MSCI

PRODUCT INSIGHT

The Next Generation of Multi-Factor Indexing

MSCI Core Multiple-Factor Index

CONTENTS

Executive summary

Style factors have largely delivered long-run historical return premia over the broad market.[1] However, performance dispersion over shorter horizons can be significant and every factor index has somewhere experienced periods of underperformance compared its parent index.[2]

As a result, many investors seek consistent exposure to multiple factors, aiming to diversify across uncorrelated sources of return through multi-factor indexes.

Multi-factor index offerings have proliferated in recent years, providing investors with abundant choice. While this breadth of options is beneficial, it can also lead to confusion in excess — even causing decision paralysis in cases of information overloads.

This report aims to cut through the confusion, by revisiting the case for multi-factor investing, examining common design approaches, and highlighting key points to consider when choosing a multi-factor index.

We also introduce our latest multi-factor index offering, the **MSCI Core Multiple-Factor Indexes**, which build on decades of MSCI experience delivering equity factor analytics, risk models and index solutions.

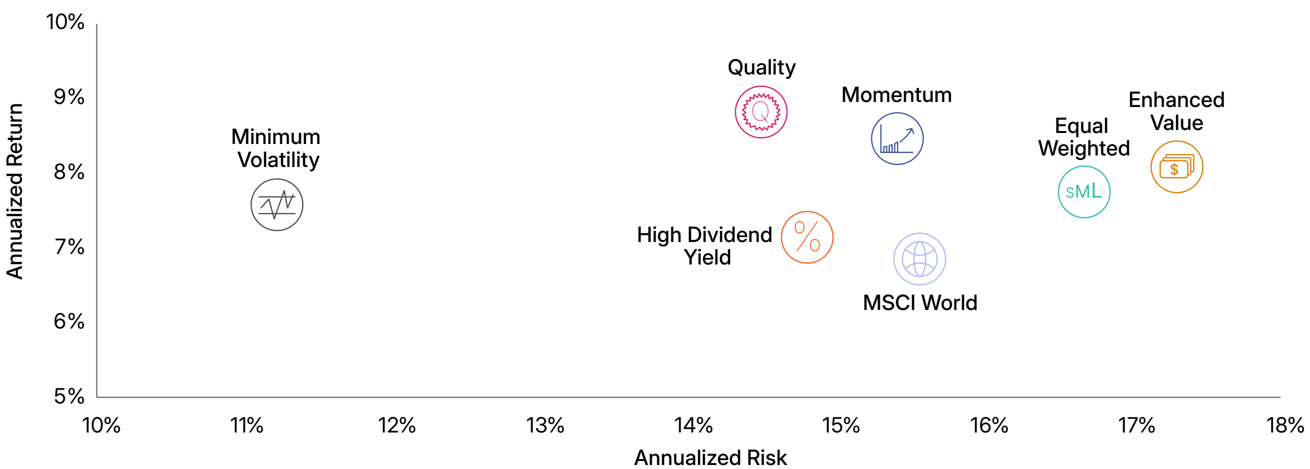
[1] As shown in Exhibit 1
[2] As shown in MSCI Factor Index performance heatmap

Harnessing style factors for long-term performance

Several well-known style factors have historically outperformed the broad market over long periods. As illustrated in Exhibit 1, over the 25 years ending Dec. 31, 2024, each of the six flagship MSCI single-factor indexes achieved higher absolute and risk-adjusted returns than the market-cap-weighted parent MSCI World Index.

Exhibit 1: Historical outperformance of style factors

Long Term Factor Performance From 1999 to 2024



Annualized returns of MSCI single factor indexes over the 25 years ending Dec. 31, 2024. Indexes referred in above exhibit are MSCI World Minimum Volatility Index, MSCI World High Dividend Yield Index, MSCI World Quality Index, MSCI World Momentum Index, MSCI World Enhanced Value Index, MSCI World Equal Weighted Index. Past performance — whether actual, back tested or simulated — is no indication or guarantee of future performance.

Source: MSCI

This long-term outperformance, however, has not been linear. Individual single factors have exhibited significant active risk and experienced periods of underperformance relative to the broad market. Importantly, these factors rarely move in lockstep however, and individual factors exhibit low correlations to one another, as seen below in Exhibit 2.

Exhibit 2: Diversification potential of style factors

	Minimum Volatility	High Dividend Yield	Quality	Momentum	Enhanced Value	Equal Weighted
Minimum Volatility	1					
High Dividend Yield	0.61	1				
Quality	0.33	-0.11	1			
Momentum	0.28	-0.09	0.29	1		
Enhanced Value	-0.07	0.39	-0.53	-0.18	1	
Equal Weighted	0.02	0.27	-0.54	-0.15	0.67	1

Active return correlations of MSCI single factor indexes over the 25 years ending Dec. 31, 2024.
Source: MSCI

Combining assets — or factors — with low correlations allows investors to take advantage of diversification, what American economist Harry Markowitz famously referred to as "the only free lunch in investing." This is the premise underpinning multi-factor indexes. Single factor exposure and wide performance dispersion across individual style factors present active risk, but combining exposures to several uncorrelated factors targets more stable long-run performance across market cycles.

Unsurprisingly, the demand for multi-factor indexes has grown. However, there is no single best approach to constructing them. In this paper, we explore several common methodologies, along with their associated benefits and trade-offs.

Bringing clarity and control to multi-factor strategies

The MSCI Core Multiple-Factor Indexes are designed to represent the performance of a strategy that seeks higher active exposure to three style factors: value, momentum and quality.

Leveraging insights and research from our Barra risk models, MSCI defines the target scores for each factor:

Value
Based on earnings-, asset- and firm-level valuation metrics — book-to-price and earnings yield — from the relevant Barra Equity Model.

Momentum
Combines the Barra momentum factor score with MSCI's proprietary Analyst Sentiment factor, which captures analyst changes across cash flows, earnings, sales, price targets and recommendations.

Quality
Based on five quality factors: profitability, investment quality, earnings quality, leverage and earnings variability from the Barra Equity Model.

The indexes are optimization-based, seeking to maximize factor exposures (per the above scores), while controlling active risk relative to the Parent Index within an ex-ante tracking error budget. The indexes also have an active specific risk budget and maintain an ex-ante beta exposure close to the cap-weighted Parent Index.

The indexes are built using an optimization framework designed to:

- Maximize exposure to the three target factors.
- Maintain ex-ante tracking error of typically 2% relative to parent index.
- Constrain active specific risk, typically to 1%.
- Constrain ex-ante beta exposure, close to parent index, to between 0.98 and 1.02.

Additional constraints include:

- Active weights for individual securities.
- Exposures to value, momentum and quality target factors.
- Exposures to beta, residual volatility, size, mid-cap, yield, growth and liquidity non-target factors.
- Active sector weights.
- Active country weights.
- Index turnover.

This rules-based, transparent approach seeks to control active risk versus the parent index and limit the tracking error contribution from stock-specific risk.

The MSCI Core Multiple-Factor Indexes aim to deliver a higher proportion of active return from exposure to style factors that have historically delivered long-run return premia and, consequently, limit exposures to uncompensated sources of risk.

Essentially, they target the "sweet spot" on the active risk spectrum, seeking to deliver a more consistent and focused factor exposure than unconstrained multi-factor approaches, with modest and more-consistent active risk.

See the *full methodology* for more details.

MSCI Core Multiple-Factor Index: Characteristics and performance

MSCI World Core Multiple-Factor Index performance and key metrics (vs. MSCI World Index)

Key Metrics

	MSCI World Index	World CMF
Total Return* (%)	7.1	9.8
Total Risk (%)	15.5	15.3
Return / Risk	0.46	0.64
Sharpe Ratio	0.35	0.53
Active Return (%)	0.0	2.7
Tracking Error (%)	0.0	2.0
Information Ratio		1.33
Historical Beta	1.00	0.98
Number of Constituents***	1621	473
Turnover** (%)	3.4	31.4
Price to Book***	2.3	2.1
Price to Earnings***	18.7	14.7
Dividend Yield*** (%)	2.3	2.4

Period: Nov 30, 2000 to Mar 31, 2025. * Gross returns annualized in USD ** Annualized one-way index turnover over index reviews *** Monthly averages

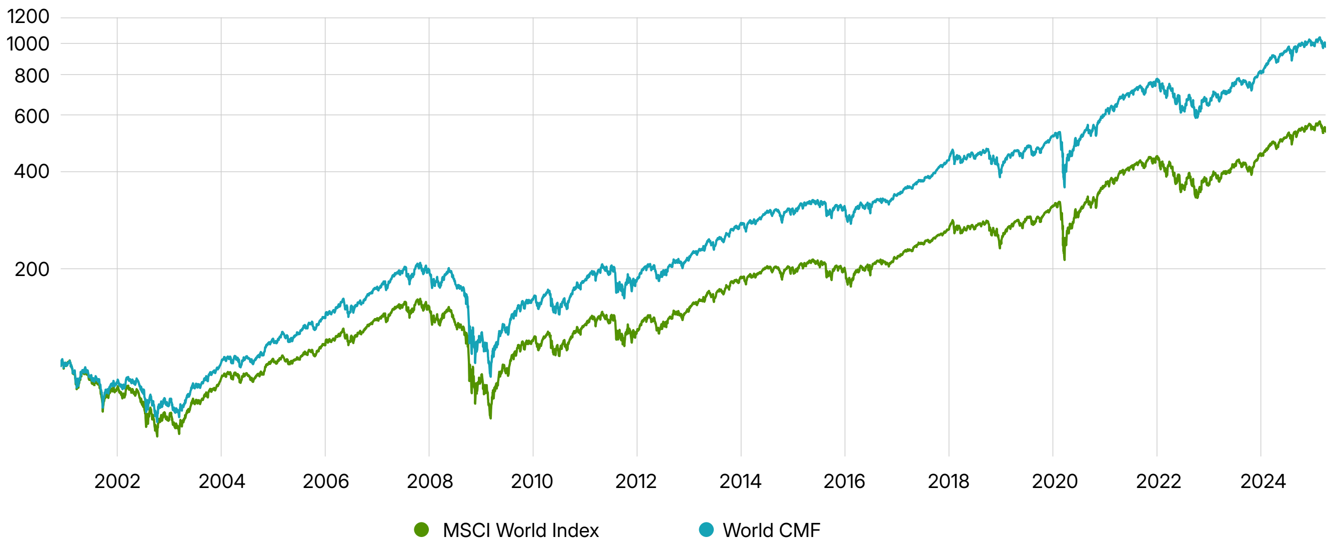
Performance (%)

	MSCI World Index	World CMF
YTD	-1.7	-1.2
1 Yr	7.5	6.4
3 Yr	8.1	10.0
5 Yr	16.7	18.7
10 Yr	10.1	12.0

Gross returns for the period ending Mar 31, 2025. Returns are annualized for periods longer than a year

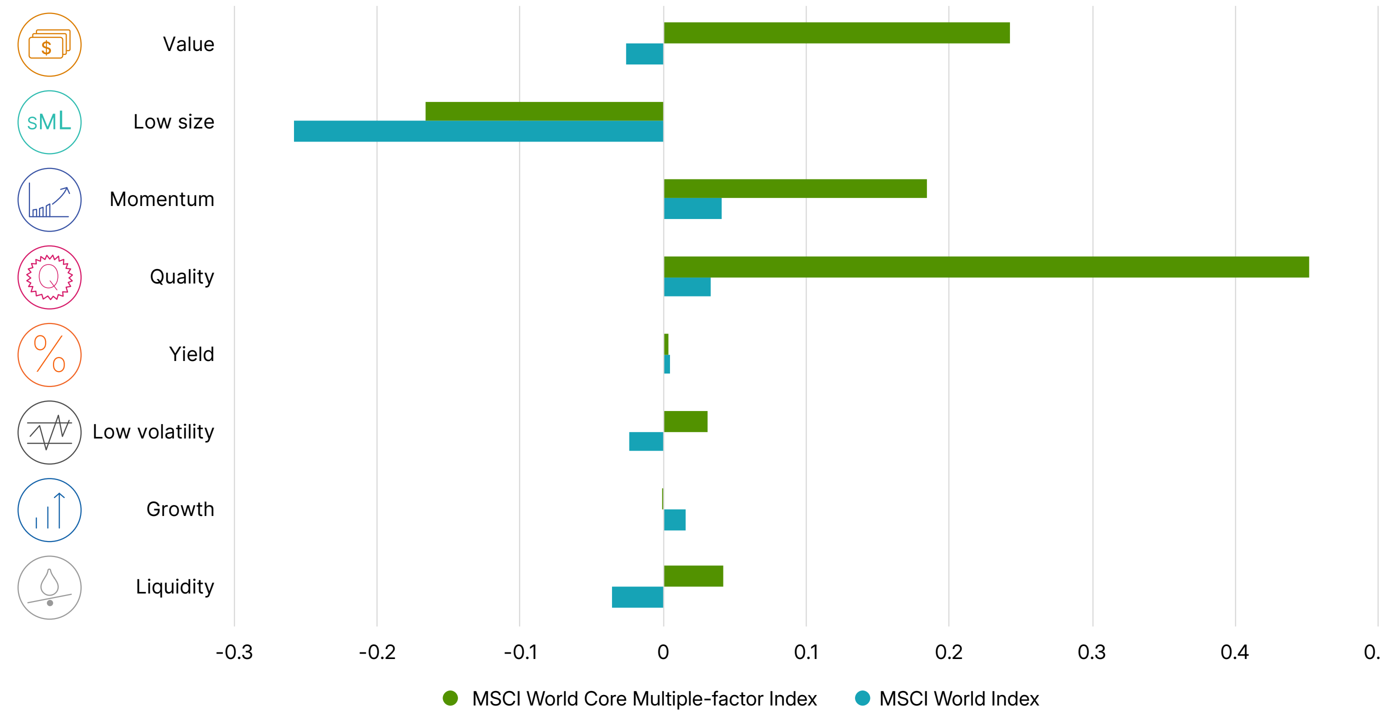
MSCI World Core Multiple-Factor Index cumulative performance (vs. MSCI World Index)

Index Performance (USD)



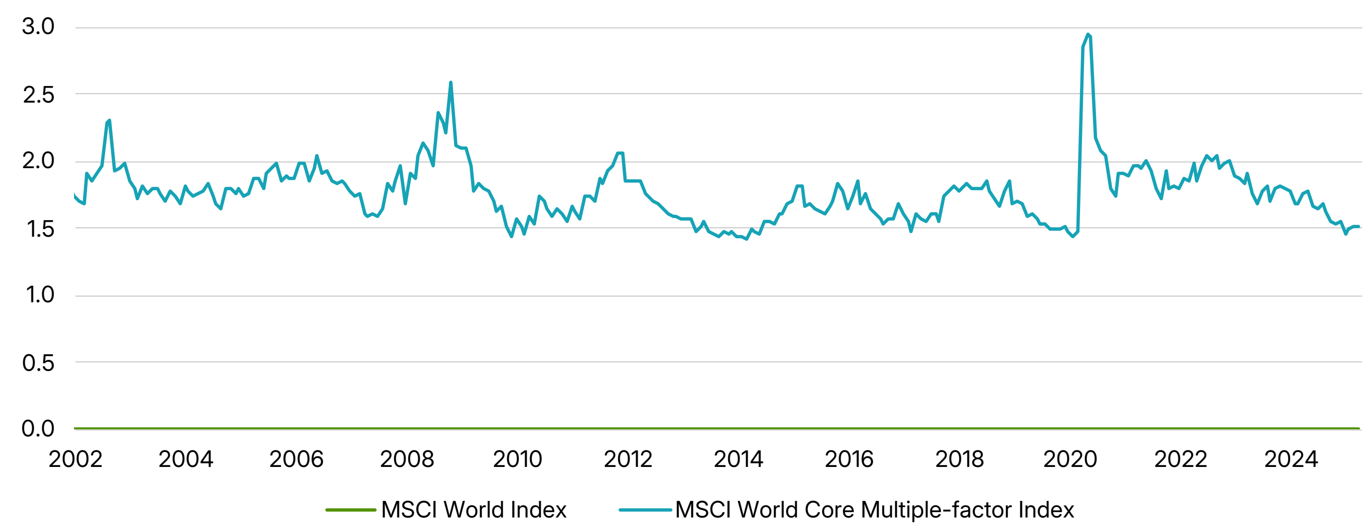
Period: Nov 30, 2000 to Mar 31, 2025. Gross Returns (USD)

MSCI World Core Multiple-Factor Index FaCS (Factor Classification Standard) exposures (vs. MSCI World Index)



As of Mar 31, 2025. Absolute FaCS exposures capped to the [-1.5, 1.5] range.

MSCI World Core Multiple-Factor Index GEMLTL model active risk forecast (vs. MSCI World Index)



Period: Jan 31, 2001 to Mar 31, 2025

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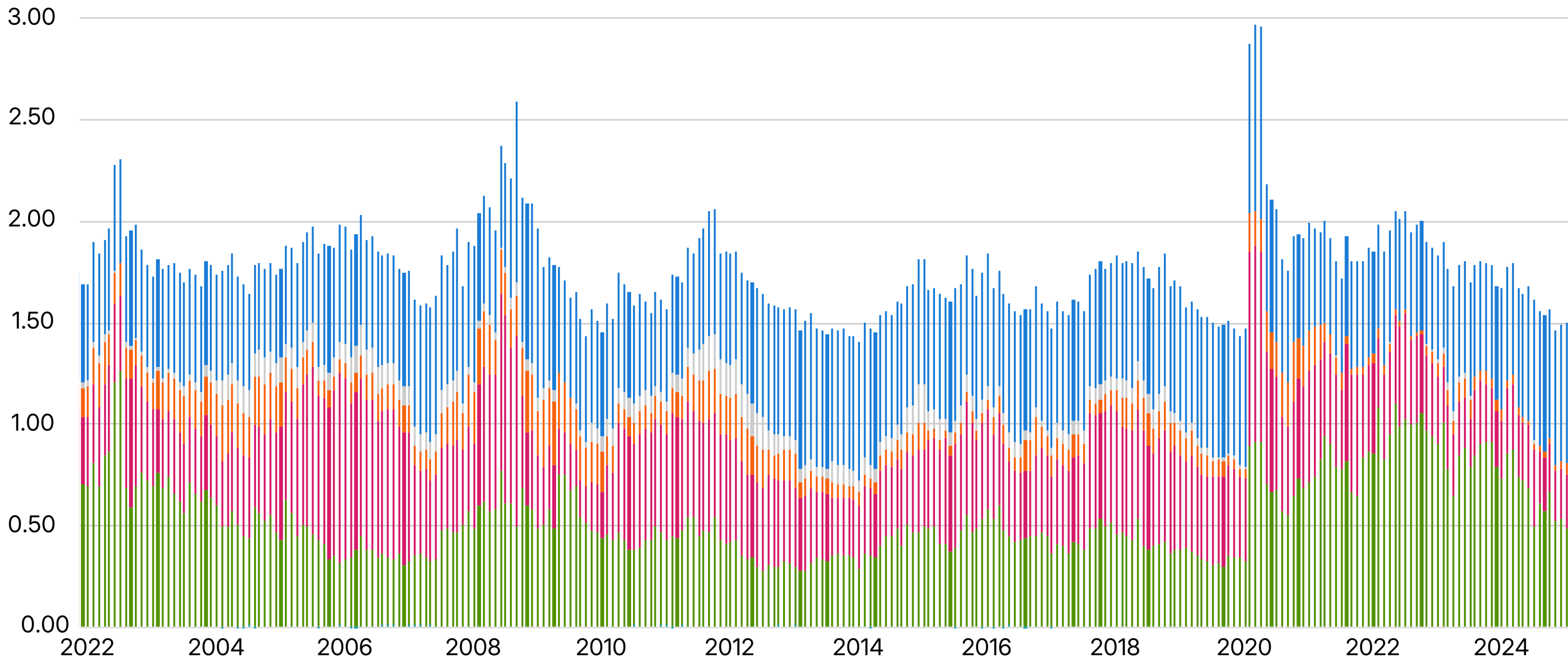
MSCI World Core Multiple-Factor Index GEMLTL model active risk attribution (vs. MSCI World Index)



Period: Jan 31, 2001 to Mar 31, 2025

Market Styles Industries Countries Currencies Specific risk

Conclusion

Multi-factor indexes aim to provide diversified exposure to multiple style factors and overcome some of the performance challenges caused by the volatility of single factor indexes. There are myriad ways to design and construct such indexes, each having the potential to greatly influence investment outcomes.

MSCI offers a broad range of multi-factor solutions, designed to meet individual investor needs. The MSCI Core Multiple-Factor Indexes leverage decades of experience, sophisticated risk models and evolved factor definitions to deliver a focused and differentiated approach.

Appendix 1: How many (and which) factors?

The six single factors outlined in Exhibit 1 are a common starting universe when designing a multi-factor index:

- **Value** – Securities priced attractively relative to fundamentals or peers.
- **Momentum** – Stocks with strong recent price performance.
- **Quality** – Companies with robust financial metrics and strong businesses.
- **Volatility** – Lower risk securities.
- **Size** – Smaller-cap stocks.
- **Yield** – Dividend paying or growing companies.

Among these, value, momentum and quality, typically serve as the core of multi-factor indexes due to their return-seeking characteristics, with similar total risk to the broad market, and relatively low active return correlations to one another.

The other three factors offer trade-offs:

Low volatility – Can be highly diversifying and may provide downturn protection but may lower market beta and underperform in bull markets.

Size – Tends to be captured by any non-cap-weighted approach, so it is not always necessary to explicitly target this factor, since a small size bias would likely be present in most multi-factor indexes.

Yield – Shares characteristics with and exhibits high correlation to the value factor, so is often not explicitly targeted by multi-factor indexes.

While different combinations are valid, the MSCI Core Multiple-Factor Indexes focus on value, momentum and quality as their foundation. The methodology is flexible enough to support four-, five- or six-factor variants.

Appendix 2: Key considerations for multi-factor index construction

Top-down versus bottom-up approaches

There are two broad approaches to multi-factor index construction:

Top-down: Combines multiple single-factor index "sleeves" to create a multi-factor index in a "building block" approach. Proponents value its transparency and simplicity and the ability to cleanly attribute performance across the different single-factor building blocks. It can, however, lead to "factor dilution," due to offsetting active stock positions across different single-factor sleeves cancelling each other and diminishing the active risk, and factor exposures, of the combined index.

Bottom-up: Selects individual securities based on their attractiveness across multiple factors, often using sophisticated risk models and optimization techniques. Advocates of bottom-up indexes might argue it leads to a "cleaner" factor exposure and a more efficient use of active risk budget. Due to its complexity, however, it can be more difficult to explain why individual securities carry a certain weight in the final index.

While neither method is necessarily better, we will focus on optimized bottom-up methodologies, as the approach adopted by the **MSCI Core Multiple-Factor Indexes**.

Optimization parameters and objectives

Optimized indexes will be constructed according to pre-determined objectives and constraints, which dictate the proposed outcome of the index and the parameters it seeks to achieve. The final index holdings and characteristics will be very sensitive to these inputs and, which are therefore very important to consider when designing and choosing a multi-factor index.

Parameters that are often key optimized index inputs include:

- **Exposure to target factors.** The primary objective of a multi-factor index will usually be to maximize exposure to the desired target factors (value, momentum and quality for the MSCI Core Multiple-Factor Indexes), within a set of constraints, such as any, or all, of the following.
- **Exposure to non-target factors.** Sometimes exposure to non-target factors, such as growth, are explicitly constrained close to zero, to ensure that index performance is not unduly impacted by unintended, or incidental, exposures
- **Total risk / volatility.** Multi-factor indexes might target a total risk level with respect to the parent index. The target total risk level will depend on the chosen factors, since low volatility tends to dampen risk relative to the broad market.
- **Tracking error / active risk.** Unconstrained multi-factor indexes can exhibit significant active risk versus the parent index, even when targeting total volatility similar to the broad market. Some approaches may therefore impose upper limits on tracking error.
- **Market risk / beta.** Unconstrained multi-factor indexes, particularly those targeting the low volatility factor, are prone to reduced market exposure and beta below 1. This can cause underperformance during market rallies.
- **Stock-specific / idiosyncratic risk.** Stock-specific risk is not expected to be compensated through time, so controlling the idiosyncratic contribution to tracking error targets more factor exposure and "less noise."
- **Active security, sector and country weights.** While a degree of active positioning relative to the parent index is necessary to generate factor exposures, controlling active exposures from stocks, sectors and countries allows for a more efficient allocation of active risk.
- **Index turnover.** Controlling turnover at each index rebalance allows the index to strike a balance between capturing more factor exposure versus managing transaction costs.

Factor definitions and descriptors

The descriptors or "signals" used to define and measure each factor can significantly impact the outcome of any factor index.

In line with our philosophy of continual index evolution and innovation, MSCI has included several factor descriptor enhancements within the new MSCI Core Multiple-Factor Index methodology:

We have included a new **Analyst Sentiment** signal within the momentum factor, comprised of changes in analyst views across multiple dimensions including cash flows, earnings, sales, price recommendations and analyst recommendations.

Our analysis revealed that Analyst Sentiment has been a robust and differentiated investment factor with low correlation to other factors such as value, quality and momentum. For an in-depth discussion of the Analyst Sentiment factor see *here*.

We have also adjusted the allocation across the individual descriptors underpinning our quality factor, aligning the descriptor weights with best practices within the Barra Equity Models and MSCI Factor Classification Standard (FaCS) dataset.

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

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