EBITDA to Debt: Unscrubbed Data Creates Misleading Credit Ratings

To demonstrate the difference our <u>proprietary</u> Adjusted Fundamental data makes, we continue our <u>series of reports</u> that show how our <u>Credit Ratings</u> are <u>more reliable</u> than legacy firms' ratings. This report explains how our "<u>Adjusted</u>" EBITDA to Debt ratio is better than the "Traditional" ratio because the Traditional ratio is based on unscrubbed financial data. EBITDA to Debt is one of the 5 ratios that drives our Credit Ratings. Get explanations and comparisons for the other four metrics here.

Learn more about the best fundamental research

No Bias, More Coverage, and Better Analytics: A New Paradigm for Credit Ratings

Though legacy providers, e.g. Moody's, S&P, and Fitch, <u>have dominated</u> the credit ratings industry for some time, our <u>Credit Ratings</u> offer these advantages:

- more coverage: ~2,700 companies vs. ~1,500 for S&P
- more frequent updates: we update all ~2,700 of our credit ratings quarterly while S&P updates ratings for ~400 companies per year
- free of conflicts of interest that continue to taint legacy ratings.

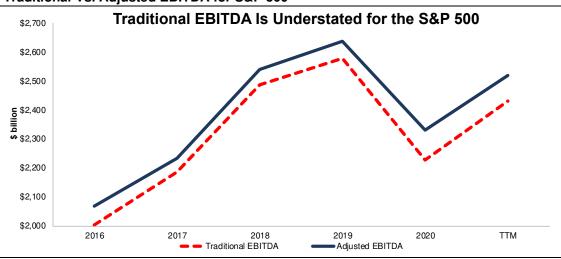
Most importantly, superior fundamental data drives material differences in our Credit Ratings and research compared to legacy firms' research and ratings. This report will show how EBITDA to Debt ratings for 14% of S&P 500 companies are misleading because they rely on unscrubbed data.

We also detail the differences that better data makes at the aggregate¹, i.e. S&P 500², level and the individual company level (see Appendix) so readers can easily quantify the benefits of our superior data.

Unscrubbed EBITDA Is Understated for the S&P 500

We use EBITDA as the numerator for the EBITDA to Debt ratio. Figure 1 shows the difference between Traditional EBITDA and our Adjusted EBITDA since 2016. Over the trailing twelve months (TTM), Traditional EBITDA understates our Adjusted EBITDA by -\$87 billion, or -4% of Traditional EBITDA.





¹ We calculate the S&P 500 Traditional and Adjusted EBITDA by aggregating the results for all current members of the S&P 500.

² In this analysis, we use the 494 companies for which we have data back to 2016 and are currently in the S&P 500.

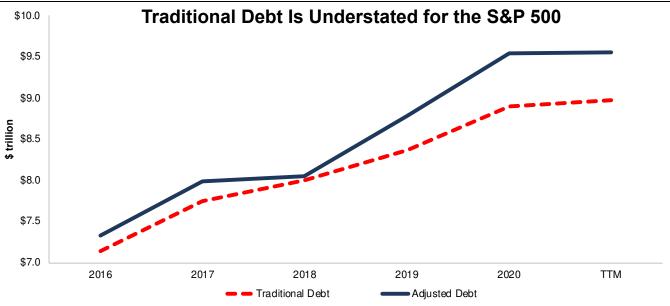
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The main drivers of the difference between Traditional and Adjusted EBITDA are hidden unusual gains and losses. Sometimes, these gains and losses cancel out at both the aggregate and individual company level. More often at the individual company level, however, they do not cancel out and Traditional EBITDAs differ greatly from Adjusted EBITDAs. See the Appendix for an example of when they do not cancel out.

Unscrubbed Total Debt Is Understated for the S&P 500

We use total debt as the denominator for the EBITDA to Debt ratio. Our <u>Adjusted Total Debt</u> provides a more complete view of the fair value of a firm's total short-term, long-term, and <u>off-balance sheet</u> debt. Over the TTM, Traditional Total Debt is understated by \$587 billion, or 7% of Traditional Total Debt.

Figure 2: Traditional Vs. Adjusted Debt for S&P 500



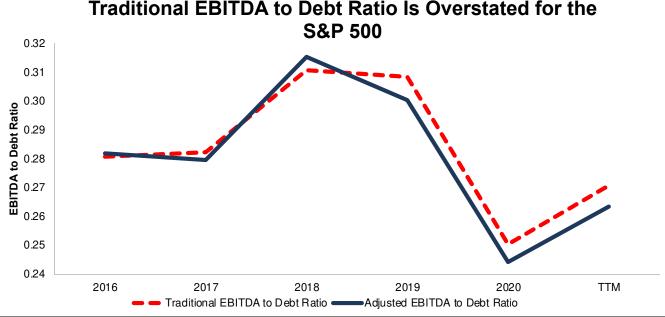
Sources: New Constructs, LLC and company filings.

Traditional And Adjusted EBITDA to Debt Ratios Are Similar at the Aggregate Level

At the aggregate level, understated Traditional EBITDA and understated Traditional Total Debt largely offset to provide a Traditional EBITDA to Debt ratio of 0.27 that is slightly higher than the Adjusted EBITDA to Debt ratio of 0.26 over the TTM.



Figure 3: Traditional Vs. Adjusted EBITDA to Debt Ratio for S&P 500



Sources: New Constructs, LLC and company filings.

While the Traditional and Adjusted EBITDA to Debt ratios are similar at the aggregate level, they are not at the individual company level.

Big Differences Emerge at the Individual Company Level

When analyzing individual companies, we see very large differences in Traditional and Adjusted EBITDA, Traditional and Adjusted Total Debt, and Traditional and Adjusted EBITDA to debt ratios.

Figure 4 lists ten S&P 500 companies with the most understated and overstated EBITDA to Debt ratios, by EBITDA to Debt Ratio distortion³, over the TTM.

Note: we detail the data and disclosures that drive the differences in Traditional versus Adjusted EBITDA and Debt for Walgreens Boots Alliance (WBA) in the Appendix to this report.

Figure 4: Companies with Under/Overstated EBITDA to Debt Ratio: TTM

Ticker	Name	Traditional EBITDA to Debt Ratio	Adjusted EBITDA to Debt Ratio	EBITDA to Debt Ratio Distortion
Most Understated				
BLL	Ball Corporation	0.25	6.23	(2,434%)
AMCR	Amcor Plc	0.27	1.70	(532%)
HBI	Hanesbrands Inc.	0.07	0.19	(180%)
WBA	Walgreens Boots Alliance	0.04	0.10	(177%)
RTX	Raytheon Technologies	0.11	0.29	(162%)
Most Overstated				
CINF	Cincinnati Financial Corp	4.35	1.03	76%
ENPH	Enphase Energy Inc	0.22	0.10	52%
HLT	Hilton Worldwide Holdings	<0.00	<0.00	47%
ETSY	Etsy Inc	0.44	0.24	46%
CARR	Carrier Global Corp	0.25	0.14	44%

³ EBITDA to Debt Ratio Distortion equals (Traditional EBITDA to Debt ratio - Adjusted EBITDA to Debt ratio) / absolute value of Traditional EBITDA to Debt ratio.



Ratings Based on Traditional Ratios Are Misleading

Not surprisingly, differences between Traditional and Adjusted ratios drive differences in the Credit Ratings we derive for EBITDA to Debt.

Figure 5 shows how our Credit Ratings align with legacy firms' ratings systems and the percentage of Traditional EBITDA to Debt ratings that are different from ratings based on Adjusted ratios for companies in the S&P 500. Overall, 14% of the Traditional EBITDA to Debt ratings are different from our Adjusted EBITDA to Debt rating because they rely on unscrubbed data.

As we explain in our <u>Credit Ratings methodology</u>, we set the EBITDA to Debt ratio thresholds so that the distribution of our ratings is comparable to the distribution of ratings for legacy firms. We use the Traditional version of the EBITDA to Debt ratio to set thresholds so that the difference in our ratings comes from the difference in our data.

Figure 5: S&P 500: Percent of Traditional EBITDA to Debt Ratings that Are Misleading

New Constructs Rating	Moody's Rating	S&P Rating	Fitch Rating	Traditional EBITDA to Debt Ratings That Are Misleading
Very Attractive	Aaa to Aa3	AAA to AA-	AAA to AA-	5%
Attractive	A1 to A3	A+ to A-	A+ to A-	21%
Neutral	Baa1 to Baa3	BBB+ to BBB-	BBB+ to BBB-	18%
Unattractive	Ba1 to B3	BB+ to B-	BB+ to B-	15%
Very Unattractive	Caa1 to C	CCC+ to D	CCC to D	0%
Total				14%

Sources: New Constructs, LLC and company filings.

Figure 6 provides more details on the number of companies whose Traditional EBITDA to Debt ratings are different from the rating based on Adjusted EBITDA to Debt ratios.

For example, 28 out of 134 (21%) companies that earn an Attractive EBITDA to Debt rating based on the Traditional ratio earn a different rating based on the Adjusted ratio.

Figure 6: S&P 500: Number of Misleading Traditional EBITDA to Debt Ratings



Sources: New Constructs, LLC and company filings.

We dedicate the Appendix of this report to showing readers exactly how our Adjusted values for EBITDA and total debt are different and better than the unscrubbed versions.

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Disclosure: David Trainer, Kyle Guske II, Alex Sword, and Matt Shuler receive no compensation to write about any specific stock, style, or theme.

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Appendix: Auditing the Differences in Traditional Vs. Adjusted Values

This Appendix will show exactly how our Adjusted values for EBITDA and debt differ from the Traditional versions for Walgreens Boots Alliance.

Walgreens: The Difference in Traditional Vs. Adjusted Values

Figure 7 shows the differences between the two components of the EBITDA to Debt ratio, EBITDA and total debt for Walgreens. The difference between Walgreens' Traditional EBITDA and Adjusted EBITDA is -\$2.8 billion, or -193% of Traditional EBITDA. The difference between Traditional Total Debt and Adjusted Total Debt is -\$2.4 billion, or -6% of Traditional Total Debt.

Figure 7: Walgreens: Traditional Vs. Adjusted EBITDA to Debt Components

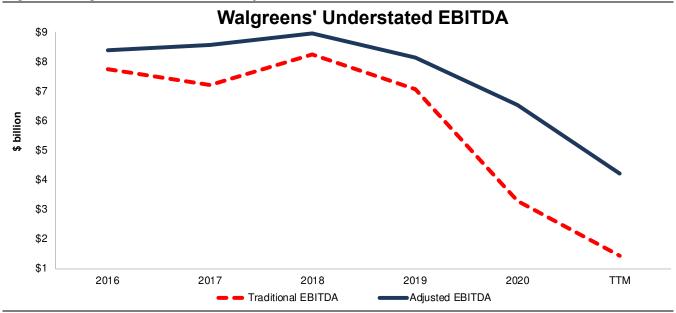
	EBITDA (\$mm)	Total Debt (\$mm)	EBITDA to Debt Ratio
Traditional	\$1,435	\$40,653	0.04
Adjusted	\$4,210	\$43,096	0.10
Difference	(\$2,775)	(\$2,443)	(177%)4

Sources: New Constructs, LLC and company filings.

Reconciling Walgreens' Traditional and Adjusted EBITDA

The primary driver of Walgreens understated EBITDA to Debt ratio is understated EBITDA. Figure 8 shows the firm's Traditional EBITDA has been understated since 2016.

Figure 8: Walgreens: Traditional Vs. Adjusted EBITDA: 2016-TTM



Sources: New Constructs, LLC and company filings.

The differences between Traditional EBITDA and Adjusted EBITDA are driven by <u>non-operating</u> expense(income) hidden in operating earnings. For Walgreens, those differences amount to:

- \$1.9 billion in asset write-downs hidden in operating earnings
- \$841 million in net non-operating expense hidden in operating earnings.

Figure 9 reconciles Walgreens' Traditional EBITDA and Adjusted EBITDA and details each of the adjustments listed above.

⁴ This number is the EBITDA to Debt Ratio Distortion, which equals (Traditional EBITDA to Debt ratio - Adjusted EBITDA to Debt ratio) / absolute value of Traditional EBITDA to Debt ratio.





Figure 9: Walgreens: Adjusted Vs. Traditional EBITDA Detailed Comparison

Adjusted EBITDA (TTM)			
Item	\$ (mm)		
Total Revenue + Operating Income	\$137,542		
- Operating Expense	\$138,013		
Asset Write-Downs Hidden in Operating Earnings	\$1,934		
+ Net Non-Operating Expense Hidden in Operating Earnings	\$841		
=Adjusted EBIT	\$2,304		
+Depreciation & Amortization	\$1,906		
= Adjusted EBITDA	\$4,210		

Traditional EBITDA (TTI	Difference	
Item	\$ (mm)	(\$mm)
Total Revenue + Operating Income	\$137,542	
- Operating Expense	\$138,013	
=Traditional EBIT	(\$471)	
+Depreciation & Amortization	\$1,906	
= Traditional EBITDA	\$1,435	(\$2,775)

Sources: New Constructs, LLC and company filings.

Reconciling Walgreens' Traditional and Adjusted Total Debt

Figure 10 compares Walgreens' Traditional Debt and Adjusted Debt since 2016. The difference between noncurrent operating liabilities and the difference between the fair value of debt and the carrying value of debt explain most Walgreens' -\$2.4 billion in understated Total Debt.

Figure 10: Walgreens: Traditional Vs. Adjusted Total Debt: 2016-TTM

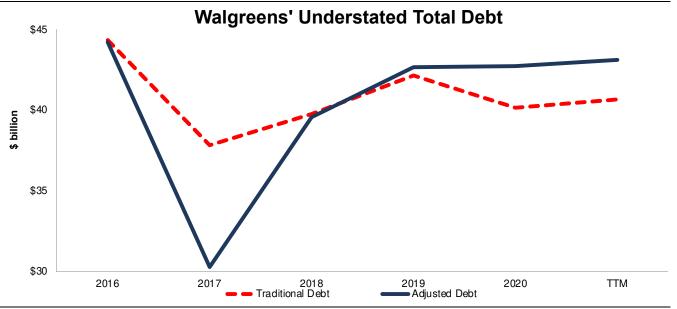


Figure 11 reconciles Walgreens' Traditional Total Debt and Adjusted Total Debt and details each of the differences noted above.



Figure 11: Walgreens: Adjusted Vs. Traditional Total Debt Detailed Comparison

Adjusted Total Debt (TTM)			
Item	\$ (mm)		
Short-Term Debt	\$5,161		
+ Hidden Short-Term Debt	\$27		
+ Non-Current Operating Liabilities	\$10,998		
+ Hidden Long-Term Debt	\$1,007		
+ Fair Value of Debt - Carrying Value of Debt	\$1,000		
+ Adjusted NPV of Operating Leases ⁵	\$24,903		
= Adjusted Total Debt	\$43,096		

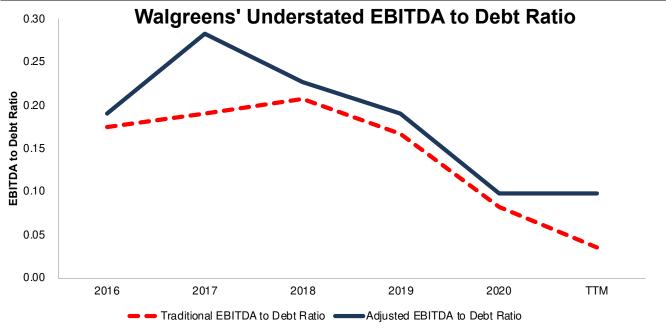
Traditional Total Debt	Difference	
Item	\$ (mm)	(\$mm)
Short-Term Debt	\$5,161	
+ Non-Current Operating Liabilities	\$10,998	
+ NPV of Operating Leases ⁶	\$24,494	
= Traditional Total Debt	\$40,653	(\$2,443)

Sources: New Constructs, LLC and company filings.

Walgreens' EBITDA to Debt Ratio Is Understated

With understated Traditional EBITDA and Traditional total debt, Walgreens' EBITDA to Debt ratio has one of the largest differences between Traditional and Adjusted of all companies in the S&P 500. Per Figure 12, Walgreens' EBITDA to Debt has been understated since 2016.

Figure 12: Walgreens: Traditional Vs. Adjusted EBITDA to Debt Ratio: 2016-TTM



⁵ We use a standardized discount rate across all companies under coverage to calculate the Adjusted NPV of Operating Leases to ensure comparability and remove management discretion in calculating operating lease liabilities. Find more details on how we treat operating leases here.

⁶ Traditional NPV of Operating Leases equals the operating lease obligation reported in the firm's 2Q20 10-Q.



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Many firms claim their research is superior, but none of them can prove it with independent studies from highly-respected institutions as we can. Three different papers from both the public and private sectors show:

- 1. Legacy fundamental datasets suffer from significant inaccuracies, omissions and biases.
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Best Fundamental Data in the World

Forthcoming in <u>The Journal of Financial Economics</u>, a top peer-reviewed journal, <u>Core Earnings: New Data & Evidence</u> proves our Robo-Analyst technology overcomes material shortcomings in legacy firms' data collection processes to provide superior <u>fundamental data</u>, <u>earnings</u> models, and <u>research</u>. More <u>details</u>.

Key quotes from the paper:

- "[New Constructs'] *Total Adjustments* differs significantly from the items identified and excluded from Compustat's adjusted earnings measures. For example... 50% to 70% of the variation in *Total Adjustments* is not explained by *S&P Global's (SPGI) Adjustments* individually." pp. 14, 1st para.
- "A final source of differences [between New Constructs' and S&P Global's data] is due to data collection oversights...we identified cases where Compustat did not collect information relating to firms' income that is useful in assessing core earnings." pp. 16, 2nd para.

Superior Models

A top accounting firm features the superiority of our ROIC, NOPAT and Invested Capital research to Capital IQ & Bloomberg's in Getting ROIC Right. See the Appendix for direct comparison details.

Key quotes from the paper:

- "...an accurate calculation of ROIC requires more diligence than often occurs in some of the common, off-the-shelf ROIC calculations. Only by scouring the footnotes and the MD&A [as New Constructs does] can investors get an accurate calculation of ROIC." pp. 8, 5th para.
- "The majority of the difference...comes from New Constructs' machine learning approach, which leverages technology to calculate ROIC by applying accounting adjustments that may be buried deeply in the footnotes across thousands of companies." pp. 4, 2nd para.

Superior Stock Ratings

Robo-Analysts' stock ratings outperform those from human analysts as shown in this <u>paper</u> from Indiana's Kelley School of Business. Bloomberg features the paper <u>here</u>.

Key quotes from the paper:

- "the portfolios formed following the buy recommendations of Robo-Analysts earn abnormal returns that are statistically and economically significant." pp. 6, 3rd para.
- "Our results ultimately suggest that Robo-Analysts are a valuable, alternative information intermediary to traditional sell-side analysts." pp. 20, 3rd para.

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We believe every investor deserves to know the whole truth about the profitability and valuation of any company they consider for investment. More details on our cutting-edge technology and how we use it are here.



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