

Quantitative Review of U.S. Equities

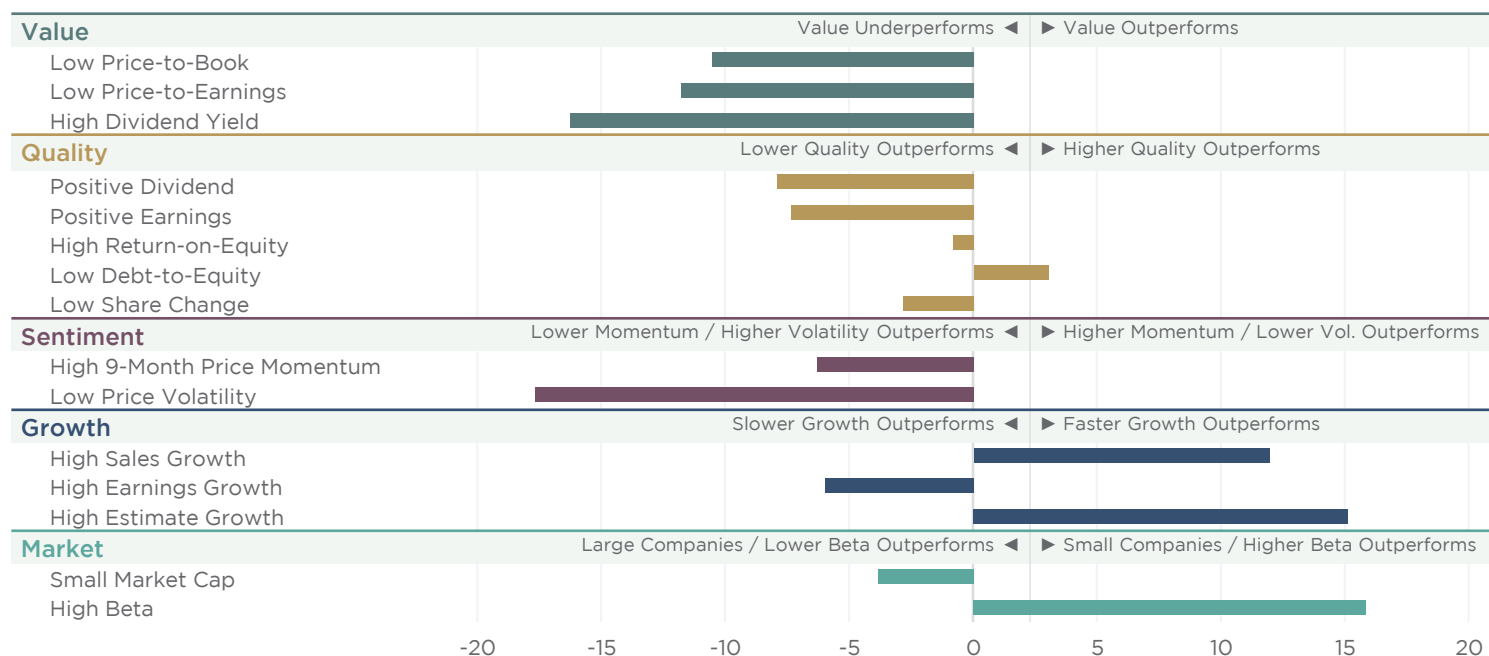
- Recession concerns remain prevalent in the U.S., yet the broad U.S. equity market continued to rally with the S&P 500 up 8.6% in the quarter and 16.6% year to date.
- Growth factors continued to lead the market higher after trailing in 2022. The growth returns were particularly strong among a narrow group of large-cap stocks. Conversely, value factors were weaker this year after strong returns in 2022. These factors were not quite as negative within small cap as they were in larger caps.
- Year to date, the Russell 1000 Growth Index rose 29.0% while the Russell 1000 Value Index gained only 5.1%.
- As might be expected in a strong market rally, quality factors, which tend to be more defensive, lagged this quarter and year.
- The price momentum factor remained negative this quarter but much less so than in the first quarter.
- Higher-volatility stocks have done very well in this positive market, with the strongest factor return for the quarter and the year.
- As in last quarter, smaller-cap stocks continue to underperform larger caps. Higher beta stocks did well in an up market.
- **Research Spotlight: Performance Concentration in 2023.** While the broad U.S. market performed very well this year, the strong returns were exceptionally driven by a very small group of large-cap growth stocks. We examine the impact of this handful of growth names on overall market returns in 2023.

A Note from Brandywine Global's Diversified Equity Team

This paper is the quarterly report by Brandywine Global's Diversified Equity team on quantitative factors impacting the U.S. equity markets. In each publication, we will provide a standardized report on factor behavior for the quarter and year-to-date periods. In addition, we will provide brief comments highlighting important and interesting trends in factor behavior and discuss recent work we are engaged in to better understand these trends. Understanding market performance through the unique lens of factor returns often brings early illumination to equity opportunities as well as areas of risk concentration. We use a longer-term perspective on the behavior of various factor returns to develop Diversified Equity strategies at Brandywine Global.

1 | Second Quarter 2023 Russell 1000 Index Factor Returns

QTD; % Return Difference Between Factors¹ High and Low Quartiles; Russell 1000 Index; As of 6/30/2023

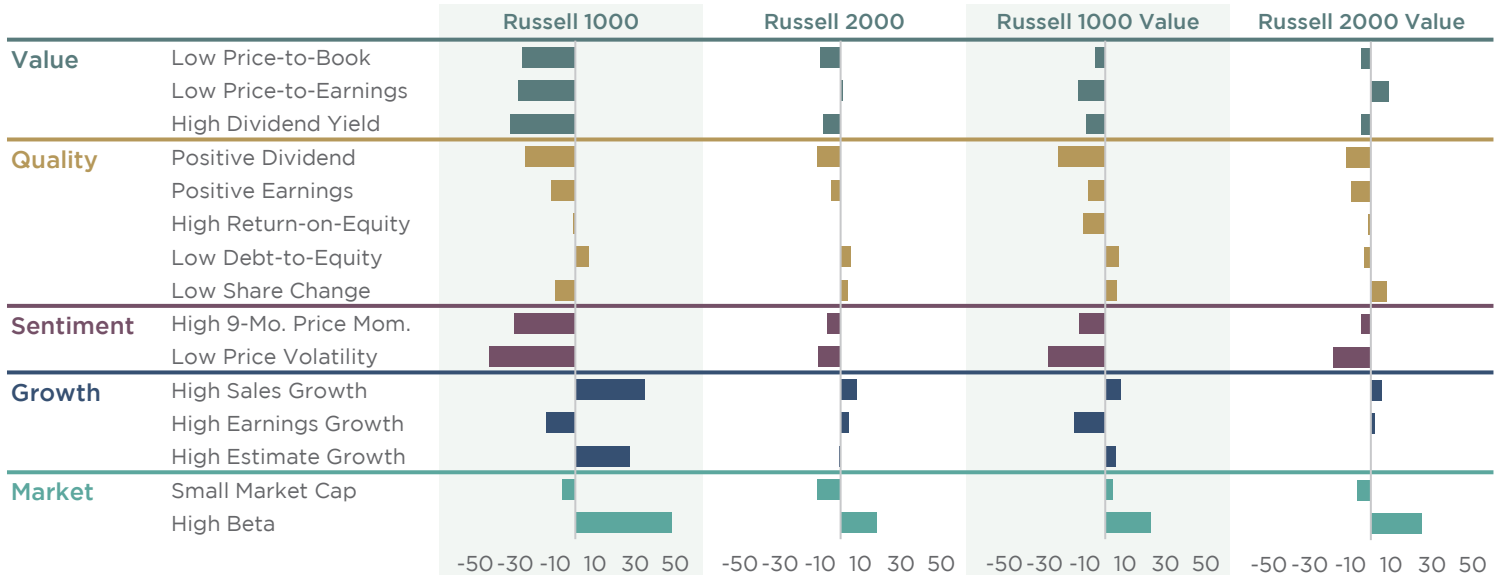


Source: Brandywine Global, FactSet, FTSE Russell

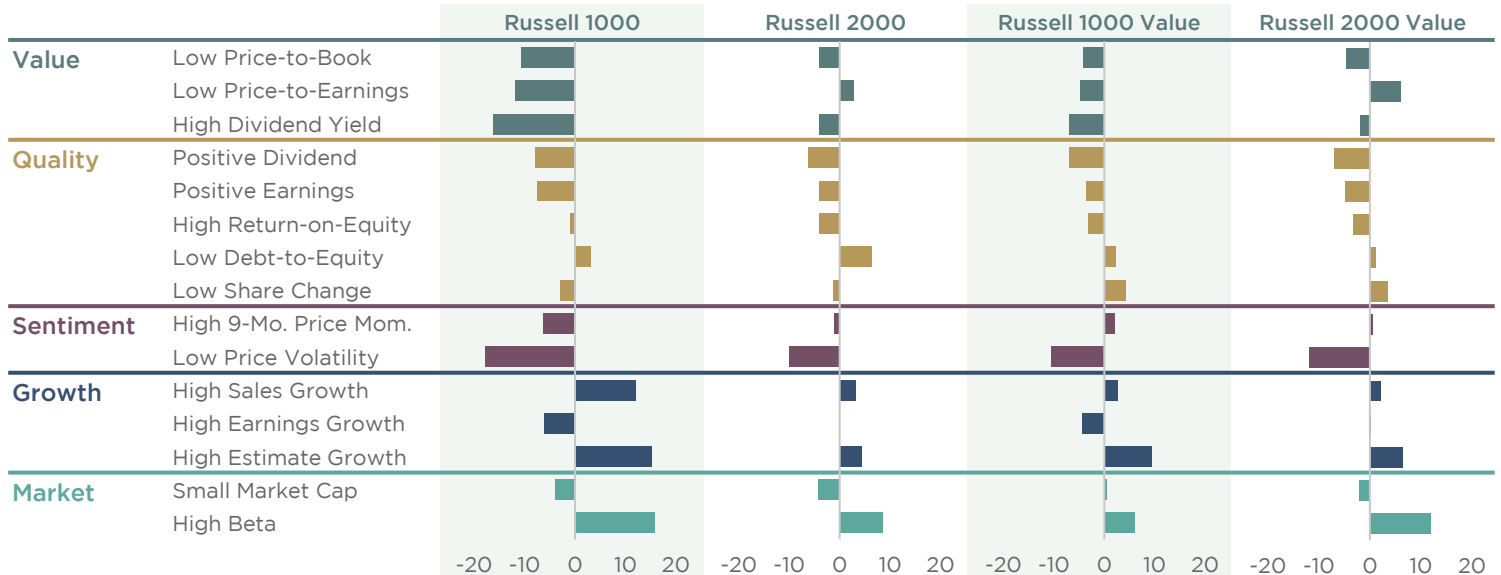


2 | Russell Index 2023 Factor Returns

YTD; % Return Difference Between Factors¹ High and Low Quartiles; As of 6/30/2023



QTD; % Return Difference Between Factors² High and Low Quartiles; As of 6/30/2023



Source: Brandywine Global, FactSet, FTSE Russell

Second Quarter 2023 Factor Returns

Economic signals remain mixed with the labor market cooling somewhat but still far from exhibiting recession-like conditions. The Federal Reserve Board (Fed) signaled that additional rate increases would be necessary to bring inflation down further to long-term target rates. In the face of this continued uncertainty and with recession concerns still pronounced, the U.S. equity market continued its strong rally in the second quarter. The S&P 500 rose 8.7% this quarter after rising 7.5% in the first quarter of 2023, for a total year-to-date gain of 16.6%. In 2022 by contrast, the S&P 500 fell 18.1%.

Comparing fourth quarter 2022 sector returns with first quarter 2023 sector returns, all sectors but one within the Russell 1000 reversed their relative performance—underperformers in Q4 2022 were outperformers in the first quarter and the opposite was true as well. Conversely, the second quarter performance was a near repeat of the first quarter with sector and factor



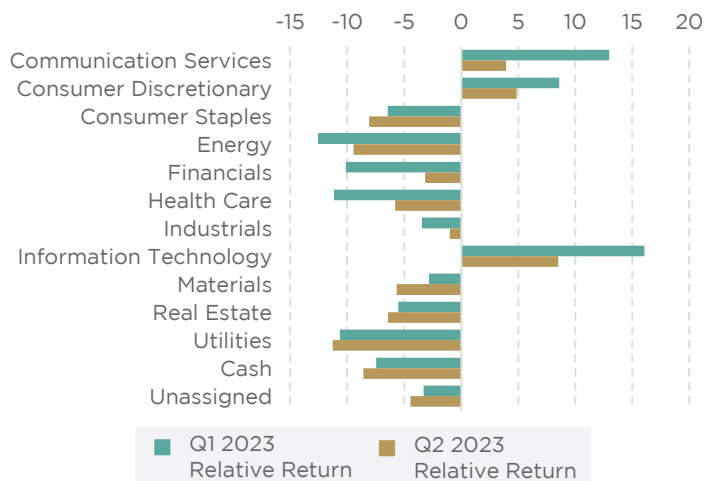
returns in the broad market nearly identical in the two quarters. As **FIGURE 3** shows for the Russell 1000, every sector maintained its direction of relative performance between the two longer-term quarters. **FIGURE 4** shows this relationship was also true for every factor but one among those we examine in this report.

Growth factors were among the few factors with positive returns this year. Growth stock prices depend more on longer-term earnings growth prospects. Therefore, when longer-term interest rates rise, these prospects are valued less, and growth stocks often underperform. Conversely, when the longer-term interest rates decline, growth stocks benefit. In the first quarter, growth stocks appeared to rebound from their 2022 lagging performance in part from the decline in long-term interest rates in the first quarter—the 10-year U.S. Treasury yield fell 41 basis points in early 2023. This fall off in rates followed a sharp increase in 2022. However, in the second quarter, long-rates increased back to near their 2022 year-end levels with a 37 basis point increase in the 10-year yield, yet growth stocks continued their strong surge. Some of these persistent gains can perhaps be attributed to the surge in publicity and interest around natural language artificial intelligence engines, which spurred demand for technology stocks in general and microchip stocks in particular. The exception to the positive growth factor returns was for earnings growth, where the lowest earnings growth stocks included a significant weighting in high performance technology names, including chip manufacturer NVIDIA.

The value factors of low price-to-earnings, low price-to-book, and high dividend yield continued their underperformance this year after posting strong positive returns last year. Financials stocks with low valuation factors produced negative returns last quarter and were a major contributor to poor value factor performance this quarter. These financials, as a group, did have a positive return in the second quarter, but they still lagged the broad market, once again hurting the value factor returns. **FIGURE 5** shows the continued gap between the Russell Value and Growth indices this quarter and year to date.

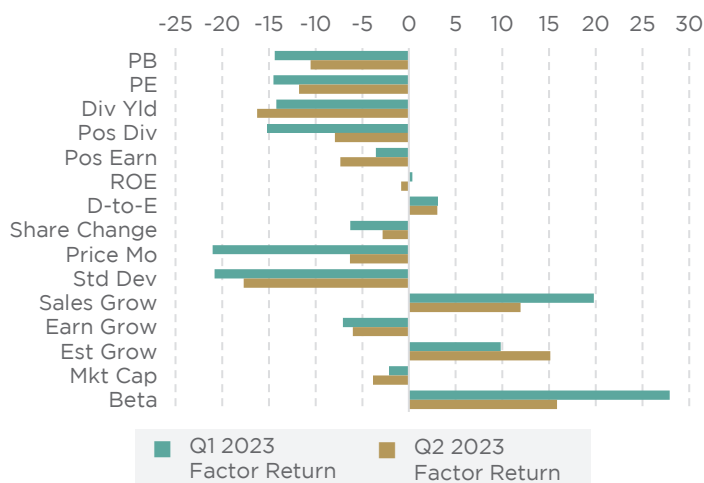
The significant swing in value and growth returns between 2022 and first quarter 2023 led to a large negative return to the price momentum factor in early 2023. The biggest negative performance was in the broad large-cap market,

3 Sector Return Relative to the Russell 1000 Index



Source: Brandywine Global, FactSet, FTSE Russell

4 Factor Returns



Source: Brandywine Global, FactSet, FTSE Russell

5 Russell Value & Growth Index

As of 6/30/2023

	2023			
	Second Quarter		Year to Date	
	Growth	Value	Growth	Value
Russell 1000 Index	12.8%	4.1%	29.0%	5.1%
Russell Midcap Index	6.2%	3.9%	15.9%	5.2%
Russell 2000 Index	7.1%	3.2%	13.6%	2.5%
Russell Microcap Index	6.4%	4.5%	7.2%	-0.9%

Source: FTSE Russell



represented by the Russell 1000 Index, where the swing between growth and value was the largest. With continued growth outperformance this quarter, the composition of the high-momentum stocks is gradually changing from the high-performance value names of 2022 to the high-performing growth names of 2023. The price momentum factor was still negative this quarter (-6.3%) but much less so than in the first quarter (-21.0%). The price momentum factor was slightly positive within the large- and small-cap value market segments.

As is typical in strong equity market rallies, defensive stocks performed poorly this year. Correspondingly, defensive quality factors, such as positive earnings, positive dividends, high return-on-equity, low stock price volatility, and low share change, generally had negative return this quarter and year. In one exception to this trend, low share change was positive within the large-cap value and small-cap value sectors. Low price volatility has been one of the worst-performing factors this quarter and year while high beta stocks have been one of the best. Counter to historical trends, smaller caps lagged this year even as the market rose, primarily due to the very strong returns from larger-cap technology stocks. **FIGURE 6** shows the impact of the negative size effect on the Russell U.S. indices as the largest-cap index outperformed for the quarter and year.

Research Spotlight: Performance Concentration in 2023

The strong gains in the S&P 500 in 2023 to date (up 16.6%) have come despite significant uncertainty around interest rates, Fed action, and a possible economic recession. These market gains were concentrated in the large-cap growth segment of the market and were not matched by similar gains in the value or small-cap segments. In addition, the majority of the gains were driven by a few stocks with extraordinary returns, primarily in technology.

FIGURE 7 shows the actual returns to various Russell U.S. equity indices for the first half of 2023 as well as the recalculated return excluding each index's top 10 contributors. The Russell 1000 Index return fell to 6.3% from 16.7% without the top 10 stocks, a 10.3% decrease in the performance. None of the other indices showed a similar return reduction or concentration in performance.

FIGURE 8 shows the top 10 contributors to the Russell 1000 Index's first half return. Clearly performance was concentrated in a group of large technology growth names, many who were part of the extended growth dominance in the last decade. Though most of these stocks had a difficult late 2021 and 2022, they still reflected extended valuations relative to the rest of the market, which makes continued extraordinary outperformance unlikely.

6 | Russell U.S. Index

As of 6/30/2023

	2023	
	Second Quarter	Year to Date
Russell 1000 Index	8.6%	16.7%
Russell Midcap Index	4.8%	9.0%
Russell 2000 Index	5.2%	8.1%
Russell Microcap Index	5.3%	2.3%

Source: FTSE Russell

7 | Returns to Various Russell U.S. Equity Index

	Actual Index Return	Estimated Return - w/o Top 10 Contributors	Return Decrease
Russell 1000 Index	16.71	6.28	-10.43
Russell 1000 Value Index	5.16	1.49	-3.66
Russell 2000 Index	8.09	6.72	-1.37
Russell 2000 Value Index	2.51	0.87	-1.64

Source: Brandywine Global, FactSet, FTSE Russell

8 | Top 10 Contributors to the Russell 1000 Index's First Half Return

	First Half 2023 Return
Apple Inc.	49.7%
Microsoft Corporation	42.7%
NVIDIA Corporation	189.5%
Amazon.com, Inc.	55.2%
Meta Platforms Inc.	138.5%
Tesla, Inc.	112.5%
Alphabet Inc.	35.7%
Broadcom Inc.	57.1%
Eli Lilly and Company	28.9%
Advanced Micro Devices, Inc.	75.9%

Source: Brandywine Global, FactSet, FTSE Russell

¹ Factor returns represent return differences between top quartile (75%) and low quartile (25%) equities by each characteristic. Market: Market Capitalization and Market Beta (Market Sensitivity Coefficient); Value: Price-to-Earnings (P/E based on trailing 12-month operating earnings), Price-to-Book, Dividend Yield (Among dividend-paying stocks); Quality: Positive Earnings (Positive earnings stocks - Stocks with no earnings), Positive Dividend (Dividend-paying stocks - Stocks with no dividend), Share Change (12-month change in shares outstanding), Return-on-Equity, Debt-to-Equity; Sentiment: Price Momentum (9-month price change), Price Volatility; and Growth: Earnings Growth (1-year earnings growth), Sales Growth (1-year sales growth).

Data for Russell Index simulation prior to 1985 is obtained from Compustat (©2021) through FactSet Research (©2021) using Alpha Tester and CRSP NYSE Market Capitalization Decile information, all of which is believed to be reliable and accurate. FactSet provides fundamental stock and return calculations. Compustat provides fundamental stock information and price history. CRSP (Center for Research in Security Pricing) provides historical market capitalization groupings based on NYSE listed companies. Backtest simulation of index first calculates the top 1,000 stocks by market capitalization or the equivalent NYSE market-cap decile cut point to produce the same relative market capitalization range in earlier years when there were fewer listed companies. The value index is calculated using the lower half of companies in the market-cap range when ranked by price-to-book value. Rebalancing occurs annually at the end of June to maintain consistency with the Russell methodology. FTSE Russell was not involved in the simulation of the index prior to 1985. The views expressed represent the opinions of certain portfolio managers at Brandywine Global Investment Management, LLC ("Brandywine Global") and are not intended as a forecast or guarantee of future results. The opinions expressed above may be contrary to active positioning within one or more of Brandywine Global's strategies managed by a separate investment team. Data contained in this report is obtained from sources believed to be accurate and reliable. Brandywine Global will not undertake to supplement, update or revise such information at a later date. This information should not be considered a solicitation or an offer to provide any Brandywine Global service in any jurisdiction where it would be unlawful to do so under the laws of that jurisdiction. It should not be assumed that investments in any of the sectors or industries listed were or will prove profitable. The Russell 1000 Index measures the performance of the large-cap value segment of the U.S. equity universe. The Russell 2000 Index measures the performance of the small-cap value segment of the U.S. equity universe. The Russell 1000 Value Index and Russell 2000 Value Index include those companies with lower price-to-book ratios and lower forecasted growth values. The Russell 1000 Growth Index and Russell 2000 Growth Index include companies with higher price-to-book ratios and higher forecasted earnings growth values within their respective broad universes. The Russell Midcap Index measures the performance of the mid-cap segment of the U.S. equity universe. The Russell Microcap Index measures the performance of the microcap segment of the U.S. equity market. There is no guarantee that holding securities with relatively high (or low) price-to-earnings, price-to-book, or price-to-cash flow ratios will cause a security to outperform its benchmark or index. Standard and Poor's 500 Index is a capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. Standard & Poor's S&P 500® Index is a registered trademark of Standard & Poor's, a division of the McGraw-Hill Companies Inc. Indices are unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

©2023, Brandywine Global Investment Management, LLC. All rights reserved.



Brandywine Global Investment Management, LLC

1735 Market Street
Suite 1800
Philadelphia, PA 19103

BRANDYWINEGLOBAL.COM



AROUNDTHECURVE.COM