# Factor investing: What institutional investors need to know

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**Key takeaways**

- Institutional investors need a disciplined way to separate valid factors from the growing “factor zoo”.
- A practical framework can help assess factors through economic theory, robust risk and return evidence, validity across asset classes and geographies, and real-world implementability.
- The research finds stronger support for value, momentum, quality and low volatility than for size.

*This article draws on the paper **Factor Investing: From Theory to Practice**, published in The Journal of Beta Investment Strategies, Volume 13, Issue 4 (Winter 2022), by Tarun Gupta, Managing Director, Systematic Equities, Jay Raol, former Head of Fixed Income Factors, and Viorel Roscovan, Senior Quant Research Analyst, Quantitative Strategies Research.*

Factor investing has become a mainstream part of institutional portfolio construction. It offers a systematic way to target characteristics that may help explain risk and return across securities, markets and asset classes. However, as the field has grown, it has become more challenging to decide which factors are genuinely useful in practice.

Academic and practitioner research now includes hundreds of proposed factors, sometimes described as the “factor zoo”. Many of these factors may look compelling in a backtest, especially when tested in a narrow market or over a specific period. Yet they may fail when applied in live portfolios, across regions, or after accounting for trading costs and investment constraints.

This distinction is important as investors expect factor allocations to be transparent, repeatable and scalable. They also need to fit within real portfolios, with limits on liquidity, turnover, benchmark-relative risk and implementation cost. A factor that works only in theory may be of limited use if it cannot be implemented efficiently.

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**A practical framework for evaluating factors**
In ***Factor Investing:*** From Theory to Practice, the authors set out a simple framework for assessing whether a factor should be considered valid. The framework uses four tests: economic theory, robust risk and return evidence, cross-asset and cross-region validation, and implementability.

The first test is economic theory. A factor should be supported by a clear and credible reason for why it may exist. That rationale may be behavioral, structural, risk-based, or a combination of different explanations. The key point is that the factor should not be a black box or a statistical coincidence. It should be grounded in a body of research and debate that gives investors confidence that the effect is not simply the result of data mining.

The second test is robust risk and return evidence. A factor should demonstrate attractive risk and return characteristics over meaningful periods and should not depend too heavily on one definition, market environment, or set of assumptions. For investors, this helps reduce the risk of building portfolios around signals that look strong only because of a specific historical sample.

The third test is validity across asset classes and geographies. A factor that appears only in one market may still be interesting, but broader evidence can provide a stronger basis for institutional use. Testing across equities and fixed income, as well as developed and emerging markets, can help investors assess whether a factor is more likely to be a durable driver of risk and return.

The fourth test is implementability. This is where theory meets the realities of portfolio management. A factor may appear strong in a long-short model portfolio or broad theoretical universe. But institutional investors typically operate within real-world constraints, including liquidity, capacity, transaction costs, long-only mandates and benchmark guidelines. Accounting for those constraints can materially change the results.

**Which factors pass the test?**
The paper applies this framework to five well-known factors: value, momentum, quality, low volatility and size. These are among the most widely researched factor categories and are familiar to many institutional investors.

Value captures the idea that securities trading at lower prices relative to fundamentals may outperform more expensive securities over time. Momentum is based on the tendency for assets that have performed well recently to continue performing well for a period. Quality focuses on companies with stronger fundamentals, such as stable earnings, resilient business models or effective management. Low volatility reflects the tendency for lower-risk assets to deliver attractive risk-adjusted outcomes. Size is based on the view that smaller companies may outperform larger companies over the long run.

The authors find compelling evidence for value, momentum, quality and low volatility across the four tests they apply. To test the second and third criteria in their framework, the authors create model factor portfolios that allow them to scrutinize the performance of each factor to determine its efficacy. They test each factor style on two asset classes, equities and fixed income, for two regions, developed markets and emerging markets. The data for their equity market sample runs from January 1997 to June 2022. The data for their fixed income sample runs from January 2000 to June 2022.

In the equity sample, their test shows generally positive results for both regions for all the factors evaluated, except for the size premium. The size factor delivers the smallest returns for both regions and is negative for the developed region. In the fixed income sample, the only negative returns delivered are for the size factor. However, the authors note that the factor portfolios must also be tested for implementation constraints.

**Figure 1 – Long-short performance characteristics for generic universes**

| | Equity | | Fixed Income | |
|---|---|---|---|---|
| | Developed | Emerging | Developed | Emerging |
| **Value** | | | | |
| Return (ann.) | 4.2% | 8.8% | 2.1% | 3.9% |
| Standard deviation (ann.) | 10.9% | 7.8% | 1.4% | 3.6% |
| Information Ratio | 0.39 | 1.13 | 1.56 | 1.08 |
| t-statistic | 1.96 | 5.73 | 7.39 | 5.02 |
| **Momentum** | | | | |
| Return (ann.) | 10.5% | 9.3% | 0.9% | 1.6% |
| Standard deviation (ann.) | 16.2% | 10.0% | 4.1% | 5.2% |
| Information Ratio | 0.65 | 0.93 | 0.23 | 0.30 |
| t-statistic | 3.27 | 4.69 | 1.07 | 1.38 |
| **Quality** | | | | |
| Return (ann.) | 6.4% | 2.5% | 1.0% | 2.6% |
| Standard deviation (ann.) | 7.0% | 5.0% | 1.7% | 4.5% |
| Information Ratio | 0.92 | 0.50 | 0.59 | 0.57 |
| t-statistic | 4.66 | 2.51 | 2.71 | 2.67 |
| **Low Volatility** | | | | |
| Return (ann.) | 5.2% | 6.6% | 1.5% | 2.5% |
| Standard deviation (ann.) | 7.3% | 7.5% | 2.1% | 4.5% |
| Information Ratio | 0.71 | 0.88 | 0.70 | 0.55 |
| t-statistic | 3.57 | 4.45 | 3.30 | 2.59 |
| **Size** | | | | |
| Return (ann.) | -2.3% | 2.5% | -0.1% | -0.2% |
| Standard deviation (ann.) | 10.0% | 13.3% | 2.4% | 5.5% |
| Information Ratio | -0.23 | 0.19 | -0.01 | -0.04 |
| t-statistic | -1.16 | 0.94 | -0.04 | -0.16 |

Source: Factor Investing: From Theory to Practice, Gupta et al. October 2022, Journal of Beta Investment Strategies. Notes: This exhibit presents performance characteristics for selected long–short factors in both equity and fixed-income samples. The table reports annualized returns, annualized standard deviations, annualized Information ratios, and corresponding t-statistics. Our equity sample runs from January 1997–June 2022, and our fixed income sample runs from January 2000–June 2022. For illustrative purposes only. **Past performance does not predict future returns.**

**Why implementation can change the outcome**
One of the paper's most useful messages is that factor implementability is as important as factor existence for those seeking to harvest factor premiums and capture factor exposures effectively. For example, a backtest may include smaller or less liquid securities that are difficult to trade at scale. It may also assume low transaction costs or unconstrained long-short positioning. These assumptions can overstate the practical value of a factor.

When the authors apply implementation tests, including narrowing the universe to more investable securities and considering long-only portfolios, the results remain broadly supportive for value, momentum, quality and low volatility. Size performs less well under these practical constraints.

This has clear implications for institutional portfolio design. Investors can consider only those factors that are implementable in practice and survive the effects of trading costs and other market frictions. Incorporating real-world frictions allows investors not only to focus on the factors that may deliver an attractive risk–return trade-off after accounting for transaction costs and investment constraints but also helps to align the factor toolkit to their objectives.

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**Investment risks**
The value of investments and any income will fluctuate (this may partly be the result of exchange-rate fluctuations), and investors may not get back the full amount invested.



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All data as of August 2026, unless otherwise stated. All data is USD, unless otherwise stated.

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