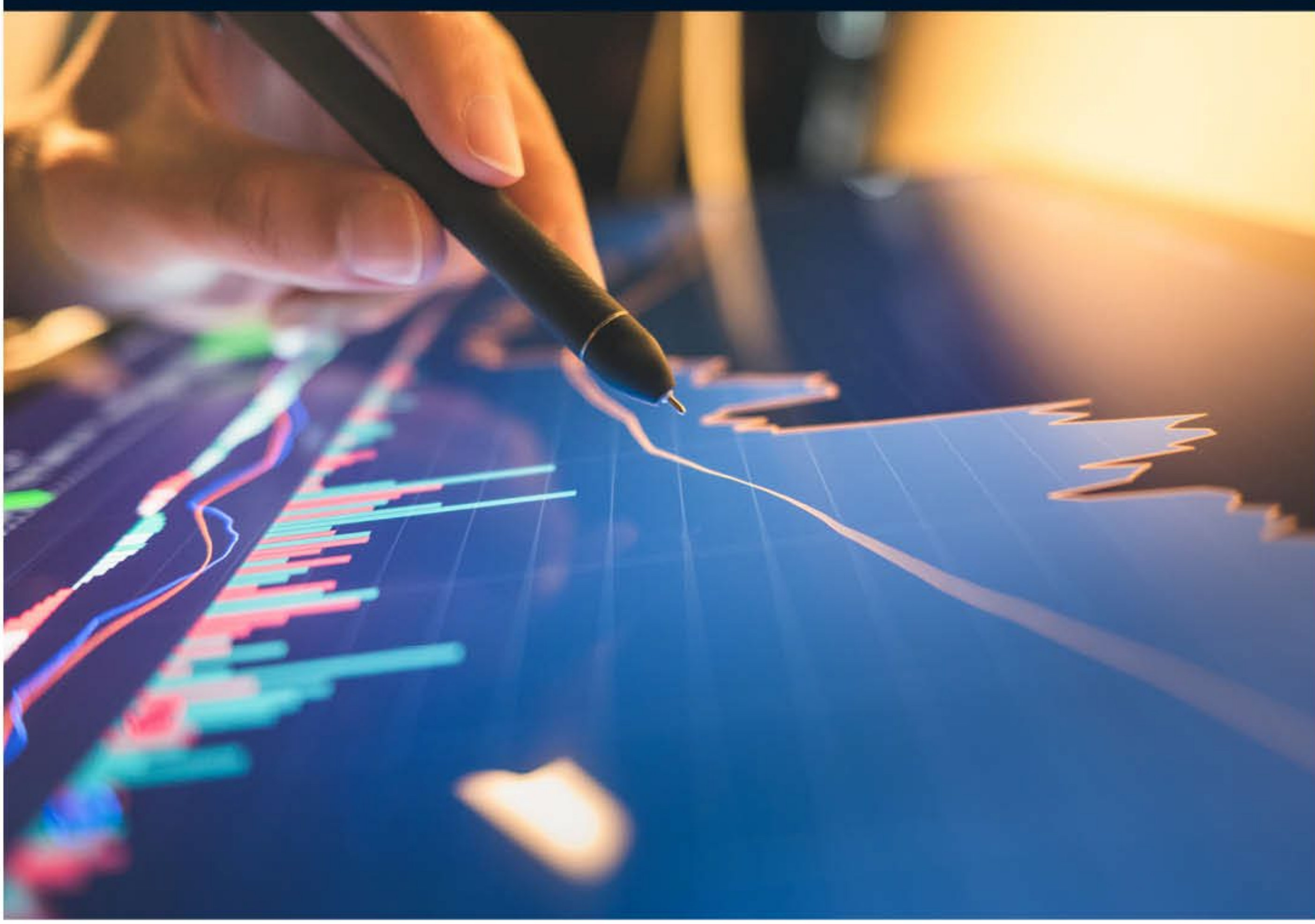
RESEARCH INSIGHT

Equity Factors: Investor Views and Research Insights

June 2023



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Executive Summary

Equity markets have experienced a prolonged period of strong performance, 2022 notwithstanding. This was partly driven by sub-industries within the technology sector, which led some to question the relevance of broad characteristics, or equity factors. However, the change in macro-environment in 2022, as reflected in record-high inflation and waning economic growth, and the actions of global central banks drove strong performance in equity factors and reignited investor interest in factors.

MSCI engages with a large number of investors globally of different sizes, types, investment approaches and sophistication. Through these engagements, we have learned a lot about clients' specific investment needs and developed a deep understanding of how the investment industry has evolved. To test our views and hear from investors in a more systematic way, we launched a survey with global institutional investors and wealth managers in Q1 2023.[1] The survey was designed to gain insights on investors' current thinking regarding equity factors and their evolving role in asset allocation and to learn how investors believe traditional factor strategies should evolve to better serve the increasingly complex investment landscape.

Key insight 1: Investor faith in equity factors increased
Investors consider style factors important components of equity portfolios and despite lackluster performance of some factors in the recent past, they placed style-factor allocations foremost in their ability to generate alpha, ahead of stock selection, sector or country-based allocations. Several investors remain optimistic about factor performance in the medium- to long-term (5-10 years).

Key insight 2: Many have shifted to value and quality
While a majority of investors allocate to factors over the long term (>10 years), some manage their factor exposures more actively by opportunistically rotating among factors in the medium- to short-term. Some investors believe that the growth to value rotation that started towards the end of 2020 has not fully matured while some have a positive outlook on the quality factor.

Key insight 3: Factors are seen as key elements of active performance
Investors are increasingly reliant on factor performance attribution to decompose the risk and return of portfolios; asset managers as a way to document the nature of their investment process and results and asset allocators to both evaluate managers across their equity program and to ensure their broader equity portfolio is appropriately diversified.

Key insight 4: Investors don't view factors and factor strategies as static
Investors believe that factor definitions should evolve through time and new factors may be discovered from alternative datasets or using advanced techniques, and that such factors can have a role to play in their asset allocation.

Key insight 5: Different investment characteristics have converged
Investors are increasingly drawn to understand the impact of environment, social and governance (ESG) factors on their investment allocations. Many asset owners and asset allocators have pledged to reduce carbon emissions. Megatrends that are driving transformational changes in the broader economy have also gained traction. Investors are focused on the synthesis between factor investing and these different investment characteristics.

[1]Of the 43 respondents that collectively manage more than $3.5 trillion in assets globally, 29% were asset owners, 43% wealth managers and RIAs, 16% asset managers and 12% categorized as others.74% of the respondents were from the Americas, 19% from EMEA and another 7% from APAC. 58% managed less than USD 50 billion, 10% managed between USD 50 and USD 250 billion, 28% managed more than USD 250 billion and 4% did not disclose their asset size.

Investor faith in equity factors increased

Equity factors have generated positive active returns over long periods, though they have also suffered prolonged bouts of lagging performance. Such periods of weakness have often caused anxiety among investors and prompted academics to propound theories and explanations. The most recent and painful stretch of underperformance had many market pundits write obituaries on factor investing and ask whether factors were still relevant given the changing market dynamics. Indeed, the underperformance this time was long, deep and widespread. As noted in Exhibit 1, multiple factors, led by value, went through simultaneous drawdown between 2019 and 2021. This even impacted the performance of multi-factor strategies (which included value) that are designed to offer diversification.

Exhibit 1: MSCI World Factor Index: calendar year active returns (%)

	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99
Low Volatility	2.4	2.3	-2.7	-7.3	-10.0	4.3	3.5	-4.5	12.6	5.9	-7.9	-5.4	-10.0	10.6	1.8	-0.5	2.0	0.4	-2.7	1.5	-0.7	-1.1	-3.9	-16.7
Yield	2.4	12.7	-6.1	6.9	-4.9	3.4	5.8	2.5	5.5	-0.3	-10.7	-8.3	-5.3	10.7	14.3	2.5	2.2	-1.7	-8.2	11.9	10.7	9.1	-6.4	-16.9
Quality	-3.1	-4.7	-6.0	4.9	7.4	-7.3	2.7	-5.0	0.2	-4.6	-13.1	-15.8	-6.8	9.9	17.8	19.8	3.8	-16.0	-3.8	12.6	13.8	11.1	17.4	-4.9
Low Size	-6.6	10.7	12.5	4.5	-0.1	3.2	-4.3	7.0	-3.7	6.3	3.4	0.5	1.7	11.0	1.1	-2.9	-3.0	15.9	-0.7	-6.7	-0.5	-21.0	-12.1	-6.9
Momentum	-4.8	11.9	8.2	2.8	15.1	-13.6	5.2	0.9	-1.1	11.6	10.9	-3.1	3.6	-0.7	7.4	14.1	1.7	-0.6	-11.0	6.3	5.8	12.0	12.7	20.3
Value	4.3	11.9	4.2	5.6	-5.0	3.1	6.1	9.7	4.4	5.2	-7.7	-9.5	2.9	13.1	7.3	6.7	4.0	9.8	-0.1	7.1	14.2	-3.9	-11.6	14.8
Multi-factor	-0.9	7.4	1.6	2.9	0.6	-1.3	3.2	1.7	3.0	4.0	-4.3	-6.8	-2.4	9.1	8.2	6.5	1.9	1.2	-4.4	5.4	7.1	0.6	-0.8	-2.0

	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22
Low Volatility	14.2	6.5	10.0	-7.7	5.5	-1.7	0.5	-3.4	11.1	-13.6	0.4	13.1	-7.7	-8.0	6.6	6.1	0.0	-5.0	6.8	-4.4	-13.2	-7.5	8.4
Yield	14.4	8.5	9.7	-3.2	4.8	-1.5	8.2	-2.2	-2.1	3.0	-5.1	9.9	-3.2	-4.5	-2.2	-2.1	2.1	-3.9	1.5	-4.1	-15.5	-5.5	13.8
Quality	2.7	4.4	3.1	-11.8	-2.6	-4.0	-3.9	7.2	6.9	2.7	-1.0	9.4	-2.9	0.4	3.5	4.6	-3.0	3.6	3.1	8.3	6.2	3.8	-4.2
Low Size	13.2	5.0	6.0	16.6	8.8	5.1	1.5	-3.1	-1.6	11.3	5.8	-4.3	0.2	-0.8	-2.1	-0.7	1.2	0.8	-3.6	-3.9	-6.4	-6.9	1.4
Momentum	-6.0	-3.9	5.2	-7.8	6.1	18.3	-1.6	10.3	0.4	-16.0	4.2	9.8	-1.8	2.9	1.5	4.9	-3.4	9.5	5.8	-0.1	12.2	-7.4	0.4
Value	10.8	12.1	4.4	23.0	13.3	7.1	10.4	0.7	-2.3	11.1	-3.2	-6.0	-1.5	5.3	-0.9	-2.4	0.7	-0.2	-5.2	-8.6	-19.8	-1.6	8.5
Multi-factor	8.6	5.5	6.5	1.1	6.0	3.7	2.5	1.5	2.0	-0.1	0.3	5.2	-2.6	-0.8	1.1	1.7	-0.3	0.8	1.4	-2.1	-6.3	-4.0	4.7

Data from Dec. 31, 1975 – Dec. 31, 2022
Single factor indexes with three or more consecutive years of underperformance are highlighted.
Years where more than three out of the six single-factor indexes underperformed are highlighted.
Low volatility, yield, quality, size, momentum, value, growth and multi-factor are represented by the MSCI Minimum Volatility, MSCI High Dividend Yield, MSCI Quality, MSCI Equal Weighted, MSCI Momentum, MSCI Enhanced Value, MSCI Growth Target and MSCI Diversified Factor Mix Indexes, respectively. History for the MSCI Minimum Volatility Index based on official index levels from May 1988; MSCI Low Volatility Tilt Index from December 1975 to May 1988.

The beginning of 2022, however, changed the wind for style-factor indexes. A series of interest rate hikes by the Federal Reserve and other central banks were aimed at curbing inflation, but also dampened investor exuberance for high-flying growth stocks. With loose monetary policy coming to an end and rates expected to stay higher for longer, investors started to focus even more intensely on security fundamentals and quality of earnings rather than just the promise of future growth potential. The effect was one of the strongest rotations on record from growth to value stocks that lasted throughout 2022. Additionally, as the market correction deepened, defensive strategies such as yield and low volatility investing thrived. This is evident from Exhibit 2, which shows the gross performance in 2022 for flagship MSCI regional indexes and the relative performance of selected MSCI factor indexes.

Exhibit 2: MSCI Regional Factor Indexes: 2022 performance

	Absolute Returns				Relative Returns			
	Parent	Low Volatility	Yield	Quality	Momentum	Value	Low Size	Growth
ACWI	-18.0	8.2	11.2	-5.5	-0.7	5.6	1.1	0.3
World	-17.7	8.4	13.8	-4.2	0.4	8.5	1.4	-0.1
World ex USA	-13.8	-0.2	12.8	-5.0	-2.3	8.7	-2.2	1.2
EM	-19.7	6.1	1.9	-2.0	-7.0	2.1	2.2	3.1
USA	-19.5	10.3	15.7	-3.2	2.1	5.5	2.5	-1.4
Europe	-14.5	-4.0	10.2	-4.6	-5.5	4.4	-5.9	3.2
AC Asia ex Japan	-19.4	5.1	7.4	-6.6	-3.4	3.7	-0.1	1.8
Japan	-16.3	4.5	14.0	-11.4	-0.7	12.6	1.7	-0.8

Dec. 31, 2021, to Dec. 31, 2022

Cleary, factor performance has proven cyclical, and a key part of an institutional investors' factor allocation decision process is to determine what to do about the cyclicality. There are multiple ways to approach this. Firstly, while challenging, adjusting factor allocations can benefit from alternating performance cycles if investors are successful in doing so. Secondly, as shown in Exhibit 3, allocating to factors over longer holding periods may help overcome short-term cyclicality and has historically increased the frequency of outperformance relative to the parent equity universe (MSCI World Index in our example). Lastly, a multi-factor approach equally weighting all seven single-factor indexes shown in the table has historically had higher frequency of outperformance than most single factor indexes, or said differently, it has helped with diminishing holding period for a similar frequency of outperformance as single factor indexes.

From a risk perspective, among single-factor strategies, only defensive factor indexes (low volatility, quality and high dividend yield) tended to benefit from longer holding periods, as their frequency of realizing lower volatility increased relative to the market. Along those lines, the multi-factor strategy demonstrated an attractive volatility profile benefitting from both diversifying across factor indexes and expanding the investment horizon.

Exhibit 3: Historical performance of MSCI World Factor Indexes relative to MSCI World

Historical Frequency of Outperformance of MSCI World Factor Indexes - Data from 1975 to March 2023								
Rolling Window	Minimum Volatility	High Dividend Yield	Quality	Momentum	Enhanced Value	Equal Weighted	Growth Target	Multi-Factor
1 Y	48%	56%	56%	65%	67%	55%	50%	71%
3 Y	51%	56%	65%	79%	68%	60%	51%	81%
5 Y	57%	66%	69%	93%	74%	65%	51%	87%
10 Y	68%	73%	79%	100%	81%	70%	64%	92%
15 Y	75%	82%	89%	100%	89%	78%	68%	100%
20 Y	82%	92%	97%	100%	100%	90%	73%	100%
Frequency of MSCI World Factor Indexes Experiencing Lower Volatility - Data from 1975 to March 2023								
1 Y	92%	65%	52%	35%	28%	36%	31%	78%
3 Y	99%	74%	64%	40%	15%	20%	26%	82%
5 Y	100%	74%	63%	36%	15%	12%	22%	88%
10 Y	100%	70%	76%	30%	20%	3%	29%	97%
15 Y	100%	85%	71%	20%	6%	0%	21%	100%
20 Y	100%	100%	78%	12%	0%	0%	11%	100%

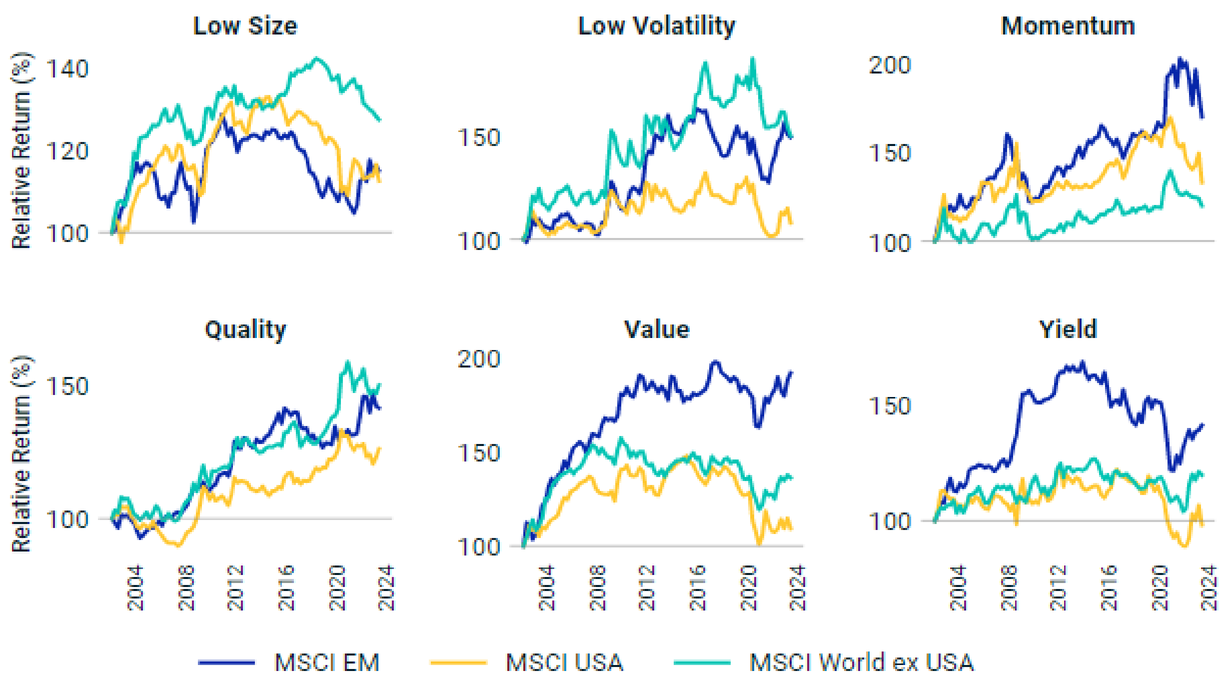
Gross returns in USD from November 1975 to March 2023. History for the MSCI Growth Target Index based on official index levels from May 1999; MSCI Growth Style Index from December 1975 to May 1999.

More than half the survey respondents said they allocate to factors (single or multiple) over the long term (>10 years) and maintain those allocations over time, while some also look to rotate opportunistically in the medium- to short-term.

In one of the most important findings from our survey, on average, investors placed style factor allocations foremost in their ability to generate alpha, ahead of sector or country-based allocations and even stock picking. This suggests that **some investors either never lost their trust in factors during the challenging past few years knowing that factor performance is cyclical, or the strong factor reversal last year restored their faith in factors.** Further, 56% of respondents believed that factors would do well over the medium to long-term (5-10 years), and while 42% were unsure in their outlook, only 2% held counter views.

Most investors also believe that factors are pervasive. They expressed confidence in the efficacy of factors in emerging markets (EM), with 60% suggesting factor premia in the emerging markets can be harvested the same way as in developed markets (DM). The remaining 38% were unsure and 2% held opposite views. Aligned with what most investors believe, our research shows that the same set of factors that have worked well historically in the U.S. and World ex-U.S. regions, have also outperformed in emerging markets.

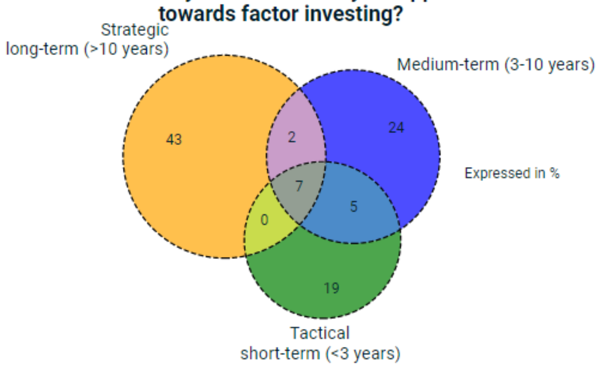
Exhibit 4: Factor performance in EMs was comparable with DMs



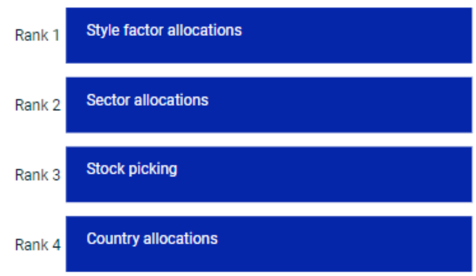
Gross relative performance in USD from December 2000 to March 2023.

Survey responses

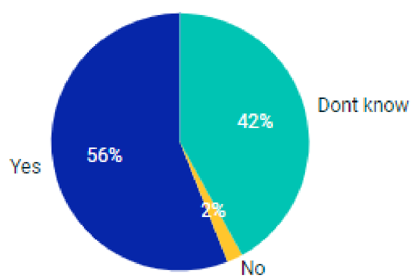
How would you characterize your approach towards factor investing?



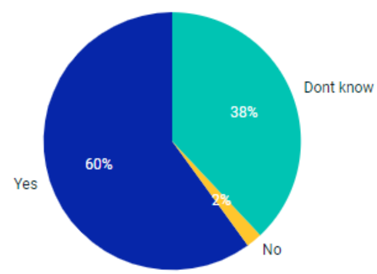
How would you rank the following in terms of their ability to generate alpha?



After several years of lackluster performance, do you believe factors will outperform over the next 5-10 years?



Can factors be harvested in EMs just the same way as DMs?

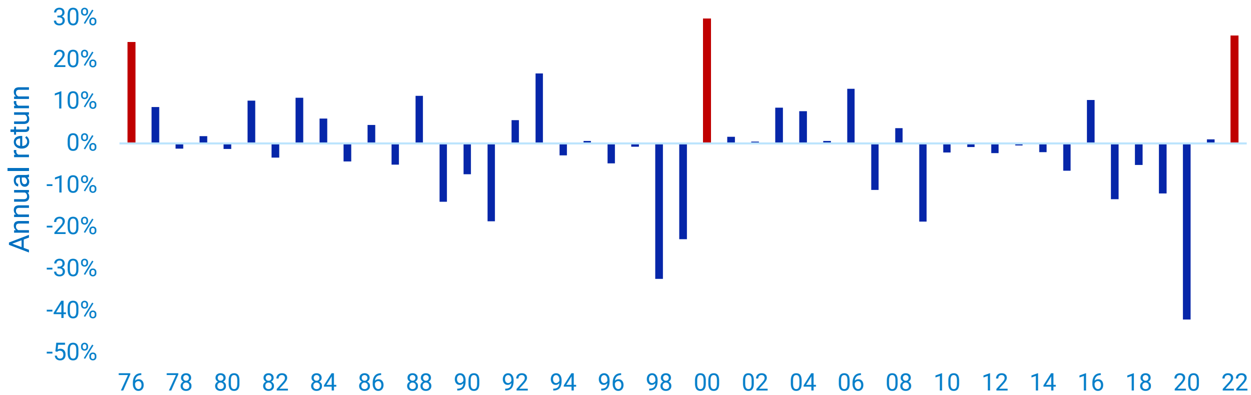


Many have shifted to value and quality

Growth and value are perhaps the most-recognized investment styles among mainstream investors, evidenced by the USD 5.2 trillion of AUM invested in the category, across index and active funds.[2] Much has been written about the performance of value stocks relative to growth in 2022; using our MSCI Value and MSCI Growth Style Indexes that split the equity universe into two halves based on their valuation and growth metrics, we note that U.S. value outperformed U.S. growth by 25.7%, the highest level of outperformance of value stocks in the U.S. market since the bursting of the technology bubble in 2000, which marked the beginning of a prolonged period of strong performance of value stocks relative to growth. This level of outperformance, as shown in Exhibit 5, was in fact the second highest level of value outperformance since the mid-1970s, based on our long-dated index history.

[2] Morningstar Direct as of Dec. 30, 2022, based on U.S. domiciled funds in the Morningstar value and growth categories.

Exhibit 5: MSCI USA Value – MSCI USA Growth: annual return difference

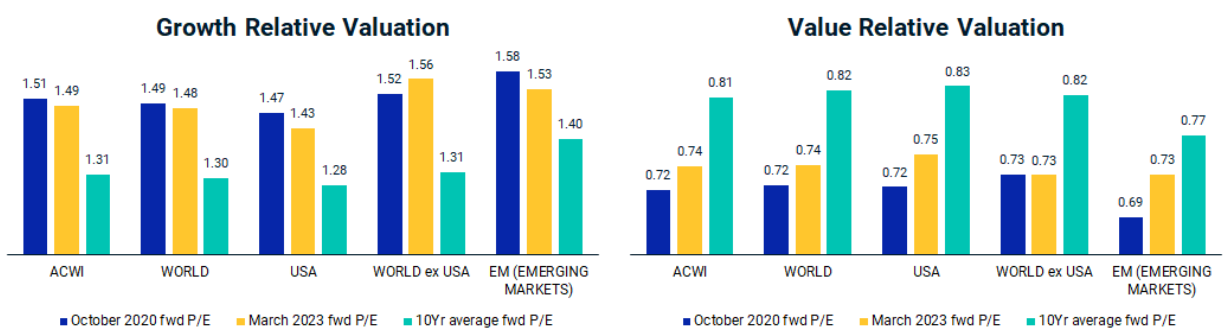


Gross annual performance in USD from 1976 to 2022.

Value stocks will, by definition, trade at a discount to the market. However, the magnitude of the discount will shift through time, and using a measure such as relative valuation may be useful. We define relative valuation as the valuation of a factor index price-to-forward earnings divided by the price-to-forward earnings of the parent index. On that measure, as shown in Exhibit 6, the MSCI USA Value Index was at a 25% discount to the MSCI USA Index, at the end of March 2023. This is only marginally lower than the discount observed in October 2020, right before the growth to value rotation began and still cheaper in comparison to the 17% discount observed on average over the last 10 years, ended March 31, 2023.

Put simply, value stocks remained historically cheap on a relative basis, even after the rally in 2021 and strong performance in 2022. On these same measures, growth stocks were trading at large premiums to historical averages, as of March 31, 2023. This pattern was seen in other regions, as shown in the charts below.

Exhibit 6: Valuation of value and growth stocks as of March 2023

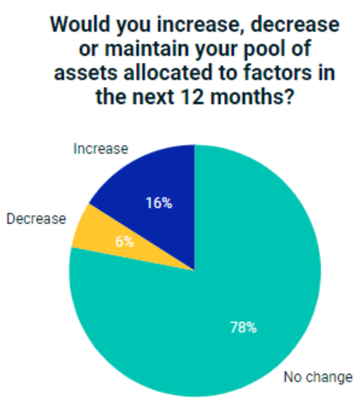


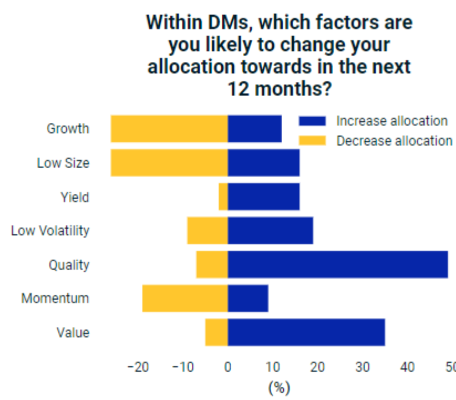
Growth and Value are represented by MSCI Growth and Value style indexes respectively. Valuations relative to regional parent indexes.

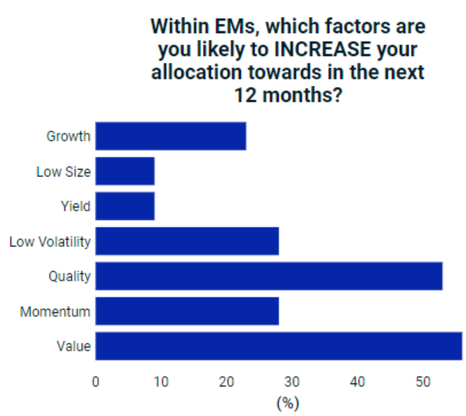
On the back of this, it's not surprising that some investors believe that the growth-to-value rotation may not be at the end of its cycle. In fact, 35% of clients surveyed stated an intention to increase their exposure to value in the coming year compared to only 12% of respondents planning to increase their growth investments. We also note that 26% expected to reduce their allocation to growth.

The topic of factor rotation is top of mind for many clients, as evidenced by the responses to broad allocation to factors versus within factors. To illustrate, in our survey we found most investors planned to keep their factor allocation steady in the near term, 78% stated this expectation, yet 49% of respondents expected to increase their allocation to quality stocks given the current market environment, the most common choice. We observed a broad range of answers regarding factor up-and-down-weights across the survey, suggesting that while the total position to the factor program may be constant, investors are making choices to tilt toward or away from specific single factors. This should not be confused with factor timing, which at an extreme would be the decision to move in and out of factor positions in total, but instead these re-allocations may be seen as part of their standard portfolio rebalancing activity. Relatedly, 56% of the survey respondents called out value and a similar proportion called quality as factors that may work well in the EM space in the near term, followed by 28% that favored low volatility or momentum.

Survey responses







Factors are seen as key elements of active performance

Factor investing is well established in the investment lexicon and investors use factors for risk analysis, performance attribution and portfolio construction. As per our survey results, 81% of respondents either allocated to factor strategies or used factor models in portfolio construction or risk assessment, pointing to wide adoption of factors among investors.

Performance attribution across factor dimensions is increasingly utilized by a range of our clients, including asset owners who use this analysis to evaluate their managers' performance and diversification across their equity program. Asset managers also use factor attribution to determine the impact of their investment decisions and explain the drivers of their performance. Factor attribution tools, such as MSCI's performance analytics, enable investors to decompose performance into common factors and stock effects, including performance contribution attributable to style factors, industry and country effects.

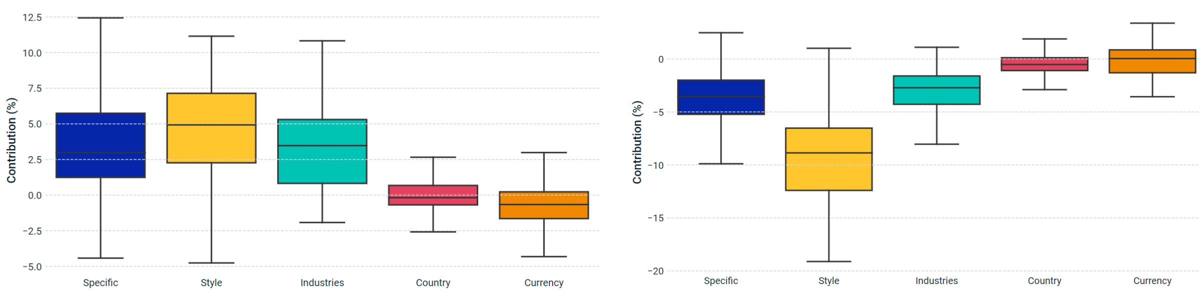
When discussing factors among our client base we often hear comments such as "factors are only for quants," or that factors don't apply to investors building discretionary (and sometimes concentrated) portfolios. Despite these perceptions we find evidence that factors are integral to an equity portfolio regardless of investment process. While it may be common for quantitative investors to deliberately target factor characteristics, it's also common for fundamental managers to build style-based portfolios, such as value, yield, quality or growth. Risk teams at fundamental-investment firms often measure investment risk using a factor model, which measures the key drivers of risk and return through the lens of fundamental factors such as value or quality, for example, bridging the work of the risk and the portfolio-management teams. As such, factor attribution and performance analytics may, in practice, be equally relevant to fundamental and quantitative investors and importantly those asset owners allocating among them.

While it's true that some managers may not be aware of the factor exposures, nor deliberately target them, that doesn't mean these characteristics are not present and influential to the behavior of the strategy. Equity portfolios will have exposure to a broad set of factors, each of which influence the variability of risk and return of the portfolio. Our survey respondents stated a belief that style factors are the biggest drivers of active returns, followed by sector allocation and stock-selection effects. In our research, we have tested at various times the contribution of return between factors and stock selection in public equity funds, including Roisenberg and Subramanian's 2017 paper titled "Anatomy of Active Portfolios," where the authors found that over a 13-year period, 55% of the 5-year active return among managers included in MSCI's Peer Analytics dataset could be explained by common factors.

More recently, our research examined the performance drivers of a group of 1,300 globally diversified actively managed equity funds for 2022. Apart from screening funds based on size, breadth etc., we also excluded sector- or industry-focused funds or funds that identified themselves with specific investment styles such as value, growth, dividend, momentum, etc. to better isolate funds that are built through discretionary stock selection. We then divided these funds into deciles based on the level of active return, and using MSCI's factor attribution tools and the global equity risk model, decomposed the active returns of top- and bottom-decile managers across different factor dimensions. We found that only about a quarter of active returns were explained by stock selection. By contrast, style factors were on average the dominant source of active returns; managers in the top decile had positive contributions from allocation to styles that performed strongly while managers in the bottom decline were exposed to factors that performed poorly, dragging down their active returns. The decomposition is shown in Exhibit 7 below.

Exhibit 7: Style factors dominated fund performance in 2022

Contribution by factor group: top-decile funds **Contribution by factor group: bottom-decile funds**



The charts above show the median, interquartile range (IQR) and min-max (capped at 1.5 of IQR).

Given that factors play a crucial role in driving performance, sometimes surpassing contributions from active manager's stock-picking skills, managers can benefit from consciously integrating factors into their investment process. For asset allocators, reviewing a fund's bet on factors can be an important step in making capital-allocation decisions.

Investors don't view factors and factor strategies as static

The history of factors has been one of discovery and evolution. While academics have conducted empirical studies to identify factors that improve the understanding of cross-sectional variation of equity returns, many practitioners have implemented those factors to generate alpha or mitigate risk in investment portfolios. In past decades, many factors have been discovered and evaluated, and those that were deemed "significant" and contained "independent" information have gained popularity and acceptance in theoretical and real-world investment models. Current research and developmental efforts continue to focus on the evolution of existing factors and the discovery of new ones.

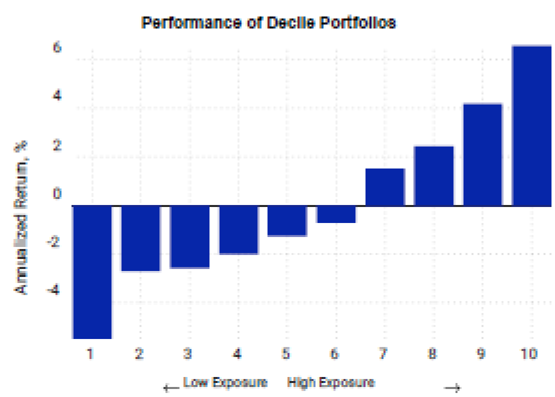
Evolution of existing factors is important and sometimes necessary, so that they remain relevant and appropriately capture the characteristics of companies that are themselves evolving. As a company's share of assets becomes more deeply tied to its intellectual capital and intangible assets, the traditional book-to-price measure could fall short in determining the correct valuation of a company. Adjusting book-to-price for research-and-development-related expenditures has an intuitive appeal and, in our research, has shown to improve historical performance of the valuation metric (Alighanbari et. al, 2022). This intuition is confirmed by the 70% of our survey respondents who believe that value-factor definitions should be refined to suit today's tech-heavy, asset-light business environment, whereas 19% were unsure and only 11% disagreed.

In another example, 82% of the respondents agreed that quality measures, which often include profitability and leverage, should also account for earnings quality, measured by accruals and asset or issuance growth (lower levels of issuance and asset growth is often associated with higher investment quality).

Discovery of new factors has increased the explanatory power of risk models and aided portfolio construction. Historically, new factor research has used accounting and financial-market data, but many recent strands of research have looked to alternative datasets that are structured (e.g., analyst sentiment) or unstructured (e.g., news sentiment), and through application of advanced techniques (natural language processing, machine learning, etc.). Such "factors" have gained acceptance with investors. For example, 63% of our survey respondents believe in the utility of factors beyond the classic value, momentum or quality type of factors. In addition, 56% feel that information extracted from alternative datasets or the application of advanced machine-learning techniques can have a role to play in their factor allocations, whereas 37% said they were unsure and only 7% held counter views. Specifically, investors pointed to the validity of factors such as ESG, analyst revisions and crowding.

At MSCI, we define factors as investment characteristics that help explain the risk and return behavior of assets. To identify those characteristics which may be considered systematic factors, we consider their ability to distinguish returns (meaning stocks that score high to the factor perform differently to those which score low), their pervasiveness (meaning the factor behavior was consistent across geography and even among competing signals) and their explanatory power (power to explain risk in the cross section of returns). For example, in Exhibit 8, we examine decile portfolios based on the exposure to the earnings yield factor and observe that the portfolio with the highest exposure, decile 10 outperformed decile 1, stocks with the lowest exposure and we further observe a monotonic relationship across the deciles.

Exhibit 8: Exposure and performance characteristics of the earnings yield factor



Securities are ranked and grouped into deciles based on their exposure to the earnings yield factor in the MSCI Global Equity Risk Model. Decile portfolios are rebalanced end of each month for period Dec 2000 to March 2023.

Over the past few years, MSCI has added new factors within many of our global and regional equity risk models to help investors address modern investment challenges as they work to create more resilient portfolios. Below is a short summary of a few of them. These factors were found to be statistically significant and contained information that was not captured by other factors within our global equity risk model:

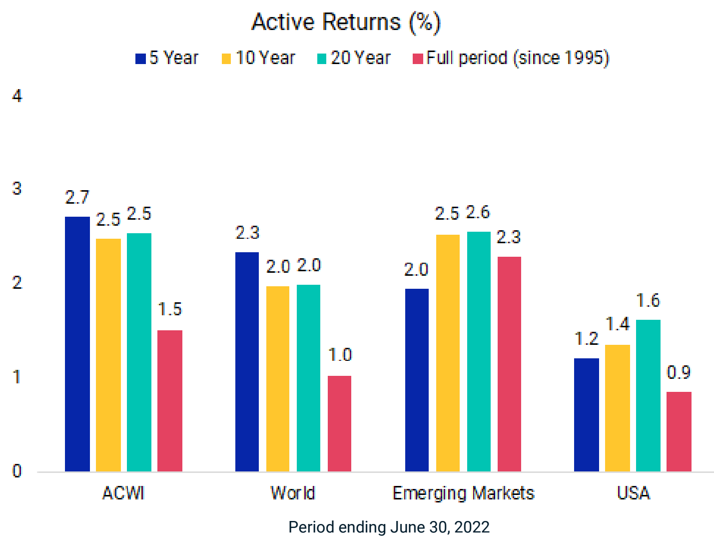
- **Carbon efficiency** measures a company's carbon emissions relative to its sector peers. In the coming years, investors are likely to pay greater attention to climate risk, as extreme weather events become more commonplace and the window for limiting global warming closes. A carbon efficiency factor can help investors measure their exposure to climate risk and build portfolios that are sensitive to the climate transition (Zangari et. al, 2022).

- **ESG** measures a company's ESG characteristics relative to its sector peers. Many investors who pursue ESG strategies (exclusion of stocks with poor ESG characteristics or selection of those with superior ESG), want to know how much ESG contributed to overall portfolio risk and return. An ESG factor can help quantify that impact. While ESG has, at times, been described as a combination of quality, large-size or low-volatility exposures, we found ESG explained risk and returns beyond these factors (Cano et. al, 2021).
- **Machine learning (ML)** has the potential to separate systematic from idiosyncratic returns by capturing non-linearities and interactions in the relationship between factor exposures and stock returns and improve the explanatory power of linear factor models. Factors constructed using ML techniques can be a valuable addition to an investor's toolkit and help explain the source of their portfolio's alpha (Bonne et. al, 2021).
- **Stock crowding** measures the crowdedness of a stock based on the deviations of its current factor exposures from their historical medians. Examining crowding and incorporating multiple data elements including valuation, short interest, volatility, trading activity and momentum provides investors with a holistic view of where crowded trades may be and can add insight into managing investment portfolios (Bonne et. al, 2022).

In addition to introducing new factors within our risk models, we have also added new measures into our factor library, MSCI FactorLab for use cases ranging from alpha research to building custom risk factors. Many of these provide information that is unique and not contained in classic factors. One such factor is analyst sentiment (also called out by some respondents in the survey).

- **Analyst sentiment** measures changes in analyst expectations of the future performance of a company based on revisions made to the financial outlook (such as sales, earnings and cash flow) or price targets. Our research revealed that analyst sentiment has been a robust and differentiated investment factor with strong associated risk premia. Long-only analyst-sentiment portfolios that were designed to capture securities with improved analyst forecasts historically outperformed market-capitalization-weighted benchmarks across regions, as shown in Exhibit 9. The performance only grew stronger in recent years (Virgaonkar et. al, 2022).

Exhibit 9: Performance of analyst-sentiment portfolios across regions



One other important area of evolution has revolved around the implementation of factor strategies, which has also been an area of focus for product differentiation. This may be a nuanced example, but value investing — popularized nearly 90 years ago — has evolved into approaches that differ in investment process and execution. Investors can choose from value strategies such as "deep value" (purchase of deeply discounted firms), "quality value" (buying value firms that also tend to have sustainable business models) or "quality value with catalyst" (buying inexpensive, high-quality firms that the broader market views positively due to constructive micro or macro influences). Each delivers a flavor of value, but the implementation differs. The latter two approaches deliver lower value exposure but refine that exposure using other signals, such as quality, to eliminate potential value traps or use a catalyst to identify stocks with a spark on the horizon.

In that same vein, we asked investors in our survey whether traditional factor portfolios can benefit from incorporating analyst expectations on the future performance of companies. More precisely, would value or quality portfolios benefit from selecting only those high-value or high-quality companies where analysts have a positive investment outlook? The response was evenly divided between yes, no and don't know. In our research, we have found that using analyst sentiment that is more forward looking to refine factor measures that are backward looking produced enhanced risk-adjusted returns historically without meaningfully sacrificing factor exposures.

Exhibit 10: Integrating analyst sentiment with traditional factor portfolios

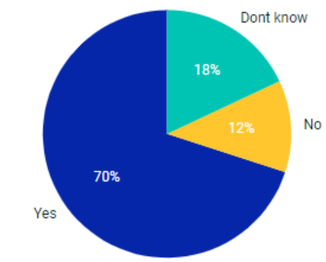
	MSCI World	Value	Sentiment adjusted Value	Momentum	Sentiment adjusted Momentum	Quality	Sentiment adjusted Quality
Total return* (%)	7.4	8.2	9.2	9.8	10.2	10.3	10.9
Total risk (%)	15.2	16.5	16.1	16.7	16.5	14.1	14
Return / Risk	0.49	0.5	0.57	0.58	0.62	0.73	0.78

Period: May 31, 1995 to Jun 30, 2022. *Gross returns annualized in USD

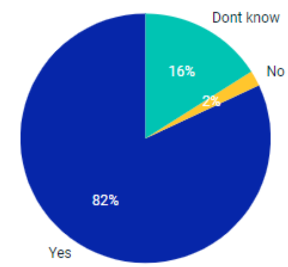
The evolution of factors can allow investors to refine how they target precise exposures, build differentiated portfolios, solve unique investment challenges and provide enhanced transparency into portfolio characteristics. The benefits are seemingly large, and investors tend to agree that new factors that carry new and independent information can have a role to play in their asset allocation.

Survey responses

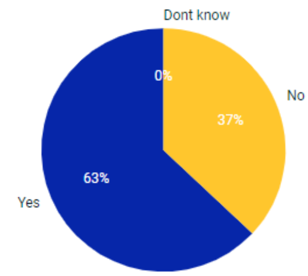
Should valuation ratios, used for value-factor definitions account for intangible assets?



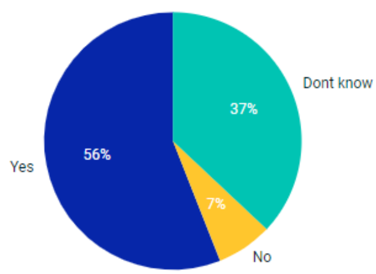
Should lower accruals and lower asset/issuance growth be integrated into quality-factor definitions?



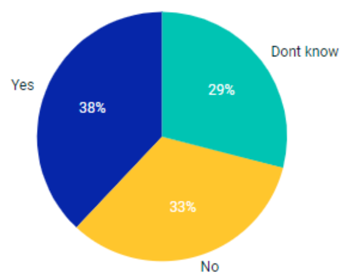
Are there factor signals beyond the traditional value, momentum, quality type of factors, that can be harvested for premia?



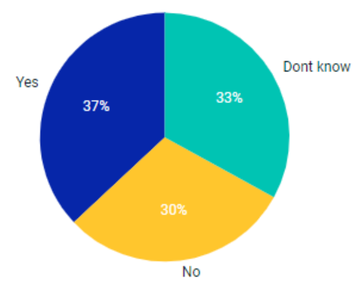
Would factors extracted from alternative datasets or with application of advanced techniques such as machine learning, have a role to play in your factor allocations?



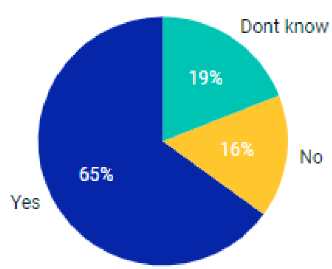
Do you believe analyst sentiment is predictive of future performance of companies?



Do you believe analyst sentiment when integrated with other factors such as value or quality can improve investment outcome of those portfolios?



Should crowding risk in securities or factors be addressed in factor portfolio construction?

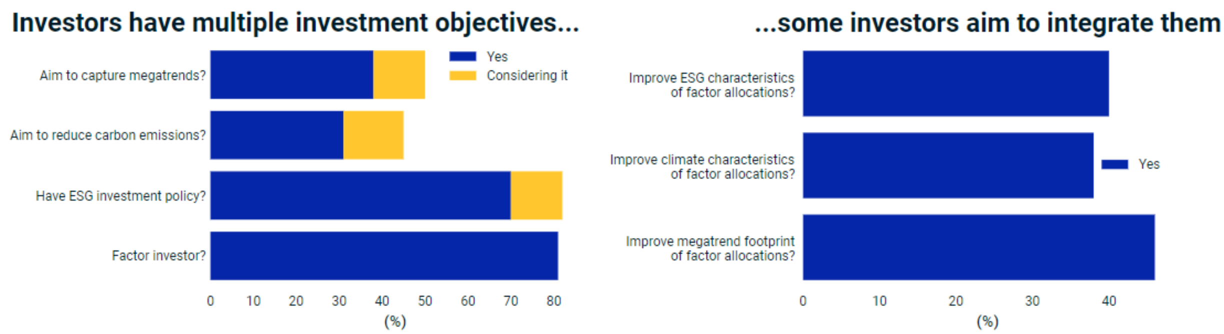


Different investment characteristics have converged

Not more than a decade ago, investors were largely focused on gaining market beta exposure through capitalization-weighted portfolios while capturing alpha through style-factor strategies or other active implementations. A lot of new investment challenges and opportunities have emerged since then. As discussed earlier, many investors embrace the use of ESG factors in investment practice, as such factors have gained recognition as a dimension of financial risk and for driving performance in companies. Climate-change concerns have evoked urgent reaction from investors that are motivated to hasten the transition to a low-carbon or net-zero economy. Investing in companies that are driving innovation and transformational changes in the broader economy has also gained popularity.

In other words, investors have different investment objectives, and a large proportion have overlapping objectives across factors, ESG, climate and megatrends. For instance, 81% of survey respondents were factor investors and a similar proportion either had an ESG investment policy in place or were considering one. Investors were also looking to integrate multiple objectives in the same portfolio. For instance, 40% were looking to improve the megatrend footprint of their factor portfolios and another 46% were looking to improve ESG characteristics of factor portfolios.

Survey responses



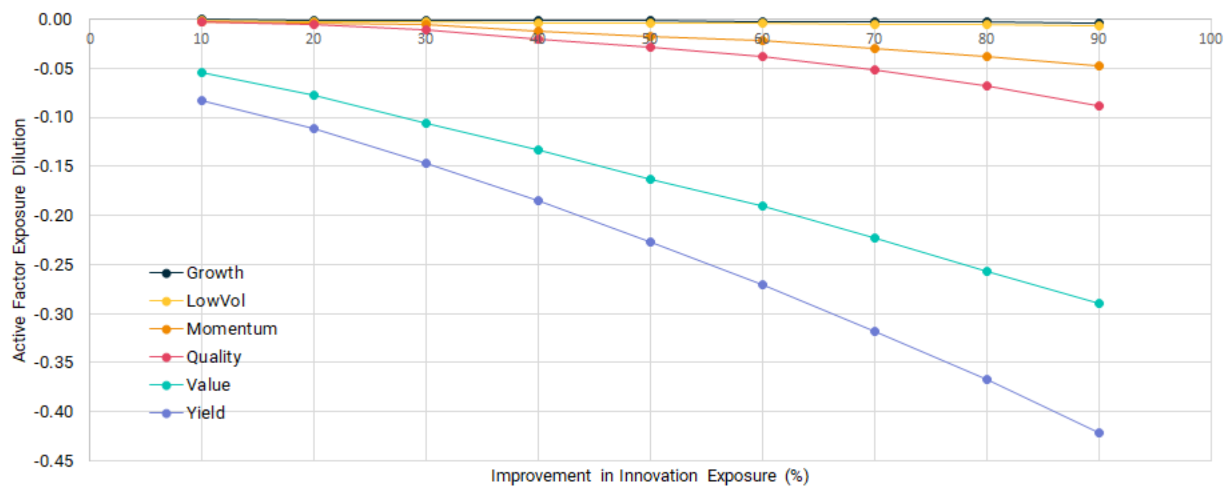
This introduces complexity to the investment process and gives rise to questions: How do these different investment characteristics interact with each other? For investors who are seeking to achieve multi-faceted investment objectives, how can they build and manage their investment portfolios efficiently? An investment framework that can help respond to these questions can provide useful guidance to investors as they look to make and monitor their investment allocations.

In this regard it's important to highlight the tradeoffs. Improving a particular investment characteristic may dilute another. For example, companies that are innovative tend to be expensive, more volatile and of poor investment quality. An allocation to the highest quartile of innovative companies will thus likely offset value, low volatility and quality characteristics of factor allocations. Knowing the extent of the tradeoff for different levels of potential improvement in an investment characteristic can help investors make informed investment decisions.

Portfolio construction can play a significant role in managing the tradeoff. Adding new and separate allocations for, let's say, ESG or megatrends alongside traditional factor allocations can result in significant factor-exposure dilution. Adding a layer for ESG or megatrends on top of a factor strategy can also result in undesirable outcomes. In contrast, integrating these investment objectives directly into factor strategies through thoughtful portfolio construction or within a controlled optimization environment may help to minimize the dilution effect.

In the past, we have reviewed the interaction between factors and ESG (Melas et. al, 2016). This time we investigate the interplay between factors and the innovation characteristics of the megatrend companies.[3] The illustration below (Exhibit 11) shows factor-exposure dilution that hypothetical optimized factor portfolios would have experienced for different levels of improvement in the innovation score.[4] Clearly, some factor portfolios were more sensitive to integration of innovation than others. Interestingly, even though innovative companies tend to be more volatile and have poor investment quality characteristics, their integration in optimized growth, low volatility or quality portfolios did not result in meaningful decline in target-factor exposures.

Exhibit 11: Factor and Innovation exposure trade-off



Each circle represents a hypothetical optimized portfolio. Data from June 2017 to March 2023.

There is clearly growing demand to bring different investment concepts together in one portfolio. The confluence of these ideas and advanced portfolio solutions that can help investors meet their financial targets while still taking advantage of emerging themes and opportunities may very well define the next chapter of investing.

[3] For each company, we identified its economic linkage with innovation-driven themes across four megatrends — transformative technologies, environment and resources, health and health care and society and lifestyle — and calculated a security-level innovation score. For more details, refer to Alighanbari et. al, 2022.

[4] The innovation score for optimized singe factor portfolios without any specific constraint on innovation score ranged from 0.14 for yield to 0.25 for low volatility.

Conclusion

The end of accommodative monetary policy due to the persistence of inflation has resulted in higher market volatility and investment uncertainty. The impact on global equities has been a rotation of market leadership. The most recognized aspect of this for many investors has been the divergence in returns between growth and value investment styles; but a lesser-known aspect has been the relative strength in factor strategies versus market-cap portfolios. With this as backdrop, our survey found renewed faith in factor investing and that investors believe style factors will likely be the dominant driver of active returns going forward, ahead of stock, sector or country allocation.

We further found that investors recognize the cyclicality of single factors resulting in the increased inclusion of factor considerations as a core criterion for asset allocation and portfolio rebalancing. This does not appear to be a timing decision but instead an over or underweighting choice complementary to and enhancing the regional allocations common to asset-allocation modeling.

Investors in our survey further expressed a desire for enhancements to traditional factor definitions and structures. This could be through the use of additional measures to define or capture a familiar factor such as value, or for the recognition of new factors found through advanced research techniques such as machine learning. Underlying much of this is the continued belief in the core use-case of equity factors, namely portfolio construction and risk and performance analytics. Respondents clearly expressed that factors continue to be a crucial lens from which risk and portfolio management teams communicate within asset management firms and how asset managers and asset allocators discuss investment results.

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