EURO STOXX® MINIMUM VARIANCE UNCONSTRAINED INDEX

Index description

The EURO STOXX Minimum Variance Unconstrained index weights the components of the underlying EURO STOXX index so that portfolio variance is minimized. STOXX uses Axioma's factor model for the optimization process. The unconstrained version applies loosely stated constraints to seek an improved risk profile. It targets investors seeking a more optimal portfolio in terms of replicated volatility.

Key facts

»Minimized volatility is suitable for risk-averse investors. At the same time, the return of the index is higher than the benchmark.

»Suitable as a liquid underlying for ETFs and structured products. It is easy to replicate as it has fewer components than the underlying Index. It also has predictable rebalancing dates and is optimized to allow tracking (low turnover, transaction costs analysis, etc.).

»Capping constraints are applied in accordance with the Undertakings for Collective Investment in Transferable Securities (UCITS) directive to ensure that funds can easily track the index.
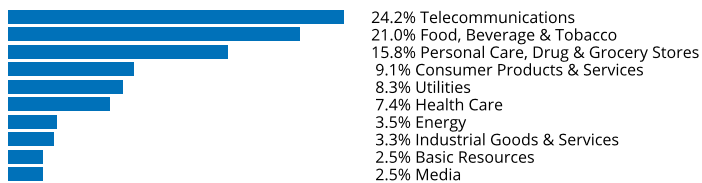
»Two versions - Constrained and Unconstrained - cater to different investor needs.

»The Unconstrained version offers a first-of-its-kind index for a true minimum variance mandate.
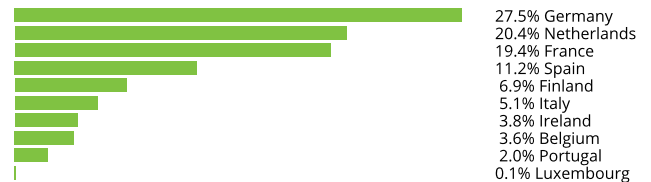
Descriptive statistics

Index	Market cap (EUR bn.)		Components (EUR bn.)				Component weight (%)		Turnover (%)
	Full	Free-float	Mean	Median	Largest	Smallest	Largest	Smallest	Last 12 months
EURO STOXX Minimum Variance Unconstrained Index	N/A	95.9	1.3	0.6	7.5	0.0	7.9	0.0	60.1
EURO STOXX Index	6,894.9	4,902.9	16.8	6.8	270.7	0.8	5.5	0.0	3.1

Supersector weighting (top 10)

24.2% Telecommunications
21.0% Food, Beverage & Tobacco
15.8% Personal Care, Drug & Grocery Stores
9.1% Consumer Products & Services
8.3% Utilities
7.4% Health Care
3.5% Energy
3.3% Industrial Goods & Services
2.5% Basic Resources
2.5% Media

Country weighting

27.5% Germany
20.4% Netherlands
19.4% France
11.2% Spain
6.9% Finland
5.1% Italy
3.8% Ireland
3.6% Belgium
2.0% Portugal
0.1% Luxembourg

Risk and return figures[1]

Index returns	Return (%)					Annualized return (%)				
	Last month	YTD	1Y	3Y	5Y	Last month	YTD	1Y	3Y	5Y
EURO STOXX Minimum Variance Unconstrained Index	-4.3	8.1	0.9	19.3	15.6	N/A	N/A	0.9	6.1	3.0
EURO STOXX Index	-2.2	11.2	8.7	44.5	35.1	N/A	N/A	8.8	13.2	6.3
Index volatility and risk	Annualized volatility (%)					Annualized Sharpe ratio[2]				
EURO STOXX Minimum Variance Unconstrained Index	8.3	8.9	10.6	12.3	14.2	N/A	N/A	-0.1	0.5	0.2
EURO STOXX Index	12.4	15.1	17.7	18.5	19.9	N/A	N/A	0.3	0.6	0.3
Index to benchmark	Correlation					Tracking error (%)				
EURO STOXX Minimum Variance Unconstrained Index	0.6	0.7	0.8	0.8	0.9	9.9	11.3	11.8	10.8	10.4
Index to benchmark	Beta					Annualized information ratio				
EURO STOXX Minimum Variance Unconstrained Index	0.4	0.4	0.5	0.5	0.6	-2.6	-0.7	-0.8	-0.7	-0.4

[1] For information on data calculation, please refer to STOXX calculation reference guide.
[2] Based on EURIBOR1M

(EUR, gross return), all data as of May 31, 2023

MINIMUM VARIANCE
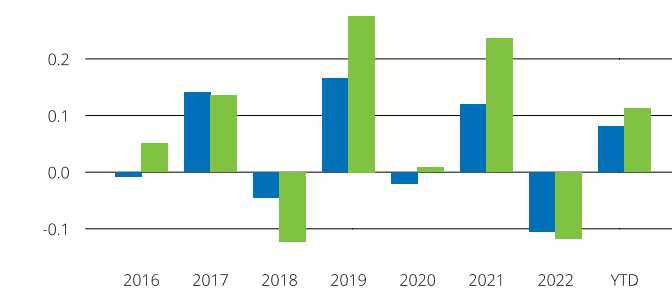# EURO STOXX® MINIMUM VARIANCE UNCONSTRAINED INDEX

Fundamentals (for last 12 months)

Index	Price/earnings incl. negative		Price/earnings excl. negative		Price/ book	Dividend yield (%) [3]	Price/ sales	Price/ cash flow
	Trailing	Projected	Trailing	Projected	Trailing	Trailing	Trailing	Trailing
EURO STOXX Minimum Variance Unconstrained Index	18.6	15.9	18.2	15.9	2.0	2.9	1.0	0.2
EURO STOXX Index	15.0	11.9	13.2	11.6	1.6	3.4	1.0	1.1

Performance and annual returns[4]
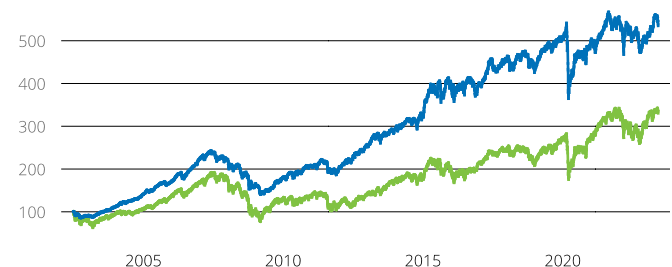
— EURO STOXX® Minimum Variance Unconstrained Index   — EURO STOXX® Index

■ EURO STOXX® Minimum Variance Unconstrained Index   ■ EURO STOXX® Index

Methodology

On the basis of the underlying index, a covariance matrix is set up by determining the correlation between each component and specific factors. Using Axioma's factor model, the variance-covariance structure of the components is determined, which is then minimized with respect to applicable constraints. The constraints applied cover individual capping, effective number of assets, rebalancing and turnover. The full list of factors including the requirements to be met can be accessed in our Index rulebook: http://www.stoxx.com/indices/rulebooks.html

Versions and symbols

Index		ISIN	Symbol	Bloomberg	Reuters
Gross Return	EUR	CH0180139310	SAXEUNGR	SAXEUNGR INDEX	.SAXEUNGR
Net Return	EUR	CH0180139153	SAXEUNR	SAXEUNR INDEX	.SAXEUNR
Net Return	EUR	CH0180139153	SAXEUNR	SAXEUNR INDEX	.SAXEUNR
Price	EUR	CH0180138999	SAXEUNP	SAXEUNP INDEX	.SAXEUNP
Price	EUR	CH0180138999	SAXEUNP	SAXEUNP INDEX	.SAXEUNP
Gross Return	USD	CH0180139799	SAXEUNGV	SAXEUNGV INDEX	.SAXEUNGV
Net Return	USD	CH0180139633	SAXEUNV	SAXEUNV INDEX	.SAXEUNV
Net Return	USD	CH0180139633	SAXEUNV	SAXEUNV INDEX	.SAXEUNV
Price	USD	CH0180139476	SAXEUNL	SAXEUNL INDEX	.SAXEUNL
Price	USD	CH0180139476	SAXEUNL	SAXEUNL INDEX	.SAXEUNL

Complete list available here: www.stoxx.com/data/vendor_codes.html

Quick facts

Weighting	Optimization
Cap factor	4.5% / 8% / 35%
No. of components	Variable
Review frequency	Monthly

To learn more about the inception date, the currency, the calculation hours and historical values, please see our data vendor code sheet.

BACKTESTED PERFORMANCE
This document contains index performance data based on backtesting, i.e. calculations of how the index might have performed prior to launch if it had existed using the same index methodology and based on historical constituents. Backtested performance information is purely hypothetical and is provided in this document solely for information purposes. Backtested performance does not represent actual performance and should not be interpreted as an indication of actual performance.

CUSTOMIZATION
The index can be used as a basis for the definition of STOXX® Customized Indices, which can be tailored to specific client or mandate needs. STOXX offers a wide range of customization, in terms of component selection, weighting schemes and personalized calculation methodologies.

[3] gr. div. yield is calculated as gr. return index return minus price index return
[4] STOXX data from Jul. 01, 2002 to May 31, 2023

(EUR, gross return), all data as of May 31, 2023

MINIMUM VARIANCE
EURO STOXX® MINIMUM VARIANCE UNCONSTRAINED INDEX

Top 10 Components[5]

Company	Supersector	Country	Weight (%)
BEIERSDORF	Personal Care, Drug & Grocery Stores	Germany	7.86
HENKEL PREF	Consumer Products & Services	Germany	7.18
DEUTSCHE TELEKOM	Telecommunications	Germany	7.09
KPN	Telecommunications	Netherlands	6.66
AHOLD DELHAIZE	Personal Care, Drug & Grocery Stores	Netherlands	6.37
ORANGE	Telecommunications	France	4.53
HEINEKEN	Food, Beverage & Tobacco	Netherlands	4.28
IBERDROLA	Utilities	Spain	3.68
PERNOD RICARD	Food, Beverage & Tobacco	France	3.40
KERRY GRP	Food, Beverage & Tobacco	Ireland	3.22

[5] Based on the composition as of May 31, 2023