S&P 500 & Sectors: Free Cash Flow Yield Through 4Q20

This report analyzes¹ free cash flow (FCF), enterprise value and the trailing FCF yield for the S&P 500 and each of its sectors. In this report, our research is based on the latest audited financial data, which is the 2020 10-K for most companies. Price data is as of 3/23/21.

For reference, we analyze the <u>Core Earnings</u> for the entire S&P 500 in <u>S&P 500 Priced for Significant Earnings Rebound</u> and for each S&P 500 sector in <u>S&P 500 & Sectors: Core Earnings Vs. GAAP Net Income Through 4Q20. We analyze ROIC and its drivers in S&P 500 & Sectors: ROIC vs. WACC Through 4Q20.</u>

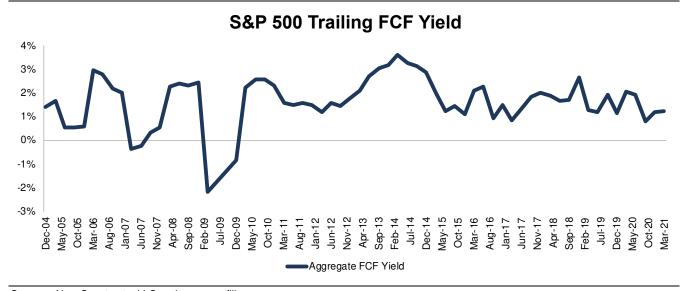
These reports leverage <u>more reliable fundamental data</u>² that enables investors to overcome <u>flaws with legacy fundamental datasets</u>. Investors armed with our research enjoy a differentiated and more informed view of the fundamentals and valuations of companies and sectors.

Learn more about the best fundamental research

S&P 500 Trailing FCF Yield Slightly Rebounds In Second Half of 2020

The trailing FCF yield for the S&P 500 fell from 2% at the end of 2019 to 1.2% as of 3/23/21, the earliest date 2020 annual data was provided by all S&P 500 companies. See Figure 1. Only three S&P 500 sectors saw an increase in trailing FCF yield YoY based on 2020 financial data, as we'll show below.

Figure 1: Trailing FCF Yield for the S&P 500 From December 2004 – 3/23/21³



Sources: New Constructs, LLC and company filings.

¹ We calculate these metrics based on <u>S&P Global</u>'s (SPGI) methodology, which sums the individual S&P 500 constituent values for free cash flow and enterprise value before using them to calculate the metrics. We call this the "Aggregate" methodology. Get more details in Appendices I and II.

² For 3rd-party reviews, including <u>The Journal of Financial Economics</u>, on our more reliable fundamental data, historically and prospectively, across all stocks, click <u>here</u> and <u>here</u>.

³ We use stock prices from 3/23/21 because that is the date when all the 2020 10-Ks for the S&P 500 constituents were available.

Ranking the S&P 500 Sectors by Trailing FCF Yield

Figure 2 ranks all 11 S&P 500 sectors by change in trailing FCF yield from the end of 2019 to 2020 based on prices as of 3/23/21 and financial data from 2020 10-Ks.

Figure 2: Trailing FCF Yield for All S&P 500 Sectors

Sector	Trailing FCF Yield	Change in 2020 (% points)
Utilities	-0.6%	3.5%
Energy	2.8%	1.6%
Consumer Cyclicals	0.5%	0.7%
Healthcare	0.4%	0.0%
Technology	2.6%	-0.4%
Consumer Non-Cyclicals	3.1%	-1.1%
Financials	1.3%	-1.3%
Industrials	0.0%	-1.7%
Real Estate	-2.1%	-3.6%
Telecom Services	-1.9%	-6.9%
Basic Materials	3.0%	-11.4%
S&P 500	1.2%	-0.8%

Sources: New Constructs, LLC and company filings. Price as of 3/23/21, financial data from 2020 10-Ks.

Investors are getting more FCF for their investment dollar in the Consumer Non-Cyclicals sector than any other sector. On the flip side, the Real Estate sector currently has the lowest trailing FCF yield of all S&P 500 sectors.

The Utilities, Energy, and Consumer Cyclicals sectors have each seen an increase in trailing FCF yield YoY in 2020. We will publish new reports as soon as companies report 1Q21 results, and we expect these results will be meaningfully different with that data.

Details on Each of the S&P 500 Sectors

Figures 3-13 show the trailing FCF yield trends for every sector since 2004.

Appendix I presents the components of trailing FCF yield: FCF and enterprise value for the S&P 500 and each S&P 500 sector.

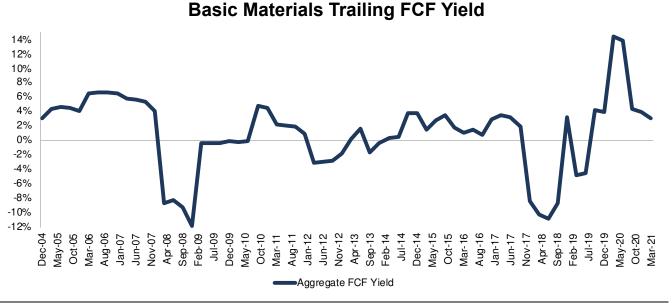
Appendix II provides additional aggregated trailing FCF yield analyses that adjust for company size/market cap.



Basic Materials

Figure 3 shows trailing FCF yield for the Basic Materials sector increased significantly since mid-2018 even after the COVID-19-induced downturn in 2020. The Basic Materials sector FCF fell from \$112 billion at the end of 2019 to \$33 billion in 2020 while enterprise value increased from \$775 billion to \$1.1 trillion as of 3/23/21.

Figure 3: Basic Materials Trailing FCF Yield: December 2004 – 3/23/21



Sources: New Constructs, LLC and company filings.

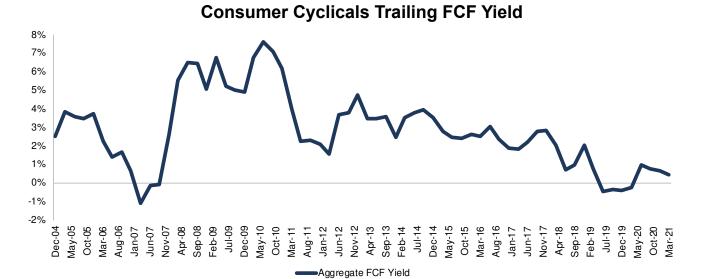
The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Consumer Cyclicals

Figure 4 shows trailing FCF yield for the Consumer Cyclicals sector has been in a long-term decline since 2010. The Consumer Cyclicals sector FCF improved from -\$9 billion at the end of 2019 to \$30 billion in 2020 while enterprise value increased from \$3.8 trillion to \$6.6 trillion through 3/23/21.



Figure 4: Consumer Cyclicals Trailing FCF Yield: December 2004 – 3/23/21

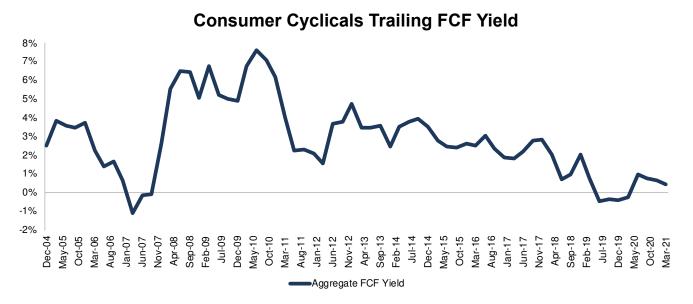


The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Consumer Non-cyclicals

Figure 5 shows trailing FCF yield for the Consumer Non-cyclicals sector soared in 2019 before falling to 3.1% in 2020. The Consumer Non-cyclicals sector FCF declined from \$106 billion at the end of 2019 to \$92 billion in 2020 while enterprise value increased from \$2.5 trillion to \$3 trillion through 3/23/21.

Figure 5: Consumer Non-cyclicals Trailing FCF Yield: December 2004 – 3/23/21



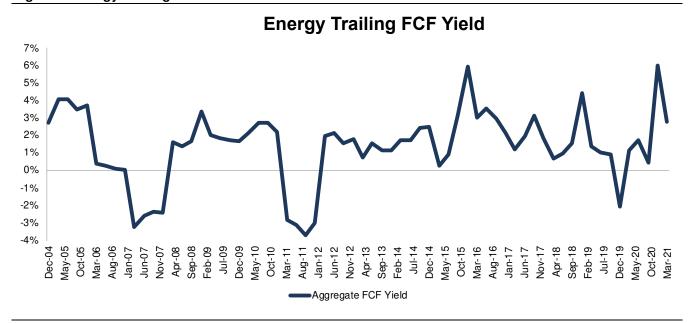
Sources: New Constructs, LLC and company filings.



Energy

Figure 6 shows the volatile nature of trailing FCF yield for the Energy sector. The Energy sector's trailing FCF yield sharply rose from 1.1% at the end of 2019 to 6% in 3Q20 before falling back to 2.8% in 2020. The Energy sector FCF increased from \$13 billion at the end of 2019 to \$42 billion in 2020 and enterprise value increased from \$1.1 trillion to \$1.5 trillion through 3/23/21.

Figure 6: Energy Trailing FCF Yield: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.

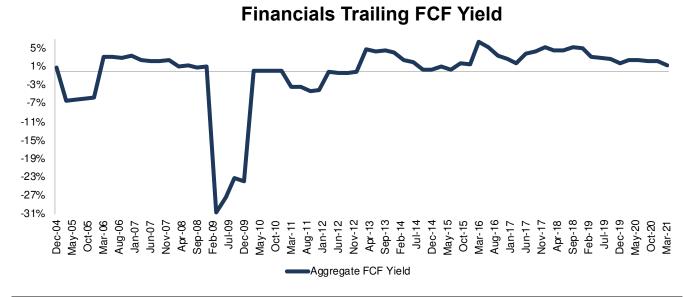
The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Financials

Figure 7 shows trailing FCF yield for the Financials sector has been largely stable except during the Financial Crisis. The Financials sector trailing FCF yield decreased from 2.6% at the end of 2019 to 1.3% in 2020. The sector's FCF decreased from \$81 billion in 2019 to \$59 billion in 2020 while enterprise value increased from \$3.2 trillion to \$4.7 trillion through 3/23/21.



Figure 7: Financials Trailing FCF Yield: December 2004 - 3/23/21

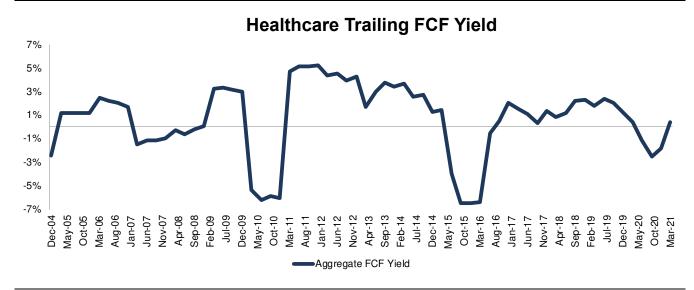


The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Healthcare

Figure 8 shows trailing FCF yield for the Healthcare sector, despite volatility during the year, is unchanged from the end of 2019 at 0.4%. FCF rose from \$16 billion at the end of 2019 to \$21 billion in 2020. Meanwhile, enterprise value increased from \$3.9 trillion to \$4.9 trillion through 3/23/21.

Figure 8: Healthcare Trailing FCF Yield: December 2004 - 3/23/21



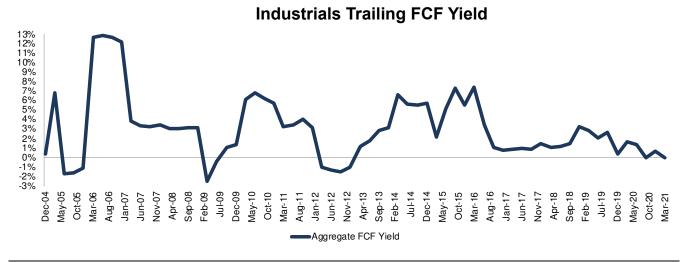
Sources: New Constructs, LLC and company filings.



Industrials

Figure 9 shows trailing FCF yield for the Industrials sector sits at 0.0% in 2020, which is down from 1.7% at the end of 2019. The Industrials sector FCF fell significantly due to the COVID-19 pandemic from \$48 billion at the end of 2019 to \$117 million in 2020 while enterprise value increased from \$2.9 trillion to \$4.2 trillion through 3/23/21.

Figure 9: Industrials Trailing FCF Yield: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.

The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Real Estate

Figure 10 shows trailing FCF yield for the Real Estate sector steadily improved from 2012-2019 before falling in 2020. The Real Estate trailing FCF yield fell from 1.5% at the end of 2019 to -2.1% in 2020. FCF for the sector fell from \$13 billion at the end of 2019 to -\$23 billion in 2020 and enterprise value increased from \$869 billion to \$1.1 trillion through 3/23/21.

Figure 10: Real Estate Trailing FCF Yield: December 2004 - 3/23/21



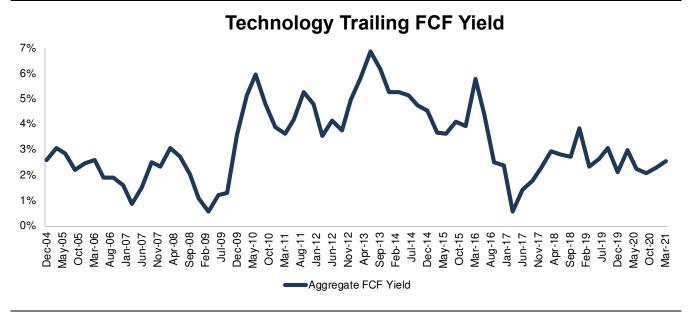
Sources: New Constructs, LLC and company filings.



Technology

Figure 11 shows trailing FCF yield for the Technology sector remains well below prior highs in 2011, 2013, and 2015. The sector's trailing FCF yield fell slightly from 3% at the end of 2019 to 2.6% in 2020. The Technology sector FCF increased from \$211 billion at the end of 2019 to \$296 billion in 2020 and enterprise value improved from \$7 trillion to \$11.5 trillion through 3/23/21.

Figure 11: Technology Trailing FCF Yield: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.

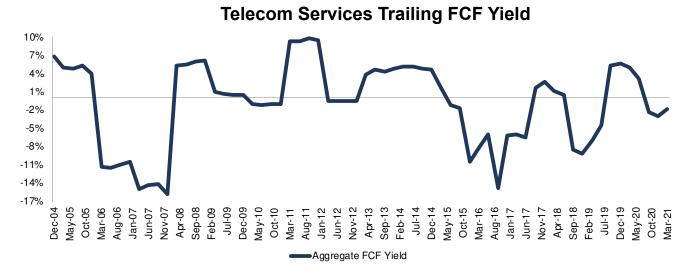
The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Telecom Services

Figure 12 shows trailing FCF yield for the Telecom Services sector fell from 5% at the end of 2019 to -1.9% in 2020. The sector's FCF fell from \$66 billion at the end of 2019 to -\$29 billion in 2020 and enterprise value increased from \$1.3 trillion to \$1.6 trillion through 3/23/21.



Figure 12: Telecom Services Trailing FCF Yield: December 2004 - 3/23/21

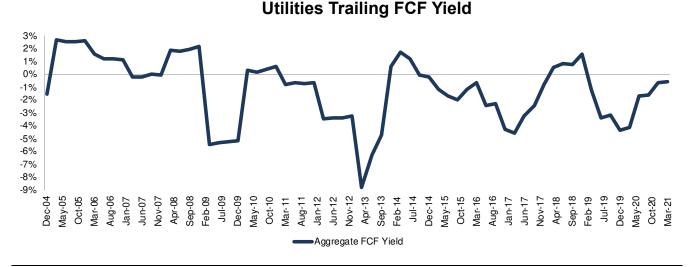


The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Utilities

Figure 13 shows the trailing FCF yield for the Utilities sector is rather consistently negative and, despite improving since its 2019 lows, remains negative at -0.6% in 2020. The Utilities sector's FCF improved from -\$64 billion in 2019 to -\$10 billion in 2020 while enterprise value increased from \$1.6 trillion to \$1.8 trillion through 3/23/21.

Figure 13: Utilities Trailing FCF Yield: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.

The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

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Appendix I: Free Cash Flow and Enterprise Value Since 2004

This appendix shows the two drivers used to calculate trailing FCF yield – free cash flow and enterprise value – for the S&P 500 and each S&P 500 sector going back to December 2004. We sum the individual S&P 500/sector constituent values for free cash flow and enterprise value. We call this approach the "Aggregate" methodology, and it matches S&P Global's (SPGI) methodology for these calculations. More methodology details in Appendix II

Figure 14 ranks all 11 sectors by free cash flow based on financial data from 2020 10-Ks.

Figure 14: Free Cash Flow by Sector - Financial Data from 2020 10-Ks

Sector	Free Cash Flow (\$mm)
Technology	\$295,662
Consumer Non-cyclicals	\$91,577
Financials	\$59,186
Energy	\$41,682
Basic Materials	\$33,367
Consumer Cyclicals	\$30,458
Healthcare	\$21,298
Industrials	\$117
Utilities	-\$9,968
Real Estate	-\$22,582
Telecom Services	-\$29,479
S&P 500	\$511,318

Sources: New Constructs, LLC and company filings. Financial data from 2020 10-Ks.

Figure 15 ranks all 11 sectors by enterprise value as of 3/23/21.

Figure 15: Enterprise Value by Sector - as of 3/23/21

Sector	Enterprise Value (\$mm)
Technology	\$11,536,805
Consumer Cyclicals	\$6,566,229
Healthcare	\$4,940,614
Financials	\$4,661,434
Industrials	\$4,191,995
Consumer Non-cyclicals	\$2,991,708
Utilities	\$1,788,098
Telecom Services	\$1,550,548
Energy	\$1,502,031
Basic Materials	\$1,101,757
Real Estate	\$1,066,872
S&P 500	\$41,898,091

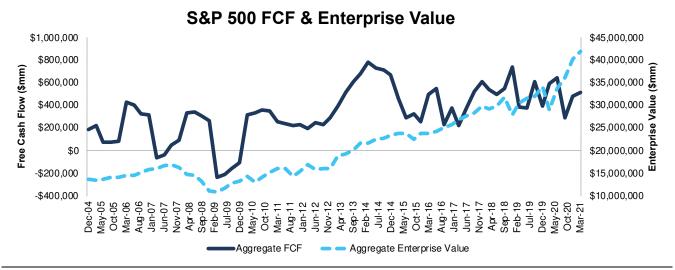
Sources: New Constructs, LLC and company filings. Prices as of 3/23/21.

These two tables show the Technology sector not only generates the most free cash flow, but it also has the highest enterprise value of all sectors.

Figures 16-27 compare the FCF and enterprise value trends for the S&P 500 and every sector since 2004.

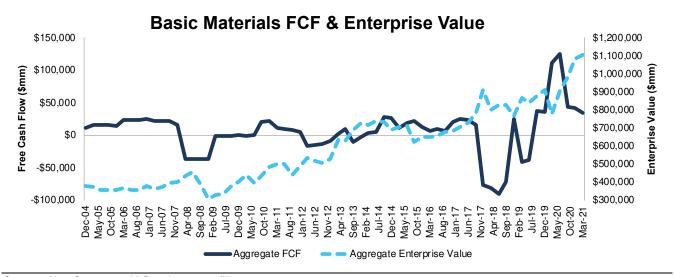


Figure 16: S&P 500 FCF & Enterprise Value: December 2004 - 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

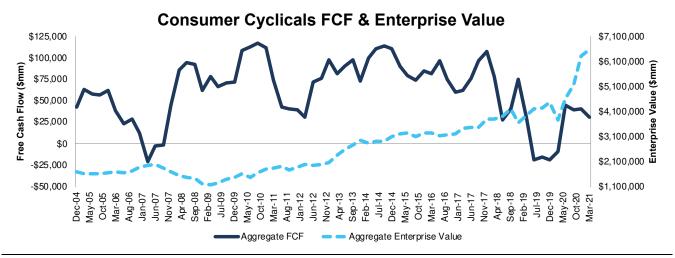
Figure 17: Basic Materials FCF & Enterprise Value: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.

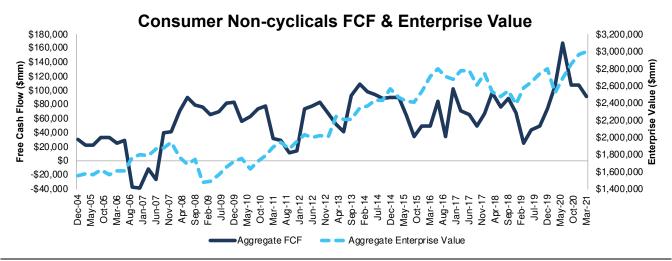


Figure 18: Consumer Cyclicals FCF & Enterprise Value: December 2004 - 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

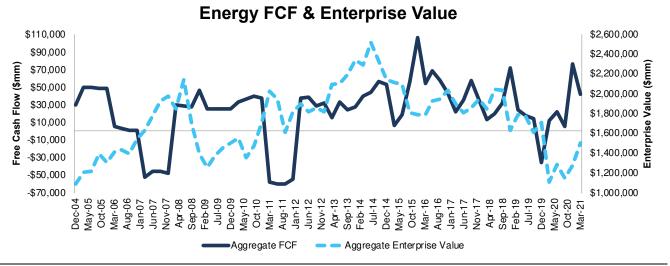
Figure 19: Consumer Non-Cyclicals FCF & Enterprise Value: December 2004 – 3/23/21



Sources: New Constructs, LLC and company filings.

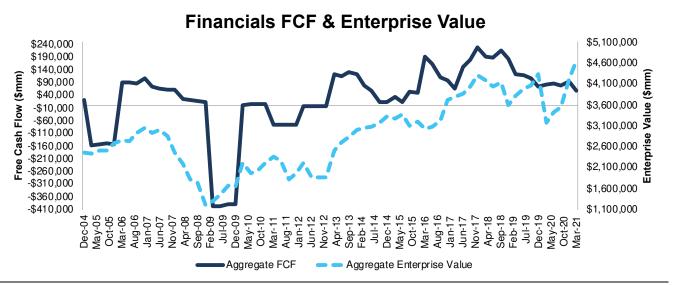


Figure 20: Energy FCF & Enterprise Value: December 2004 - 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

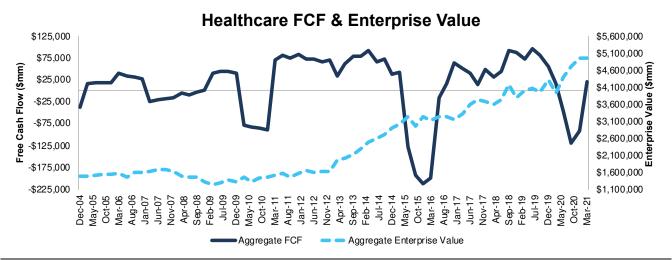
Figure 21: Financials FCF & Enterprise Value: December 2004 – 3/23/21



Sources: New Constructs, LLC and company filings.

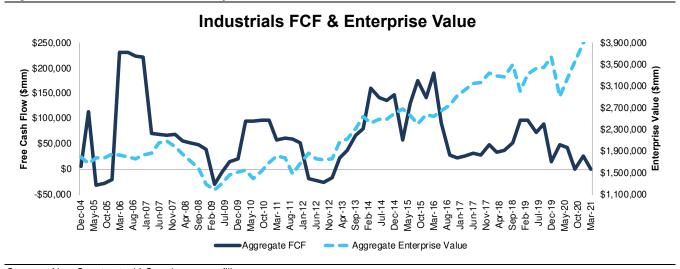


Figure 22: Healthcare FCF & Enterprise Value: December 2004 - 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 23: Industrials FCF & Enterprise Value: December 2004 - 3/23/214

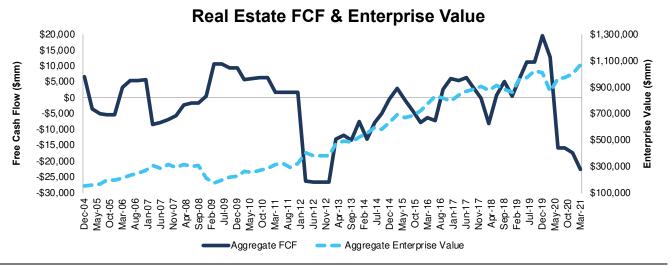


Sources: New Constructs, LLC and company filings.

⁴ The Industrials sector free cash flow is heavily influenced by General Electric (GE) in 2005. In 2005 GE restated ~\$135 billion of Investment Securities to Assets of Discontinued Operations. This reclassification caused a large year-over-year change in invested capital from 2004-2005, and therefore a large increase in FCF. However, due to poor disclosures in the filings, we're unable to specifically track the changes beyond reclassifying an operating asset as a non-operating asset.

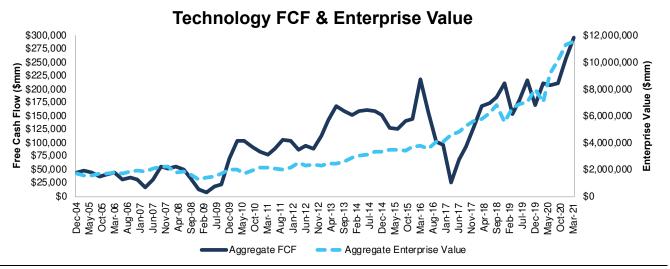


Figure 24: Real Estate FCF & Enterprise Value: December 2004 - 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

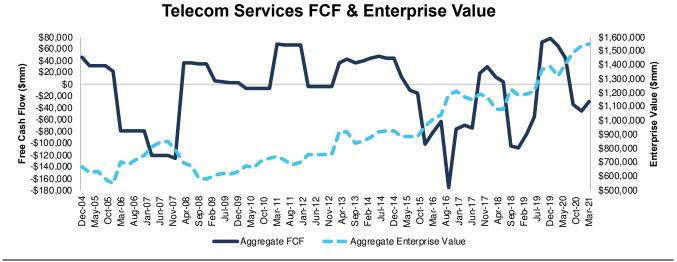
Figure 25: Technology FCF & Enterprise Value: December 2004 – 3/23/21



Sources: New Constructs, LLC and company filings.

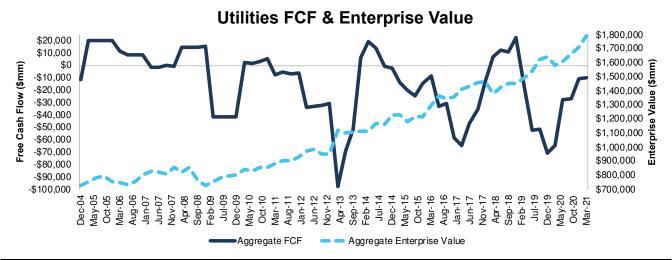


Figure 26: Telecom Services FCF & Enterprise Value: December 2004 – 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 27: Utilities FCF & Enterprise Value: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.



Appendix II: Analyzing Trailing FCF Yield with Different Weighting Methodologies

We derive the metrics above by summing the individual S&P 500/sector constituent values for free cash flow and enterprise value to calculate trailing FCF yield. We call this approach the "Aggregate" methodology.

The Aggregate methodology provides a straightforward look at the entire S&P 500/sector, regardless of market cap or index weighting, and matches how S&P Global (SPGI) calculates metrics for the S&P 500.

For additional perspective, we compare the Aggregate method for free cash flow with two other market-weighted methodologies. These market-weighted methodologies add more value for ratios that do not include market values, e.g. ROIC and its drivers, but we include them here, nonetheless, for comparison:

- 1. **Market-weighted metrics** calculated by market-cap-weighting the trailing FCF yield for the individual companies relative to their sector or the overall S&P 500 in each period. Details:
 - a. Company weight equals the company's market cap divided by the market cap of the S&P 500/ its sector
 - b. We multiply each company's trailing FCF yield by its weight
 - c. S&P 500/Sector trailing FCF yield equals the sum of the weighted trailing FCF yields for all the companies in the S&P 500/sector
- 2. **Market-weighted drivers** calculated by market-cap-weighting the FCF and enterprise value for the individual companies in each sector in each period. Details:
 - Company weight equals the company's market cap divided by the market cap of the S&P 500/ its sector
 - b. We multiply each company's free cash flow and enterprise value by its weight
 - c. We sum the weighted FCF and weighted enterprise value for each company in the S&P 500/each sector to determine each sector's weighted FCF and weighted enterprise value
 - d. S&P 500/Sector trailing FCF yield equals weighted S&P 500/sector FCF divided by weighted S&P 500/sector enterprise value

Each methodology has its pros and cons, as outlined below:

Aggregate method

Pros:

- A straightforward look at the entire S&P 500/sector, regardless of company size or weighting in any indices
- Matches how S&P Global calculates metrics for the S&P 500.

Cons:

 Vulnerable to impact of companies entering/exiting the group of companies, which could unduly affect aggregate values. Also susceptible to outliers in any one period.

Market-weighted metrics method

Pros:

Accounts for a firm's market cap relative to the S&P 500/sector and weights its metrics accordingly.

Cons:

• Vulnerable to outlier results from a single company disproportionately impacting the overall trailing FCF yield.

Market-weighted drivers method

Pros:

- Accounts for a firm's market cap relative to the S&P 500/sector and weights its free cash flow and enterprise value accordingly.
- Mitigates the disproportionate impact of outlier results from one company on the overall results.

Cons:

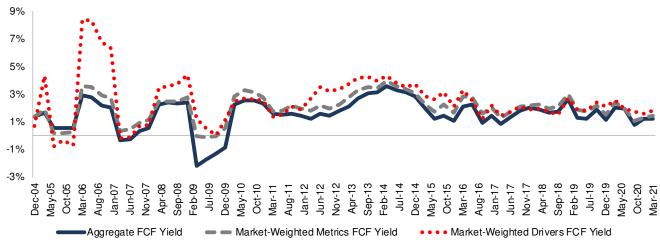


 More volatile as it adds emphasis to large changes in FCF and enterprise value for heavily weighted companies.

Figures 28-39 compare these three methods for calculating S&P 500 and sector trailing FCF yields.

Figure 28: S&P 500 Trailing FCF Yield Methodologies Compared: December 2004 – 3/23/21

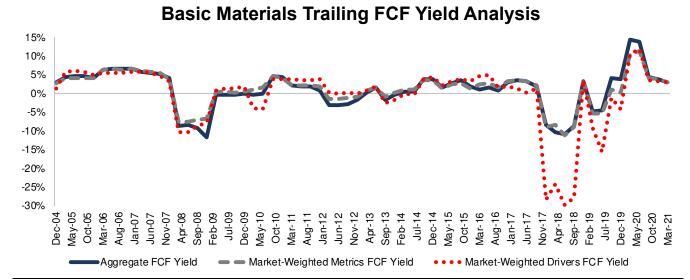
S&P 500 Trailing FCF Yield Analysis



Sources: New Constructs, LLC and company filings.

The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 29: Basic Materials Trailing FCF Yield Methodologies Compared: December 2004 – 3/23/21



Sources: New Constructs, LLC and company filings.



8%

6%

2% 0%

Figure 30: Consumer Cyclicals Trailing FCF Yield Methodologies Compared: December 2004 - 3/23/21

Consumer Cyclicals Trailing FCF Yield Analysis

-2%

-4%

Dec-09

May-10

Apr-13

Apr-13

Apr-14

Apr-15

Apr-16

Apr-15

Apr-16

Apr-17

Apr-18

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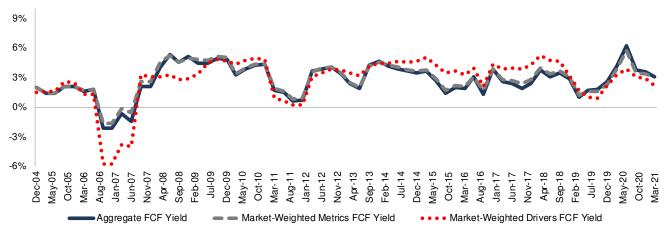
May-21

Sources: New Constructs, LLC and company filings.

The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 31: Consumer Non-cyclicals Trailing FCF Yield Methodologies Compared: December 2004 – 3/23/21

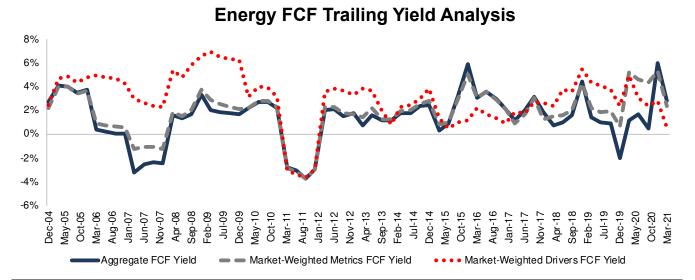
Consumer Non-cyclicals Trailing FCF Yield Analysis



Sources: New Constructs, LLC and company filings.

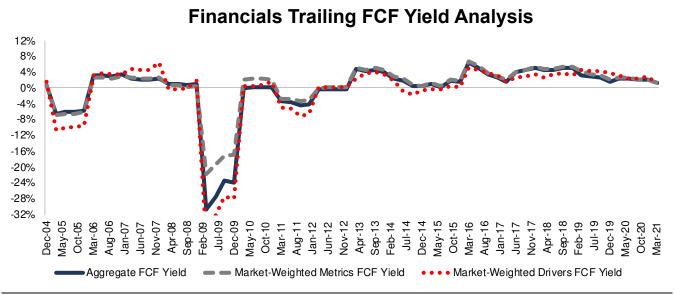


Figure 32: Energy Trailing FCF Yield Methodologies Compared: December 2004 - 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

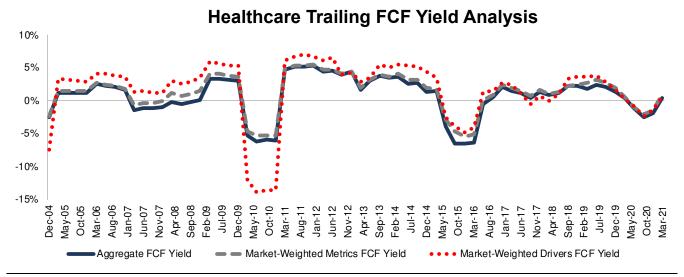
Figure 33: Financials Trailing FCF Yield Methodologies Compared: December 2004 – 3/23/21



Sources: New Constructs, LLC and company filings.

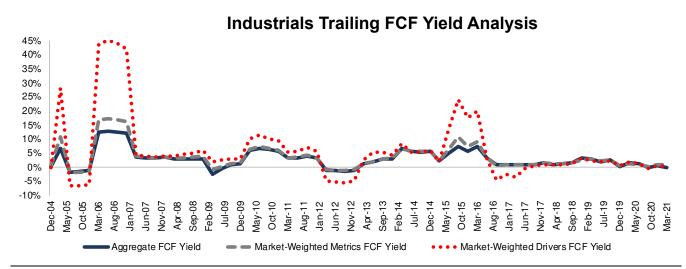


Figure 34: Healthcare Trailing FCF Yield Methodologies Compared: December 2004 – 3/23/21



The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 35: Industrials Trailing FCF Yield Methodologies Compared: December 2004 - 3/23/21

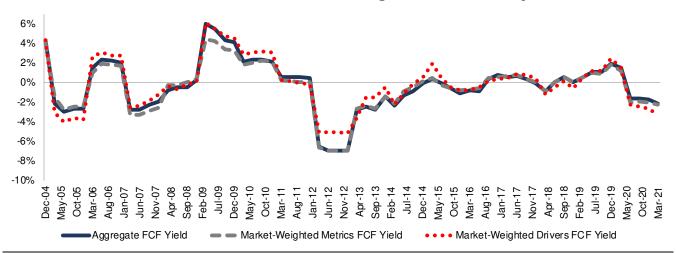


Sources: New Constructs, LLC and company filings.



Figure 36: Real Estate Trailing FCF Yield Methodologies Compared: December 2004 - 3/23/21

Real Estate Trailing FCF Yield Analysis

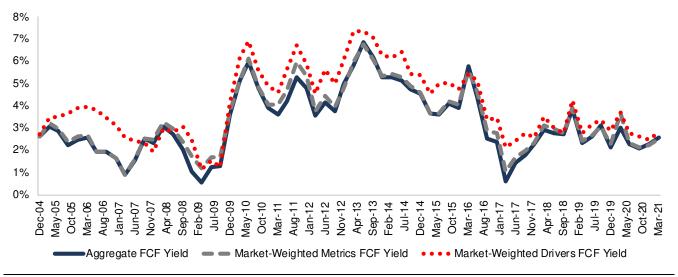


Sources: New Constructs, LLC and company filings.

The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 37: Technology Trailing FCF Yield Methodologies Compared: December 2004 - 3/23/21

Technology Trailing FCF Yield Analysis

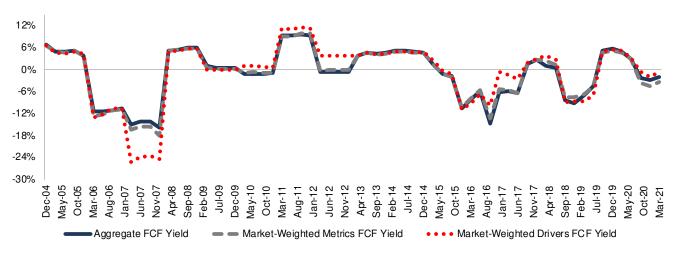


Sources: New Constructs, LLC and company filings.



Figure 38: Telecom Services Trailing FCF Yield Methodologies Compared: December 2004 – 3/23/21

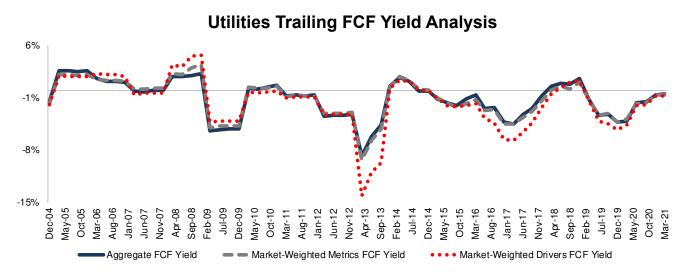
Telecom Services Trailing FCF Yield Analysis



Sources: New Constructs, LLC and company filings.

The March 23, 2021 measurement period uses price data as of that date and incorporates the financial data from 2020 10-Ks, as this is the earliest date for which all the 2020 10-Ks for the S&P 500 constituents were available.

Figure 39: Utilities Trailing FCF Yield Methodologies Compared: December 2004 - 3/23/21



Sources: New Constructs, LLC and company filings.



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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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