

When The Cycle Turns: The Continued Attack Of The EBITDA Add-Back



Primary Credit Analysts: Olen Honeyman, Hanna Zhang
Research Assistant: Tejaswini Tungare
Analytical Manager: Ramki Muthukrishnan
Sector: [Corporates, Leveraged Finance & High Yield](#)
Topic: [Leveraged Finance & CLOs Uncovered , When The Cycle Turns](#)

[View Analyst Contact Information](#)

- [Table of Contents](#)

-
- [Part 1: The Validity And Accuracy Of EBITDA Add-Backs](#)
 - [Part 2: The Magnitude And Composition Of EBITDA Add-Backs](#)
 - [Conclusion](#)

In "When The Credit Cycle Turns: The EBITDA Add-Back Fallacy," published Sept. 24, 2018, we discussed investors' expressed concerns about large EBITDA add-backs. Here, we'll look at how often issuers hit earnings, debt, and leverage-level forecasts. We'll also examine whether add-backs present a more realistic picture of future earnings, leverage, and credit risk and whether companies typically achieve the forecasts presented at deal origination. Our data cover a sample of large M&A and LBO transactions originated in 2016 and our analysis consists of two main components: first, we assessed the validity and accuracy of the add-backs that companies expected to achieve. Next, we examined the magnitude and distribution of company add-backs across major categories. Like our previous analysis, we compared issuers' projected adjusted EBITDA at deal inception with the actual reported EBITDA (given the difficulty in parsing out the specific component of add-backs and determining their eventual realization). Some of the difference between projected and reported EBITDA could be attributable to unmaterialized growth or unanticipated operating issues, among others.

Regardless of the findings, we want to emphasize that our ratings are based on our projections of a company's growth and earnings and our view of issues like expected synergies or cost efficiencies. As this report illustrates, most speculative-grade issuers have initially been rated in the 'B' category by S&P Global Ratings over the past four years (83% in our sample, as reflected in chart 4b). Our rating is based on our calculation of leverage and not what is presented to us. If we took the marketing leverage presented to us and bought into pro forma add-backs, projected earnings, and debt reduction, our initial issuer credit ratings would likely be higher and most likely lowered as actual results are reported. Marketing leverage and the language around add-backs as defined in debt agreements do not determine our view of credit risk (other than in assessing covenant headroom when reviewing debt instruments containing financial maintenance covenants). We often do give some credit to add-backs or synergies that we view as achievable, especially when a company has demonstrated its ability to realize on similar items in past comparable transactions. However, we are almost always considerably less optimistic than management when it comes to certain elements pertaining to future growth, for example realizable revenue and/or cost synergies, as reflected in our projections. Additionally, we exclude adjustments for items that are ultimately cash operating costs like management fees and restructuring costs. In fact, our analysis goes much deeper than EBITDA and examines the true cash flow characteristics of issuers.

Part 1: The Validity And Accuracy Of EBITDA Add-Backs

Do add-backs present a more realistic picture of future profitability and risk, and do companies typically hit their forecast? As noted in our recent study on add-backs, companies and deal arrangers have become increasingly creative in presenting what qualifies as an add-back, resulting in an increase in both the number and types of adjustments. In some of these cases, S&P Global Ratings views the act--expanding the definition of management-adjusted EBITDA to inflate "marketing EBITDA" (EBITDA plus add-backs)--as an artificial deflation of leverage. The absence of a uniform and commonly accepted definition of EBITDA is the key issue here. In practice, it is and has always been a negotiated definition, varying from (credit) agreement to agreement.

(S&P Global Ratings defines EBITDA as revenue minus operating expenses plus depreciation and amortization (including noncurrent asset impairment and impairment reversals). We include cash dividends received from investments accounted for under the equity method and exclude the company's share of these investees' profits. This definition generally adheres to what EBITDA stands for: earnings before interest, taxes, depreciation, and amortization. However, it also excludes certain other income statement activity that we view as nonoperating.)

Summary of findings

We found that both EBITDA growth and deleveraging efforts fell materially short of issuer projections for the two years that we tracked companies' performance after transaction origination, which we then compared to projections management made at deal inception (see table 1). Specifically, our findings showed that on a median basis, actual reported net leverage was close to two turns higher than management forecasts for 2017 (the first full-year performance since syndication), growing to 2.5 turns in the second year. Table 1 illustrates that the companies in the sample set missed substantially in projecting EBITDA and, to a lesser extent, debt. Over the two-year span, most the companies missed their EBITDA target by at least 25%, while about a third missed their target by more than 50%. The median miss on earnings over years one and two were 30% and 35%, a marginal improvement from the 2015 vintage cohort (see table 2), where the median misses for year one and two were 33% and 39%, respectively. We chose median metrics for comparison because we observed a fair amount of variation in each and across the two cohorts.

Table 1

Company Projected vs. Net Reported								
Transactions originated in 2016								
--EBITDA*--			--Debt--			--Leverage\$--		
	2017	2018		2017	2018		2017	2018
% exceeded projection	0%	6%	% exceeded projection	32%	26%	% exceeded projection	19.0%	10.0%
% missed >=10%	90%	84%	% missed >=10%	32%	52%	% missed >=1x	71%	71%
% missed >=25%	65%	55%	% missed >=25%	13%	39%	% missed >=2x	42%	65%
% missed >=33.3%	48%	52%	% missed >=33.3%	3%	39%	% missed >=3x	29%	42%
% missed >=50%	32%	32%	% missed >=50%	3%	16%	% missed >=5x	16%	23%
Average miss	35%	35%	Average miss	6%	40%	Average miss	3.1x	3.3x
Median miss	30%	35%	Median miss	3%	11%	Median miss	1.9x	2.5x
*Company's projections are adjusted EBITDA. \$Leverage calculation based on average of debt to EBITDA of each company in the sample.								

Table 2

Company Projected vs. Net Reported								
Transactions originated in 2015								
--EBITDA--			--Debt--			--Leverage--		
	2016	2017		2016	2017		2016	2017
% exceeded projection	6%	13%	% exceeded projection	44%	25%	% exceeded projection	15.6%	12.5%
% missed >=10%	78%	75%	% missed >=10%	25%	59%	% missed >=1x	72%	75%
% missed >=25%	56%	69%	% missed >=25%	16%	31%	% missed >=2x	50%	63%
% missed >=33.3%	50%	63%	% missed >=33.3%	13%	31%	% missed >=3x	38%	53%
% missed >=50%	13%	31%	% missed >=50%	6%	16%	% missed >=5x	19%	31%
Average miss	29%	34%	Average miss	7%	19%	Average miss	2.9x	3.6x
Median miss	33%	39%	Median miss	1%	12%	Median miss	2.1x	3.5x

About the sample: We assessed the validity and accuracy of the add-backs companies expected to achieve at deal inception. Again, given limited disclosure and the difficulty in parsing out the specific components of EBITDA add-backs and whether they were eventually realized, we instead compared marketing EBITDA at deal inception with the actual reported EBITDA. Specifically, we compiled management leverage projections made in 2016 for companies in the sample and compared them to companies' actual earnings, debt, and leverage for the years 2017 and 2018. To remove distortion arising from subsequent transformative events, we eliminated companies that underwent material transactions in 2017 and 2018. This enabled us to cleanly track the reported EBITDA, debt, and leverage in 2017 and 2018 versus what was projected for these companies in 2016, as there was no noise of earnings and debt arising out of additional debt issuances or subsequent acquisitions large enough to require additional financing. Lastly, because management projections are confidential, we cannot disclose any company names.

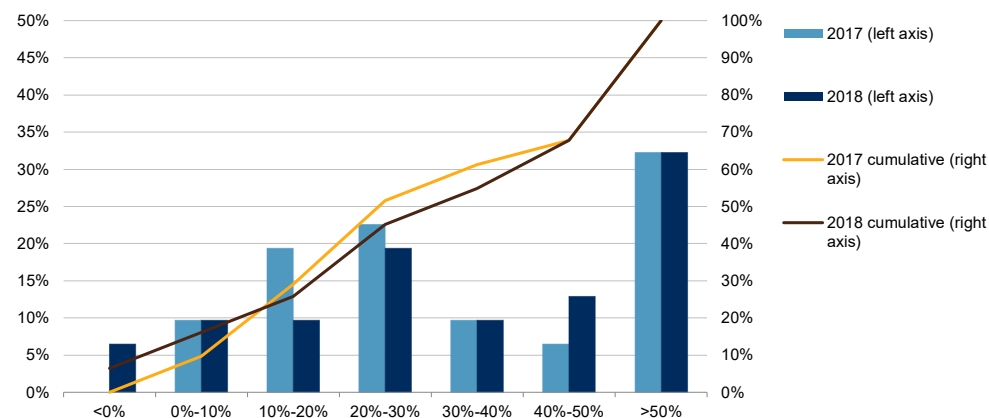
EBITDA still fell short of expectations...

If the companies in our sample set realized their projected EBITDA (and add-backs) over our two-year test period, we would expect to see a convergence between management projected and reported EBITDA as one-time items fall away and the company realizes expected growth and synergies. Conversely, a divergence in the numbers indicates unmaterialized growth projections, operating challenges, and unrealized synergies. There is a clear bias to overestimate EBITDA in management projections. Table 3 shows that median EBITDA in our sample set was 30% below projected EBITDA during 2017, increasing to 35% in 2018. By the end of the second year, more than half (55%) of the companies still underachieved

their original target by at least 25%. Although the magnitude of the misses improved modestly, the average earnings miss remained substantial at 35% for years one and two. Despite a slightly higher median miss overall, the 2015 cohort saw more companies reaching their projections and fewer suffering huge misses (more than 50%).

Chart 1

EBITDA Divergence



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Table 3

Company Projected vs. Actual Reported EBITDA				
	2016 cohort		2015 cohort	
	2017	2018	2016	2017
Average miss	35%	35%	29%	34%
Median miss	30%	35%	33%	39%
Highest miss	70%	77%	83%	74%
Total count	31	31	32	32
# exceeded projection	0	2	2	4
% exceeded projection	0%	6%	6%	13%

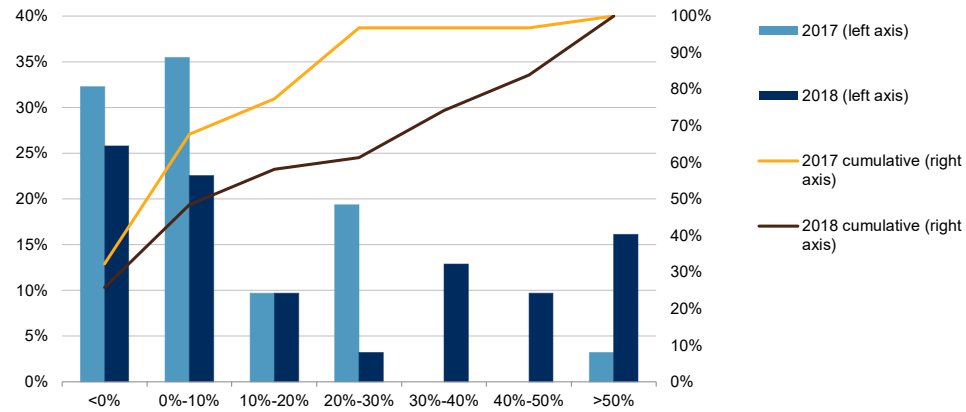
# missed >=10%	28	26	25	24
% missed >=10%	90%	84%	78%	75%
# missed >=25%	20	17	18	22
% missed >=25%	65%	55%	56%	69%
# missed >=33.3%	15	16	16	20
% missed >=33.3%	48%	52%	50%	63%
# missed >=50%	10	10	4	10
% missed >=50%	32%	32%	13%	31%

...coupled with a failure to significantly deleverage...

We also looked at projected versus reported net debt as a contributor to the variance in leverage. Virtually all issuers present a deleveraging story to the market at deal inception, with surplus cash swept to reduce debt in management projections. Across our sample set, companies underprojected outstanding debt by an average of 6% in 2017, jumping to 40% in 2018, and 13% of the companies underprojected debt outstanding at year-end 2017 by at least 25%, increasing to 39% for 2018. Companies' intentions to apply surplus cash to pay down debt appears to be infrequently executed: we noticed that companies rarely, if ever, pay down debt to the extent indicated in marketing materials at deal inception. Our data indicates that about two-thirds of companies kept debt levels in check (exceeded or within 10% of their targets) in the first year. That share quickly deteriorated to 48% by the end of the second year. The 2015 vintage displayed a similar pattern. For comparability, we netted reported cash balances against reported debt to compute both debt and leverage divergence below.

Chart 2

Debt Divergence (Net)



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Table 4

Company Projected vs. Actual Reported Net Debt				
	2016 cohort		2015 cohort	
Average miss	6%	40%	7%	19%
Median miss	3%	11%	1%	12%
Highest miss	149%	339%	101%	119%
Total count	31	31	32	32
# exceeded projection	10	8	14	8
% exceeded projection	32%	26%	44%	25%
# missed >=10%	10	16	8	19
% missed >=10%	32%	52%	25%	59%
# missed >=25%	4	12	5	10
% missed >=25%	13%	39%	16%	31%
# missed >=33.3%	1	12	4	10
% missed >=33.3%	3%	39%	13%	31%

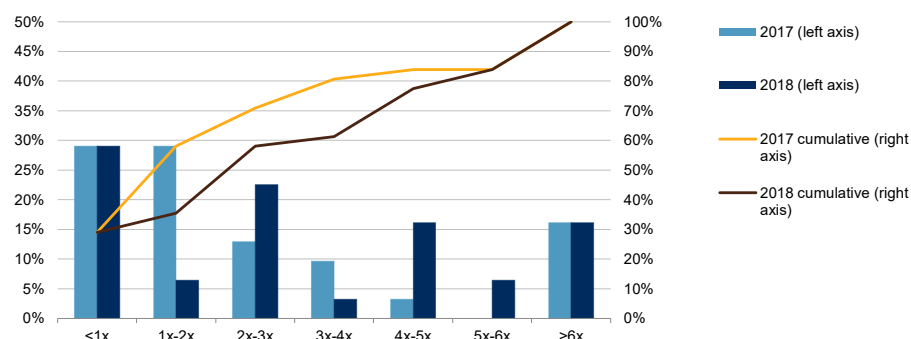
# missed >=50%	1	5	2	5
% missed >=50%	3%	16%	6%	16%

...resulting in actual leverage far above initial projections.

As a result, there is a material discrepancy between projected leverage and reported leverage across the aggregate data set. On both ends, we see a company's projections become increasingly aspirational, building a significant leverage cushion and presenting a case that does not necessarily represent actual credit realities. Chart 3 illustrates that, based on the median, companies underprojected leverage by about two turns for calendar year 2017, increasing half a turn sequentially in 2018.

Chart 3

Leverage Divergence



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Table 5

Company Projected vs. Actual Reported Net Leverage				
	2016 cohort		2015 cohort	
	2017	2018	2016	2017
Average miss	3.1x	3.3x	2.9x	3.6x
Median miss	1.9x	2.5x	2.1x	3.5x

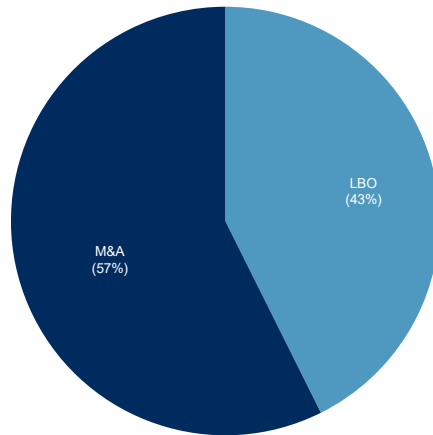
Highest miss	15.2x	19.4x	20.9x	10.0x
Total count	31	31	32	32
# exceeded projection	6	3	5	4
% exceeded projection	19.0%	10.0%	15.6%	12.5%
# missed >1x	22	22	23	24
% missed >1x	71%	71%	72%	75%
# missed >=2x	13	20	16	20
% missed >=2x	42%	65%	50%	63%
# missed >=3x	9	13	12	17
% missed >=3x	29%	42%	38%	53%
# missed >=5x	5	7	6	10
% missed >=5x	16%	23%	19%	31%
Projected leverage (average)	3.8x	3.0x	4.2x	3.3x
Actual leverage (average)	6.8x	6.3x	7.1x	7.0x
Projected leverage (median)	3.9x	3.1x	4.2x	3.4x
Actual leverage (median)	5.7x	5.9x	6.1x	6.5x

Part 2: The Magnitude And Composition Of EBITDA Add-Backs

The second part of our report focuses on the magnitude and composition of EBITDA adjustments marketed in sizable M&A and LBO transactions since 2015. The dataset for this review includes 258 M&A and LBO transactions originated between 2015 and 2018 with deal size exceeding \$50 million. It only includes S&P Global Ratings-rated transactions and is limited to those where management provided us with a detailed bridge from reported EBITDA to marketing EBITDA. Our final sample contains a total of 148 M&A transactions and 110 LBO transactions; of the total, about 83% by deal count were rated in the 'B' category at inception, with the remaining 17% in the higher 'BB' rating category. Lastly, the strong deal flow of the leveraged loan primary space last year resulted in a proportionally higher representation from year 2018 (40% of the sample by deal count).

Chart 4a

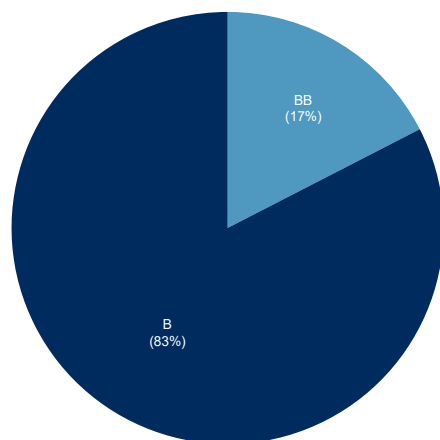
Data Sample By Transaction Type



LBO--Leveraged buyout. M&A--Mergers and acquisitions.
Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 4b

Data Sample By Initial Issuer Credit Rating



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Lower leveraged loan activity last year came with significantly higher add-backs

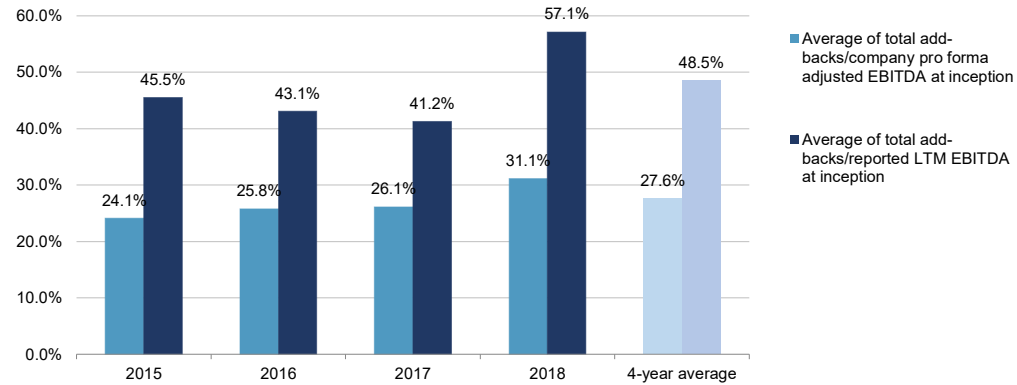
We measured the magnitude of add-backs both as a percentage of management's marketing EBITDA and pro forma last-12-month (LTM) EBITDA, both as presented at transaction inception. As chart 5 illustrates, on average over the past four years, add-backs made up 28% of marketing EBITDA and about half of LTM reported EBITDA. Over the period the former and forward-looking measure has grown marginally each year, rising to over 31% in 2018 from 24% in 2015.

Meanwhile, add-backs as a share of LTM EBITDA declined steadily between 2015 and 2017 before jumping to 57% last year. It is worth noting that the 2015 average is inflated by its unusually high concentration of middle-market-like (defined as LTM EBITDA of less than \$50 million) healthcare and tech companies, which have displayed tendencies toward more aggressive adjustments. In 2015, over half of these companies marketed add-backs outsizing their LTM EBITDA. In one case, projected headcount cost savings alone exceeded two-thirds of the reported LTM EBITDA. Excluding these deals the average would have dropped to 29% in 2015 (see chart 3).

The magnitude of add-backs reached a four-year high last year. A large portion of the 2018 average is weighted towards 'B' rated issuers. We found that, regardless of transaction type, 'B' rated issuers led their higher-rated counterparts in the average amount of adjustment.

Chart 5

EBITDA Add-Back Trends 2015-2018

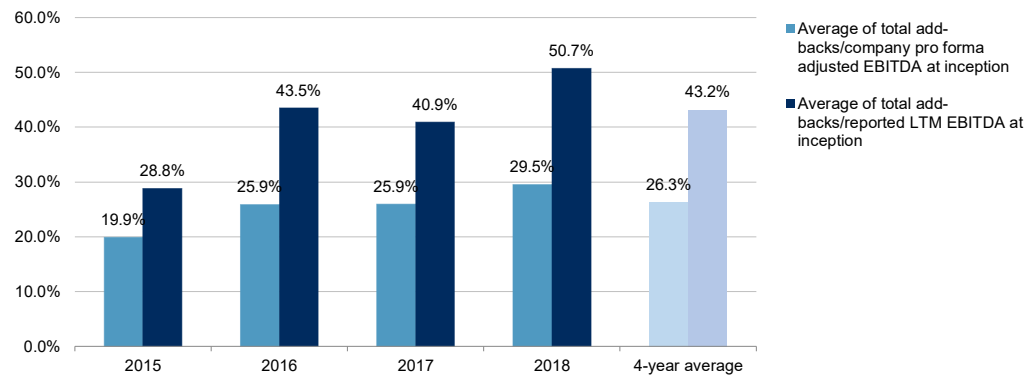


LTM--Last 12 months.

Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 6

EBITDA Add-Back Trends 2015-2018 Excluding Small Technology And Healthcare Companies



LTM--Last 12 months.

Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

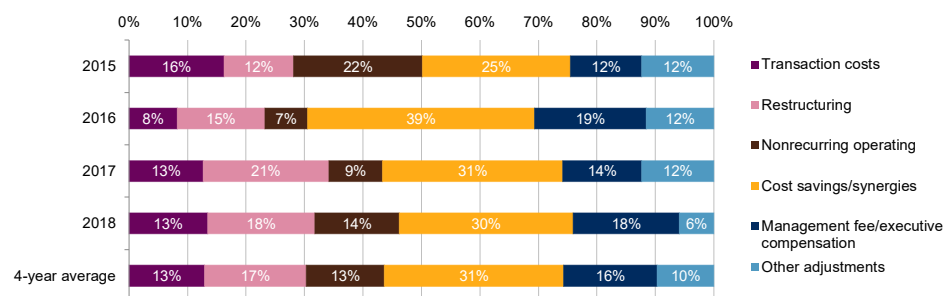
Synergies and cost savings made up about a third of total add-backs

Unsurprisingly, synergies and cost savings have been the largest component of add-backs. Chart 7 sorts the general add-back adjustments into six broad categories. On average and in each year, synergies/cost savings led other adjustment types. It peaked in 2016 at close to 39%, with a four-year average of almost 31%. Synergies are also likely the most difficult of the common add-backs to accurately project. As mentioned earlier, we rarely pencil in the full amount that management anticipated into our projections. And it often depends on the source of synergy and, where relevant, whether a company has demonstrated it can realize similar synergies from past transactions. In one sizable acquisition, we assumed the company would achieve most (70%-100% of management's projection) of the labor savings related to eliminating corporate overhead, while considering other targets, such as savings on procurement and marketing, more difficult to achieve since they would require contract renegotiations with various vendors (reflected in a 50% haircut of management's projection). Lastly, our assessment also included qualitative factors such as execution risks and costs related to achieving outlined synergies.

Restructuring costs are another area of disparity in treatment. We generally treat restructuring charges as operating costs because we believe most companies need to restructure their operations to adapt to changing environments and remain competitive and viable. Similarly, management fees also represent a cash operating cost and are treated as such in our analysis. For this reason we do not add back restructuring costs or management fees in our calculation of adjusted EBITDA.

Chart 7

Add-Back Types 2015-2018



Note: Transaction costs included acquisition-related costs and merger-related expenses. Restructuring costs include items like severance costs and losses from closed operations. Nonrecurring operating costs included one-time expenses. Typical one-time expenses that became recurring in subsequent years were excluded and put in another category, typically "other." Management fees and executive compensation costs included stock-based compensation. Some common adjustments included in "other" are deferred income costs, inventory adjustments, impairment of intangible assets, undisclosed pro forma adjustments, and other.

Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

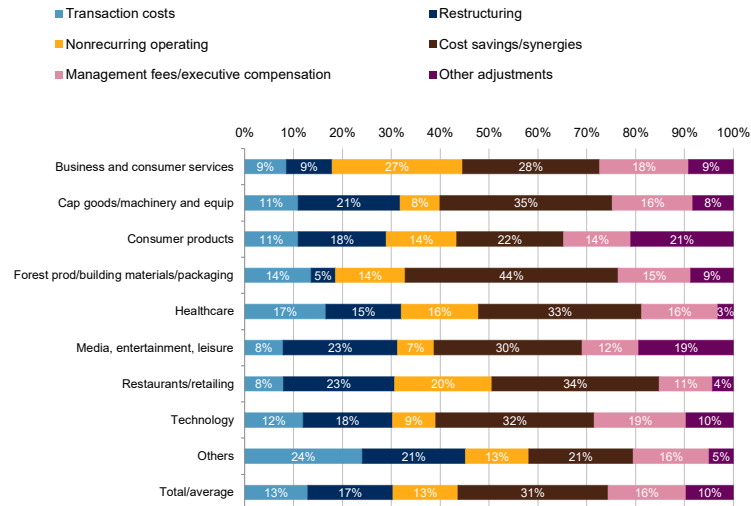
Media and tech transactions had the most add-backs

Media/entertainment/leisure, technology, and healthcare were the sectors with the most add-back-inflated EBITDA when comparing the four-year average of total add-backs to company marketing EBITDA at deal inception. At the other end of the spectrum, aerospace (22%), forest products (20%), and business and consumer products (19%) all had add-backs well below the sectorwide average of 28%. We took a closer look at the top media transactions in 2018 where restructuring-related adjustments made up more than half of the total adjustments. Although none of them resulted in changes to the issuer credit rating, in half of the cases we either assigned a negative outlook or lowered our recovery expectation on the first-lien debt to reflect elevated leverage and/or a more top-heavy capital structure. One-time transaction and restructuring costs typically roll off over the 12 months following transaction close. It is also worth highlighting that even with a sizeable add-back (total add-backs exceeding 30% of marketing EBITDA), the median purchase price multiple was high at 12.6x for tech LBOs in 2018.

Table 6

Average Add-Backs By Sector			
Sector	No. of companies	Average of total add-backs/company pro forma adjusted EBITDA at inception	Average of total add-backs/reported LTM EBITDA at inception
Media, entertainment, and leisure	27	34.2%	42.0%
Technology	55	33.0%	62.0%
Healthcare	39	32.1%	64.6%
Chemicals	9	31.4%	66.1%
Auto/trucks	6	29.1%	42.1%
Transportation	7	25.5%	37.5%
Capital goods/machinery and equipment	23	25.4%	57.2%
Consumer products	23	23.5%	34.0%
Restaurants/retailing	12	21.7%	46.2%
Aerospace/defense	10	20.7%	42.1%
Forest products/building materials/packaging	14	19.7%	26.4%
Business and consumer services	23	19.4%	27.9%
Others	9	19.0%	24.6%
Total	257	27.6%	48.5%
LTM--Last 12 months.			

Add-Back Types By Sector



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Table 7

Add-Back Types By Transaction Type And Issuer Credit Rating							
Average % share of total add-backs	Count	Transaction costs	Restructuring	Nonrecurring operating	Cost savings/synergies	Management fees/executive compensation	Other adjustments
B+/B/B-	214	15.4%	19.7%	13.8%	28.1%	14.3%	8.7%
BB+/BB/BB-	44	5.4%	14.0%	3.4%	42.0%	23.5%	11.6%
Total/average	258	12.9%	17.4%	13.3%	30.7%	16.0%	9.7%
LBO	110	12.9%	19.5%	17.8%	23.9%	15.7%	10.1%
M&A	148	12.9%	15.8%	10.0%	35.6%	16.2%	9.4%
Total/average	258	12.9%	17.4%	13.3%	30.7%	16.0%	9.7%
LBO--Leveraged buyout. M&A--Mergers and acquisitions.							

'B' versus 'BB' rated companies – EBITDA components: When looking at 'B' versus 'BB' category credits, 'B' category credits' EBITDA contained a greater percentage of add-backs than 'BB' category credits. Overall for 'B' companies, add-backs represented 29% of total marketing EBITDA versus about 22% for 'BB' category credits. Comparing add-backs to unadjusted EBITDA, 'B' category credits were close to 54% of reported EBITDA versus 32% for 'BB' category credits..

'B' versus 'BB' rated companies - projected versus actual: As expected, the 'BB' category credits performed significantly better than the 'B' category credits in projecting earnings. We believe this is likely because add-backs for 'BB' category credits were materially lower than for 'B' category credits, so the projections relied less on achieving pro forma synergies and other future benefits. Further, the need for add-backs to make a deal appear attractive to the market is likely lower since pro forma leverage is typically lower for 'BB' category credits, so it is possible that the add-backs were less aggressive or aspirational. Additionally, we could offer an intuitive view that lower-rated credits tend to be smaller and have higher earnings volatility, making projections more difficult.

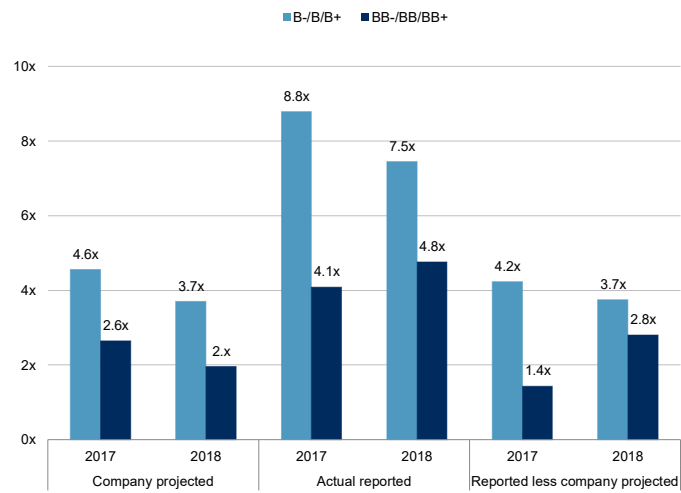
'B' category credits reported leverage 4.2 turns higher than projected in 2017; with the gap shrinking to 3.7 turns in 2018. Projected EBITDA was 36% greater than reported during 2017 and 34% higher in 2018. 'BB' category credits performed significantly better than 'B' category credits missing by 1.4 turns in 2017 doubling to 2.8 turns in 2018. This analysis further reinforces the significant credit disparity between 'B' and 'BB' credits. Note that the data set for this section reverts to that as described in Part I of the article.

Table 8

Average Add-Backs By Issuer Credit Rating		
Add-back/marketing EBITDA		Add-back/reported
B+/B/B-	28.8%	54.3%
BB+/BB/BB-	21.6%	32.1%
Average	27.6%	48.5%

Chart 9 -

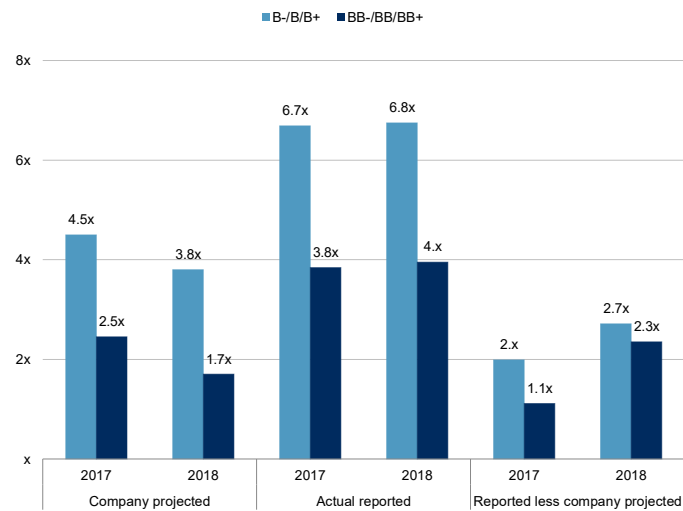
Average Leverage Divergence 'B' vs. 'BB'



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 10

Median Leverage Divergence



Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

LBO versus M&A transactions - EBITDA components: LBO (26%) and M&A (29%) transactions are comparable in the aggregate amount of add-backs as a percentage of aggregate marketing EBITDA. However, the distribution of add-backs differs. As one would expect, M&A transactions showed above-average synergy add-backs as these are often a selling point of the transaction, representing about 36% of add-backs versus 24% for LBOs.

LBO versus M&A transactions - projected versus actual: There is not a pronounced difference in the quality of management projections between M&A and LBO transactions; both proved unreliable with the discrepancy between management projected and reported ranging between 2.7-3.6 turns across both universes.

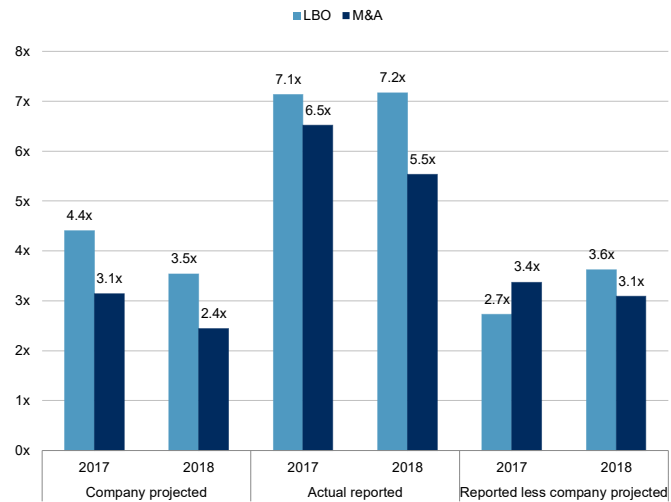
Table 9

Average Add-Backs By Transaction Type		
Add-back/marketing EBITDA		Add-back/reported
LBO	25.9%	49.1%
M&A	28.9%	48.1%

Average	27.6%	48.5%
LBO--Leveraged buyout. M&A--Mergers and acquisitions.		

Chart 11

Average Leverage Divergence

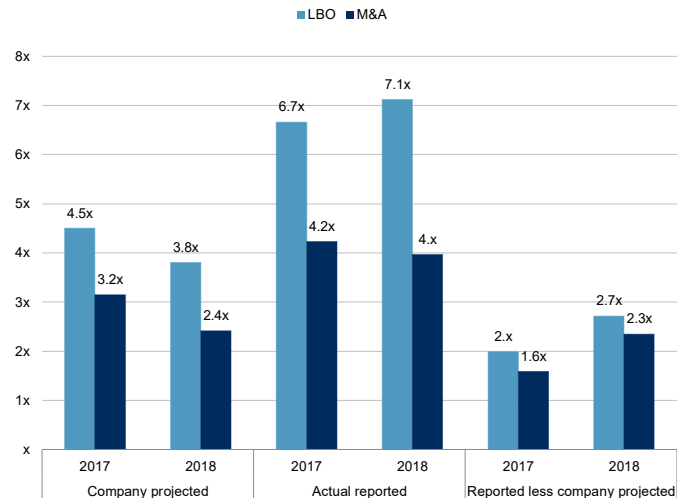


LBO--Leveraged buyout. M&A--Mergers and acquisitions.

Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 12

Median Leverage Divergence



LBO--Leveraged buyout. M&A--Mergers and acquisitions.

Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

Conclusion

This report, in line with our previous study, indicates that EBITDA add-backs continue to be substantial and overstated, and in fact have expanded as the current prolonged credit cycle extends, with a large portion of total add-backs weighted toward 'B' rated issuers. Aggressive EBITDA adjustments have understated high leverage and purchase price multiples. Our study led us to several conclusions consistent with our previous study of the 2015 cohort: marketing EBITDA including add-backs is generally not a good indicator for future EBITDA and companies tend to overestimate debt repayment. These effects understate future leverage and credit risk, and add-backs also present incremental credit risk in the form of future event risk since covenants that rely on EBITDA may provide additional flexibility under negative covenants and restricted payments (e.g. dividends, debt, and lien allowances). When the credit cycle turns, it will be interesting to observe the default and recovery performance of entities with substantial EBITDA add-backs as the legitimacy of several add-backs comes into question and suggests that the implied pro forma leverage for such deals is a misleading indicator of credit risk.

This report does not constitute a rating action.

Primary Credit Analysts:	Olen Honeyman, New York (1) 212-438-4031; <u>olen.honeyman@spglobal.com</u>
	Hanna Zhang, New York (1) 212-438-8288; <u>Hanna.Zhang@spglobal.com</u>
Research Assistant:	Tejaswini Tungare, Toronto
Analytical Manager:	Ramki Muthukrishnan, New York (1) 212-438-1384; <u>ramki.muthukrishnan@spglobal.com</u>

No content (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of Standard & Poor's Financial Services LLC or its affiliates (collectively, S&P). The Content shall not be used for any unlawful or unauthorized purposes. S&P and any third-party providers, as well as their directors, officers, shareholders, employees or agents (collectively S&P Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for the results obtained from the use of the Content, or for the security or maintenance of any data input by the user. The Content is provided on an "as is" basis. S&P PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. S&P's opinions, analyses and rating acknowledgment decisions (described below) are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P does not act as a fiduciary or an investment advisor except where registered as such. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives. Rating-related publications may be published for a variety of reasons that are not necessarily dependent on action by rating committees, including, but not

limited to, the publication of a periodic update on a credit rating and related analyses.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P reserves the right to assign, withdraw or suspend such acknowledgment at any time and in its sole discretion. S&P Parties disclaim any duty whatsoever arising out of the assignment, withdrawal or suspension of an acknowledgment as well as any liability for any damage alleged to have been suffered on account thereof.

S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

S&P may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P reserves the right to disseminate its opinions and analyses. S&P's public ratings and analyses are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.

Any Passwords/user IDs issued by S&P to users are single user-dedicated and may ONLY be used by the individual to whom they have been assigned. No sharing of passwords/user IDs and no simultaneous access via the same password/user ID is permitted. To reprint, translate, or use the data or information other than as provided herein, contact S&P Global Ratings, Client Services, 55 Water Street, New York, NY 10041; (1) 212-438-7280 or by e-mail to: research_request@spglobal.com.