MOODY'S INVESTORS SERVICE

SECTOR IN-DEPTH
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Nonfinancial Corporates - US

Credit strengths of Baa-rated companies mitigate risks of higher leverage

Summary

The debt of US Baa-rated nonfinancial companies has nearly tripled over the past decade and now comprises a majority of the total debt outstanding of US investment-grade nonfinancial companies. In light of this rapid growth, some market participants have expressed concerns that the creditworthiness of US Baa-rated companies today may not be as strong as in the past. However, the overall median credit metrics of Baa-rated companies do not suggest creditworthiness has weakened since the peak of the previous credit cycle in December 2007.

» **Baa-rated nonfinancial company debt has surged in the US.** Outstanding Baa-rated debt jumped to more than $2 trillion in 2018 from $743 billion in 2007, comprising almost half of the growth in the total rated debt of all US nonfinancial companies. Baa-rated nonfinancial companies' debt now makes up 58% of all US investment-grade debt, up from 43% in 2007. The 20 largest companies currently account for 45% of the total debt of all Baa-rated companies.

» **Credit metrics do not suggest a substantive change in credit strength**. Although the median US Baa-rated company now has moderately higher leverage, it is also substantially larger, more profitable and less burdened by interest expense than in 2007, indicating that there has not been any material deterioration in creditworthiness.

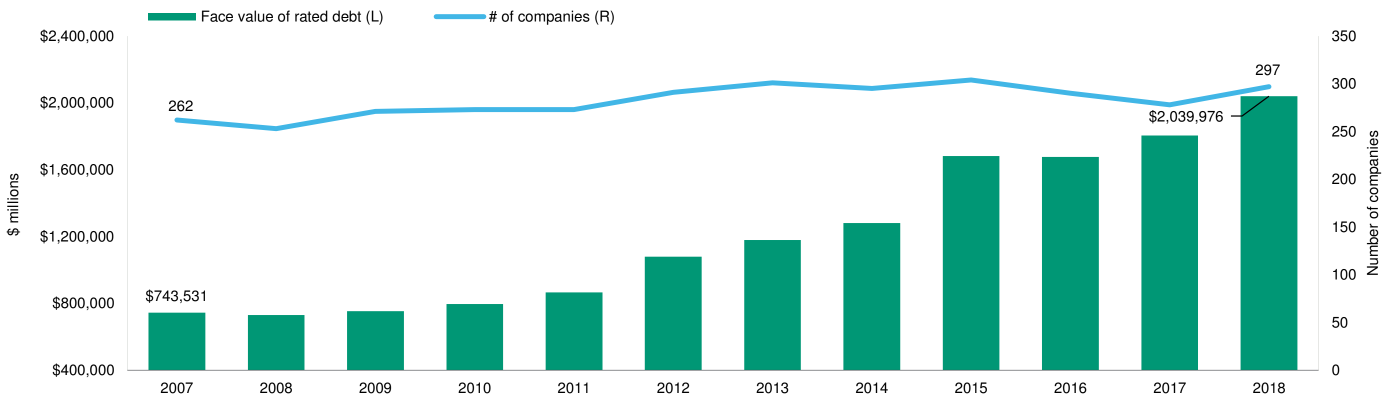
» **The growth of outstanding Baa-rated debt has increased the potential for "fallen angel" debt in an economic downturn.** However, most Baa-rated companies would weather a downturn without lasting damage to their financial or business profiles and without a downgrade to speculative grade. Additionally, historical fallen angel rates have not been highly correlated with macroeconomic cycles but instead have been mainly driven by industry-specific considerations.

Baa-rated nonfinancial company debt has surged in the US

The rated debt outstanding of US Baa-rated nonfinancial companies almost tripled to just over $2 trillion in 2018, up from $743 billion in 2007, although the number of Baa-rated companies only increased 13%, to 297 from 262. The growth in the rated debt of Baa-rated companies accounts for almost half of the roughly $3.0 trillion increase in the rated debt of all US nonfinancial companies since 2007.[1] Exhibit 1 shows the number of Baa-rated companies and the face value of the debt outstanding from December 2007 through December 2018.

Exhibit 1

Rated debt of Baa nonfinancial companies has almost tripled since 2007

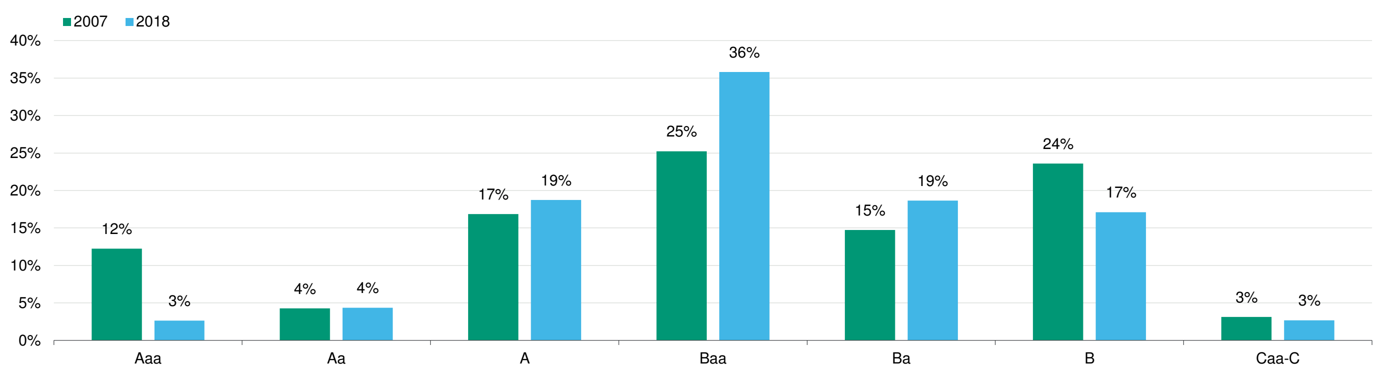


Source: Moody's Investors Service

As Exhibit 2 shows, Baa-rated companies accounted for 36% of the total rated debt of US nonfinancial companies as of December 2018, up from 25% in December 2007.[2] The debt of Baa-rated companies now accounts for 58% of total investment-grade debt, up from 43% in 2007, implying a weakening in the ratings distribution and average creditworthiness of investment-grade debt since 2007.

Exhibit 2

Baa-rated debt now accounts for more than one-third of the total rated debt of US nonfinancial companies

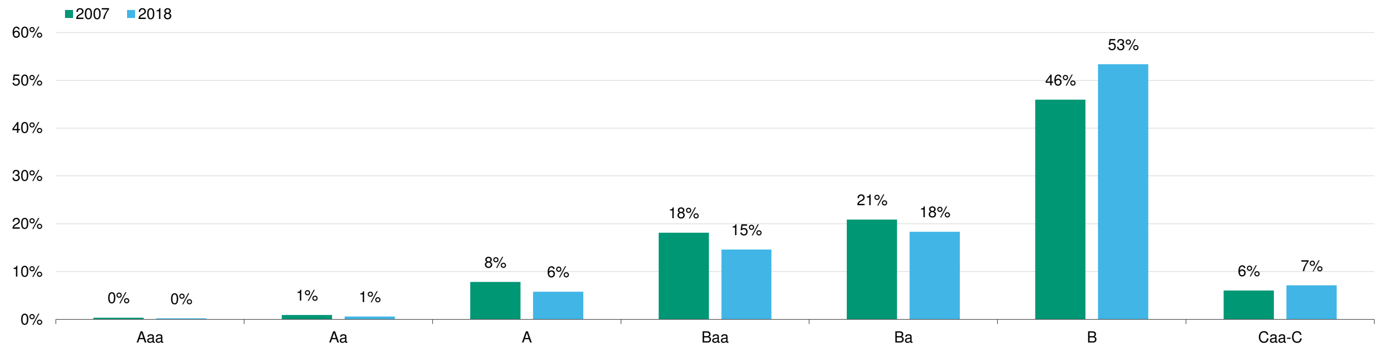


Source: Moody's Investors Service

By company count, Baa-rated companies now make up 15% of all US rated nonfinancial companies, down modestly from 18% in 2007, as Exhibit 3 shows. Companies in the B rating category now comprise a majority (53%) of all rated US nonfinancial companies, up from 46% in 2007. By number of issuers, Baa-rated companies' share of investment-grade companies is relatively unchanged, at 69% in 2018 versus 67% in 2007.

Exhibit 3

Baa-rated companies now account for a slightly smaller share of all US rated nonfinancial companies than in 2007



Source: Moody's Investors Service

Median credit metrics do not suggest a substantive change in the credit strength of Baa-rated companies since 2007

Although the credit standards in our industry rating methodologies and our rating grids for Baa-rated companies have not materially changed over the past decade, and there have been no material changes in credit losses or rating migration rates for such companies in recent years, some market participants view the rapid growth of US Baa-rated debt as coinciding with a deterioration in the creditworthiness of Baa-rated companies. To examine this issue, we assessed a variety of key median credit metrics measured annually from December 2007 to December 2018. These metrics do not suggest that creditworthiness has weakened within the Baa category since the peak of the previous credit cycle in December 2007.[3]

As Exhibit 4 shows, median leverage has increased moderately since 2007, but changes in other important credit metrics including interest coverage, size and profitability have offset the rise in leverage. Consistent with the median credit metrics by whole-letter rating, the metrics by alphanumeric rating also do not indicate any material deterioration in the creditworthiness of Baa1, Baa2 or Baa3 companies. (See Exhibit 25 in the appendix.)

Exhibit 4

Median credit metrics for Baa-rated companies indicate stable credit strength

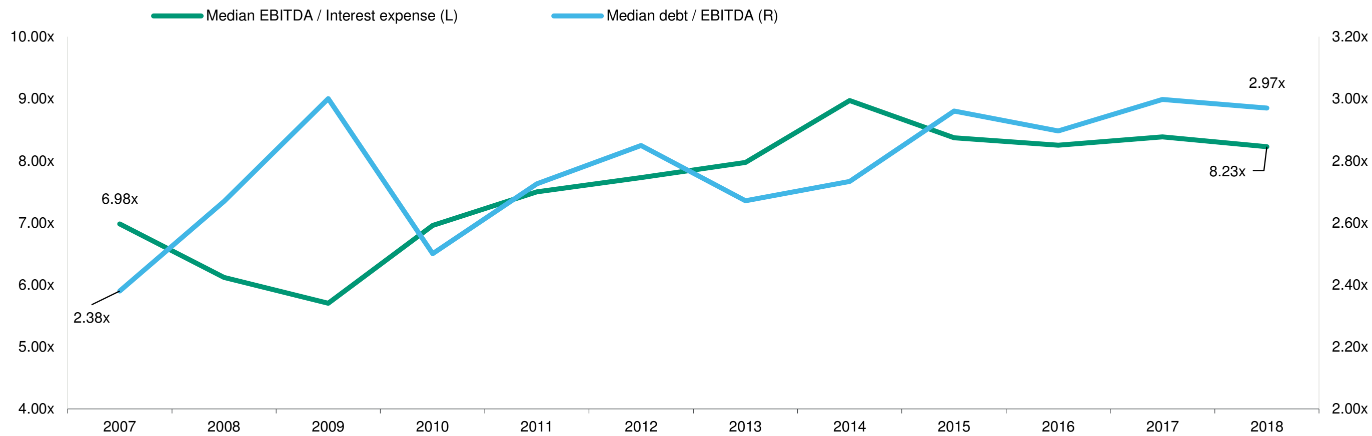
Year	Revenues ($ mlns)	EBITDA ($ mlns)	EBITDA Margin %	Debt / EBITDA	EBITDA / Interest expense	FFO / Debt	RCF / Debt	FCF / Debt	Total adjusted debt ($ mlns)	Debt / Book cap	Debt / Market cap
2007	$4,666	$880	19.8%	2.38x	6.98x	0.31x	0.26x	0.07x	$1,861	0.45x	0.27x
2008	$4,971	$781	18.7%	2.67x	6.12x	0.27x	0.23x	0.06x	$2,269	0.50x	0.37x
2009	$3,703	$728	22.0%	3.00x	5.70x	0.27x	0.22x	0.12x	$1,871	0.46x	0.30x
2010	$4,090	$825	23.0%	2.50x	6.96x	0.31x	0.27x	0.09x	$2,011	0.45x	0.26x
2011	$4,452	$939	23.2%	2.73x	7.50x	0.29x	0.24x	0.06x	$2,192	0.46x	0.30x
2012	$4,882	$1,051	23.4%	2.85x	7.73x	0.27x	0.23x	0.07x	$2,813	0.47x	0.29x
2013	$4,928	$1,061	23.4%	2.67x	7.97x	0.28x	0.23x	0.08x	$2,818	0.45x	0.24x
2014	$4,878	$1,135	22.8%	2.73x	8.97x	0.28x	0.22x	0.07x	$2,894	0.48x	0.24x
2015	$5,259	$1,195	23.9%	2.96x	8.37x	0.26x	0.21x	0.08x	$3,419	0.50x	0.27x
2016	$5,742	$1,262	24.1%	2.90x	8.25x	0.26x	0.21x	0.09x	$3,780	0.50x	0.25x
2017	$6,182	$1,324	23.7%	3.00x	8.38x	0.25x	0.21x	0.09x	$3,835	0.51x	0.23x
2018	$7,079	$1,412	24.0%	2.97x	8.23x	0.26x	0.20x	0.08x	$4,288	0.51x	0.24x

The 2018 data for most companies are based on trailing 12 months' financials as of September 30.
Source: Moody's Investors Service

Exhibit 5 shows that while leverage as measured by median debt/EBITDA increased to roughly 3.0x in 2018 from 2.4x in 2007, interest coverage as measured by EBITDA/interest expense increased to 8.2x from 7.0x. Median cash flow leverage metrics, such as funds from operations to debt (FFO/debt) and retained cash flow to debt (RCF/debt), also indicate moderately increasing leverage, while free cash flow to debt (FCF/debt) has been somewhat stronger in recent years than in 2007.

Exhibit 5

Higher coverage offsets higher leverage of Baa-rated companies



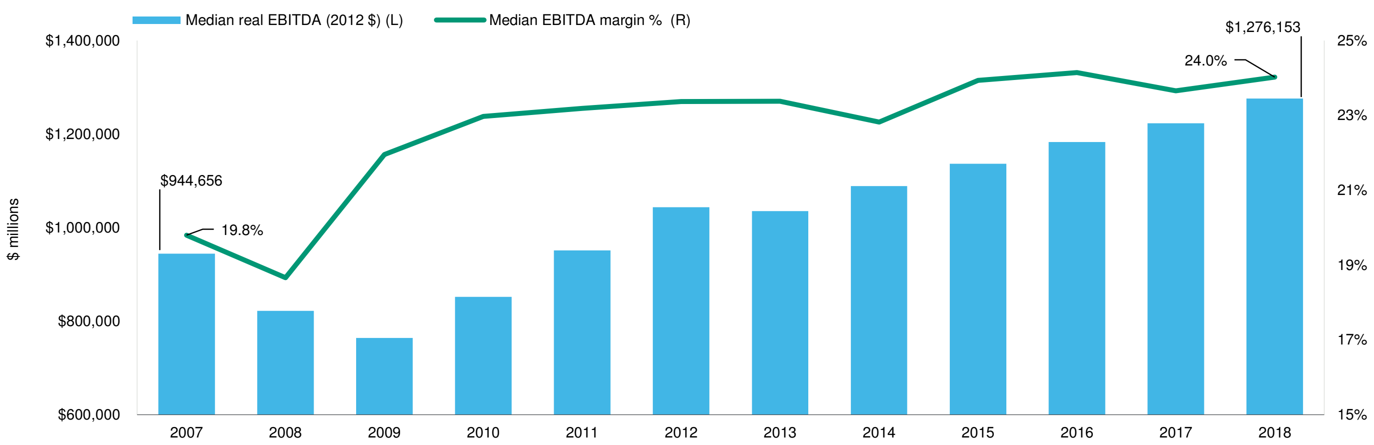
The 2018 data for most companies are based on trailing 12 months' financials as of September 30.
Source: Moody's Investors Service

Baa companies are larger and more profitable than in the past

Although the typical Baa-rated company now carries more leverage, it is also larger, more profitable and less burdened by interest expense than was the typical Baa-rated company in 2007.[4] As Exhibit 6 shows, median real EBITDA in 2012 dollars, as a proxy for size, increased to roughly $1.3 billion in 2018 from $945 million in 2007, a jump of 38%.[5] As for profitability, median EBITDA margins rose to 24% in 2018 from 19.8% in 2007, an increase of 21%.[6]

Exhibit 6

Baa-rated companies have become larger and more profitable since the peak of the last economic cycle



The 2018 data for most companies are based on trailing 12 months' financials as of September 30.
Source: Moody's Investors Service

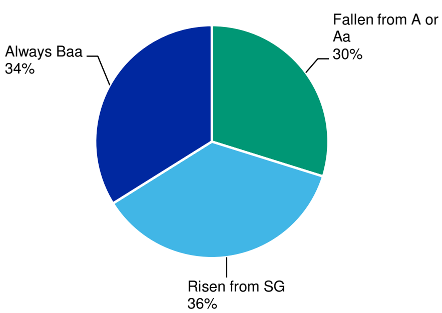
Two developments have contributed to larger and more profitable Baa-rated companies in recent years. First, increased mergers and acquisitions activity by investment-grade companies has resulted in larger and more profitable companies with improved business profiles and stronger competitive positions. However, such activity in many cases has also resulted in higher leverage for acquirers. When post-transaction targeted leverage is higher than before the transaction, this has resulted in downgrades in many cases. In some cases, higher target leverage is offset by greater scale and a stronger competitive position, resulting in no change to the rating.[7]

Second, many companies in recent years have implemented more aggressive shareholder-friendly financial policies, including increased dividends and share buybacks. In many instances, these are larger companies that have been downgraded to Baa from A or Aa as a result of more aggressive financial policies, yet they often retain very strong business and competitive profiles that are more typical of companies rated A or Aa. As Exhibits 7 and 8 show, while only 30% of 2018 Baa-rated companies reached Baa via a downgrade from A or Aa, these companies' debt comprises 52% of total Baa debt.

Exhibit 7

30% of currently rated Baa companies were downgraded from A or Aa

Rating history by company

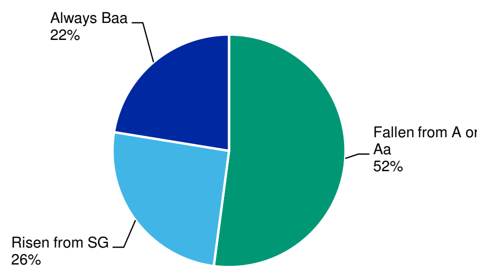


Source: Moody's Investors Service

Exhibit 8

Majority of current Baa-rated companies' debt is from companies downgraded from A or Aa

Rating history by debt



Source: Moody's Investors Service

Exhibit 9 lists the current 20 largest Baa-rated companies by reported debt. These companies make up only 7% of the total number of companies currently rated Baa, but with about $860 billion in debt, they account for 45% of the total debt of US Baa-rated companies. The four largest companies by debt, with a total of roughly $425 billion in debt, by themselves account for almost 25% of the total debt. Of the 20 companies, 16 are rated either Baa1 or Baa2 and 13 previously had a rating higher than Baa.

Exhibit 9

Twenty largest Baa-rated companies account for about 45% of total Baa debt

Company	Industry	Rating	Outlook	Long-term reported debt (in $ mlns)	Highest prior rating
AT&T Inc.	Telecommunications	Baa2	STA	$183,418	Aa3
Verizon Communications Inc.	Telecommunications	Baa1	STA	$112,942	A1
General Electric Company	Heavy Machinery	Baa1	STA	$64,631	Aaa
CVS Health	Retail	Baa2	NEG	$62,886	A2
United Technologies Corporation	Aerospace / Defense	Baa1	STA	$38,367	A2
Kinder Morgan Inc.	Energy, Oil & Gas - Midstream	Baa2	STA	$37,605	Baa3
AbbVie Inc.	Pharmaceutical	Baa2	STA	$37,506	Baa1
Amgen Inc.	Pharmaceutical	Baa1	STA	$34,427	A2
McDonald's Corporation	Restaurants	Baa1	STA	$31,895	Aa2
Kraft Heinz Foods Company	Consumer Packaged Goods	Baa3	POS	$31,403	Baa2
Ford Motor Company	Auto Manufacturer	Baa3	NEG	$27,342	A1
Enterprise Products Operating, LLC	Energy, Oil & Gas - Midstream	Baa1	STA	$25,914	Baa1
Allergan, Inc.	Pharmaceutical	Baa3	STA	$23,583	A3
Abbott Laboratories	Medical Product & Device	Baa1	POS	$23,347	Aa1
Union Pacific Corporation	Surface Transportation and Logistics	Baa1	STA	$22,411	A3
Williams Companies, Inc. (The)	Energy, Oil & Gas - Midstream	Baa3	STA	$21,442	Baa2
Celgene Corporation	Pharmaceutical	Baa2	RUR-UP	$20,350	Baa2
PPL Corporation	Regulated Electric and Gas Utilities	Baa2	STA	$20,254	Baa2
Mondelez International, Inc.	Consumer Packaged Goods	Baa1	STA	$19,920	A2
Dow Chemical Company (The)	Chemical	Baa2	STA	$19,690	A1

Long-term reported debt for most companies is based on trailing 12 months' financials as of September 30, 2018.
Source: Moody's Investors Service

Exhibit 10 shows the current US Baa-rated companies whose debt/EBITDA exceeds 4x, excluding utilities and midstream energy companies where relatively higher leverage is more often consistent with Baa ratings given such companies' generally stable cash flows. These 20 companies make up roughly 8% of all current Baa-rated companies but account for 17% of the total Baa debt.

Several observations stand out. First, we expect leverage to decline below 4x in the next 12-24 months for all but one of these companies; Conagra Brands, Inc. is the exception. Second, for 15 of the 20 companies, recent acquisitions played a direct role in temporarily boosting leverage above 4x. Third, many of these companies are in relatively stable industries, such as consumer packaged goods or soft beverages, and the companies' methodology grid factor scores for size and business profile are higher than their Baa ratings. For example, as Exhibit 10 shows, 10 of the companies have a business profile score of A or higher, while 11 companies have a size score of A or higher.

Exhibit 10

Acquisitions account for a majority of the Baa-rated companies with leverage greater than 4x

Company	Industry	Rating	Outlook	Debt/ EBITDA	Long-term reported debt (in $ mlns)	Moody's target debt/ EBITDA	Moody's target date	Moody's size score	Moody's business profile score	Comments
Campbell Soup Company	Consumer Packaged Goods	Baa2	NEG	5.94x	$8,001	<4x	2020	A	A	Snyder's-Lance acquisition, poor performance / execution
Keurig Dr Pepper	Soft Beverage	Baa2	NEG	5.50x	$14,984	3.5x	2020	A	Baa	Keurig Green Mountain, Dr Pepper Snapple merger
Conagra Brands, Inc.	Consumer Packaged Goods	Baa3	STA	5.50x	$3,541	<4.5x	2020	A	Baa	Pinnacle Foods acquisition
Symantec Corporation	Software	Baa3	RUR	4.95x	$5,039	3x	2019	Baa	Baa	Acquisitions / divestitures, Audit Committee investigation
General Mills, Inc.	Consumer Packaged Goods	Baa2	STA	4.92x	$14,199	<4x	2020	A	Baa	Blue Buffalo Pet Products acquisition
McCormick & Company, Incorporated	Consumer Packaged Goods	Baa2	STA	4.73x	$4,345	<4x	2020	Baa	A	Acquisition of Reckitt Benckiser's food division
International Flavors & Fragrances, Inc.	Chemical	Baa3	STA	4.70x	$4,377	3.5x	2020	Ba	A	Frutarom acquisition
CVS Health	Retail	Baa2	NEG	4.50x	$62,886	3.5x	2020	Aaa	Aa/A	Aetna acquisition
Coca-Cola Bottling Co. Consolidated	Soft Beverage	Baa2	STA	4.48x	$1,231	3.5x	2019	Baa	Baa	Franchise territory acquisitions
Mondelez International, Inc.	Consumer Packaged Goods	Baa1	STA	4.54x	$15,253	3.5x	2019	A	Aaa/Aa	Restructuring activities, share buybacks
Molson Coors Brewing Company	Alcoholic Beverage	Baa3	STA	4.45x	$10,560	<4x	2019	Baa	Baa	MillerCoors joint venture acquisition
Northrop Grumman Corporation	Aerospace / Defense	Baa2	STA	4.29x	$14,406	3.5x	2020	Aa	A	Orbital ATK acquisition
Bunge Limited	Trading Companies	Baa3	STA	4.27x	$5,243	<3x (net)	2018	Baa	Baa	Weak performance
Whirlpool Corporation	Consumer Durables	Baa1	STA	4.25x	$5,028	<3x	2019	Aa	Baa	Bridge debt funding with asset sales proceeds expected
Newell Brands	Consumer Durables	Baa3	NEG	4.24x	$9,613	<4x	2018	Baa	A/Baa	Soft operating performance, Jarden acquisition
United Technologies Corporation	Aerospace / Defense	Baa1	STA	4.24x	$38,367	<3.5x	2020	Aaa	A/Baa	Rockwell Collins acquisition
Kraft Heinz Foods Company	Consumer Packaged Goods	Baa2	POS	4.18x	$31,403	3.9x	2019	A	A	Aggressive financial policy
General Electric Company	Manufacturing	Baa1	STA	4.15x	$64,631	<3.0x	2020	Aaa	Aa	Power business performance, prior aggressive financial policy
PerkinElmer, Inc.	Medical Product & Device	Baa3	STA	4.15x	$1,903	3x	2019	Ba	Baa/Ba	EUROIMMUN acquisition
Kellogg Company	Consumer Packaged Goods	Baa2	STA	4.03x	$8,721	<4x	2019	Baa	Baa	RXBAR acquisition

Debt/EBITDA and long-term reported debt for most companies are based on trailing 12 months' financials as of September 30, 2018. In some cases, debt/EBITDA reflects Moody's pro forma estimates.
Source: Moody's Investors Service

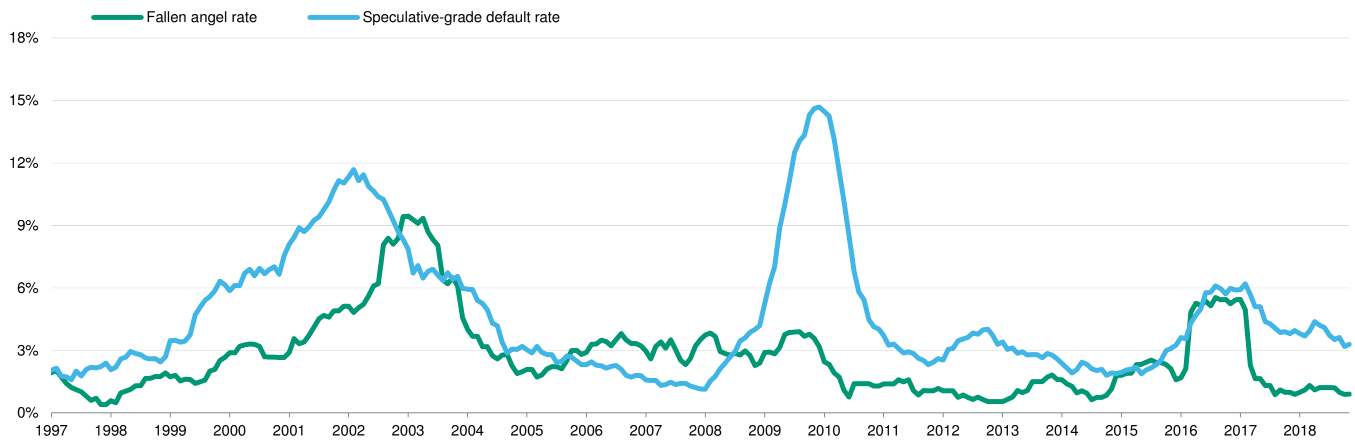
Several factors mitigate fallen angel risk and the potential impact on the high-yield debt market

Some market participants have expressed concern that the record amount of Baa-rated debt might result in an unusually large amount of debt transitioning to speculative grade (fallen angel debt) when the next period of broad credit stress eventually arrives. Under such a scenario, an increased supply of high-yield debt could disrupt the high-yield bond market and the ability of lower-rated companies to access the debt market, thereby exacerbating the credit cycle.

However, several considerations mitigate this risk. First, as Exhibit 11 shows, the fallen angel rate (the percentage of investment-grade companies downgraded to speculative grade) is not highly correlated with macroeconomic cycles, but instead has usually been driven by industry-specific considerations. For example, fallen angel debt remained very low through 2008-09 despite the magnitude of that economic downturn. Additionally, the 2015 spike in fallen angel debt occurred in the absence of a recession and resulted from downgrades to energy and mining companies following a large drop in energy and commodity prices. In 2005, fallen angel debt jumped as a result of Ford Motor Company and General Motors Corporation being downgraded to speculative grade. And similarly, although an economic recession was ongoing in 2000, downgrades to telecom and utility companies accounted for 80% of the 2002 spike in fallen angel debt.

Therefore, a future economic downturn would not necessarily coincide with high fallen angel rates and large volumes of fallen angel debt. Indeed, the vast majority of companies in the Baa category have sufficient strength to weather a recession without lasting damage to their financial or business profiles.

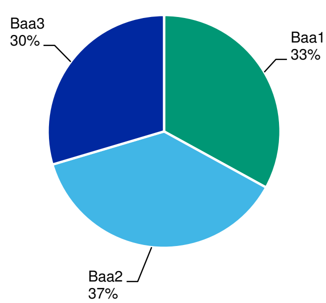
Exhibit 11
Fallen angel rates are not highly correlated with speculative-grade default rates



Source: Moody's Investors Service

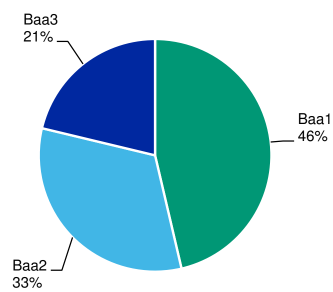
Second, as Exhibits 12 and 13 show, although only one-third of Baa-rated companies are currently rated Baa1, almost one-half of total Baa debt is rated Baa1, three rating notches above speculative grade. And only roughly 20% of Baa debt is rated Baa3, just one rating notch above speculative grade. Therefore, for roughly 80% of current Baa debt, it would require a multiple notch downgrade for the debt to fall to speculative grade.

Exhibit 12
One-third of Baa-rated companies are currently rated Baa1 ...
Alphanumeric rating by company



Source: Moody's Investors Service

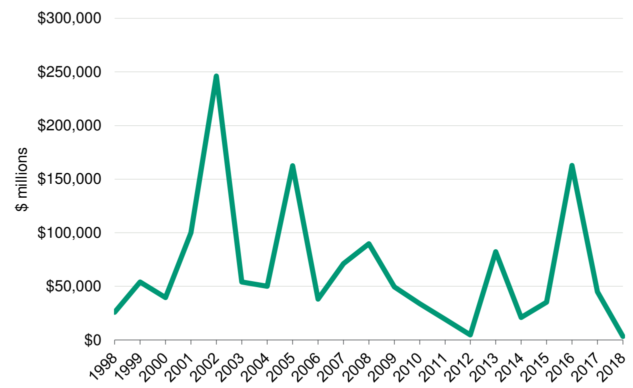
Exhibit 13
... But almost half of Baa debt is currently rated Baa1
Alphanumeric rating by debt



Source: Moody's Investors Service

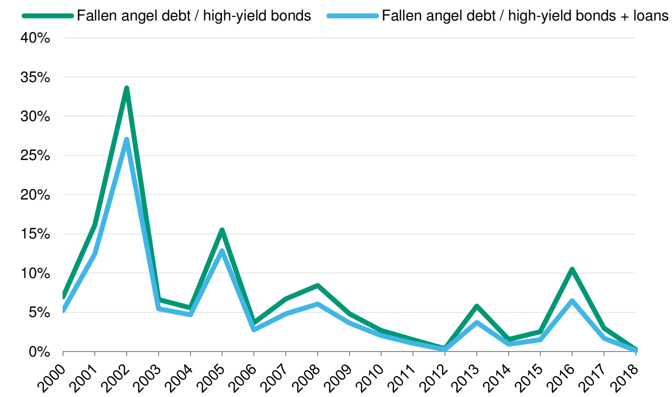
Third, as Exhibits 14 and 15 show, US fallen angel debt has been trending lower since 2002 and has become a smaller share of high-yield debt outstanding as the size of the high-yield bond market has grown. Therefore, it would require very high fallen angel rates and large volumes of fallen angel debt for the ratio of fallen angel debt to high-yield bonds to approach anywhere near the 35% level approached in 2002.

Exhibit 14
Fallen angel debt has been trending lower since the early 2000s
Fallen angel debt (2012 $)



Source: Moody's Investors Service

Exhibit 15
Fallen angel debt/value of high-yield bonds and loans outstanding

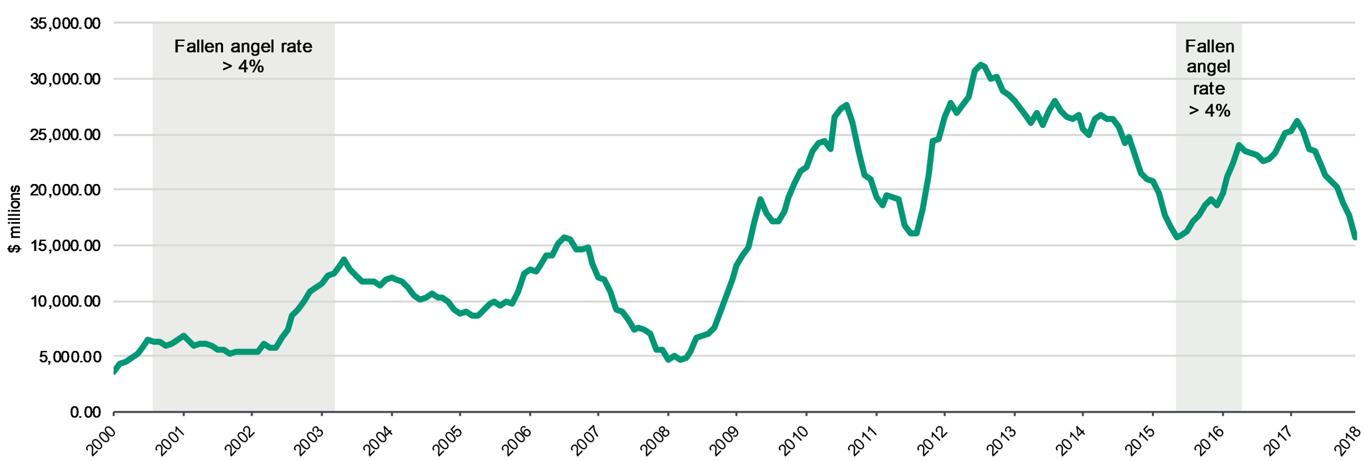


Source: Moody's Investors Service

Fourth, as Exhibit 16 shows, stress in the high-yield bond market as measured by historical issuance has not been highly correlated with fallen angel debt. For example, during the 2000-04 period when fallen angel debt was at its highest levels relative to the size of the high-yield bond market, high-yield bond issuance climbed almost continuously. On the other hand, when issuance fell precipitously during 2007-09, fallen angel debt was at very low levels. And more recently, high-yield bond issuance has been declining in the absence of fallen angel debt. Therefore, a spike in fallen angel debt would not necessarily imply disruptions to the high-yield debt market. Many factors influence the health of the high-yield market, with the magnitude of fallen angel debt not likely to be near the top of the list in order of importance.

Of course, it is not difficult to imagine severe downside macroeconomic scenarios in which both high-yield issuance declines and fallen angel debt increases. It is our view that under such a scenario, both events likely would result from the downside macroeconomic scenario itself, rather than fallen angel debt driving the disruptions to the high-yield bond market.

Exhibit 16
US high-yield bond issuance is not correlated with fallen angel debt
12-month moving average

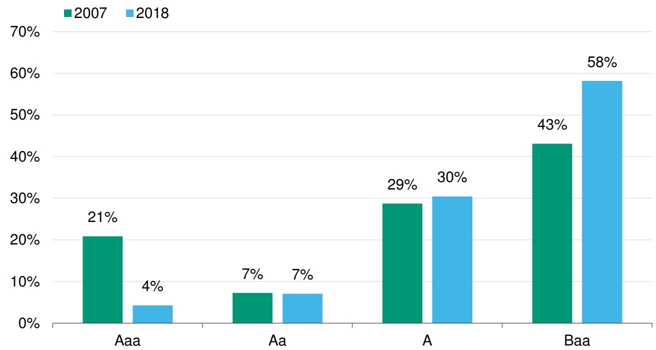


Sources: Dealogic, Moody's Investors Service

Appendix

Exhibit 17

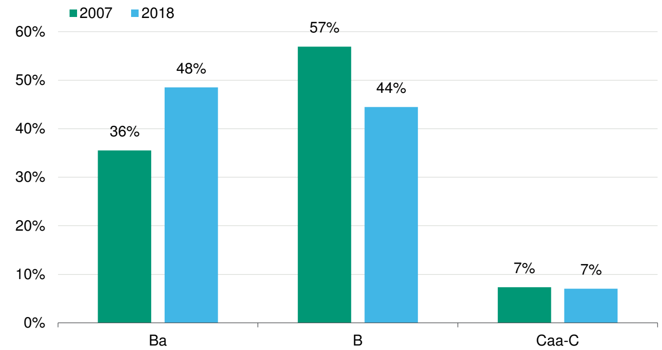
Baa-rated companies now account for a greater share of total investment-grade corporate debt



Source: Moody's Investors Service

Exhibit 18

Ba-rated companies now account for a higher share of total speculative-grade corporate debt

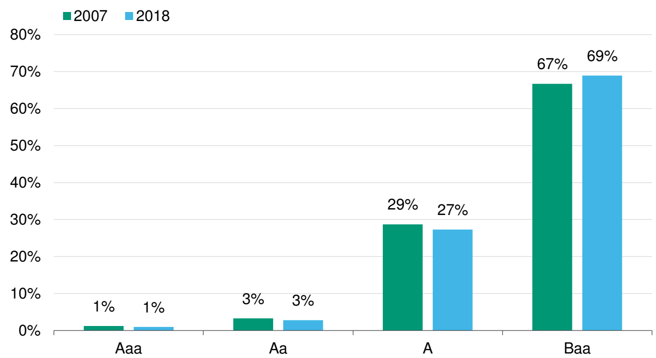


Source: Moody's Investors Service

Exhibit 19

Ratings distribution of investment-grade companies has remained relatively stable

% of investment-grade companies

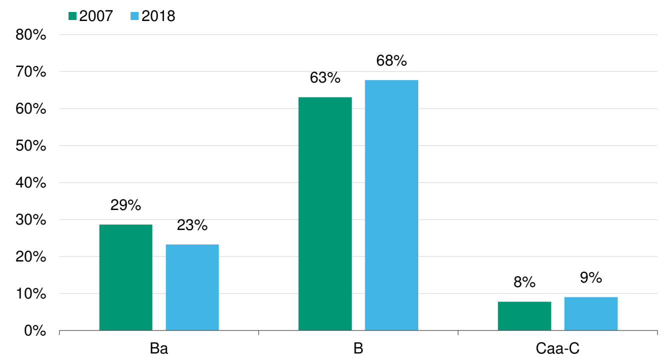


Source: Moody's Investors Service

Exhibit 20

In speculative-grade category, share of B-rated companies has risen modestly

% of speculative-grade companies

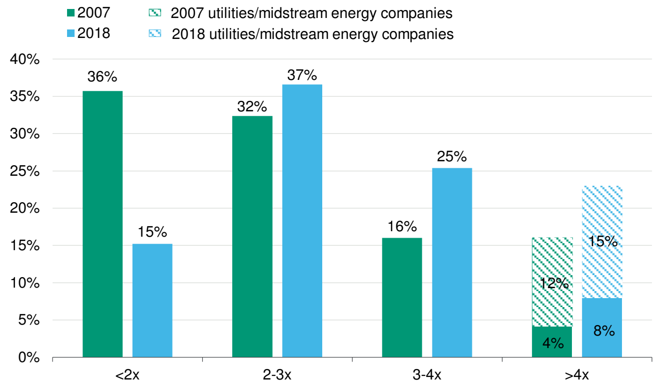


Source: Moody's Investors Service

Exhibit 21

Baa-rated companies have become moderately more levered since 2007

Debt/EBITDA



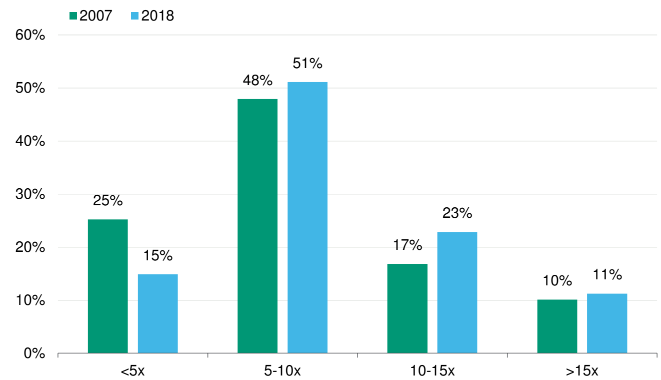
The shaded areas of the >4x segment show the percentage of companies in the utilities and midstream energy sectors, where relatively higher leverage is often tolerable given stable cash flows.

Source: Moody's Investors Service

Exhibit 22

Interest coverage of Baa-rated companies is moderately higher since 2007

EBITDA/Interest

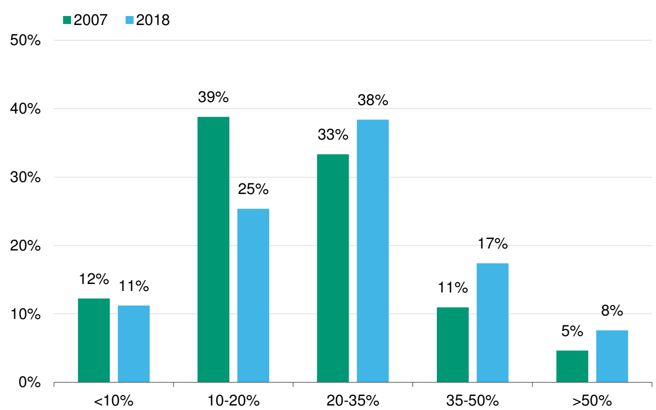


Source: Moody's Investors Service

Exhibit 23

Baa-rated companies are more profitable since 2007

EBITDA margin

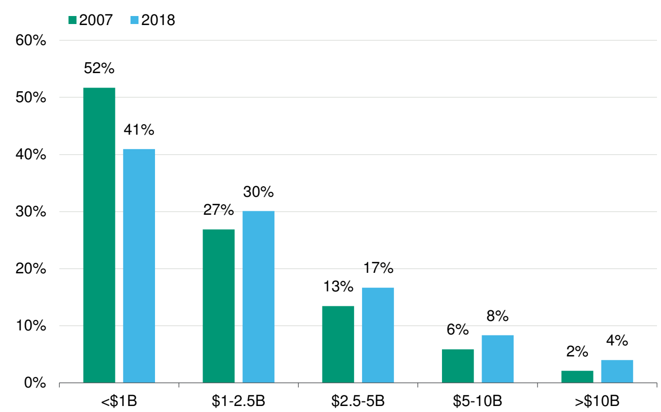


Source: Moody's Investors Service

Exhibit 24

Baa-rated companies are now larger versus 2007

EBITDA (2012 $)



Source: Moody's Investors Service

Exhibit 25

Median credit metrics by alphanumeric rating

Revenues (in $ mlns)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	$4,880	$5,849	$3,471	$4,220	$4,586	$5,995	$5,147	$4,541	$6,143	$6,787	$7,247	$7,973
Baa2	$4,694	$4,551	$3,588	$3,554	$3,946	$4,292	$4,624	$4,764	$5,046	$6,224	$6,445	$7,149
Baa3	$4,470	$4,525	$3,886	$4,586	$5,116	$4,751	$5,389	$5,618	$4,380	$4,170	$4,952	$5,322

Total adjusted debt (in $ mlns)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	$1,798	$2,669	$1,718	$2,195	$2,258	$3,128	$3,313	$3,002	$3,761	$4,439	$4,701	$5,243
Baa2	$2,084	$1,874	$2,156	$1,994	$2,025	$2,732	$2,643	$2,884	$3,968	$4,336	$4,550	$4,560
Baa3	$1,782	$2,019	$1,810	$2,028	$2,394	$2,559	$2,627	$2,613	$2,773	$2,761	$2,770	$2,934

EBITDA (in $ mlns)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	$1,278	$1,272	$815	$1,162	$1,250	$1,496	$1,426	$1,142	$1,362	$1,730	$1,719	$1,985
Baa2	$880	$716	$689	$748	$830	$945	$1,056	$1,255	$1,396	$1,623	$1,544	$1,547
Baa3	$738	$680	$743	$822	$959	$978	$967	$974	$849	$868	$992	$1,000

EBITDA margin %	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	23.0%	20.2%	25.6%	25.0%	25.1%	25.0%	23.9%	26.3%	28.0%	28.5%	26.7%	26.9%
Baa2	18.4%	17.8%	20.5%	21.3%	22.3%	23.4%	23.2%	20.9%	22.5%	22.2%	22.7%	23.5%
Baa3	17.8%	18.2%	19.8%	21.3%	21.8%	22.1%	21.4%	20.9%	21.4%	22.3%	21.9%	20.6%

EBITDA / Interest	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	7.97x	6.63x	6.11x	7.81x	8.33x	8.85x	9.54x	9.78x	9.67x	9.06x	8.97x	9.50x
Baa2	6.35x	6.11x	5.84x	6.99x	7.38x	7.44x	7.77x	9.04x	8.41x	8.27x	8.71x	8.77x
Baa3	6.71x	5.90x	5.10x	6.72x	6.16x	6.53x	6.82x	8.47x	7.46x	7.86x	7.53x	7.47x

Debt / EBITDA	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	2.10x	2.61x	2.56x	2.31x	2.56x	2.66x	2.48x	2.66x	2.85x	2.81x	3.05x	2.90x
Baa2	2.56x	2.77x	3.03x	2.56x	2.63x	2.85x	2.73x	2.71x	2.90x	2.85x	2.87x	2.87x
Baa3	2.42x	2.62x	3.28x	2.65x	3.10x	3.10x	2.91x	2.81x	3.14x	3.25x	3.10x	3.12x

Market cap (in $ mlns)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	$11,616	$9,763	$11,666	$13,328	$14,138	$18,183	$19,987	$20,220	$22,259	$25,048	$25,031	$27,836
Baa2	$8,923	$6,668	$6,933	$10,344	$10,077	$12,301	$14,329	$15,946	$18,040	$19,645	$20,445	$21,403
Baa3	$6,424	$5,780	$8,457	$8,587	$8,411	$9,264	$10,258	$11,221	$9,353	$10,133	$11,677	$11,751

Debt / Book cap	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	0.43x	0.48x	0.45x	0.45x	0.46x	0.47x	0.43x	0.47x	0.47x	0.47x	0.51x	0.51x
Baa2	0.46x	0.51x	0.48x	0.47x	0.45x	0.46x	0.45x	0.51x	0.52x	0.52x	0.52x	0.51x
Baa3	0.44x	0.50x	0.46x	0.45x	0.48x	0.50x	0.46x	0.48x	0.50x	0.49x	0.50x	0.51x

Debt / Market cap	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	0.23x	0.30x	0.26x	0.24x	0.26x	0.24x	0.20x	0.21x	0.23x	0.22x	0.20x	0.23x
Baa2	0.28x	0.40x	0.33x	0.28x	0.28x	0.29x	0.25x	0.23x	0.26x	0.24x	0.25x	0.26x
Baa3	0.27x	0.40x	0.30x	0.27x	0.33x	0.33x	0.29x	0.26x	0.29x	0.28x	0.25x	0.24x

FFO / Debt	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	0.35x	0.27x	0.29x	0.31x	0.29x	0.28x	0.31x	0.28x	0.27x	0.27x	0.24x	0.26x
Baa2	0.28x	0.27x	0.27x	0.32x	0.31x	0.28x	0.27x	0.29x	0.27x	0.26x	0.27x	0.26x
Baa3	0.31x	0.28x	0.25x	0.29x	0.28x	0.26x	0.27x	0.27x	0.24x	0.24x	0.25x	0.24x

RCF / Debt	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	0.29x	0.24x	0.23x	0.24x	0.22x	0.23x	0.24x	0.22x	0.21x	0.21x	0.20x	0.21x
Baa2	0.23x	0.22x	0.23x	0.27x	0.25x	0.23x	0.23x	0.23x	0.21x	0.21x	0.21x	0.20x
Baa3	0.26x	0.25x	0.21x	0.27x	0.24x	0.22x	0.22x	0.22x	0.19x	0.20x	0.21x	0.20x

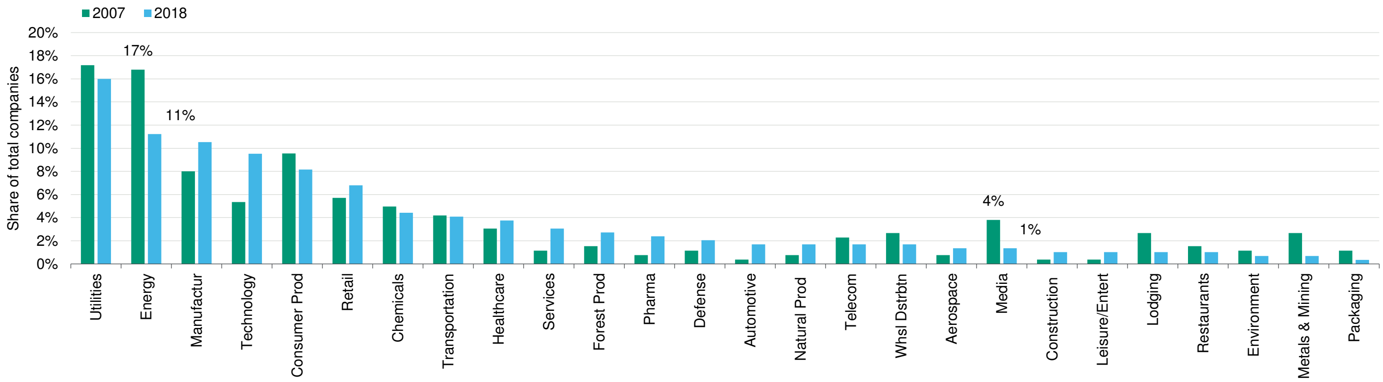
FCF / Debt	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baa1	0.05x	0.05x	0.11x	0.10x	0.06x	0.08x	0.09x	0.05x	0.06x	0.07x	0.05x	0.06x
Baa2	0.07x	0.05x	0.14x	0.08x	0.10x	0.07x	0.08x	0.08x	0.08x	0.10x	0.10x	0.08x
Baa3	0.09x	0.07x	0.13x	0.09x	0.05x	0.07x	0.07x	0.07x	0.08x	0.09x	0.09x	0.08x

The 2018 data for most companies are based on trailing 12 months' financial as of September 30.
Source: Moody's Investors Service

Exhibit 26

Current industry mix of Baa-rated companies is largely unchanged from 2007

By number of companies



Source: Moody's Investors Service

Moody's related publications

Sector In-Depth

» Corporates –US: Late-cycle debt accumulation exposes credit vulnerabilities, September 6, 2018

» Corporates - Global: High corporate leverage signals future credit stress even as the default rate remains very low, May 24, 2018

» Nonfinancial Corporations - Global: Large corporate acquisitions: The impact on acquirers' creditworthiness and subsequent ratings performance, September 25, 2017

Special Comment

» Default Rates Indicate Ratings Accurately Incorporate the Credit Implications of Firm Size, North American Nonfinancial Firms, 2004-2013, November 2014

» Introducing Moody's Credit Transition Model, August 2007

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

1 Debt is measured using the face value of reported rated debt outstanding for each company. It does not include undrawn revolving credit facilities and does not account for amortization of debt. The unit of measurement is consolidated companies where a company may include more than one rated issuer. The face value of rated debt across all US nonfinancial companies is approximately $5.9 trillion, up from $2.9 trillion since 2007. For the purposes of this study, nonfinancial companies include utilities but not REITs.

2 For investment-grade companies, the rating is based on the company's senior unsecured rating. For speculative-grade companies, the rating is based on the company's corporate family rating (CFR).

3 These metrics include Moody's standard adjustments for nonfinancial corporates. We excluded several Baa-rated homebuilders and oil and gas E&P companies from the data given their unique applicable credit metrics. For most Baa companies in December 2018, the median credit metrics are based on financials for the trailing 12 months as of September 30, 2018.

4 See Default Rates Indicate Ratings Accurately Incorporate the Credit Implications of Firm Size, November 2014, for more detail on why size correlates with credit strength and an examination of whether ratings appropriately consider size.

5 The GDP deflator is used to deflate nominal values.

6 Although the increase in size and profitability of Baa-rated companies has coincided with a lengthy US economic expansion, the starting point for analysis is December 2007, near the peak of the last economic cycle. If December 2018 were to be the peak of the current economic expansion, the size and profitability of Baa-rated companies at this peak would be improved relative to the previous 2007 peak.

7 Relatedly, our study of 200 large M&A deals between 2009 and 2013 indicates that acquirers' ratings are accurately positioned following debt-financed acquisitions. See Large corporate acquisitions: The impact on acquirers' creditworthiness and subsequent ratings performance, September 2017.

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