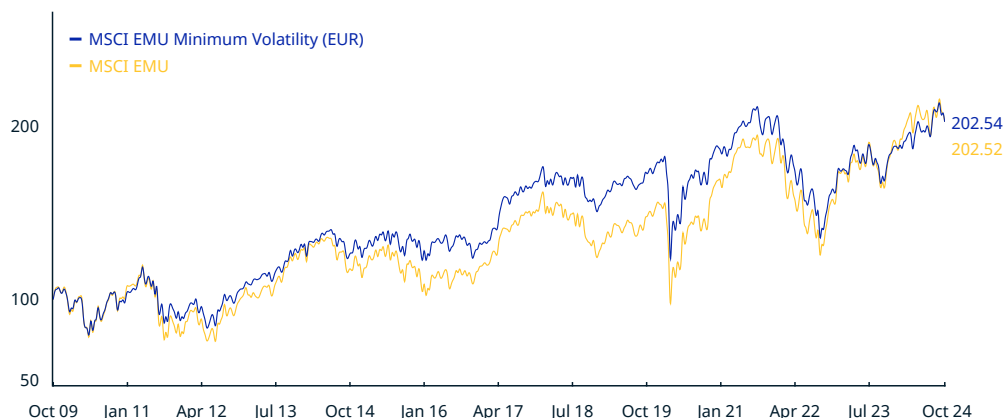


MSCI EMU Minimum Volatility (EUR) Index (USD)

The **MSCI EMU Minimum Volatility (EUR) Index** aims to reflect the performance characteristics of a minimum variance strategy applied to the large and mid cap representation across the 10 Developed Markets countries in the European Economic and Monetary Union (EMU)*. The index is calculated by optimizing the MSCI EMU Index, its parent index, in EUR 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 EMU Index.

For a complete description of the index methodology, please see [Index methodology - MSCI](#).

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD) (OCT 2009 – OCT 2024)



ANNUAL PERFORMANCE (%)

Year	MSCI EMU Minimum Volatility (EUR)	MSCI EMU
2023	16.49	22.94
2022	-21.36	-17.86
2021	10.05	13.54
2020	4.78	7.89
2019	17.67	23.20
2018	-9.82	-16.90
2017	27.96	28.06
2016	-1.24	1.34
2015	3.66	-1.42
2014	-2.59	-8.39
2013	25.12	28.94
2012	15.77	21.17
2011	-8.12	-17.64
2010	-4.73	-4.25

INDEX PERFORMANCE – NET RETURNS (%) (OCT 31, 2024)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since Nov 30, 2001
					3 Yr	5 Yr	10 Yr		
MSCI EMU Minimum Volatility (EUR)	-4.86	1.71	20.54	7.62	0.04	3.09	4.69	6.56	
MSCI EMU	-5.96	-0.45	23.49	6.08	2.23	6.51	5.45	5.35	

FUNDAMENTALS (OCT 31, 2024)

Div Yld (%)	P/E	P/E Fwd	P/BV
3.27	16.97	14.49	2.14
3.25	14.38	12.69	1.79

INDEX RISK AND RETURN CHARACTERISTICS (NOV 30, 2001 – OCT 31, 2024)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2, 3}			Since Nov 30, 2001	MAXIMUM DRAWDOWN	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr		(%)	Period YYYY-MM-DD
MSCI EMU Minimum Volatility (EUR)	0.80	5.95	20.72	17.61	18.27	15.38	-0.12	0.13	0.26	0.35	57.60	2007-12-10–2009-03-09
MSCI EMU	1.00	0.00	3.08	20.77	21.98	18.66	0.03	0.29	0.28	0.27	64.66	2007-10-31–2009-03-09

¹ Last 12 months

² Based on monthly net returns data

³ Based on NY FED Overnight SOFR from Sep 1 2021 & on ICE LIBOR 1M prior that date

* Developed Market countries in the EMU include: Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, Portugal and Spain.

The MSCI EMU Minimum Volatility (EUR) Index was launched on Jun 28, 2011. Data prior to the launch date is back-tested test (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

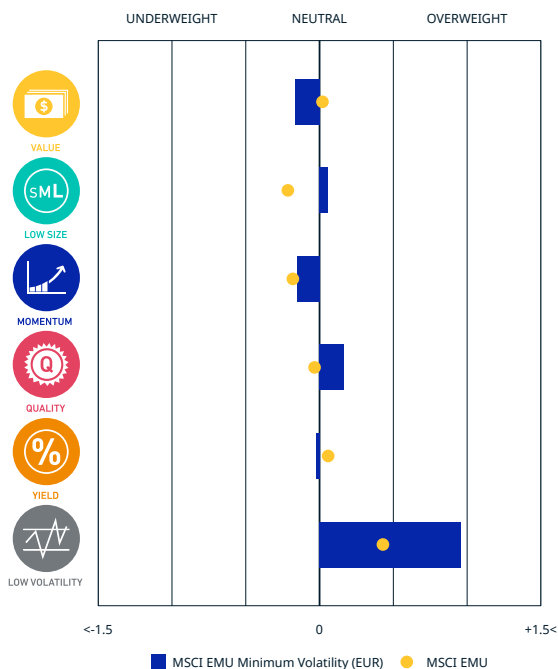
	MSCI EMU Minimum Volatility (EUR)	MSCI EMU
Number of Constituents	122	220
	Weight (%)	
Largest	1.89	4.88
Smallest	0.05	0.04
Average	0.82	0.45
Median	0.76	0.21

TOP 10 CONSTITUENTS

	Country	Index Wt. (%)	Parent Index Wt. (%)	Sector
DEUTSCHE TELEKOM	DE	1.89	1.91	Comm Svcs
UCB (GROUPE)	BE	1.87	0.44	Health Care
INDITEX	ES	1.82	1.12	Cons Discr
SAP	DE	1.80	4.41	Info Tech
NOKIA CORP	FI	1.75	0.45	Info Tech
DEUTSCHE BOERSE	DE	1.74	0.80	Financials
FERRARI (IT)	IT	1.73	1.09	Cons Discr
IBERDROLA	ES	1.72	1.64	Utilities
DANONE	FR	1.65	0.83	Cons Staples
ASSICURAZIONI GENERALI	IT	1.64	0.51	Financials
Total		17.61	13.20	

FACTORS - KEY EXPOSURES THAT DRIVE RISK AND RETURN

MSCI FACTOR BOX



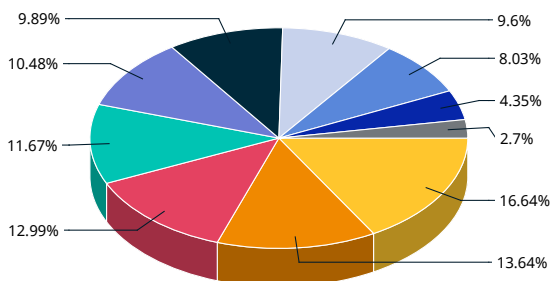
MSCI FaCS

- 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.

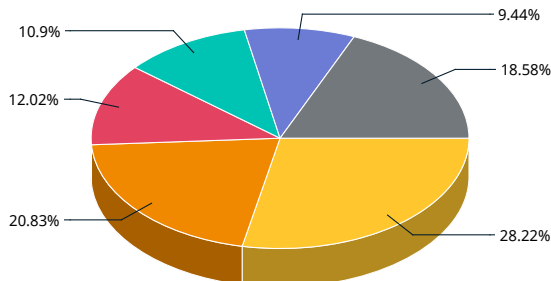
Neutral factor exposure (FaCS = 0) represents MSCI ACWI IMI.

SECTOR WEIGHTS



- Financials 16.64%
- Industrials 13.64%
- Health Care 12.99%
- Consumer Staples 11.67%
- Utilities 10.48%
- Consumer Discretionary 9.89%
- Communication Services 9.6%
- Information Technology 8.03%
- Energy 4.35%
- Materials 2.7%

COUNTRY WEIGHTS



- France 28.22%
- Germany 20.83%
- Spain 12.02%
- Italy 10.9%
- Netherlands 9.44%
- Other 18.58%

MSCI FACTOR BOX AND FaCS FRAMEWORK (Please refer to complete description of the MSCI FaCS methodology [here](#))

MSCI FaCS is a standard method 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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