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Beyond Leverage: Fundamental Factors That Matter

Shobhit Gupta
+1 212 412 2056
shobhit.gupta@barclays.com
BCI, US

James K Martin
+ 1 212 412 2345
james.k.martin@barclays.com
BCI, US

Bradford Elliott
+1 212 526 6704
bradford.elliott@barclays.com
BCI, US

Much ink is spilled on leverage trends in the credit market (our work included, see *US Credit Focus: Leverage Update*), with even small moves garnering meaningful attention from market participants. The re-leveraging across the corporate universe from the cyclical lows in 2010, when companies operated more defensively in the wake of the credit crisis, has been cited as a key source of risk by many investors. Adding to this concern has been the spate of debt-funded M&A transactions, with companies adding significant debt to fund acquisitions, followed by protracted deleveraging plans (see *M&A Deleveraging Stuck in the Slow Lane*).

Despite the preponderance of leveraged M&A transactions, our measure of net leverage for non-financials in the Bloomberg Barclays Index is near its average level over the past three decades (see *US Investment Grade Credit Metrics: Q1 18 Update*). This suggests to us that leverage is not at an extreme level and, in and of itself, does not pose a risk to valuations. More generally, as discussed in *Leverage in the Rear-View Mirror Is Larger than It Appears*, for investment grade debt, leverage is a poor predictor of future excess returns at an aggregate level. Given the relatively limited downgrade/default risk for investment grade credits, aggregate IG spreads are more likely to be driven by broad changes in risk premia than by credit risk.

Credit fundamentals do assume a larger role in driving relative spread moves during broader sell-offs in risk assets. However, even in such scenarios, we believe that rather than spot leverage measures, the forward path of leverage (or concerns about it, anyway) is usually a more important measure of credit risk and, thereby, valuations. Any spikes in leverage are more likely to be driven by earnings volatility, which is a function of EBTIDA margin. Indeed, of the fundamental factors we test below, EBITDA margin is the best predictor of spread moves than starting leverage during a sell-off. While investors often use spot leverage as a measure of credit fundamentals, our results suggest that EBITDA margins may be an equally, if not more, significant driver of valuations. Investor concerns about recent leverage trends should be offset, at least in part, by the fact that EBITDA margins have improved across all sectors since the crisis and are near the highs of the past fifteen years.

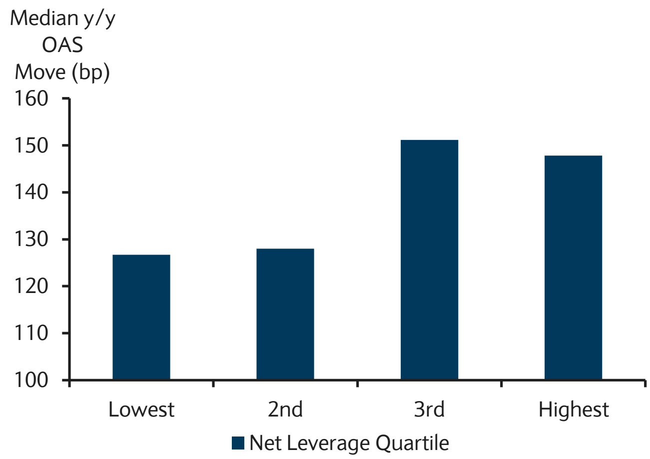
Fundamentals Matter More in a Sell-off

To quantify the effects of leverage and other fundamental factors on valuations in a sell-off, we look at 2007-08. Spreads were near historical tights going into the period of economic weakness, and the breadth of the growth slowdown affected fundamentals across the corporate universe (as opposed to more recent widening events that have been somewhat sector specific, such as the 2016 energy crisis or the 2011 European bank-driven widening).

We look at spread moves in non-financial BBB credits between June 2007 and June 2008 (in the later stages of the credit crisis, the sell-off became more technical, and fundamentals were less relevant). During this period, spreads were about 150bp wider. Figures 1 and 2 show spread changes by leverage and EBITDA margin quartile – not surprisingly, highly leveraged credits underperformed, as did those with lower margins.

FIGURE 1

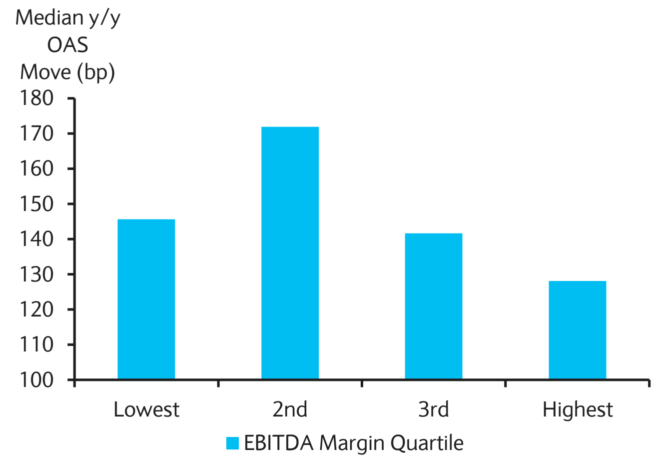
Median OAS Change by Leverage Quartile, June 2007-June 2008



Note: For BBB non-financials Source: Factset, Bloomberg Barclays Indices, Barclays Research

FIGURE 2

Median OAS Change by EBITDA Margin Quartile, June 2007-June 2008



Note: For BBB non-financials Source: Factset, Bloomberg Barclays Indices, Barclays Research

But what if all low-margin companies are also highly leveraged? To account for the effect of different factors all else equal, we also constructed a more formal regression model to predict the spread change over that period against four fundamental factors (as of June 2007) that we believe provide a relatively comprehensive picture of the fundamental health of a company. We restrict the analysis to non-financial BBBs to focus on the segment of the investment grade market where fundamental factors are a more important driver of performance. In order to normalize these factors, we convert them into a percentile rank such that each of them ranges from zero to one. The factors are:

- **Net leverage**, defined as long-term debt minus cash over EBITDA for the four quarters ending in June 2007.
- **EBITDA margin** for the four quarters ending June 2007 (weighted by quarterly EBITDA). This is calculated as operating income plus depreciation and amortization divided by net sales.
- **Reliance on short-term debt**, which we calculate as the ratio of net short-term debt to free cash flow over the prior four quarters. Companies with more cash than short-term debt obligations have limited reliance on funding markets in the near term, and we set the ratio to zero. At the other end, for companies with negative free cash flow, we set it to one (ie, the highest level).
- **Interest coverage**, defined as EBITDA divided by interest expense on debt net of capitalized interest.

FIGURE 3

Factor Coefficients for Absolute OAS Moves, June 2007-08

	Coefficients (bp)	Standard Error (bp)	P-Value
Intercept	160	29	0%
Net LT Debt/EBITDA	42	29	15%
EBITDA Margin	-47	20	2%
Short-Term Debt	26	15	9%
Interest Coverage	-13	29	65%

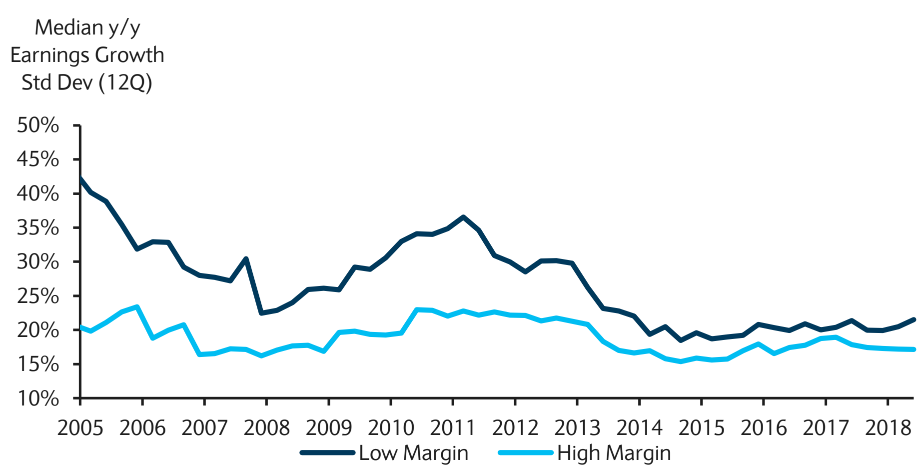
Note: For BBB non-financials Source: Factset, Bloomberg Barclays Indices, Barclays Research

Figure 3 shows the results of the regression for the non-financial BBB universe. The relationship between spread change and fundamentals is generally in line with intuition; companies with higher leverage and those more reliant on short-term debt underperformed, while those with higher margins and interest coverage widened by less.

- Higher net leverage was correlated with wider spread moves – credits at the highest end of the leverage spectrum widened about 40bp more than those at the lowest extreme (all else equal). However, the relationship had fairly weak statistical significance.
- The fundamental factor most strongly correlated with performance was EBITDA margin, which carried a slightly higher spread coefficient than leverage (although in the opposite direction, as higher margins lead to less of a spread move) with a smaller standard error. This makes sense: earnings of companies with lower EBITDA margins likely decline more sharply if economic weakness pressures margins. In contrast, companies with higher margins should have more flexibility. Indeed, we find that low-margin companies have higher earnings volatility than high-margin companies (Figure 4), which likely leads to greater swings in leverage, putting spreads under more pressure.

FIGURE 4

Earnings Volatility Is Higher for Low-Margin Companies



Note: Calculated as the median standard deviation for y/y earnings growth over a rolling 12-quarter period for $500mn+ cap structures. High-margin companies are sixth decile of margins and above, while low-margin companies are fifth decile and below. Source: Factset, Bloomberg Barclays Indices, Barclays Research

- A company's reliance on the short-term debt market is also a more statistically significant driver of valuations than net leverage, although it has a lower spread coefficient. Unlike the high yield universe, investment grade corporates with longer debt maturities are usually less affected if funding markets shut down for a short period. However, the analysis suggests that companies with a high amount of net short-term debt – stemming from either commercial paper or rolled-down term debt – underperform the rest of the universe because of concerns about their ability to refinance in a likely difficult funding environment.

- Of the four factors, interest coverage is the least predictive.

We also ran the same regression looking at spread change as a percentage of initial spread level (instead of absolute changes). In a broad sell-off, as risk premia increase, higher-beta portions of the market are likely to underperform in nominal terms. We adjust for this by scaling the spread widening by the starting spread, effectively looking at the beta-adjusted performance. Figure 5 shows the results of the regression. Similar to the previous results, the fundamental factors affect spread moves in the expected direction. Furthermore, we find that:

- Net leverage is an even weaker predictor of beta-adjusted spread moves than in the previous analysis. It has the highest p-value of the four factors and a very low coefficient.
- EBITDA margin is just as significant for spread moves relative to starting spread as it was on an absolute basis (the p-values are identical).

Interestingly, interest coverage becomes more relevant on a relative basis, while a company's reliance on the short-term debt market remains somewhat correlated with underperformance.

FIGURE 5

Factor Coefficients for Relative OAS Moves, June 2007-08

	Coefficient	Standard Error	P-Value
Intercept	179%	31%	0%
Net LT Debt/EBITDA	2%	32%	95%
EBITDA Margin	-51%	22%	2%
Short-Term Debt	22%	17%	18%
Interest Coverage	-49%	32%	13%

Note: For BBB non-financials Source: Factset, Bloomberg Barclays Indices, Barclays Research

These results imply that while leverage is a somewhat revelant factor in determining spread performance during a sell-off in absolute terms, it is a poor predictor of beta-adjusted performance (when other fundamental factors are included). On the other hand, EBITDA margin is significant both in absolute terms and relative to starting spread, meaning that margins may not be priced into starting spreads as much as leverage.

One explanation for the decline in relevance that leverage has for spread moves after starting spread is taken into account could be that leverage is a widely studied credit metric, so its influence on relative value is already reflected in spreads at the beginning of the sell-off. Furthermore, it could be argued that the primacy of EBITDA margins over leverage at an index level breaks down when individual sectors are evaluated (because different levels of leverage are acceptable for different sectors); however, when we run the analysis for individual sectors, we find that margins are generally still more statistically significant than leverage.

In our view, however, there is a more fundamental reason as well. Most investment grade companies have fairly manageable debt burdens, as absolute leverage levels are low (whether they are at 1.5x or 2.5x does not really matter in a broader context). Rather, the key credit risk stems from a deterioration in fundamentals, leading to a worsening in companies' ability to service their debt. While companies with higher starting leverage are obviously more exposed to this risk, sudden earnings deterioration is much more likely to cause leverage spikes. All else equal, companies with higher margins should have more stable EBITDA and, therefore, be much less exposed to substantial earnings deterioration than those with thinner margins (Figure 4 above). This risk is particularly magnified in an economic downturn when margins come under pressure, highlighting the importance of EBITDA margins. Therefore, while leverage trends are already labored over, we see value in examining the EBITDA margin landscape in investment grade credit, as well as trends in the IG market's reliance on short-term debt.

Historical Earnings Margin Trends Look Positive

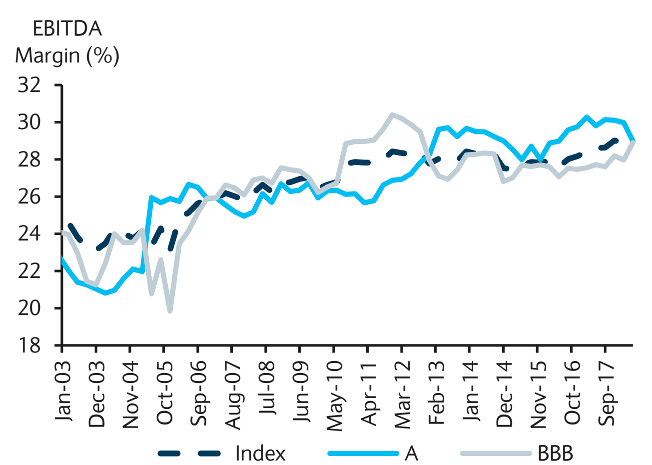
Although our leverage calculation suggests that net leverage for non-financials is near its median level of the past three decades, some alternate leverage measures – in particular, using a fixed cohort of names – paint a less compelling picture (see *How Do We Measure Leverage? Let Us Count the Ways*). There should be little doubt about the state of EBITDA margins, however. Years of cost reduction, realized synergies (partly as a result of M&A), and low wage growth have meant that margins have been improving steadily over the past fifteen years, and they are currently near the highest mark of that period.

Figure 6 shows the market value-weighted EBITDA margin across non-financials in the Bloomberg Barclays Corporate Index. As with our leverage calculations, the metric is based on names that are in the index in any particular period. Margins have risen materially and are also fairly equivalent across different ratings buckets, with historical margins for BBBs only slightly below historical margins for As on average (Figure 6). This is in contrast to leverage across ratings: BBB leverage has been nearly twice that of A rated leverage historically.

While margins for BBBs and As have been close to the same levels historically, margins across sectors have been more disparate; the historical median EBITDA margin for consumer cyclicals is only slightly above 10%, while communications posts a historical median margin of more than 30%. As Figure 7 demonstrates, though, current margins for lower-margin sectors such as consumer cyclicals and technology are well above their historical averages. And with the exception of the energy sector, which is a high-margin sector and essentially in line with its historical median, sector-level margins are above historical medians across the board.

FIGURE 6

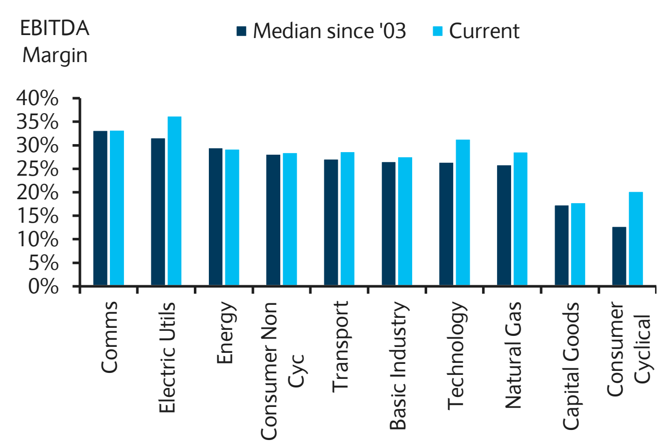
EBITDA Margins Have Been Improving Steadily for Both BBBs and As



Source: Factset, Bloomberg Barclays Indices, Barclays Research

FIGURE 7

The Lowest-Margin Sectors Have Improved the Most



Source: Factset, Bloomberg Barclays indices, Barclays Research

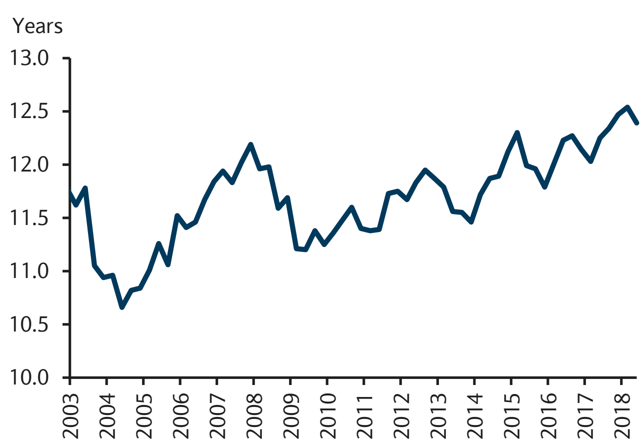
Reliance on Short-Term Debt Is Also Down

Since the credit crisis, companies' reliance on short-term financing has decreased considerably. In the immediate aftermath of the crisis, this was driven by a decrease in commercial paper outstanding. While non-financial CP notionals have picked up since then – and now exceed 2008 levels in nominal terms – corporates have also termed out debt. The average maturity of debt has extended from around 11 years in the pre-crisis period to more than 12 years currently (Figure 8). As a result, the ratio of net short-term debt to free cash flow is near historical lows and has, in fact, remained well below pre-crisis levels if we exclude the energy sector (Figure 9). We expect this ratio to remain depressed, with the lower tax burdens under the new tax regime boosting free cash flow.

In addition to the macro implications discussed above, this analysis also has potential micro applications. Spread/leverage-type measures are generally used for credit selection, as well as to monitor sector level valuations – the above analysis suggests that such screens and monitors can be enriched by adding EBITDA margins and indicators for reliance on short-term debt.

FIGURE 8

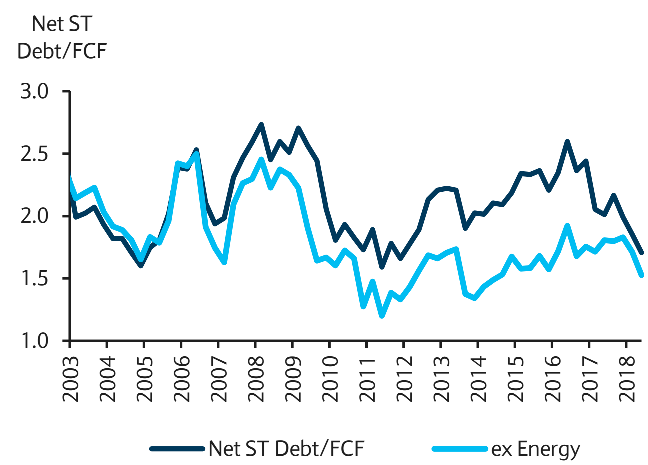
Historical Average Non-Financial Maturity



Source: Bloomberg Barclays indices, Barclays Research

FIGURE 9

Reliance on Short-Term Debt Relative to Free Cash Flow Is Near Lows



Note: Ratios are floored at zero and capped at 10. Companies with more cash than short-term debt are zeroed and companies with negative free cash flow are maxed at 10. Source: Factset, Bloomberg Barclays indices, Barclays Research

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