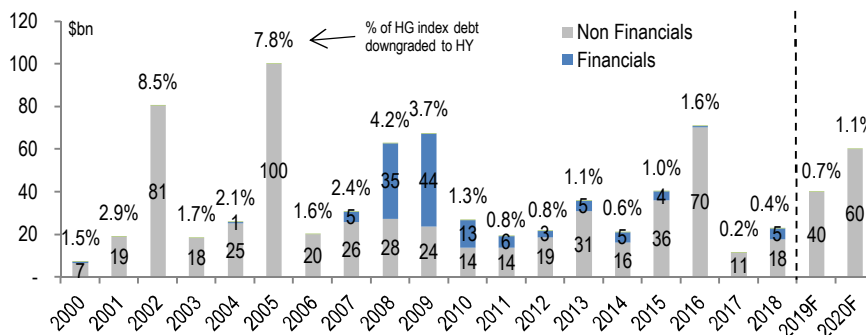


How much BBB debt will fall to HY?

We look to history, market pricing and our analysts for answers

- BBB-rated Non-Financial bonds have grown to \$2.3tr outstanding, from \$883bn in 2011, a 164% increase over 7 years
- The BBB market is now 4.8x larger than the BB market. It was 2.9x larger 10 years ago
- If there is a significant amount of rating migration from HG to HY, it will have a meaningful impact on both HG and HY bond markets
- In this note, we discuss downgrade risk from three perspectives: what history tells us, what the market is pricing, and the JPM sector analysts' views
- In 2017 and 2018 just \$11bn and \$18bn of Non-Financial index debt went from HG to HY. This represents 0.3% and 0.5% of the HG Non-Financial market, respectively, well below the historical average of 2.7% per year
- Using historical downgrade rates by rating bucket and applying these to the current market size and rating profile results in \$108bn/year of 'expected' HG to HY downgrades
- Market pricing suggests that \$137bn of BBB debt (5.8%) is priced for downgrade to BB
- Our analysts believe that downgrade risk is lower than these figures. For many of the largest 50 BBB issuers we believe the risk of downgrade to BB is overpriced
- While many large HG bond issuers chose to go from an A to BBB rating through M&A and a shareholder focus in recent years, we believe most have both the interest and ability to avoid a HY rating going forward
- We introduce a forecast of fallen angels of \$40bn in 2019 and \$60bn in 2020. \$17bn PCG debt has already been downgraded this year

Our forecast is that \$40bn will fall from HG to HY in 2019 and \$60bn in 2020



Source: J.P. Morgan

See page 25 for analyst certification and important disclosures.

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The 50 largest BBB rated non-Financial bond issuers

The table below, sorted from most to least amount of index debt, shows each issuer's current rating profile, the amount of index debt, the probability of downgrade over the next 2 and 3 years assuming the historical downgrade rates prevail, and the probability of downgrade to HY implied by bond spreads. The methodology for these calculations is described in this note.

Issuer	Sector	4-6yr Bond spread	Moody's/ S&P/ Fitch	Index Rating	Index Debt (\$bn)	Historical downgrade probability				Spread implied downgrade probability
						2Y avg	3Y avg	2Y avg+ 1std dev	3Y avg+ 1std dev	
AT&T Inc	Telecoms	117	Baa2/BBB-/A-	BBB	95	5%	8%	10%	14%	<15%
Anheuser-Busch Cos LLC	Consumer	95	Baa1/A-/BBB	BBB+	80	3%	5%	7%	10%	<15%
Verizon Communications Inc	Telecoms	77	Baa1/BBB+/A-	BBB+	72	3%	5%	7%	10%	<15%
CVS Health Corp	Health & Pharma	118	Baa2/BBB/-	BBB	66	5%	8%	10%	14%	<15%
GE Capital International Funding Co	Cap Goods	179	Baa1/BBB+/BBB+	BBB+	46	3%	5%	7%	10%	<15%
General Motors Financial Co Inc	Automotive	198	Baa3/BBB/BBB	BBB	41	5%	8%	10%	14%	45-60%
Charter Communications Operating	Media Ent	193	Ba1/BBB-/BBB-	BBB-	38	24%	34%	38%	49%	30-45%
United Technologies Corp	Cap Goods	90	Baa1/BBB+/WD	BBB+	34	3%	5%	8%	11%	<15%
AbbVie Inc	Health & Pharma	118	Baa2/A-/	BBB	33	5%	8%	10%	14%	<15%
Ford Motor Credit Co LLC	Automotive	294	Baa3/BBB/BBB	BBB	33	5%	8%	10%	14%	>90%
Cigna Corp	Health & Pharma	113	Baa2/A-/BBB-	BBB	33	5%	8%	10%	14%	<15%
Energy Transfer Operating LP	Energy	158	Baa3/BBB-/BBB-	BBB-	30	24%	34%	38%	49%	<15%
BAT Capital Corp	Consumer	155	Baa2/BBB+/BBB	BBB	29	5%	8%	10%	14%	<15%
Kinder Morgan Inc	Energy	123	Baa2/BBB/BBB-	BBB	28	5%	8%	10%	14%	<15%
Amgen Inc	Health & Pharma	87	Baa1/A/BBB	BBB+	25	3%	5%	7%	10%	<15%
Dow Chemical Co	Basic Industries	105	Baa2/BBB/NR	BBB	24	4%	6%	9%	12%	<15%
MPLX LP	Energy	139	Baa3/BBB/BBB-	BBB-	23	18%	26%	29%	38%	<15%
Kraft Heinz Foods Co	Consumer	128	Baa3/BBB/BBB-	BBB-	22	24%	34%	38%	49%	<15%
Enterprise Products Operating	Energy	92	Baa1/BBB+/BBB+	BBB+	21	3%	5%	7%	10%	<15%
Fox Corp	Media Ent	99	Baa2/BBB/-	BBB	21	4%	6%	8%	11%	<15%
Williams Cos Inc/The	Energy	130	Baa3/BBB/BBB-	BBB-	21	21%	30%	33%	44%	<15%
Bayer US Finance II LLC	Health & Pharma	146	Baa1/BBB/A-	BBB+	20	3%	5%	7%	10%	<15%
Celgene Corp	Health & Pharma	104	Baa2/BBB+/	BBB	20	5%	8%	10%	14%	<15%
Dell International LLC / EMC	Technology	180	Baa3/BBB-/BBB-	BBB-	19	24%	34%	38%	49%	15-30%
Union Pacific Corp	Transport	73	Baa1/A-/	BBB+	19	3%	5%	7%	10%	<15%
Vodafone Group PLC	Telecoms	134	Baa1/BBB+/BBB+	BBB+	18	3%	5%	7%	10%	<15%
McDonald's Corp	Retail	77	Baa1/BBB+/BBB	BBB+	18	3%	5%	7%	10%	<15%
Shire Acquisitions Investments	Health & Pharma	120	Baa2/BBB+/	BBB	17	5%	8%	10%	14%	<15%
Anthem Inc	Health & Pharma	92	Baa2/A/BBB	BBB	16	5%	8%	10%	14%	<15%
Abbott Laboratories	Health & Pharma	65	Baa1/BBB/WD	BBB	16	5%	8%	10%	14%	<15%
Allergan Funding SCS	Health & Pharma	139	Baa3/BBB/BBB-	BBB-	16	24%	34%	38%	49%	<15%
Enel Finance International NV	Utilities	185	Baa2/BBB+/A-	BBB+	15	3%	5%	7%	10%	15-30%
Southern Co/The	Utilities	103	Baa2/BBB+/BBB+	BBB+	14	3%	5%	7%	10%	<15%
CSX Corp	Transport	90	Baa1/BBB+/	BBB+	14	3%	5%	7%	10%	<15%
Enbridge Inc	Energy	114	Baa2/BBB+/BBB+	BBB+	14	3%	5%	7%	10%	<15%
Discovery Communications	Media Ent	149	Baa3/BBB-/BBB-	BBB-	13	24%	34%	38%	49%	<15%
Northrop Grumman Corp	Cap Goods	82	Baa2/BBB/BBB	BBB	13	5%	8%	10%	14%	<15%
FedEx Corp	Transport	95	Baa2/BBB/-	BBB	13	5%	8%	10%	14%	<15%
Becton Dickinson and Co	Health & Pharma	117	Ba1/BBB/BBB-	BBB-	13	24%	34%	38%	49%	<15%
Telefonica Emisiones SA	Telecoms	139	Baa3/BBB/BBB	BBB	13	5%	8%	10%	14%	<15%
Sabine Pass Liquefaction LLC	Energy	165	Baa3/BBB-/BBB-	BBB-	13	24%	34%	38%	49%	<15%
AstraZeneca PLC	Health & Pharma	93	A3/BBB+/BBB+	BBB+	13	3%	5%	7%	10%	<15%
Lockheed Martin Corp	Cap Goods	60	Baa1/BBB+/BBB+	BBB+	13	3%	5%	7%	10%	<15%
Lowe's Cos Inc	Retail	98	Baa1/BBB+/	BBB+	12	3%	5%	7%	10%	<15%
American Tower Corp	Telecoms	116	Baa3/BBB-/BBB	BBB-	11	24%	34%	38%	49%	<15%
Duke Energy Corp	Utilities	88	Baa1/BBB+/BBB+	BBB+	11	3%	5%	7%	10%	<15%
FirstEnergy Corp	Utilities	122	Baa3/BBB-/BBB-	BBB-	11	15%	22%	25%	33%	<15%
Crown Castle International	Telecoms	123	Baa3/BBB-/BBB	BBB-	11	22%	32%	35%	46%	<15%
Exelon Corp	Utilities	120	Baa3/BBB-/BBB-	BBB-	11	8%	12%	14%	20%	<15%
Keurig Dr Pepper Inc	Consumer	134	Baa2/BBB/-	BBB	11	5%	8%	10%	14%	<15%
Sum of top 50					1,231	97	141	174	234	53
Overall BBB Non Fins ex-EM					2,341	210	305	367	494	137

Source: J.P. Morgan. As of 14th February, 2019. Note: In case of multiple ratings for different bonds for the issuer we display the rating of the largest bond from the largest capital structure of the issuer. The probability of downgrades are calculated on a bond by bond level and aggregated to the issuer level.

The BBB market has grown rapidly, more so than the BB market

The risk to both High Grade and High Yield bond markets from the rapid growth in BBB rated debt remains a key question for credit investors, and one often cited in HG for those who are cautious on the market. It is an obvious question given the rapid growth in BBB rated debt and the rise in corporate leverage, both of these trends are not been matched in the BB market.

Currently (as of YE18) there is \$2.8tr of BBB rated debt in our JULI index (excluding Emerging Market issuers). This is 51% of the index. Non-Financials are \$2.3tr of this and Financials are \$488bn. 61% of non-Financial debt is now rated BBB, up from 49% in 2011. The rapid growth of the HG market and BBB subset of it in particular has not been matched in High Yield.

The BBB market is currently 4.8x times larger than the BB market, up from 3.6x times 5 years ago and 2.9x times 10 years ago. Therefore, if there is a significant amount of BBB debt downgraded to BB it will have large implications for both HG and HY bond investors.

Exhibit 1: The amount of BBB rated debt has increased by 5.3x since 2007, while BB debt has increased 2.3x. The BBB market is now 4.8 times larger than the BB market

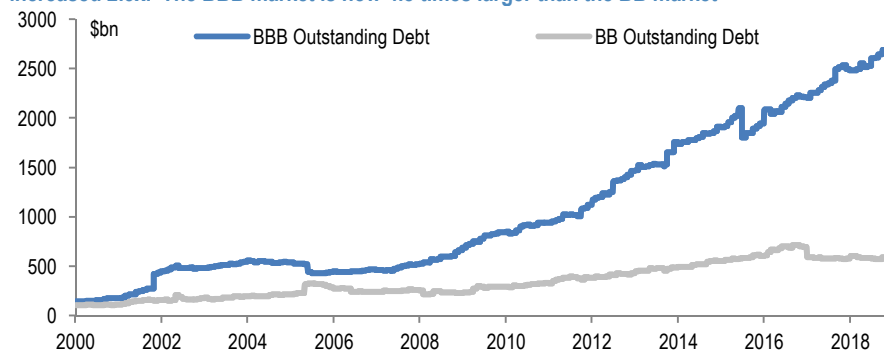


Exhibit 2: The High Grade Non-Financial bond market has grown rapidly over the past few years, driven by BBB rated debt

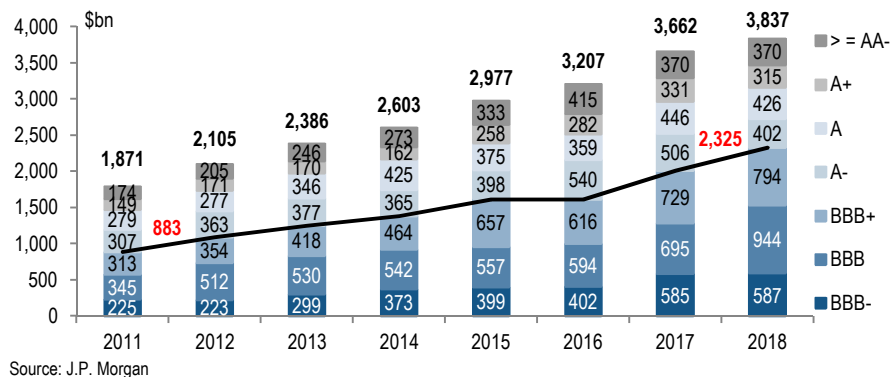
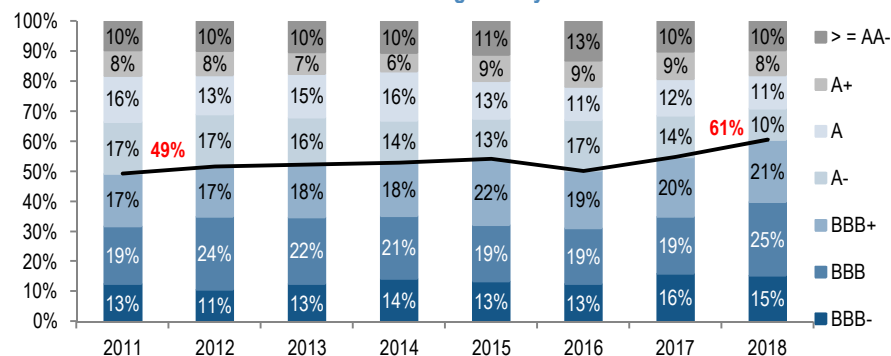


Exhibit 3: The share of BBB debt has been rising steadily for Non-Financial issuers

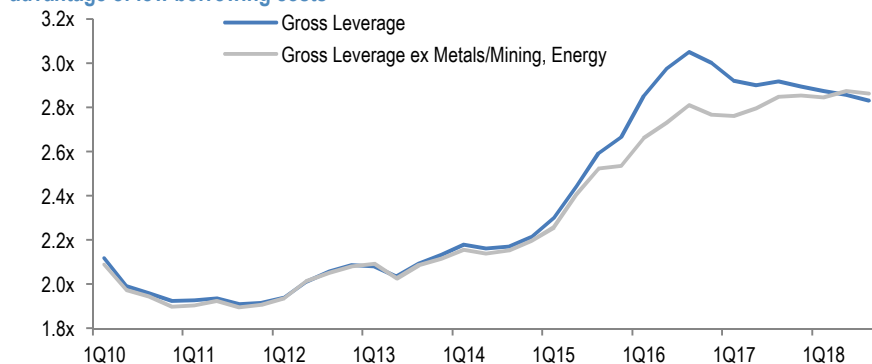


Source: J.P. Morgan

The drivers of rating deterioration within High Grade credit include low borrowing costs and significant M&A

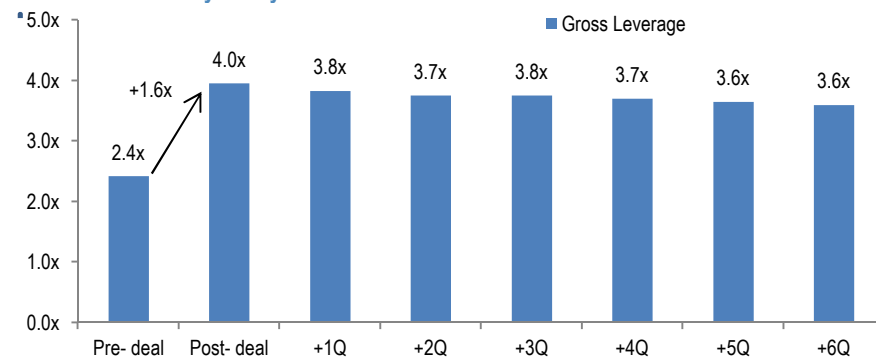
Corporate leverage in HG credit markets has risen significantly over the past few years. This has been driven by low borrowing costs for companies, and until the past couple of years, relative weak corporate earnings and EBITDA growth. Companies took advantage of low funding rates to return more cash to shareholders and to undertake transformative M&A deals. They generally locked in a low cost funding, and they borrowed long term in many cases. Therefore, leverage increased, but interest coverage deteriorated less, and rollover risk remains low. Still, the rating agencies reacted to the higher leverage and higher business risk associated with this leverage with rating downgrades. M&A was a key part of the growth in leverage, with M&A funding accounting for 18% of non-Financial bond issuance over the past four years, on average. See our [3Q18 HG Credit Fundamentals report](#) and [The M&A Wave: Risk & Reward](#) report for more details.

Exhibit 4: Leverage grew rapidly post the Financial Crisis, as High Grade companies took advantage of low borrowing costs



Source: J.P. Morgan

Exhibit 5: M&A has been a significant driver of higher leverage and lower credit ratings over the past few years. On average leverage increased by 1.6x across 32 large M&A deals since 2015, and has declined only slowly after the deals closed



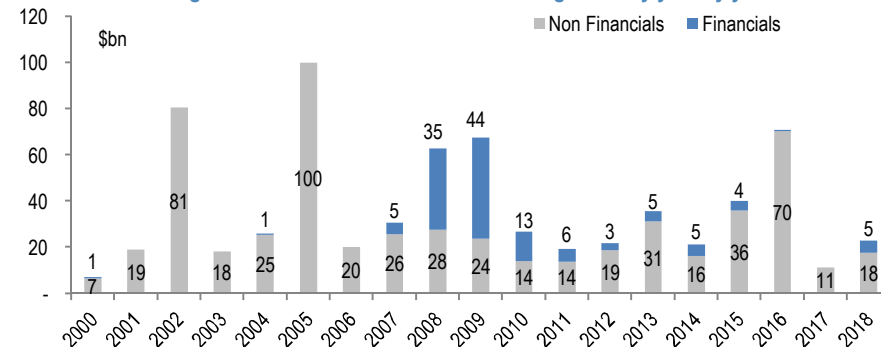
Source: J.P. Morgan

Downgrades from HG to HY over the past two years been the lowest two years since 2000

Over the past two years downgrades from HG to HY have averaged just \$17bn/year (0.3% of HG bonds). This is the lowest two year trend in percentage terms since 2000 when our index data begins. Overall, the percentage rate of downgrades from HG to HY was higher almost every year from 2000-2009 than it has been subsequently.

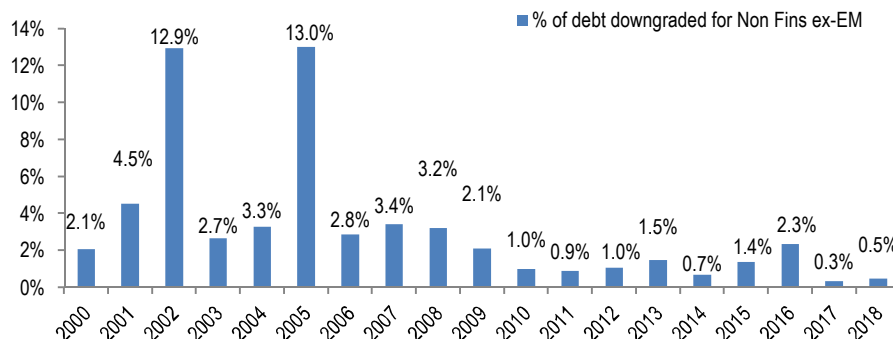
The annual volatility in the data is quite high, understandably. In 2002-2003, there was a spike in downgrades to HY driven by an economic recession and stress in the Telecom and Utilities sectors, in particular. Then, in 2005, downgrades in the Auto sector resulted in \$100bn of debt downgraded in a single year. This is a record that still stands. In 2006-2007, despite strong economic growth, there was still a high rate of downgrades as LBOs of HG companies flourished. In 2008-2009 the Financial crisis led to significant negative rating trends, but these were focused in Financials rather than non-Financials. The downgrades over that period were spread over two years, but combined, they came close to the 2002 and 2005 peaks.

Exhibit 6: Fallen angels from the JULI index have varied significantly year by year



Source: J.P. Morgan

Exhibit 7: Fallen angels as a percent of BBB bonds have been lower post crisis than pre-crisis and especially low the past two years for non-Financials



Source: J.P. Morgan

Post the Financial crisis, there was a sharp decline in downgrades from HG to HY, even as the overall size of the HG market and BBB debt has grown substantially. Some of this is because companies that were able to maintain HG ratings during the sharp recession in 2008-2009 were the stronger ones. Once the economy rebounded, the chances that they would subsequently get in trouble were lower. Also, the low funding costs that corporates enjoyed post-crisis helped reduce the risk of trouble meeting interest payments. The surge in M&A that began in 2014 led to weakening of credit metrics that remains a concern, but post-crisis M&A was mostly strategic in nature, rather than driven by Financial sponsors as was the case pre-crisis. These M&A transactions have, so far, mostly been successful to some extent and have not contributed to more fallen angels. In our analysis of 32 large M&A transactions since 2015, only one of them has subsequently been downgraded to HY. In 2015-2016, the selloff in Energy and Metals prices led to a jump in fallen angels, but the scale of the downgrades then was still well below the pre-crisis trend. There was a change in methodology by Moody's in regards to Energy company ratings in 2016 which contributed to the increase in downgrades. If the rating agencies change their methodologies to be more conservative in the future, and if they do so across their broader coverage universe, there could be a jump in downgrades to HY. We have no reason to expect this, but it remains a risk to the market.

Exhibit 8: Largest fallen angels each year, and the amount of HG index debt impacted

Year	Largest downgrade	Debt downgraded (\$bn)	2nd largest downgrade	Debt downgraded (\$bn)
2000	Xerox Ltd	1.6	Crown Cork & Seal Finance	1.3
2001	Nokia of America Corp	2.9	Delta Air Lines Inc	2.1
2002	MCI Communications Corp	21.1	Qwest Capital Funding Inc	13.7
2003	GPU Inc (FirstEnergy)	4.6	Tenet Healthcare Corp	3
2004	AT&T Corp	8.4	Hess Corp	3.5
2005	Ford Motor Credit Co	45.5	GMAC	30.6
2006	Caesars Ent Operating	4.8	iHeartCommunications	3.6
2007	Centex LLC	6.1	EOP Operating LP	5.4
2008	Lehman Brothers	23.8	Sprint Capital Corp	12.5
2009	CIT Group	12.5	Macy's Retail Holdings	6.4
2010	Intl Lease Finance Corp	10	Anadarko Finance Co	8.9
2011	Embarq Corp	4	RR Donnelley & Sons Co	2.9
2012	ArcelorMittal	12.2	EDP Finance BV	2
2013	Telecom Italia Capital SA	9.6	Arconic Inc (Alcoa Inc)	6.7
2014	Genworth Holdings Inc	3.6	Cleveland-Cliffs(Cliff Natural)	2.9
2015	Transocean Inc	7.5	Teck Resources Ltd	6.9
2016	Freeport-McMoRan Inc	12	Pride International	5.6
2017	Nabors Industries Inc	3.6	Mattel Inc	1.2
2018	Barclays PLC (sub bonds)	5.3	Xerox Corp	4.7
2019	Pacific Gas & Electric	17.0	-	-

Source: J.P. Morgan

Approach 1: The historical downgrade pattern predicts about \$108bn/4.6% of BBB debt could fall to HY each year

To calculate these figures, we start with historical downgrade rates in our JULI index from 2000-2018. Over this period 12.4% of BBB- debt has been downgraded to HY each year on average, 2.7% of BBB flat debt and 1.5% of BBB+ debt has been downgraded as well. Over two years the figures are almost double these levels, but not quite, as debt which falls to HY in one year cannot fall again the next year, so a two year probability is slightly less than 2x the 1yr probability.

Exhibit 9: Percentage of JULI debt downgraded to HY over 1-year depending on rating at the beginning of the year.

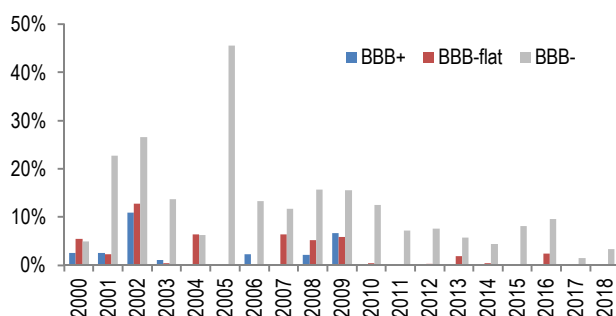


Exhibit 10: Percentage of JULI debt downgraded to HY over 2-years depending on rating at the beginning of the first year.

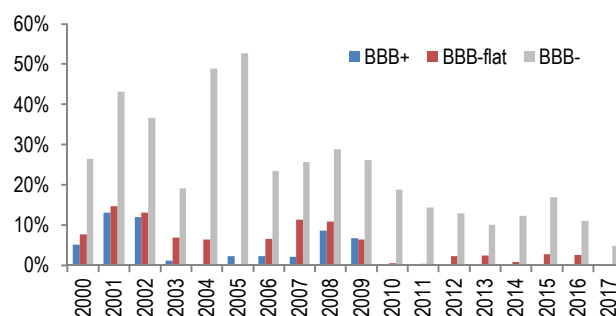


Exhibit 11: Historical percentage of HG debt downgraded to HY based on rating bucket each year

1 year	BBB+	BBB-flat	BBB-
Average	2%	3%	12%
Median	0%	1%	10%
Std Dev	3%	3%	10%
Min	0%	0%	2%
Max	11%	13%	45%

Exhibit 12: Historical percentage of HG debt downgraded to HY based on rating bucket over a two year period

2 year	BBB+	BBB-flat	BBB-
Average	3%	5%	24%
Median	1%	5%	21%
Std Dev	4%	5%	14%
Min	0%	0%	5%
Max	13%	15%	53%

Source: J.P. Morgan, Moody's

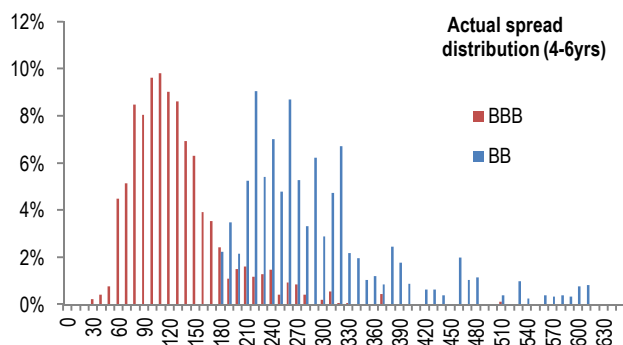
Applying these ratios to the current JULI outstanding and ratings distribution results in an estimate of about \$210bn BBB debt downgraded to HY over 2 years and \$305bn over 3 years. This assumes the average downgrade rate occurs, but history shows we rarely see average downgrades. Usually the rate is lower, and then occasionally there is a large spike in downgrades to HY driven by a broader economic slowdown or specific industry challenges. If one uses downgrade probabilities which are one standard deviation worse than the average for each of the BBB rating categories the amount of predicted downgraded debt rises significantly, to \$367bn in 2 years and \$494bn in 3 years.

Approach 2: Market pricing suggests \$137bn/5.8% of BBB debt is priced in the range of BB debt

Our second approach to estimating fallen angel risk is based on market pricing. A bond's spread level compensates investors for its risks. Therefore, the market implies that credit ratings are "off" when a BBB-rated bond trades at about the same spread level as a generic BB-rated bond with a similar maturity date. This means that market expectations of ratings migration can be inferred from the spread between any BBB bond and a generic BB bond.

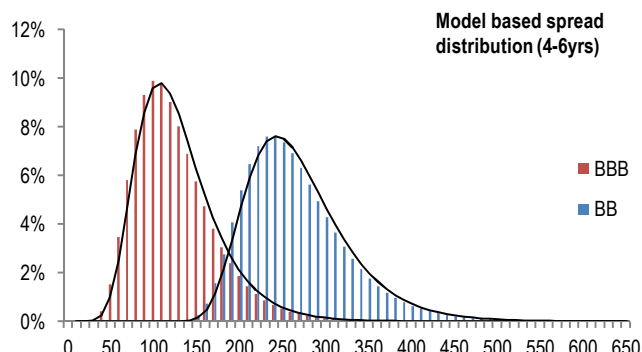
In practice, this comparison is not simple. First, both BBB and BB bonds trade in a wide range. Second, there is a significant spread overlap between the two rating buckets, as shown in the Exhibit below. Currently the median BBB bond with 4-6 years to maturity trades around 125bp, while the median BB bond trades at 265bp. About 10% of 4-6yr BBB bonds are trading wider than the mid-point between the two medians (i.e. 195bp), and 7% of BB bonds are trading tighter than that mid-point.

Exhibit 13: BB bonds trade wider than BBB bonds on average, but there is a significant overlap between the distributions



Source: J.P. Morgan

Exhibit 14: Our model of the BBB and BB spread distribution used to assess the market implied rating



Therefore, we believe that the right approach to estimate the market implied ratings is to 1) model the actual distribution of bond spreads¹, and 2) use that model to determine whether a bond that trades at a given spread level is more likely to be a BBB bond or a BB bond. Note that we restrict ourselves to bonds with 4-6 years to maturity for both BBBs and BBs to avoid bias due to a difference in time to maturity. Note that this approach results in a probability that a BBB bond will fall to BB, based on how much it trades into the BB spread range. We multiply these probabilities at the bond level times the amount of each bond's face value to estimate the implied amount of debt which is priced for a downgrade to High Yield.

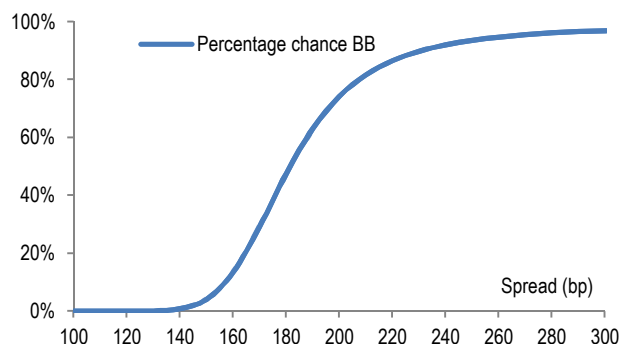
Another challenge in using market pricing is that it does not provide the timing for a downgrade from BBB to BB. Ideally, it would be possible to use different maturity date buckets to get some indication of what the market implies in terms of timing for such a downgrade. However, in practice, there are not enough bonds to properly sample these maturity buckets or other subsets.

Our analysis produces one number for the market implied probability of downgrade from BBB to BB. This figure depends on the spread of the specific BBB bond

¹ Our model is based on Johnson's S_U -distribution.

discussed and on the spread distributions of the BBB and BB bonds. There is no precise timing associated with this number. We also prefer to give a range as the outcome for a specific issuer (e.g. 15-30% chance of downgrade) rather than a precise number as our analysis uses some approximations (e.g. in the modeling of the distribution) and to avoid giving a false sense of precision.

Exhibit 15: Market implied probability of downgrade as a function of spread for a BBB bond with 4-6yrs to maturity



Source: J.P. Morgan

Exhibit 16: Par amount of BBB-rated debt with a given market-implied downgrade probability

Probability of downgrade	Amount of BBB Non-Fin debt	% of Non-Fins BBB debt
<25%	\$2,153bn	92%
25%-50%	\$72bn	3%
50%-75%	\$34bn	1%
>75%	\$85bn	4%

We apply this approach in two ways. First, we look at the 50 largest BBB issuers. We use the 5yr point on each issuer's curve² as the representative level for that issuer to calculate the market implied downgrade probability. Results are presented in the table on page 3.

Second, we look at the whole BBB market. This time, we use the median spread of all the 4-6yr bonds from each issuer as the representative spread for that issuer. We cannot use our curve model for the broad market as small issuers do not have enough bonds to construct a meaningful curve. We find that \$119bn (5%) of BBB debt has more than 50% chance of being downgraded, according to the market pricing, and that \$75bn (3%) of BBB debt has a larger than 80% chance of being downgraded. Combined, this market-based approach implies that \$137bn/5.8% of BBB debt is priced in the range of BB debt.

² Issuer curves are based on our model described earlier. It is only applicable to issuers with at least six bonds outstanding.

Approach 3: Our analysts believe the risk of downgrade to HY for the largest issuers is below that implied by either the historical approach or the market-based approach

For the top 50 BBB rated non-Financials, we asked JPM credit analysts to provide their assessment as to the risk of downgrade to HY, and how it compares to the two quantitative frameworks discussed above. The top 50 BBB issuers represent \$1.2tn in debt which is 53% of the non-Financial ex-EM universe.

We asked them to consider an environment of US GDP growth at around 1.5% for this analysis. This is about the level of potential US growth, and where JPM sees US growth in 4Q19 (and where it is now). It is a level which is not too strong such that it supports across the board strong corporate performance, nor so weak that it does the opposite.

Our analysts believe that downgrade risk is lower than that implied by the historical and market pricing approaches for most of the top 50 issuers. For the remaining issuers they believe the quantitative approaches give a probability of downgrade roughly in line with their own views. We did not identify credits where we believe the market is underpricing downgrade risk for this top 50 universe.

In summary, the reasons for the generally optimistic assessment include strong financial flexibility, a commitment to deleveraging and preserving IG ratings by company managements and solid operating performance which is expected to continue. Details by company are below.

Our forecast is that \$40bn will fall from HG to HY in 2019, \$60bn in 2020.

The historical pattern suggests an approximate rate of \$100bn/year of fallen angels if the average were to prevail, and market pricing suggests, about \$140bn over an unspecified time period, as discussed above. Our analysts, looking at the individual companies, believe the rate will be lower. Our prediction is that the rate of downgrades to HY will remain low for this year and next but will be higher than the past two years which were exceptionally low.

In 2019 \$17bn of Pacific Gas and Electric (PCG) debt was already downgraded from HG and actually defaulted. This is very rare for a bond rated HG as usually bonds are rated HY for some time prior to a default. Our forecast of \$40bn of debt downgraded to HY in 2019 incorporates this amount, so implies a modest amount for the rest of the year. In 2020 we believe the figure will be higher. This is because there is some stress in the Auto sector which may result in downgrades to HY next year. Also, JPM expects US GDP growth to slow throughout 2019 and into 2020. This should result in a higher rate of fallen angels over time.

These forecasts incorporate a view that the trend in fallen angels will remain modest, even as it picks up from current levels. While many companies have taken on more debt and fallen into the BBB and BBB- rating buckets, when we review their prospects individually we do not see stress or reasons for broad based concern. As our analysts discuss below, in most cases we believe companies understand the risks they have taken over the past few years through M&A and a focus on shareholders, and they have/will adjust their strategies as necessary to maintain High Grade ratings.

Of course, there will be negative surprises, and just because companies say they are focused on remaining Investment Grade does not mean that they will succeed. There will be negative events that occur and rating agencies may change their approach or their patience with the pace of deleveraging. Also, we may be headed into a different regulatory environment in the US in a few years, and economic growth may disappoint the trend growth assumption we made in our analysis. We, therefore, continue to expect a steady stream of downgrades, but just not one out of scale with the past two years.

A sector by sector review of the top 50 BBB credits

Automotive – Jon Rau

Ford Motor Credit Co: With Ford/Ford Credit bonds trading ~30bp wide to our JPM BB index at similar duration, we think the market has arguably priced in the probability of rating agency downgrades to HY. Ford currently sits at Baa3/Negative at Moody's and we think the probability of a downgrade in the next 6 months is increasingly likely amid softer China and Europe markets and the lack of progress around fitness and restructuring initiatives. However, we don't see IG ratings at risk at S&P (BBB/Negative) or Fitch (BBB/Stable) in 2019, though downgrades to BBB- at these agencies are possible over the next 6-12 months absent signs of financial and operational improvement. Additionally, we note Ford's firm commitment to preserving IG ratings and believe management could reduce the dividend if internally generated cash flows can no longer support it. At the current juncture, we believe the market implied probability of a downgrade to HY (>90%) is too high as the company's North American operations should continue to generate healthy earnings under the assumption of modest economic growth over the next 2-3 years. In our view, the historically implied downgrade probabilities, even under stressed scenarios (12% probability in 2yrs, 18% probability in 3 yrs), are far too low as they do not consider some of the idiosyncratic challenges the company is currently facing.

General Motors Financial Co: For General Motors/GM Financial, we believe the probability of a downgrade to HY in the next 2 to 3 years is more consistent with the historically-derived estimates (5% in 2 years / 8% in 3 years, and 10% in 2 years / 14% in 3 years under the stressed scenario) under the assumption of continued modest global economic growth. In fact, we see ratings upside potential at GM to high BBB levels in the next few years to the extent that the company executes on targeted restructuring actions intended to generate meaningful free cash flow savings by 2020. We think the 45-60% market-implied downgrade probability is too severe, and more reflective of heightened investor concerns around a near-term recession in the US. We don't believe the market fully appreciates the proactive steps which GM management is taking to improve the company's resilience in a downturn.

Chemicals – Jon Rau

Dow Chemical Co: We believe the probability of a Dow Chemical downgrade to HY in the next 2 to 3 years is about in-line with both the market-implied (<15%) and historically-derived (4% to 12%) estimates. Dow is one of the world's largest petrochemical producers with advantaged feedstock costs and diverse products/end markets. Management is committed to an investment grade credit profile through the cycle with adj. leverage in the 2.5-3.0x range. While Dow's weaker than expected 4Q18 results and forward guidance highlight the business's sensitivity to volatility in commodity prices, we think the underlying business should remain resilient within the context of a relatively stable macroeconomic environment.

Capital Goods – Ginger Chambless

General Electric: We believe downgrade risk to HY for GE is low, in line with the quantitative indicators. While GE's leverage is currently elevated due to weakness in its Power business and challenges in its LTC Insurance book, a number of asset sales to raise cash have been announced or completed to strengthen the balance sheet. We think plans to sell down its remaining BHGE stake and other assets should provide adequate cash resources to meet upcoming maturities, fund restructuring spending, and bolster liquidity.

Lockheed Martin: We believe the downgrade risk for Lockheed Martin to HY is very slim, consistent with the quantitative indicators. LMT is a leading defense contractor with significant revenues and contracts with the US Department of Defense. Maintaining a strong balance sheet and investment grade ratings is important for its business. LMT has successfully integrated the Sikorsky helicopter business it acquired a few years ago and gradually reduced leverage back to a very moderate 1.7x at year end 2018.

Northrop: We believe the downgrade risk for Northrop to HY is quite low, consistent with the quantitative indicators. NOC is a leading defense contractor with significant revenues and contracts with the US Department of Defense. Maintaining a strong balance sheet and investment grade ratings is important for its business. NOC is in the process of integrating its Orbital ATK acquisition from 2018 and plans to pay down upcoming debt maturities using internally generated cash flow.

United Technologies: We believe the downgrade risk for United Technologies to HY is very low, consistent with the quantitative indicators. UTX has increased leverage to approximately 3.6x following its acquisition of Rockwell Collins in 2018, but is focused on repaying debt with its free cash flow over the next few years. UTX is also planning to separate its Climate and Elevator businesses over the next year. UTX has a strong financial profile with significant scale and geographic diversification (\$74bn in revenues), solid EBITDA margins (17%), and strong cash generation.

Consumer – Ginger Chambless

ABInBev: We believe the downgrade risk for ABInBev to HY is in line with the quantitative metrics, or very low. ABInBev still has elevated leverage (~5x) following its acquisition of SABMiller in 2016, but recently cut its dividend 50% to free up cash for debt repayment. ABInBev otherwise has a very stable financial profile with significant scale and geographic diversification (\$55bn in revenues), high EBITDA margins (40%), and strong cash generation.

BAT Capital Corp: We believe the downgrade risk for British American Tobacco to HY is in line with the quantitative metrics, or low. BATS has elevated leverage (~4x) following its acquisition of Reynolds in 2017, but generates strong cash flows and is prioritizing debt repayment over the next few years. It targets net leverage of 3.3-3.5x by 2019 end with further deleveraging towards its historic 1.5-2.5x target range longer term. BATS is a leading global tobacco company with £25bn in revenue and presence in 200 markets globally. BATS also enjoys high EBITDA margins (42%) and strong cash generation.

Keurig Dr. Pepper: We believe downgrade risk for KDP is low, in line with the quantitative factors. KDP leverage is elevated at ~5.5x following the merger transaction of Dr. Pepper Snapple and Keurig Green Mountain last year. KDP management has expressed a commitment to IG ratings and we think it will reduce leverage fairly quickly via strong cash flows. JAB is KDP's largest shareholder (72%) and JAB has shown willingness to contribute incremental equity to partly finance M&A in order to maintain IG ratings.

Kraft Heinz: We believe the downgrade risk for Kraft Heinz to HY is low, which is in line with the market implied level, but lower than what is historically implied by ratings. Although leverage is somewhat elevated at ~4x and underlying business performance has disappointed, KHC management has been crystal clear about financial policy and desire to remain IG. KHC has characterized investment grade ratings as "a line in the sand" and that M&A financing would be structured in a way to stay within IG. KHC's largest investors Berkshire Hathaway (27%) and 3G (22%) have expressed and demonstrated willingness to contribute equity for strategic M&A.

Energy - Matthew Anavy

Enbridge Inc: We believe that probability of a downgrade to HY is lower than all of these quantitatively derived estimates because Enbridge Inc (ENB) remains one of the largest most diversified Midstream companies in our coverage universe. The company continues to grow its business and access to capital markets and an attractive cost of funding remain very important to the board and management as well as current equity holders. The company recently changed its corporate structure, buying in all of the outstanding units of its affiliate MLPs and eliminating the IDRS from them as well as planning to provide cross guarantees between all of the debt of the parent and the affiliates all with the goal of increasing the credit ratings of ENB.

Energy Transfer Operating: We believe that probability of a downgrade to HY is in line with market pricing but lower than what is historically implied because Energy Transfer Operating (ETP) remains one of the largest most diversified MLPs in our coverage universe and has publically stated they would defend their low BBB ratings if they were at risk of falling to HY. The company, over the years, has taken steps on several occasions to support its IG ratings and we would expect them to do that again in the future if the need should arise. This was also demonstrated by management's patients in simplifying the corporate structure in collapsing legacy ETE and ETP and only moved forward once the combined entity would be IG rated. Finally, the company continues to grow its business and access to capital markets and an attractive cost of funding remain very important to the board and management as well as current equity unit holders.

Enterprise Products Partners: We believe that probability of a downgrade to HY is lower than all of these quantitatively derived estimates because Enterprise Products Partners (EPD) remains one of the largest most diversified MLPs in our coverage universe and has publically stated they would defend mid BBB ratings if their ratings were to fall from high BBB level. Additionally, the company continues to grow its business and access to capital markets and an attractive cost of funding remain very important to the board and management as well as current equity unit holders.

Kinder Morgan Inc: We believe that probability of a downgrade to HY is lower than all of these quantitatively derived estimates because Kinder Morgan Inc (KMI) remains one of the largest most diversified Midstream companies in our coverage universe and when the company was at risk for falling to HY the board and management took drastic measures including cutting the distribution in order to retain more cash flow to de-lever the balance sheet in order to preserve IG ratings. We would expect a similar reaction if that were to play out again. Additionally, the company continues to grow its business and access to capital markets and attractive cost of funding remains very important to the companies ability to compete for new business.

MPLX: We believe that probability of a downgrade to HY is lower than all of these quantitatively derived estimates because MPLX LP (MPLX) remains one of the largest most diversified refinery MLPs in our coverage universe. The company continues to grow its business and access to capital markets and an attractive cost of funding remain very important to the board and management as well as current equity unit holders. The company currently is evaluating its structure and may become a C-Corp or eliminate the IDRs and remain an MLP in the future all with an eye towards maintaining or improving the companies credit profile.

Sabine Pass Liquefaction: We believe that probability of a downgrade to HY is in line with market pricing but lower than what is historically implied because Sabine Pass Liquefaction LLC remains the largest LNG export terminal in the US. The company has long term service contracts (~20 yrs) that are take or pay in nature that makes the cash flow generation profile of SPLLLC similar to that of a utility. The company retains very little commodity price risk in its business but does have significant debt maturities that will need to be refinanced in a cost efficient manner and maintaining IG is a key part of management's strategy.

William Cos: We believe that probability of a downgrade to HY is lower than all of these quantitatively derived estimates because William Cos (WMB) remains one of the largest most diversified Midstream companies in our coverage universe. The company continues to grow its business and access to capital markets and an attractive cost of funding remain very important to the board and management as well as current equity unit holders. The company recently changed its corporate structure, collapsing its GP and LP into the GP which was also a C-Corp and eliminated its IDRs all with an eye towards maintaining or improving the companies credit profile. We see WMB as migrating to the mid BBB rating category over the coming 12-18 months under nearly all economic scenarios.

Healthcare/Pharmaceuticals – Brett Gibson

AbbVie: We see ABBV's risk of downgrade to HY as relatively low within a 2/3 year time period, about in line with the metrics listed in the table. While a substantial component of its profits come from a single product (Humira represents 61% of sales and a slightly higher percentage of EBITDA) which will face generic competition in 2023 in the US, the company has agreements in place with nearly all potential generic entrants to limit a launch until a period between Jan 2023 and Nov 2023. This period of time prior to generic launch will give the company the time and ability to use its current very strong cash flow to prepare for that event and bring new products to market. Wildcards include losing substantial US Humira market share to the single generic company which is challenging the Humira patent in court (and is

targeting going to market prior to 2023) or aggressive debt financed M&A that is inconsistent with recent company comments.

Allergan: We would characterize the risk of AGN going HY over the next 2/3 years as similar to the quantitative metrics (14%/19% base case, 19%/25% stress case) despite some of the risks inherent in the name. Notable risks include the company expecting to lose ~\$1bn of EBITDA contribution from Restasis once the FDA approves a generic version of the drug and the stock having dramatically underperformed peers, drawing some level of activist interest. While these risks mean that a downgrade to HY is not out of the question, in our view the company's entrenched Botox franchise and historical commitment act as a buffer. We largely view ratings under the company's control and it has shown a strong commitment to IG ratings that would likely cause it to pull levers to stay investment grade.

Amgen Inc: We view the risk of HY for AMGN as very low given its very strong FCF, relatively diversified profile, and significant balance sheet cash (\$29.3bn). The company is likely to be active in M&A, but we expect that M&A will largely center around pipeline assets that from a size perspective can be funded out of cash flows. In our view, any possible downgrade to HY would likely have to include multiple succession credit negative events— a mega merger which depletes its large cash balance and is aggressively debt financed, followed by a dramatic underperformance of the target relative to company expectations.

Anthem Inc: We view the likelihood of a downgrade to HY as low (in line to lower than the quantitative metrics) given the company's large footprint and strong Blue presence which tends to make its medical membership sticky. One wildcard is the potential for a Single Payer/Medicare-for-all system gaining more traction as we enter the 2020 election, but we believe that any potential change would be gradual and that many of the large Managed Care players would have a say in how the system evolves.

Becton Dickinson: We see a downgrade to full HY as lower than the quantitatively derived rating metrics, though we note that spreads imply a low probability which is more consistent with our view. BDX already carries one Ba1 rating, a result of its 2017 acquisition of BCR. But after strong operating performance and steady deleveraging, our base case is for the company to regain full investment grade this year. A downgrade to full HY would require significant operating setbacks that seem unlikely in our opinion, considering the stable nature of many of BDX's products.

Cigna Corp: We view the chance of CI going HY in the next 2/3 years as extremely low, lower than the already low metrics in the table. CI benefits from a strong market position and strong free cash flow relative to debt which should allow it to delever quickly and in accordance with its plan. CI's recent acquisition of ESRX introduces risk from its large transitioning client, but the company has fully prepared for this eventuality. One wildcard is the litigation with ANTM related to the legacy ESRX contract where ANTM is suing for a significant amount based on its view of contract breaches.

CVS Health Corp: We would characterize the chance of a CVS downgrade to HY as low, consistent or slightly lower than the quantitatively derived metrics. After increasing leverage materially (to ~4.6x) to fund the AET transaction, CVS has embarked on an ambitious plan to change the healthcare system, but has also committed to rapidly bringing down debt levels and consistently shown its commitment to Investment Grade ratings. A downgrade to HY would require a significant model change in the healthcare/drug supply chain, but we note that changes tend to occur slowly in Healthcare and CVS possesses a number of levers that could assist keeping IG ratings in a challenging environment.

Healthcare/ Pharmaceuticals – Danielle Ward

AstraZeneca: We would agree that the risk of AZN being downgraded to HY is very low. The company has transitioned from being rated single A by all three agencies in 2017 to its current BBB+ ratings at S&P/Fitch (remains A3 at Moody's, on Negative outlook), following a number of acquisitions while maintaining a generous dividend policy. AZN has said that the group remains committed to a strong investment grade rating, and now has a healthier organic growth outlook than in past years, having rebuilt its product pipeline, while maintaining flexibility to reduce shareholder payouts (and prioritise cash flow for net debt management) should the need arise to protect ratings. We think large-scale M&A is a relatively low likelihood for AZN given its current pipeline, but a more aggressive stance would be the main risk to watch out for when considering prospects for multi-notch downgrades.

Healthcare/ Pharmaceuticals – Jemma Permalloo

Bayer: We believe that the probability of a downgrade to HY is very low and about equal to these quantitatively derived estimates. Bayer was downgraded by two notches to 'BBB' by S&P in June 2018 following its \$63bn acquisition of Monsanto and its increased leverage. Bayer's senior unsecured debt was also downgraded by Moody's, from 'A3' to 'Baa1'. While Bayer's rating is weakly positioned in the short-term, the scale of the acquisition has helped towards Bayer solidifying and improving its business profile. We also note that Bayer still has more than 9,000 outstanding cases in regard to the glyphosate litigation but in our view, its liquidity position could sufficiently meet any additional fines or damages. We also take comfort in Bayer's ambitious target of reaching more than 30% EBITDA margin, further debt reduction to €26-28bn and FCF generation by 2022. Bayer could face downward pressure on its ratings should it face delays on its deleveraging path or severe integration problems with Monsanto.

Media/Entertainment – Brian Turner

Charter Communications: We believe the probability of a downgrade to HY for the secured bonds in the Charter capital structure is lower than the quantitatively derived estimates. With over \$53bn of secured debt outstanding, we cannot envision a scenario where Charter intentionally allows the secured bonds to drop to HY, particularly given the capital structure implications and loss of access to long-dated, low cost financing in the IG market. Furthermore, Charter remains committed to keeping leverage within the range of maintaining IG ratings and given the inherent defensiveness of the cable business we don't foresee a downgrade in the near future.

Retail – Ginger Chambliss

Lowes Cos: We believe downgrade risk to HY is in line with quantitative indicators for Lowes. LOW is the second largest home improvement retailer in the US with \$71bn of revenues. Although LOW recently raised its leverage target to 2.75x in order to return more cash to shareholders, we view the absolute level of leverage as moderate and manageable given the cyclical nature of housing exposure. LOW also has significant real estate ownership which we view as a credit positive.

McDonalds: We believe downgrade risk for MCD to HY is very low, which is in line with the quantitative factors. MCD's largely franchised business model is very stable. MCD has global operations, high EBITDA margins, and strong cash flows. MCD adopted a more aggressive financial policy in late 2015 and took downgrades to BBB+ (from single A) where it has added incremental leverage to return more cash to shareholders. MCD has raised its dividend 36% since 2015 and repurchased \$21bn of stock. We view the elevated levels of share repurchases as an area of flexibility MCD could pull back on if needed to defend IG ratings.

Technology – Brian Turner

Dell: Similar to our views on Charter, we believe the probability of a downgrade to HY for Dell is lower than the quantitatively derived estimate. Dell currently has over \$30bn of secured debt with the majority (\$20bn) having punitive coupon steps, an outcome we believe management is keen to avoid. Dell continues to express their interest in becoming a full IG company (a goal set at the outset of the EMC deal) despite a lack of material progress toward achieving that goal. While we do believe that Dell is susceptible to an economic slowdown and a weaker-than expected IT environment, we believe management is committed to keeping IG ratings on the secured bonds.

Telecoms – Brian Turner

American Tower Corp: We believe the probability of a downgrade to HY is lower than the quantitatively derived estimate. We find the operating profiles of tower operators as defensive in nature, supported by the development of network infrastructure and increased demand from telecom operators to improve their networks and build out 5G. While leverage remains at the high end of management's target of 3-5x, we believe the fundamental credit profile of AMT remains sound and believe AMT management is committed to IG ratings given their public comments. We continue to expect a favorable operating environment for tower operators over the next few years.

AT&T: Despite being the most indebted non-financial, we believe the probability of a downgrade to HY for AT&T is lower than the quantitatively derived estimates for several reasons. First and foremost, we believe the defensive nature of the U.S. telecom business provides the company with a very stable stream of revenues and cash flows. Second, we believe AT&T management has set achievable de-leveraging targets. Management is committed to taking out \$15-20bn of debt in 2019 through a combination of pay downs, tenders, open market transactions and asset sales. Lastly, we believe if management is able to execute on plans to stabilize the entertainment business (DTV) and drive growth from the Time Warner assets, investor concern should dissipate on the achievability of management's de-leveraging goals.

Crown Castle International: We believe the probability of a downgrade to HY for CCI is lower than the quantitatively derived estimates given the fundamental position of cell tower infrastructure companies. Following the acquisition of Lighttower in 2017, CCI leverage spiked significantly. Management quickly de-levered towards their target leverage of ~5x, and it's our view that they remain committed to investment grade credit ratings, as illustrated by their public comments and willingness to use equity to support any additional M&A.

Telefonica: We believe the probability of a downgrade to HY for TELEFO is lower than the quantitatively derived estimates. Management has taken a credit-friendly approach to capital allocation and has reaffirmed commitments to "solid investment grade" credit ratings on earnings calls. Net debt has decreased seven quarters in a row and management expects €1.4bn of additional debt reduction next quarter as it uses asset sale proceeds from sales of its stakes in Central America. The company continues to discuss potential further asset sales, though without pointing to specific assets. Furthermore, recent results have been encouraging, though we do believe that rising competition in Spain will remain a pressure point in addition to continued mixed emerging market results.

Verizon Communications Inc: We believe the probability of a downgrade to HY is lower than the quantitatively derived estimates. Verizon management has differentiated themselves from peers on strategy, favoring a focus on network leadership and balance sheet strengthening over debt-financed M&A. Management has reiterated on multiple occasions that the company is on the trajectory to return to pre-Vodafone credit ratings (single-A), with total net debt down \$4.7bn in 2018. Furthermore, we believe the defensive nature of the telecom business along with Verizon's position as the top carrier from both a performance and financial perspective will support credit ratings under most economic scenarios.

Vodafone Group: Although leverage levels remain elevated, we believe the probability of a downgrade to HY is roughly in-line with the quantitatively derived estimates. Vodafone's inherent defensive nature as a telecom operator provides stability; the risk of leveraging M&A – significant enough to make HY ratings a real possibility – is less than 10% in our view.

Transportation – Mark Streeter

CSX Corp: We believe the probability of a downgrade for CSX is lower due to its strong operating momentum and current leverage level. Unlike UNP and NSC, CSX has not made a public commitment to BBB+ ratings. We still have no reason to believe the company will fall below BBB flat (and for 2019 high BBB ratings will likely stick, we're more worried about 2020). Strong operating margin momentum (we expect at least \$250mm in cash from operations y/y, note adjusted free cash flow increased 88% or \$1.5bn y/y) and very manageable planned capex (-\$100mm for 2019, 2018 capex declined \$300mm) should keep the leverage ratio right on the cusp of the BBB+/BBB cliff (2.7-2.8x leverage range is our best guess, we think a ratio slightly higher, say just under 3x, would trigger one notch downgrades).

FedEx Corp: FDX is a solid BBB transportation credit, in our opinion. The continued headlines around Amazon entering the last mile distribution space have put pressure on the stock. However, we note that the threat, for now, to FedEx's top line is minimized by the fact that AMZN only accounts for 3% of FDX volumes. The TNT integration was set back by the lingering aftermath of the 2017 cyberattack. We believe that the TNT acquisition will be strategically accretive to FDX over time as it importantly bolsters the company's European network, although it will take time to sort out the technological headwinds. What we liked most about the TNT transaction is that FDX showed discipline in not chasing TNT the first time this company was up for sale (UPS had agreed to pay ~\$6.7bn in 2012 before regulators blocked the deal, and about three years later FDX bought the company for \$4.8bn or almost 30% less). Almost two decades ago, when we began covering FDX (1999 to be exact), the concern was that email and the internet would slowly (or quickly) drive down FDX volumes. Fast forward to 2018, and the internet (and e-commerce specifically) has proven to be a windfall. FDX's Ground business (which handles much of the company's retail e-commerce shipping and didn't materially exist back then, of course) continues to increase volumes at a pace materially higher than core GDP growth. Ground also continues to expand margins and now boasts the highest margin among FDX's three major business lines. What holds us back from being more bullish on this story is our expectation for management to continue to prioritize shareholder returns and growth capex over debt repayment and deleveraging. While we do believe ratings can migrate higher to high BBB, we think upside is capped by management's focus on share performance. We don't envision a scenario where FedEx organically falls to even low BBB-. Any downgrades would be self-inflicted, more likely from not prudently curtailing share repurchases if the economy (and therefore FDX operating cash flow) slows materially.

Union Pacific Corp: We believe the probability of a downgrade for UNP is lower due to their established commitment to high BBB ratings. While UNP did suffer one-notch downgrades at S&P (from A to A-) and at Moody's (from A3 to Baa1), UNP management also committed to maintaining ratings at or above BBB+. The company is also in the process of implementing Precision Scheduled Railroading ("PSR") network operating system which should continue improve the company's operating performance as it has for CNRCN, CP, and CSX. UNP took a major step in its PSR implementation journey by hiring Hunter Harrison disciple Jim Vena as its COO (Hunter of course is the deceased executive who implemented PSR successfully at CN and CP and got the PSR ball rolling at CSX). Mr. Vena has already dropped a "few hundred" locomotives in his first 10 days on the job, which as noted by our equity partners is the first concrete example of his expertise in PSR. As noted in 3Q18, current leverage is 2.3x at YE looking back but the new target is up to 2.7x (which should leave ratings at BBB+ worst case, and likely keep S&P at A- if PSR implementation doesn't cause any major disruptions).

Utilities – Claire Barbour

Duke Energy: We believe there is a very low risk of DUK being downgraded to HY over the next few years. In our opinion, the probability is even lower than the estimates derived in the corresponding table. DUK's business risk profile is supported by its size and overall diversification, as it is one of the largest utilities in our coverage universe, with business operations spread across various above average regulatory jurisdictions. Additionally, DUK's derives primarily all its revenues from its regulated utility subsidiaries, further supporting its credit quality and underscoring the low-risk nature of the broader industry.

Broadly speaking, the standard cost-of-service utility business model provides significant insulation from credit quality deterioration warranting rating downgrades below Investment Grade, given the considerable oversight and authority granted to regulatory commissions governing the industry. Regulated utilities typically operate under predetermined rate plans and mandatory capital structures, as established by each respective regulatory jurisdiction. Ultimately, this provides greater certainty into future cash flows and earnings. Finally, regulators also have the ability to implement incremental measures necessary to support utility credit quality, further protecting the industry from the likelihood of rating downgrades over unexpected adverse events.

Exelon Corp: We believe the probability of EXC being downgraded to HY over the new few years is lower than the estimates derived. We acknowledge EXC is one of the few remaining HG utilities with an integrated business model with unregulated operations (ExGen) accounting for approximately 35% of revenues. However, we note ExGen's cash flows are currently being utilized to fund capex at both regulated and unregulated businesses, deleveraging measures, and partially cover the external dividend. Ultimately, we believe this helps to minimize the EXC's need to access the capital markets, which we view favorably.

In the event, EXC were to separate itself from its competitive genco, we believe there is a significantly high likelihood of being ExGen being downgraded to HY. Historically, other integrated companies, such as PPL, EIX and AEE, have also exited their unregulated gencos, which ultimately resulted in ratings upgrades for the holding company. We note management continues to reiterate its commitment to ExGen. However, in our opinion, sustained weakness in power market fundamentals further pressures the industry and will accelerate questions to management teams around strategic viability in the space.

FirstEnergy Corp: We believe the probability of FE being downgraded to HY over the new few years is lower than the estimates derived. While we recognize FE is one of the lowest rated utilities within our coverage universe, we actually view the company as an improving credit story. FE has taken extraordinary measures over the last few to exit its volatile unregulated businesses, in credit neutral manner. FE's unregulated Genco (FirstEnergy Solutions) was one the primary reasons driving its weaker credit quality and low ratings, as compared to the broader utility sector. We consider FE a fully regulated utility, underlying portfolio of diversified regulated subsidiaries operating in favorable regulatory jurisdictions. We anticipate a Fitch ratings upgrade in the near-term, underscoring the company's recent improving qualifications.

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Regulated utilities typically operate under predetermined rate plans and mandatory capital structures, as established by each respective regulatory jurisdiction. Ultimately, this provides greater certainty into future cash flows and earnings. Finally, regulators also have the ability to implement incremental measures necessary to support utility credit quality, further protecting the industry from the likelihood of rating downgrades over unexpected adverse events.

Southern Company: We believe the probability of SO being downgraded to HY over the new few years is lower than the estimates derived. Southern Company has recently confronted cost overruns and extended delays to its in-service date for its capital intensive nuclear construction project in Georgia. The state remains fully committed and supportive of the company and its respective nuclear project, a key consideration, in our opinion. Additionally, the company took significant steps to support credit quality, following negative impacts from tax reforms, which lead to incremental ratings pressure.

Broadly speaking, the standard cost-of-service utility business model provides significant insulation from credit quality deterioration warranting rating downgrades below Investment Grade, given the considerable oversight and authority granted to regulatory commissions governing the industry. Regulated utilities typically operate under predetermined rate plans and mandatory capital structures, as established by each respective regulatory jurisdiction. Ultimately, this provides greater certainty into future cash flows and earnings. Finally, regulators also have the ability to implement incremental measures necessary to support utility credit quality, further protecting the industry from the likelihood of rating downgrades over unexpected adverse events.

Other credits not in the top 50 BBB issuer list with significant fallen angel risk

Consumer – Ginger Chambless

Campbell Soup: We think downgrade risk for Campbell is modestly higher than the quantitative factors indicate, based on our view that underlying business trends could continue to be softer than needed to materially improve the leverage profile. CPB recently named a new CEO (Mark Klouse, former CEO of Pinnacle) and reached an agreement with activist investors following a six month proxy fight. CPB is in the process of auctioning its international cookie business to raise cash for debt reduction. Press reports suggest a sale could happen this spring for proceeds of \$3bn. CPB has expressed a desire to maintain IG ratings and is targeting net leverage of 3x by fiscal 2021 vs 5.1x net currently.

Conagra Brands Inc: We believe CAG downgrade risk is towards the higher end of what the quantitative indicators suggest in the 30-40% area. While we believe CAG is committed to an IG profile, its leverage is quite elevated (5.3x) following the Pinnacle acquisition and the performance of that business was much worse than expected once it was acquired. In December, CAG reported very disappointing results with Pinnacle experiencing high single digit sales declines. It will likely take CAG longer than expected to de-lever and we think the company may need to sell assets to de-lever. Conagra is targeting gross leverage of 3.5x by the end of fiscal 2021, and we think if the company is not able to stabilize Pinnacle and reduce leverage, downward rating pressure could build.

Newell Brands: We believe downgrade risk for NWL to HY is between its rating implied levels and spread implied levels, in the 45-55% area. NWL has made notable progress on its transformation plan announced in March 2018 to sell non-core businesses, and applied \$3.5bn of proceeds to pay down debt. It reached its target gross leverage of 3.5x at 2018 end and plans to further reduce debt. NWL has a long standing commitment to IG ratings demonstrated by coupon steps in its bonds and historical dividend cut. However, underlying results remain weak and core sales are expected to decline over the next year. This could put pressure on credit metrics unless a greater than expected portion of asset sale proceeds are used to reduce debt.

Healthcare/ Pharmaceuticals – Brett Gibson

Mylan: We see the risk of the company being downgraded to HY over the next 2/3 years as in excess of the rating-implied probabilities (~20-40%), but see spreads currently pricing in more than is warranted (~60-75%). The company is currently in the midst of a broad strategic review (initiated on Aug 8) with “everything on the table”. Notably in response to recent questions on if it is committed to balance sheet strength through the review, the company stated it sees the balance sheet as important, but is “not tying its hands” as it looks at all opportunities. Further, the company is currently planning to repay debt to satisfy its ratings commitment, but the CFO stated that if something comes out of the committee’s decision, then “maybe there’s an adjustment”. That’s the uncertain zone that MYL credit currently finds itself. While operations have been up and down and MYL, similar to peers, faces a number of challenges in the generics market, we believe it could maintain IG ratings if it wanted to and took appropriate action, but with a significantly underperforming stock and historically low multiple, that simply cannot be relied on.

MYL has not given a timetable on announcing a strategic review decision, but has said it plans to give an “update on timing” on its Feb 26 earnings call.

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