



## S&P 500 & Sectors: Price-to-Economic Book Value Ratio Rises as Prices Jump in 4Q22

This report analyzes<sup>1,2</sup> the trailing-twelve-months (TTM) price-to-economic book value (PEBV) ratio for the S&P 500 and each of its sectors based on financial filings through the full year 2022.

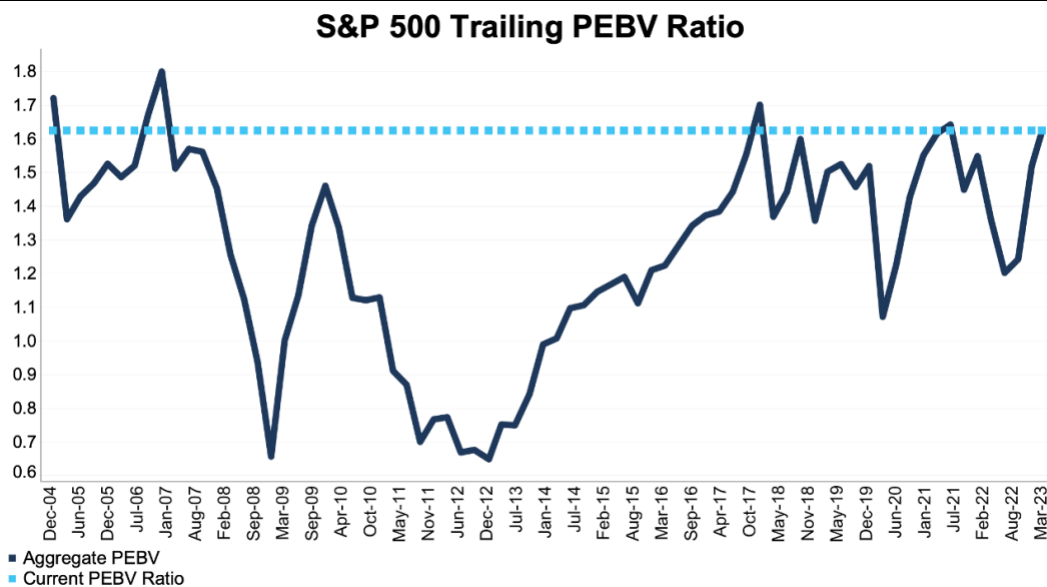
The trailing PEBV ratio compares the S&P 500's expected future profits (as reflected in its price) to its economic book value as of 3/8/23. The S&P 500's PEBV ratio of 1.6 implies the profits (NOPAT) of its constituents will increase 60% from the TTM ended 4Q22 levels.

Last quarter's analysis of the PEBV for the S&P 500 and each sector is [here](#). You can find the same analysis on other key metrics [here](#).

### S&P 500 Trailing PEBV Rises From Last Quarter

The trailing PEBV ratio for the S&P 500 rose from 1.5 as of 12/30/22 to 1.6 as of 3/8/23, per Figure 1. The increase in the market cap of the S&P 500 matched with a decrease in the index's economic book value drives the increase from 1.5 to 1.6. More details in Appendix I.

Figure 1: Trailing PEBV Ratio for the S&P 500 From December 2004 – 3/8/23



Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

### Ranking All Sectors by Trailing Price to Economic Book Value Ratio (PEBV)

Two S&P 500 sectors, Energy and Telecom Services, trade below their economic book value. Figure 2 shows the Energy sector has the lowest trailing PEBV ratio among all eleven S&P 500 sectors based on prices as of 3/8/23 and financial data from 2022 10-Ks.

<sup>1</sup> We calculate these metrics based on S&P Global's (SPGI) methodology, which sums the individual S&P 500 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.

<sup>2</sup> Analysis in this report is based on the latest audited financial data available, or 2022 10-Ks in most cases. Price data for the current period is as of 3/8/23.

**Figure 2: Trailing PEBV Ratios for all S&P 500 Sectors as of 3/8/23**

Sector	Trailing PEBV Ratio
Energy	0.6
Telecom Services	0.9
Financials	1.1
Healthcare	1.2
Basic Materials	1.3
Consumer Non-cyclicals	1.5
Technology	2.1
Industrials	2.2
Consumer Cyclical	2.9
Utilities	5.4
Real Estate	6.6
<b>S&amp;P 500</b>	<b>1.6</b>

Sources: New Constructs, LLC and company filings.  
Price as of 3/8/23, financial data incorporates 2022 10-Ks.

A trailing PEBV ratio of 0.6 means the market expects the Energy sector's profits to decline by 40% from 2022 levels. On the flip side, investors expect the Real Estate and Utilities sectors (trailing PEBV ratios of 6.6 and 5.4) to improve profits more than any other S&P 500 sectors.

#### Details on Each of the S&P 500 Sectors

Figures 3 through 13 show the trailing PEBV ratio trends for every sector since 2004. Note that the current PEBV ratios are based on prices as of March 8, 2023 and the latest financial data, mostly 2022 10-Ks.

Appendix I presents the components of the trailing PEBV ratio: market cap and economic book value for the S&P 500 and each S&P 500 sector.

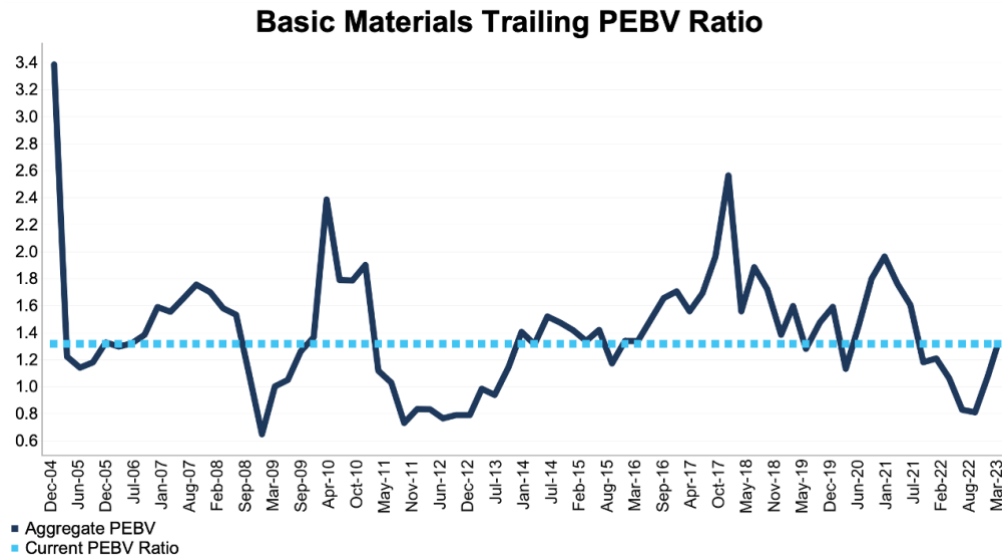
Appendix II provides additional aggregated trailing PEBV ratio analyses that adjust for company size/market cap.



**Basic Materials: Trailing PEBV Ratio = 1.3**

Figure 3 shows the trailing PEBV ratio for the Basic Materials sector rose from 1.1 as of 12/30/22 to 1.3 as of 3/8/23. The Basic Materials sector market cap rose from \$828.2 billion as of 12/30/22 to \$871.3 billion as of 3/8/23, while its economic book value fell from \$766.3 billion as of 12/30/22 to \$661.4 billion as of 3/8/23.

**Figure 3: Basic Materials Trailing PEBV Ratio: December 2004 – 3/8/23**

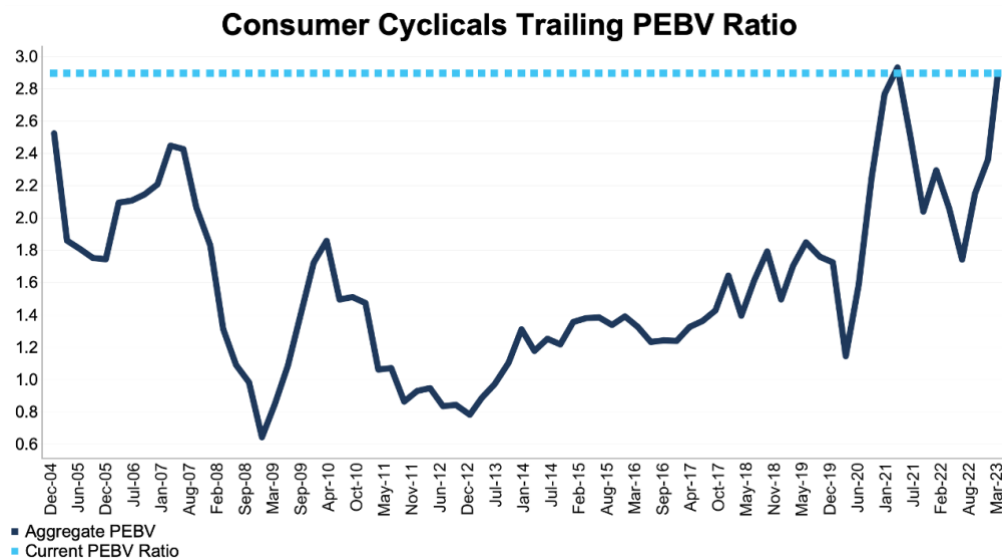


Sources: New Constructs, LLC and company filings. The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Consumer Cyclical: Trailing PEBV Ratio = 2.9**

Figure 4 shows the trailing PEBV ratio for the Consumer Cyclical sector rose from 2.4 as of 12/30/22 to 2.9 as of 3/8/23. The Consumer Cyclical sector market cap rose from \$4.1 trillion as of 12/30/22 to \$4.5 trillion as of 3/8/23, while its economic book value fell from \$1.7 trillion as of 12/30/22 to \$1.5 trillion in as of 3/8/23.

**Figure 4: Consumer Cyclical Trailing PEBV Ratio: December 2004 – 3/8/23**



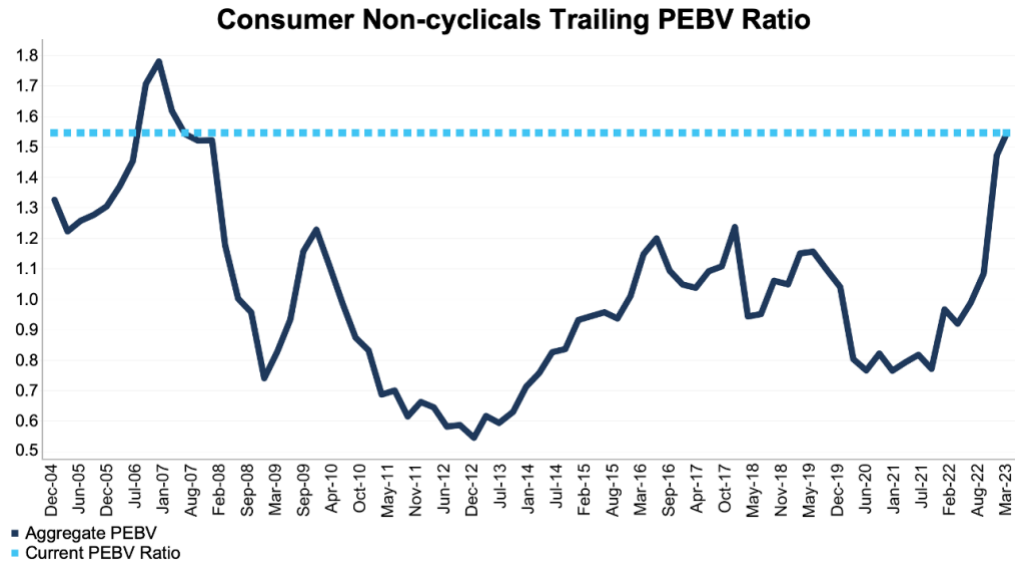
Sources: New Constructs, LLC and company filings. The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



**Consumer Non-cyclicals: Trailing PEBV Ratio = 1.5**

Figure 5 shows the trailing PEBV ratio for the Consumer Non-cyclicals sector remained flat at 1.5 as of 3/8/23. The Consumer Non-cyclicals sector market cap fell from \$2.5 trillion as of 12/30/22 to \$2.4 trillion as of 3/8/23, while its economic book value fell from \$1.7 trillion as of 12/30/22 to \$1.6 trillion as of 3/8/23.

**Figure 5: Consumer Non-cyclicals Trailing PEBV Ratio: December 2004 – 3/8/23**



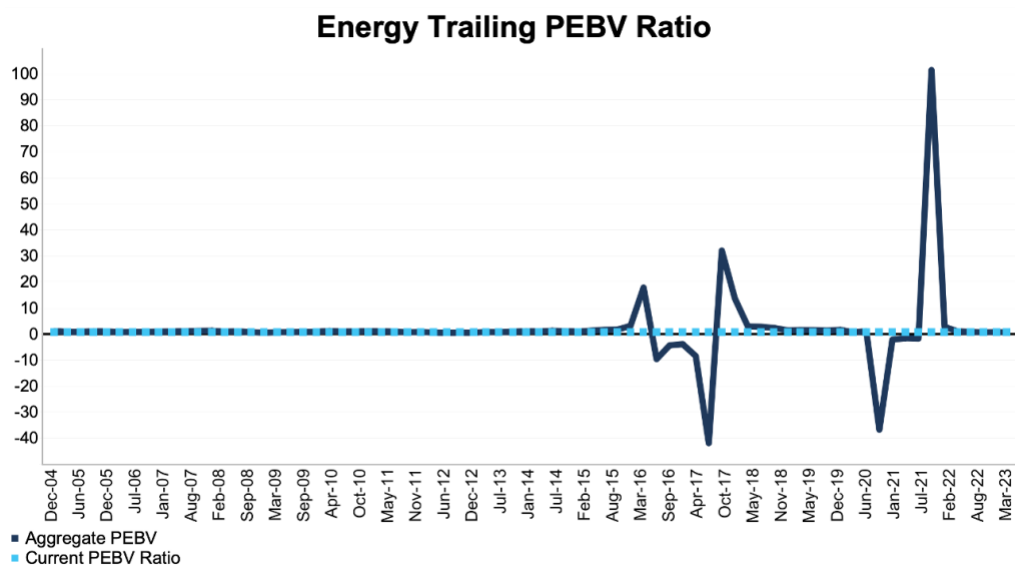
Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Energy: Trailing PEBV Ratio = 0.6**

Figure 6 shows the trailing PEBV ratio for the Energy sector fell from 0.7 as of 12/30/22 to 0.6 as of 3/8/23. The Energy sector market cap fell from \$1.8 trillion as of 12/30/22 to \$1.7 trillion as of 3/8/23, while its economic book value rose from \$2.4 trillion as of 12/30/22 to \$2.7 trillion as of 3/8/23.

**Figure 6: Energy Trailing PEBV Ratio: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.

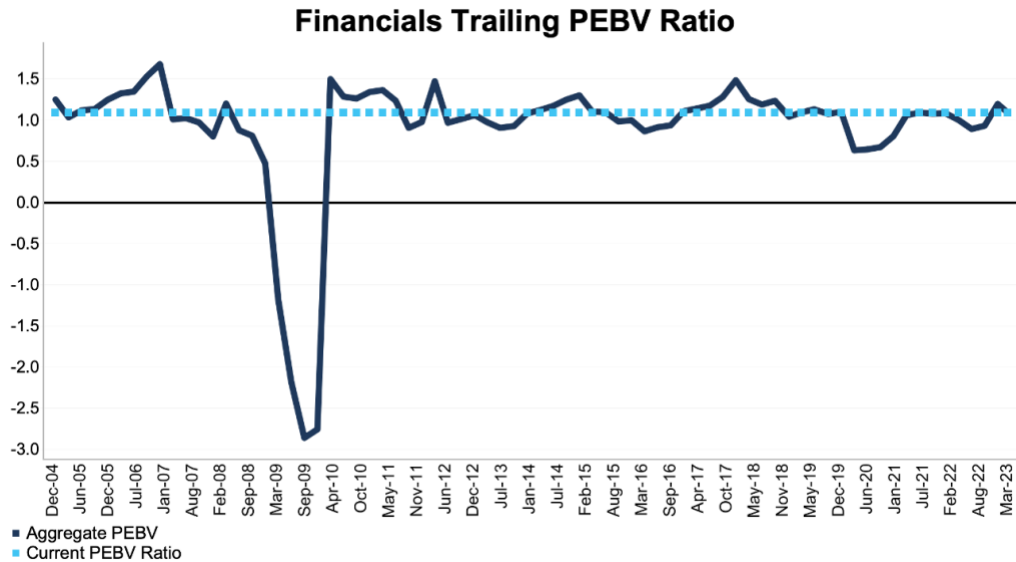
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**Financials: Trailing PEBV Ratio = 1.1**

Figure 7 shows the trailing PEBV ratio for the Financials sector fell from 1.2 as of 12/30/22 to 1.1 as of 3/8/23. The Financials sector market cap remained flat at \$4.0 trillion as of 3/8/23, while its economic book value rose from \$3.3 trillion as of 12/30/22 to \$3.7 trillion as of 3/8/23.

**Figure 7: Financials Trailing PEBV Ratio: December 2004 – 3/8/23**



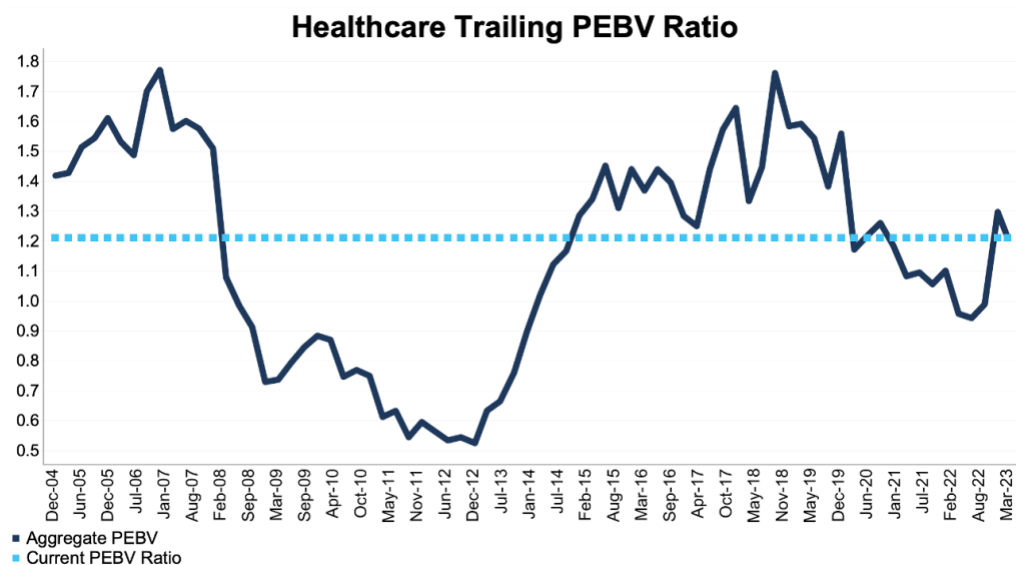
Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Healthcare: Trailing PEBV Ratio = 1.2**

Figure 8 shows the trailing PEBV ratio for the Healthcare sector fell from 1.3 as of 12/30/22 to 1.2 as of 3/8/23. The Healthcare sector market cap fell from \$5.1 trillion as of 12/30/22 to \$4.7 trillion as of 3/8/23, while its economic book value remained flat at \$3.9 trillion as of 3/8/23.

**Figure 8: Healthcare Trailing PEBV Ratio: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.

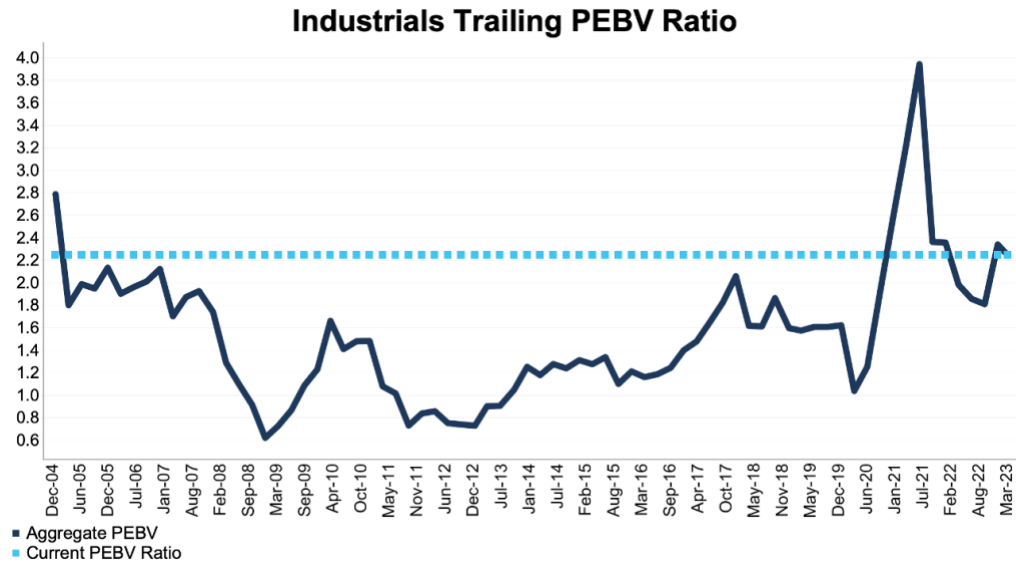
The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



**Industrials: Trailing PEBV Ratio = 2.2**

Figure 9 shows the trailing PEBV ratio for the Industrials sector fell from 2.3 as of 12/30/22 to 2.2 as of 3/8/23. The Industrials sector market cap rose from \$3.2 trillion as of 12/30/22 to \$3.3 trillion as of 3/8/23, while its economic book value rose from \$1.4 trillion as of 12/30/22 to \$1.5 trillion as of 3/8/23.

**Figure 9: Industrials Trailing PEBV Ratio: December 2004 – 3/8/23**



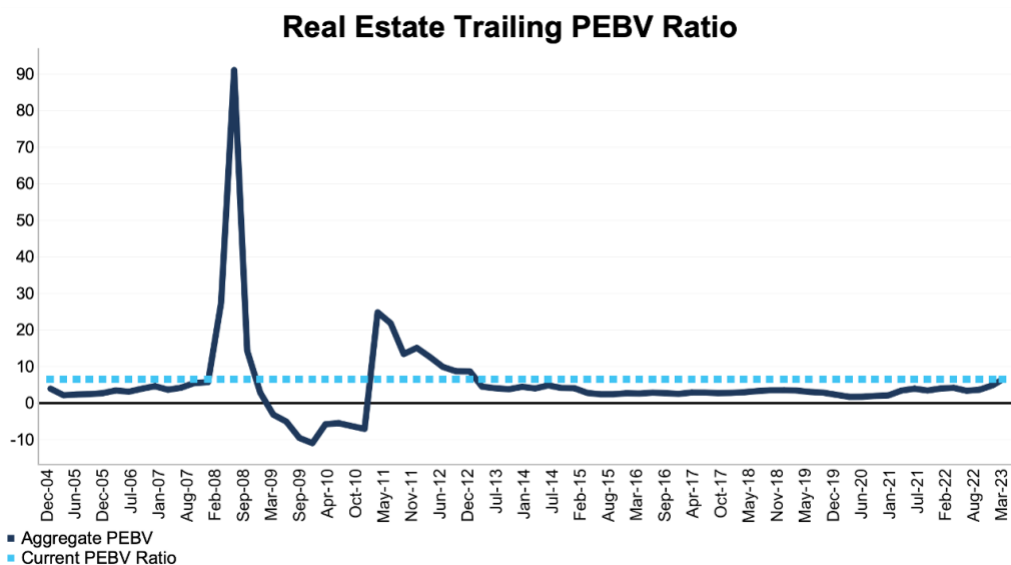
Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Real Estate: Trailing PEBV Ratio = 6.6**

Figure 10 shows the trailing PEBV ratio for the Real Estate sector rose from 4.9 as of 12/30/22 to 6.6 as of 3/8/23. The Real Estate sector market cap rose from \$840.1 billion as of 12/30/22 to \$865.8 billion as of 3/8/23, while its economic book value fell from \$170.6 billion as of 12/30/22 to \$132.2 billion as of 3/8/23.

**Figure 10: Real Estate Trailing PEBV Ratio: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.

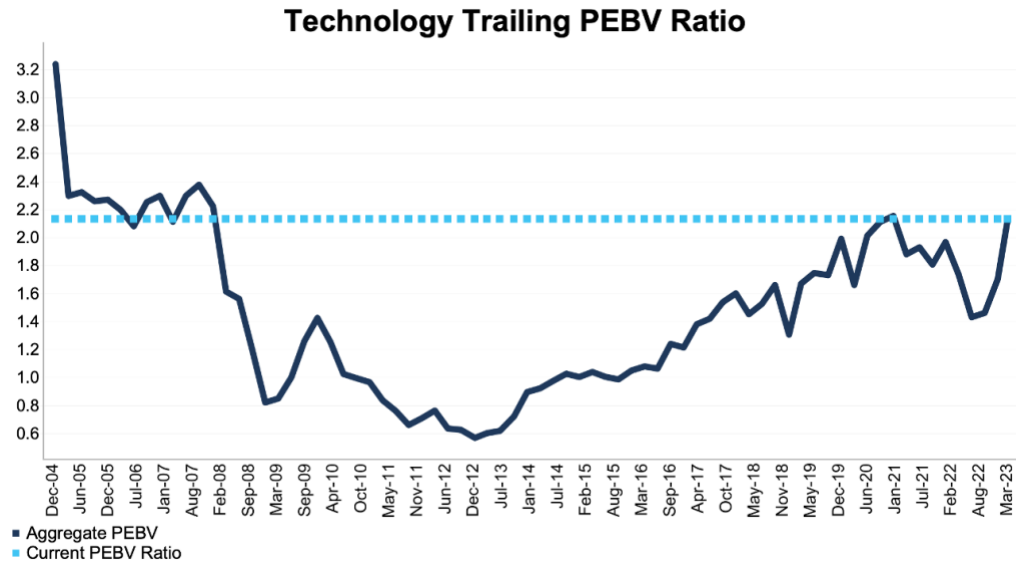
The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



**Technology: Trailing PEBV Ratio = 2.1**

Figure 11 shows the trailing PEBV ratio for the Technology sector rose from 1.7 as of 12/30/22 to 2.1 as of 3/8/23. The Technology sector market cap rose from \$10.2 trillion as of 12/30/22 to \$11.5 trillion as of 3/8/23, while its economic book value fell from \$6.0 trillion as of 12/30/22 to \$5.4 trillion as of 3/8/23.

**Figure 11: Technology Trailing PEBV Ratio: December 2004 – 3/8/23**



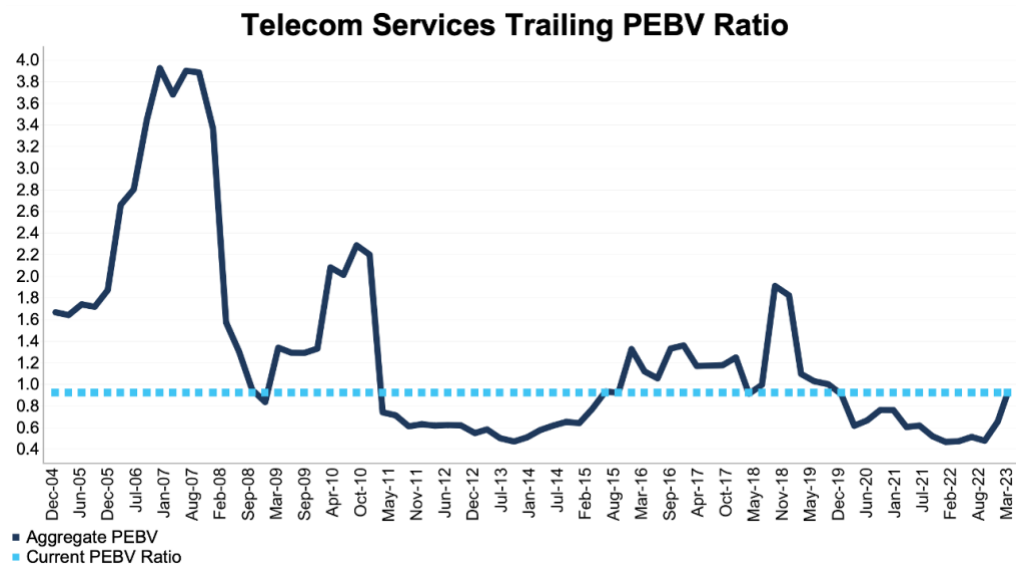
Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Telecom Services: Trailing PEBV Ratio = 0.9**

Figure 12 shows the trailing PEBV ratio for the Telecom Services sector rose from 0.7 as of 12/30/22 to 0.9 as of 3/8/23. The Telecom Services sector market cap fell from \$529.1 billion as of 12/30/22 to \$521.9 billion as of 3/8/23, while its economic book value fell from \$806.9 billion as of 12/30/22 to \$564.5 billion as of 3/8/23.

**Figure 12: Telecom Services Trailing PEBV Ratio: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.

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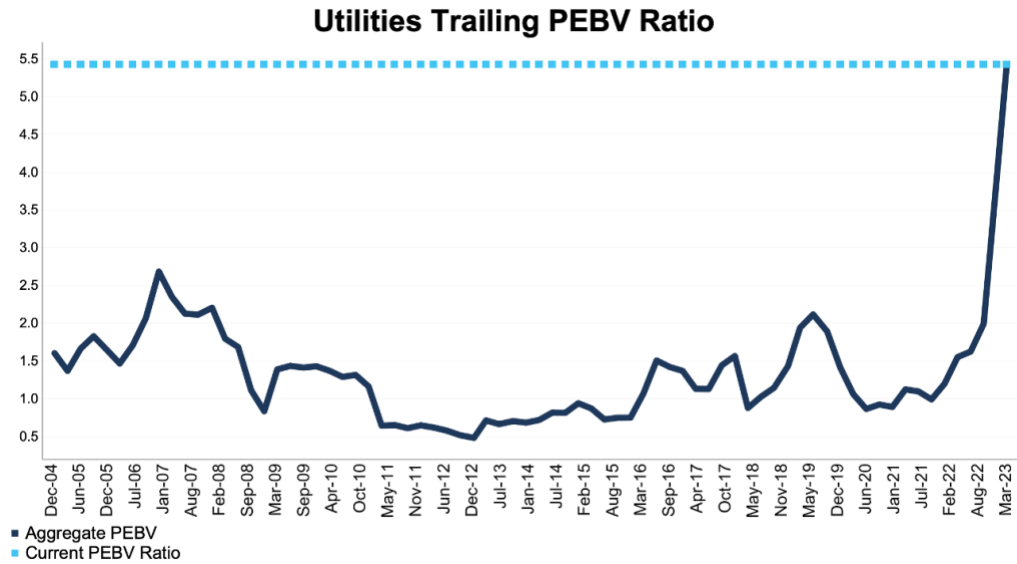




**Utilities: Trailing PEBV Ratio = 5.4**

Figure 13 shows the trailing PEBV ratio for the Utilities sector rose from 3.9 as of 12/30/22 to 5.4 as of 3/8/23. The Utilities sector market cap fell from \$1.0 trillion as of 12/30/22 to \$933.9 billion as of 3/8/23, while its economic book value fell from \$265.0 billion as of 12/30/22 to \$172.2 billion as of 3/8/23.

**Figure 13: Utilities Trailing PEBV Ratio: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.

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

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**Appendix I: S&P 500: Market Cap & Economic Book Value Since 2004**

This appendix shows the two drivers used to calculate trailing PEBV ratio – market cap and economic book value (EBV) – 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 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. More methodology details in Appendix II.

Figure 14 ranks all 11 sectors by market cap as of 3/8/23. It shows the Technology sector’s outsized impact on the S&P 500, with a market cap more than double the size of the next closest sector, Healthcare.

**Figure 14: Market Cap by Sector – as of 3/8/23**

Sector	Market Cap (\$billions)
Technology	\$11,455
Healthcare	\$4,722
Consumer Cyclicals	\$4,485
Financials	\$4,019
Industrials	\$3,331
Consumer Non-cyclicals	\$2,438
Energy	\$1,713
Utilities	\$934
Basic Materials	\$871
Real Estate	\$866
Telecom Services	\$522
<b>S&amp;P 500</b>	<b>\$35,356</b>

Sources: New Constructs, LLC and company filings.  
Prices as of 3/8/23.

Figure 15 ranks all 11 S&P 500 sectors by economic book value based on financial data that incorporates 2022 10-Ks. It shows that the Technology sector also has the highest economic book value – though it’s not double the EBV of the next closest sector.

**Figure 15: Economic Book Value by Sector – as of 3/8/23**

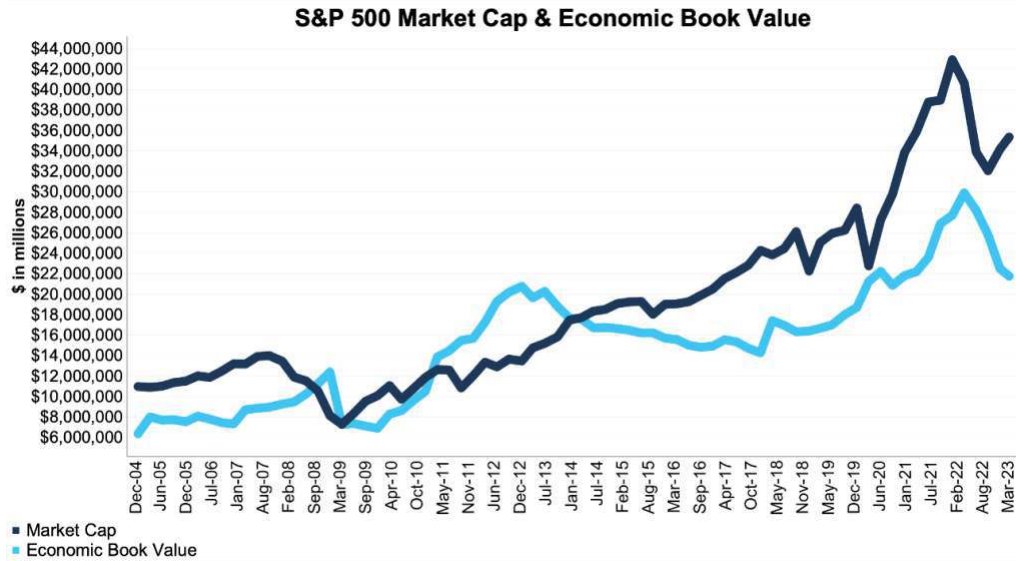
Sector	Economic Book Value (\$billions)
Technology	\$5,373
Healthcare	\$3,899
Financials	\$3,687
Energy	\$2,669
Consumer Non-cyclicals	\$1,578
Consumer Cyclicals	\$1,549
Industrials	\$1,484
Basic Materials	\$661
Telecom Services	\$564
Utilities	\$172
Real Estate	\$132
<b>S&amp;P 500</b>	<b>\$21,768</b>

Sources: New Constructs, LLC and company filings.  
Financial data incorporates 2022 10-Ks.



Figures 16-27 compare the market cap and economic book value trends for the S&P 500 and every sector since 2004.

**Figure 16: S&P 500 Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
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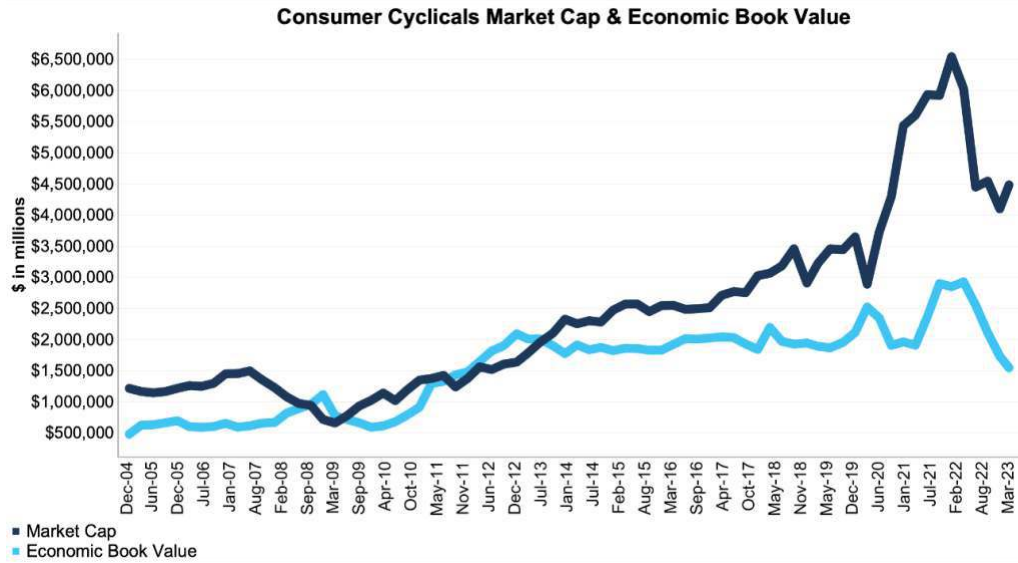
**Figure 17: Basic Materials Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
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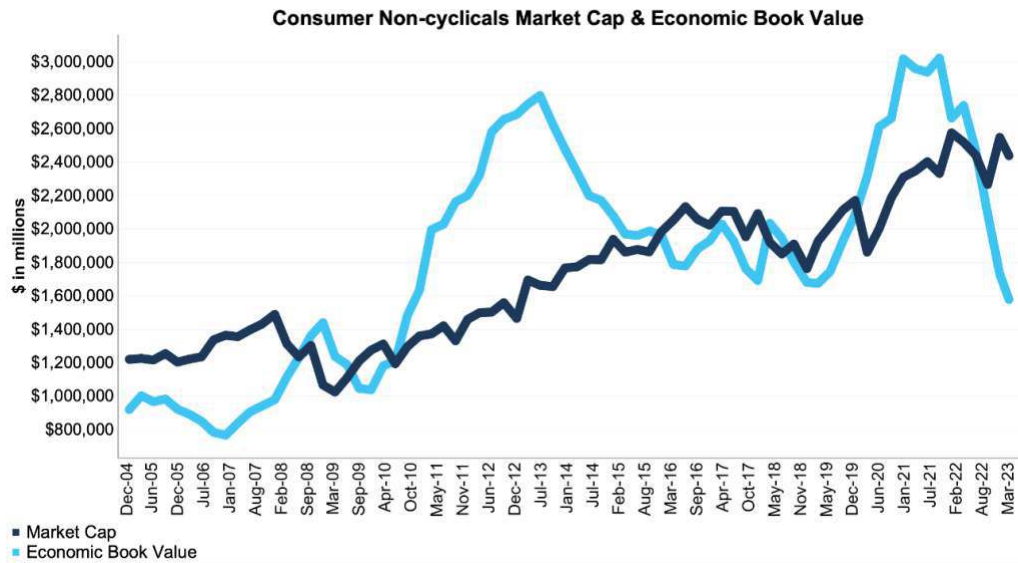


**Figure 18: Consumer Cyclical Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings. The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

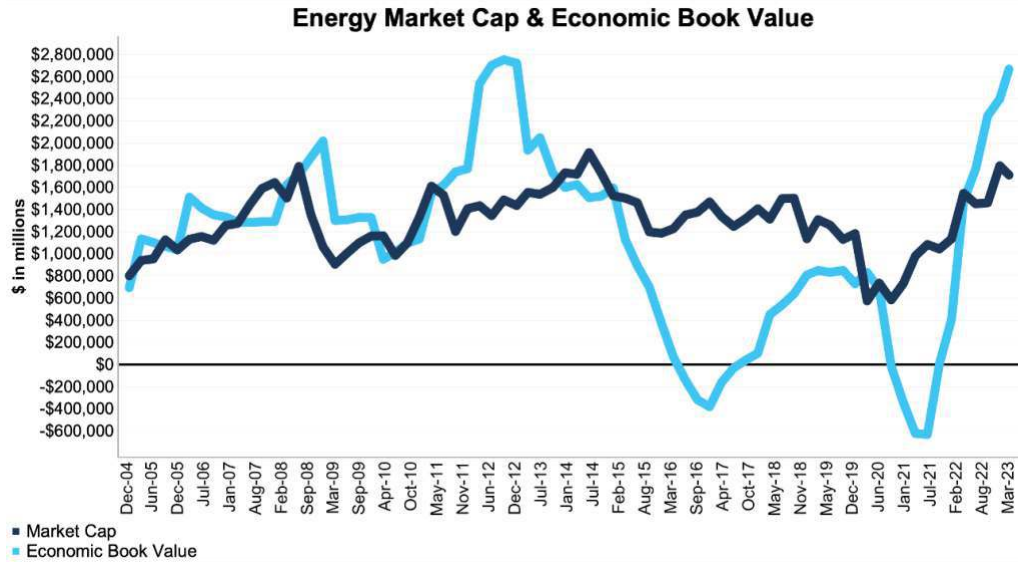
**Figure 19: Consumer Non-cyclicals Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings. The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

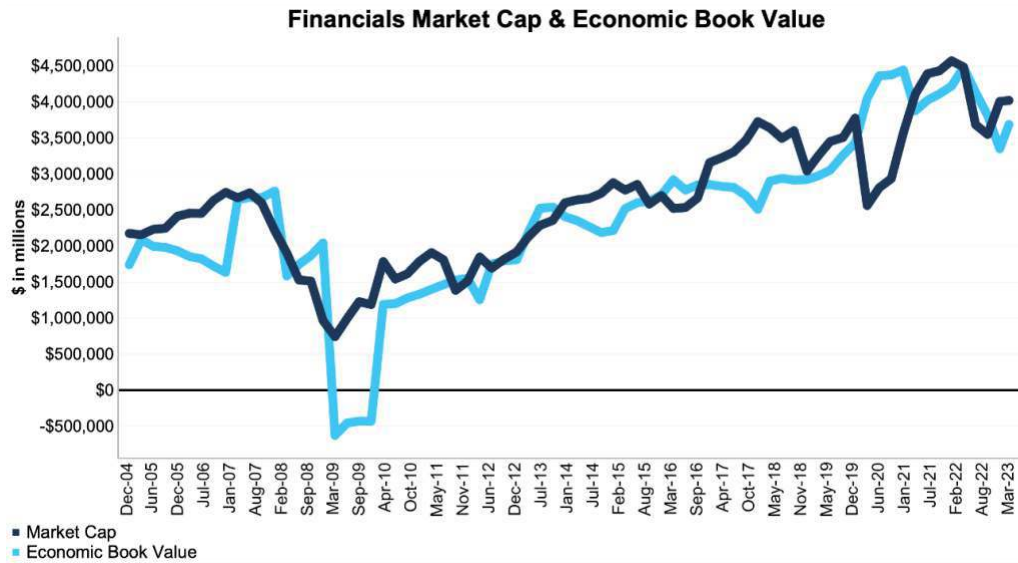


**Figure 20: Energy Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

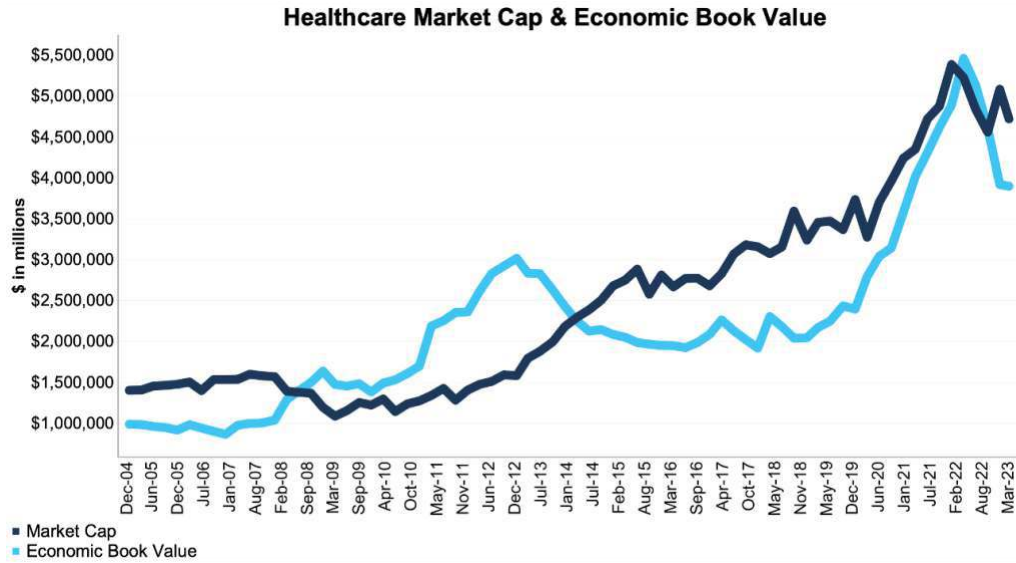
**Figure 21: Financials Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



**Figure 22: Healthcare Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Figure 23: Industrials Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
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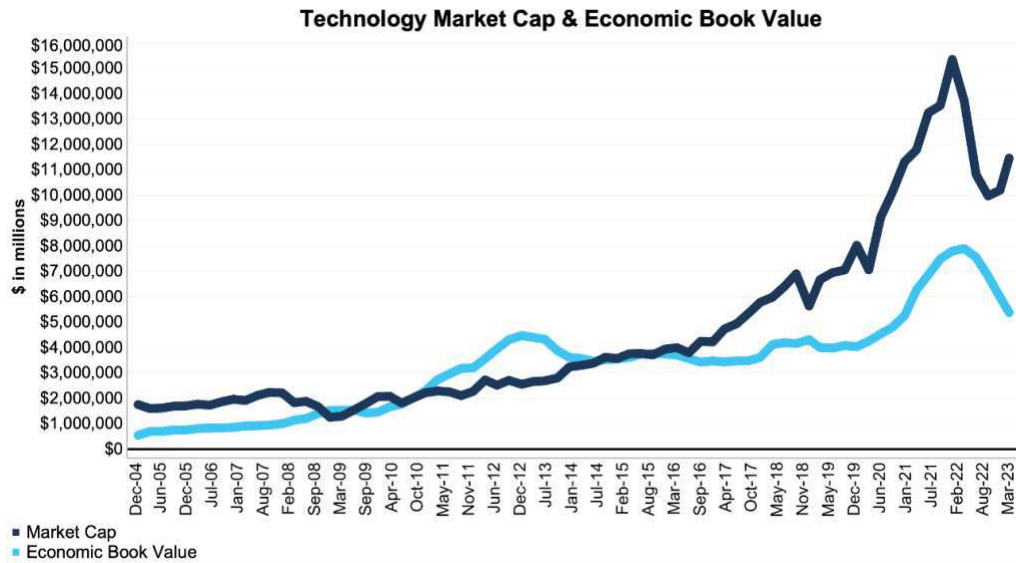


**Figure 24: Real Estate Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

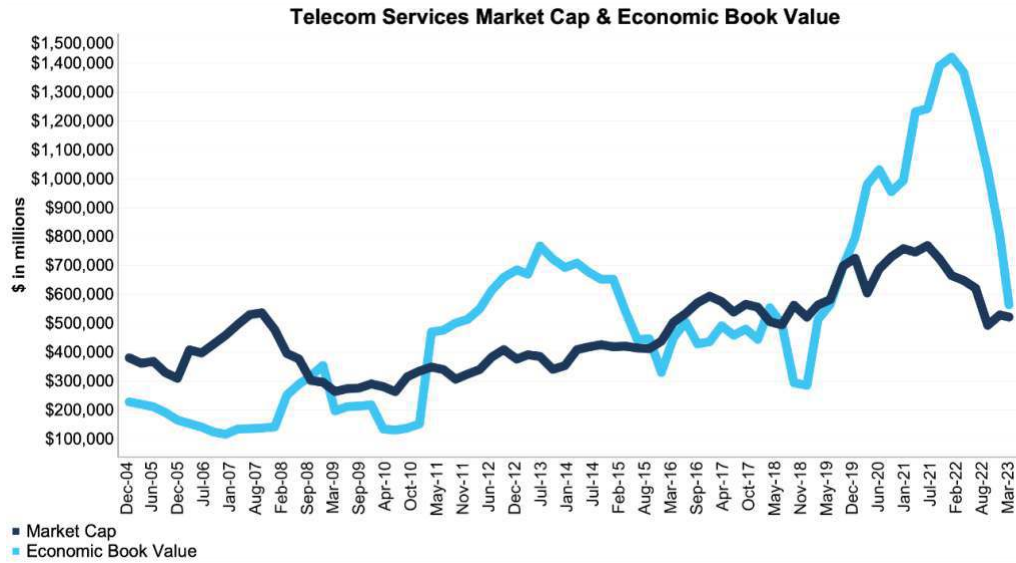
**Figure 25: Technology Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

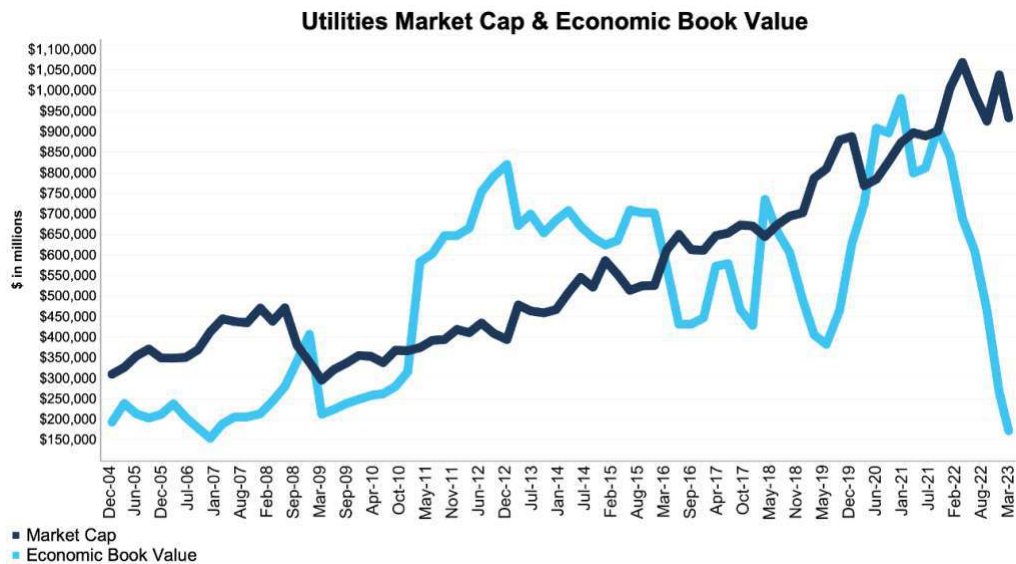


**Figure 26: Telecom Services Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Figure 27: Utilities Market Cap & Economic Book Value: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.





## **Appendix II: Analyzing Trailing PEBV Ratio with Different Weighting Methodologies**

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We derive the metrics above by summing the individual S&P 500/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 S&P 500/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 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 PEBV ratio 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 or its sector
  - b. We multiply each company’s trailing PEBV ratio by its weight
  - c. S&P 500/Sector trailing PEBV equals the sum of the weighted trailing PEBV ratios for all the companies in the S&P 500/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 S&P 500 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 S&P 500/each sector to determine the S&P 500 or sector’s weighted FCF and weighted enterprise value
  - d. S&P 500/Sector trailing PEBV ratio equals weighted S&P 500/sector market cap divided by weighted S&P 500/sector economic book 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 PEBV ratio, as we’ll show below.

### **Market-weighted drivers method**

Pros:

- Accounts for a firm’s market cap relative to the S&P 500/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:



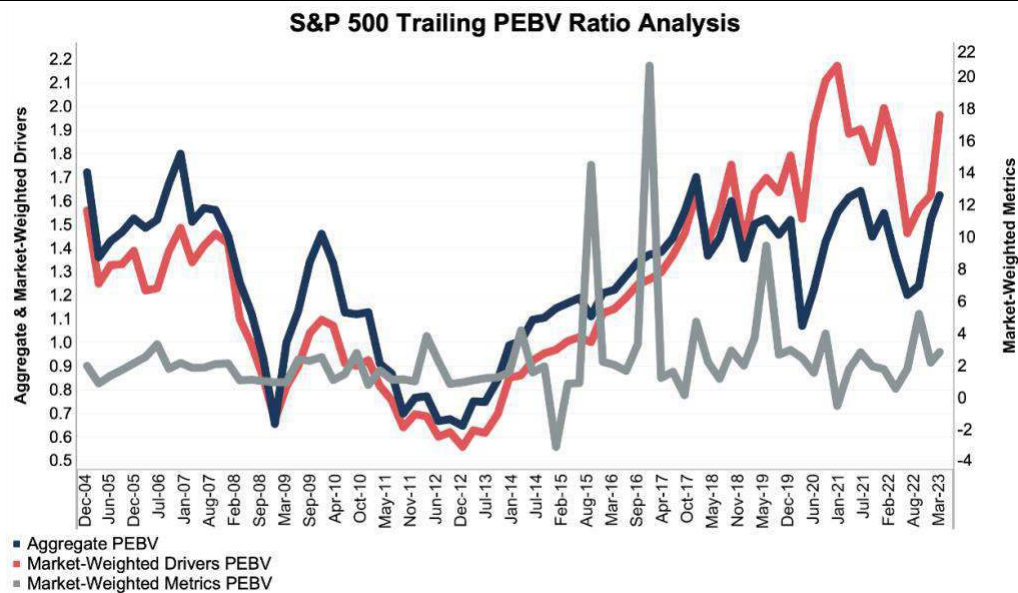
- More susceptible to large swings in market cap or economic book value (which can be impacted by changes in WACC) period over period, particularly from firms with a large weighting in the S&P 500/Sector.

Figures 28-39 compare these three methods for calculating S&P 500 and sector trailing PEBV ratio. We provide some high-level commentary on why certain sectors show some interesting results. Clients can contact us for access to the underlying data to study the results in more detail.

In Figure 28, the sharp decline in the market-weighted metrics trailing PEBV for the S&P 500 in 2015 is driven largely by volatility in Amazon’s (AMZN) economic book value. The first instance was caused by a sharp decline in the firm’s net operating profit after-tax (NOPAT), coupled with an increase in weighted average cost of capital (WACC), which resulted in a negative economic book value and negative 16,606 trailing PEBV.

This analysis highlights the outsized sensitivity of the market-weighted metrics methodology to outlier results from a single company with a large market cap, such as Amazon.

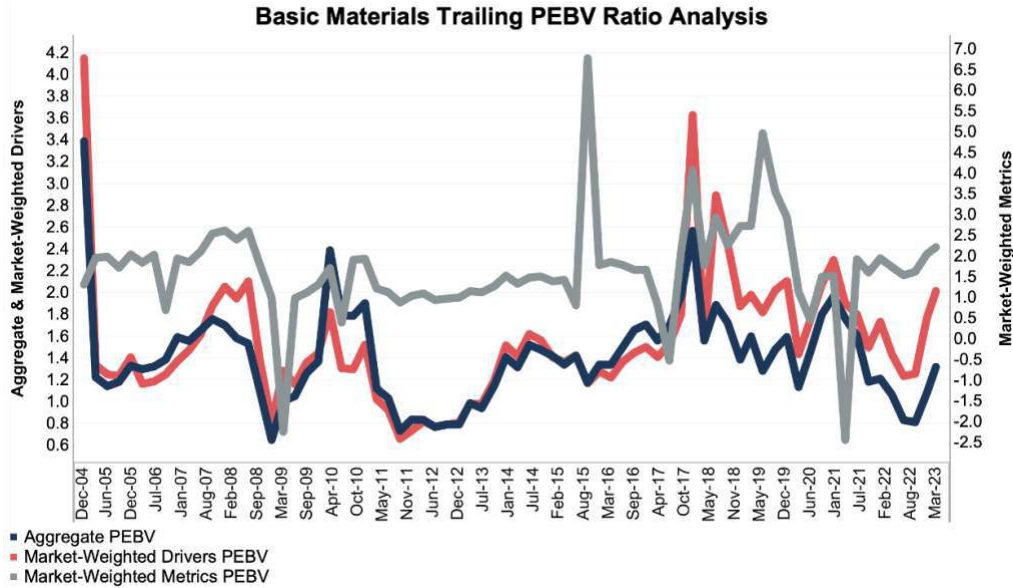
**Figure 28: S&P 500 Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



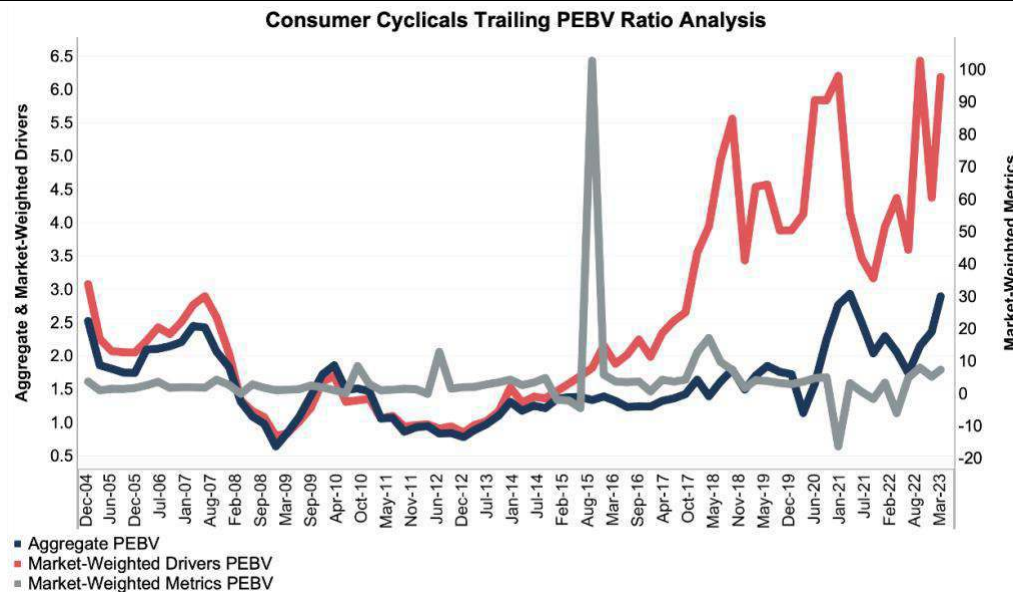
**Figure 29: Basic Materials Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings. The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

In Figure 30, Amazon drives the sharp decline in the market-weighted metrics trailing PEBV for the Consumer Cyclical Sector in 2015, as noted for S&P 500 above. The impacts are even larger on the sector-level results, as Amazon represented 10% of the sector in 2015.

**Figure 30: Consumer Cyclical Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**

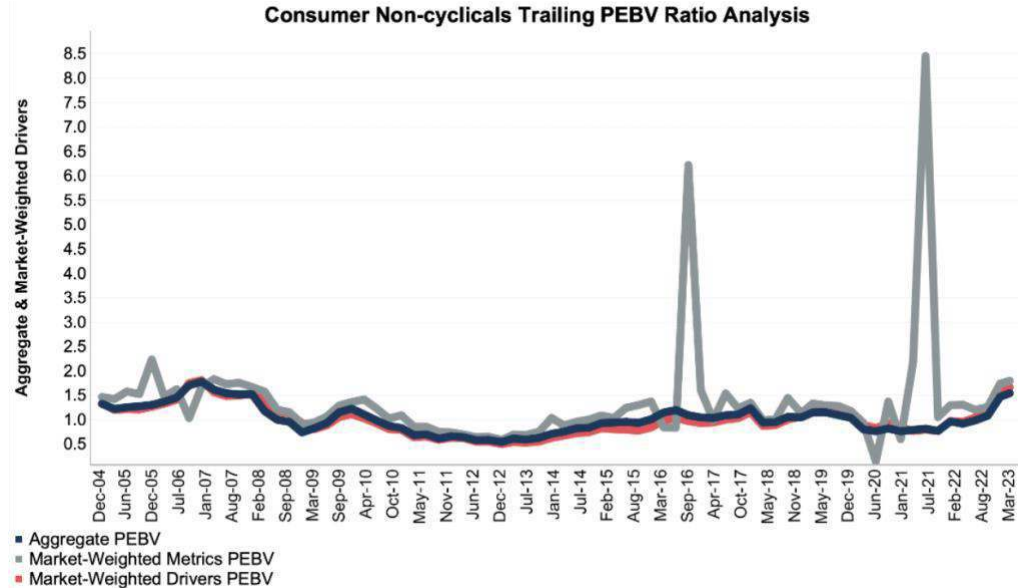


Sources: New Constructs, LLC and company filings. The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

In Figure 31, the sharp increase in the market-weighted metrics trailing PEBV for the Consumer Non-cyclicals sector in 2016 is driven by Kraft Heinz (KHC). The merger between Kraft and Heinz caused the combined firms' economic book value to improve from -\$15 billion in June 2016 to \$1 billion in September 2016, which resulted in trailing PEBV rising from negative 7 to positive 98 over the same time. Given KHC's 5% weight in the sector, this large change in trailing PEBV had an outsized impact on the sector's market-weighted metrics trailing PEBV.



**Figure 31: Consumer Non-cyclicals Trailing PEBV Ratio Methodologies Compared: Dec 2004 – 3/8/23**

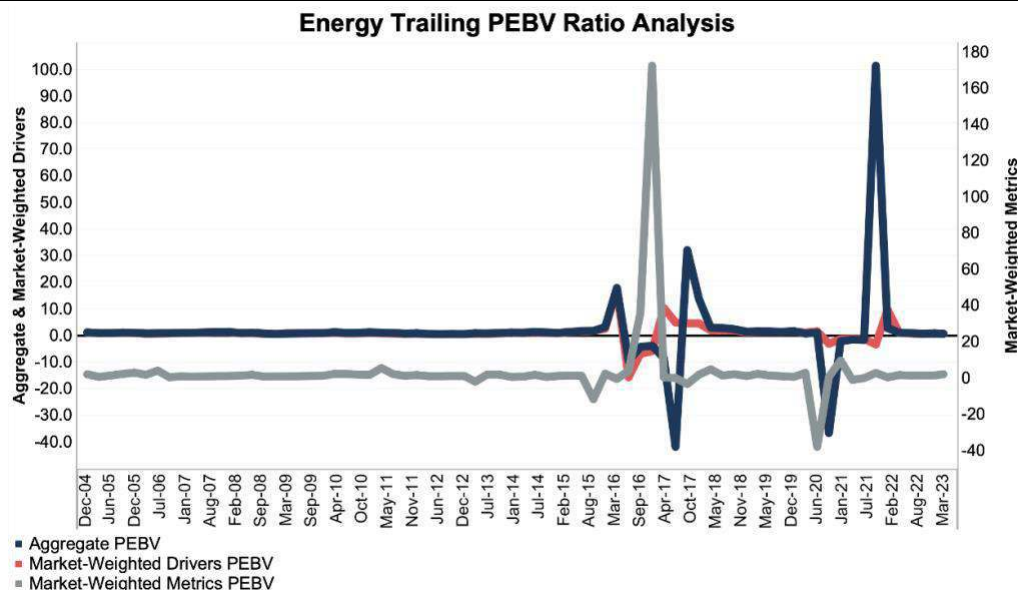


Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

In Figure 32, the sharp increase in the market-weighted metrics trailing PEBV for the Energy sector in 2016 is driven largely by Exxon Mobil (XOM), which at the time, made up 25% of the sector’s market cap. As a result of crashing oil prices, Exxon Mobil’s NOPAT more than halved in 2015 and 2016 was still 41% below 2014. The significant decline in profitability caused an equally large drop in Exxon Mobil’s economic book value and resulted in XOM’s trailing PEBV increasing from 14 in June 2016 to 425 in December 2016. Given its large weighting in the sector, this increase had an outsized impact on the sector’s market-weighted metrics trailing PEBV during this time.

**Figure 32: Energy Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



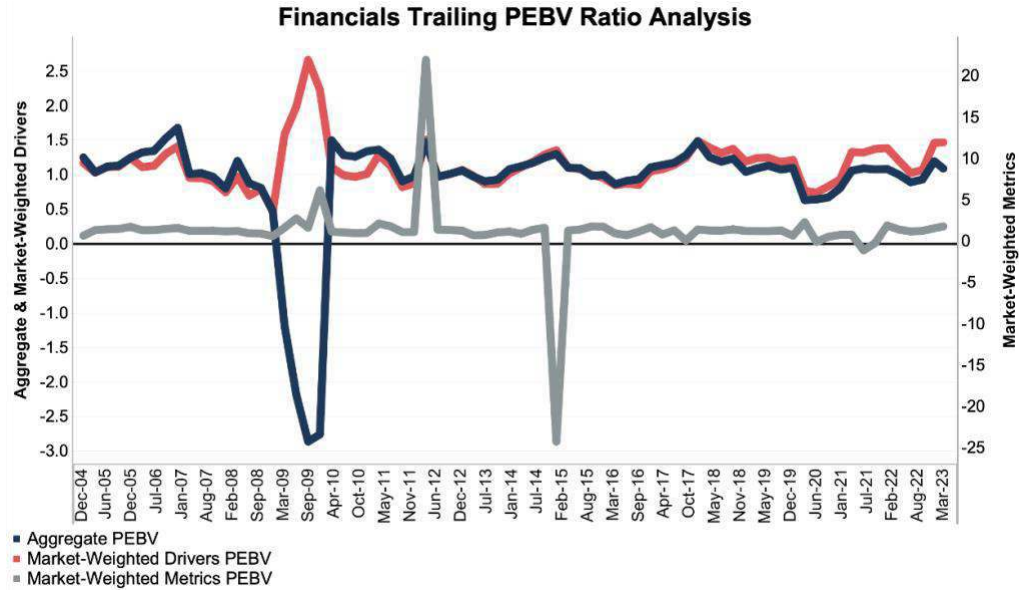
Sources: New Constructs, LLC and company filings.

The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



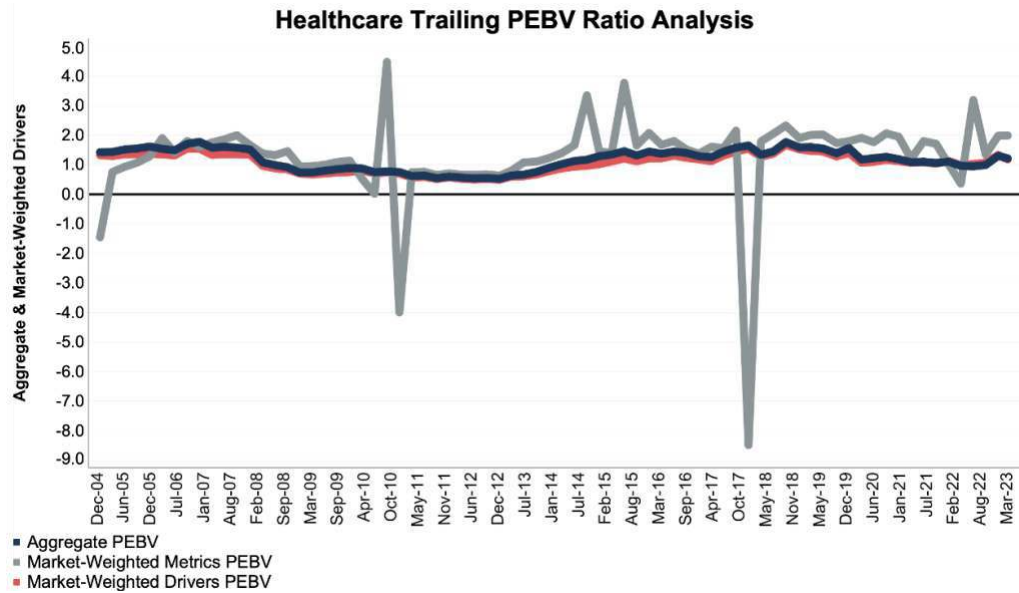


**Figure 33: Financials Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

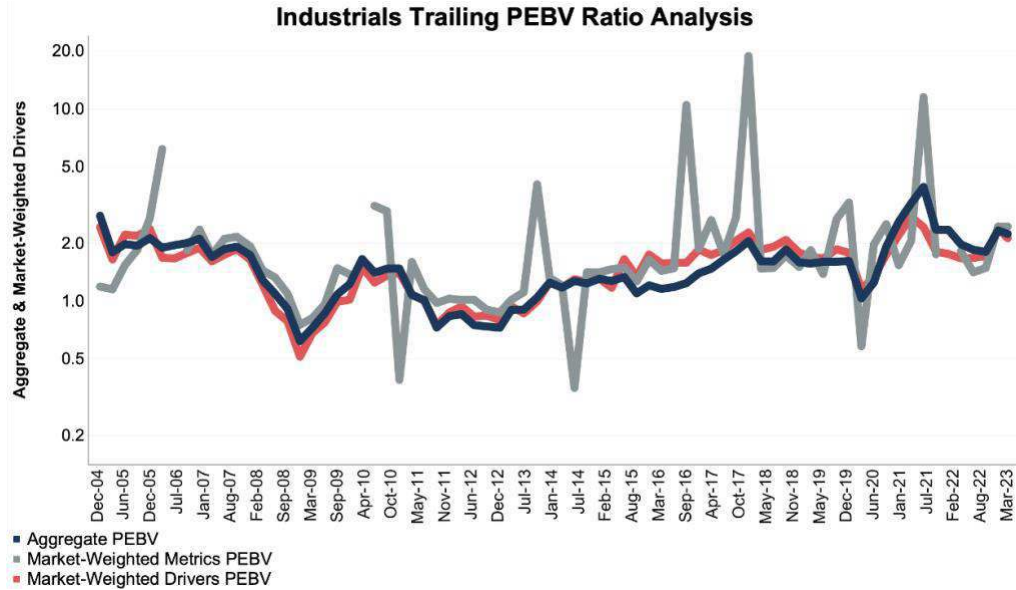
**Figure 34: Healthcare Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

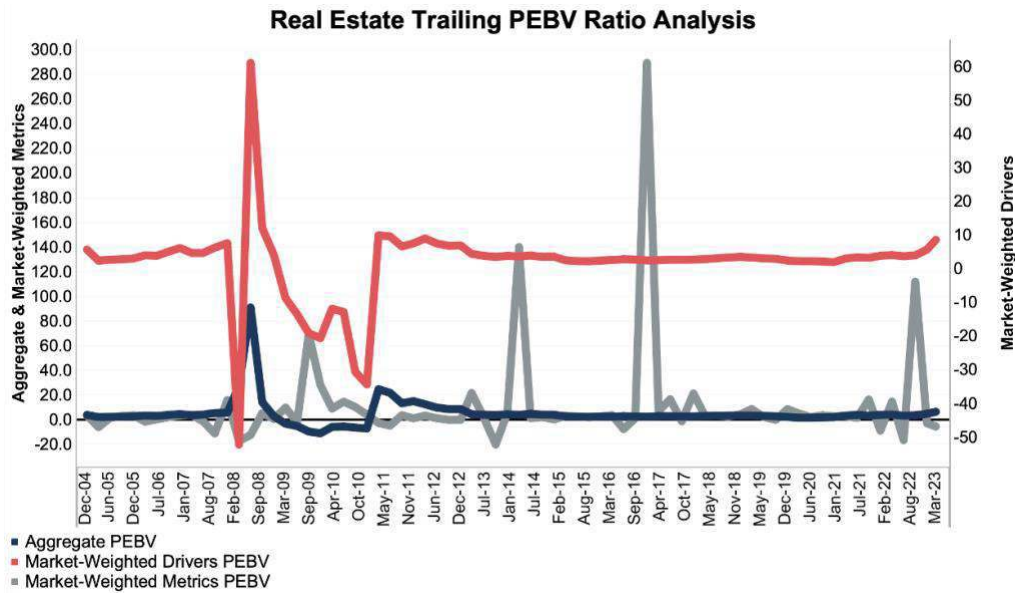


**Figure 35: Industrials Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

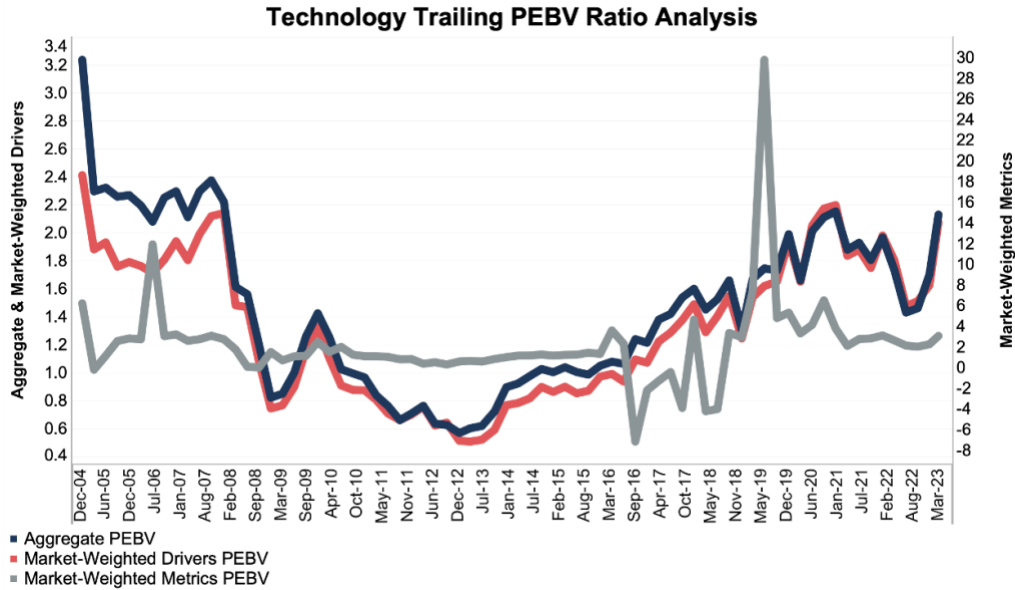
**Figure 36: Real Estate Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

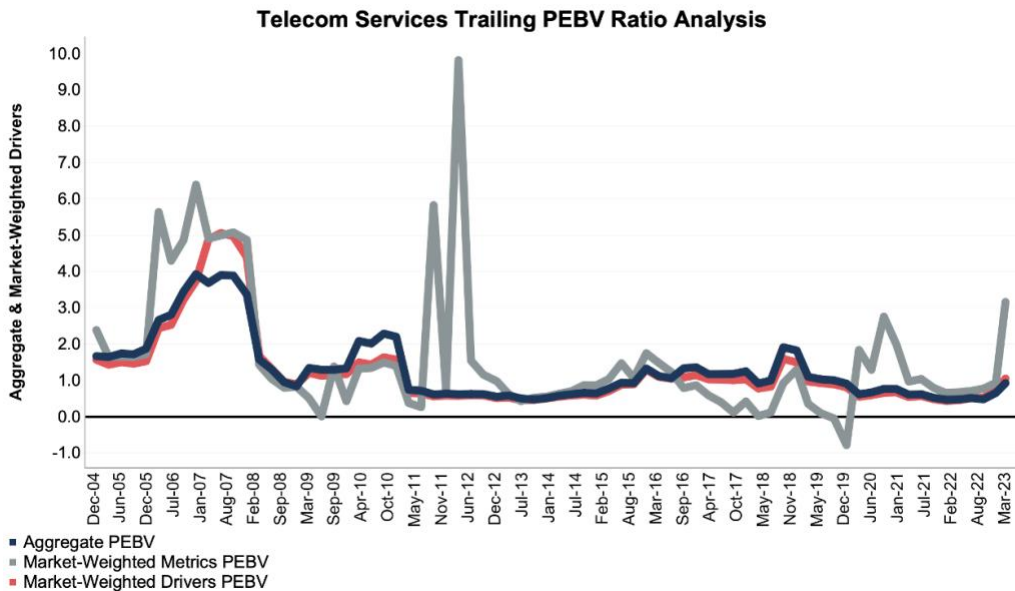


**Figure 37: Technology Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.

**Figure 38: Telecom Services Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**

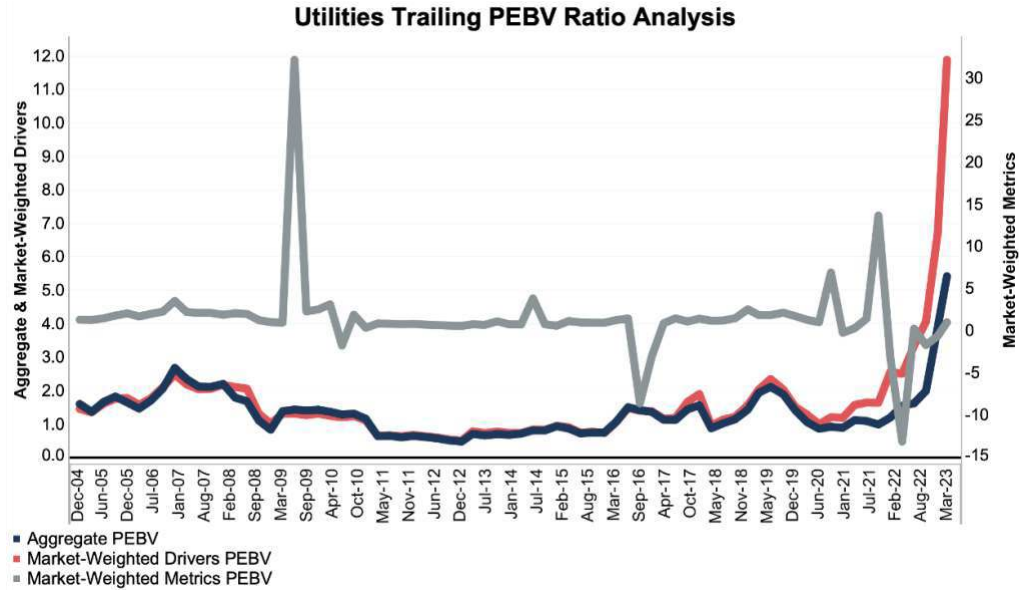


Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.





**Figure 39: Utilities Trailing PEBV Ratio Methodologies Compared: December 2004 – 3/8/23**



Sources: New Constructs, LLC and company filings.  
 The March 8, 2023 measurement period uses price data as of that date and incorporates the financial data from 2022 10-Ks, as this is the earliest date for which all the calendar 2022 10-Ks for the S&P 500 constituents were available.



## ***It's Official: We Offer the Best Fundamental Data in the World***

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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.
2. Only our “novel database” enables investors to overcome these flaws and apply [reliable](#) fundamental data in their research.
3. Our proprietary measures of [Core Earnings](#) and [Earnings Distortion](#) materially improve stock picking and forecasting of profits.

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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, 1<sup>st</sup> 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, 2<sup>nd</sup> 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, 5<sup>th</sup> 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, 2<sup>nd</sup> 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, 3<sup>rd</sup> para.
- “Our results ultimately suggest that Robo-Analysts are a valuable, alternative information intermediary to traditional sell-side analysts.” – pp. 20, 3<sup>rd</sup> para.

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