MOODY'S INVESTORS SERVICE

SPECIAL SERIES

US Late Credit Cycle Risks

SECTOR IN-DEPTH

13 May 2019

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Nonfinancial Corporates - US

Fallen angels: High-yield market buffers potential transitions amid wider risks

Some market participants have expressed concerns that the large amount of Baa-rated debt currently outstanding could result in significant levels of "fallen angel" debt (debt downgraded to speculative grade from investment grade) in a recession and disrupt the high-yield debt markets. In this report, a follow-up to our January 2019 report Nonfinancial Corporates - US: Credit strengths of Baa-rated companies mitigate risks of higher leverage, we assess the potential amount of fallen angel debt under different macroeconomic scenarios, review the historical rating transition risk of US nonfinancial companies becoming fallen angels, and examine the potential for disruption to high-yield debt markets from fallen angel debt in a recession.

» **High levels of Baa debt increase the potential for fallen angel debt in a recession but fallen angel debt, by itself, seems unlikely to disrupt high-yield markets.** We base this conclusion both on the low historical correlation between fallen angel rates and macroeconomic conditions, as well as on our fundamental view that most Baa companies have the credit strength and flexibility to weather economic downturns without lasting damage to their financial or business profiles**.** We examine two scenarios for the US economy: (1) our baseline scenario, in which there is no recession in 2019 or 2020, and (2) a recession scenario, which we emphasize is not our baseline economic forecast.

» **Low fallen angel rates translate to low volumes of fallen angel debt historically**. Fallen angel debt has exceeded $100 billion in only three calendar years: 2002, 2005 and 2016. In each case, industry-specific conditions primarily drove the increases.

» **The 2002 episode of fallen angel debt was the most severe.** Simultaneous stress in the energy, telecommunications and utility sectors led to a high level of fallen angel debt in 2002. A future fallen angel episode similar in magnitude to 2002 is highly unlikely. However, if such an episode were to repeat it would likely again require simultaneous stress across the same three sectors.

» **Still, low fallen angel transition rates and market buffers do not eliminate the wider risks in high yield in the event of an economic downturn:** At this point in the cycle, the overall US distribution of ratings in speculative-grade portfolios has deteriorated. The share of US companies with ratings B3 and lower is already larger than during the depths of the 2009 crisis. In the next downturn, low-rated firms will be less able to service debt and support employment and investment, and an increase in default risk will also likely be accompanied by low recoveries given weak debt structures and limited protections. *(For details, see "Moody's related publications" on page 10)*.

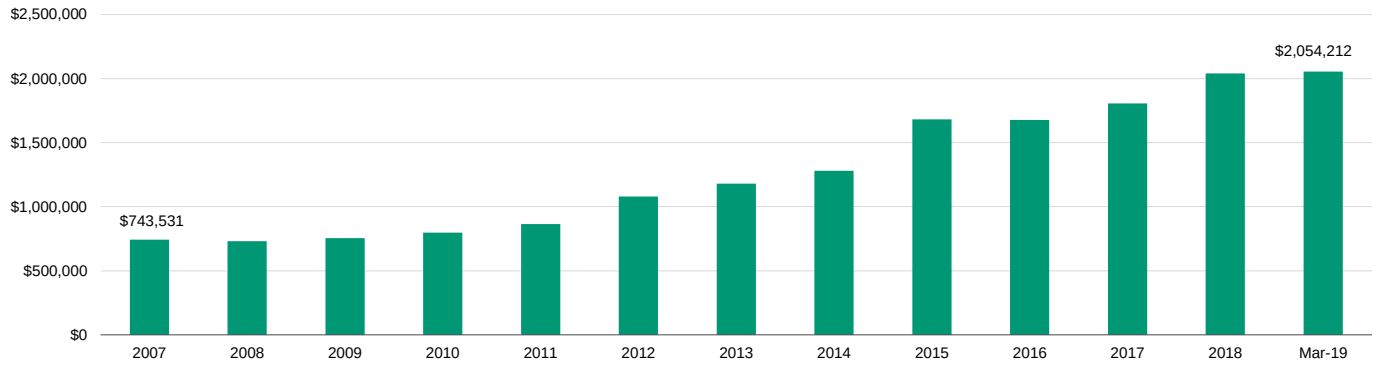
High levels of Baa debt increase the potential for fallen angel debt in a recession but fallen angel debt, by itself, seems unlikely to disrupt high-yield debt markets

The potential for large amounts of fallen angel debt in an economic downturn is the result of the rapid growth of Baa-rated debt in recent years.[1] As Exhibit 1 shows, the face value of Baa-rated debt outstanding increased from about $740 billion in December 2007 to more than $2.0 trillion as of March 2019.[2]

Exhibit 1

Debt of Baa nonfinancial companies has almost tripled since 2007

Face value of debt (in $ millions)



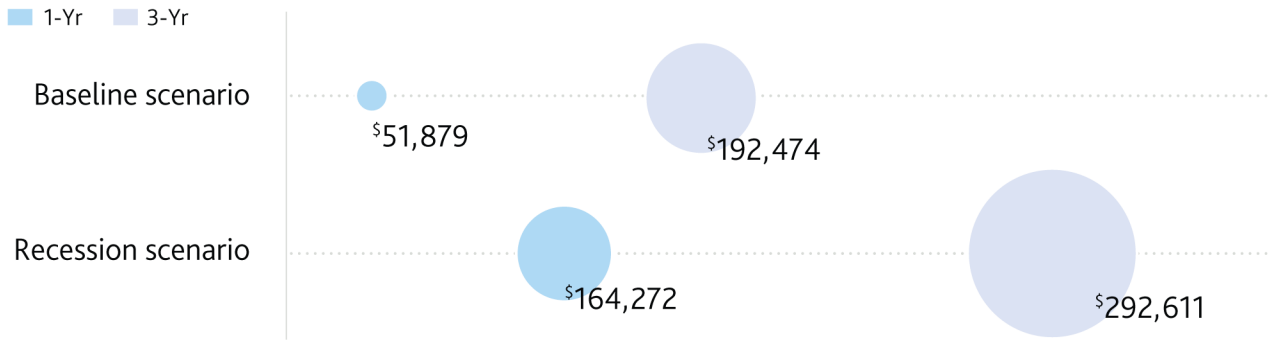
Source: Moody's Investors Service

We generate estimates of fallen angel debt under two macroeconomic scenarios using Moody's Credit Transition Model (CTM).[3] The first is our baseline scenario for the US economy, in which there is no recession in 2019 or 2020. The second is a recession scenario, which we emphasize is not our baseline economic forecast.

While we do not forecast a recession, we do see a continued build-up of risks related to increasing leverage among low-rated speculative-grade nonfinancial companies. Higher leverage has weakened the ratings distribution among speculative-grade companies and will result in more defaults in the next credit downturn. Additionally, loans have become more like bonds and this convergence has led to a severe loosening of debt terms and credit protections. As a result, we also expect low recoveries in the next credit downturn. (For example, see Convergence of bonds and loans sets stage for worse recoveries in the next downturn, August 16, 2018 and Moody's B3 Negative and Lower Corporate Ratings List: List continues edging up, points to build-up of credit risk, April 22, 2019.)

Exhibit 2 shows the estimates for fallen angel debt under the two scenarios. Under the baseline scenario, fallen angel debt would total about $50 billion in the first year and less than $200 billion cumulatively over three years. Under the recession scenario, fallen angel debt would climb to about $164 billion in the first year of the recession and almost $300 billion cumulatively three years from the start of the recession. The relatively low absolute levels of fallen angel debt in the recession scenario reflect the low historical correlation between fallen angel rates and macroeconomic cycles. (Appendix II shows the baseline and recession scenarios for the US unemployment rate and high-yield bond spread. Appendix III shows the estimated fallen angel rates at the alphanumeric rating level for both the baseline and recession scenarios.)

Exhibit 2
Estimates of fallen angel debt under baseline and recession scenarios
In $ millions



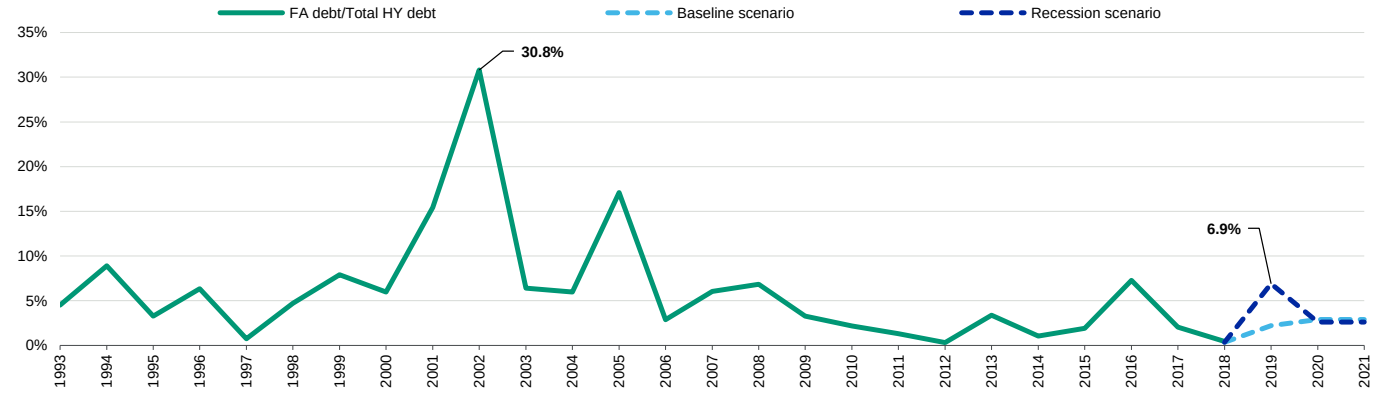
Source: Moody's Investors Service

Exhibit 3 shows fallen angel debt as a share of high-yield debt outstanding (loans and bonds) both historically and under the two macroeconomic scenarios. Under the recession scenario, fallen angel debt peaks at roughly 7% of high-yield debt outstanding, in line with the 7.3% in 2016 when many oil and gas companies were downgraded to speculative grade.

It is important to consider that the size of the high-yield debt markets has grown rapidly in the past two decades while levels of fallen angel debt have not. For example, since 2009 high-yield debt outstanding has more than doubled and now stands at about $2.3 trillion, up from roughly $985 billion. As a result, fallen angel debt as a share of high-yield debt outstanding has been in a trend decline since the early 2000s. This increase in the size of the high-yield market lessens the potential for supply disruption resulting from any given level of fallen angel debt.

The low historical correlation between fallen angel rates and macroeconomic conditions is consistent with our fundamental view of the credit strength of Baa companies. Most Baa companies have the strength and flexibility to weather economic downturns without lasting damage to their financial or business profiles. As a result, both the historical record of a low correlation between fallen angel debt and macroeconomic conditions, as well as our fundamental view of the credit strength of Baa companies, leads us to conclude that fallen angel debt in a recession would likely comprise only a small share of high-yield debt outstanding and therefore would be unlikely to independently disrupt high-yield debt markets.

Exhibit 3
Estimated potential fallen angel debt is a small share of high-yield debt outstanding



Source: Moody's Investors Service

Baa companies have flexibility to weather economic downturns

As discussed in more detail in Nonfinancial Corporates - US: Credit strengths of Baa-rated companies mitigate risks of higher leverage (January 2019), the median US Baa-rated company now has modestly higher leverage since the peak of the previous credit cycle in December 2007. However, the overall median credit metrics of Baa-rated companies do not suggest creditworthiness has weakened. Additionally, 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.

Many of today's Baa companies share characteristics including:

- **Increased size and improved profitability**. While the median US Baa company has more leverage than it did a decade ago, it is also substantially larger and more profitable and less burdened by interest expense. Overall, median credit metrics do not suggest a deterioration in the credit strength of Baa companies during the past decade.
- **High cash flow from operations relative to debt levels**. Most Baa companies also have strong business profiles that allow them the financial flexibility to weather economic downturns without lasting damage to their credit quality and without a downgrade to speculative grade. For example, the typical Baa company in a downturn has substantial ability to generate cash flow by reducing dividends, share buybacks and capital spending. Additionally, the unsecured debt capital structures of Baa companies also give them the ability to sell assets or issue secured debt if needed.
- **Baa category position resulted from deliberate changes to their financial policies**. Many of today's Baa companies were once higher rated and were downgraded to Baa after they determined that an A or Aa rating was no longer in their shareholders' interests. For example, roughly 50% of the total outstanding debt of Baa companies today was issued by companies previously rated A or Aa. In many cases, these companies have retained or strengthened their business profiles, offsetting to varying degrees the impact of higher leverage resulting from debt-financed acquisitions or increases in cash returns to shareholders.

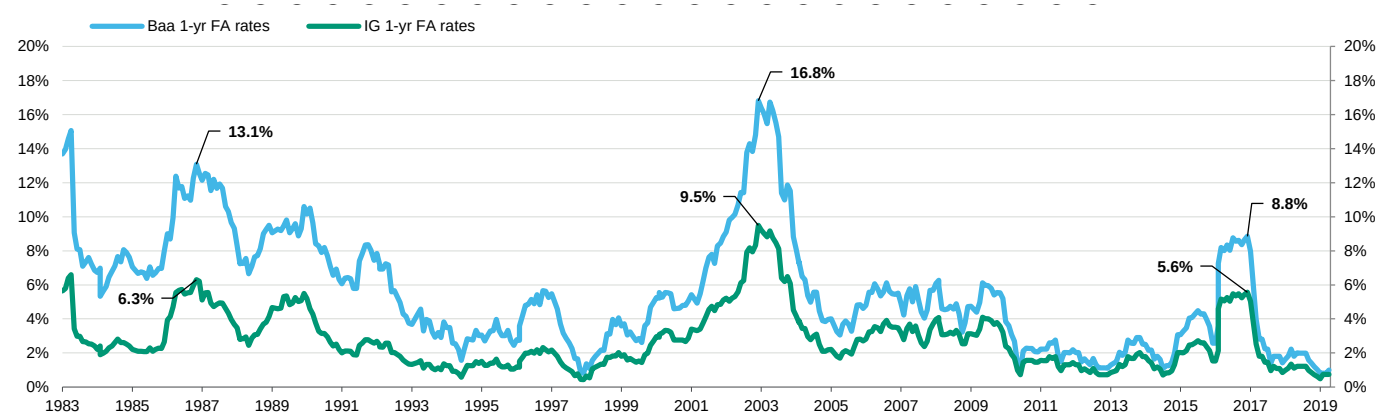
Historical fallen angel rates are low but volatile

While Baa debt has grown rapidly, Baa and overall investment-grade fallen angel rates are relatively low but volatile (see Exhibit 4). For example, the average one-year Baa and investment-grade fallen angel rates since 1983 are only 5.2% and 2.8%, respectively. Both rates peaked in December 2002 when the Baa fallen angel rate climbed to 16.8% and the investment-grade fallen angel rate reached 9.5%.

Exhibit 4

Fallen angel rates are relatively low but volatile

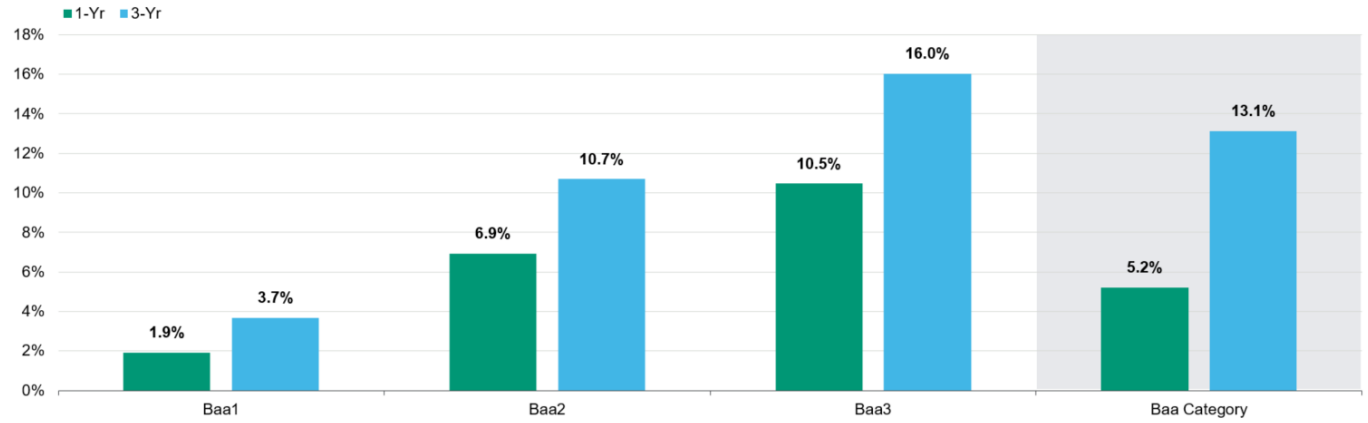
Baa-rated and investment-grade (IG) debt



Source: Moody's Investors Service

Baa fallen angel rates also vary considerably by alphanumeric rating. For example, as Exhibit 5 shows, the average one-year Baa3 fallen angel rate is 10.5% compared with 1.9% for Baa1 issuers. For three-year cumulative fallen angel rates, the Baa3 rate is 16.0% compared with 3.7% for Baa1 issuers. For completeness, Appendix I includes data on one-year and three-year average rating transitions for all investment-grade ratings at the alphanumeric level.

Exhibit 5
Baa fallen angel rates vary considerably by alphanumeric rating



Source: Moody's Investors Service

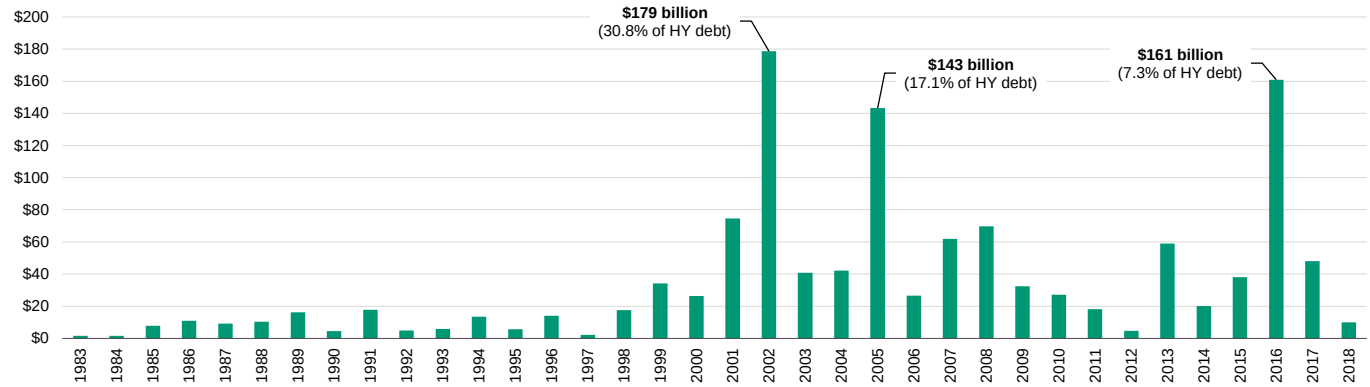
Baa3 debt outstanding today comprises only 21% of total Baa debt, while the Baa2 and Baa1 shares are 40% and 39%, respectively. The relatively small share of Baa3 debt considerably lessens the potential for fallen angels.

Low fallen angel rates translate to low volumes of fallen angel debt historically

Annual fallen angel debt has exceeded $100 billion in only three episodes, as Exhibit 6 shows. In all three cases, industry-specific conditions were the primary drivers of the increases: (1) utility, energy, and telecom company downgrades in 2001-02, (2) the downgrades of General Motors and Ford in 2005, and (3) oil and gas company downgrades in 2016.

More generally, since 1983 there has been only a weak correlation between macroeconomic conditions and levels of fallen angel debt.[4] For example, fallen angel debt remained very low in the 2008-09 financial crisis but spiked in 2016 in the absence of a recession. This weak correlation is consistent with our fundamental rating standards, whereby most Baa-rated companies have the credit strength and flexibility to weather economic downturns without lasting damage to their financial or business profiles.

Exhibit 6
Fallen angel debt is relatively low with periodic spikes
In $ billions



Source: Moody's Investors Service

The 2002 episode of fallen angel debt was the most severe and reflected a confluence of factors across three sectors

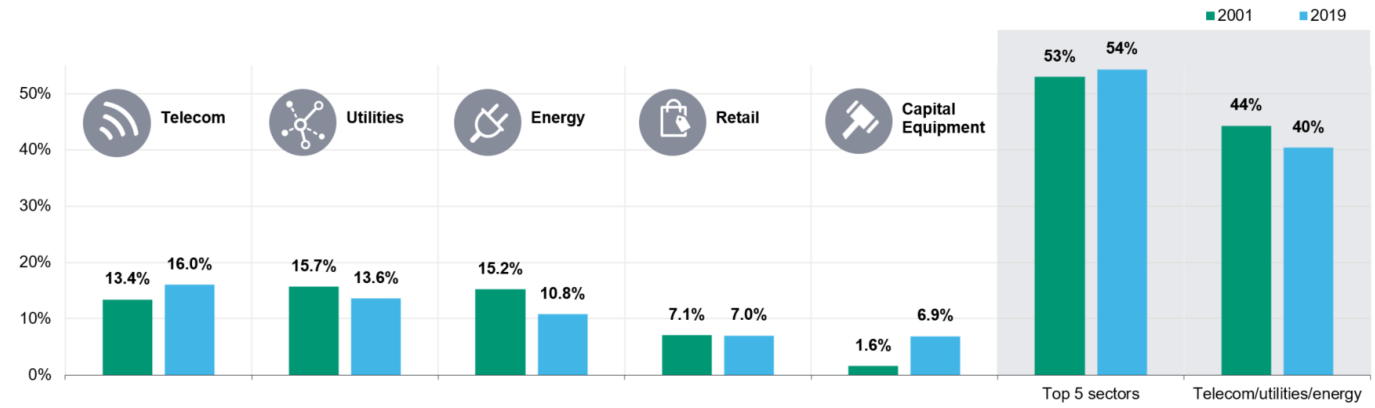
In 2002, fallen angel debt reached a record $178 billion, which equaled about 30% of total high-yield debt outstanding at the time. The 2002 episode resulted from a confluence of factors that caused industry stress across the three largest Baa sectors by debt outstanding: energy, telecom and utilities. Fallen angel debt in 2002 across these three sectors accounted for roughly 80% of the total fallen angel debt in 2002. Additionally, these three sectors' debt accounted for 44% of total Baa debt outstanding at the end of 2001.

A future fallen angel episode of the same magnitude relative to the size of the market as what occurred in 2002 is highly unlikely. However, if such an episode were to repeat it would likely again require simultaneous severe stress across the same three sectors. As Exhibit 7 shows, the energy, telecom and utilities sectors are still the largest sectors among Baa companies and their debt accounts for a 40% share of all Baa debt outstanding, down only slightly from the 44% share at the end of 2001. If a similar episode were to occur today on a volume-weighted basis, fallen angel debt would spike to more than $600 billion over one year and comprise about 23% of high-yield debt outstanding.

Exhibit 7

Telecom, utilities and energy still account for a large share of Baa debt

% of total Baa debt outstanding



Source: Moody's Investors Service

Appendix I

Exhibit 8

Investment-grade rating transition rates

One-year averages, January 1983-March 2019

From/To	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	Default
Aaa	88.8%	2.5%	3.0%	0.6%	0.6%	0.3%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%
Aa1	1.8%	80.9%	5.2%	4.5%	0.9%	2.3%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%
Aa2	1.0%	3.8%	76.3%	9.2%	3.5%	1.1%	0.6%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%
Aa3	0.1%	0.4%	3.0%	77.9%	8.8%	3.8%	1.0%	0.3%	0.2%	0.2%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%
A1	0.1%	0.1%	0.3%	3.0%	81.2%	7.8%	2.4%	0.4%	0.3%	0.2%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%
A2	0.0%	0.0%	0.2%	0.8%	3.2%	80.4%	7.2%	2.7%	1.0%	0.3%	0.1%	0.1%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%
A3	0.1%	0.0%	0.1%	0.1%	0.8%	6.2%	76.7%	7.3%	2.8%	1.1%	0.3%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%
Baa1	0.0%	0.0%	0.0%	0.0%	0.1%	1.1%	6.3%	76.8%	7.2%	2.4%	0.7%	0.3%	0.2%	0.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	4.1%	0.1%
Baa2	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	1.5%	6.2%	77.0%	6.1%	1.4%	0.6%	0.5%	0.3%	0.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	5.1%	0.1%
Baa3	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	1.5%	8.7%	74.2%	4.7%	2.0%	1.1%	0.8%	0.4%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	5.3%	0.2%

Source: Moody's Investors Service

Exhibit 9

Investment-grade rating transition rates

Three-year averages, January 1983-March 2019

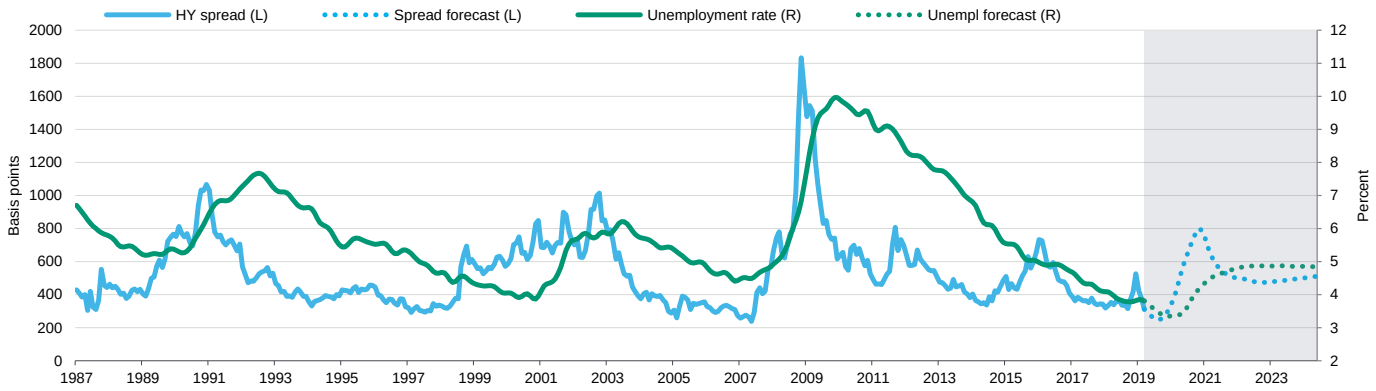
From/To	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	Default
Aaa	72.0%	3.9%	7.2%	2.2%	0.9%	1.4%	0.3%	0.1%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.3%	0.0%
Aa1	3.5%	54.6%	10.5%	7.9%	3.1%	7.1%	1.0%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.6%	0.0%
Aa2	2.7%	6.6%	43.2%	19.5%	8.0%	5.4%	1.4%	0.3%	0.5%	0.0%	0.0%	0.0%	0.2%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	11.5%	0.1%
Aa3	0.4%	1.1%	5.5%	47.8%	18.1%	8.4%	3.1%	1.7%	0.5%	0.4%	0.3%	0.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.7%	0.0%
A1	0.4%	0.3%	1.1%	5.6%	53.9%	15.5%	6.3%	2.5%	1.9%	0.6%	0.4%	0.3%	0.4%	0.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	9.9%	0.4%
A2	0.1%	0.2%	0.2%	1.7%	6.4%	53.1%	13.9%	6.8%	3.0%	1.2%	0.7%	0.6%	0.7%	0.3%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	10.5%	0.2%
A3	0.1%	0.0%	0.2%	0.6%	1.9%	12.8%	46.1%	13.2%	6.1%	3.4%	1.1%	0.9%	0.5%	0.3%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	12.2%	0.2%
Baa1	0.0%	0.0%	0.1%	0.1%	0.4%	3.2%	12.3%	47.1%	13.5%	5.2%	1.8%	1.3%	1.0%	1.1%	0.2%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	11.8%	0.3%
Baa2	0.1%	0.1%	0.1%	0.1%	0.4%	1.0%	4.1%	11.7%	48.0%	10.7%	2.8%	1.6%	1.3%	1.1%	0.8%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	14.2%	0.5%
Baa3	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	1.3%	4.5%	17.1%	42.3%	7.3%	3.2%	2.4%	1.7%	1.0%	0.9%	0.5%	0.3%	0.1%	0.1%	0.0%	15.9%	0.9%

Source: Moody's Investors Service

Appendix II

Exhibit 10

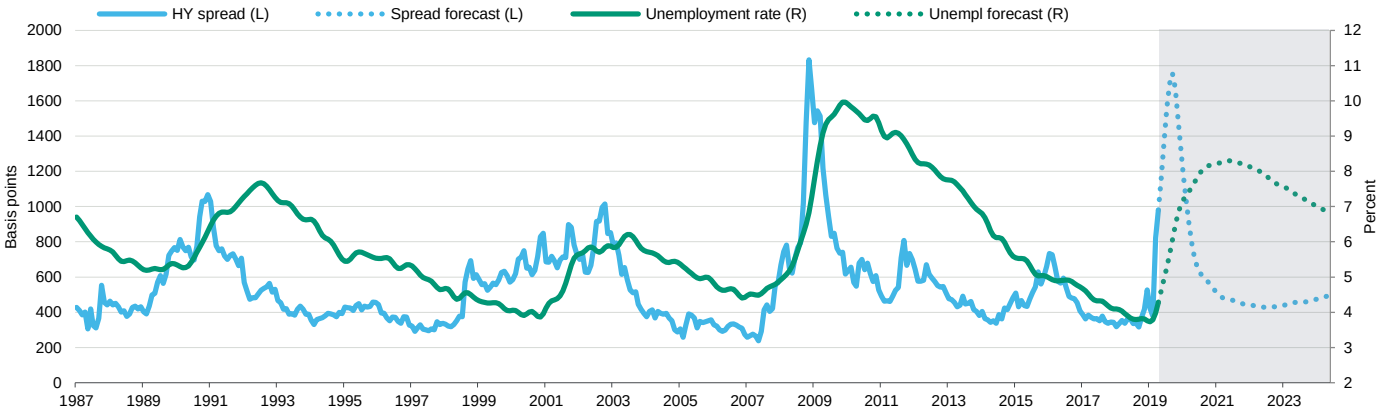
Baseline CTM macroeconomic scenario for unemployment rate and high-yield bond spread



Source: Moody's Investors Service

Exhibit 11

Recession CTM macroeconomic scenario for unemployment rate and high-yield bond spread

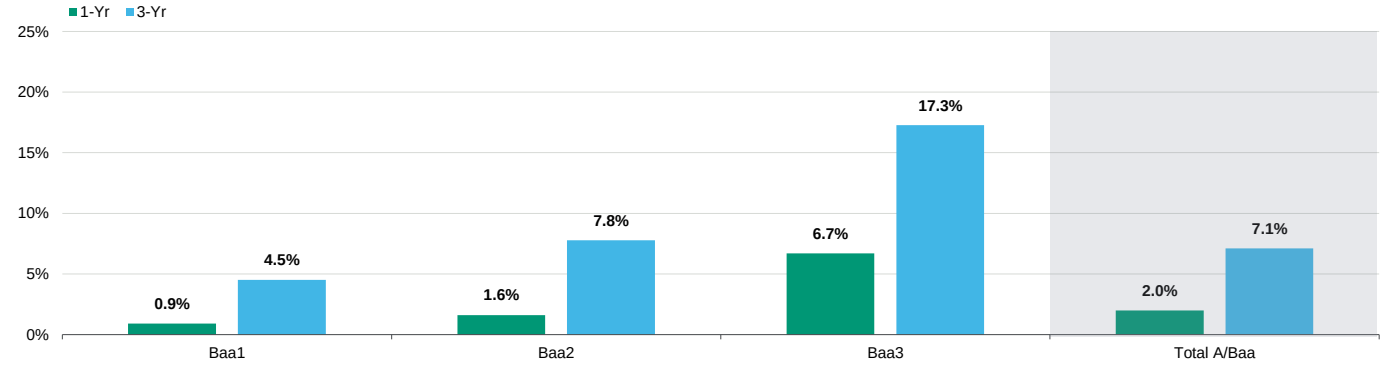


Source: Moody's Investors Service

Appendix III

Exhibit 12

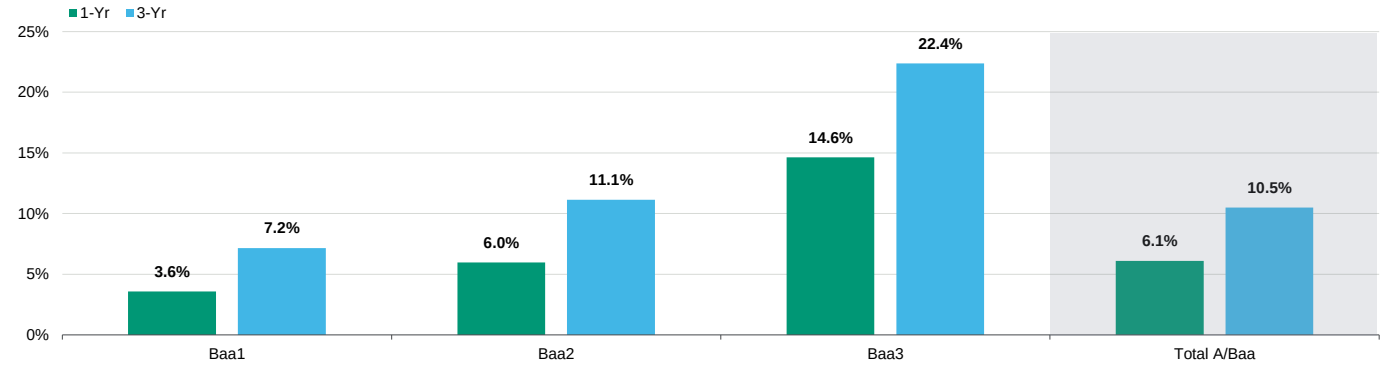
Estimated fallen angel rates under baseline CTM scenario



Source: Moody's Investors Service

Exhibit 13

Estimated fallen angel rates under recession CTM scenario



Source: Moody's Investors Service

Moody's related publications

Sector research

» US expansion is continuing but credit conditions are becoming less supportive, May 2, 2019

» Nonfinancial companies - EMEA: Baa ratings have proliferated, although debt remains concentrated in defensive sectors, April 30, 2019

» Nonfinancial corporates - US: Prolonged and widespread M&A activity exposes more companies to asset writedowns in the next recession, April 16, 2019

» FAQ: The next US recession, April 4, 2019

» Moody's Credit Trends Webinar: Corporate credit distress and default, February 13, 2019

» CLOs - US: As erosion of collateral quality metrics constrains reinvestments, managers turn to diversity score, January 28, 2019

» Moody's Credit Trends Webinar, January 22, 2019: Rising corporate leverage and risks to credit markets, January 24, 2019

» Nonfinancial Corporates - US: Credit strengths of Baa-rated companies mitigate risks of higher leverage, January 23, 2019

» CLOs - US: From covenants to cushions: Top 10 credit challenges CLOs face today, December 13, 2018

» CLOs - US: 2019 Outlook – Continued economic growth will foster stable performance amid weakening in loan quality, looser structure, November 27, 2018

» LBO credit quality is weak, bodes ill for next downturn, October 18, 2018

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

» Leveraged finance - US: Convergence of bonds and loans sets stage for worse recoveries in the next downturn, August 16, 2018

Compilation

» Leveraged Finance Interest, April 2019

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 For any given Baa fallen angel rate (the percentage of Baa companies being downgraded to speculative grade), more Baa debt implies more fallen angel debt.

2 Debt is measured using the face value of rated debt outstanding for each nonfinancial company. It does not include revolvers and does not account for amortization of debt. For the purposes of this study, nonfinancial companies include utilities but not REITs.

3 Moody's Credit Transition Model (CTM) is an issuer-level model of all rating transitions (default, withdrawal, upgrade and downgrade) and is the bottom-up basis of Moody's headline forecasts for speculative-grade defaults. The model conditions on an issuer's current rating, how long it has maintained that rating, how long it has maintained any rating, and whether the issuer was upgraded or downgraded into its current rating. The model also conditions on the future path of two economic drivers: the US unemployment rate, and the spread of high-yield credits over Treasuries. For more information on Moody's Credit Transition Model, see Introducing Moody's Credit Transition Model, August 2007.

4 For example, for the 1983-2018 period, the correlation coefficient between the level of the high-yield bond spread and the level of fallen angel debt was a low 0.27. Similarly, there is only a low historical correlation between the speculative-grade default rate and the level of fallen angel debt.

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