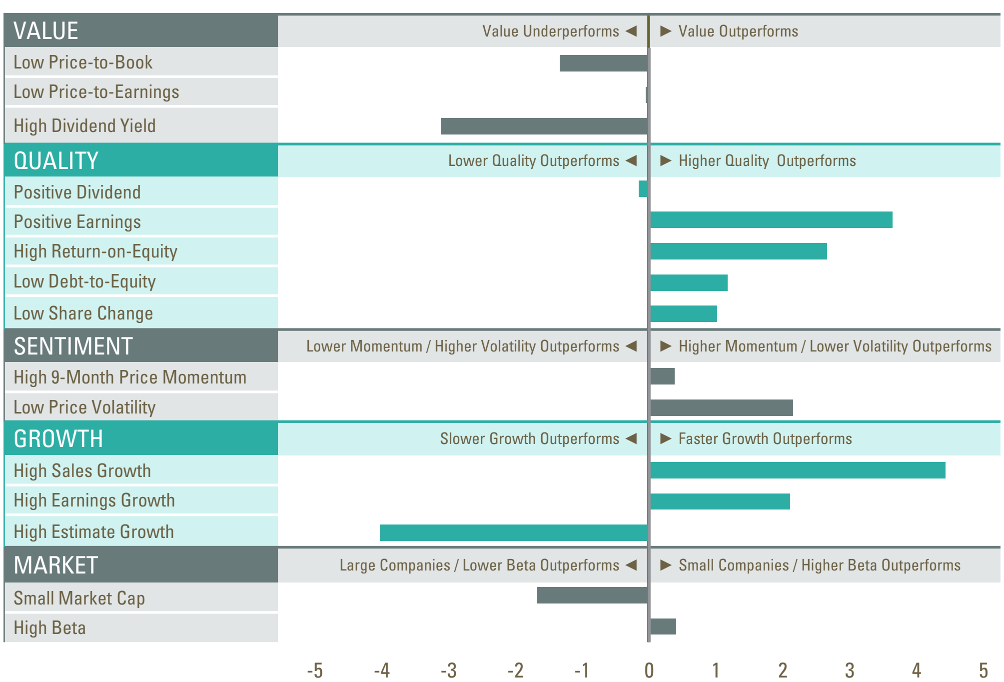
Quantitative Review of U.S. Equities

3Q 2021

- U.S. equity markets continued their extended rally through August but then declined in September with the S&P 500 off 4.6% for the month. As a result, the S&P 500 was nearly flat for the third quarter (up .6%) but still well ahead for the year with a 15.9% gain. Smaller caps fared worse in the quarter, as the Russell 2000 Index fell 4.4% and is up only 12.4% for the year.
- Among larger-cap stocks, value and growth factor returns did not produce any strong trends this quarter, though growth outperformed and value lagged, while value is still doing better for the year.
- Within small caps, value did well in both the quarter and the year while growth factors had mixed returns. The Russell 2000 Value Index fell 3.0% in the quarter compared to the Russell 1000 Growth Index's 5.6% decline. For the year, the small cap value index gained 22.9% while the small growth index was up only 2.8%.
- With stocks flat to down this quarter, quality and other defensive factors, such as low price volatility, performed well. For the year, strong positive stock market returns resulted in muted quality and defensive returns, particularly within the Russell value indices.
- Value performing well in 2021's first half was a reversal from growth's 2020 outperformance. As a result, the price momentum factor generally was flat to negative year to date. The lack of a strong value or growth factor trend in recent months led to small returns for the price momentum factor this quarter.
- **Research Spotlight: Inflation Trends and Market Returns:** With the recent inflation resurgence, a long-dormant economic factor is once again relevant. We examine how the U.S. stock market has fared historically depending on inflation levels and trends.

Figure 1 Third Quarter 2021 Russell 1000 Index Factor Returns
QTD; % Return Difference Between Factor's[1] High and Low Quartile; Russell 1000 Index; As of 9/30/2021



Source: Brandywine Global, FactSet, FTSE Russell

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 quarterly 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.

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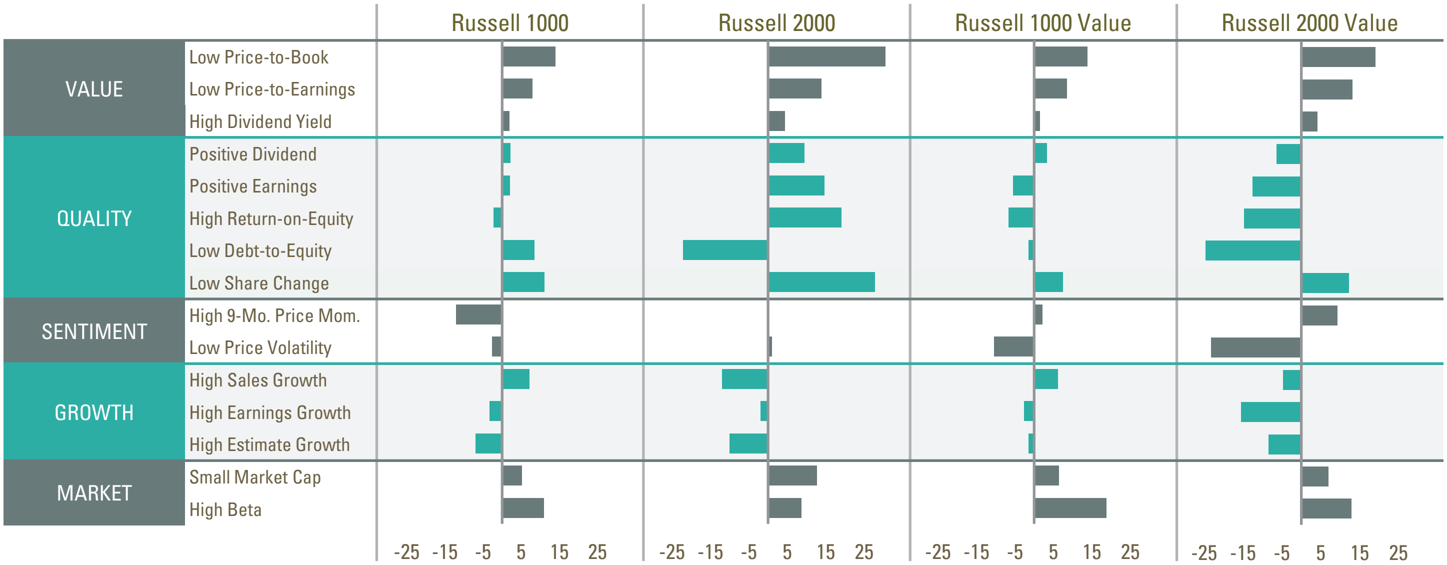
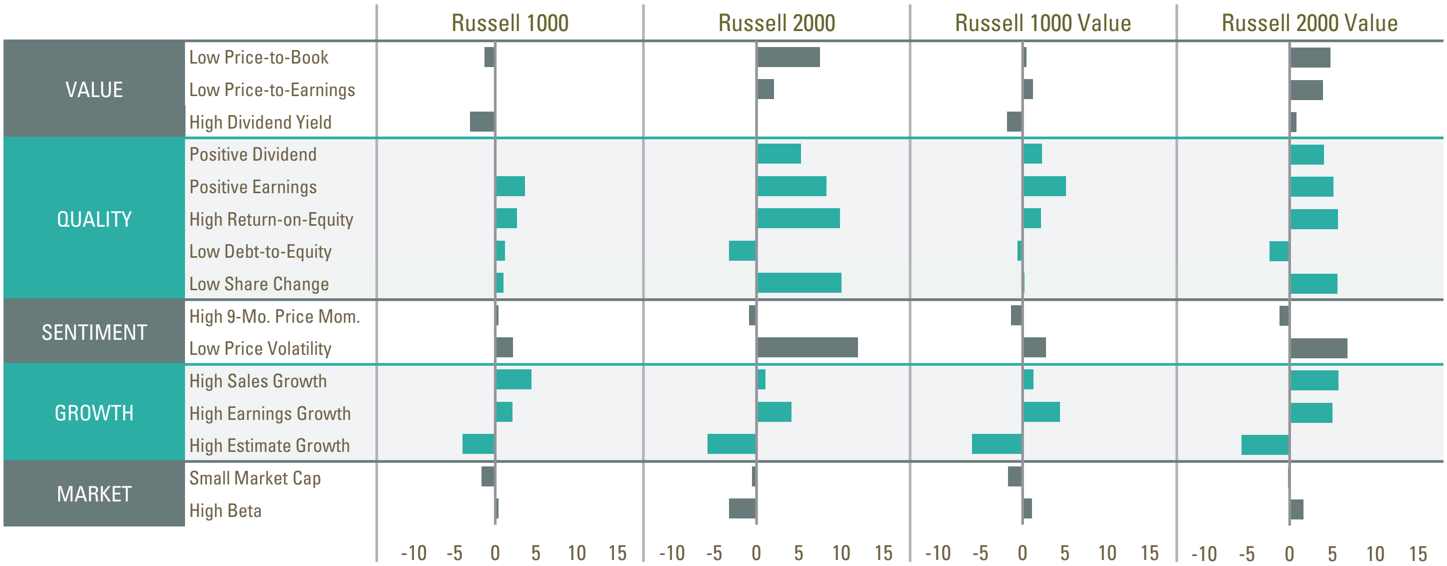
Figure 2 Russell Index Factor Returns

YTD; % Return Difference Between Factor's[1] High and Low Quartile; As of 9/30/2021



MTD; % Return Difference Between Factor's[1] High and Low Quartile; As of 9/30/2021



Source: Brandywine Global, FactSet, FTSE Russell

THIRD QUARTER AND YEAR-TO-DATE 2021 FACTOR RETURNS

While political, economic, inflationary, and pandemic uncertainty may not have been greater this quarter, these concerns apparently dominated investors' thinking as markets were flat to down in the third quarter. Or perhaps the strength of the market's rally since bottoming on March 2020, with the S&P 500 up 96.1% through June 30, 2021, led to concerns that the market was overextended, particularly amid these compounding concerns. Whatever the reasons, September's decline was the broad market's largest drop since September and October 2020.

The market rally's pause this quarter benefited the returns for defensive factors such as higher quality, lower price volatility, larger cap, and lower beta. These factors generally were negative during the markets long climb over the last year and a half. With this quarter's decline, these factors were mostly positive. Within quality, positive earnings, positive dividend yield, low share change, high return-on-equity did well across almost all the Russell U.S. indices. For the year, the defensive factors are mostly flat to positive among large caps but sharply negative in the Russell 2000 Value Index. This result is consistent with the index's very strong 22.9% year-to-date performance.

With the sharp economic recovery from the pandemic shutdowns, longer-term interest rates surged from late 2020 through the second quarter of 2021. On September 30, 2020, the U.S. 10-year Treasury rate stood at .66% but reached 1.74% on March 31, 2021. Rising interest rates seemed to benefit financials while a recovering economy was seen as positive for energy and industrials stocks—all industries with lower valuations—leading to strong value factor returns over this period. Long-term interest rates peaked in 2021's second quarter, with the 10-year Treasury rate falling back to 1.17% on August 3, 2021. Over this period, value factors lost ground, partially rallying only in early August and again in late September when long-term rates moved higher. As a result, returns for low price to earnings and low price-to-book were generally weaker in the third quarter, though they did better among value stocks. Value factors are still very positive year to date.

The reaction to the interest rate changes was almost exactly the reverse for growth stocks. As interest rate rose in the late 2020 and 2021, the growth factors lagged after a sustained period of outperformance. With the recent interest rate retracement, growth factors did better this quarter but generally are still negative year to date. Strong sales growth, a historical measure, performed better than strong estimated future growth this quarter because the companies with the strongest recent sales growth are not necessarily the companies with the best predicted future earnings growth. For instance, Alphabet and Apple had top quartile historical sales growth but rank lower on analysts' predictions on earnings growth—Apple is actually bottom quartile on this measure. Similarly, poor recent growers like Verizon and AT&T are viewed more favorably going forward—Verizon has top quartile earning prospects, according to analyst consensus.

Figure 3 shows that while the better returns from the growth factors did lead the Russell 1000 Growth Index to outperform the Russell 1000 Value Index in the third quarter, the positive value factor returns within smaller caps and small-cap value enabled the Russell 2000 Value to better the Russell 2000 Growth Index this quarter and extend its large year-to-date performance advantage.

Figure 3
As of 9/30/2021

	3Q 2021		YTD 2021	
	Growth	Value	Growth	Value
Russell 1000 Index	1.2%	-0.8%	14.3%	16.1%
Russell Midcap Index	-0.8%	-1.0%	9.6%	18.2%
Russell 2000 Index	-5.7%	-3.0%	2.8%	22.9%
Russell Microcap Index	-9.1%	-1.8%	9.6%	33.2%

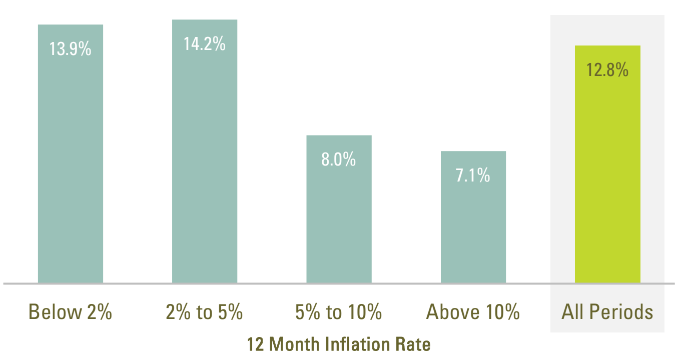
Source: FTSE Russell

During growth factors' and growth stocks' performance dominance over the last few years, high price momentum was a strong positive factor—resulting from higher growth's persistent outperformance over an extended period. With the reversal late last year to lagging growth returns and improved value returns, the price momentum factor was mostly negative this year. This result was generated by lower year-to-date returns from the previously high-flying growth stocks in communication services (Alphabet, Facebook, and Netflix), consumer discretionary (Amazon), and technology. For the quarter, the lack of dominance from either the growth or value factors has led to small, though mostly negative, returns for the factor.

RESEARCH SPOTLIGHT: MARKET RETURNS AFTER STRONG PERFORMANCE PERIODS

Inflation trends have been benign for several years, dating back before the 2008 financial crisis. An investor would have to be over 55 years old now to have experienced as an adult the ruinous inflation of the late 1970s and early 1980s. In that period, inflation peaked at nearly 15% annually, severely disrupting economic activity as well as equity and fixed income markets. Inflation has surged recently, spiking above 5.0% the last few months. While still well below the double-digit levels of that past era, inflation has become a central investment and political topic, with high-profile debates on whether this rise is temporary or persistent and how monetary and fiscal policy may impact the answer.

Figure 4 Average 12-Month U.S. Market Returns[2]
Based on Inflation Rate: 1949 - 2021



We examined historically how different inflation environments coincided with market returns. Not surprisingly, as **Figure 4** shows, the U.S. equity market performs better with moderate inflation levels below 5%. Above that level, which has not been sustained in almost 30 years, inflation begins to have a corrosive economic impact, and that harm is reflected in stock market performance. Also, as might be expected, the market generally performs better when inflation rates are falling, as indicated in **Figure 5**. Note that the relatively high market returns seen in the highest inflation growth history (CPI over 4% and rising) are the result of the 1980 market rally before inflation peaked later that year. The market rose as investors anticipated benefits from the strong anti-inflation policies of newly appointed Federal Reserve Board Chair Paul Volker.

Figure 6 combines the inflation level with its direction to pinpoint the best and worst environments. As seen in **Figure 5**, whatever the current inflation level, falling inflation is better for the stock market than rising inflation. The exception again is when CPI rates were very high (over 10%) as impacted by the 1980-1981 experience. The worst combination was an inflation rate between 5% and 10% and inflation continuing to trend higher. As always, these historical results are only suggestive of possible future outcomes. However, this analysis does suggest that if the current price increases are not temporary and in fact worsen, history indicates the potential for a weaker stock market. On the other hand, if price increases slow from current rates, that would suggest a more positive background for stocks. Either way, this analysis indicates that inflation's direction could be a very important influence on upcoming equity returns.

Figure 5 Average 12-Month U.S. Market Returns[2]
Based on Change in Inflation Rate: 1949 - 2012

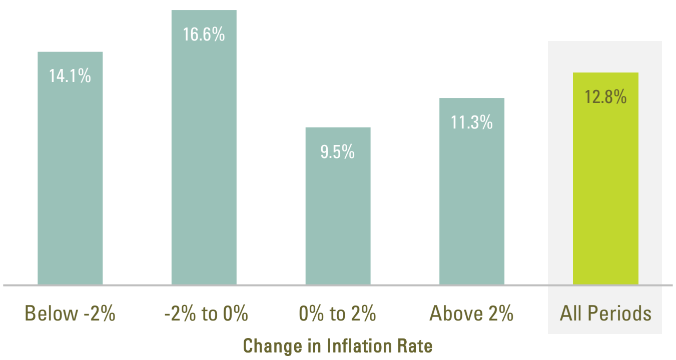
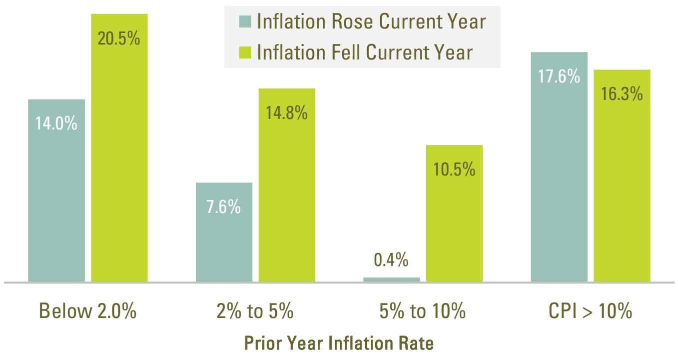


Figure 6 Average 12-Month U.S. Market Returns[2]
Based on Inflation Rate and Trend: 1949 - 2021



[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).

[2] Inflation Data Source: U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: All Items in U.S. City Average [CPIAUCSL], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CPIAUCSL, October 6, 2021. Equity Market Data Source: Ken French Data Library. http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html