

# STOXX® GLOBAL 1800 MINIMUM VARIANCE UNCONSTRAINED INDEX

## Index description

The STOXX Global 1800 Minimum Variance Unconstrained index weights the components of the underlying STOXX Global 1800 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.

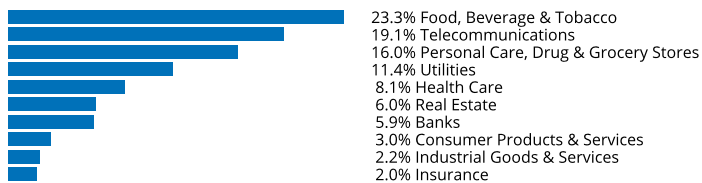
»Two versions - Constrained and Unconstrained - cater to different investor needs.

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

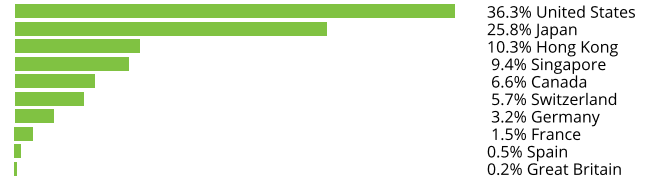
## Descriptive statistics

| Index  | Market cap (JPY bn.) |             | Components (JPY bn.) |        |           |          | Component weight (%) |          | Turnover (%)   |
|--|----------------------|-------------|----------------------|--------|-----------|----------|----------------------|----------|----------------|
|  | Full                 | Free-float  | Mean                 | Median | Largest   | Smallest | Largest              | Smallest | Last 12 months |
| STOXX Global 1800 Minimum Variance Unconstrained Index | N/A                  | 14,423.3    | 93.1                 | 25.9   | 554.7     | 4.7      | 3.8                  | 0.0      | 57.8           |
| STOXX Global 1800 Index                                | 8,311,446.7          | 7,533,726.5 | 4185.4               | 1448.1 | 370,958.9 | 52.3     | 4.9                  | 0.0      | 3.1            |

## Supersector weighting (top 10)



## Country weighting



## Risk and return figures<sup>1</sup>

| Index returns  | Return (%)                |      |      |      |      | Annualized return (%)                |      |      |      |      |
|--|---------------------------|------|------|------|------|--------------------------------------|------|------|------|------|
|  | Last month                | YTD  | 1Y   | 3Y   | 5Y   | Last month                           | YTD  | 1Y   | 3Y   | 5Y   |
| STOXX Global 1800 Minimum Variance Unconstrained Index | -3.3                      | 5.9  | 4.6  | 52.5 | 59.8 | N/A                                  | N/A  | 4.7  | 15.2 | 10.0 |
| STOXX Global 1800 Index                                | 1.5                       | 14.8 | 11.4 | 77.3 | 89.3 | N/A                                  | N/A  | 11.5 | 21.2 | 13.8 |
| Index volatility and risk                              | Annualized volatility (%) |      |      |      |      | Annualized Sharpe ratio <sup>2</sup> |      |      |      |      |
| STOXX Global 1800 Minimum Variance Unconstrained Index | 10.6                      | 10.6 | 12.0 | 11.5 | 14.7 | N/A                                  | N/A  | 0.3  | 1.2  | 0.6  |
| STOXX Global 1800 Index                                | 17.8                      | 17.3 | 19.8 | 18.1 | 20.5 | N/A                                  | N/A  | 0.5  | 1.1  | 0.6  |
| Index to benchmark                                     | Correlation               |      |      |      |      | Tracking error (%)                   |      |      |      |      |
| STOXX Global 1800 Minimum Variance Unconstrained Index | 0.8                       | 0.8  | 0.8  | 0.8  | 0.9  | 11.4                                 | 11.3 | 13.1 | 11.4 | 10.8 |
| Index to benchmark                                     | Beta                      |      |      |      |      | Annualized information ratio         |      |      |      |      |
| STOXX Global 1800 Minimum Variance Unconstrained Index | 0.4                       | 0.5  | 0.5  | 0.5  | 0.6  | -4.9                                 | -1.9 | -0.6 | -0.6 | -0.5 |

<sup>1</sup> For information on data calculation, please refer to STOXX calculation reference guide.

<sup>2</sup> Based on EURIBOR1M

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

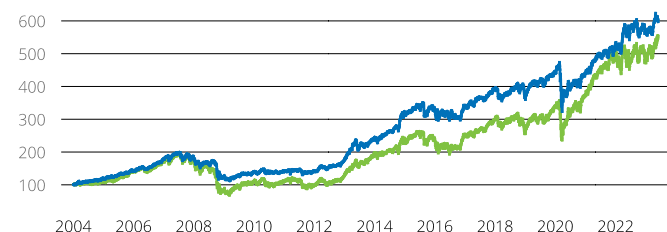
## MINIMUM VARIANCE

# STOXX® GLOBAL 1800 MINIMUM VARIANCE UNCONSTRAINED

## Fundamentals (for last 12 months)

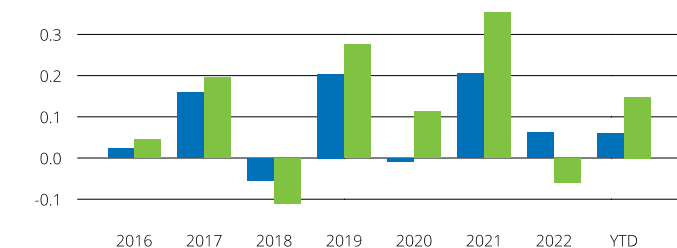
| Index  | Price/earnings<br>incl. negative |           | Price/earnings<br>excl. negative |           | Price/<br>book | Dividend<br>yield (%) <sup>3</sup> | Price/<br>sales | Price/<br>cash flow |
|--|----------------------------------|-----------|----------------------------------|-----------|----------------|------------------------------------|-----------------|---------------------|
|  | Trailing                         | Projected | Trailing                         | Projected | Trailing       | Trailing                           | Trailing        | Trailing            |
| STOXX Global 1800 Minimum Variance Unconstrained Index | 17.6                             | 15.9      | 17.5                             | 15.8      | 1.7            | 3.6                                | 1.6             | 0.8                 |
| STOXX Global 1800 Index                                | 22.3                             | 17.2      | 18.6                             | 16.9      | 0.1            | 2.4                                | 1.8             | 6.0                 |

## Performance and annual returns<sup>4</sup>



— STOXX® Global 1800 Minimum Variance Unconstrained Index

— STOXX® Global 1800 Index



■ STOXX® Global 1800 Minimum Variance Unconstrained Index

■ STOXX® Global 1800 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 | CH0180139336 | SAW1UNGR | SAW1UNGR       | .SAW1UNGR |
| Net Return EUR   | CH0180139179 | SAW1UNR  | SAW1UNR INDEX  | .SAW1UNR  |
| Net Return EUR   | CH0180139179 | SAW1UNR  | SAW1UNR INDEX  | .SAW1UNR  |
| Price EUR        | CH0180139013 | SAW1UNP  | SAW1UNP INDEX  | .SAW1UNP  |
| Price EUR        | CH0180139013 | SAW1UNP  | SAW1UNP INDEX  | .SAW1UNP  |
| Gross Return JPY | CH0225160636 | SAW1UNJG | SAW1UNJG INDEX | .SAW1UNJG |
| Net Return JPY   | CH0225160644 | SAW1UNJN |                | .SAW1UNJN |
| Price JPY        | CH0225160651 | SAW1UNJP |                | .SAW1UNJP |
| Gross Return USD | CH0180139815 | SAW1UNGV | SAW1UNGV       | .SAW1UNGV |
| Net Return USD   | CH0180139658 | SAW1UNV  | SAW1UNV INDEX  | .SAW1UNV  |

Complete list available here: [www.stoxx.com/data/vendor\\_codes.html](http://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.

## CONTACT DETAILS

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## 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.

<sup>3</sup> gr. div. yield is calculated as gr. return index return minus price index return

<sup>4</sup> STOXX data from Jan. 02, 2004 to May 31, 2023

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

**MINIMUM VARIANCE****STOXX® GLOBAL 1800 MINIMUM VARIANCE UNCONSTRAINED INDEX****Top 10 Components<sup>5</sup>**

| <b>Company</b>                 | <b>Supersector</b>                   | <b>Country</b> | <b>Weight (%)</b> |
|--------------------------------|--------------------------------------|----------------|-------------------|
| Japan Tobacco Inc.             | Food, Beverage & Tobacco             | Japan          | 3.85              |
| Church & Dwight Co.            | Personal Care, Drug & Grocery Stores | United States  | 3.72              |
| SWISSCOM                       | Telecommunications                   | Switzerland    | 3.58              |
| Hershey Co.                    | Food, Beverage & Tobacco             | United States  | 3.57              |
| Uni-Charm Corp.                | Personal Care, Drug & Grocery Stores | Japan          | 3.39              |
| Singapore Telecommunications L | Telecommunications                   | Singapore      | 3.26              |
| Oversea-Chinese Banking Corp.  | Banks                                | Singapore      | 3.18              |
| BCE Inc.                       | Telecommunications                   | Canada         | 3.17              |
| Lamb Weston Holdings Inc.      | Food, Beverage & Tobacco             | United States  | 3.12              |
| Sun Hung Kai Properties Ltd.   | Real Estate                          | Hong Kong      | 3.11              |

<sup>5</sup> Based on the composition as of May 31, 2023