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How big is the BBB- risk?

Likely a problem in the next downturn, but not for now

- The amount of BBB- rated Non-Financials bonds has grown by $240bn (+70%) to $575bn over the past 4 years. They now represent 16% of the USD HG bond market. The rate of growth for the BBB- market is 1.5x the rate of growth of the HG non-Financial market overall, according to J.P. Morgan.

- This increases the risk to HG investors in the next recession or sector disruption period. However, so far the growth of BBB- has been concentrated in Energy and Healthcare.

- The BBB- bucket is not stable with 25% of bonds rated BBB- on Jan 1st not in the BBB- category by YE on average, over the past four years.

- M&A accounts for 30% of the new additions to BBB-, the commodity sectors account for 18%, upgrades from HY account for 20% and other reasons account for the remaining 32%, over the past four years.

- Bonds have been leaving BBB- at a rapid but slower rate than entering since YE 2013. Encouragingly, only 23% of the BBB- debt was downgraded to HY, and 3/4 of the debt was in commodities (which are improving rapidly now). Bonds upgraded from BBB- account for 60% of the BBB-; leavers and maturities/tenders account for the other 17%.

- The BBB market is currently 4.3x the size of the BB market, vs 2.0x 10yrs ago (according to J.P. Morgan). Hence, HY might struggle to absorb fallen angels in quantity, if/when this happens. Higher leverage of HG issues and a more ratings-sensitive investor base should also matter in the next downturn.

- Recent rating trends are quite positive, as 2017 saw the lowest rate of BBB- downgrades to HY in 30 years, per Moody's.

- In this note we look at the drivers of the growth of BBB- credits to better understand how we got to this situation over the past few years. We also look at a long-term history of downgrades to understand how ratings may evolve in the next downturn. The largest issuers currently rated BBB- or those that have moved in or out of that rating bucket are discussed in the Appendix. The current period references YE 2017.

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BBB- debt has grown substantially, driven by Energy and Healthcare

BBB- debt in JULI Non-Fins ex EM by sector
■ 2013 ■ 2017
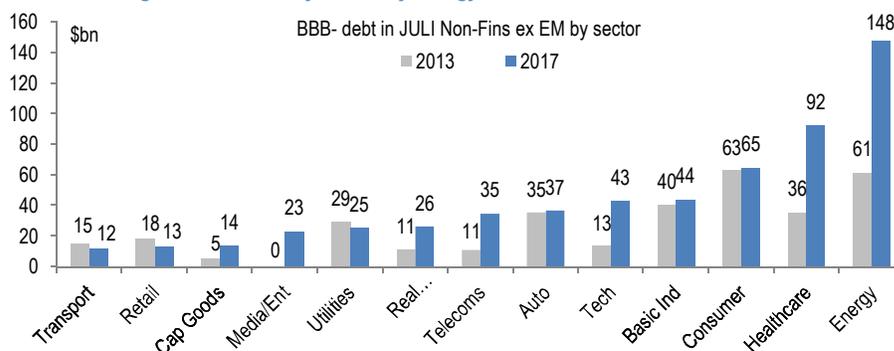
Source: J.P. Morgan

See page 13 for analyst certification and important disclosures.

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The amount of BBB- rated corporate debt has grown faster than the rest of the High Grade market

Over the past few years the rapid growth of the HG bond market and the increase in leverage on the balance sheet of many issuers has led to even more rapid growth in the lowest rated High Grade rating category of BBB-.

While across non-Financial issuers the percentage of debt in each rating category has actually been relatively stable, the BBB- category has increased from 11% of debt in 2012 to 16% in 2017 (see below). In our JULI index as of YE17, there was $718bn of BBB- debt, which represents 14% of $5.1tn in total debt. This is based on face value, not market value, and excluding EM issuers. Of the $718bn of BBB- rated debt, $143bn was Financials (20%) and $575bn was non-Financials (80%). In this note we focus on the non-Financial portion.

Exhibit 1: BBB- debt represents 16% of non-Financial debt as of YE 2017, up from 11% of YE 2012
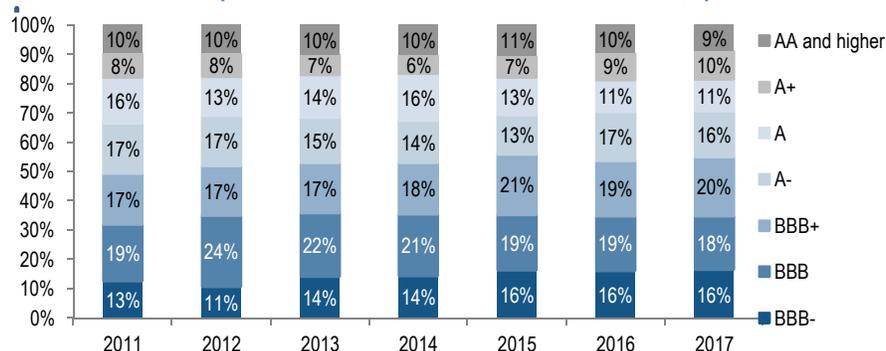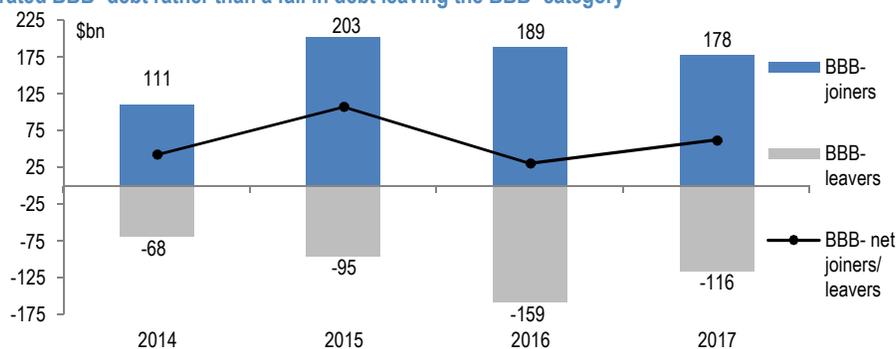

Source: J.P. Morgan, Moody's, S&P

Over the past four years, the leverage of HG non-Financial issuers has risen substantially, leading to rating downgrades Leverage for HG overall has risen from 2.2x to 2.8x between 2013 and 2017, in our calculation. This raises the question as to whether the rating agencies are being too lenient in their ratings. We are not attempting to answer this question in this note directly. Instead, we look into the growth of the BBB- segment to better understand the drivers and the risks. This sheds some light on the likely progression of these credits over time to either a stronger High Grade rating or into High Yield. We also look at the longer time series of transitions from BBB- to higher and lower ratings as a reminder of what may happen to these credits in different parts of the economic cycle.

Note that we focus on non-Financials ex EM in this note for a few reasons. First, just 9% of Financial bonds are rated BBB-, vs 16% of non-Financials. Four years ago 7% of Financial bonds were BBB- so the figure has grown but it remains low. Second, a significant portion of the BBB- bonds from Financials are subordinated bonds from higher rated issuers. Third, the rating agency methodology for Financials has changed since the credit crisis, such that rating migration over time has been driven more by these methodology changes than by changes to the credit fundamentals of the issuers.

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The BBB- rating category is not a stable one, with an average of 25% of the bonds rated BBB- at the beginning of a year not in the BBB- category by the end of the year. This is based on 4 years of JULI data, and using the lower of S&P and Moody's rating. The change in the amount of BBB- bonds each year is the difference between the amounts of bonds newly rated BBB- (which we call 'joiners' in this note) and the amounts which leave the rating category (which we call 'leavers').

The exhibit below shows the BBB- joiners and leavers over the past four years. It indicates that the recent increase in BBB- debt has been driven by an increase in joiners rather than a decline in leavers. However, it is key to understand the dynamics of the joiners and the leavers. For instance, it is positive if a joiner is a Rising Star, but negative if the joiner comes from higher credit rating buckets. Similarly, it is positive if the leaver is due to an upgrade or to debt maturing, and negative if it is the result of a downgrade to HY. We analyze this in detail below.

Exhibit 2: The increase in BBB- rated bonds in JULI has been driven by an increase in newly rated BBB- debt rather than a fall in debt leaving the BBB- category

Source: J.P. Morgan, Moody's, S&P

Breaking down joiners and leavers of BBB-: Major drivers are M&A, the commodity sectors and Rising Stars

The growth in the amount of BBB- rated debt has been driven by several factors. Downgrades due to M&A, the sharp fall in commodity prices in 2015 and 2016 and the general deterioration in credit in some issuers all played a significant part. Over the past four years M&A explains 30% of the new additions to BBB-, the commodity sectors explain 18%, upgrades from HY explain 20% and all other reasons explain the remaining 32%.

The upgrades to BBB- from HY are an interesting issue because, while these upgrades increase the amount of BBB- debt, we would argue that this is a good reason for more BBB- debt. This is different to credits which are downgraded from a higher rating bucket which is a bad reason for more BBB- bonds. Therefore we break out these categories separately in the exhibit below.

The other half of the equation explaining the change to the amount of BBB- debt is the understanding of why bonds that were once rated BBB- no longer have this rating. We break the BBB- leavers into four categories. Bonds upgraded to mid-BBB or higher (60% of the BBB- leavers over the past four years), bonds downgraded from BBB- to HY in the commodity sectors (17%), bonds downgraded to HY in all other sectors (6%) and bonds which matured or were tendered (17%).

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The bonds upgraded from BBB- to a higher rating category and the bonds which matured are good reasons to leave BBB-, so these categories are shaded in green below. Bonds downgraded further to HY are bad reasons to leave BBB- so these categories are shaded in red.

Exhibit 3: Breaking out the drivers in growth of BBB- bonds. Downgrades due to M&A and due to commodities have been the key drivers over the past few years. A significant amount of upgrades from HY to BBB- have also contributed to the growth.
DG= Downgrade, UG = Upgrade
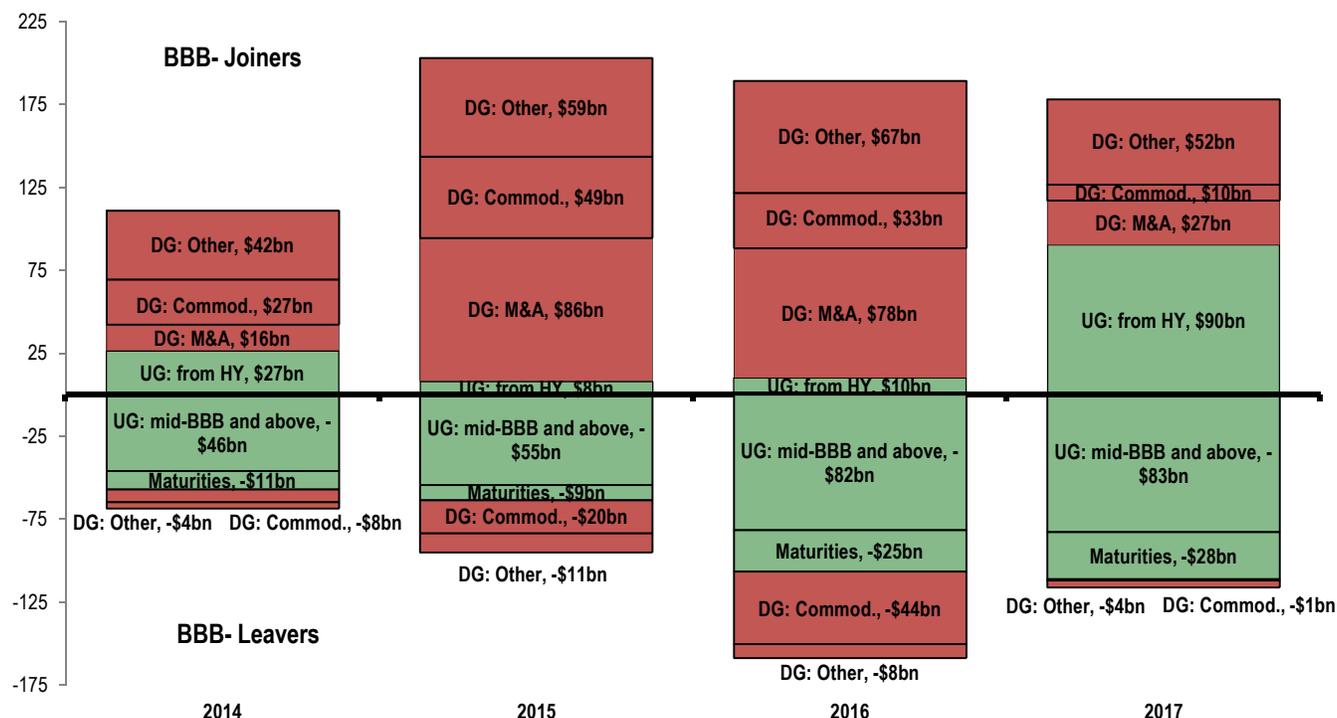
Source: J.P. Morgan, Moody's, S&P

Overall the analysis highlights the importance of the commodity cycle and the significant upgrades from HY to HG in growing the size of the BBB- category. If we exclude the commodity sector and these upgrades, the size of the BBB- category would have grown by about $65bn over the past four years instead of about $240bn. The reason we believe this is an interesting figure to calculate is that upgrades from HY are a positive credit dynamic. Also, the commodity cycle was a supply driven one caused primarily by technology change and more energy supply, than a broader economic issue. The cycle has turned strongly positive recently. This dynamic is clear in 2017 when 96% of the bonds which left BBB- during the year were either upgraded to HG or matured, and only 4% were downgraded.

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There are several reasons for us to believe the next downgrade cycle will be more challenging for HG investors than prior ones (for non-Financials)

The charts below show that the upgrade/downgrade outcome from BBB- is quite variable over longer time periods and there are reasons for us to believe the coming cycle (whenever it is) will be more negative than the 30yr average.

First, BBB- debt is a larger part of the HG bond index. Second, corporate leverage is higher now than it has been in many years. Across most rating buckets leverage levels are higher than in prior periods, not just the low rated ones. Third, the period of very low funding costs for corporates appears to be over with higher sovereign yields globally, driven in part by less QE and higher US government borrowing needs. Fourth, the size of the BBB market has grown much faster than the BB market (over the past 4 years, BBB debt in the JULI index has grown by $729bn (+42%) to $2.5tn, while the BB market has grown by $94bn (+19%) to $579bn. This makes it more difficult for the HY market to absorb newly downgraded bonds. The large capital structures of some of these issuers is another factor in this view. Fifth, the growth in overseas holdings of HG bonds, especially in Asia, where we believe there is significant sensitivity to ratings, and the small but growing share of the market in passive strategies both point to the potential for more rapid selling of newly downgraded HY bonds than in the past.

Exhibit 4: The BBB market has outgrown the BB market by 2.2x over the last four years, and 3.0x in the past 10 years

Exhibit 5: Foreign ownership of foreign bonds has grown significantly over the past few years
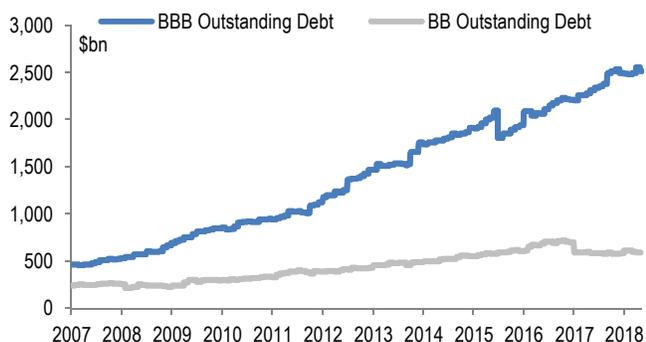
Source: J.P. Morgan, Moody's, S&P, Federal Reserve as of 4Q2017
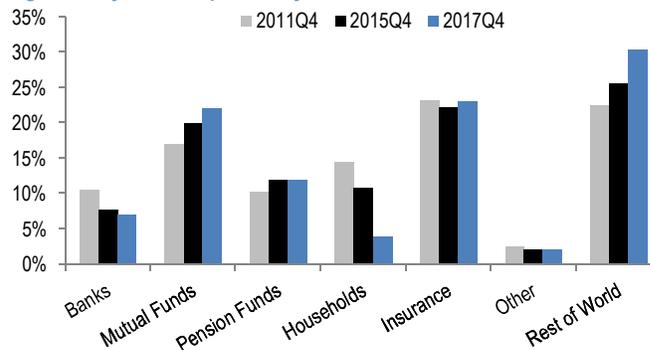
Technology disruption may be a greater risk to companies now than it has historically, driven by advances in technology in large HG sectors (Healthcare, Autos, TMT). There continues to be significant capital available to up and coming innovators who aim to disrupt traditional incumbents in an industry. These incumbents tend to have more debt than the disruptors so the net is negative for the credit profile of the industry in these situations.

An offset to this view is the rating agencies were aggressive in downgrading the Energy sector in 2016, partly under the view that oil prices would stay consistently low as they were back then. This has, so far, proven incorrect with the recent oil price rebound. This suggests a possibility that the commodity complex is going to see rating upgrades in the coming years.

Finally our view of a more damaging downgrade cycle in the next recession does not apply to Financials. Banks are significantly better capitalized and more highly

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regulated than in prior periods. The growth in leverage occurring in non-Financials has not been happening in banks due to the regulatory framework now in place, and the lessons learned from the financial crisis.

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Sector concentration – Energy and Healthcare have driven the growth in BBB- rated bonds

The growth of BBB- rated bonds by sector over the past four years is concentrated in Energy and Healthcare. The energy downgrades have obviously been driven by the volatility in commodity prices. Healthcare downgrades have been driven, in part, by M&A in the sector. Technology has had a significant increase in BBB- rated debt in percentage terms as has Real Estate, but not in absolute terms. Only 3 sectors have a higher share of BBB- debt than their overall index weight. These are Energy (26% vs an index weight of 12%), Healthcare (16% vs 14%) and Basic Industries (8% vs 5%). If one were looking for which sector may lead the charge downward in the next cycle this data alone suggests it is either Healthcare or Energy, and current market trends suggest it isn't Energy.

Exhibit 6: BBB- debt has grown substantially, driven by Energy and Healthcare
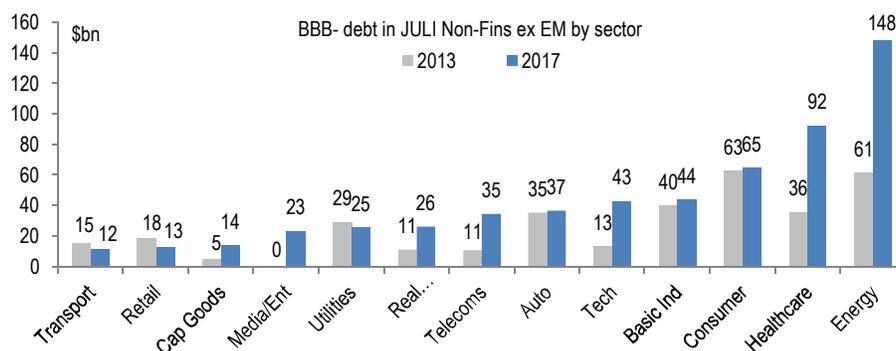
Source: J.P. Morgan, Moody's, S&P

Exhibit 7: BBB- debt in Energy and Healthcare has more than doubled in the last 4 years

Sector	2013	2017	Δ in 4yrs $mn	Δ in 4yrs %	2017 Share of BBB- Debt	2017 Share of JULI Debt
Energy	61,283	147,743	86,460	141%	26%	12%
Healthcare	35,647	92,216	56,569	159%	16%	14%
Consumer	62,752	64,515	1,763	3%	11%	12%
Basic Ind	40,105	43,820	3,715	9%	8%	5%
Tech	13,212	42,968	29,756	225%	7%	12%
Auto	35,254	36,548	1,294	4%	6%	4%
Telecoms	11,036	34,642	23,606	214%	6%	7%
Real Estate	11,175	26,150	14,975	134%	5%	4%
Utilities	29,222	25,419	-3,802	-13%	4%	10%
Media/Ent	350	23,095	22,745	6499%	4%	5%
Cap Goods	5,200	13,675	8,475	163%	2%	7%
Retail	18,235	13,046	-5,189	-28%	2%	5%
Transport	14,879	11,537	-3,342	-22%	2%	3%
JULI Non-Fins ex EM	338,349	575,373	237,023	70%	100%	100%
JULI Fins ex EM	82,909	142,725	59,816	72%	-	-
JULI Overall ex EM	421,258	718,098	296,840	70%		

Source: J.P. Morgan, Moody's, S&P

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Expanding the analysis to a longer time period – expect significant downgrade activity in the next cycle, and there are reasons to believe this will be more disruptive than in prior cycles

The analysis below considers only Moody's ratings and includes all corporate bonds globally, not just JULI non-Financial constituents as used above. This data goes back 30yr so it encompasses several economic cycles. The charts below highlight the variability in rating trends at different times. Note that the rating change figures discussed in this section focus on the number of issuers rather than the amount of debt, which is the approach we used above.

2017 actually saw the lowest rate of BBB- bonds downgraded to HY in 30yrs. Just 4% of BBB- rated bonds at YE16 were rated HY at YE17. The average for this figure over the past 30yrs has been 11% and the peak was 23% in 2002.

This positive trend for BBB- bonds in 2017 compares to a very negative trend in 2016 though, highlighting how quickly these trends can and do change. In 2016, 18% of BBB- issuers in this data set at the beginning of 2016 were rated HY by the end of 2016, and only 8% were upgraded above BBB- during that year. For the four years before 2016 the upgrade vs downgrade trend for BBB- issuers was positive again, averaging 12% upgrades vs 8% downgrades one year later.

The 30yr history of the 1yr upgrade/downgrade trend shows significant volatility, with the peak good year being 1996 when 27% of BBB- bonds were upgraded vs 9% downgraded. The worst year by this metric was 2002 when 3% were upgraded vs 23% downgraded. On average, the trend in the one-year rate change is positive, with 13% of issuers upgraded and 11% downgraded.

Furthermore, the risk of downgrade to HY over one year is about 3.2x larger for BBB- issuers than for BBB flat issuers, on average since 1987. In 2017, 4% of issuers rated BBB- at the beginning of the year were rated HY by the end of the year while only 1% of BBB flat issuers were downgraded by at least two notches. The ratio between the BBB- Fallen Angel rate vs the BBB flat Fallen Angel rate is relatively stable over time. It was 3.5x in 2016 (18% for BBB- vs 5% for BBB flat) and about 3.7x on average over the last five years.

Exhibit 8: One-year rating changes for BBB- issuers are volatile and clearly correlated with the economic cycle
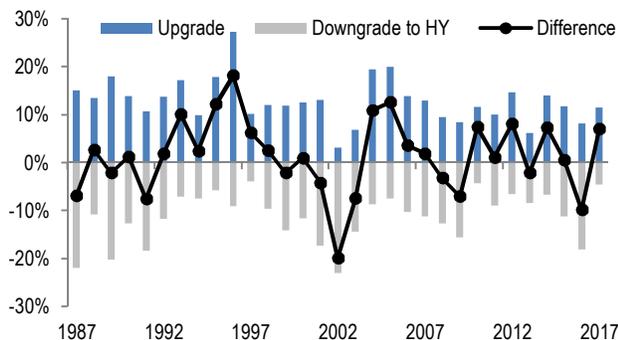
Exhibit 9: The risk of downgrade to HY over one-year has been about 3x larger for BBB- issuers than for BBB flat issuers

Source: J.P. Morgan, Moody's

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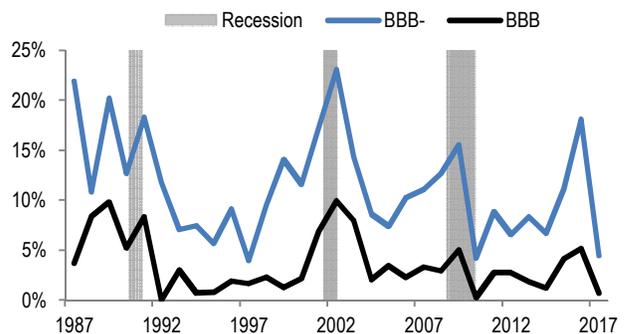
A review of the 3yr trends shows less volatility and a more pronounced correlation with the economic cycle. On average over the last 30 years, 27% of the issuers rated BBB- at the beginning of a year were downgraded to HY within the following three years. The same amount ended the two-year period with a higher rating. The most recent data, which looks at issuers rated BBB- at the beginning of 2015, is more negative because of the commodities crisis in 2015-16: 28% of BBB- issuers were downgraded to HY between 2015 and the end of 2017, while 23% were rated BBB flat or above at the end of 2017. This -6% net rate is the most negative since 2008.

The chart below shows that the worst three-year period started in 2001, with 43% of downgrades vs 14% of upgrades. The best period started in 1995, with 41% of upgrades vs 15% of downgrades. Again, the correlation with the economic cycle is quite clear.

The difference between the BBB- and BBB flat Fallen Angel risk discussed above for a 1yr period is also seen over 3yr periods: the ratio of the BBB- and BBB flat Fallen Angel rates is 2.4x since 1987 (27% for BBB- vs 11% for BBB flat). The most recent 3-year period is in line with the long-term average, with 11% of Fallen Angels for BBB flat issuers and 28% for BBB- issuers.

Exhibit 10: Three-year rating changes for BBB- issuers are clearly correlated with the economic cycle. The most recent period has a negative net rate due to the 2015-2016 commodities crisis.
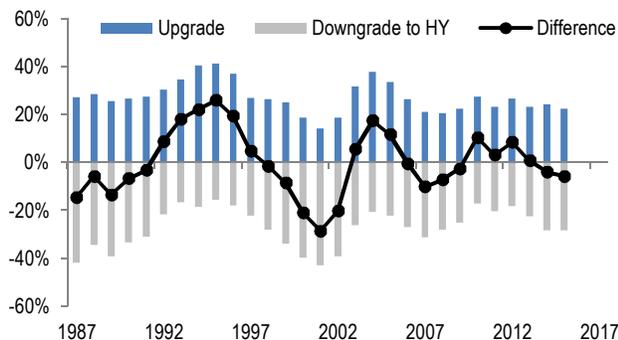

Source: J.P. Morgan, Moody's

Exhibit 11: The risk of downgrade to HY over three years is about 2.5x larger for BBB- issuers than for BBB flat issuers
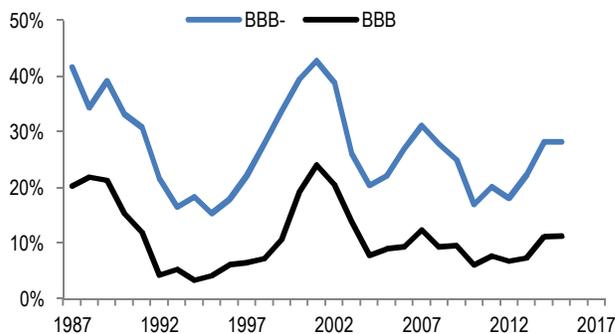
Over 5yrs and 10yrs 37%, and 53% of BBB- companies will be downgraded to HY and just 33% and 25% will be upgrade above BBB-, based on historical precedent. The data indicates that the net upgrade/downgrade rate becomes negative after three years. The most recent 5yr and 10yr periods are about in line with the longer historical average. Furthermore, note that there is only one net positive 10yr-period since 1987, from the beginning of 1992 to the end of 2001.

Finally, the Fallen Angel rates for BBB- and BBB flat issuers tend to converge over time, with the 5yr rates at 37% and 18%, respectively, i.e. a ratio of 2.1x, and the 10yr rates at 53% and 33%, respectively, i.e. a ratio of 1.6x.

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Exhibit 12: Historical Fallen Angel rate for BBB- issuers over different time spans

BBB- Downgrades

	1-year	2-year	3-year	5-year	10-year
Average	11%	20%	27%	37%	53%
Min	4%	12%	15%	23%	43%
Max	23%	34%	43%	53%	62%
Median	11%	20%	27%	36%	52%
Most recent	4%	21%	28%	35%	52%

Source: J.P. Morgan, Moody's

Exhibit 13: Historical upgrades rate for BBB- issuers over different time spans

BBB- Upgrades

	1-year	2-year	3-year	5-year	10-year
Average	13%	22%	27%	33%	35%
Min	3%	8%	14%	21%	27%
Max	27%	38%	41%	48%	45%
Median	13%	21%	27%	32%	35%
Most recent	12%	16%	23%	29%	31%

Source: J.P. Morgan, Moody's

Exhibit 14: Historical net rate of upgrade/downgrade rate for BBB- issuers over different time spans

BBB- net upgrades/downgrades

	1-year	2-year	3-year	5-year	10-year
Average	2%	1%	0%	-4%	-18%
Min	-20%	-26%	-29%	-30%	-35%
Max	18%	25%	26%	25%	2%
Median	2%	1%	0%	-4%	-18%
Most recent	7%	-5%	-6%	-6%	-21%

Source: J.P. Morgan, Moody's

Exhibit 15: Historical Fallen Angel rate for BBB flat issuers over different time spans

BBB flat Downgrades to HY

	1-year	2-year	3-year	5-year	10-year
Average	4%	7%	11%	18%	33%
Min	0%	1%	3%	7%	21%
Max	10%	18%	24%	31%	42%
Median	3%	6%	9%	16%	32%
Most recent	1%	6%	11%	14%	30%

Source: J.P. Morgan, Moody's

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Appendix: Largest issuers and changes

Exhibit 16: Largest BBB- issuers at YE17

Issuer	Sector	Debt ($bn)	% of overall
General Motors	Automotive	35.8	6%
Kinder Morgan	Energy	29.2	5%
Energy Transfer Partners LP	Energy	23.7	4%
Abbott Laboratories	Healthcare/Pharma	23.3	4%
Allergan	Healthcare/Pharma	22.2	4%
Kraft Heinz Foods Co	Consumer	20.4	4%
Dell International LLC / EMC Corp	Technology	20	3%
Shire	Healthcare/Pharma	16.3	3%
Sabine Pass Liquefaction LLC	Energy	12.8	2%
Williams Partners LP	Energy	12.8	2%

Source: J.P. Morgan, Moody's, S&P

Exhibit 17: Largest changes for BBB- universe in 2017

Issuer	Amt ($bn)	From HG/HY	Category	Sector
Joiners				
General Motors Financial Co Inc	25.8	Upgrade	Other	Automotive
Sabine Pass Liquefaction LLC	12.8	Upgrade	Commodity	Energy
General Motors Co	10.0	Upgrade	Other	Automotive
AerCap Ireland Capital DAC	8.4	Upgrade	Other	Transportation
Abbott Laboratories	8.2	Downgrade/Existing	Other	Healthcare/Pharma
Leavers				
Reynolds American Inc	-11.4	Upgrade	Other	Consumer
Plains All American Pipeline LP	-9.7	Upgrade	Commodity	Energy
Fidelity National Information Services Inc	-8.7	Upgrade	Other	Technology
Glencore Funding LLC	-5.5	Upgrade	Commodity	Metals/Mining
Pernod Ricard SA	-4.8	Upgrade	Other	Consumer

Source: J.P. Morgan, Moody's, S&P

Exhibit 18: Largest changes for BBB- universe in 2016

Issuer	Amt ($bn)	From HG/HY	Category	Sector
Joiners				
Dell International LLC / EMC Corp	20.0	Upgrade/New	M&A	Technology
Abbott Laboratories	15.1	Downgrade/New	M&A	Healthcare/Pharma
Shire Acquisitions Investments	12.1	New	M&A	Healthcare/Pharma
Plains All American Pipeline LP	9.7	Downgrade	Commodity	Energy
Telefonica Emisiones SAU	7.9	Downgrade	Other	Telecoms
Leavers				
Ford Motor Credit Co LLC	-29.5	Upgrade	Other	Automotive
Freeport-McMoRan Inc	-12.0	Downgrade	Commodity	Metals/Mining
Thermo Fisher Scientific Inc	-7.4	Upgrade	Other	Healthcare/Pharma
Penske Truck Leasing Co Lp	-6.4	Upgrade	Other	Transportation
Anglo American Capital PLC	-5.2	Downgrade	Commodity	Metals/Mining

Source: J.P. Morgan, Moody's, S&P

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Exhibit 19: Largest changes for BBB- universe in 2015

Issuer	Amt ($bn)	From HG/HY	Category	Sector
Joiners				
Kraft Heinz Foods Co	19.9	Downgrade	M&A	Consumer
Allergan Funding SCS	19.5	Same	M&A	Healthcare/Pharma
Williams Partners LP	11.4	Downgrade	Commodity	Energy
Viacom Inc	11.3	Downgrade	Other	Media/Entertainment
Reynolds American Inc	11.2	Same	M&A	Consumer
Leavers				
Mondelez International Inc	-10.1	Upgrade	Other	Consumer
Anadarko Petroleum Corp	-8.7	Upgrade	Commodity	Energy
Transocean Inc	-7.5	Downgrade	Commodity	Energy
Express Scripts Holding Co	-7.0	Upgrade	Other	Healthcare/Pharma
Weatherford International Ltd	-5.7	Downgrade	Commodity	Energy

Source: J.P. Morgan, Moody's, S&P

Exhibit 20: Largest changes for BBB- universe in 2014

Issuer	Amt ($bn)	From HG/HY	Category	Sector
Joiners				
Kinder Morgan Energy Partners LP	19.5	Downgrade	Commodity	Energy
Kinder Morgan Inc	10.7	Upgrade	Commodity	Energy
Thermo Fisher Scientific Inc	9.6	Downgrade	M&A	Healthcare/Pharma
Tyson Foods Inc	3.9	Same	M&A	Consumer
Allergan Funding SCS	3.7	Upgrade	Other	Healthcare/Pharma
Leavers				
International Paper Co	-6.1	Upgrade	Other	Basic Industries
Waste Management Inc	-5.1	Upgrade	Other	Consumer
Macy's Retail Holdings Inc	-4.9	Upgrade	Other	Retail
Oncor Electric Delivery Co LLC	-4.8	Upgrade	Other	Utilities
LyondellBasell Industries NV	-4.0	Upgrade	Other	Basic Industries

Source: J.P. Morgan, Moody's, S&P

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	Overweight	Neutral	Underweight
Global Credit Research Universe	27%	56%	17%
IB clients*	65%	65%	60%

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Other Disclosures

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US Economic Calendar

Monday	Tuesday	Wednesday	Thursday	Friday
14 May Cleveland Fed President Mester speaks in France (2:45am)	**15 May** **Retail sales** (8:30am) Apr **Empire State survey** (8:30am) May **Business inventories** (10:00am) Mar **NAHB survey** (10:00am) May **TIC data** (4:00pm) Mar	**16 May** **Housing starts** (8:30am) Apr **Business leaders survey** (8:30am) May **Industrial production** (9:15am) Apr Atlanta Fed President Bostic speaks (8:30am)	**17 May** **Initial claims** (8:30am) w/e May 12 **Philadelphia Fed manufacturing** (8:30am) May **Leading indicators** (10:00am) Apr Announce 2-year FRN (r) $16bn Announce 2-year note $33bn Announce 5-year note $36bn Announce 7-year note $30bn Auction 10-year TIPS (r) $11bn Minneapolis Fed President Kashkari speaks (10:45am)	**18 May** **QSS** (8:30am) 1Q advance
21 May Minneapolis Fed President Kashkari speaks (6:30pm)	**22 May** **Philadelphia Fed nonmanufacturing** (8:30am) May **Richmond Fed survey** (10:00am) May Auction 2-year note $33bn	**23 May** **Manufacturing PMI** (9:45am) May flash **Services PMI** (9:45am) May flash **New home sales** (10:00am) Apr Auction 2-year FRN (r) $16bn Auction 5-year note $36bn **FOMC minutes**	**24 May** **Initial claims** (8:30am) w/e May 19 **FHFA HPI** (9:00am) Mar, 1Q **Existing home sales** (10:00am) Apr **KC Fed survey** (11:00am) May Auction 7-year note $30bn	**25 May** **Durable goods** (8:30am) Apr **Consumer sentiment** (10:00am) May final Fed Chair Powell speaks at Riksbank conference (9:00am)
28 May **Memorial Day, markets closed**	**29 May** **S&P/Case-Shiller HPI** (9:00am) Mar **Consumer confidence** (10:00am) May **Dallas Fed manufacturing** (10:30am) May	**30 May** **ADP employment** (8:15am) May **Advance economic indicators** (8:30am) Apr **Real GDP** (8:30am) 1Q second **Dallas Fed services** (10:30am) May **Beige book** (2:00pm)	**31 May** **Initial claims** (8:30am) w/e May 26 **Personal income** (8:30am) Apr **Chicago PMI** (9:45am) May **Pending home sales** (10:00am) Apr	**1 Jun** **Employment** (8:30am) May **Manufacturing PMI** (9:45am) May final **ISM manufacturing** (10:00am) May **Construction spending** (10:00am) Apr **Light vehicle sales** May
4 Jun **Factory orders** (10:00am) Apr	**5 Jun** **Services PMI** (9:45am) May final **ISM nonmanufacturing** (10:00am) May **JOLTS** (10:00am) Apr **QFR** (10:00am) 1Q	**6 Jun** **International trade** (8:30am) Apr **Productivity and costs** (8:30am) 1Q final	**7 Jun** **Initial claims** (8:30am) w/e Jun 2 **QSS** (10:00am) 1Q final **Consumer credit** (3:00pm) Apr Announce 10-year note (r) $22bn Announce 30-year bond (r) $14bn Announce 3-year note $32bn	**8 Jun** **Wholesale trade** (10:00am) Apr

Source: Private and public agencies and J.P. Morgan. Further details available upon request. Times shown are EDT.