

MSCI ACWI MINIMUM VOLATILITY (USD) INDEX (USD)

The MSCI ACWI Minimum Volatility (USD) Index aims to reflect the performance characteristics of a minimum variance strategy applied to large and mid cap equities across 47 Developed Markets (DM) and Emerging Markets (EM) countries*. The index is calculated by optimizing the MSCI ACWI Index, its parent index, in USD 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 ACWI Index.

CUMULATIVE INDEX PERFORMANCE - NET RETURNS (USD) (MAR 2004 – MAR 2019)



ANNUAL PERFORMANCE (%)

Year	MSCI ACWI Min Vol (USD)	MSCI ACWI
2018	-1.56	-9.41
2017	17.93	23.97
2016	7.43	7.86
2015	2.76	-2.36
2014	10.95	4.16
2013	16.90	22.80
2012	10.06	16.13
2011	5.34	-7.35
2010	14.32	12.67
2009	17.16	34.63
2008	-25.56	-42.19
2007	6.95	11.66
2006	24.89	20.95
2005	8.89	10.84

INDEX PERFORMANCE — NET RETURNS (%) (MAR 29, 2019)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED			
					3 Yr	5 Yr	10 Yr	Since Dec 29, 2000
MSCI ACWI Min Vol (USD)	2.01	9.96	9.04	9.96	9.01	9.02	12.42	7.90
MSCI ACWI	1.26	12.18	2.60	12.18	10.67	6.45	11.98	5.15

FUNDAMENTALS (MAR 29, 2019)

Div Yld (%)	P/E	P/E Fwd	P/BV
2.75	20.79	17.96	2.59
2.54	17.09	14.77	2.27

INDEX RISK AND RETURN CHARACTERISTICS (DEC 29, 2000 – MAR 29, 2019)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since Dec 29, 2000	MAXIMUM DRAWDOWN	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr		(%)	Period YYYY-MM-DD
MSCI ACWI Min Vol (USD)	0.60	7.63	20.22	8.17	8.41	9.22	0.93	0.97	1.26	0.62	43.41	2007-10-31—2009-03-09
MSCI ACWI	1.00	0.00	2.56	10.01	11.06	13.92	0.93	0.54	0.84	0.29	58.38	2007-10-31—2009-03-09

¹ Last 12 months ² Based on monthly net returns data ³ Based on ICE LIBOR 1M

* DM 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. EM countries include: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.

The MSCI ACWI Minimum Volatility (USD) Index was launched on Nov 30, 2009. 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.

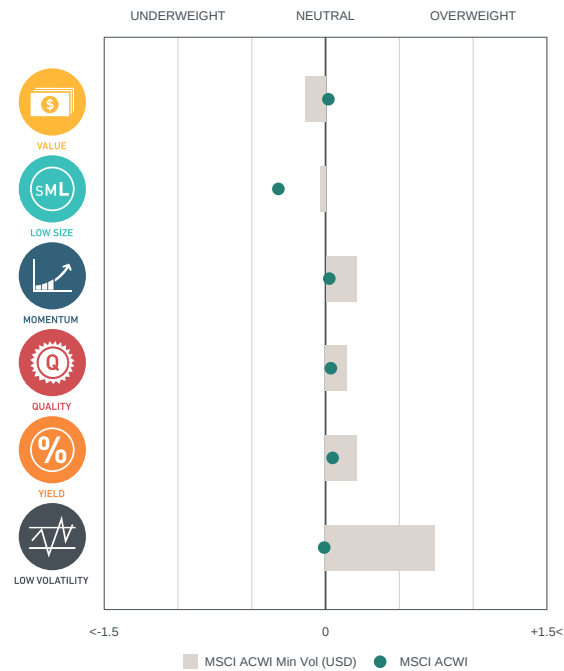
INDEX CHARACTERISTICS

	MSCI ACWI Min Vol (USD)	MSCI ACWI
Number of Constituents	421	2,771
	Weight (%)	
Largest	1.33	2.00
Smallest	0.01	0.00
Average	0.24	0.04
Median	0.15	0.01

TOP 10 CONSTITUENTS

	Country	Index Wt. (%)	Parent Index Wt. (%)	Sector
JOHNSON & JOHNSON	US	1.33	0.83	Health Care
WASTE MANAGEMENT	US	1.22	0.10	Industrials
NESTLE	CH	1.11	0.65	Cons Staples
CONSOLIDATED EDISON	US	1.10	0.06	Utilities
MCDONALD'S CORP	US	1.03	0.32	Cons Discr
VERIZON COMMUNICATIONS	US	0.98	0.54	Comm Srvcs
PEPSICO	US	0.94	0.38	Cons Staples
PROCTER & GAMBLE CO	US	0.91	0.57	Cons Staples
MERCK & CO	US	0.89	0.48	Health Care
MOTOROLA SOLUTIONS	US	0.89	0.05	Info Tech
Total		10.41	3.98	

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



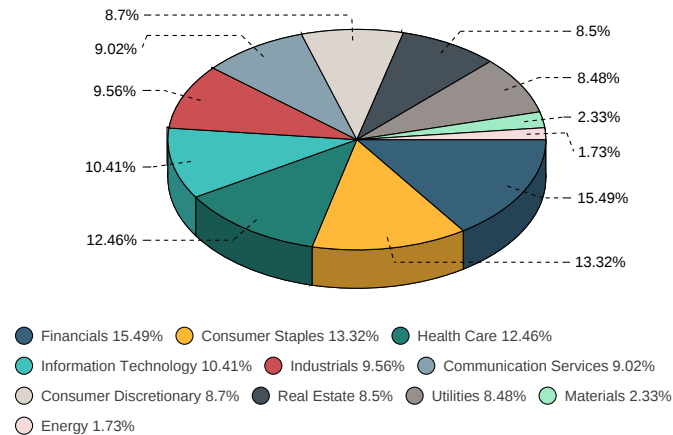
MSCI FaCS

- 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

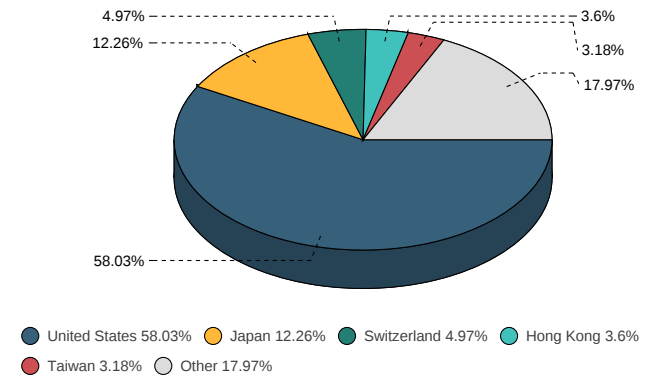
MSCI FaCS provides absolute factor exposures relative to a broad global index - MSCI ACWI IMI.

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 within 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

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