



QM Equity Quarterly Newsletter

Q1 2022

T. Rowe Price Quantitative Equity Team

Quarterly Factor Returns

(Fig. 1) January 1, 2022–March 31, 2022

Universe	Total Return	Valuation	Growth	Momentum	Quality	Profitability	Risk	Size
MSCI Pacific ex-Japan	1.75%	19.22%	-9.49%	-3.78%	-4.08%	-4.19%	2.15%	0.67%
Russell 1000 Value	-0.74	14.38	-11.94	-3.28	-1.26	-1.65	-1.17	1.89
MSCI Japan	-1.39	22.80	-5.96	-8.58	-2.93	-5.41	-2.07	-0.70
Russell 1000	-5.13	16.61	-15.58	-3.22	0.98	-1.66	-5.45	-0.86
MSCI Europe	-5.22	11.31	-12.70	-2.40	2.31	-4.04	-6.19	6.34
Russell 2500	-5.82	17.18	-9.27	7.12	9.38	10.65	-9.51	10.05
MSCI Emerging Markets	-6.06	12.60	-8.28	4.68	4.80	-0.48	-11.35	-2.48
Russell 1000 Growth	-9.04	15.07	-16.56	-1.63	7.21	3.10	-9.27	1.06

Past performance is not a reliable indicator of future performance.

Sources: Refinitiv/IDC data, Compustat, Worldscope, Russell, and MSCI. Analysis by T. Rowe Price. See Additional Disclosures. Factor returns are calculated as equal weighted quintile spreads.

The first quarter of 2022 was unusually volatile for global stocks. While summary statistics suggest a fairly clear factor pattern—rotation from growth to value and a risk-off environment—the actual story was more nuanced. In the following sections, we highlight two prevalent sub-themes:

1. The first quarter showed three distinct periods of factor performance, with three different catalysts (Figure 2). The first two performance patterns appeared fairly sensible, with the last one seeming partially counterintuitive, in our view.

- **Jan. 1–Feb. 23:** Forecasts of tighter Federal Reserve policy led to rising interest rates, a sharp market sell-off, and a violent rotation from growth to value.
- **Feb. 24–March 14:** Russian invasion of Ukraine accelerated the market sell-off and drove the rotation from risk to quality assets.
- **March 15–March 31:** Around the Fed’s mid-March meeting, risk-taking returned. Negative earners, growth, and risk outperformed, while quality and valuation lagged significantly.

- As at the beginning of the quarter, the 10-year U.S. Treasury note yield rose sharply, but the Treasury yield curve flattened amid speculation that tighter policy could slow economic growth. The recovery in growth stocks versus value seemed justified, but extreme risk-taking and the rally in negative earners appeared to be at odds with concerns about a Fed-induced slowdown. Our view is that this risk rally could be short-lived and ultimately reversed.
- **2. In some cases, the seemingly strong factor returns were asymmetric and, therefore, harder for long-only managers to exploit.**
 - In U.S. small- and mid-caps, expensive and low-quality stocks underperformed disproportionately compared with cheap and high-quality stocks, which outperformed (Figure 3). Results among U.S. large-caps were similar, with expensive and high-growth stocks correcting disproportionately.
 - The quarter illustrated the importance of knowing what to avoid or underweight, rather than what to overweight. As we’ll discuss, this is called “winning the loser’s game.”¹

¹ Charlie Ellis, “The Loser’s Game.” https://www.empirical.net/wp-content/uploads/2012/06/the_losers_game.pdf
Please see Appendix for more details on the factors.

Factor Performance Variance

(Fig. 2) January 1, 2022–March 31, 2022

Russell 1000

Date	Index	Negative Earners	Growth	Quality	Risk	Valuation
Jan. 1–Feb. 24	-10.1%	3.7%	-13.7%	-0.5%	-2.7%	14.9%
Feb. 25–Mar. 14	-3.0	-8.2	-8.4	8.6	-8.7	11.7
Mar. 15–Mar. 31	8.9	7.2	8.5	-8.3	7.0	-12.4

Russell 2500

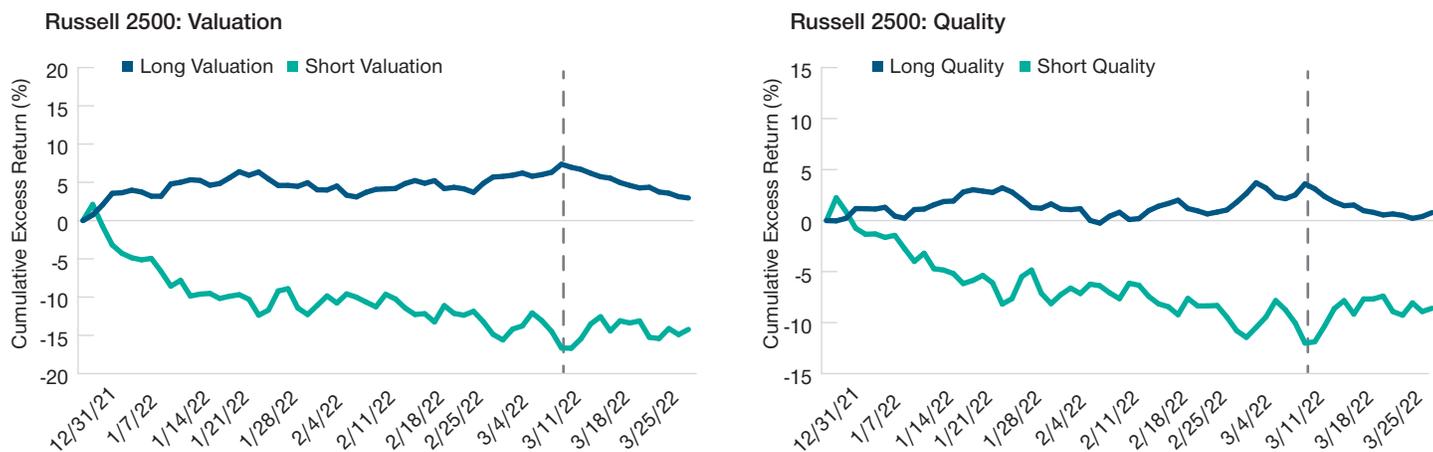
Date	Index	Negative Earners	Growth	Quality	Risk	Valuation
Jan. 1–Feb. 24	-9.9%	-4.1%	-8.3%	8.8%	-7.6%	15.3%
Feb. 25–Mar. 14	-2.6	-4.8	-6.7	8.2	-7.4	10.9
Mar. 15–Mar. 31	7.3	9.2	7.1	-9.0	6.4	-10.3

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Sources: Refinitiv/IDC data, Compustat, Worldscope, Russell, and MSCI. Analysis by T. Rowe Price. See Additional Disclosures. Factor returns are calculated as equal weighted quintile spreads.

Small- and Mid-Cap Valuation and Quality Factors

(Fig. 3) December 31, 2021–March 31, 2022



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Sources: Refinitiv/IDC data, Compustat, Russell, T. Rowe Price analysis. See Additional Disclosures. Long excess returns are calculated as the cumulative return to the highest quintile minus the cumulative return to the index. Short excess returns are calculated as the cumulative return to the lowest quintile minus the cumulative return to the index.

MARKET INSIGHT—WHAT WE'RE MONITORING

In previous quarters, we've written about the high valuations in negative earners and speculative growth companies. As mentioned above, these stocks continued correcting in the first quarter. Our analysis suggests that this subset, particularly within U.S. small- and mid-cap stocks, could face additional headwinds (Figure 4).

Please see Appendix for more details on the factors.

Building on this theme, we have been introducing new research on differentiating between “durable growth” and “speculative growth” stocks. We recognize that growth stocks can create value by compounding earnings over time, but they can also destroy capital when valuations reflect overly optimistic expectations. Therefore, it's critical to distinguish quality compounders from riskier and speculative names that are likely to disappoint.

Our research team has constructed two definitions of growth:

- 1. Forecasted growth:** We use forward-looking consensus data to identify stocks with the highest expected future growth. This is, by definition, speculative.
- 2. Durable growth:** We use historical performance to identify stocks that have demonstrated sustainable growth. We identify companies based on five criteria that, while potentially attractive on their own, are particularly valuable in combination.
 - **Proven sales growth:** the ability to grow sales consistently over the previous five years.
 - **Proven earnings growth:** topline growth that has led to increased earnings.
 - **Earnings stability:** Companies with higher-quality businesses and more stable income statements are easier to forecast into the future. This also filters out “peak cyclicals.”
 - **Profitability:** Companies that have made money—another sign of quality and sustainability—can continue reinvesting profits into their business without relying on capital markets.
 - **Low leverage:** Profitability through attractive unit economics—high margins or high sales turnover—and not through higher leverage.

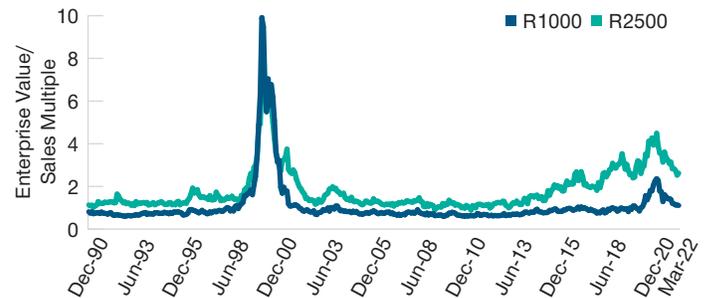
The key conclusion is that growth investors can outperform by “winning the loser’s game.”¹ The most dangerous stocks are those with high expectations that haven’t demonstrated that they can deliver on those expectations. Not only do these stocks have significantly lower returns, but they also bring significantly higher volatility (Figure 5).

Our research indicates that durable growth companies have typically outperformed those with the highest forecasted growth, but occasionally the latter outperform in periods of speculation (Figure 6). This was most notable during the 1999–2000 dot-com bubble, but it has also occurred over the past two to three years (Figure 7).

Our view is that this outperformance of speculative growth stocks is not sustainable and that the resurgence we saw in speculative growth during the second half of March 2022 may prove to be short-lived. We also note that first-quarter outperformance depended on “avoiding the losers,” and we expect that to be a theme going forward.

Low Quality: EV/Sales (relative to market)

(Fig. 4) December 31, 1990–March 31, 2022

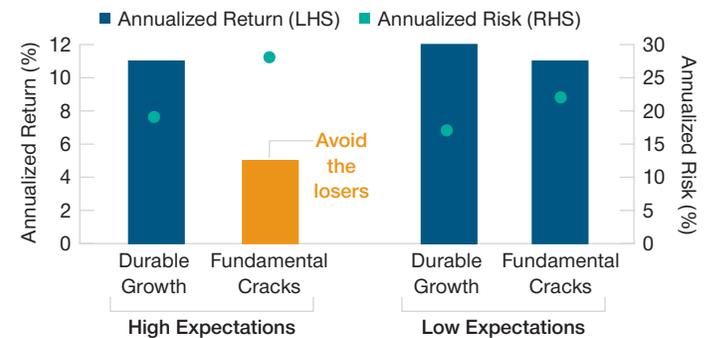


Past performance is not a reliable indicator of future performance.

Sources: Refinitiv/IDC data, Compustat, Russell, T. Rowe Price analysis. See Additional Disclosures.

Avoiding High-Expectation Stocks With Fundamental Cracks Drives Outperformance

(Fig. 5) January 1, 1990–December 31, 2021



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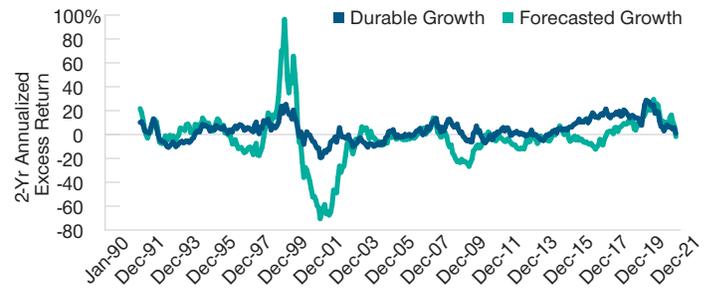
Sources: Refinitiv/IDC data, Compustat, Russell, Thomson Reuters, T. Rowe Price analysis. See Additional Disclosures. Annualized risk is the standard deviation of returns. Fundamental cracks are defined as the bottom quintile, according to our durable growth metric. High and low expectations are defined as the top and bottom quintile, according to analyst-forecasted growth—five-year earnings-per-share forecasted growth prior to 2005, two-year forecasted sales growth after 2005. The universe is the Russell 1000 Index. The dots are the annualized risk values (standard deviation of returns).

¹ Charlie Ellis, “The Loser’s Game.” https://www.empirical.net/wp-content/uploads/2012/06/the_losers_game.pdf
Please see Appendix for more details on the factors.

Taking a longer view, we see a variety of headwinds, including inflation, growing risks to corporate profit margins, and the inevitability of tightening financial conditions as the Fed raises rates. While we do not take a view on recession probability, we believe these headwinds create an environment that favors quality over speculation. We continue to believe that the low-quality, speculative risk-taking environment that reemerged late in the quarter is likely to recede as the market shifts to focusing on the first-quarter earnings season. We are currently building the durable growth model into our process.

Rolling Two-Year Excess Returns (Annualized)

(Fig. 6) January 1, 1990–December 31, 2021

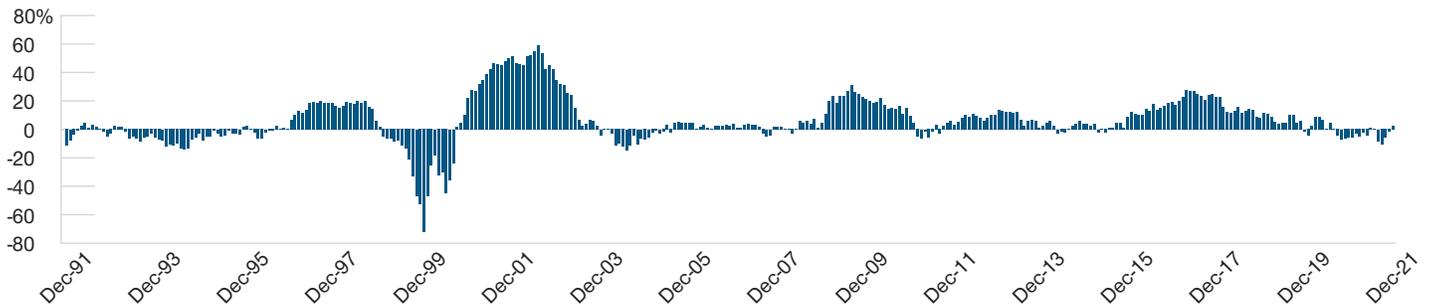


Past performance is not a reliable indicator of future performance.

Sources: Refinitiv/IDC data, Compustat, Russell, Thomson Reuters, T. Rowe Price analysis. See Additional Disclosures. The graph shows the rolling two-year excess returns of durable growth and forecasted growth, each relative to the market. This is defined as the trailing two-year return to durable/forecasted growth minus the rolling two-year return to the market. The universe is the Russell 1000 Index.

Durable Growth Minus Forecasted Growth Rolling Two-Year Excess Returns (Annualized)

(Fig. 7) December 31, 1991–December 31, 2021



Past performance is not a reliable indicator of future performance.

Sources: Refinitiv/IDC data, Compustat, Russell, T. Rowe Price analysis. See Additional Disclosures. Using data points from Figure 6, this graph shows the performance difference between durable growth and forecasted growth. The universe is the Russell 1000 Index.

APPENDIX

Factors are our internally constructed metrics defined as follows:

Valuation: Proprietary composite of valuation metrics based on earnings, sales, book value, and dividends. Factor selection and weighting varies by region and industry.

Growth: Proprietary composite of growth metrics based on historical and forward-looking earnings and sales growth. Factor selection and weighting varies by region and industry.

Momentum: Proprietary measure of medium-term price momentum.

Quality: Proprietary measure of quality based on fundamental and stock price stability, balance sheet strength, various measures of profitability, capital usage, and earnings quality.

Profitability: Return on Equity.

Risk: Proprietary composite capturing stock return stability over multiple time horizons (defined as positive return means risky stocks outperform stable stocks).

Size: Market capitalization (defined as positive return means larger stocks outperform smaller stocks).

Negative Earners: Stocks with a negative P/E ratio.

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