Source: Goldman Sachs as of May 13, 2020. Balance sheet strength is measured using the Altman Z-score, a formula combining five key financial ratios. Index began at 0 in February 2008.

Impact on Corporate Capital Structure Policy

Company-level factors, including the resiliency of the business, the amount and maturity profile of the leverage it carries, and the company's ability to decrease that debt, are extremely important to consider when thinking about the potential of downgrades. The COVID-19 environment has tested these factors.

As was the case during comparable periods in 2010 and 2018, the combination of elevated market volatility and constrained access to the financing market has prompted companies to become more conservative with capital structure and take more creditor-friendly actions.

The signals from equity markets have been critical in establishing these incentives. Thus far, we have seen a meaningful adjustment where stronger balance sheet companies within the S&P 500 have outperformed their weaker balance sheet counterparts (see Exhibit 7).

Federal Reserve Programs for Corporate Bonds and Corporate Bond ETFs

The Federal Reserve's swift action during the COVID-19 Crisis has both further incentivized companies to take creditor-friendly actions in order to remain rated IG and provided a counterbalance to broader selling of recent fallen angels.

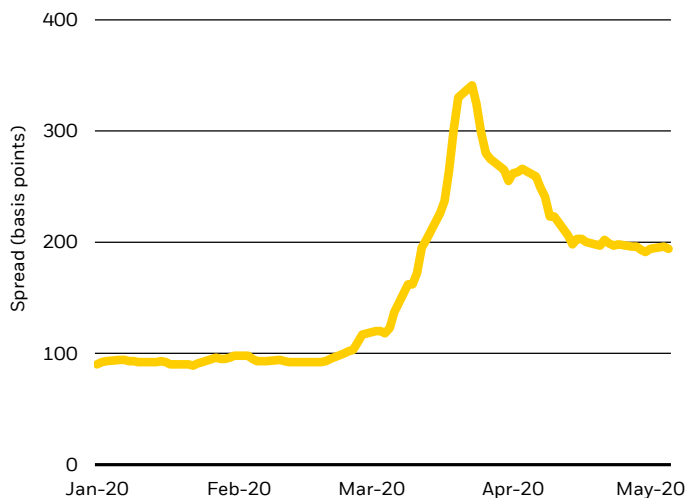
On March 23, 2020, the Federal Reserve announced the creation of three long-term lending facilities to aid market liquidity.¹⁰ These programs included a Primary Market Corporate Credit Facility (PMCCF),¹¹ which is designed to purchase corporate bonds directly from the issuer and provides bridge financing of up to 4 years, and a Secondary Market Corporate Credit Facility (SMCCF),¹² which is designed to purchase IG corporate bonds in the secondary

market and US corporate bond ETFs. When originally created, only IG-rated companies were eligible issuers for both the PMCCF and the SMCCF, providing strong incentives for companies to take action to remain rated IG.

On April 9, 2020, the Federal Reserve further expanded these programs to purchase debt from companies that were designated IG before March 22, 2020 and were since downgraded to one of the top three tiers of the HY bond market.¹³ In so doing, the Federal Reserve provided a stabilizing force for the markets, helping to ensure that the HY markets generally stay liquid.

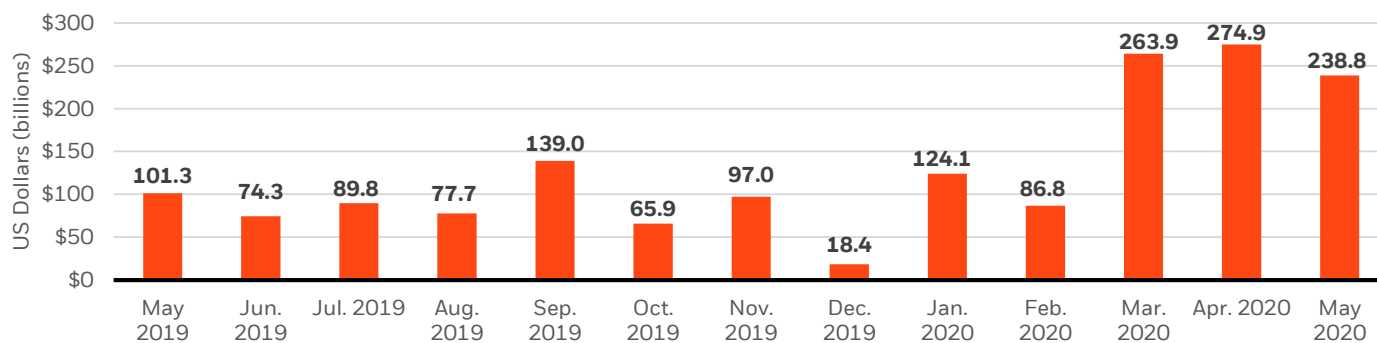
Both announcements calmed the credit markets. IG credit spreads sharply increased in March as markets grew stressed and volatile; immediately following the Fed's announcements, spreads tightened considerably and again tightened following the April announcement (see Exhibit 8).

Exhibit 8: IG Credit Spreads



Sources: BlackRock Investment Institute, with data from Refinitiv, May 6, 2020. This reflects the yield spread between U.S. investment grade credit and Treasuries, based on the option-adjusted spread of the Bloomberg Barclays U.S. Credit Index.

Exhibit 9: Gross USD IG Issuance, April 2019 – April 2020



Source: Bloomberg, BlackRock, as of May 30, 2020.

IG Issuer Resiliency

As a result of both the Federal Reserve actions and market incentives, over the past several months, we have seen IG companies focus on augmenting their liquidity by reducing refinancing risk. We expect reductions in shareholder payouts and capital expenditures to further conserve cash and support credit fundamentals. As of April 2020, 58 companies in the S&P 500 had officially suspended their stock repurchase programs, and Goldman Sachs forecasted that S&P 500 share repurchases would decline by 50% during 2020. They also predicted that aggregate S&P 500 dividends would fall by 23%.¹⁴

Moreover, there has been a strong flow of IG bond issuance during the COVID-19 crisis, more than doubling that of a normal month (Exhibit 9). This activity was fueled by a desire by even well-capitalized companies to deepen their cash reserves and to take advantage of low rates in order to extend debt maturities and reduce refinancing risk. As a result, the US IG bond market topped \$1 trillion in year-to-date bond issuances on May 19, 2020. In contrast, there was roughly \$1.1 trillion in US IG corporate bond issuances in all of 2019.¹⁵ The year-to-date issuances have been across almost 400 different issuers, spanning all sectors, both cyclical and non-cyclical (see Exhibit 10).¹⁶

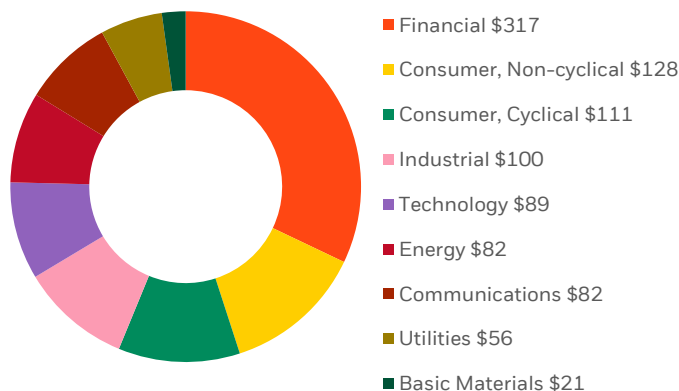
Investor Response to Downgrades

As we addressed in our August 2019 *Policy Spotlight*, there has been significant focus on forced selling as a result of downgrades of BBB-rated bonds from IG to HY. The potential of forced selling depends on where those are bonds are held, given the high degree of variability in types of investors and investment objectives. For example, in separate accounts, asset owners have more direct control over strategy than they would have in pooled funds and can

customize investment strategies to allow asset managers flexibility to hold securities in the event of downgrades.

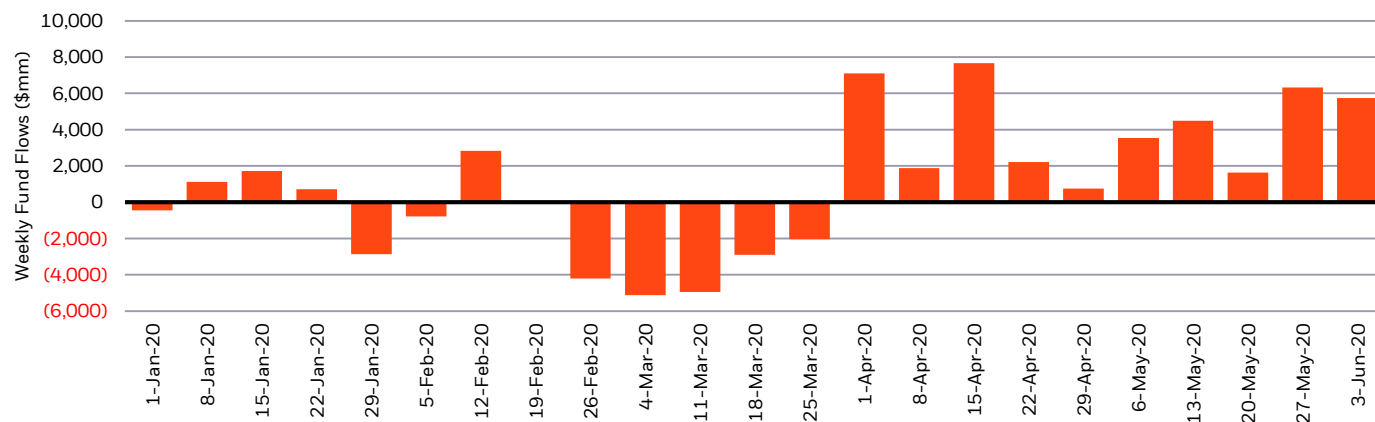
Similarly, in actively managed mutual funds, portfolio managers often have discretion to under- or over-weight securities and sectors relative to a benchmark and can even include unrepresented securities; this degree of flexibility allows the manager to continue to hold downgraded securities. Even in the case of index mutual funds and ETFs, which aim to closely track the performance and risk characteristics of their benchmark index, there can exist some flexibility to hold up to a certain percentage of non-index names including bonds that have been downgraded. While we would not expect these downgraded securities to be held over the long-term, index fund managers nonetheless often have a degree of discretion that mitigates the need for immediate forced selling. For a more complete description of different account types of expected behavior, please refer to pages 7-8 of our August 2019 *Policy Spotlight*.

Exhibit 10: USD IG Issuance by Sector (\$bn)



Source: Bloomberg, BlackRock. As of May 15, 2020.

Exhibit 11: YTD 2020 High-Yield Bond Weekly Fund Flows (\$mm)



Source: JPMorgan and Lipper FMI. As of June 10, 2020.

This flexibility to either hold downgraded bonds or to strategically time selling them is extremely important, as many of the fallen angels outperform very quickly post-downgrade. Bank of America Merrill Lynch’s 2019 analysis¹⁷ showed that continuing to hold downgraded securities led to the highest annualized excess return, compared to selling when downgraded or at any other time within the subsequent year (see pages 9-10 of our August 2019 *Policy Spotlight*). Historically, fallen angels post-downgrade have often outperformed both the broader HY index and IG securities. As a result, opportunistic investors are attracted to fallen angels. One indication is the inflows to HY following the downgrades. As of May 2020, the HY asset class had a record \$29.3 billion in inflows over April and May, including two separate weeks in April of \$7bn+ inflows (see Exhibit 11).¹⁸

Conclusion

While we have witnessed and continue to witness a considerable volume of downgrades from IG to HY during the COVID-19 crisis, our base case is that as a percentage of the total market, the volume of downgrades will be significantly lower than in the last three periods of elevated

downgrades, including during the Great Financial Crisis. In part, this is due to the changed composition of the IG universe. More BBB-bond issuers are in non-cyclical sectors and are able to withstand the long-term macroeconomic shock from COVID-19, and furthermore, many companies are able to support credit fundamentals in order to prevent being downgraded.

The Federal Reserve intervention stabilized markets and the FRB continues to play a pivotal role in providing liquidity and incentivizing companies to take creditor-friendly actions by creating facilities such as the PMCCF and the SMCCF. These programs, coupled with market incentives, have had their intended effect and we have seen companies take measures to increase cash reserves and support credit fundamentals.

Furthermore, as downgrades occur, it is important to recognize that whether “forced selling” would occur differs greatly based on where these bonds are held; across different types of accounts, asset managers have various degrees of flexibility to hold downgraded bonds. Notably, selling is in part offset by the evident demand for HY bonds from investors with different risk tolerance and investment outlook.

Endnotes

1. BlackRock, Bloomberg Barclays US Corporate Index. As of May 31, 2020.
2. Moody's and S&P and based off names within the Bloomberg Barclays US Corporate Index as June 17, 2020.
3. S&P Global Ratings, "COVID-19 Impact: Key Takeaways from Our Articles" (May 2020), available at <https://www.spglobal.com/ratings/en/research/articles/200204-coronavirus-impact-key-takeaways-from-our-articles-11337257>. Accessed May 31, 2020.
4. Bloomberg Barclays US Corporate Index. As of May 31, 2020.
5. BlackRock, Bloomberg Barclays US Corporate Index. As of May 2020.
6. Moody's, based off names within the Bloomberg Barclays US Corporate Index. As of June 17, 2020.
7. Bloomberg Barclays US Corporate Index market value. As of May 31, 2020.
8. JP Morgan, Bloomberg Barclays and BlackRock. As of May 15, 2020.
9. Bloomberg Barclays US Corporate Index. As of May 31, 2020.
10. Federal Reserve Board, "Federal Reserve Announces Extensive New Measures to Support the Economy," (March 23, 2020), available at <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm>. Accessed May 31, 2020.
11. Federal Reserve Board, "Primary Market Corporate Credit Facility," available at <https://www.federalreserve.gov/monetarypolicy/pmccf.htm>. Accessed May 31, 2020.
12. Federal Reserve Board, "Secondary Market Corporate Credit Facility," available at <https://www.federalreserve.gov/monetarypolicy/smccf.htm>. Accessed May 31, 2020.
13. Federal Reserve Board, "Federal Reserve Takes Additional Actions to Provide Up to \$2.3 trillion in Loans to Support the Economy," (April 9, 2020), available at <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200409a.htm>. Accessed May 31, 2020.
14. Goldman Sachs, *S&P 500 Cash Spending to Plunge by a Record 33% During 2020 as Firms Prioritize Liquidity Above All Else*, Weekly Kickstart (April 17, 2020), 2.
15. Securities Industry and Financial Markets Association, *SIFMA Research Quarterly – 4Q19*(March 2020), available at <https://www.sifma.org/wp-content/uploads/2020/03/US-Research-Quarterly-Fixed-Income-2020-03-27-SIFMA-1.pdf>.
16. Bloomberg, BlackRock. As of May 15, 2020.
17. Bank of America Merrill Lynch, "You're Gonna Need a Bigger Allocation to Corporates" (June 7, 2019).
18. JPMorgan and Lipper FMI. As of June 10, 2020.

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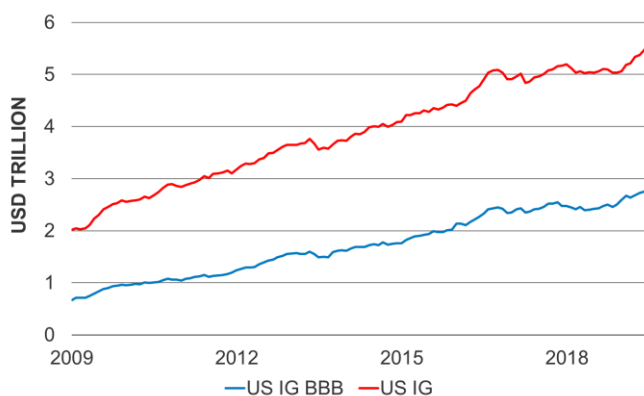
US BBB-Rated Bonds: A Primer

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).

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



Source: Bloomberg, BlackRock (July 2019).

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 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.

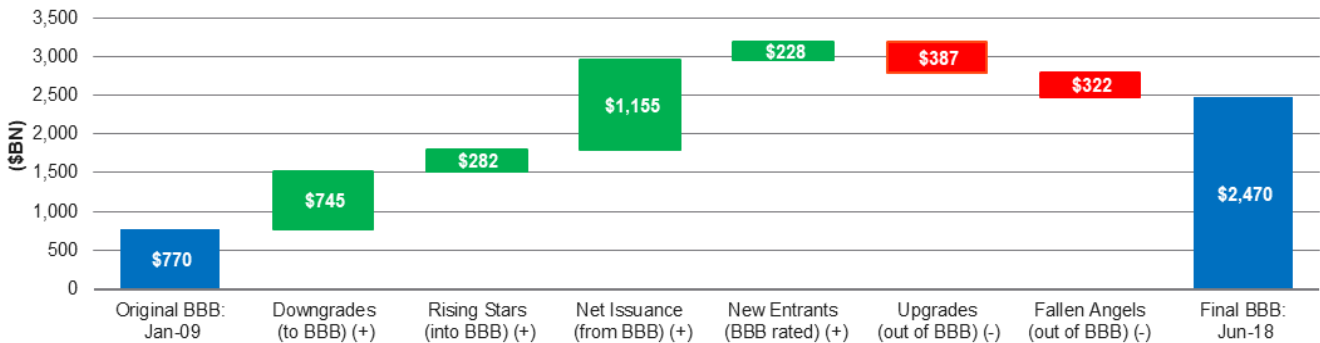
Composition of BBB bonds

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).

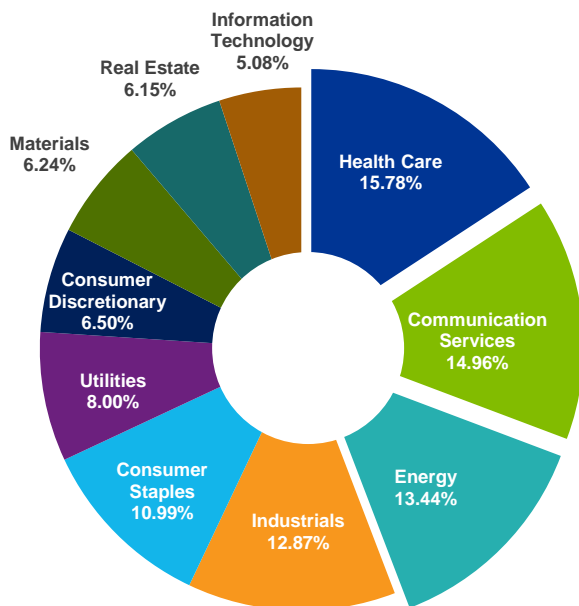
Exhibit 3: Changes in the IG BBB Universe (2009 – 2018)



Source: Morgan Stanley Corporate Credit Research, "Nature of the BBBBeast" (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.

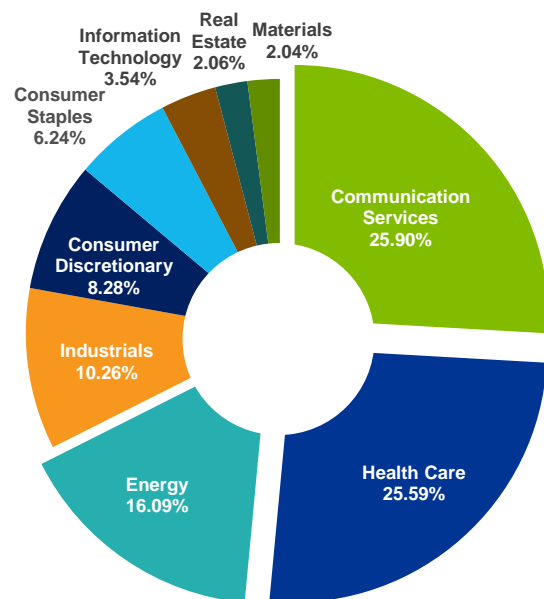
Exhibit 4: BBB-Rated Non-Financial Corporate Bond Sector Breakdown



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

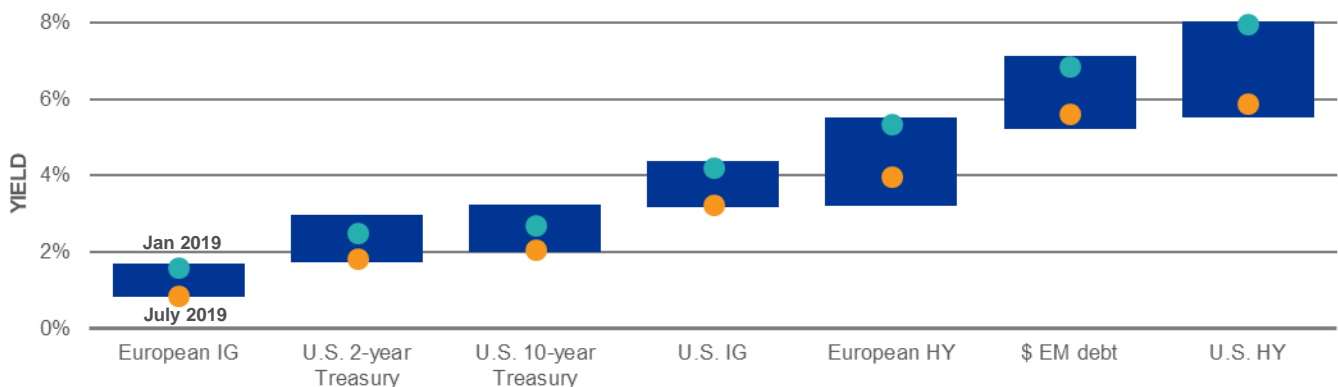
Assessing likely credit scenarios for issuers requires consideration of various factors, at both (a) the macroeconomic level, including credit spreads, and (b) the company-level, including the resiliency of its business, the amount and maturity profile of leverage it carries, and the company's ability 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.

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



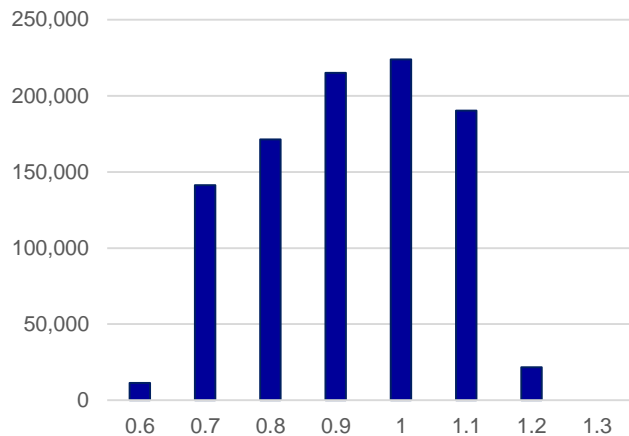
Source: BlackRock Investment Institute, "Global Investment Outlook: Midyear 2019" (July 2019).

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.)

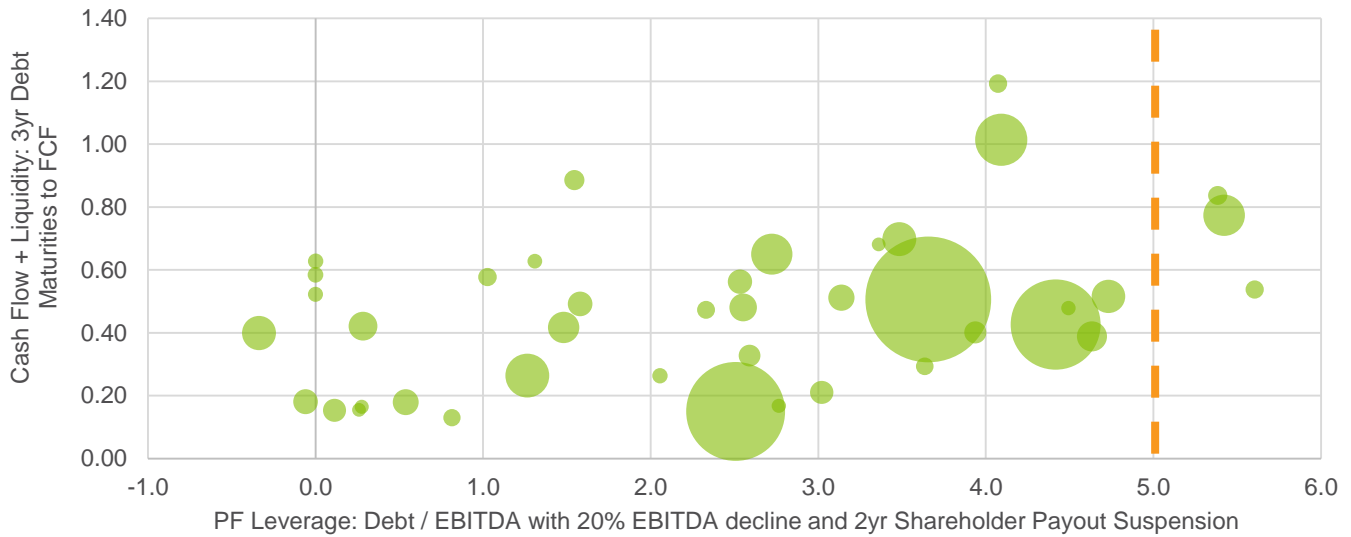
The equity beta of the population of large-cap industrial corporate bond issuers is skewed below 1.0, implying that in a market downturn, they are theoretically poised to experience less volatility than the rest of the market and to continue generating a steady cash flow (Exhibit 7). While the BlackRock 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 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.

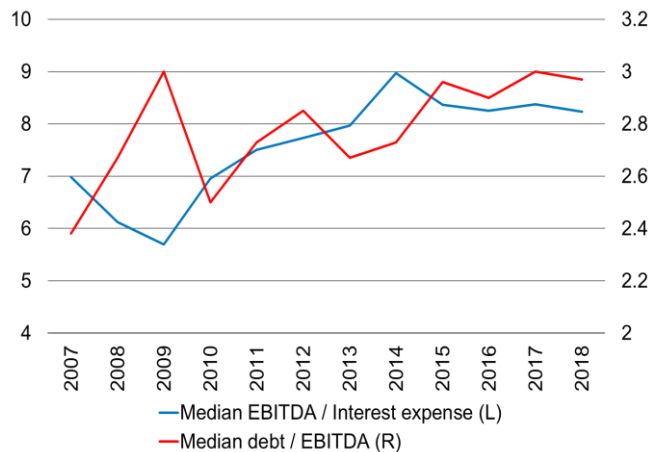
The IG credit team in BlackRock’s Fundamental Fixed Income group conducted an analysis on this population of large-cap industrial BBB bond issuers, which reinforced this view. The analysis assumed that all companies would experience a 20% decline in EBITDA caused by an economic downturn, which the companies 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

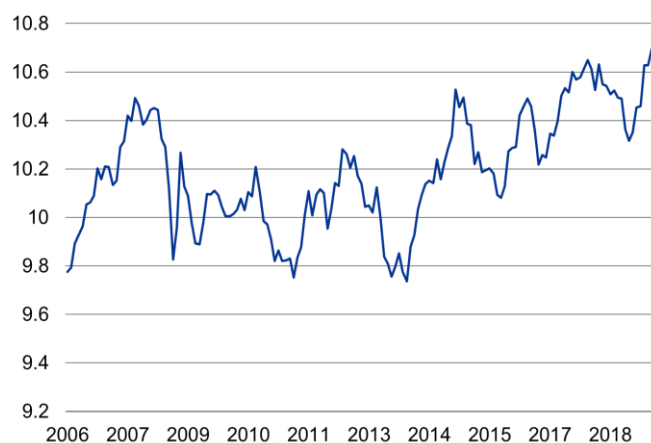
Exhibit 9: Higher Coverage Offsets Higher Leverage of BBB-rated Companies



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

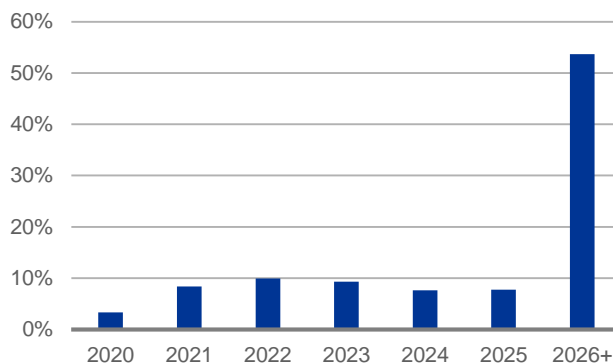
Furthermore, many IG issuers have taken advantage of a lower, flatter yield curve by issuing longer-dated bonds. Exhibit 10 illustrates the extended maturity profile of US corporate bonds. This decision has reduced refinancing risk for those issuers over the next several years. Almost 54% of BBB bonds 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 (COAO)'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.

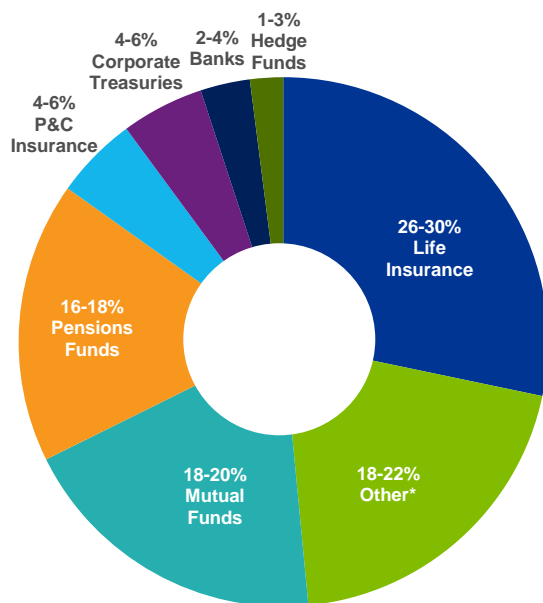
Investors and the likelihood of forced selling

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.

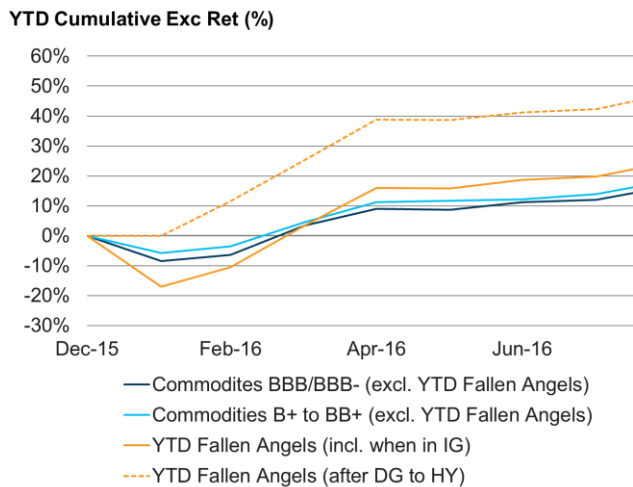
Other: Examples of other bond holders include offshore funds, direct holdings by households, and bonds held by foreign buyers. These bond holders are often direct asset owners and are typically the least constrained investors with significant control over investment strategy. The investment objective 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.

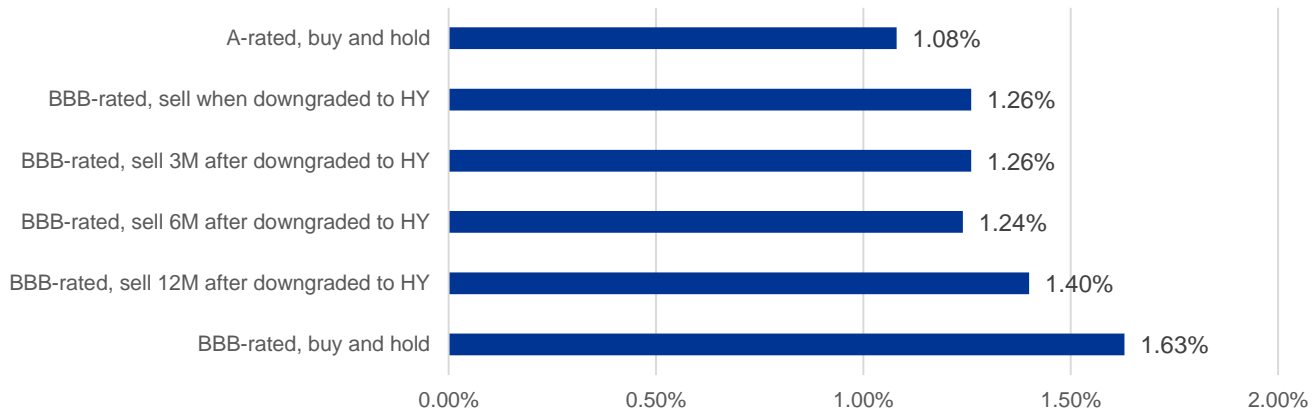
This is demonstrated by a 2016 case study, when the commodity markets experienced significant volatility and widespread downgrades. A rebound in oil combined with an improved global economic outlook, a substantial increase in easing by central banks abroad, and a sharp surge in demand for USD corporates 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).

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).

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

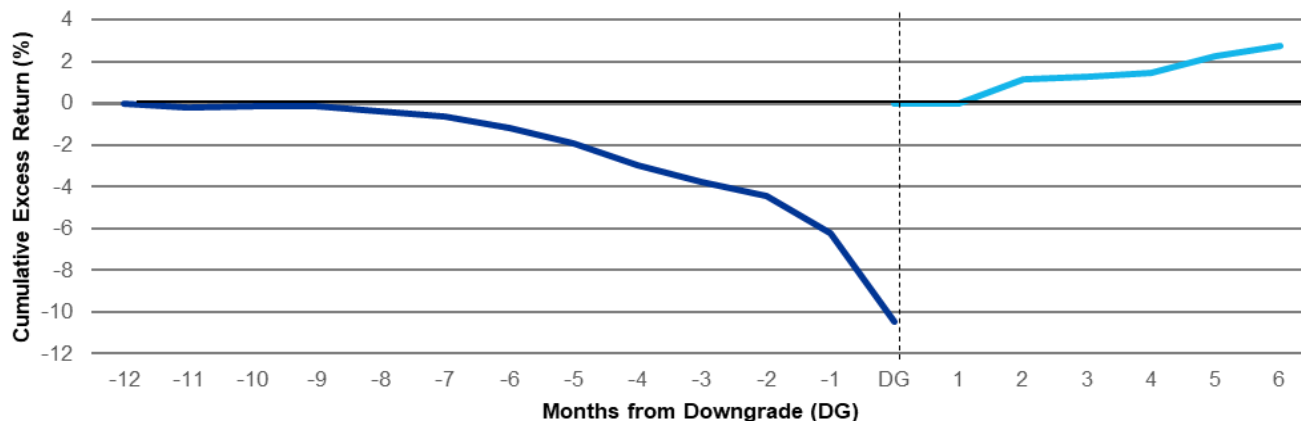
“ One question we often get is: what is the optimal time to sell Fallen Angels (FA)? Our response is this: don't sell... The worst possible strategy is to follow index rules and sell at the end of the month of downgrade to HY, as there is maximum forced selling pressure before HY investors step in and 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)

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).
3. Wells Fargo Asset Management, "Investment Perspectives."
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>.
5. ICE Benchmark Administration Limited (IBA), ICE BofAML US Corporate BBB Option-Adjusted Spread [BAMLC0A4CBBB], retrieved from FRED, Federal Reserve Bank of St. Louis, (July 31, 2019), available at <https://fred.stlouisfed.org/series/BAMLC0A4CBBB>.
6. BlackRock Investment Institute, "Global Investment Outlook."
7. BlackRock Fundamental Fixed Income Group estimates as of November 2018.
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/fixe-income-advisory-committee/morgan-stanley-nature-of-the-bbbeast.pdf>.
10. Moody's Investor Service, "Credit Strengths."
11. J.P. Morgan US High Grade Strategy & Credit Derivatives Research, "How Much BBB Debt."
12. BlackRock Financial Institutions Group estimates as of July 2019.
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).
15. Moody's Analytics, "Dealing with Fallen Angel Risk" (May 2019), available at <https://www.moodyanalytics.com/-/media/article/2019/dealing-with-fallen-angel-risk.pdf>.

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