



ROIC Improved in Ten S&P 500 Sectors Through 4Q21: ROIC Rockets Higher to New High

This report is an abridged and free version of [S&P 500 & Sectors: ROIC vs. WACC Through 4Q21](#), one of our quarterly series on [fundamental market and sector trends](#).

Key Points:

- Return on invested capital ([ROIC](#)) spiked to a new high for the S&P 500 in 2021.
- Ten of eleven S&P 500 sectors saw a year-over-year improvement in ROIC.
- The Energy sector performed best over the past year, as measured by change in ROIC. The Utilities sector is the only sector to have a year-over-year (YoY) drop in ROIC.
- The full version of the report analyzes the drivers^{1,2} of [economic earnings](#) [return on invested capital ([ROIC](#)), [NOPAT margin](#), [invested capital turns](#), and weighted average cost of capital ([WACC](#))] for the S&P 500 and each of its sectors (last quarter's analysis is [here](#)). These reports are available to clients with a [Pro or higher](#) membership or can be purchased below.

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These reports leverage [more reliable fundamental data](#)³ that overcomes [flaws with legacy fundamental datasets](#) to provide a more informed view of the fundamentals of companies and a [new source of alpha](#).

S&P 500 ROIC Continues to Rebound in 4Q21

Economic disturbances caused by the COVID-19 pandemic drove the S&P 500's return on invested capital down in 2020. However, the S&P 500's ROIC sharply recovered in 2021 to surpass pre-pandemic levels. The S&P 500's ROIC rose from 7.2% in 4Q20 to 9.9% in 4Q21.

See Figure 1 in the [full version](#) of our report for the chart of ROIC vs. WACC for the S&P 500 from December 2004 through 4Q21.

Key Details on Select S&P 500 Sectors

Ten of eleven S&P 500 sectors saw an improvement in return on invested capital ([ROIC](#)) year-over-year (YoY) based on 4Q21 financial data.

The Energy sector performed best over the past year as measured by change in ROIC, with its ROIC rising over 740 basis points. Given the impact COVID-19 had on energy companies and energy prices in 2020 and the strength of the rebound, this trend is unsurprising.

In absolute terms, the Technology sector earns the highest ROIC of all sectors, by far, and the Utilities sector earns the lowest ROIC.

Below, we highlight the Energy sector, which had the largest YoY improvement in ROIC.

¹ We calculate these metrics based on SPGI's methodology, which sums the individual S&P 500 constituent values for NOPAT and invested capital before using them to calculate the metrics. We call this the "Aggregate" methodology. Get more details in the Appendix.

² Our research is based on the latest audited financial data, which is the calendar 2021 10-K in most cases. Price data is as of 3/11/22.

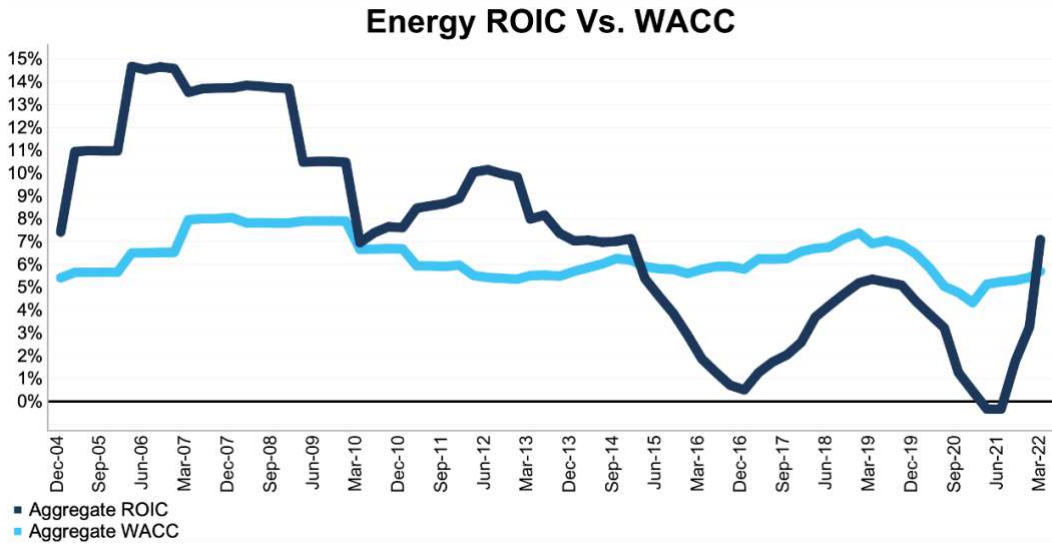
³ Three independent studies prove the superiority of our data, models, and ratings. Learn more [here](#).



Sample Sector Analysis⁴: Energy

Figure 1 shows the Energy sector ROIC rose from -0.3% in 4Q20 to 7.1% in 4Q21. The Energy sector NOPAT margin rose from -0.9% in 4Q20 to 11.3% in 4Q21, while invested capital turns rose from 0.39 in 4Q20 to 0.62 in 4Q21.

Figure 1: Energy ROIC vs. WACC: December 2004 – 3/11/22

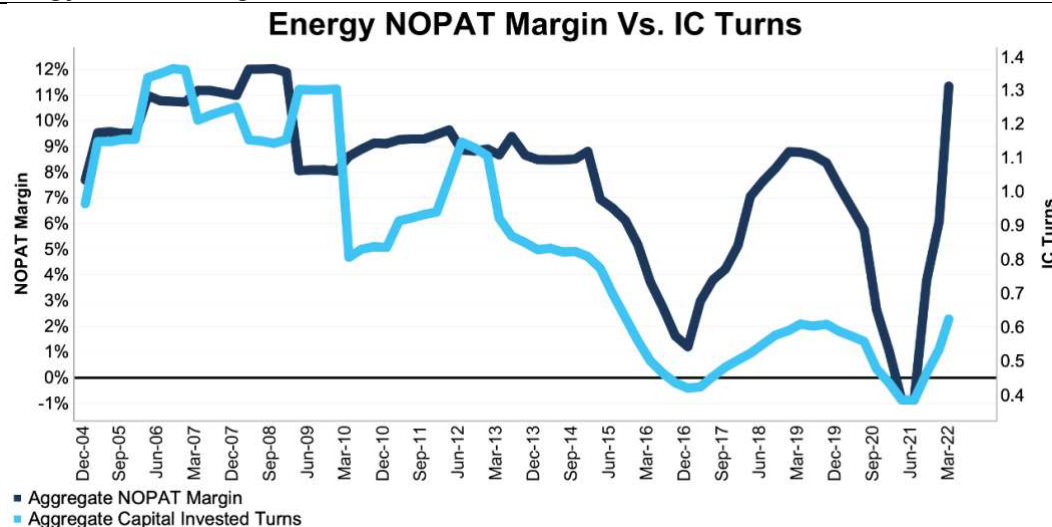


Sources: New Constructs, LLC and company filings.

The March 11, 2022 measurement period uses price data as of that date and incorporates the financial data from 2021 10-Ks, as this is the earliest date for which all the 2021 10-Ks for the S&P 500 constituents were available.

Figure 2 compares the trends for NOPAT margin and invested capital turns for the Energy sector since 2004. We sum the individual S&P 500 constituent values for revenue, NOPAT, and invested capital to calculate these metrics. We call this approach the “Aggregate” methodology.

Figure 2: Energy NOPAT Margin and IC Turns: December 2004 – 3/11/22



Sources: New Constructs, LLC and company filings.

The March 11, 2022 measurement period uses price data as of that date and incorporates the financial data from 2021 10-Ks, as this is the earliest date for which all the 2021 10-Ks for the S&P 500 constituents were available.

⁴ The full version of this report provides analysis for every sector like what we show for this sector.

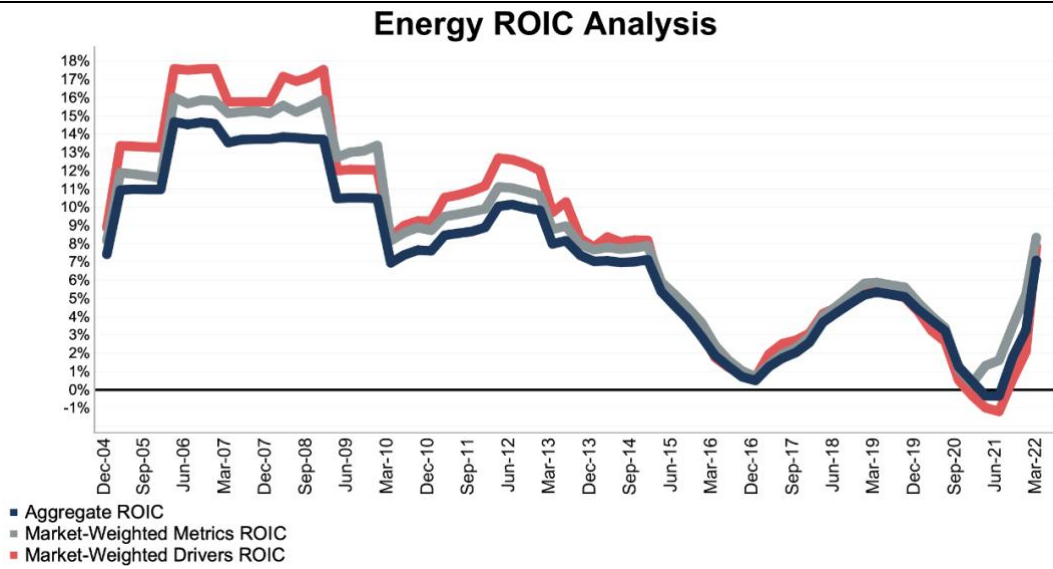


The Aggregate methodology provides a straightforward look at the entire sector, regardless of market cap or index weighting and matches how S&P Global (SPGI) calculates metrics for the S&P 500.

For additional perspective, we compare the Aggregate method for ROIC with two market-weighted methodologies: market-weighted metrics and market-weighted drivers. Each method has its pros and cons, which are detailed in the Appendix.

Figure 3 compares these three methods for calculating the Energy sector ROIC.

Figure 3: Energy ROIC Methodologies Compared: December 2004 – 3/11/22



Sources: New Constructs, LLC and company filings.

The March 11, 2022 measurement period uses price data as of that date and incorporates the financial data from 2021 10-Ks, as this is the earliest date for which all the 2021 10-Ks for the S&P 500 constituents were available.

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

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Appendix: Analyzing ROIC with Different Weighting Methodologies

We derive the metrics above by summing the individual S&P 500 constituent values for revenue, NOPAT, and invested capital to calculate the metrics presented. We call this approach the “Aggregate” methodology.

The Aggregate methodology provides a straightforward look at the entire 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 ROIC with two other market-weighted methodologies:

1. **Market-weighted metrics** – calculated by market-cap-weighting the ROIC 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 ROIC by its weight
 - c. S&P 500/Sector ROIC equals the sum of the weighted ROICs for all the companies in the S&P 500/each sector
2. **Market-weighted drivers** – calculated by market-cap-weighting the NOPAT and invested capital for the individual companies in each sector 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 NOPAT and invested capital by its weight
 - c. We sum the weighted NOPAT and invested capital for each company in the S&P 500/each sector to determine each sector’s weighted NOPAT and weighted invested capital
 - d. S&P 500/Sector ROIC equals weighted sector NOPAT divided by weighted sector invested capital

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.
- Matches how S&P Global calculates metrics for the S&P 500.

Cons:

- Vulnerable to impact of by companies entering/exiting the group of companies, which could unduly affect aggregate values despite the level of change from companies that remain in the group.

Market-weighted metrics method

Pros:

- Accounts for a firm’s size relative to the overall S&P 500/sector and weights its metrics accordingly.

Cons:

- Vulnerable to outsized impact of one or a few companies, as shown in the full report. This outsized impact tends to occur only for ratios where unusually small denominator values can create extremely high or low results.

Market-weighted drivers method

Pros:

- Accounts for a firm’s size relative to the overall S&P 500/sector and weights its NOPAT and invested capital accordingly.
- Mitigates potential outsized impact of one or a few companies by aggregating values that drive the ratio before calculating the ratio.

Cons:

- Can minimize the impact of period-over-period changes in smaller companies, as their impact on the overall sector NOPAT and invested capital is smaller.



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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 [paper](#) from Indiana’s Kelley School of Business. Bloomberg features the paper [here](#).

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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