

MACRO FUNDAMENTALS

6/5/24

S&P 500 & Sectors: ROIC Update for 1Q24 (Free, Abridged)

We have updated the trailing-twelve-month (TTM) return on invested capital (ROIC) for the S&P 500 and all sectors for 1Q24.

Over the last several quarters, we are seeing a clear trend that ROIC peaked in 2Q22. Beneath the surface, performance by sector is all over the map. Per Figure 2 in the full report, some sectors saw ROIC rise while others saw it fall. Digging deeper and looking at the drivers of ROIC, NOPAT margins and invested capital turns, we see wildly different results in different sectors.

Six out of eleven S&P 500 sectors saw a QoQ rise in ROIC in 1Q24.

This report is a free and abridged version of <u>S&P 500 & Sectors: ROIC Update for 1Q24</u>, one of our quarterly reports on <u>fundamental</u> market and sector trends. The full report is available to our <u>Institutional</u> members.

The full version of this report presents the drivers^{1,2} of <u>economic earnings</u> [ROIC, NOPAT margin, invested capital turns, and weighted average cost of capital (<u>WACC</u>)] for the S&P 500 and each of its sectors (last analysis is <u>here</u>). You can find the our macro analysis on other key metrics <u>here</u>.

This report leverages our cutting-edge <u>Robo-Analyst technology</u> to deliver <u>proven-superior</u>³ fundamental research and support more cost-effective fulfillment of the <u>fiduciary duty of care</u>.

Learn more about the best fundamental research

S&P 500 ROIC Analysis for 1Q24

Figure 1 in the <u>full report</u> shows the S&P 500's ROIC every quarter over the last twenty years. We provide the same analysis for S&P 500 and its eleven sectors' NOPAT margin and invested capital turns.

Key observations:

In our 1Q22 report, we first wrote that the "record" return on invested capital of 1Q22 was a mirage and that the bullish rise in ROIC would reverse soon. These 1Q24 results continue to support such a statement. NOPAT margins have fallen QoQ in nine consecutive quarters but are still much higher than historical averages. However, companies are getting more efficient with their balance sheet as invested capital turns have improved QoQ in eight of the past nine quarters. Should companies continue to report that margins remain under pressure, we could see ROIC fall further.

WACC for the S&P 500 rose QoQ again, with 1Q24 representing the eighth QoQ increase in the past nine quarters. With uncertainty regarding when the Fed may lower rates, as economic indicators remain mixed, WACC may remain high for quite some time. The high cost of capital rightfully undermines the ability of many weaker companies to fund poor businesses through cheap capital.

See Figure 1 in the <u>full version</u> of our report for the chart of ROIC and WACC for the S&P 500 from December 2004 through 5/16/24.

Sneak Peak on Select S&P 500 Sectors

The Consumer Cyclicals sector performed best in the first quarter of 2024 as measured by change in ROIC. The biggest loser in the first quarter was the Energy sector.

Below, we highlight the Consumer Cyclicals sector, which had the largest increase in ROIC in 1Q24.

¹ Calculated using SPGI's methodology, which sums individual S&P 500 constituent values for NOPAT and invested capital. See Appendix III for more details on this "Aggregate" method and Appendix I for details on how we calculate WACC for the S&P 500 and each of its sectors.

² This report is based on the latest audited financial data available, which is the 1Q24 10-Q in most cases. Price data is as of 5/16/24.

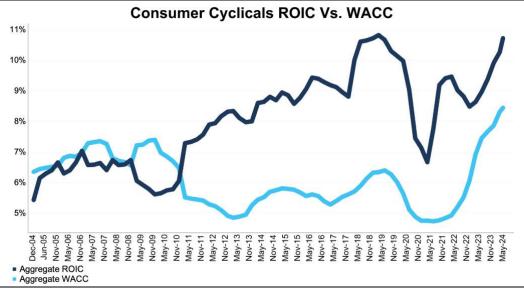
³ Our research utilizes our <u>Core Earnings</u>, a more reliable measure of profits, as proven in <u>Core Earnings: New Data & Evidence</u>, written by professors at Harvard Business School (HBS) & MIT Sloan and published in <u>The Journal of Financial Economics</u>.



Sample Sector Analysis⁴: Consumer Cyclicals

Figure 1 shows the Consumer Cyclicals sector's ROIC rose from 10.3% in 4Q23 to 10.7% in 1Q24. The Consumer Cyclicals sector's NOPAT margin rose from 8.0% in 4Q23 to 8.3% in 1Q24, while invested capital turns were flat at 1.28 over the same time.

Figure 1: Consumer Cyclicals ROIC vs. WACC: December 2004 - 5/16/24

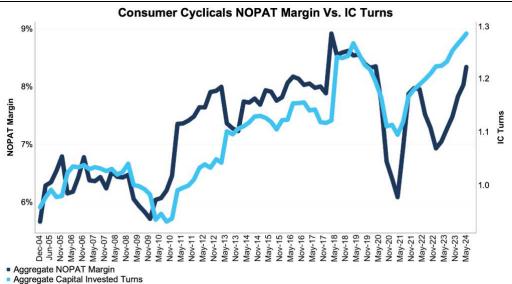


Sources: New Constructs, LLC and company filings.

The May 16, 2024 measurement period uses price data as of that date for our WACC calculation and incorporates the financial data from 1Q24 10-Qs for ROIC, as this is the earliest date for which all the 1Q24 10-Qs for the S&P 500 constituents were available.

Figure 2 compares the trends for NOPAT margin and invested capital turns for the Consumer Cyclicals sector since 2004. We sum the individual Consumer Cyclicals sector constituent values for revenue, NOPAT, and invested capital to calculate these metrics. We call this approach the "Aggregate" methodology.

Figure 2: Consumer Cyclicals NOPAT Margin and IC Turns: December 2004 – 5/16/24



Sources: New Constructs, LLC and company filings.

The May 16, 2024 measurement period uses price data as of that date for our WACC calculation and incorporates the financial data from 1Q24 10-Qs for ROIC, as this is the earliest date for which all the 1Q24 10-Qs 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.

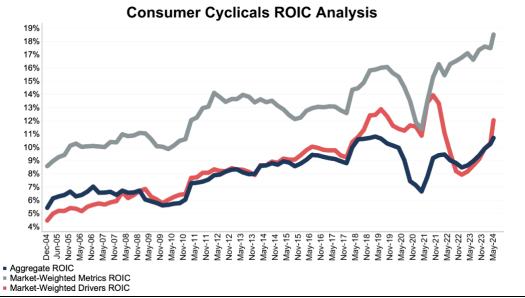


The Aggregate methodology provides a straightforward look at the entire sector, regardless of market cap or index weighting. The methodology matches how S&P Global (SPGI) calculates metrics for the S&P 500.

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 Consumer Cyclicals sector ROIC.

Figure 3: Consumer Cyclicals ROIC Methodologies Compared: December 2004 - 5/16/24



Sources: New Constructs, LLC and company filings.

The May 16, 2024 measurement period uses price data as of that date for our WACC calculation and incorporates the financial data from 1Q24 10-Qs for ROIC, as this is the earliest date for which all the 1Q24 10-Qs for the S&P 500 constituents were available.

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Disclosure: David Trainer, Kyle Guske II, and Hakan Salt 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:
 - 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:
 - 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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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. The stock market is missing footnotes and only we have that critical data.
- 2. Legacy fundamental datasets suffer from significant inaccuracies, omissions, and biases.
- 3. Our proprietary drives novel alpha. Our measures of <u>Core Earnings</u> and <u>Earnings Distortion</u> materially improve stock picking and forecasting of profits.

Best Fundamental Data in the World

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

Ernst & Young features the superiority of our ROIC, NOPAT and Invested Capital research to Capital IQ & Bloomberg's in <u>Getting ROIC Right</u>. See the <u>Appendix</u> 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 Harvard Business School. 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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