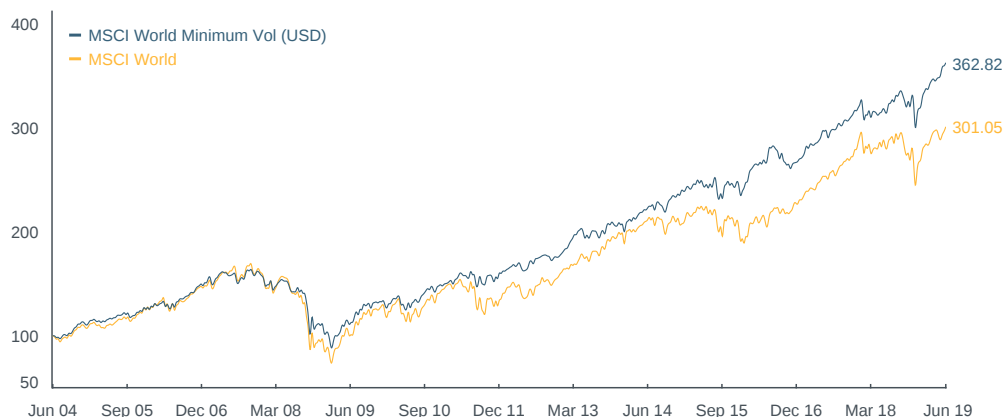


# MSCI WORLD MINIMUM VOLATILITY (USD) INDEX (USD)

The MSCI World Minimum Volatility (USD) Index aims to reflect the performance characteristics of a minimum variance strategy applied to the MSCI large and mid cap equity universe across 23 Developed Markets countries\*. The index is calculated by optimizing the MSCI World Index, its parent index, for the lowest absolute risk (within a given set of constraints). Historically, the index has shown lower beta and volatility characteristics relative to the MSCI World Index.

## CUMULATIVE INDEX PERFORMANCE - GROSS RETURNS (USD) (JUN 2004 – JUN 2019)



## ANNUAL PERFORMANCE (%)

Year	MSCI World Minimum Vol (USD)	MSCI World
2018	-1.42	-8.20
2017	18.04	23.07
2016	8.18	8.15
2015	5.82	-0.32
2014	12.06	5.50
2013	19.41	27.37
2012	8.87	16.54
2011	8.04	-5.02
2010	12.76	12.34
2009	17.18	30.79
2008	-29.23	-40.33
2007	6.13	9.57
2006	21.20	20.65
2005	8.34	10.02

## INDEX PERFORMANCE — GROSS RETURNS (%) (JUN 28, 2019)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED			
					3 Yr	5 Yr	10 Yr	Since May 31, 1988
MSCI World Minimum Vol (USD)	4.82	4.97	14.65	16.29	9.38	10.09	12.29	8.91
MSCI World	6.63	4.20	6.94	17.38	12.39	7.20	11.33	7.65

## FUNDAMENTALS (JUN 28, 2019)

Div Yld (%)	P/E	P/E Fwd	P/BV
2.78	22.35	18.54	2.55
2.45	18.29	15.63	2.43

## INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 1988 – JUN 28, 2019)

	Beta	Tracking Error (%)	Turnover (%) <sup>1</sup>	ANNUALIZED STD DEV (%) <sup>2</sup>			SHARPE RATIO <sup>2,3</sup>			Since May 31, 1988 (%)	MAXIMUM DRAWDOWN	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr		Period YYYY-MM-DD	
MSCI World Minimum Vol (USD)	0.68	6.61	20.16	8.57	8.66	9.09	0.92	1.04	1.26	0.52	47.73	2007-10-31—2009-03-09
MSCI World	1.00	0.00	2.34	11.31	11.71	13.28	0.96	0.57	0.83	0.35	57.46	2007-10-31—2009-03-09

<sup>1</sup> Last 12 months      <sup>2</sup> Based on monthly gross returns data      <sup>3</sup> Based on ICE LIBOR 1M

\* Developed Markets countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US.

The MSCI World Minimum Volatility (USD) Index was launched on Apr 14, 2008. Data prior to the launch date is back-tested data (i.e. calculations of how the index might have performed over that time period had the index existed). There are frequently material differences between back-tested performance and actual results. Past performance -- whether actual or back-tested -- is no indication or guarantee of future performance.

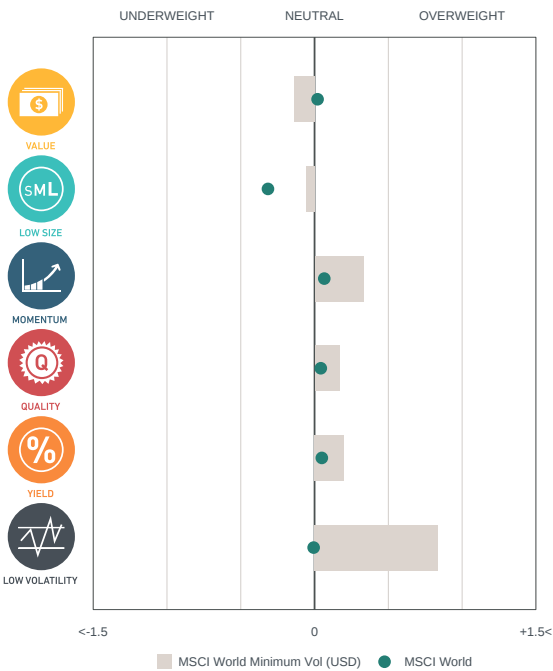
### INDEX CHARACTERISTICS

	MSCI World Minimum Vol (USD)	MSCI World
Number of Constituents	355	1,655
Weight (%)		
Largest	1.40	2.36
Smallest	0.04	0.00
Average	0.28	0.06
Median	0.19	0.03

### TOP 10 CONSTITUENTS

	Country	Index Wt. (%)	Parent Index Wt. (%)	Sector
SWISS RE	CH	1.40	0.08	Financials
WASTE MANAGEMENT	US	1.31	0.12	Industrials
NESTLE	CH	1.26	0.77	Cons Staples
JOHNSON & JOHNSON	US	1.23	0.90	Health Care
PEPSICO	US	1.20	0.45	Cons Staples
CONSOLIDATED EDISON	US	1.18	0.07	Utilities
MCDONALD'S CORP	US	1.12	0.38	Cons Discr
NTT DOCOMO	JP	1.01	0.08	Comm Srvc
VERIZON COMMUNICATIONS	US	1.00	0.57	Comm Srvc
NEXTERA ENERGY	US	0.99	0.24	Utilities
<b>Total</b>		<b>11.70</b>	<b>3.64</b>	

### FACTORS - KEY EXPOSURES THAT DRIVE RISK AND RETURN MSCI FACTOR BOX



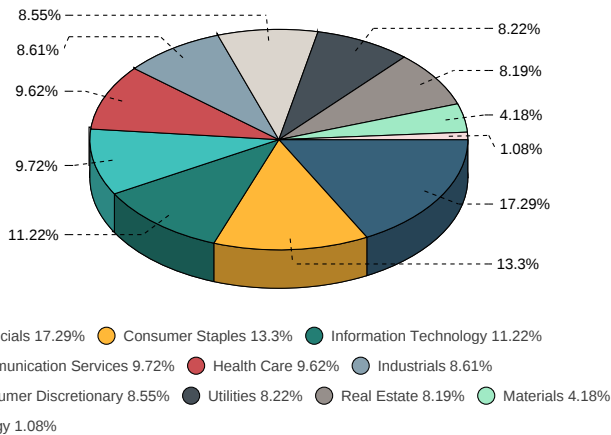
### MSCI FaCS

- VALUE**  
Relatively Inexpensive Stocks
- LOW SIZE**  
Smaller Companies
- MOMENTUM**  
Rising Stocks
- QUALITY**  
Sound Balance Sheet Stocks
- YIELD**  
Cash Flow Paid Out
- LOW VOLATILITY**  
Lower Risk Stocks

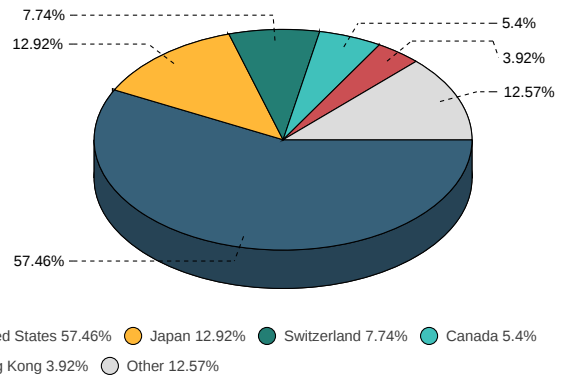
MSCI FaCS provides absolute factor exposures relative to a broad global index - MSCI ACWI IMI.

Neutral factor exposure (FaCS = 0) represents MSCI ACWI IMI.

### SECTOR WEIGHTS



### COUNTRY WEIGHTS



## INDEX METHODOLOGY

The MSCI Minimum Volatility Indexes are designed to provide the lowest return variance for a given covariance matrix of stock returns. Each MSCI Minimum Volatility Index is calculated using Barra Optimizer to optimize a given MSCI parent index for the lowest absolute volatility with a certain set of constraints. These constraints help maintain index replicability and investability and include index turnover limits, for example, along with minimum and maximum constituent, sector and/or country weights relative to the parent index. Each Minimum Volatility Index is rebalanced (or is re-optimized) semi-annually in May and November. Indexes may also be optimized for various currencies.

## FACTOR BOX AND FaCS METHODOLOGY

MSCI FaCS is a standard method ([MSCI FaCS Methodology](#)) for evaluating and reporting the Factor characteristics of equity portfolios. MSCI FaCS consists of Factor Groups (e.g. Value, Size, Momentum, Quality, Yield, and Volatility) that have been extensively documented in academic literature and validated by MSCI Research as key drivers of risk and return in equity portfolios. These Factor Groups are constructed by aggregating 16 factors (e.g. Book-to-Price, Earnings/Dividend Yields, LT Reversal, Leverage, Earnings Variability/Quality, Beta) from the latest Barra global equity factor risk model, GEMLT, designed to make fund comparisons transparent and intuitive for use. The MSCI Factor Box, which is powered by MSCI FaCS, provides a visualization designed to easily compare absolute exposures of funds/indexes and their benchmarks along 6 Factor Groups that have historically demonstrated excess market returns over the long run.

## ABOUT MSCI

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. To learn more, please visit [www.msci.com](http://www.msci.com).

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