

All Cap Index & Sectors: Price to Economic Book Value Continues to Rise (Free, Abridged)

The trailing price-to-economic book value (<u>PEBV</u>) ratio for the NC 2000 rose from 1.3 as of 9/30/22 to 1.5 as of 11/25/22.

This report is a free and abridged version of <u>All Cap Index & Sectors: Price to Economic Book Value Continues</u> to <u>Rise</u>, one of our quarterly reports on <u>fundamental market and sector trends</u>. The full report is available to our new <u>Professional</u> (previously known as <u>Unlimited</u>) and <u>Institutional</u> members.

The full version of this report analyzes^{1,2} the trailing PEBV ratio for the NC 2000³, our All Cap Index, and each of its sectors based on financial filings through 3Q22. Last quarter's analysis of the PEBV ratio for the NC 2000 and its sectors is <u>here.</u>

This report leverages our cutting-edge <u>Robo-Analyst technology</u> to deliver <u>proven-superior</u>⁴ fundamental research and support more cost-effective fulfillment of the <u>fiduciary duty of care</u>.

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NC 2000 Trailing PEBV Ratio Rose from 9/30/22 to 11/25/22

The trailing PEBV ratio compares the NC 2000's expected future profits (as reflected in its price) to its economic book value as of 11/25/22. The NC 2000's PEBV ratio of 1.5 implies the profits (<u>NOPAT</u>) of the NC 2000 will increase 50% from 3Q22 trailing-twelve-month (TTM) levels.

See Figure 1 in the <u>full version</u> of our report for the chart of the NC 2000 PEBV Ratio from December 1998 through 11/25/22.

Key Details on Select NC 2000 Sectors

Three sectors, Telecom Services, Energy, and Basic Materials, trade below their economic book value. The Telecom Services sector has the lowest trailing PEBV ratio, and the Real Estate Sector has the highest trailing PEBV ratio among the eleven sectors based on prices as of 11/25/22 and financial data from 3Q22 10-Qs.

A trailing PEBV ratio of 0.7 means investors expect the Telecom Service sector's profits to decline by 30% from 3Q22 TTM levels. On the flip side, investors expect the Real Estate and Utilities sectors (trailing PEBV ratios of 4.6 and 2.7) to improve profits more than any other All Cap Index sectors.

Below, we highlight the Basic Materials sector.

Sample Sector Analysis⁵: Basic Materials: Trailing PEBV Ratio = 0.9

Figure 1 shows the trailing PEBV ratio for the Basic Materials sector rose from 0.7 as of 9/30/22 to 0.9 as of 11/25/22. The Basic Materials sector market cap rose from \$981 billion as of 9/30/22 to \$1.2 trillion as of 11/25/22, while its economic book value fell from \$1.5 trillion as of 9/30/22 to \$1.3 trillion as of 11/25/22.

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Important Disclosure Information is contained on the last page of this report. The recipient of this report is directed to read these disclosures.

¹ We calculate these metrics based on <u>S&P Global</u>'s (SPGI) methodology, which sums individual NC 2000 constituent values for market cap and economic book value before using them to calculate the metrics. We call this the "Aggregate" methodology. Get more details in Appendices I and II.

² Based on latest available audited financial data, which is the 3Q22 10-Q in most cases. Price data is as of 11/25/22. See the appendices for more information calculation methodologies.

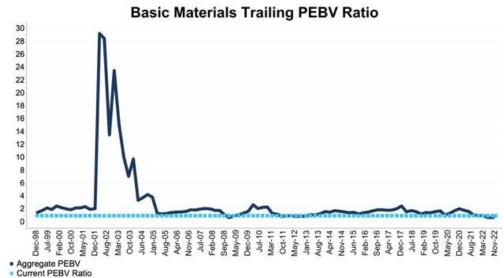
³ The NC 2000 consists of the largest 2000 U.S. companies by market cap in our coverage. Constituents are updated on a quarterly basis. We exclude companies that report under IFRS and non-U.S. ADR companies.

⁴ 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>.

⁵ The full version of this report provides analyses for all eleven sectors.







Sources: New Constructs, LLC and company filings.

The November 25, 2022 measurement period uses price data as of that date and incorporates the financial data from 3Q22 10-Qs, as this is the earliest date for which all of the 3Q22 10-Qs for the NC 2000 constituents were available.

Figure 2 compares the trends for market cap and economic book value for the Basic Materials sector since 1998. We sum up the individual NC 2000/sector constituent values for market cap and economic book value. We call this approach the "Aggregate" methodology, and it matches S&P Global's (SPGI) methodology for these calculations.



Figure 2: Basic Materials Market Cap & Economic Book Value: December 1998 – 11/25/22

Sources: New Constructs, LLC and company filings.

The November 25, 2022 measurement period uses price data as of that date and incorporates the financial data from 3Q22 10-Qs, as this is the earliest date for which all of the 3Q22 10-Qs for the NC 2000 constituents were available.

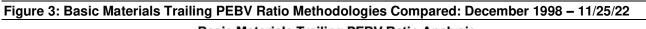
The Aggregate methodology provides a straightforward look at the entire NC 2000/sector, regardless of firm size or index weighting, and matches how S&P Global (SPGI) calculates metrics for the S&P 500.

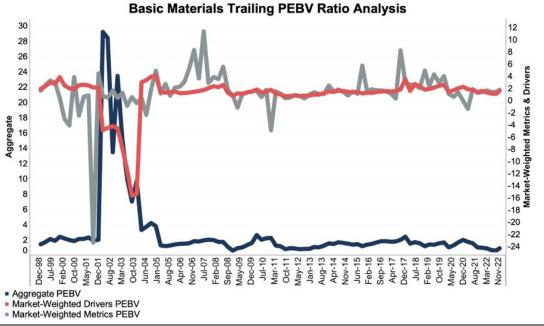


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For additional perspective, we compare the Aggregate method for trailing PEBV ratio with two other marketweighted methodologies. Each method has its pros and cons, which are detailed in the Appendix.

Figure 3 compares these three methods for calculating the Basic Materials sector's trailing PEBV ratios.





Sources: New Constructs, LLC and company filings. The November 25, 2022 measurement period uses price data as of that date and incorporates the financial data from 3Q22 10-Qs, as this is the earliest date for which all of the 3Q22 10-Qs for the NC 2000 constituents were available.

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

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Appendix: Analyzing Trailing PEBV Ratio with Different Weighting Methodologies

We derive the metrics above by summing the individual NC 2000/sector constituent values for market cap and economic book value to calculate trailing PEBV ratio. We call this approach the "Aggregate" methodology.

The Aggregate methodology provides a straightforward look at the entire NC 2000/sector, regardless of firm size 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 trailing PEBV ratio with two other marketweighted 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 PEBV ratio for the individual companies relative to their sector or the overall NC 2000 in each period. Details:
 - a. Company weight equals the company's market cap divided by the market cap of the NC 2000 or its sector
 - b. We multiply each company's trailing PEBV ratio by its weight
 - c. NC 2000/Sector trailing PEBV ratio equals the sum of the weighted trailing PEBV ratios for all the companies in the NC 2000/sector
- 2. **Market-weighted drivers** calculated by market-cap-weighting the market cap and economic book value 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 NC 2000 or its sector
 - b. We multiply each company's market cap and economic book value by its weight
 - c. We sum the weighted market cap and weighted economic book value for each company in the NC 2000/each sector to determine the NC 2000 or sector's weighted market cap and weighted economic book value
 - d. NC 2000/Sector trailing PEBV ratio equals weighted NC 2000/sector market cap divided by weighted NC 2000/sector economic book value

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

Aggregate method

Pros:

- A straightforward look at the entire NC 2000/sector, regardless of company size or weighting.
- 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 NC 2000/sector and weights its metrics accordingly.

Cons:

• Vulnerable to outlier results from a single company disproportionately impacting the overall trailing PEBV ratio.

Market-weighted drivers method

Pros:

- Accounts for a firm's market cap relative to the NC 2000/sector and weights its size and economic book value accordingly.
- Mitigates the disproportionate impact of outlier results from one company on the overall results.

Cons:



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• More susceptible to large swings in market cap or economic book value (which can be impacted by changes in WACC) period over period, particularly from firms with a large weighting in the NC 2000/Sector.



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

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Best Fundamental Data in the World

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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 <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 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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