



Introducing MSCI Factor Indexes

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Elements of performance™

Factors by MSCI

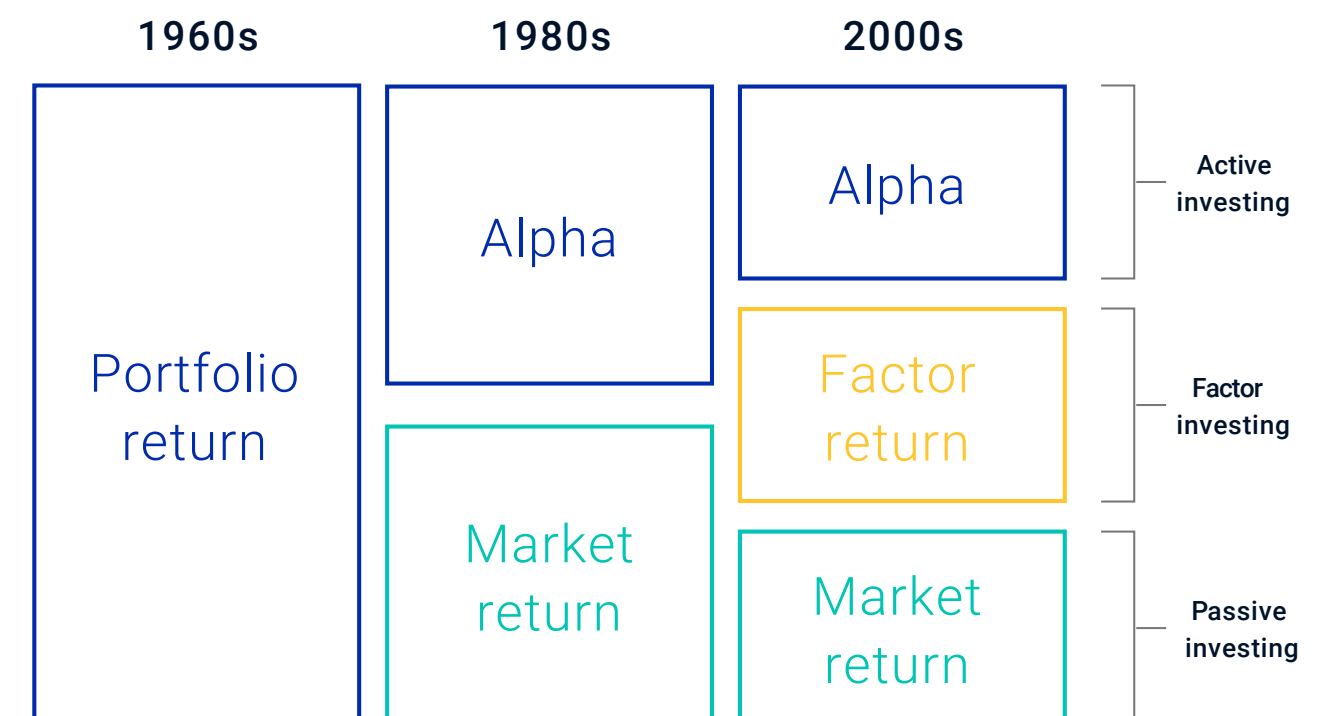


Factors are the building blocks of many portfolios – the elements capable of turning data points into actionable insights.

MSCI: A leader in Factor Indexing

MSCI Factor Indexes seek to reflect the performance characteristics of a range of investment styles and strategies using transparent and rules-based methodologies. Each MSCI Factor Index is derived from the equity universe of a traditional market cap weighted MSCI index.

Evolution in the understanding of portfolio returns



1960s and 1970s

During this period, investors did not distinguish between the sources of portfolio returns. Active investing was predominant way of managing long-term portfolios.

1980s and 1990s

In the 1980s, finance research underpinned the adoption of passive investing as an alternative basis for implementation. Investors started to capture market beta efficiently through passive mandates.

2000s and 2010s

Post 2000, investors increasingly recognized factors as the key drivers of long-term performance. Factor investing implemented through rules-based transparent indexes offered an alternative for implementation.

Why factors matter?

- A factor is any characteristic that helps explain the long-term risk and return performance of an asset
- Factors are well documented in academic research and have been used extensively in portfolio risk models and in quantitative investment strategies. Active fund managers use these characteristics in their security selection and portfolio construction process.
- Factor indexes provide a transparent and efficient method to seek exposure to factors

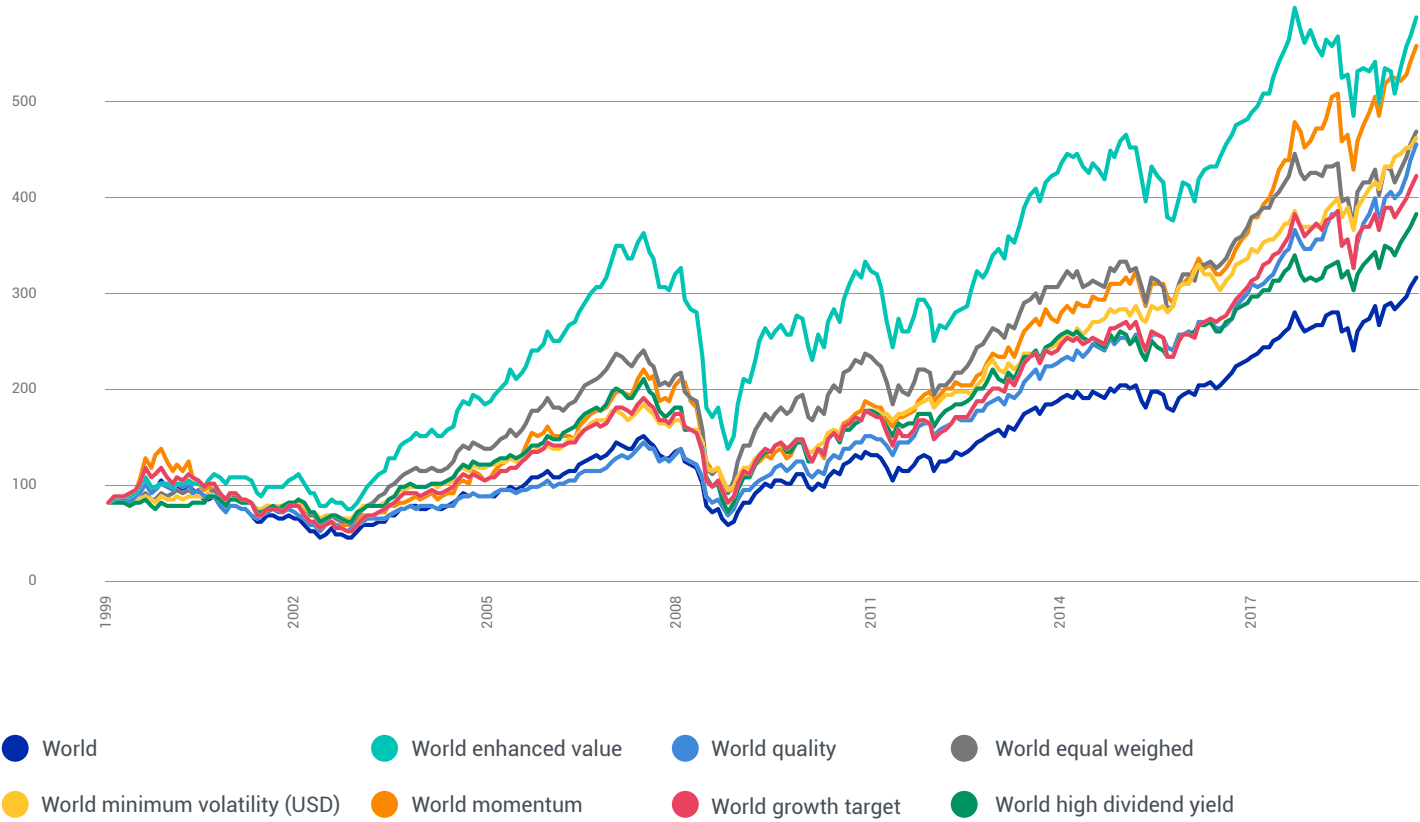
Factor investing and the asset allocation process

Factor investing seeks to capture higher risk adjusted returns via systematic exposure to stock characteristics. Factor Investing is not new; it has long been used in risk models and quantitative investment strategies. Factors also can help explain part of the long term portfolio performance of fundamental active investors*

Performance & implementation

Over time, individual factors have delivered outperformance relative to the market (see chart below).

MSCI World Factor Indexes



* For example, see "Buffett's Alpha", NBER Paper, Andrea Frazzini, David Kabiller and Lasse Pedersen, December 2013

How factors have performed relative to each other: MSCI ACWI

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1.5%	-4.5%	-9.6%	56.7%	28.6%	28.4%	31.0%	19.9%	-29.2%	42.0%	18.2%	8.0%	16.7%	32.7%	12.1%	5.8%	10.3%	32.6%	-1.4%	36.7%
1.2%	-8.0%	-9.8%	50.4%	24.1%	17.2%	28.9%	16.8%	-33.5%	41.9%	9.1%	4.8%	16.5%	30.7%	9.0%	4.5%	9.4%	26.6%	-2.4%	28.4%
0.3%	-10.0%	-13.6%	40.1%	21.3%	15.2%	22.1%	11.4%	-37.8%	33.8%	7.2%	4.8%	15.0%	30.3%	7.0%	4.2%	8.9%	26.6%	-5.1%	28.3%
-2.1%	-11.5%	-14.4%	33.8%	20.8%	12.5%	21.8%	10.3%	-39.9%	33.5%	11.4%	4.4%	14.8%	27.7%	5.5%	1.2%	8.9%	23.9%	-6.7%	27.4%
-10.2%	-12.1%	-15.1%	30.5%	20.0%	10.0%	21.2%	9.6%	-40.3%	31.9%	9.3%	-5.0%	14.7%	27.4%	4.6%	-0.3%	8.2%	23.1%	-8.2%	24.5%
-12.5%	-16.5%	-16.5%	26.0%	19.3%	8.5%	20.7%	7.3%	-41.9%	30.8%	12.3%	-5.4%	13.7%	26.5%	4.6%	-1.0%	8.2%	22.9%	-8.5%	24.3%
-12.9%	-19.4%	-19.4%	25.9%	15.2%	8.3%	19.1%	6.4%	-42.4%	17.2%	12.8%	-9.3%	13.3%	22.9%	3.4%	-2.4%	5.1%	19.2%	-11.8%	24.0%
-18.9%	-20.5%	-19.5%	22.0%	12.7%	6.0%	16.8%	6.1%	-42.6%	14.8%	16.5%	-11.0%	8.9%	19.4%	3.3%	-2.7%	4.7%	18.0%	-13.4%	19.8%

World

World enhanced value

World quality

World equal weighed

World minimum volatility (USD)

World momentum

World growth target

World high dividend yield

Using an obsession with data, an innovative spirit, and a drive to always go further for our clients, MSCI worked to perfect a breakthrough method for Factor Investing.

Introducing A Common Language for Factor Investing:
MSCI FaCS

Based on MSCI's Barra Global Equity Factor Model

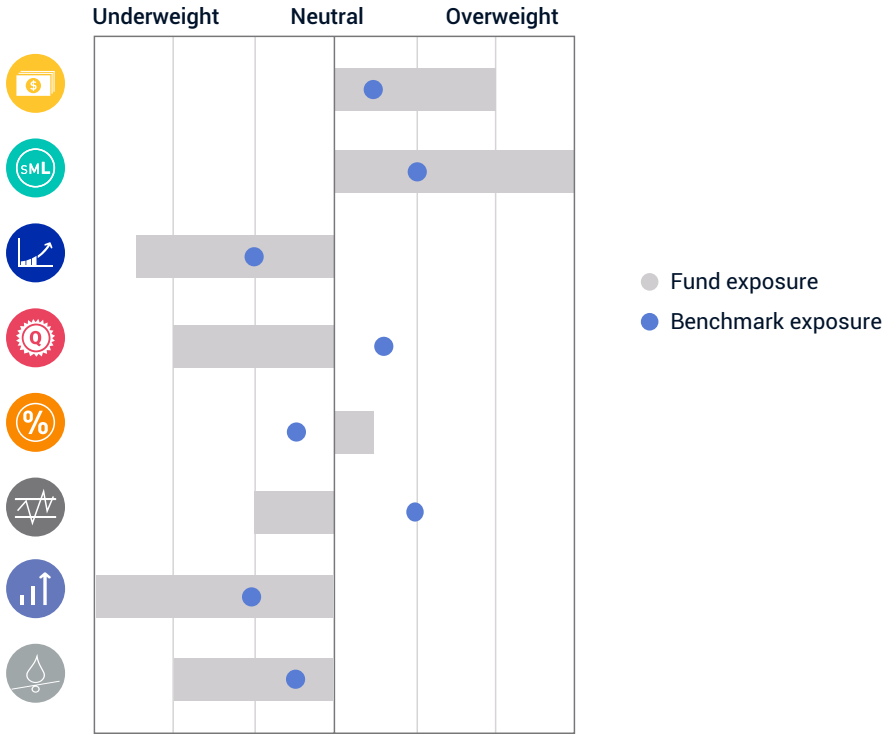
 VALUE	 SIZE	 MOMENTUM	 QUALITY	 YIELD	 VOLATILITY	 GROWTH	 LIQUIDITY
Book-to-price Earnings yield Long-term reversal	Size Mid cap	Momentum	Leverage Earnings variability Earnings quality Investment quality Profitability	Dividend yield	Beta Residual volatility	Growth	Liquidity

Factor Investing is transforming the way investors construct and manage portfolios. The increasing popularity of Factor Investing can create the need for standards.

MSCI FaCS creates a common language and definitions around Factors to be used by broader audiences. MSCI FaCS is built from MSCI's Barra Global Equity Factor Model and includes 8 Factor Groups and 16 Factors.

MSCI's Barra Global Equity Factor Model (GEMLT) extends beyond MSCI FaCS to include 8 Factor Groups and 16 Factors with an additional 41 Factor Descriptors.

The factor box is powered by MSCI FaCS and provides a visualization designed to easily compare factor exposures between funds and benchmarks.



Factor groups	MSCI Factor Indexes
 VOLATILITY	Lower risk stocks MSCI Minimum Volatility Indexes aim to reflect the performance characteristics of a minimum volatility strategy by optimizing towards the lowest absolute risk within a given set of constraints to minimize unintended risks and exposures
 YIELD	Cash flow paid out MSCI High Dividend Yield Indexes aim to represent the performance of companies that have historically demonstrated stable and increasing dividends, while mitigating risks against value traps
 QUALITY	Sound balance sheet stocks MSCI Quality Indexes aim to reflect the performance of high quality stocks by weighting based on debt-to-equity, return-on-equity and earnings variability. They are designed to reflect the performance of a quality growth investment strategy
 MOMENTUM	Rising stocks MSCI Momentum Indexes are designed to target securities based on risk-adjusted performance, with the goal of mitigating momentum crashes and reducing unnecessary turnover
 VALUE	Relatively inexpensive stocks MSCI Enhanced Value Indexes are based on research that has found that combining value ratio descriptors has captured the value factor better than using any individual ratio descriptor alone
 SIZE	Smaller companies MSCI Equal Weighted Indexes and Risk Weighted Indexes give investors several ways to access the size factor premium
 GROWTH	Measure of sales and earnings The MSCI growth target indexes aims to reflect the performance of a growth strategy by optimizing toward higher growth characteristics controlling for unintended risks and exposures

MSCI Multiple-Factor Indexes

In addition to Single Factor Indexes MSCI offers Multiple-Factor Indexes, which aim to give institutional investors a foundation for implementing multi-factor strategies transparently and efficiently. There are two key ways to gain multi-factor exposure:

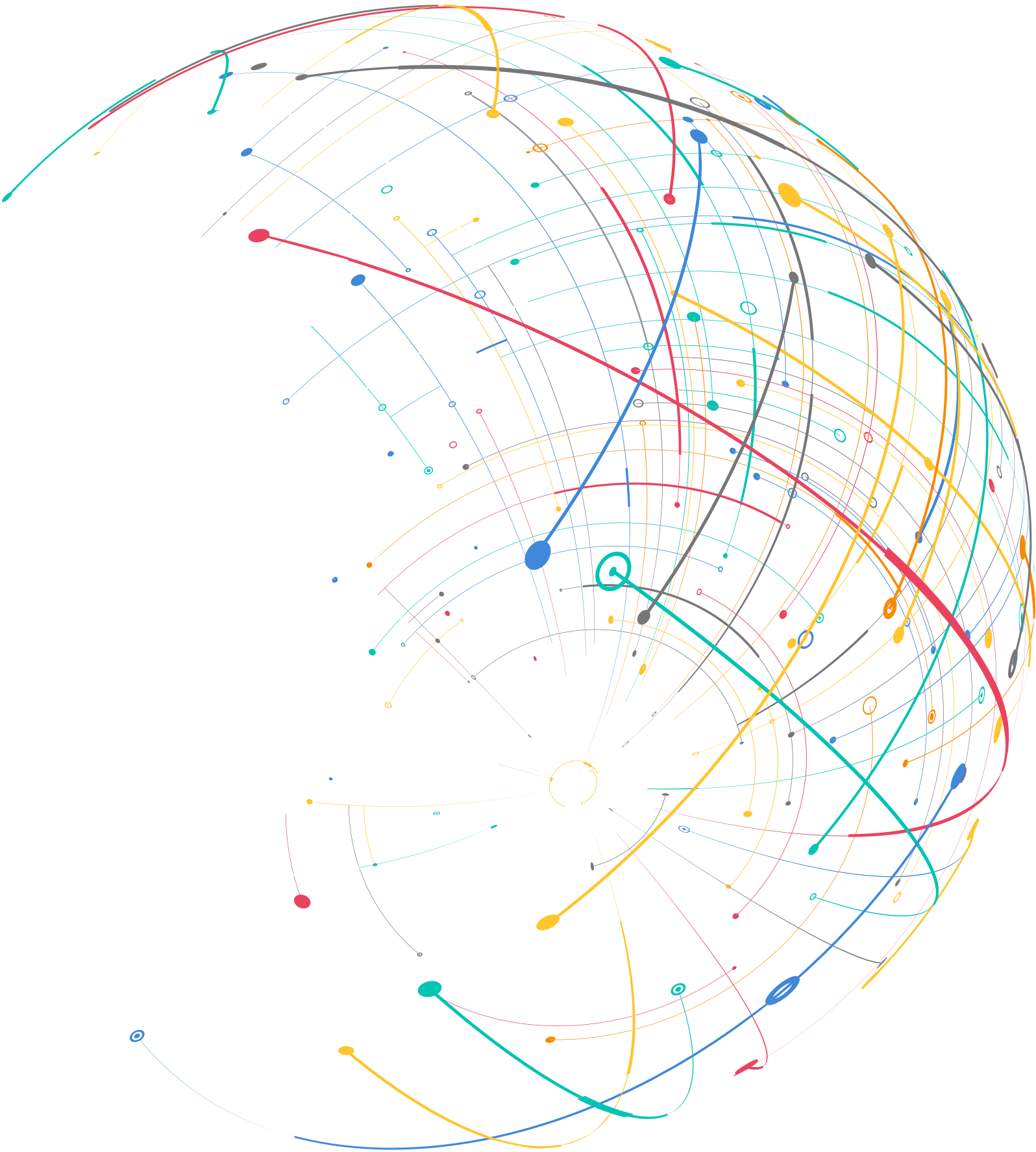
- MSCI Diversified Multiple-Factor Indexes: Aim to maximize exposure to four factors – Value, Momentum, Quality and Low Size – while maintaining a risk profile similar to that of the underlying parent index.
- MSCI Factor Mix Indexes: Designed to represent the performance of equity in multiple factors, while benefiting from diversification and flexibility. The MSCI Factor Mix A-Series, MSCI Factor Mix A-Series Capped and MSCI Quality Mix (E-Series) are part of MSCI Factor Mix Indexes.

Factors are the building blocks of a successful portfolio.
The elements capable of turning data points into actionable insights.

Why MSCI?

MSCI, beginning with Barra, invented a common language to explain risk and return through a lens of countries, sectors and factors. Our more than 40 years of experience with factors uniquely position MSCI to help investors use factors to explain return, manage risk and construct portfolios.







Learn more about Factor Investing at
www.msci.com/factor-investing

Mail us at
factorinvesting@msci.com

About MSCI Inc.

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 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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