

## Gauging the Effect of Falling BBBs

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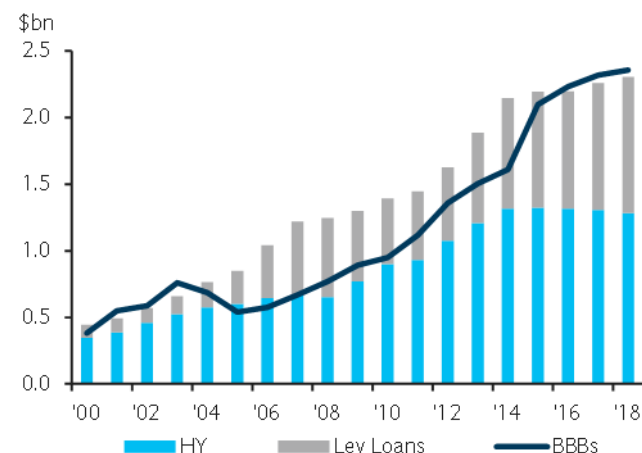
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While much ink has been spilled on the growing amount of BBB debt, we build on that analysis to look at other risks, including the elevated leverage of BBB issuers, the concentration of issuers, and increased duration risks considering the much greater portion of long bonds in the BBB universe compared with high yield. We also examine the fairly benign historical effect of fallen angels on high yield, as returns have not shown stress in past periods of increased fallen angels. While fallen angels tend to struggle leading into downgrades, they have consistently outperformed after downgrades in the past. While the elevated size and leverage of the current BBB cohort may limit outperformance, we believe the concentration in consumer non-cyclicals and added cash flow from tax reform should cushion the blow if downgrades ramp up in an economic downturn. Lower dollar prices may limit some of the pain from the longer duration of BBBs, but with the average price of BBB long bonds near par, support levels remain far away for the market as a whole.

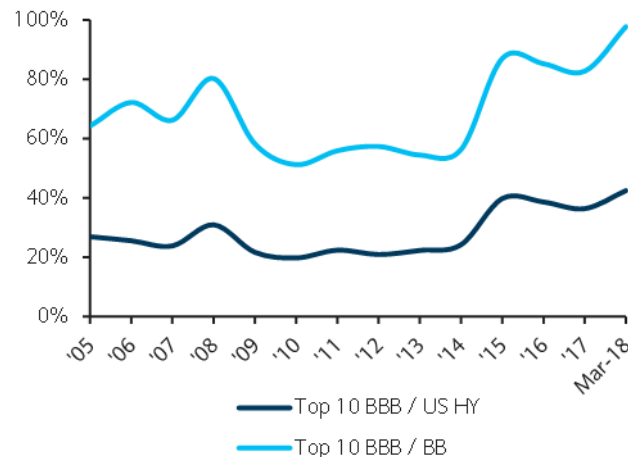
The growth in the relative size of the BBB segment of corporate credit has been a focal point for investors, especially considering the extended length of the current economic and credit cycles. BBBs have grown to 48% of the US Investment Grade Index, up from 37% at the end of 2010. This ratings bucket has also expanded relative to the high yield market, with BBBs now 1.9x the size of the entire US High Yield Index, up from 1.1x in 2010. The recent growth of the BBB market stands out as well compared with the broader leveraged finance market. As seen in Figure 1, the combined size of the high yield and leveraged loan markets was greater than BBBs during the height of the LBO boom in the mid- to late 2000s. With LBOs more modest and concentrated in the loan market, the high yield market has shrunk recently, whereas an increase in M&A among lower-rated investment grade companies has caused BBB debt to balloon. Furthermore, the market value of debt for the ten largest BBB debt issuers, rebalanced each year, has increased significantly since 2014, with today's top ten BBB issuers' market value equating to 43% of US high yield and 98% of the BB market (Figure 2).

FIGURE 1  
Size of BBB Market versus Combined High Yield and Leveraged Loans



Note: 2018 number is as of May 31, 2018. Source: Bloomberg Barclays Indices, S&P LCD

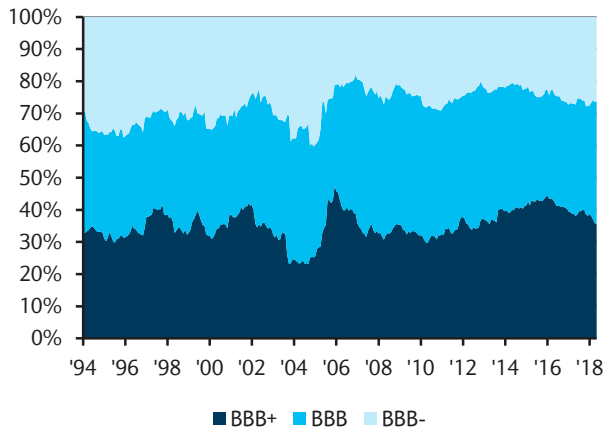
FIGURE 2  
The Largest BBB Names Have Increased in Size Relative to the US High Yield Index and BBs



Source: Bloomberg Barclays Indices

FIGURE 3

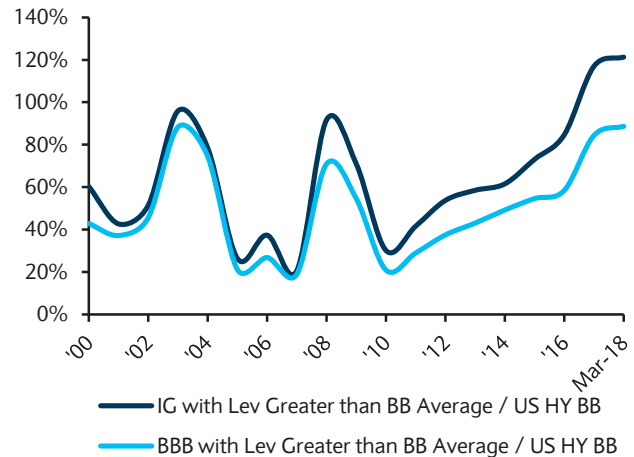
There Has Not Been an Increase in BBB- as a Percent of All BBB...



Source: Bloomberg Barclays Indices

FIGURE 4

...But Highly Leveraged Investment Grade and BBB Names Have Grown In Size Relative to BBs



Source: Bloomberg Barclays Indices

### Select Large Investment Grade Issuers Have Weakened Fundamentals

Given the increasing size of the BBB cohort (in both absolute and relative terms), investors have raised concerns about the potential effect that fallen angels could have on the high yield market. That said, any outsized fallen angel activity generally requires a deterioration in credit fundamentals for the most leveraged investment grade names.

For the broader BBB category, though, credit fundamentals have remained stable or improved slightly in recent years. Specifically, leverage for BBBs, at 2.8x at the end of 1Q18, was down from 3.4x and 3.0x at the end of 2015 and 2016, respectively (*Credit Metrics: Q1 18 Update*). However, we do not believe this tells the full story, as leverage declined from elevated levels and has increased for select large issuers as the result of M&A or the ease of funding for other actions, highlighting a concentration of credit risk within the BBB cohort. For example, net leverage of the 20 largest BBB issuers rose from 2.23x to 2.95x from 2010 to 1Q18, an increase of 0.7x. This outpaced the broader BBB index, as well as investment grade credit, which saw leverage increase only 0.6x and 0.5x, respectively, over the same period. This growth has occurred at a time when BB fundamentals have remained strong (*Fundamentally Feeling Fine*). Given the leveraging of these select names, we believe that the potential increase in fallen angels could derive from the combination of two driving factors: operational challenges affecting specific companies (or sectors) and a drastic change in the macroeconomic environment.

As highlighted earlier this year (*Deleveraging Post-M&A: Implications in the Case of a Credit Downturn*), many of the larger acquisitions in the investment grade market have the scale and cash flow levers to hit deleveraging targets and should have solid free cash flow even in a downturn. Somewhat surprisingly, Figure 3 shows that despite the increase in BBB issuance, the size of the BBB- category relative to the entire BBB group has been broadly in line with historical trends. In addition, tax reform has provided many investment grade companies with increased cash flow and, therefore, increased the flexibility for debt paydown if necessary. As a result, we believe that any uptick in fallen angels from a macroeconomic slowdown would not occur more quickly than in the past.

That said, while rating agencies have been more lenient toward transactions that have increased leverage in recent years, we expect them to be more restrictive if the macro backdrop deteriorates, especially for higher leveraged names. The current market value of

investment grade and BBBs with leverage higher than the BB average has increased dramatically since the last credit crisis. The market value of investment grade issuers with leverage above the BB average did not surpass the size of the BB market in either of the past credit cycles (Figure 4). Today, though, the size of these highly leveraged investment grade companies is 121% the size of all BB issuers. To be fair, this is partially due to below-average leverage across the BB ratings bucket...

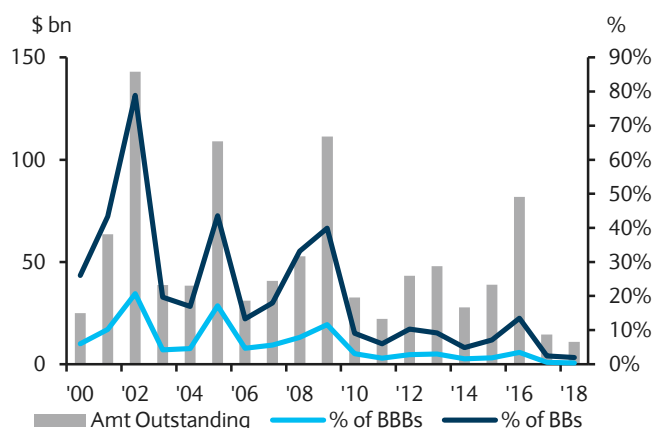
While the pace of fallen angels may not be far from historical norms, the absolute size of the BBB category remains a risk for high yield, as it is currently trading more robustly than investment grade. Any increase in fallen angels could potentially fill the gap left by reduced supply in high yield, removing a technical that has supported the market (see [Support from Shrinking Supply](#)).

### History as a Guide for Fallen Angel Capacity

Having established the outsized growth of BBB notionals and leverage, we look to history to gauge the potential technical risk to high yield investors from fallen angel activity. To start, we note that since 2000, fallen angel volumes have peaked in four separate years, driven primarily by the downgrades of large issuers affected by industry-centric issues (Figures 5 and 6). The peaks occurred in 2002, 2005, 2009, and 2016 and can, at least in part, be attributed to stress on the technology/communications, automotive, financial, and energy sectors, respectively. During these four episodes, fallen angels reached an average par amount of \$111bn, equaling 13% of the BBB portion of the US Investment Grade Index and 44% of the BB segment. However, the most recent uptick in fallen angels in 2016 represented only 3% of the BBB cohort, as the market value of outstanding BBBs increased from \$955bn to \$1.76trn from 2009 to 2016.

These historical peaks also occurred during times when the sectors facing the most stress had a relatively large representation within the BBB index. For example, communications went from 21.4% of the corporate BBB market at the end of 2001 to 17.5% at the end of 2003 after an increase in downgrades in 2002 (for reference, communications accounted for 13.7% of BBBs in 2000 and represent 15.2% today). In addition, automotive went from 16.4% of BBBs in 2004 to just 3.2% in 2005 following the downgrades of Ford and General Motors.

FIGURE 5  
Successively Lower Peaks of Fallen Angel Volume When Scaled by BBB and BB Risk



Source: Bloomberg Barclays Indices

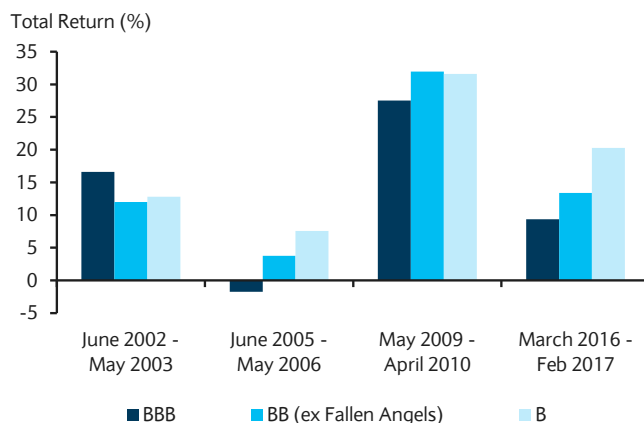
FIGURE 6  
Four Fallen Angel Peaks since 2000

Year	Amount (\$ bn)	% of BBB	% of BB	Largest Downgraded Issuers
2002	143	21%	79%	Worldcom Qwest
2005	109	17%	44%	General Motors Ford
2009	111	12%	40%	American General CIT Group
2016	82	3%	14%	Freeport-McMoRan EMC Corp

Source: Bloomberg Barclays Indices

FIGURE 7

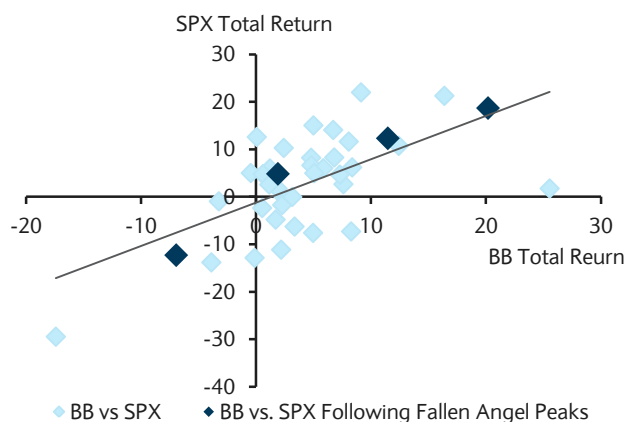
### Legacy BBs Have Outperformed BBBs Following Periods with High Levels of Fallen Angels



Source: Bloomberg Barclays Indices

FIGURE 8

### BB Semi-Annual Total Return after Fallen Angel Peaks Is in Line with Historical BB versus SPX Performance



Source: Bloomberg Barclays Indices, Fact Set

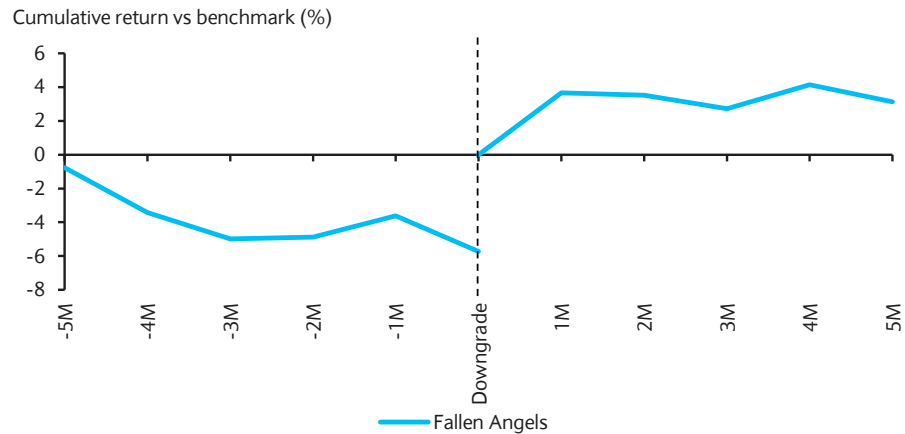
## How the High Yield Market Might React

The high yield market has been able to digest increased supply as a result elevated fallen angel activity in the past. The four largest months of fallen angels (May 2005, May 2002, February 2016, and April 2009) all saw at least \$34bn of outstanding bonds fall into the BB category. Despite the large amount of new bonds, legacy BB names (BBs excluding the fallen angels) generally outperformed BBBs but underperformed Bs (Figure 7). This is broadly in line with the beta of 1.4 between BBs and BBBs and 1.1 between Bs and BBs based on annual returns since 2000. In addition, BB next-six-month performance (with or without fallen angels) relative to the S&P 500 following the four largest months of downgrades was in line with the historical BB versus S&P 500 relationship (Figure 8). This points to the ability of legacy BBs to digest large amounts of new bonds falling into the index.

We note, however, that there is potential for another spike in fallen angels to cause underperformance of BBs and the broader high yield market. First, as outlined above, the relative size of the BBB market relative to BBs could lead to an overwhelming influx of fallen angels to the High Yield Index. For example, there are 90 investment grade tickers that would represent at least 2% of the BB index; therefore, a handful of downgrades could pressure the high yield market more than during the historical fallen angel peaks. In addition, the current BB/BBB basis is significantly compressed relative to the historical average), implying limited tightening potential for BBs relative to BBBs. Lastly, supply for the high yield market has been below historical levels recently, providing a support technical that could fade if a significant amount of bonds enters the market through downgrades.

Historically, fallen angels have underperformed the market heading into downgrades (Figure 9). As we have highlighted previously (*Will Angels Drop Like Flies?*), downgraded credits in past periods of fallen angel peaks underperformed the investment grade index in the months prior to their downgrades. Conversely, these names outperformed following the move to high yield (*More Stars Rise; Bigger Angels Fall*). While in every downgrade wave there is skepticism that this trend will continue, there is ample margin for error based on past performance.

FIGURE 9

**Fallen Angels Underperform Heading into Downgrades but Outperform In the Months Following**

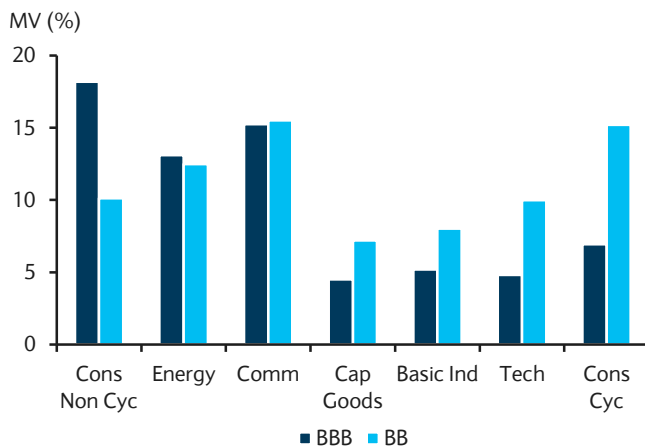
Source: Bloomberg Barclays Indices, Barclays Research

**How the High Yield Market Could Change**

**Sector weighting:** The historical peaks in fallen angels have often been driven by higher-beta sectors, such as automotive in 2005 and energy in 2016. That said, much of the recent leveraging M&A by larger investment grade issuers has been in the consumer non-cyclical sector, specifically healthcare and food & beverage. While it is difficult to predict a sector-driven rise in fallen angels, we note that consumer non-cyclical represents a much larger portion of BBBs than of BBs (Figure 10). As a result, a high level of fallen angels, even if equally weighted to the BBB index, could cause some BB index rebalancing.

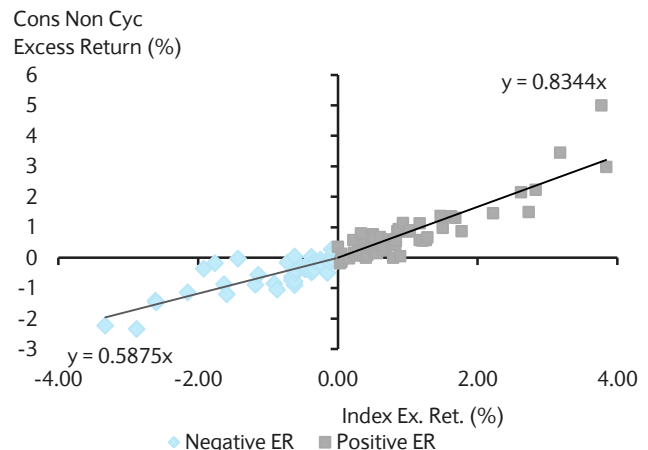
Unlike automotive and energy, consumer non-cyclical is a relatively stable sector, particularly during periods of weaker index returns. Figure 11 separates the performance of the sector relative to the index into periods of positive (beta of 0.8x) and negative excess return (beta of 0.6x). Since consumer non-cyclicals are more resilient in a recession, we believe this could mitigate the effects of an increase in fallen angels led by the sector. It may also cause rating agencies to be somewhat more patient with these companies.

FIGURE 10

**Sector Weighting of BBBs and BBs**

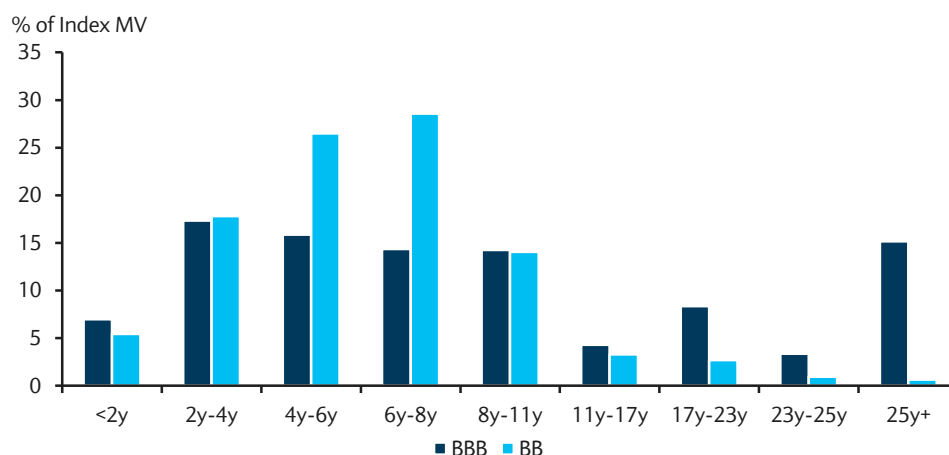
Source: Bloomberg Barclays Indices

FIGURE 11

**Consumer Non-Cyclical Performance versus Index Performance**

Source: Bloomberg Barclays Indices

FIGURE 12

**Long Bonds Represent a Much Higher Portion of BBBs than of BBs**

Source: Bloomberg Barclays Indices

**Spread effect:** On a longer-term basis, these fallen angels do tend to trade at spreads modestly wide to the broader BB market. As seen in Figure 13, bonds that have fallen into the US High Yield Index since the start of 2015 trade somewhat back of BBs. We use the levels of this existing cohort of recent fallen angels to estimate where future fallen BBBs could trade. This would imply a widening of roughly 100-125bp, with a potentially greater effect further out the curve.

If the curve moved in a fairly uniform nature as implied by the levels of recent fallen angels, the consequences would obviously be worse for longer duration. For example, fallen angel bonds maturing in roughly five years would see a price reduction of only \$4-7 if they were to widen to the range. Conversely, long bonds have a duration that implies a much more drastic price change of roughly \$20 if spreads were to change (Figure 14). The effects could be even more deleterious considering the significantly greater duration of BBBs relative to the existing BB universe and the much greater percentage of long bonds in BBBs than BBs (Figure 12). This analysis stops short of including price, which would likely be a mitigating factor.

As highlighted recently, low dollar price bonds have better convexity profiles than their higher-coupon counterparts in the investment grade market (see [Capture the Convexity](#)). We found that low dollar price bonds have been much less sensitive to widening spreads or rising yields than high dollar price bonds, particularly once the former reach a price of \$80-85. We believe this convexity would affect the path of prices for fallen angels as well.

This support has been evident in the outperformance versus the predicted moves of long bonds relative to shorter-dated paper for some of the most recent fallen angels. For example, Teva Pharmaceutical (TEVA) long bonds (2036s and 2046s) widened roughly 100bp in the six months leading into its downgrade to high yield, while the belly of the curve (2022s, 2023s, and 2026s) widened approximately 150bp. The true effect of dollar price can be seen in the 2036s versus 2046s. While both are long bonds, the 2046s dropped half as much in price, since they began at \$90, whereas the 2036s went from \$120 to par. A similar intermediate versus long result was seen in spreads for Mattel (MAT), as the 2021s widened 170bp during the six-month period leading into the company's downgrade, while the 2041s widened only 100bp. However, the price decline in the 2041s, at \$15, was still two times that of the 2021s. With the average dollar price of BBB long bonds not far from par today, dollar price floors will unfortunately have a limited effect on the market as a whole, and the duration of BBBs remains a real risk unless downgrades come when rates are higher and, therefore, prices likely lower.

FIGURE 13  
Fallen Angel Spreads Could Widen 100-150bp to Be in Line with BBs and Recent Fallen Angels

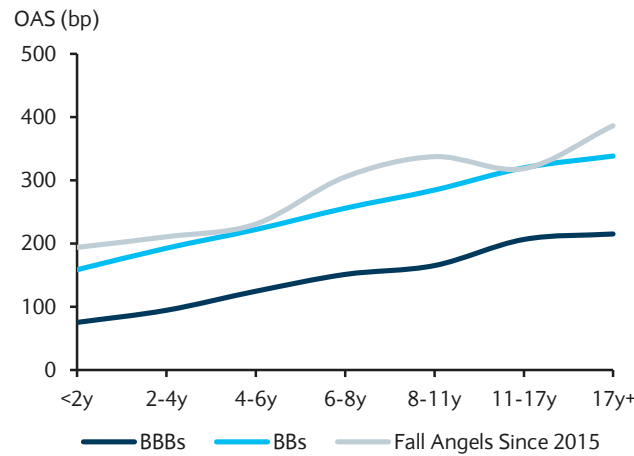
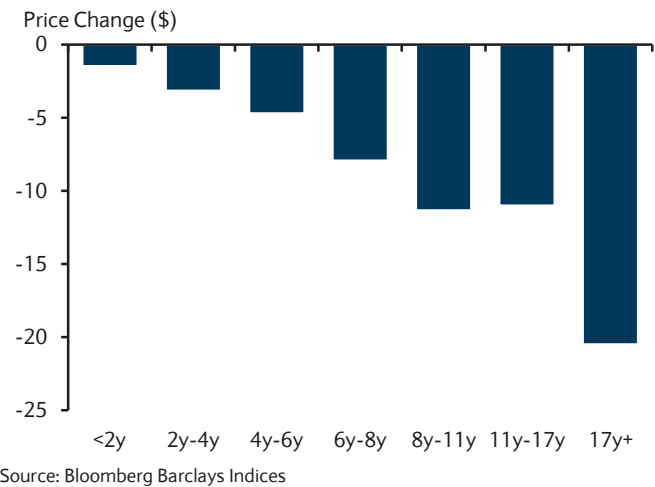


FIGURE 14  
Duration-Implied Price Change as a Result of Spread Widening



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