Insight INVESTMENT

BBBs

SEPARATING THE WHEAT FROM THE CHAFF

IMPLICATIONS FOR DEFINED BENEFIT PLAN SPONSORS

SEPTEMBER 2018

Part of BNY MELLON

EXECUTIVE SUMMARY

1. The case for BBB corporate bonds is strong for defined benefit plans[1]
    a. BBBs serve as an effective liability hedge
    b. BBBs are too big to ignore and help reduce concentration risk
    c. BBB issuers are incentivized to maintain or improve credit quality
    d. BBBs offer an enhanced spread cushion
2. There are pockets of concern in the burgeoning BBB market
    a. The long duration BBB universe has grown from approximately $190bn to approximately $780bn over the past decade and much of the recent growth can be attributed to debt-fueled financial engineering
    b. While BBB leverage has been on an upward path since 2011, such trends are what we would expect given the strength of the US growth backdrop; more worrying are the pockets of elevated leverage driven by M&A activity
    c. Rating agencies may have been too lenient in some cases of leveraged financial engineering, placing too much faith in the ability and promise of mid/large companies to de-lever
    d. We determine that many re-levered M&A companies have failed to de-lever and appear to have accepted higher leverage as the new paradigm
3. It's important to separate the wheat from the chaff
    a. Despite these pockets of leverage risk, ultimately we believe that BBBs provide considerable opportunity for liability hedging portfolios
    b. We see value in financials given the lack of M&A activity and strong fundamentals, and the utilities sector which, despite high leverage, is less of a concern given its defensive characteristics
    c. We are most skeptical of leveraged M&A transactions where value creation has focused on promised synergies and cost-cutting rather than on longer-term business success
    d. With some of these highly-levered capital structures sitting on the cusp of high yield as BBB- issuers, there lies the potential for some downgrade 'accidents'

[1] Opinions expressed herein are as of September 2018 and are subject to change without notice.

CONTENTS

Much has been written recently about the potential risk of US corporate BBB-rated securities ("BBBs") given the secular increase of leverage in corporate balance sheets. This raises the issue of the appropriateness of this sub-component of credit strategies in liability hedging portfolios. Pockets of elevated leverage have emerged following several years of strong share buyback and M&A (mergers and acquisitions) activity, and there lies a perception that rating agencies have been somewhat lenient in their deleveraging assumptions when assigning ratings.

While we acknowledge these pockets of BBB risk, the fundamental backdrop remains sanguine. Leverage has been generally trending higher for BBBs over recent years, however, this should be viewed in the context of the very robust recent economic backdrop. Earnings and profit margins are extremely healthy, US economic growth continues at a decent clip, inflation has increased and the current government administration is considered business-friendly.

We are most skeptical of leveraged M&A transactions where value creation has focused on promised synergies and cost-cutting rather than on longer-term business success. We are particularly cautious in these instances where the M&A has involved a large amount of debt financing, and leverage metrics have deteriorated in kind, yet the company remains investment grade (IG) or teeters on the edge of high yield.

Ultimately, we believe that BBBs provide considerable opportunity for liability-hedging portfolios and should form an integral part of the investment universe. We outline some of their most compelling characteristics in the following section. We conclude the paper with a series of questions for Insight's long duration portfolio managers, in which they address how they separate the wheat from the chaff – navigating the BBB challenges and capitalizing upon its many opportunities.

REITERATING THE CASE FOR BBBs

Among the many issues that plan sponsors have to contend with when designing and implementing an LDI (liability-driven investment) program is the question of how far down the credit curve to extend. With liability discount rates derived from AA, or A to AAA bonds[2], plan sponsors naturally gravitate exposures to similarly highly rated assets. However, restricting the investment universe to these assets is unduly limiting, in our view. By extending to BBBs, plan sponsors can unlock an increasingly important opportunity set within the IG universe and one that retains the effective hedging characteristics of higher-rated securities. Below we outline four compelling reasons for pension plans to extend out to BBBs.

1) BBBs SERVE AS AN EFFECTIVE LIABILITY HEDGE

Given that BBBs do not constitute part of the liability benchmark, a legitimate question to ask is how effective a hedge do they provide? To answer this question we provide correlation data extending back to 1990 for the Bloomberg Barclays Long U.S. Corporate Index and the relevant credit-rating sub-indices. We use excess rather than total returns to filter out any distortions caused by duration differences. This analysis shows that BBB returns are highly correlated with the higher-rated credit buckets, with a correlation of 88% to AA, and to A-rated and above, bonds.

The strength of correlation is even stronger for the overall index – which is comprised of 49% BBBs – with correlations of 94% and 95% to AA or A-rated and above bonds, respectively (Table 1).

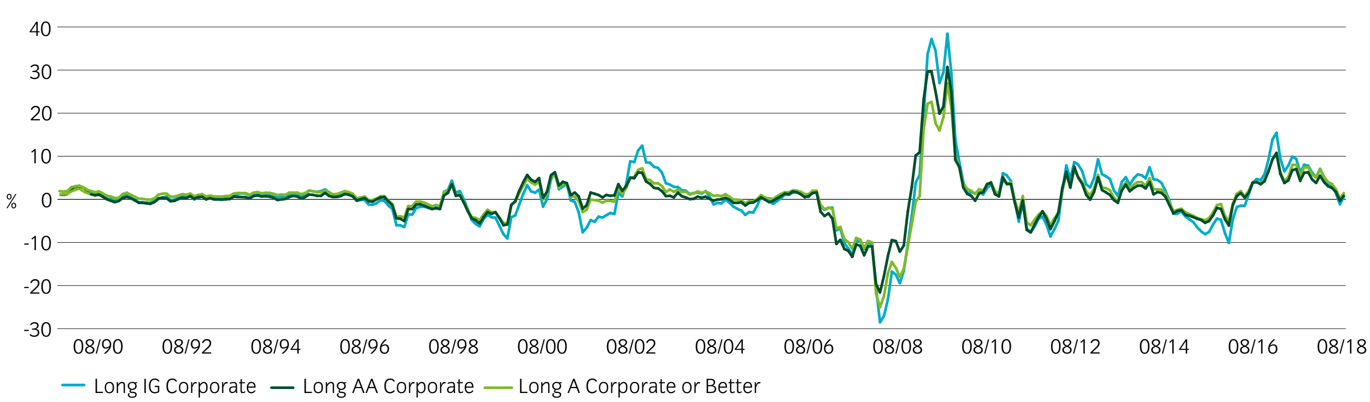
Table 1 – US corporate index correlations: monthly excess returns[2]

	Long Corp	Long Corp BBB	Long Corp A	Long Corp AA	Long Corp AAA	Long Corp A or Better
Long Corp	100%	98%	99%	94%	72%	95%
Long Corp BBB		100%	95%	88%	62%	88%
Long Corp A			100%	95%	77%	96%
Long Corp AA				100%	77%	97%
Long Corp AAA					100%	89%
Long Corp A and above						100%

Source: Insight Investment, Bloomberg Barclays Indices, August 2018. Data covering 1990-2018.

Of course, correlation analysis only reflects the directionality of the relationship and not the magnitude of movement. In order to capture magnitude, we present rolling 1-year excess returns for the overall U.S. Long Corporate Index, and AA and A sub-indices (Figure 1). Strikingly, performance has been consistently similar across the indices over a prolonged time period – underscoring the effectiveness of BBBs as a liability hedge.

Figure 1 – US corporate index correlations: rolling 1-year excess returns



Source: Insight Investment, Bloomberg Barclays Indices, August 2018. Data covering 1990-2018.

[2] Liability discount rate is developed using AA-rated bonds for accounting purposes or A to AAA rated bonds for pension funding and other statutory purposes under ERISA. Data covering 1990-2018.

2) BBBs ARE TOO BIG TO IGNORE AND HELP REDUCE CONCENTRATION RISK

Shifts in rating composition

Over the last 25 years or so there has been a steady decline in the credit quality of the long US corporate IG universe. AAA and AA rated bonds have become relatively scarce while As, and particularly BBBs, have come to dominate, accounting for 42% and 49% of the universe respectively (Figure 2). For pension plans that limit their investment universe to the liability index, concentration risk has become problematic. Take the AA index for example. As of August 2018, the top 10 companies in this index constituted 77% by market value. While accounting rules and other regulations determine the methodology for discounting liabilities, in our view it is imprudent to create such a concentrated portfolio. This is especially so given bonds' characteristic asymmetric return profile, where potential downside can far outweigh the upside. In order to avoid such concentration issues, plan sponsors should significantly widen their investable universe by including BBBs.

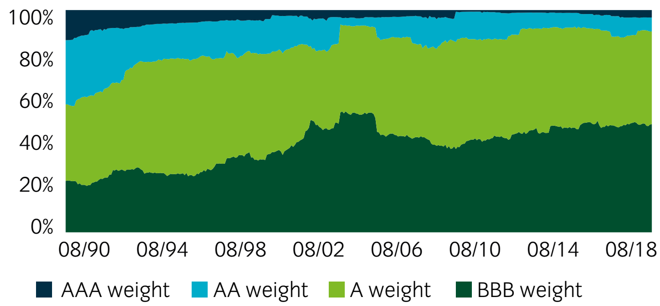
Scarcity of highly-rated long duration credit

Another concern is the potential future scarcity of the highest rated long duration corporate bonds, especially as interest rates rise and plan sponsors increasingly shift toward long duration strategies. While AAA and AA rated bonds accounted for over 40% of the long duration investment universe in 1990, today that number has dwindled to 10%. The proportion of bonds rated A or above have declined from 75% in 1990 to closer to 50% today. By including BBBs, the opportunity set almost doubles in size to \$1.6tn – unlocking c. \$800bn worth of additional securities. In our view, by omitting BBBs plan sponsors may unwittingly limit their ability to effectively implement a long corporate bond program.

Corporate America is already BBB rated

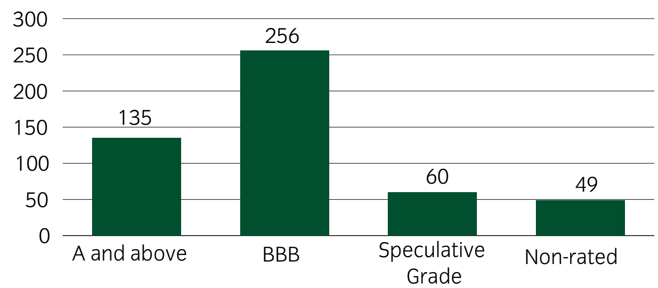
For sponsors who remain unconvinced, it is also worth pointing out that at this juncture, on aggregate, corporate America is already BBB rated. The S&P 500 index maintains an average rating of BBB+, and over half the index (by number of companies) have a BBB rating (Figure 3). We have observed that many pension plans are already comfortable with exposure to these companies through equity, despite ranking lower in the capital structure.

Figure 2 – Long US Corporate Index credit rating distribution (% market value)[3]



Source: Insight Investment, Bloomberg Barclays Indices, August 2018.

Figure 3 – The S&P 500 is a firmly BBB index (number of companies per rating bucket)



Source: Insight Investment, Bloomberg, August 2018.

[3] Using the Bloomberg Barclays Long U.S. Corporate Index.

3) BBB ISSUERS ARE INCENTIVIZED TO MAINTAIN OR IMPROVE CREDIT QUALITY

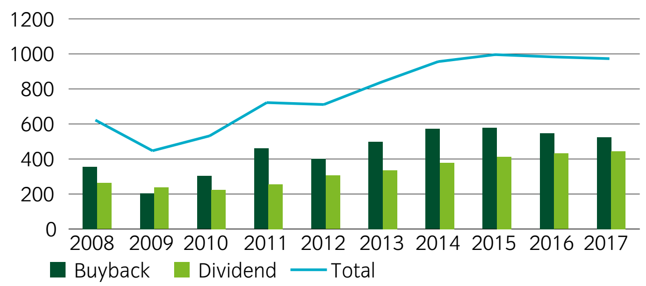
Highly rated companies have little incentive to maintain rating

Much of the growth in BBBs has been due to downgrades of higher rated companies that have used leverage to engage in financial engineering. Trends of increased dividend payouts, share buybacks and M&A activity increased from around 2013 onwards, driven at the time by relatively low stock prices and a dearth of organic growth opportunities (Figure 4, 5). The ongoing backdrop of cheap debt-financing and strong investor demand for bonds has continued to fuel activity since. Many of these companies, often acting under shareholder pressure, have had little incentive to maintain both their high credit rating and pristine balance sheet, with downgrades to BBB typically resulting in just a modest increase in funding costs.

While BBBs have great incentive to retain rating

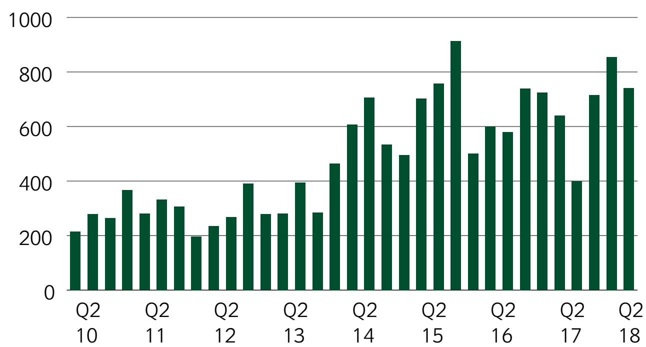
Once rated BBB however, companies generally don't enjoy such financial cushion and have a greater incentive to retain their IG credit rating. For one, the funding cost of a downgrade to speculative grade is much more punitive than a downgrade from A to BBB. Table 2 shows 10-year average spread history for As, BBBs and BBs. The spread pick-up (or incremental cost to issuers) from A to BBB has averaged 72bp, while for BBB to BB this average has been 203bp. Additionally, the natural buyer base for speculative grade bonds is considerably smaller than IG making access to capital potentially much more restrictive after a downgrade.

Figure 4 – US share buyback and dividends, $bn



Source: Insight Investment, Bloomberg July 2018.

Figure 5 – N. America M&A deal volume, $bn/qrtr



Source: Insight Investment, Bloomberg July 2018.

Table 2 – US long corporate index spreads (10-year averages)[4]

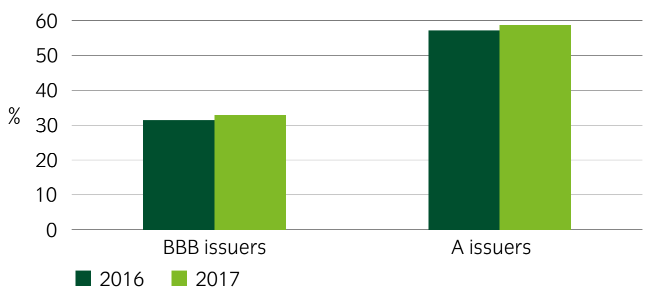
	Long Corp A Bonds	Long Corp BBB Bonds	Long Corp BB Bonds
Spread	176	248	451

[4] Bloomberg Barclays Option Adjusted Spread Average, August 2008 to July 2018.

BBB issuers consistently maintain lower payout ratios

These different incentives are borne out in the data. In Figure 6 we present shareholder payout numbers – the ratio of dividends and share buybacks to EBITDA[5] – for both A and BBB-rated corporates covering the last two years. As expected, BBB issuers consistently maintain a lower shareholder payout ratio than A issuers. Ultimately this lower shareholder payout ratio is credit-positive, meaning more cash available for debt payments and reinvestment in the company.

Figure 6 – Shareholder payout ratios



Source: Insight, Barclays, Bloomberg, August 2018.

Credit ratings don't capture all risks

As their name implies, credit ratings should reflect the inherent credit risk of an entity while the associated credit spreads are determined by market forces to reflect the degree of this risk. In Table 2 we showed that BBBs offer a commensurate spread pick-up over higher-rated companies for this reason. However, credit ratings do not anticipate future episodes of financial engineering, and adjust only after the event has materialized. This means that for higher-rated companies that may be more prone to releveraging and less incentivized to maintain a pristine balance sheet and high rating, the spread may not adequately compensate for future credit deterioration and downgrade risks.

[5] EBITDA: Earnings before interest, tax, depreciation and amortization.

4) BBBs OFFER AN ENHANCED SPREAD CUSHION

Higher spread equals greater cushion

The additional spread premium offered by BBBs provides a buffer against adverse spread moves. This means that BBBs can withstand greater widening than higher-rated securities before underperforming like-duration Treasuries. We demonstrate this in Table 3, by looking at the bonds of two companies of similar duration; one AA rated the other BBB. The AA bond's narrower spread of 60bp provides a breakeven cushion of just 4bp of spread widening before underperforming Treasuries. The BBB bond's 180bp spread means this bond can absorb 12bp of widening before underperforming. We would further highlight the thin margin in either case which is why, particularly for long-dated bonds, active security selection is important.

Table 3 – Breakeven analysis

	Company X	Company Y
Credit rating	AA	BBB
Bond duration	15	15
Spread to Treasuries (basis points)	60	180
Breakeven (basis points)	60/15=4	180/15=12

Source: Insight Investment, August 2018.

NOT ALL BBBs ARE CREATED EQUAL

AVOID TAKING A BLANKET APPROACH

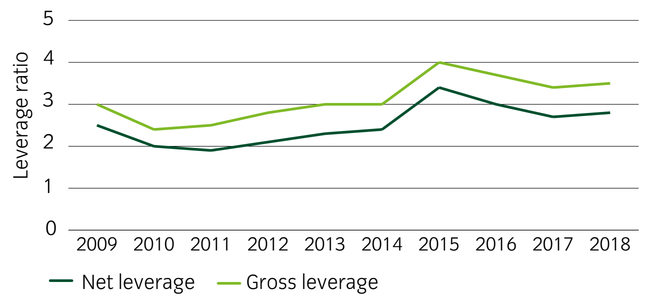
We believe the characteristics of BBBs described earlier firmly advocate for their inclusion in pension fixed income strategies. That being said, we caution against taking a blanket approach to the BBB universe. While the current strength of the US economy would support generally higher leverage metrics – in fact this is exactly what you would expect – the boom in debt-fueled financial engineering over the last number of years has created pockets of concern within the BBB space. There is also a perception that rating agencies have been unduly lenient in certain cases, placing a great deal of faith in the ability and desire of some of these companies to de-lever as promised. As we will show below, in many instances this deleveraging has just not happened. Not all BBBs are created equally and investors need to separate the wheat from the chaff.

WHERE ARE THE LEVERAGE RISKS?

At an aggregate level BBB leverage is not a concern

Looking at overall trends, BBB leverage has been on a general upward path since 2011 – reaching a peak in 2015, coming down in 2016 before moderately picking up again in 2017 (Figure 7). While the general trend has been higher, overall BBB leverage is not a concern however. In fact, the general trend of increased leverage is consistent with what is a strengthening economic backdrop. The US economy is in the midst of a protracted economic expansion that began almost a decade ago and, should it continue into summer 2019, will become the longest expansion in US history. And concerns about trade protectionism aside, the current US administration under President Trump has been notably business friendly. December's tax overhaul, the most sweeping in three decades, has taken the corporate tax rate to a flat 21% from a previous marginal rate that maxed out at 35%.

Figure 7 – Net and gross leverage trends (US BBBs)

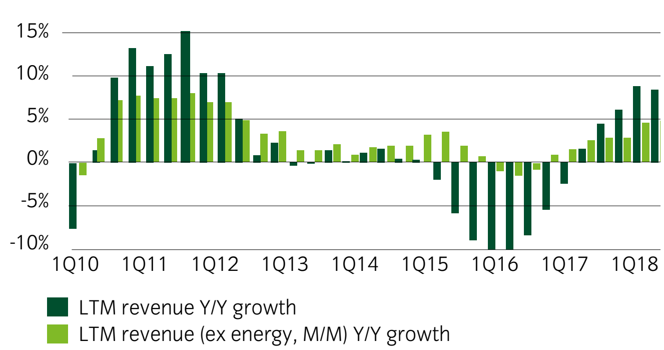


Source: Barclays, July 2018.

Earnings and profitability metrics are strong

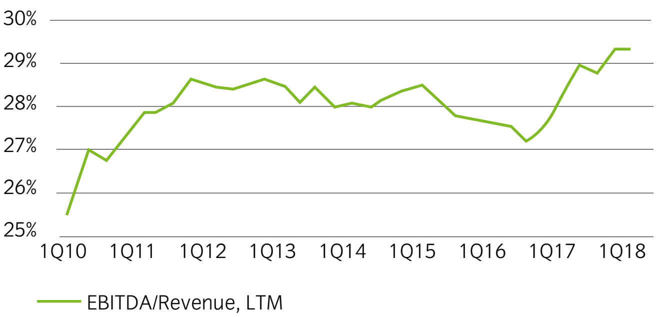
All in all, this has created a very favorable environment for corporate America that's being reflected in the numbers. Revenue growth over the 12 months to Q1 2018 came in at 8.3% y/y for US IG corporates (Figure 8), one of the strongest figures since early 2012, while profit margins have reached 29% – amongst the highest levels for two decades (Figure 9). Beyond the profitability improvements, tax reform should bestow additional fundamental and technical benefits for US IG corporates. From a fundamental perspective, it should lead to an improvement in free cashflow which enables companies to manage higher leverage burdens. While from a technical perspective, the now higher after-tax cost of debt makes it less attractive from an issuer's perspective. We believe that this this should pour some cold water on opportunistic debt issuance. Add to the mix still-easy monetary policy, an economy at full employment and the Federal Reserve's (Fed) preferred measure of inflation hitting 2% for the first time in six years, and the increase in corporate leverage is more digestible.

Figure 8 – Revenue growth reached 8.3% in Q12018 y/y



Source: JPMorgan, June 2018.

Figure 9 – US Corporate profit margins (%)



Source: JPMorgan, June 2018.

Yet pockets of elevated leverage have emerged

Yet this relatively sanguine fundamental picture does not tell the complete story. Leverage has increased for some large issuers as a result of M&A activity, and in some instances credit rating agencies have arguably been giving some of these companies more of a 'free pass' than perhaps they ought to have. With the combined leverage (ratio of debt to EBITDA) of some M&A deals 4 times or more, many of these companies would not look out of place with a BB rating. The agencies have, perhaps, placed too much faith in the ability and promise of mid-cap/large-cap companies to de-lever, hinging their view on the expectation of revenue and cost synergies to increase profits and free cashflow, with this free cashflow utilized to pay down debt.

Debt-funded M&A dominated in consumer non-cyclicals sector

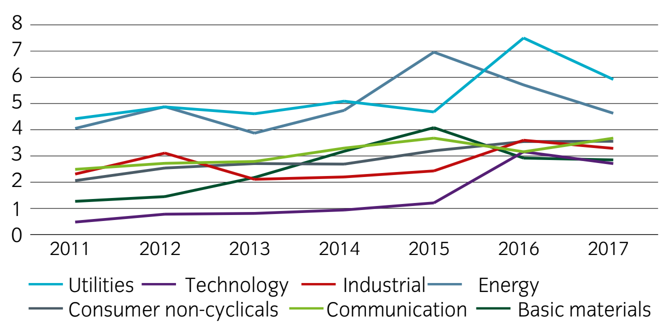
Insight has reviewed all US IG-rated M&A transactions with a value greater than $10bn since the beginning of 2011, which were either fully or partly financed with cash. This provides a universe of 55 non-financial corporates. We look at both total debt/EBITDA and net debt/EBITDA – gross and net leverage respectively.

Looking first at the sectoral trends, leverage is highest for the utilities sector (peaking at 7.5 times in 2016 falling back to 5.9 times in 2017). Yet this is less of a concern for us given the stability of utility company's cashflows, their asset-heavy balance sheets and the sector's regulated nature.

While overall leverage levels for consumer non-cyclicals appear modest in comparison (3.6 times in 2017), M&A activity has been overwhelmingly concentrated in this sector with these companies comprising almost half (24) of the total dataset. Also concerning is the trend here. While most sectors have experienced improved debt metrics over the last year or so, consumer non-cyclical leverage continues to creep up.

Yes, these companies also generate the potential for relatively stable cashflows, yet in certain cases the rationale for the M&A has been less than convincing. Lacking clear organic growth options, many of these companies went down the M&A path as a means of generating synergy and cutting costs, with little focus on longer-term business success. We are most skeptical of these transactions, and in particular instances where the M&A involved a large amount of debt financing and where leverage metrics have deteriorated in kind yet the company remains IG or teeters on the edge of high yield.

Figure 10 – Gross leverage trends for US IG companies (M&A transactions > $10bn)



Source: Insight Investment, Moody's, July 2018.

Cases where deleveraging promises have failed to materialize

It is also interesting to look at whether or not companies have actually followed through on promises to de-lever after an M&A event. Using the same dataset, we look at individual companies' leverage trends since 2011.

For this analysis we define a material change in leverage as +0.25x/-0.25x[6].

Based on adjusted total debt/EBITDA:

- Only three companies de-levered for three consecutive years during the seven-year period covered
- Only 14 companies de-levered for at least two full financial years, several of which subsequently re-levered, or re-levered before de-leveraging again

Based on adjusted net debt/EBITDA:

- Only five companies de-levered for three consecutive years during the seven-year period covered
- Only 13 companies de-levered for at least two full financial years, with again several subsequently re-leveraging, or re-leveraging before de-leveraging again

While there is clearly an element of timing here – a company may have only recently undertaken material M&A and might still be de-leveraging – most companies appear to have accepted higher leverage as the new paradigm:

- Average adjusted total debt/EBITDA was 2.41 times in 2011 and 3.85 times in 2017 (although down from a peak of 4.09 times in 2016)
- Average adjusted net debt/EBITDA was 1.94 times in 2011 and 3.31 times in 2017 (although down from a peak of 3.47 times in 2016)

THE RISK FROM FALLEN ANGELS

With the Fed advancing on monetary policy normalization, and the European Central Bank following closely behind, the era of very low corporate funding costs is approaching an end. In our view, this raises questions about the capacity of the high yield market to absorb fallen angel 'accidents' when the cycle eventually turns and if some of these issuers fail to de-lever ahead of the it. Rating agencies are likely to be less lenient when the macro backdrop deteriorates. With some highly-levered large capital structures sitting on the cusp of high yield as BBB- issuers, there lies the potential for some serious accidents. This would result in a wave of forced selling as the names fall out of the IG index, the magnitude of sell-off exacerbated in a risk-off environment given a greatly reduced buyer base. Moody's latest rating migration table would imply that based on historical averages, 4.94% of BBBs in a given year are likely to be downgraded to speculative grade the following year (Table 4). The risk is that this could turn out to be higher.

Table 4 – Moody's average one-year rating migrations, 1970-2017

Rating	Aaa	Aa	A	Baa	Ba	B	Caa	CaC	Default	WR
Aaa	87.56%	8.05%	0.57%	0.07%	0.02%	0.00%	0.00%	0.00%	0.00%	3.72%
Aa	0.83%	85.23%	8.40%	0.43%	0.06%	0.04%	0.02%	0.00%	0.02%	4.97%
A	0.05%	2.51%	86.69%	5.41%	0.49%	0.11%	0.04%	0.01%	0.05%	4.64%
Baa	0.03%	0.15%	4.21%	85.49%	3.88%	0.71%	0.16%	0.02%	0.17%	5.19%
Ba	0.01%	0.04%	0.43%	6.11%	76.18%	7.25%	0.71%	0.11%	0.91%	8.25%
B	0.01%	0.03%	0.15%	0.45%	4.76%	73.49%	6.61%	0.54%	3.39%	10.57%
Caa	0.00%	0.01%	0.03%	0.09%	0.39%	6.71%	67.43%	2.84%	8.38%	14.12%
Ca-C	0.00%	0.00%	0.06%	0.00%	0.62%	2.46%	8.80%	39.53%	25.62%	22.93%

Source: Moody's, December 2017.

[6] We use the Moody's peer comparison tool to enable a proper like-for-like comparison. While gross debt accounts for a company's total outstanding debt obligations, net debt subtracts cash and cash equivalent assets.

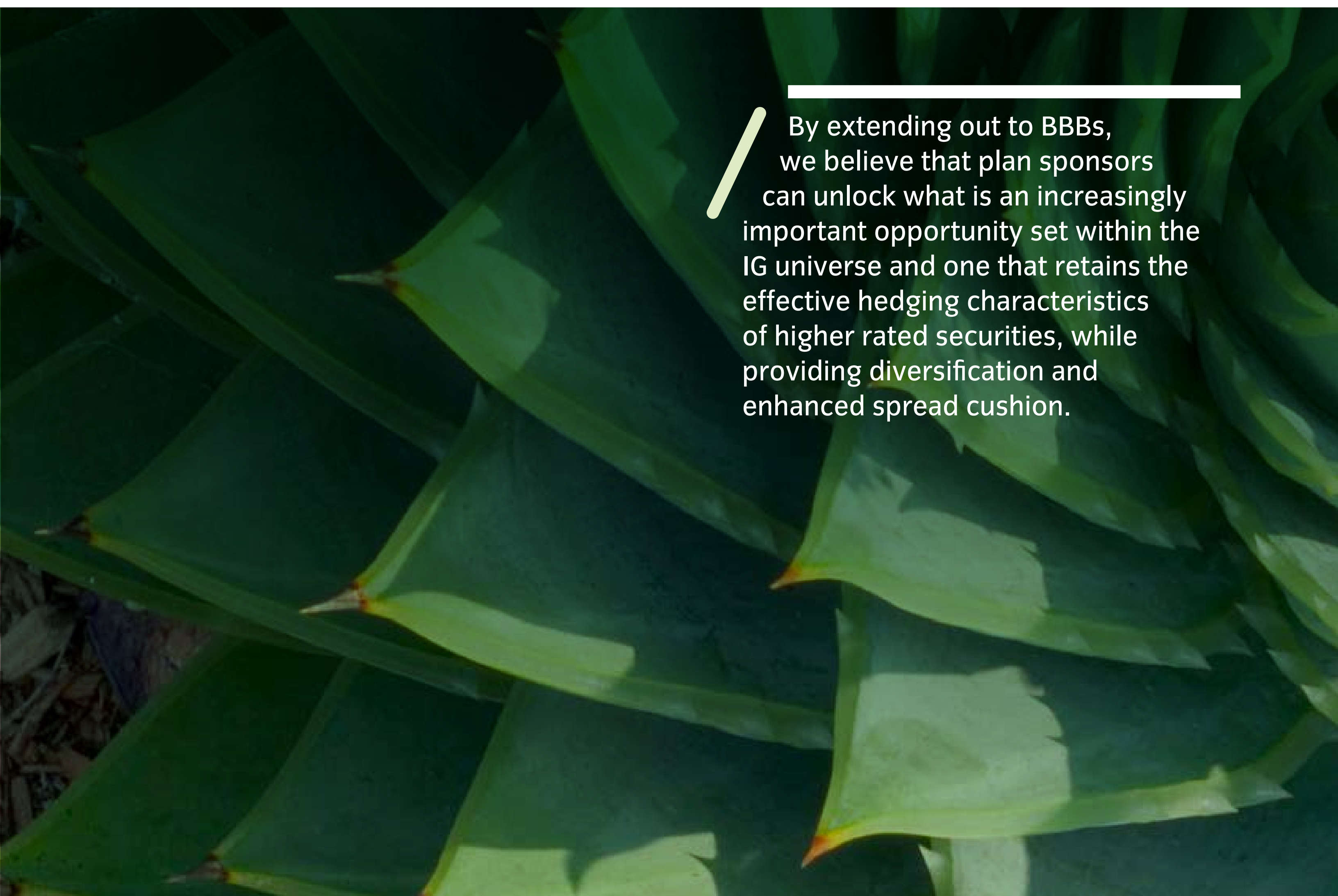
CONCLUSION

By extending out to BBBs, we believe that plan sponsors can unlock what is an increasingly important opportunity set within the IG universe, and one that retains the effective hedging characteristics of higher-rated securities, while providing diversification and enhanced spread cushion. Furthermore, such companies are typically incentivized to retain their credit rating compared with higher-rated companies.

There has, however, been a sharpening of focus on the growth of the BBB universe, the influence of leverage in driving that growth and the potential for some serious downgrade accidents to high yield if the market cycle turns. Undoubtedly debt-fueled financial engineering has been a concern, but we believe that the risks are concentrated to particular segments of the market such as consumer non-cyclicals. Moreover, the overall fundamental picture for BBBs remains strong and the more general trends higher in BBB leverage are also precisely what we would expect given the strength of the growth backdrop.

It's a case of separating the wheat from the chaff. Ultimately we believe that BBBs provide considerable opportunity for liability hedging portfolios and should form an integral part of the investment universe.

In the following section our portfolio managers articulate how they navigate BBBs.



> By extending out to BBBs, we believe that plan sponsors can unlock what is an increasingly important opportunity set within the IG universe and one that retains the effective hedging characteristics of higher rated securities, while providing diversification and enhanced spread cushion.

Q&A:
VIEWS FROM INSIGHT'S PORTFOLIO MANAGERS

Andrew Catalan, CFA
Head of Long Duration
US Fixed Income
Insight Investment

Jesse Fogarty, CFA, FRM
Senior Portfolio Manager
Fixed Income
Insight Investment

Q: In this environment, how does a portfolio manager separate the wheat from the chaff?

It is worthwhile emphasizing that we are in an environment of strong economic growth, robust earnings performance, low unemployment, inflation picking up – a risk-on environment for credit investors and one conducive to good BBB performance. While leverage has ticked up on average, it remains consistent with this backdrop. Of course, we are tasked with looking forward and projecting how these companies may fare under more adverse conditions.

The concern for our analysts has been those pockets of financial-engineered leverage build-up that are driven more by shareholder value creation, cost cutting and synergies, and less on the long-term business development. Over the years our analysts have noted several examples of such companies, many in the consumer non-cyclical sector that have re-levered and come out with aggressive de-leveraging targets that in reality just don't materialize. We have been very selective on these companies that have assumed too much leverage and where both the willingness and ability to de-lever is overly optimistic. Where these names lie on the cusp of high yield there is the potential for downgrade accidents to happen.

Q: What tools or metrics do you use in credit analysis to identify landmines?

We implement a rigorous bottom-up approach to credit analysis across both actively managed and buy and maintain strategies, with a focus on downside risks. A key pillar of our long duration investment process is security selection, and in order to screen those BBB names that are at risk of downgrade, we use a number of proprietary tools in our analysis.

Landmine checklist

The landmine checklist forms part of our fundamental credit analysis process as a tool to guard against default and to minimize default risk (Figure 11). It covers those factors that have the potential to cause a sudden, unexpected deterioration in an issuer's credit quality. We score each of these factors on a scale from one to five, with higher numbers indicating more risk and scores of five indicating areas of significant concern.

Unless all the components of our fundamental analysis and landmine checklist are analyzed and evaluated to the satisfaction of the credit analyst and the broader credit team, we will not consider a purchase for our portfolios. This strategy has proven highly successful in identifying credit deterioration early and avoiding issuers where there has subsequently been a sharp deterioration in credit quality. Should we identify a significant risk of default that is not already priced into a particular bond, we would look to sell out of the position at the first available opportunity.

We also employ an analytical process for identifying companies which have a significant LBO (leveraged buy-out) or M&A risk. Both of these events almost always give rise to a significant increase in financial leverage. We screen our investment universe to try to identify possible LBO/M&A candidates and ensure that our portfolios are sufficiently well protected from downside risks such events might cause.

Q: As the business cycle turns, which sectors with BBB names are expected to perform better?

We see value in financial names that have, for regulatory reasons, been more immune to some of this M&A activity and have strong fundamentals. While leverage in the utilities sector is high, philosophically we like this sector because its defensive characteristics allow it to serve as a good ballast in a portfolio context. Higher leverage is less of a concern here given the sector's regulated nature, asset rich balance sheets and stable cashflow profile.

Q: Do you expect an increase in fallen angels in this cycle as a result of the debt binge?

Fallen angels are likely to be more severe given the sheer increase in BBBs, the higher levels of leverage and the existence of more dubiously rated BBBs – those where leverage metrics are more akin to a high yield name, and where rating agencies have arguably been too lenient.

Q: What credit characteristics might disqualify a company rated BBB from consideration in a portfolio?

Lower ratings can result from higher leverage, less stable business models, less business diversification/smaller size or a combination of these factors. Stable businesses such as railroads and utilities can withstand a downturn in the business cycle even with higher debt levels. Highly cyclical companies on the other hand would be naturally de-emphasized in a portfolio in anticipation of a downturn.

Figure 11 – Insight's proprietary landmine checklist

Factor	Example
✓ Liquidity	Assuming no access to capital markets in the next 24 months, what is the impact on the issuer's liquidity?
✓ Contingent liabilities	What is the magnitude of the issuer's off-balance sheet liabilities such as pension deficits, operating leases, etc.?
✓ Regulatory risk	To what extent is the issuer's industry subject to regulation and changes in regulation?
✓ Event risk	Does the management have an appetite or need to expand the business through debt-financed mergers and acquisitions?
✓ Leveraged Buyout (LBO) risk	Is the business likely to be subject to an approach from, or a bid by private equity?
✓ Environmental, social, governance (ESG)	Is the issuer properly managing ESG risks?

Each factor scored 1 (good) to 5 (bad)

CONTRIBUTORS

Andrew Catalan, CFA
Head of Long Duration
US Fixed Income
Insight Investment

David Hamilton
Head of Credit Analysis
US Fixed Income
Insight Investment

Jesse Fogarty, CFA, FRM
Senior Portfolio Manager
Fixed Income
Insight Investment

Derek Traynor, CFA
Senior Content Specialist
Insight Investment

FIND OUT MORE

Insight Investment
200 Park Avenue, 7th Floor
New York, NY 10166
212-527-1800

Call charges may vary by provider.

Institutional Business Development
institutionalna@insightinvestment.com

Consultant Relationship Management
consultantsna@insightinvestment.com

Client Service Management
clientservicena@insightinvestment.com

www.insightinvestment.com

14146-09-18

IMPORTANT DISCLOSURES

This document has been prepared by Insight North America LLC (INA), a registered investment adviser under the Investment Advisers Act of 1940 and regulated by the US Securities and Exchange Commission. INA is part of 'Insight' or 'Insight Investment', the corporate brand for certain asset management companies operated by Insight Investment Management Limited including, among others, Insight Investment Management (Global) Limited and Insight Investment International Limited.

Opinions expressed herein are current opinions of Insight, and are subject to change without notice. Insight assumes no responsibility to update such information or to notify a client of any changes. Any outlooks, forecasts or portfolio weightings presented herein are as of the date appearing on this material only and are also subject to change without notice. Insight disclaims any responsibility to update such views. No forecasts can be guaranteed.

Nothing in this document is intended to constitute an offer or solid action to sell or a solid action of an offer to buy any product or service (nor shall any product or service be offered or sold to any person) in any jurisdiction in which either (a) INA is not licensed to conduct business, and/or (b) an offer, solicitation, purchase or sale would be unavailable or unlawful.

This document should not be duplicated, amended, or forwarded to a third party without consent from INA. This is a marketing document intended for institutional investors only and should not be made available to or relied upon by retail investors. This material is provided for general information only and should not be construed as investment advice or a recommendation. You should consult with your adviser to determine whether any particular investment strategy is appropriate.

Assets under management include exposures and cash, and are calculated on a gross notional basis. Regulatory assets under management without exposures shown can be provided upon request.

Past performance is not a guide to future performance, which will vary. The value of investments and any income from them will fluctuate and is not guaranteed (this may partly be due to exchange rate changes). Future returns are not guaranteed and a loss of principal may occur.

Targeted returns intend to demonstrate that the strategy is managed in such a manner as to seek to achieve the target return over a normal market cycle based on what Insight has observed in the market, generally, over the course of an investment cycle. In no circumstances should the targeted returns be regarded as a representation, warranty or prediction that the specific deal will reflect any particular performance or that it will achieve or is likely to achieve any particular result or that investors will be able to avoid losses, including total losses of their investment.

The information shown is derived from a representative account deemed to appropriately represent the management styles herein. Each investor's portfolio is individually managed and may vary from the information shown. The mention of a specific security is not a recommendation to buy or sell such security. The specific securities identified are not representative of all the securities purchased, sold or recommended for advisory clients. It should not be assumed that an investment in the securities identified will be profitable. Actual holdings will vary for each client and there is no guarantee that a particular client's account will hold any or all of the securities listed.

The quoted benchmarks within this document do not reflect deductions for fees, expenses or taxes. These benchmarks are unmanaged and cannot be purchased directly by investors. Benchmark performance is shown for illustrative purposes only and does not predict or depict the performance of any investment. There may be material factors relevant to any such comparison such as differences in volatility, and regulatory and legal restrictions between the indices shown and the strategy.

Transactions in foreign securities may be executed and settled in local markets. Performance comparisons will be affected by changes in interest rates. Investment returns fluctuate due to changes in market conditions. Investment involves risk, including the possible loss of principal. No assurance can be given that the performance objectives of a given strategy will be achieved.

Insight does not provide tax or legal advice to its clients and all investors are strongly urged to consult their tax and legal advisors regarding any potential strategy or investment.

Information herein may contain, include or is based upon forward-looking statements within the meaning of the federal securities laws, specifically Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include all statements, other than statements of historical fact, that address future activities, events or developments, including without limitation, business or investment strategy or measures to implement strategy, competitive strengths, goals expansion and growth of our business, plans, prospects and references to future or success. You can identify these statements by the fact that they do not relate strictly to historical or current facts. Words such as 'anticipate', 'estimate', 'expect', 'project', 'intend', 'plan', 'believe', and other similar words are intended to identify these forward-looking statements. Forward-looking statements can be affected by inaccurate assumptions or by known or unknown risks and uncertainties. Many such factors will be important in determining our actual future results or outcomes. Consequently, no forward-looking statement can be guaranteed. Our actual results or outcomes may vary materially. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

Insight and MBSC Securities Corporation are subsidiaries of BNY Mellon. MBSC is a registered broker and FINRA member. BNY Mellon is the corporate brand of the Bank of New York Mellon Corporation and may also be used as a generic term to reference the Corporation as a whole or its various subsidiaries generally. Products and services may be provided under various brand names and in various countries by subsidiaries, affiliates and joint ventures of the Bank of New York Mellon Corporation where authorized and regulated as required within each jurisdiction. Unless you are notified to the contrary, the products and services mentioned are not insured by the FDIC (or by any government entity) and are not guaranteed by or obligations of the Bank of New York Mellon Corporation or any of its affiliates. The Bank of New York Mellon Corporation assumes no responsibility for the accuracy or completeness of the above data and disclaims all expressed or implied warranties in connection there with. Personnel of certain of our BNY Mellon affiliates may act as: (i) registered representatives of MBSC Securities Corporation (in its capacity as a registered broker-dealer) to offer securities, (ii) officers of the Bank of New York Mellon (a New York chartered bank) to offer bank-maintained collective investment funds and (iii) associated persons of MBSC Securities Corporation (in its capacity as a registered investment adviser) to offer separately managed accounts managed by BNY Mellon Investment Management firms.

Disclaimer for Non-US Clients: Prospective clients should inform themselves as to the legal requirements and tax consequences within the countries of their citizenship, residence, domicile and place of business with respect to the purchase and ongoing provision of advisory services. No regulator or government authority has reviewed this document or the merits of the products and services referenced herein.

This document is directed and intended for 'institutional investors' (as such term is defined in various jurisdictions). By accepting this document, you agree (a) to keep all information contained herein (the 'Information') confidential, (b) not use the Information for any purpose other than to evaluate a potential investment in any product described herein, and (c) not to distribute the Information to any person other than persons within your organization or to your client that has engaged you to evaluate an investment in such product.

Telephone conversations may be recorded in accordance with applicable laws.