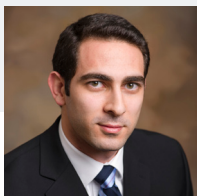




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U.S. Equities **MARKET DYNAMICS AND THE GROWTH VERSUS VALUE TRADE**

EXECUTIVE SUMMARY

- The outperformance of U.S. growth relative to U.S. value since the 2008–2009 global financial crisis likely can be attributed to several factors, including subdued economic growth and a low interest rate environment. These conditions have led to significant net flows into growth equities.
- The underlying sector and industry composition of the growth universe inherently has increased the style's sensitivity to certain risk factors, including market sentiment and interest rate duration.
- While we are not attempting to forecast a reversion to value outperformance, the fact remains that market trends can change very quickly. In such a reversion, investors could find themselves underexposed to value equities.
- We believe that it would be prudent for U.S. equity investors to remain mindful of current and embedded portfolio risks and reassess their portfolio positioning accordingly.

In the decade since the global financial crisis erupted, the growth style of investing generally has outperformed the value style in U.S. equity markets. Style cycles can be highly unpredictable, and there is no way to know how long the tilt toward growth will persist. However, if and when the current cycle reverts, many investors may find themselves underexposed to value and overexposed to a number of risk factors that have been magnified within the growth universe. In this paper, we will identify and discuss several of those factors.

Over the past 10 years, U.S. large-cap growth equities have outperformed U.S. large-cap value equities by 3.3% in annualized return. This return gap

widened in the first half of 2017, with large-cap growth outperforming large-cap value by 9.3 percentage points.¹

Today, approximately 70% of the market capitalization of the 10 largest securities in the Russell 1000 Index now can be categorized as growth.² This proportion has generally trended upward over the past 10 years, making the largest securities in the core benchmark considerably more growth-oriented than they were a decade ago (Figure 1, page 2).

Growth equity benchmarks also have become more concentrated in the postcrisis era. As of June 30, 2017, the 10 largest stocks in the Russell

¹Based on the relative performances of the Russell 1000 Growth Index and the Russell 1000 Value Index.

²Based on June 30, 2017, stock weights in the Russell 1000 Index, the Russell 1000 Growth Index, and the Russell 1000 Value Index.

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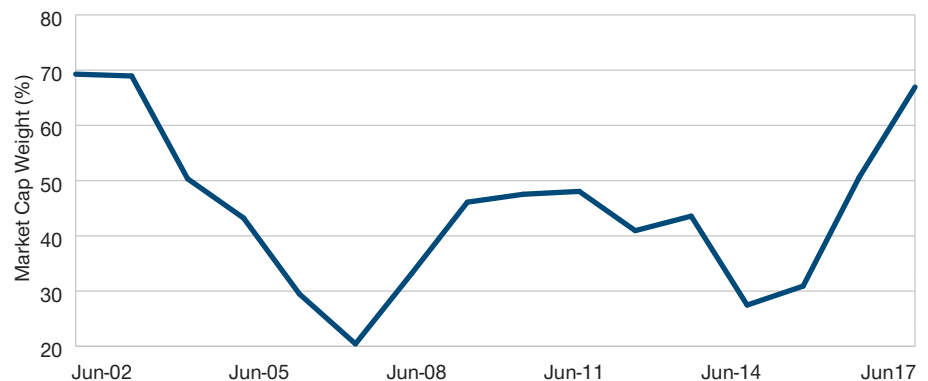
1000 Growth Index represented 23% of total index market cap, while the top 10 stocks in the Russell 1000 Value Index represented only 13% of that benchmark's total market cap.

The postcrisis trend toward growth outperformances appears to be attributable to several factors, including relatively slow economic growth, a low inflation and low interest rate environment, and, more recently, the economic challenges facing the energy sector, which has a significant weight in the value universe.

Not surprisingly, persistent growth outperformance has generated significant inflows into growth-oriented U.S. equity strategies (Figure 2). Through the first half of 2017, for example, net passive flows (i.e., passive minus active) into U.S. large-cap growth mutual funds totaled more than \$39 billion. It is likely that these have contributed to the top-heavy nature of the Russell 1000 Growth Index, as passive flows may have provided

FIGURE 1: Market Capitalization Weight of Growth in the 10 Largest Stocks in the Russell 1000 Index

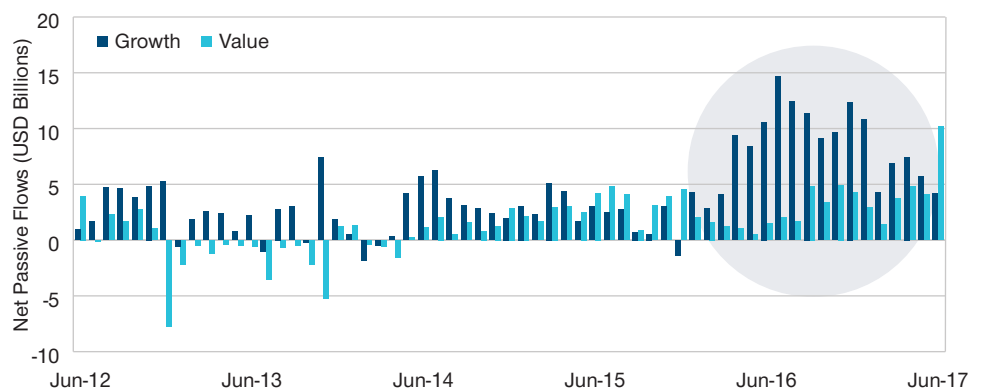
As of June 30, 2017



Source: Russell

FIGURE 2: Monthly Net Passive Flows by U.S. Equity Style*

As of June 30, 2017



* Net passive flows = passive minus active flows

Source: Morningstar

momentum to growth strategies focused on a relatively small number of very large growth stocks, particularly in the technology sector.

TAILWINDS FOR GROWTH INVESTING

As noted, much of U.S. growth's outperformance compared with U.S. value can be attributed to the prevailing market environment in the wake of the financial crisis, which has featured relatively slow global economic growth and low interest rates and low inflation in the developed markets. Historically, such environments typically have benefited growth stocks, with investors preferring to allocate capital to firms that

they expect to generate organic revenue and earnings growth independent of the broader economic trends.

Low interest rates also enhance the valuation of growth firms, as anticipated cash flows that stretch far into the future are discounted at lower interest rates. Typically, those cash flows are expected to be higher for growth stocks than for value stocks.

As the macroeconomic and financial trends associated with the post-crisis era have persisted over the past decade, so has the relative outperformance of growth investing.

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Given the relative sensitivity of the large-cap/small-cap performance differential to changes in growth/value relative performance (Figure 3), it is not surprising that, over time, growth outperformance has become more closely aligned with periods of large-cap outperformance relative to small-cap. In other words, when large-cap stocks have outperformed small-cap stocks, growth has been more likely to outperform value. This trend may have been reinforced by the increase in passive net flows into U.S. large-cap growth mutual funds, given the top-heavy nature of the growth indexes.

As the portion of overall market performance that can be attributed to large-cap growth performance has increased, it is important for investors to understand that certain risk-factor exposures also may have increased inside their U.S. equity portfolios. We examine several of these risk factors below.

SENTIMENT AND STYLE PERFORMANCE

Our analysis suggests that a link has been forming between growth performance and the expectations of market participants. Evidence of this association can be seen in the sensitivity of the return differential between the Russell 1000 Value Index and the Russell 1000 Growth Index to changes in investor sentiment.

FIGURE 3: Rolling Five-Year Beta of Russell 1000 Growth/Value Return Difference to the Russell 1000/2000 Return Difference

As of June 30, 2017



Source: Russell; data analysis by T. Rowe Price

FIGURE 4: Rolling Five-Year Beta of Russell 1000 Growth/Value Return Difference to Change in AAI Investor Sentiment Survey Results

As of June 30, 2017



Sources: Russell and the Association of Individual Investors (AAII) Investor Sentiment Survey; data analysis by T. Rowe Price

Figure 4 shows the sensitivity, or beta, of large growth/large value relative performance to changes in the American Association of Individual Investors (AAII) Investor Sentiment Survey, which measures the percentage of investors who identify as being bullish, neutral, or bearish on the U.S. equity markets. While this relationship historically has fluctuated, it has grown significantly more negative since the summer of 2016, with the beta falling to -1.21 as of June 30, 2017.

Given a beta of -1.2, a decrease of one in the AAI bull/bear ratio would

coincide with 1.2 percentage points of outperformance for the Russell 1000 Growth Index over the Russell 1000 Value Index. To us, this suggests that growth investing has evolved into a defensive play, with growth tending to outperform when investors turn more pessimistic. Of course, the inverse is also true, with increased investor optimism being associated with relative growth underperformance.

In light of these trends, we believe investors should be aware that, going forward, large deviations from

consensus economic expectations could have a significant impact on relative style performance.

EMBEDDED DURATION RISK

Interest rate assumptions are an important factor in traditional equity valuation techniques, such as discounted cash flow models. Theoretically, growth stocks should have higher duration sensitivity than value stocks, given that a greater portion of their expected earnings stream is projected to be generated further in the future.

While a historical analysis of the sensitivity of growth/value performance to changes in long-term interest rates (as measured by the yield on the U.S. 10-year Treasury note) shows considerable variation over time, this relationship also has become increasingly negative since 2009 (Figure 5). The trend has been particularly steep over the past year, with the interest rate beta falling from -0.91 in June 2016 to -3.01 as of June 30, 2017. If held constant, this relationship would translate into three percentage points of underperformance for U.S. large-cap growth relative to large-cap value for every one percentage point increase in the 10-Year Treasury yield.

Further, the sharp increase in the sensitivity of growth/value relative performance to changes in long-term interest rates has coincided with a significant increase in the volatility of the 10-year Treasury yield (Figure 6). Increasing exposure to a volatile factor is significant, as both components (beta and volatility) will inherently increase active risk relative to value.

While market interest rates so far have resisted upward pressure, the U.S. Federal Reserve's apparent commitment to increasing policy rates and, eventually, shrinking its balance sheet could cause a sell-off in bonds, especially if accompanied by a meaningful acceleration in U.S. inflation. The increased duration sensitivity of growth investing is therefore another

FIGURE 5: Rolling Five-Year Beta of Russell 1000 Growth/Value Return Difference to Change in the 10-Year U.S. Treasury Yield

As of June 30, 2017



Sources: Russell and Haver Analytics; data analysis by T. Rowe Price

FIGURE 6: Rolling Five-Year Standard Deviation of Changes in the 10-Year U.S. Treasury Yield

As of June 30, 2017



Source: Haver Analytics

We are not forecasting a reversal of the trend toward growth outperformance seen over much of the past decade, but we do believe that investors need to be aware of several embedded factor bets within a growth-oriented U.S. equity portfolio.

factor that U.S. equity investors need to consider in today's market environment.

VALUE IS NOT STATIC

It is important to note that factor exposures within the value indexes are not static. The drivers of outperformance can vary across time and dimensions of portfolio risk. For

example, we have already shown that the sensitivities of relative style performance to changes in market sentiment and movements in long-term bond yields both have evolved considerably over time.

Further to the point, recall that value investing in its simplest form traditionally has been defined as the attempt to

identify and purchase stocks that appear undervalued based upon a wide variety of fundamental factors, such as price/earnings and price/book ratios and other earnings or balance sheet metrics. As such, value has been found in different market segments at different points in time. This evolution has contributed to the dynamic nature of factor exposures, as different industries and sectors respond to various economic forces and profit drivers.

Today, value can be found in more cyclical sectors such as financials, energy, and consumer discretionary. However, cheap companies within these sectors often are overlooked due to poor sentiment and weak relative performance. This creates opportunities for patient investors who can identify companies with durable profitability and shareholder-friendly capital deployment policies and take advantage of those insights at attractive prices when the market factors outlined above temporarily favor growth.

Lastly, the catalysts and timing of value outperformance are difficult

to predict. The potential for sudden changes in market dynamics is an important consideration in portfolio construction and in an investor's overall risk profile. The value rally that followed the November 2016 U.S. presidential election is a case in point.

CONCLUSIONS

Market trends can persist for extended periods of time, often supported by a mix of fundamental, macroeconomic, and technical factors. We are not forecasting a reversal of the trend toward growth outperformance seen over much of the past decade, but we do believe that investors need to be aware of several embedded factor bets within a growth-oriented U.S. equity portfolio. This is especially true given the rapid strengthening of these sensitivities. Many are now at levels not seen since before the global financial crisis.

Given the extended period of growth outperformance that we have seen, we believe it would be prudent for investors to reassess their investment positioning

to ensure that they are comfortable with their current factor exposures and that their equity portfolios are appropriately balanced across value and growth. Key questions to ask are:

- Does my equity portfolio contain a style bias and, if so, am I comfortable with the degree of this bias?
- What is the duration risk in my total portfolio?
- What are the current consensus forecasts on the direction of the economy and the financial markets, and do I agree with those views?

We think reconciling the answers to these questions with current portfolio positioning would be a valuable exercise at this juncture. As always, investors should carefully monitor factor exposures to ensure that they are comfortable with the types and amounts of risk they are taking.

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