



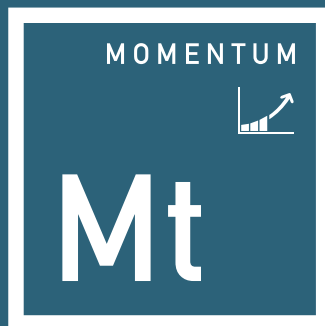
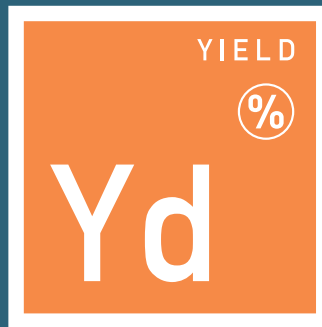
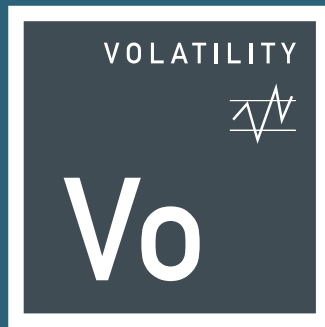
INTRODUCING MSCI FACTOR INDEXES

msci.com



ELEMENTS OF PERFORMANCE™

Factors by MSCI

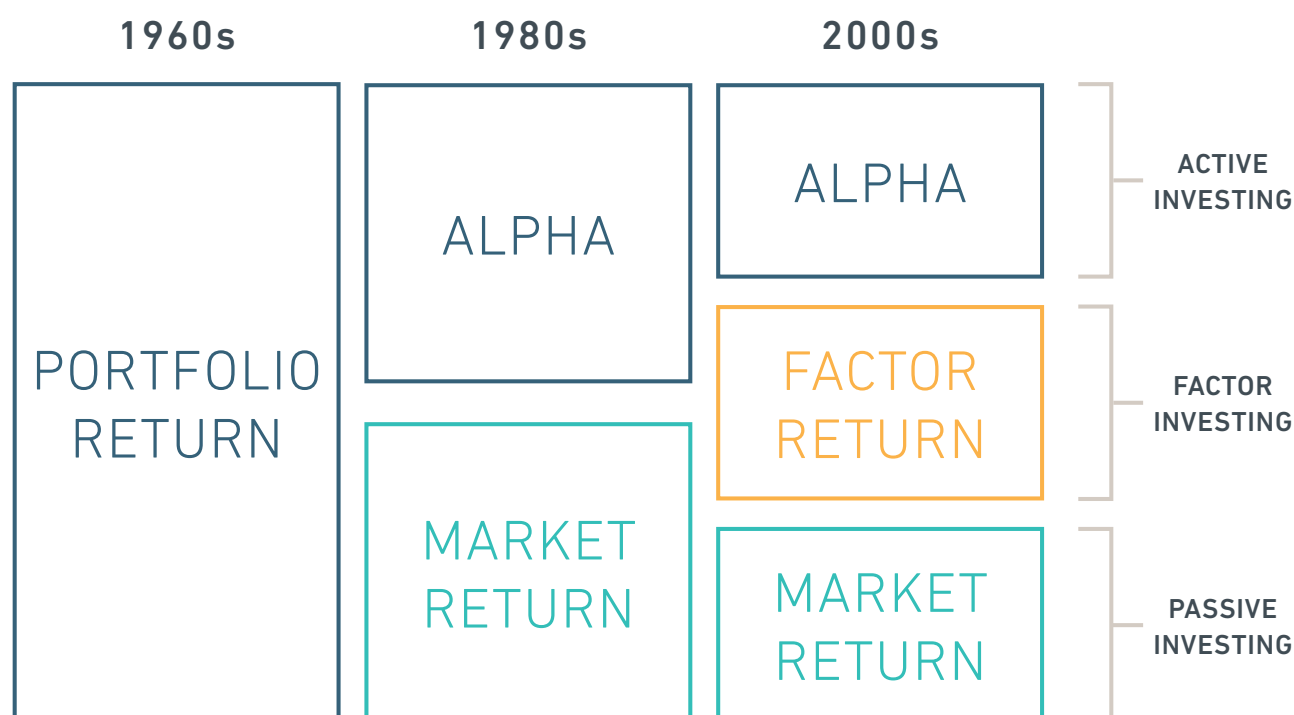


Factors are the building blocks of many portfolios – the elements capable of turning data points into actionable insights.

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?

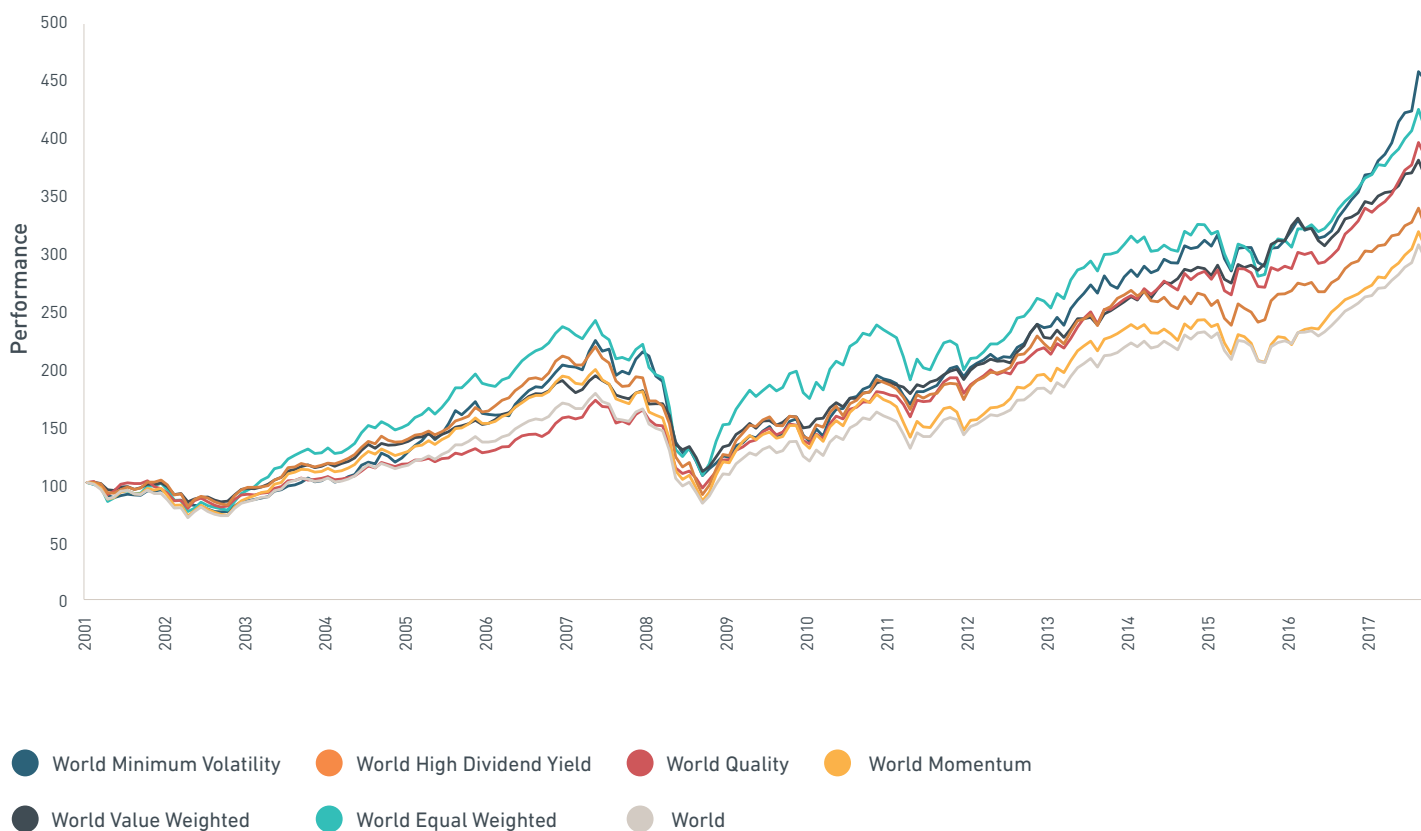
- A factor is any characteristic that helps explain the long-term risk and return performance of an asset
- Factors are well documented in academic research and have been used extensively in portfolio risk models and in quantitative investment strategies. Active fund managers use these characteristics 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).



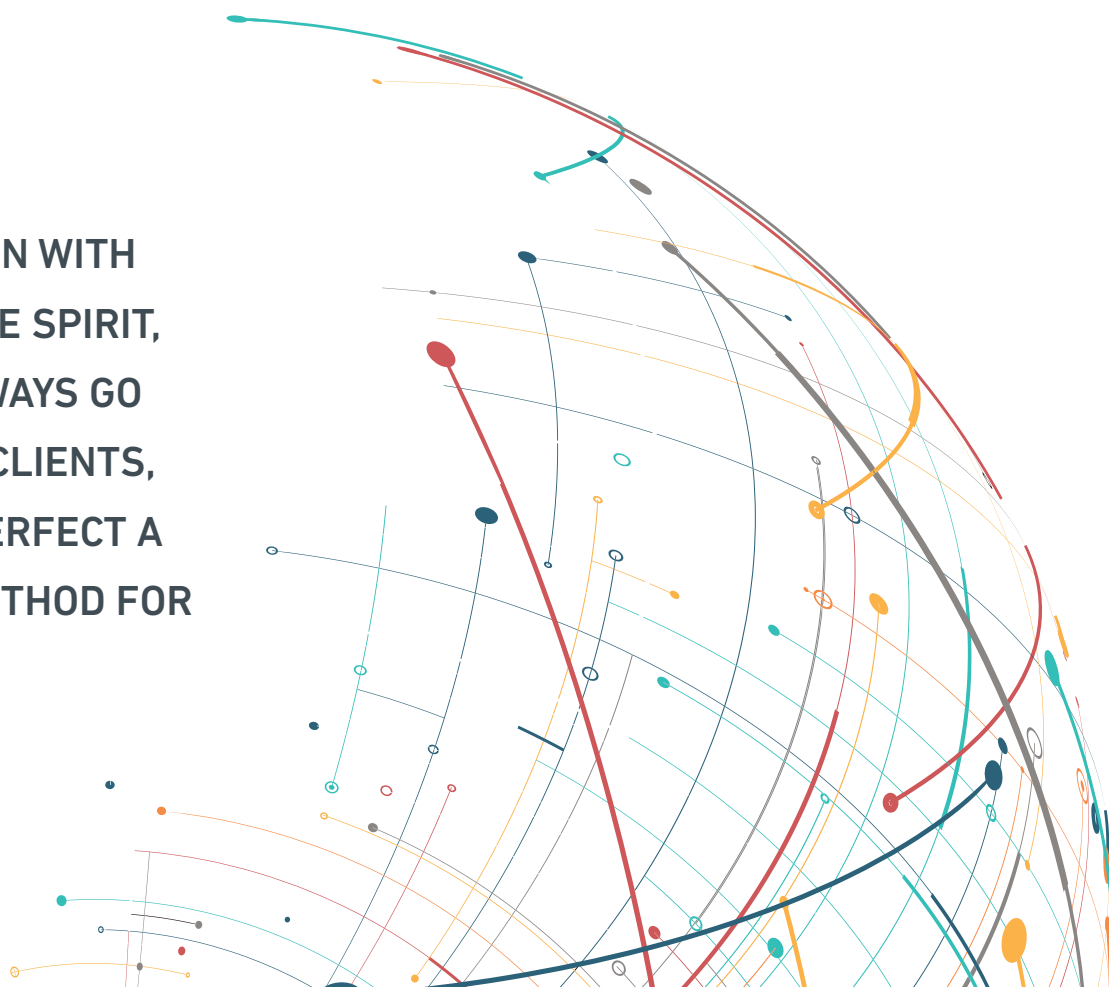
* For example, see "Buffett's Alpha", NBER Paper, Andrea Frazzini, David Kabiller and Lasse Pedersen, December 2013

HOW SIX FACTORS HAVE PERFORMED RELATIVE TO EACH OTHER : MSCI ACWI

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
61.0%	1.1%	0.2%	-5.8%	63.9%	29.1%	26.8%	30.9%	24.8%	-25.1%	57.1%	19.8%	6.0%	18.6%	27.5%	11.6%	3.4%	11.0%	34.0%
44.9%	0.2%	-7.2%	-7.0%	56.4%	27.5%	24.3%	29.8%	20.0%	-35.9%	46.8%	19.8%	2.4%	18.1%	26.8%	8.8%	2.4%	10.6%	30.0%
36.8%	-9.1%	-8.2%	-9.2%	43.0%	24.6%	20.5%	29.7%	16.3%	-41.0%	41.1%	16.3%	2.1%	16.8%	25.0%	8.1%	2.0%	9.3%	29.0%
29.1%	-10.3%	-9.8%	-9.7%	34.6%	22.4%	18.2%	25.9%	15.1%	-41.8%	38.3%	15.0%	0.1%	16.7%	23.9%	6.4%	2.0%	8.5%	26.3%
26.8%	-10.9%	-12.0%	-9.8%	32.9%	21.9%	11.4%	25.6%	12.9%	-42.7%	36.8%	13.2%	-3.5%	16.6%	23.4%	4.7%	-1.8%	8.1%	26.3%
22.3%	-12.6%	-13.2%	-11.6%	31.3%	20.5%	10.2%	23.3%	12.2%	-43.3%	35.4%	12.1%	-6.9%	15.5%	19.0%	2.4%	-4.5%	6.2%	24.6%
13.2%	-13.9%	-15.9%	-16.2%	28.5%	15.8%	9.6%	21.5%	9.8%	-45.0%	19.9%	11.2%	-12.4%	15.3%	17.7%	2.0%	-4.6%	6.1%	19.9%
12.1%	-21.0%	-17.2%	-19.0%	23.0%	13.4%	8.3%	18.7%	7.6%	-45.2%	18.0%	8.7%	-13.7%	10.8%	16.0%	0.1%	-6.1%	4.8%	18.6%




● Volatility
 ● Yield
 ● Quality
 ● Momentum
 ● Value
 ● Size
 ○ Diversified Multi-Factor
 ● ACWI

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
<p>Book-to-Price</p> <p>Earnings Yield</p> <p>Long-Term Reversal</p>	<p>Size</p> <p>Mid Cap</p>	<p>Momentum</p>	<p>Leverage</p> <p>Earnings Variability</p> <p>Earnings Quality</p> <p>Investment Quality</p> <p>Profitability</p>

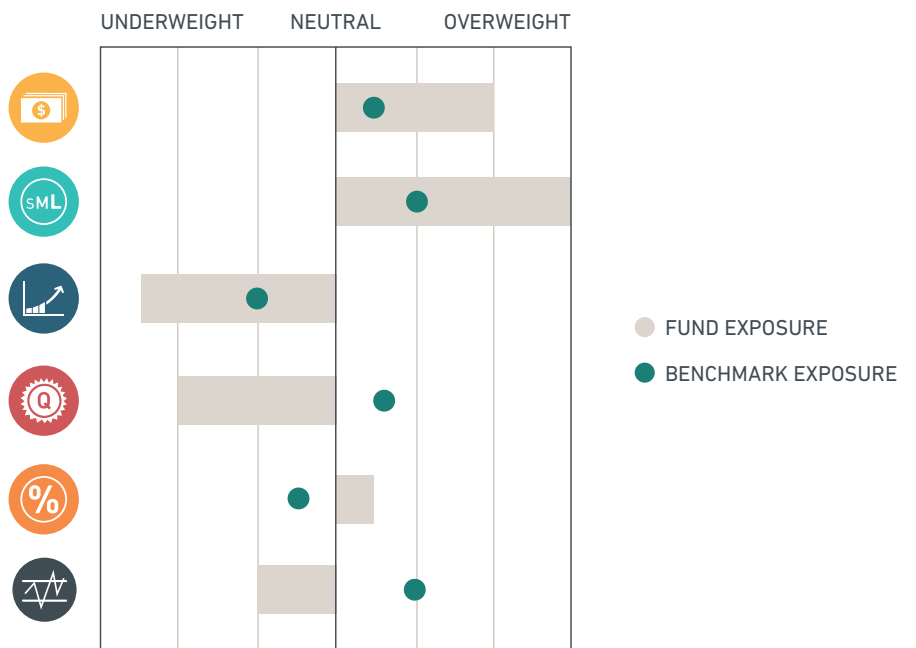
Factor Investing is transforming the way investors construct and manage portfolios. The increasing popularity of Factor Investing can create the need for standards.

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.

 YIELD	 VOLATILITY	 GROWTH	 LIQUIDITY
Dividend Yield	Beta Residual Volatility	Growth	Liquidity

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 <p>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</p>
 YIELD	CASH FLOW PAID OUT <p>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</p>
 QUALITY	SOUND BALANCE SHEET STOCKS <p>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</p>
 MOMENTUM	RISING STOCKS <p>MSCI Momentum Indexes are designed to target securities based on risk-adjusted performance, with the goal of mitigating momentum crashes and reducing unnecessary turnover</p>
 VALUE	RELATIVELY INEXPENSIVE STOCKS <p>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</p>
 SIZE	SMALLER COMPANIES <p>MSCI Equal Weighted Indexes and Risk Weighted Indexes give investors several ways to access the size factor premium</p>

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.

RESEARCH BASED

MSCI Factor Indexes are based on well-established Academic Research.

Academic findings have supported the identification and development of the MSCI Factor Indexes.

40+ Years of
Factor
Experience

MSCI FACTOR INDEXES

EMPIRICAL EVIDENCE

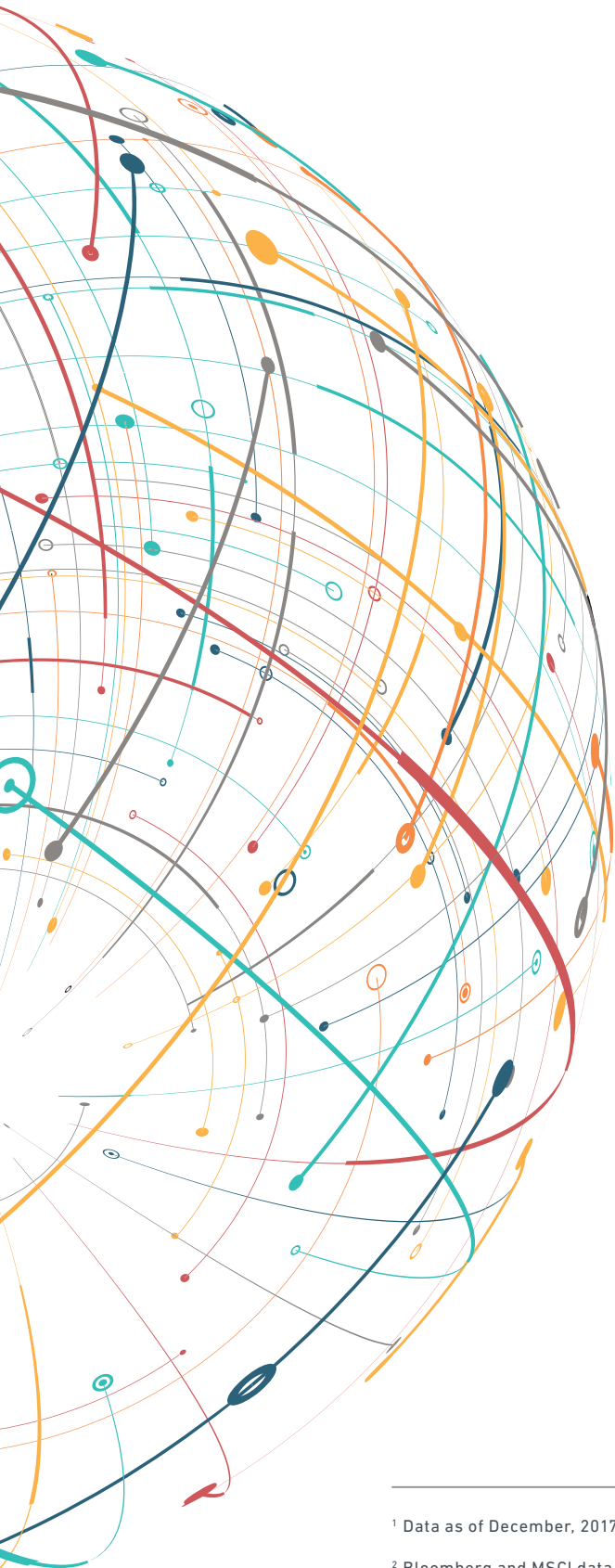
MSCI, beginning with Barra, invented a common language to explain risk and return through the lens of factors.

Barra factor models are used to create and validate MSCI Factor Indexes.



**APPROXIMATELY \$236 BILLION BENCHMARKED
TO MSCI FACTOR INDEXES¹**

**GLOBALLY, 66% OF LOW VOLATILITY EQUITY
ETF ASSETS ARE LINKED TO MSCI INDEXES²**



¹ Data as of December, 2017 and reported as of March, 2018 by eVestment, Morningstar, Bloomberg and MSCI.

² Bloomberg and MSCI data, as of March 31, 2018. Data calculated by aggregating the number of share classes of all exchange traded funds tracking an MSCI index, as identified by separate Bloomberg tickers using MSCI classification of factor indexes. Only primary listings, and not cross-listings, are counted.



msci.com/factor-investing

factorinvesting@msci.com

ABOUT MSCI

For more than 40 years, MSCI's research-based indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset-class coverage and innovative research.

Our line of products and services includes indexes, analytical models, data, real-estate benchmarks and ESG research.

MSCI serves 99 of the 100 largest money managers, according to the most recent Pensions & Investments ranking.

For more information, visit us at www.msci.com.

The information contained herein (the "Information") may not be reproduced or disseminated in whole or in part without prior written permission from MSCI. The Information may not be used to verify or correct other data, to create indexes, risk models, or analytics, or in connection with issuing, offering, sponsoring, managing or marketing any securities, portfolios, financial products or other investment vehicles. Historical data and analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. None of the Information or MSCI index or other product or service constitutes an offer to buy or sell, or a promotion or recommendation of, any security, financial instrument or product or trading strategy. Further, none of the Information or any MSCI index is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. The Information is provided "as is" and the user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF MSCI INC. OR ANY OF ITS SUBSIDIARIES OR ITS OR THEIR DIRECT OR INDIRECT SUPPLIERS OR ANY THIRD PARTY INVOLVED IN THE MAKING OR COMPILING OF THE INFORMATION (EACH, AN "MSCI PARTY") MAKES ANY WARRANTIES OR REPRESENTATIONS AND, TO THE MAXIMUM EXTENT PERMITTED BY LAW, EACH MSCI PARTY HEREBY EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. WITHOUT LIMITING ANY OF THE FOREGOING AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL ANY OF THE MSCI PARTIES HAVE ANY LIABILITY REGARDING ANY OF THE INFORMATION FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR ANY OTHER DAMAGES EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited.