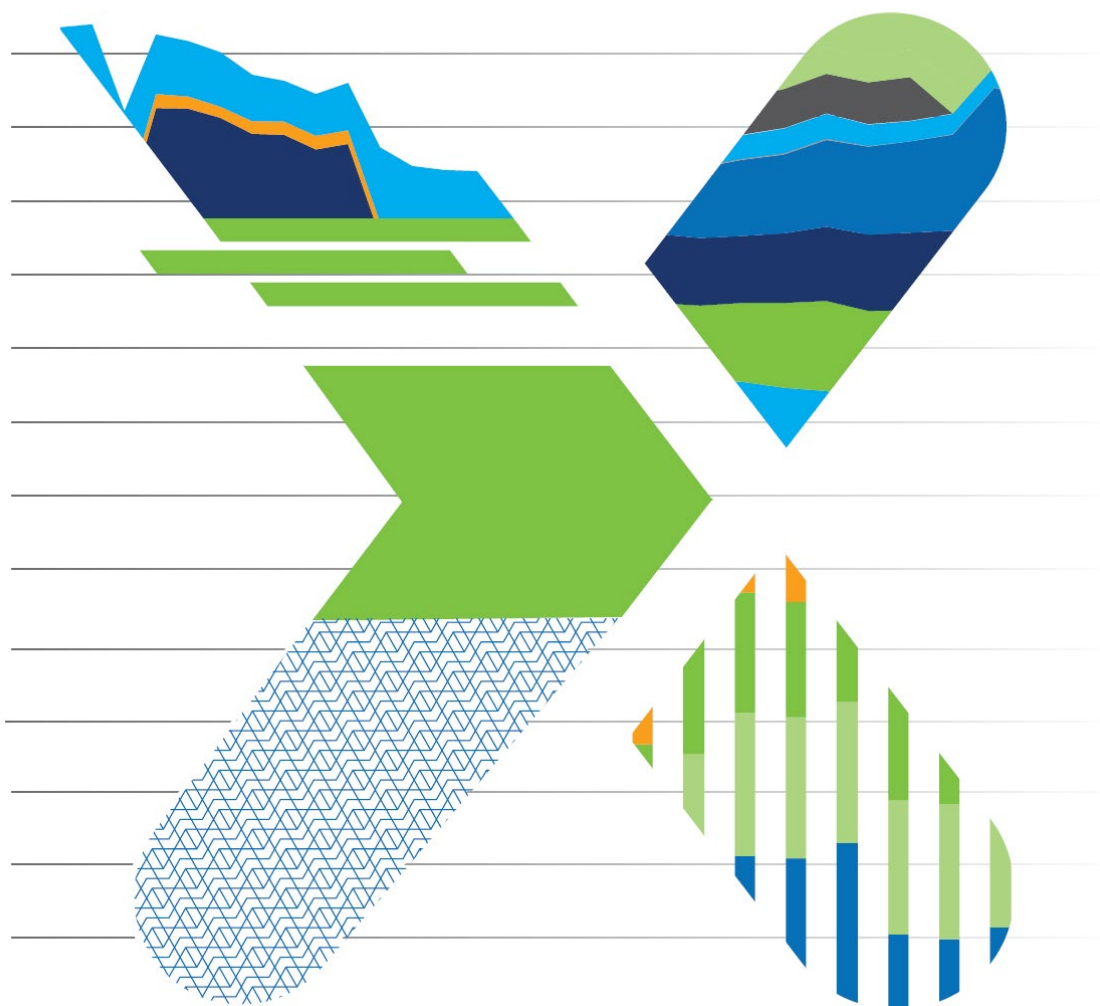


MONTHLY INDEX NEWS



Newsletter updates

We regularly update this newsletter to include additional indices and consider layout modifications to the various sections. There are no changes this month.

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Featured index

The recently introduced [STOXX® PSBC China A ESG Index](#) selects shares with a superior sustainability profile from within the largest 300 securities by free-float market capitalization in the [STOXX® China A 900 Index](#). The index applies exclusionary screens for companies in breach of the UN Global Compact Principles and related norms, and those involved in controversial weapons, tobacco or thermal coal.

While the STOXX PSBC China A ESG targets a portfolio with a higher sustainability profile, it seeks at the same time to maintain similar risk characteristics to its benchmark. The stocks selection and weights are determined using the Axioma Portfolio Optimizer to maximize the overall ESG score of the index, subject to predicted risk, tradability and diversification constraints.

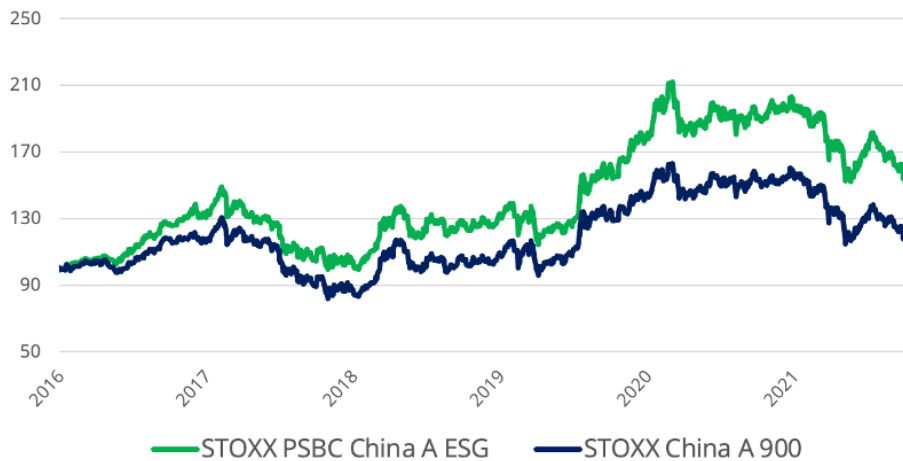
The index has been licensed to Postal Savings Bank of China (PSBC) as underlying for the equity tranche of its wealth management unit's first ESG product, launched last month.

Among specific constraints built into the STOXX PSBC China A ESG, its aggregate portfolio ESG score must be at least 20% higher than the benchmark's. Its predicted risk must be equal or lower, based on Axioma's China Medium-Horizon Fundamental Equity Factor Risk Model. The index must hold and not underweight any stock in the top third by ESG score, and can hold but not overweight any stock in the bottom third, with such mandates feeding into the optimizer.

There are also caps to the weights assigned to single stocks and ICB Supersectors relative to the benchmark. Finally, there are limits to portfolio turnover and thresholds to liquidity, to ensure efficient replicability and tradeability.

For information on the index in Chinese, please visit a [dedicated page](#).

Chart 1: Performance



Source: Qontigo. Total returns in USD, Dec. 19, 2016 – Oct. 7, 2022.

Benchmark indices

Key points

The [STOXX® Global 1800 index](#) rose for a second straight month in November as investors raised expectations that higher interest rates are helping temper inflation.

The global benchmark jumped 7.1% last month when measured in dollars and including dividends, after a similar increase in October. Gains in euros last month were reduced to 2.8% after the common currency rose 4.2% against the greenback. The STOXX Global 1800 has still lost 14.5% in dollars in 2022, poised for its worst year since the Global Financial Crisis in 2008.

The pan-European [STOXX® Europe 600](#) increased 6.9% in euros in November and the Eurozone's [EURO STOXX 50®](#) jumped 9.7%, its best monthly showing since November 2020. The [STOXX® North America 600](#) rose 5.4% in dollars, as did the [STOXX® USA 500](#). The [STOXX® Asia/Pacific 600](#) gained 11.2% in dollars.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX 50	9.7	-4.8	0.8	14.3	-13.8	-7.8	16.2	24.1	23.8	26.3	30.4	29.7
2. STOXX Europe 600	6.9	-7.0	-2.0	11.4	-15.8	-10.3	13.9	19.5	19.2	23.9	25.7	25.1
3. STOXX Global 1800	2.8	-5.6	-2.6	7.1	-14.5	-10.9	18.6	18.6	18.3	24.4	21.1	20.6
4. STOXX Global 1800 ex USA	6.4	-4.9	-1.1	10.8	-13.9	-9.5	11.0	13.9	13.8	21.3	20.0	19.6
5. STOXX USA 500	1.1	-5.9	-3.3	5.4	-14.8	-11.6	24.3	24.5	24.0	28.2	25.4	24.8
6. STOXX USA 900	1.1	-5.7	-3.1	5.4	-14.6	-11.3	24.4	24.5	24.1	28.3	25.5	24.9
7. STOXX North America 600	1.2	-5.4	-2.6	5.4	-14.3	-10.9	23.8	23.9	23.5	27.8	24.9	24.3
8. STOXX Asia/Pacific 600	6.7	-4.6	-3.3	11.2	-13.7	-11.6	14.8	16.2	16.0	22.6	19.3	18.8

Risk and return performance figures for STOXX Benchmark indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

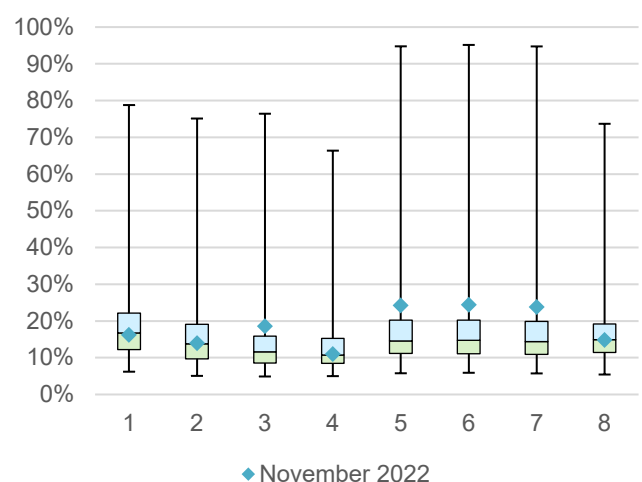
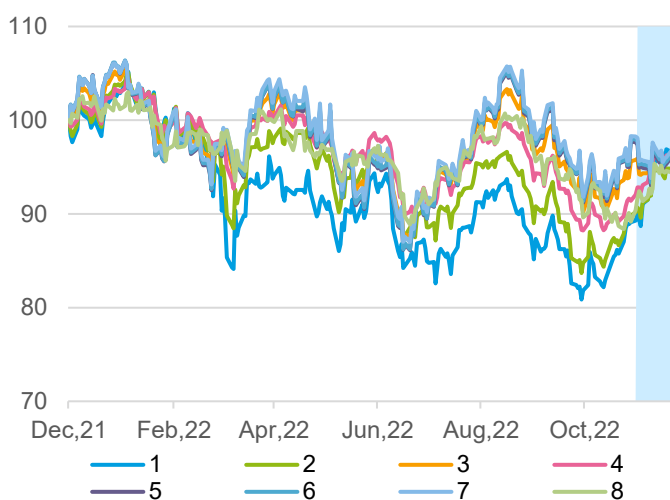


Figure 1: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 2: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

DAX indices

Key points

Germany's DAX family is led by DAX, the blue-chip benchmark. [MDAX](#)® and [SDAX](#)®, respectively, gauge the performance of the country's mid- and small-caps. [TecDAX](#)® tracks German technology companies. [HDAX](#)® groups all equities that belong to either DAX, MDAX or TecDAX.

All indices had positive returns in November.

Risk and return characteristics

	(EUR) Return (%)			(EUR) Annualized volatility (%)		
	1M	YTD	1Y	1M	YTD	1Y
1. DAX	8.6	-9.4	-4.7	16.9	24.1	23.8
2. MDAX	8.1	-27.1	-24.5	25.4	27.2	26.4
3. SDAX	9.7	-24.6	-23.7	22.7	27.5	27.1
4. TecDAX	7.9	-21.7	-20.0	22.5	26.3	26.0
5. HDAX	8.5	-11.6	-7.2	17.5	24.3	23.9

Risk and return performance figures for DAX indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance



Figure 3: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

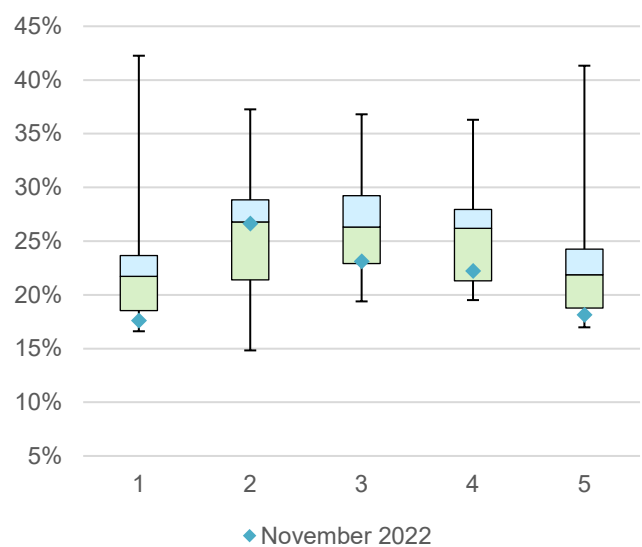


Figure 4: Monthly annualized volatility analysis, EUR gross return. Dec. 2021 – Nov. 2022. Source: Qontigo.

DAX ESG indices

Key points

Qontigo offers four sustainable options as indices for German equities: [DAX® 50 ESG](#), [DAX® ESG Target](#), [DAX® ESG Screened](#) and [MDAX® ESG Screened](#). All four also had positive returns in November.

Risk and return characteristics

	(EUR) Return (%)			(EUR) Annualized volatility (%)		
	1M	YTD	1Y	1M	YTD	1Y
1. DAX 50 ESG	9.0	-11.4	-7.1	18.6	24.2	23.8
2. DAX ESG Target	9.2	-10.9	-6.7	17.9	24.2	23.9
3. DAX ESG Screened	9.2	-10.5	-5.4	18.2	24.2	23.9
4. MDAX ESG Screened	7.7	-27.5	-24.9	26.1	27.3	26.6

Risk and return performance figures for DAX indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

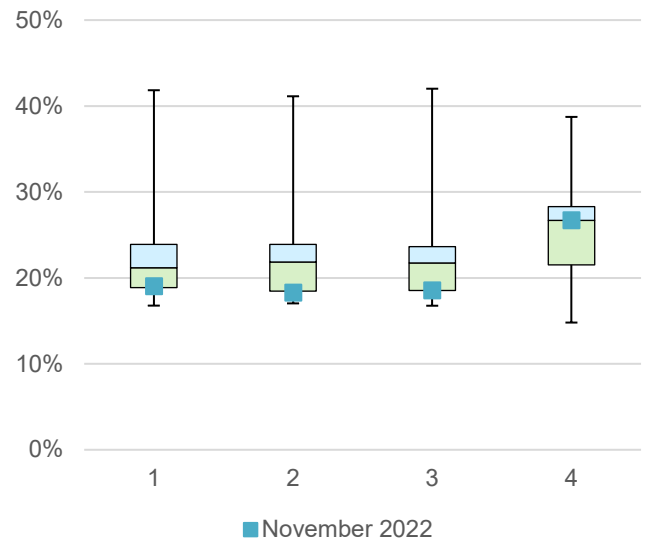


Figure 5: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 6: Monthly annualized volatility analysis, EUR gross return. Dec. 2021 – Nov. 2022. Source: Qontigo.

ESG Broad Market indices

Key points

The STOXX ESG Broad Market indices apply a set of compliance, product involvement and ESG performance exclusionary screens on a starting benchmark universe until only the 80% top ESG-rated constituents remain. Companies that are non-compliant based on the Sustainalytics Global Standards Screening assessment or are involved in controversial weapons are not eligible for selection. Additional filters exclude companies involved in tobacco production, thermal coal and military contracting.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX ESG Broad Market	8.6	-8.7	-4.1	13.1	-17.4	-12.3	15.6	22.8	22.4	25.7	29.3	28.5
2. STOXX Europe 600 ESG Broad Market	7.1	-7.3	-2.2	11.5	-16.1	-10.6	13.9	19.4	19.1	24.0	25.7	25.1
3. STOXX Global 1800 ESG Broad Market	3.0	-6.5	-3.2	7.3	-15.4	-11.5	19.0	18.8	18.5	25.1	21.4	20.9
4. STOXX North America 600 ESG Broad Market	1.2	-6.5	-3.4	5.5	-15.3	-11.7	24.6	24.4	23.9	28.9	25.4	24.8
5. STOXX USA 500 ESG Broad Market	1.2	-7.4	-4.6	5.5	-16.1	-12.7	25.2	25.1	24.6	29.3	26.0	25.4
6. STOXX USA 900 ESG Broad Market	1.2	-6.4	-3.6	5.4	-15.3	-11.8	25.1	25.0	24.5	29.3	25.9	25.3
7. STOXX Asia/Pacific 600 ESG Broad Market	6.4	-5.1	-3.6	10.9	-14.1	-11.8	15.0	16.4	16.2	22.7	19.5	19.0
8. STOXX Japan 600 ESG Broad Market	4.6	-8.2	-7.3	9.0	-16.9	-15.2	17.7	18.7	18.5	23.9	21.1	20.7

Risk and return performance figures for STOXX ESG Broad Market indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

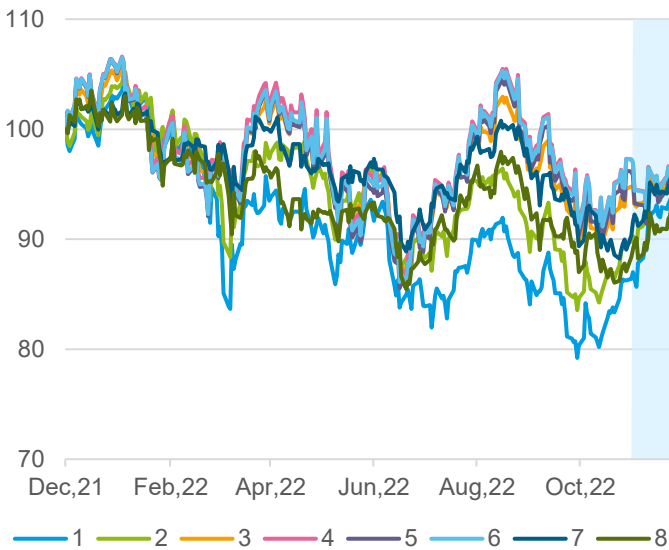


Figure 7: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

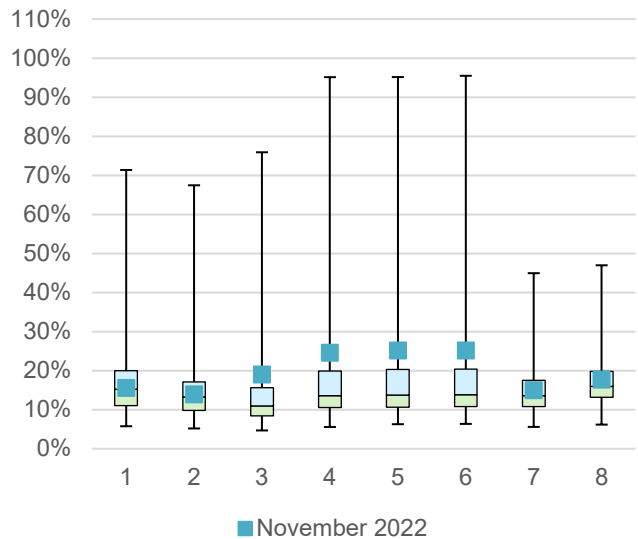


Figure 8: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG Target indices

Key points

The [STOXX® ESG Target indices](#) seek to significantly improve the benchmark portfolio's ESG profile, while mirroring its returns as closely as possible.

The indices follow a similar initial selection methodology as the STOXX ESG Broad Market Indices. From that selection pool they implement, through a series of constraints, an optimization process to maximize the overall ESG score of the portfolio while constraining the tracking error to the benchmark.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX ESG Target	8.9	-9.6	-4.9	13.4	-18.1	-13.0	16.6	22.8	22.4	26.9	29.4	28.6
2. STOXX Europe 600 ESG Target	7.1	-8.1	-3.1	11.6	-16.8	-11.3	14.9	19.7	19.3	25.0	26.0	25.4
3. STOXX Global 1800 ESG Target	3.2	-6.7	-3.8	7.5	-15.6	-12.0	19.1	18.7	18.4	25.2	21.4	20.9
4. STOXX North America 600 ESG Target	1.6	-6.0	-3.3	5.9	-14.9	-11.5	24.5	24.1	23.6	28.8	25.2	24.6
5. STOXX USA 500 ESG Target	1.5	-5.6	-2.9	5.8	-14.5	-11.2	24.8	24.6	24.2	29.0	25.6	25.0
6. STOXX USA 900 ESG Target	1.8	-5.8	-3.3	6.1	-14.7	-11.6	24.9	24.7	24.3	29.0	25.8	25.2
7. STOXX Asia/Pacific 600 ESG Target	6.5	-5.7	-3.8	10.9	-14.6	-12.0	15.1	16.4	16.1	22.8	19.4	19.0
8. STOXX Japan 600 ESG Target	4.7	-8.7	-7.3	9.1	-17.3	-15.2	17.6	18.6	18.4	23.8	21.0	20.6

Risk and return performance figures for STOXX ESG Target indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

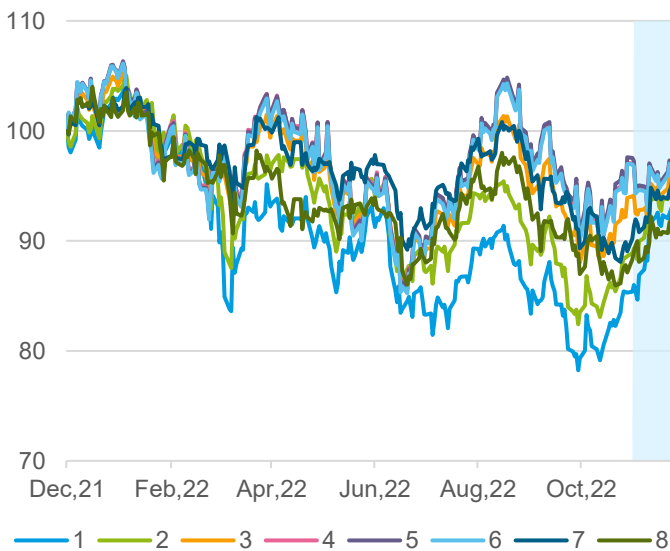


Figure 9: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

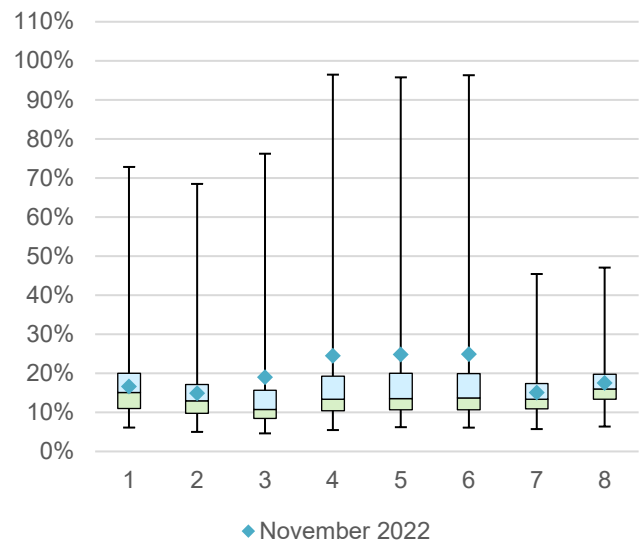


Figure 10: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG Target TE indices

Key points

The [STOXX® ESG Target TE indices](#) follow a similar methodology to the ESG Target indices, but the optimization imposes a tracking error minimization, subject to a constraint of improving the ESG score of the resulting portfolio.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX ESG Target TE	8.6	-9.1	-4.5	13.2	-17.7	-12.6	16.2	22.9	22.5	26.4	29.4	28.6
2. STOXX Europe 600 ESG Target TE	7.1	-8.0	-2.8	11.6	-16.7	-11.1	14.6	19.7	19.3	24.7	26.0	25.3
3. STOXX Global 1800 ESG Target TE	3.2	-5.9	-2.5	7.5	-14.8	-10.9	18.6	18.6	18.3	24.7	21.3	20.8
4. STOXX North America 600 ESG Target TE	1.5	-5.7	-2.9	5.7	-14.6	-11.2	24.0	24.0	23.6	28.3	25.0	24.5
5. STOXX USA 500 ESG Target TE	1.3	-5.8	-3.2	5.6	-14.8	-11.4	24.4	24.5	24.1	28.6	25.4	24.9
6. STOXX USA 900 ESG Target TE	1.5	-5.7	-2.9	5.7	-14.6	-11.2	24.6	24.5	24.1	28.7	25.5	25.0
7. STOXX Asia/Pacific 600 ESG Target TE	6.5	-5.3	-3.8	11.0	-14.3	-12.0	15.0	16.4	16.1	22.7	19.4	18.9
8. STOXX Japan 600 ESG Target TE	4.6	-8.2	-7.2	8.9	-16.8	-15.1	17.6	18.5	18.3	23.9	21.0	20.5

Risk and return performance figures for STOXX ESG Target TE indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

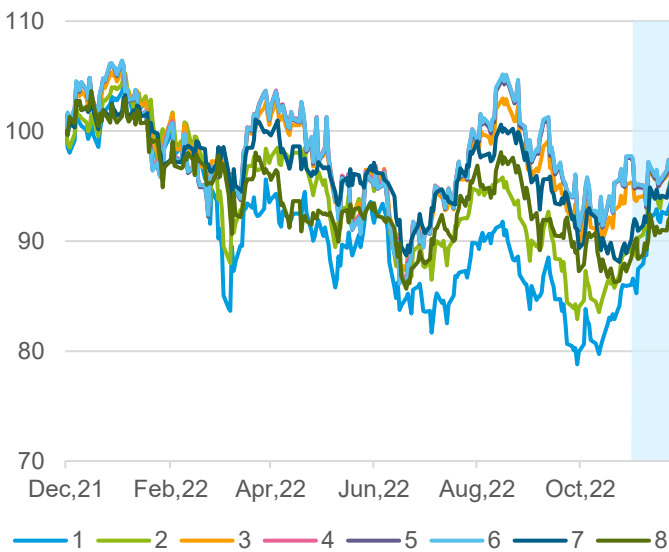


Figure 11: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

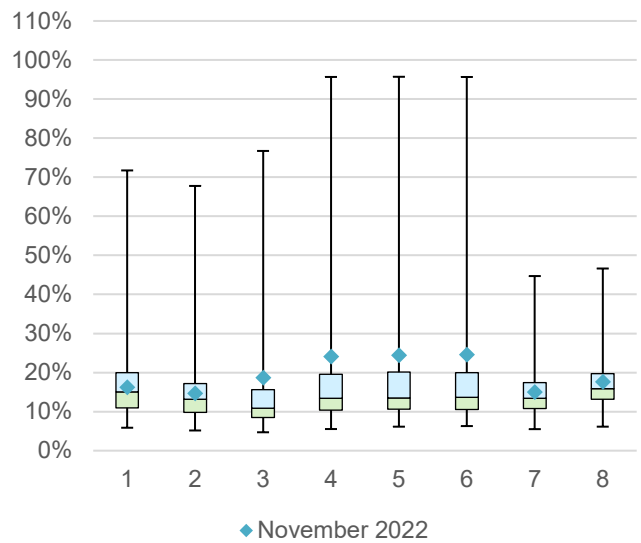


Figure 12: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

SRI indices

Key points

The [STOXX® SRI \(Socially Responsible Investing\) indices](#) apply a set of involvement, carbon emission intensity and compliance screens, and additionally track the best ESG performers in each industry group within a selection of STOXX benchmarks.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX SRI	7.3	-13.4	-9.4	11.7	-21.6	-17.2	17.5	23.3	22.9	27.6	29.8	29.0
2. STOXX Europe 600 SRI	6.1	-8.2	-3.1	10.6	-16.8	-11.4	13.3	18.4	18.1	23.0	24.5	24.0
3. STOXX Global 1800 SRI	3.6	-6.4	-2.1	7.9	-15.2	-10.4	17.2	17.8	17.5	23.9	21.0	20.5
4. STOXX North America 600 SRI	1.3	-6.4	-3.4	5.5	-15.3	-11.7	23.7	24.1	23.7	27.8	25.3	24.7
5. STOXX USA 500 SRI	1.3	-6.8	-3.8	5.6	-15.6	-12.0	24.0	24.7	24.2	27.9	25.7	25.1
6. STOXX Asia/Pacific 600 SRI	5.8	-6.0	-4.0	10.2	-14.9	-12.1	15.1	17.0	16.7	22.7	20.1	19.6
7. STOXX Japan 600 SRI	4.7	-9.2	-7.8	9.1	-17.8	-15.7	17.8	19.2	18.9	24.3	21.7	21.3

Risk and return performance figures for STOXX ESG SRI indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

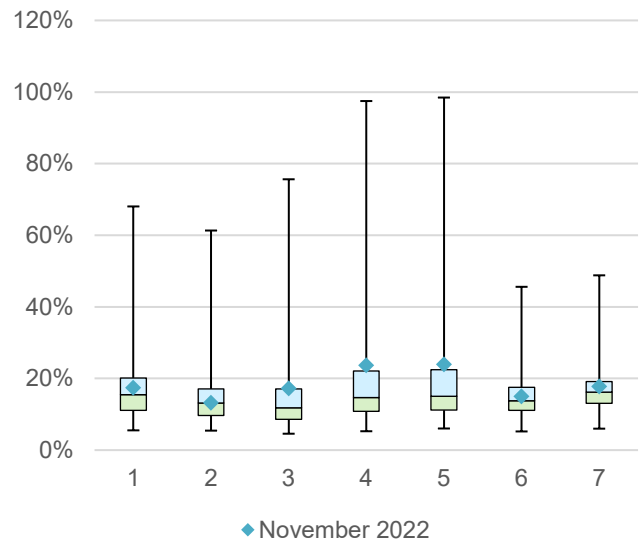
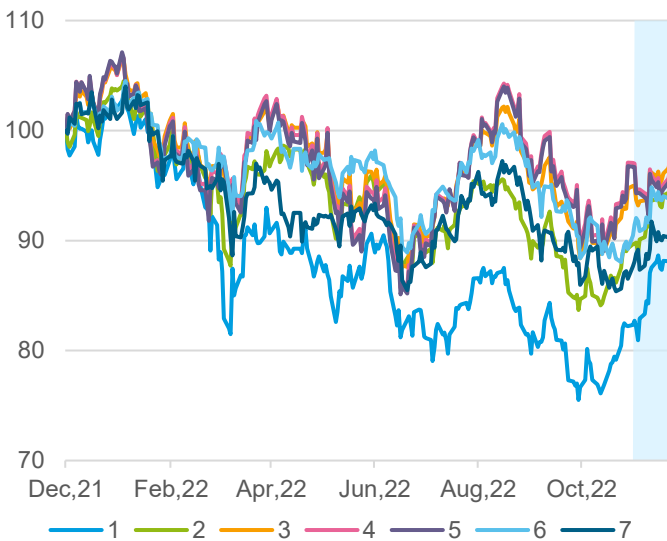


Figure 13: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 14: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG-X indices

Key points

The [STOXX ESG-X indices](#) are versions of traditional, market-capitalization-weighted benchmarks that observe [standard responsible exclusions](#) of leading asset owners. They incorporate basic norm- and product-based exclusion criteria to comply with ESG principles. Companies are excluded based on data provider Sustainalytics' determination of non-compliance with their Global Standards Screening assessment, involvement in controversial weapons, tobacco production, thermal coal extraction or exploration, or use of thermal coal to generate at least a quarter of power output.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX 50 ESG-X	10.1	-5.0	0.3	14.7	-14.0	-8.2	16.6	23.9	23.6	26.7	30.2	29.6
2. STOXX Europe 600 ESG-X	7.1	-7.6	-2.7	11.6	-16.3	-11.0	14.3	19.6	19.3	24.3	25.9	25.2
3. STOXX Global 1800 ESG-X	2.8	-6.4	-3.5	7.1	-15.2	-11.7	18.9	18.8	18.6	24.9	21.4	20.9
4. STOXX USA 500 ESG-X	1.1	-6.9	-4.5	5.3	-15.7	-12.6	24.9	24.9	24.5	29.0	25.9	25.3
5. STOXX North America 600 ESG-X	1.1	-6.3	-3.6	5.3	-15.1	-11.9	24.3	24.3	23.9	28.5	25.3	24.7
6. STOXX Asia/Pacific 600 ESG-X	6.6	-4.9	-3.6	11.0	-13.9	-11.8	14.9	16.3	16.1	22.6	19.4	18.9

Risk and return performance figures for STOXX ESG-X indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

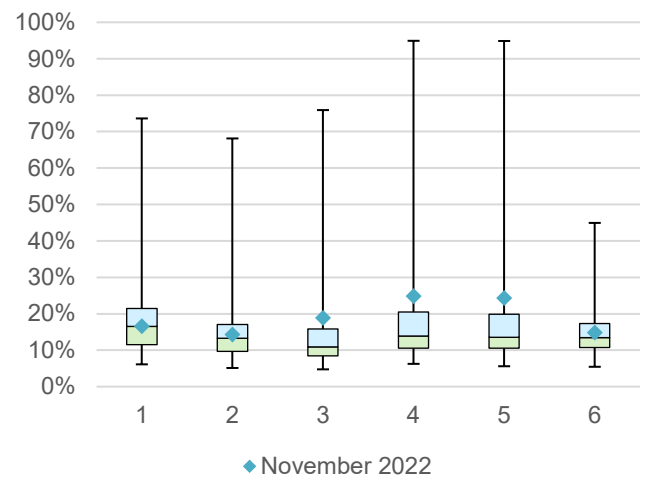
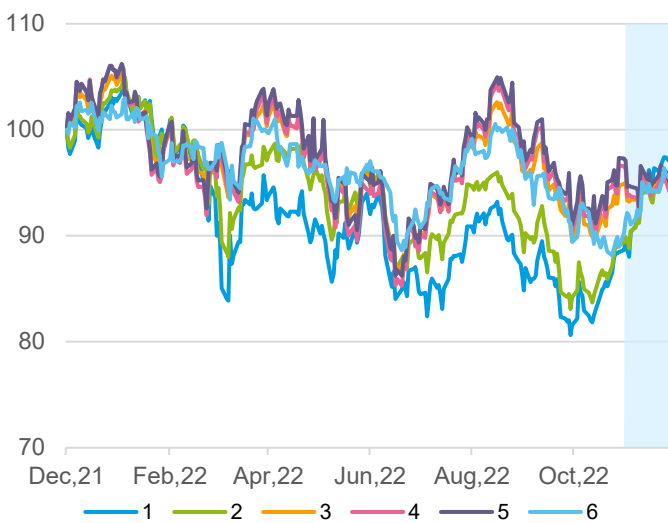


Figure 15: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 16: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG and Sustainability indices

Key points

Among the STOXX ESG and Sustainability indices, the [EURO STOXX 50® ESG index](#) outperformed its benchmark by 17 basis points in November.

The [STOXX® Global ESG Select KPIs index](#) beat the STOXX Global 1800 by 58 basis points. The STOXX ESG Select KPIs indices offer a broad market exposure that is tilted towards companies that score better with respect to a small set of environmental, social, and governance key performance indicators.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX 50 ESG	9.9	-5.1	0.6	14.5	-14.1	-8.0	15.9	23.7	23.3	26.1	30.0	29.3
2. STOXX Europe Industry Neutral ESG	7.1	-6.7	-1.6	11.5	-15.6	-10.0	14.1	19.3	19.0	24.1	25.6	25.0
3. STOXX North America Industry Neutral ESG	2.0	-2.4	1.6	6.3	-11.7	-7.0	23.1	22.4	22.0	27.2	23.5	23.0
4. STOXX Global ESG Select KPIs	3.4	-5.9	-2.8	7.7	-14.8	-11.1	17.7	18.2	17.9	24.3	21.1	20.6
5. STOXX USA ESG Select KPIs	1.4	-5.5	-2.5	5.6	-14.5	-10.8	23.9	24.4	23.9	28.1	25.5	24.8
6. STOXX Europe ESG Leaders Select 30	5.8	-9.6	-5.4				12.2	17.2	16.8			

Risk and return performance figures for STOXX ESG and Sustainability indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

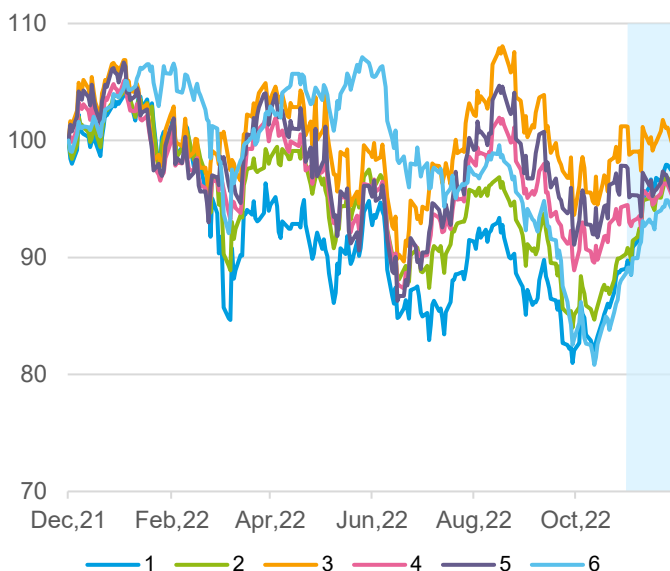


Figure 17: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

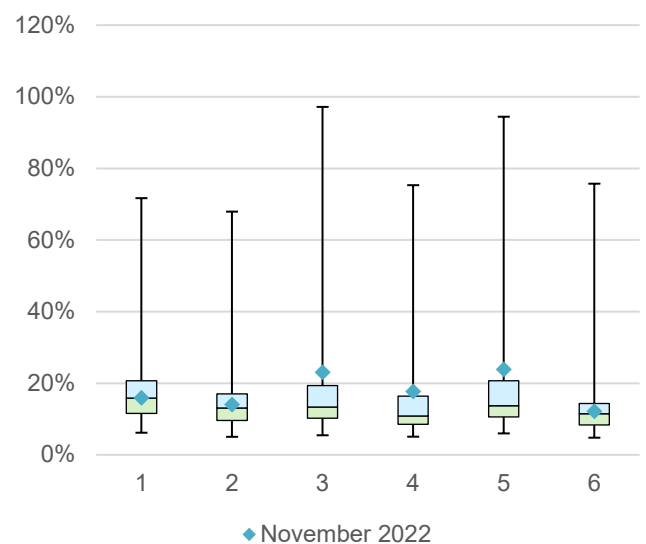


Figure 18: Monthly annualized volatility analysis, EUR gross return. Oct. 2012 – Nov. 2022. Source: Qontigo.

Climate Indices – Paris-Aligned Benchmark indices

Key points

The [STOXX Paris-Aligned Benchmark indices \(PABs\)](#) are based on liquid securities from a selection of STOXX Benchmark Indices and follow the [EU Paris-aligned Benchmark \(EU PAB\) requirements](#) outlined by the European Commission’s Regulation (EU) 2020/1818, supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council on climate benchmarks.

Those requirements are designed such that the resulting PAB portfolio’s greenhouse gas (GHG) emissions are aligned with the long-term global warming target of the Paris Climate Agreement. The indices incorporate stringent carbon limitations in the selection of holdings, in line with global commitments to work towards keeping global warming between 1.5°C and 2°C above pre-industrial levels.

We have partnered with Sustainalytics for datasets relating to their Global Standards Screening and controversial weapons, and with ISS ESG for climate-related data such as Scope 1 to Scope 3 emissions, science-based climate targets, and others.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX PAB	8.0	-9.7	-5.3	12.5	-18.3	-13.4	17.1	22.5	22.1	27.0	28.8	28.1
2. EURO STOXX TMI PAB	7.9	-9.6	-5.3	12.4	-18.2	-13.4	17.0	22.4	22.0	27.0	28.8	28.1
3. STOXX Europe 600 PAB	7.7	-7.5	-2.8	12.2	-16.3	-11.1	15.5	19.4	19.1	25.1	25.6	25.0
4. STOXX Global 1800 PAB	2.9	-9.0	-6.2	7.2	-17.6	-14.2	20.1	19.5	19.2	26.1	22.1	21.6
5. STOXX USA 500 PAB	1.3	-9.9	-7.8	5.6	-18.4	-15.7	25.2	25.4	25.0	29.2	26.3	25.7
6. STOXX USA 900 PAB	1.4	-9.4	-7.3	5.6	-18.0	-15.2	25.1	25.4	24.9	29.1	26.2	25.6

Risk and return performance figures for STOXX Paris-Aligned Benchmark indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

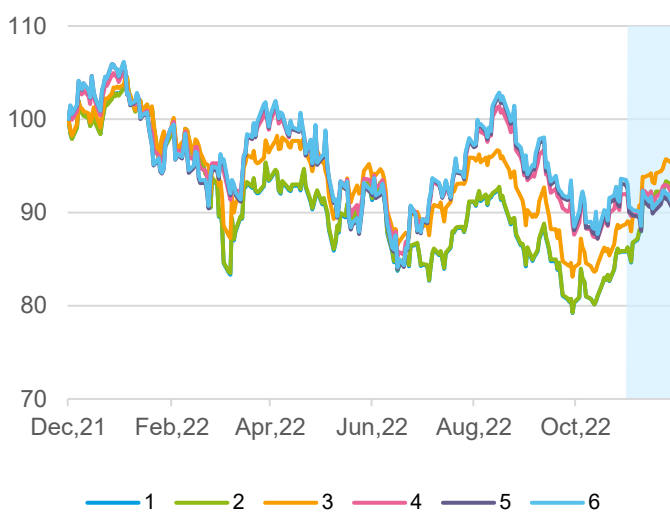


Figure 19: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

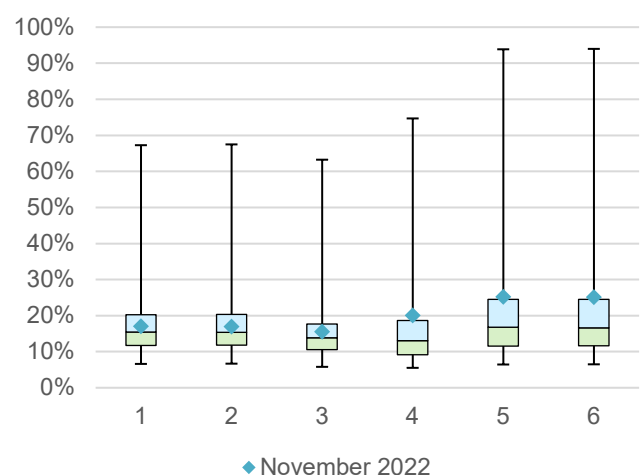


Figure 20: Monthly annualized volatility analysis, EUR gross return. Apr. 2018 – Nov. 2022. Source: Qontigo.

Climate indices – Climate Transition Benchmark indices

Key points

The [STOXX Climate Transition Benchmark indices \(CTBs\)](#) are based on liquid securities from a selection of STOXX Benchmark Indices and follow the [EU Climate Transition Benchmark \(EU CTB\) requirements](#) outlined by the European Commission’s Regulation (EU) 2020/1818, supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council on climate benchmarks.

Those requirements are designed such that the resulting CTB portfolio is on a decarbonization trajectory.

As with the Paris-Aligned Benchmarks, we have partnered with Sustainalytics for exclusions datasets, and with ISS ESG for climate-related data, science-based climate targets and others.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX CTB	8.0	-9.3	-4.8	12.5	-17.9	-12.9	16.6	22.3	21.9	26.6	28.6	27.9
2. EURO STOXX TMI CTB	7.9	-9.2	-4.8	12.4	-17.8	-13.0	16.6	22.2	21.8	26.6	28.6	27.9
3. STOXX Europe 600 CTB	7.5	-7.4	-2.7	12.0	-16.2	-11.0	15.1	19.2	18.9	24.7	25.4	24.8
4. STOXX Global 1800 CTB	3.0	-7.8	-5.0	7.3	-16.6	-13.1	19.3	19.0	18.8	25.2	21.7	21.2
5. STOXX USA 500 CTB	1.4	-8.8	-6.5	5.6	-17.4	-14.4	24.6	24.9	24.5	28.6	25.7	25.2
6. STOXX USA 900 CTB	1.4	-8.3	-6.0	5.7	-17.0	-14.0	24.6	24.8	24.4	28.6	25.7	25.1

Risk and return performance figures for STOXX Climate Transition Benchmark indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

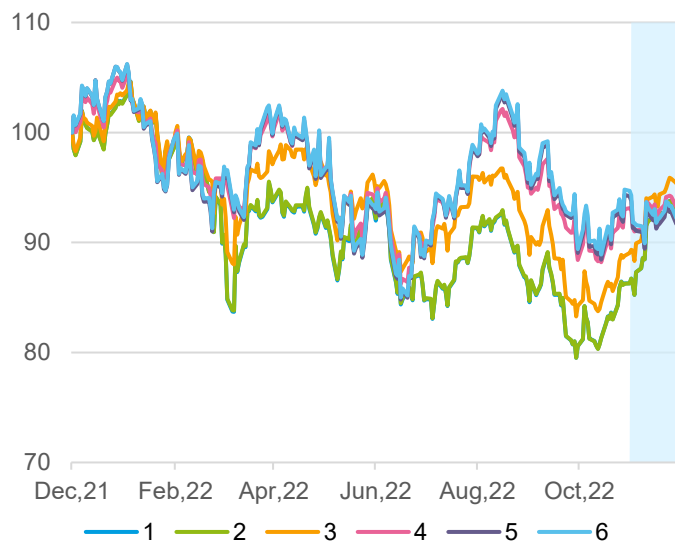


Figure 21: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

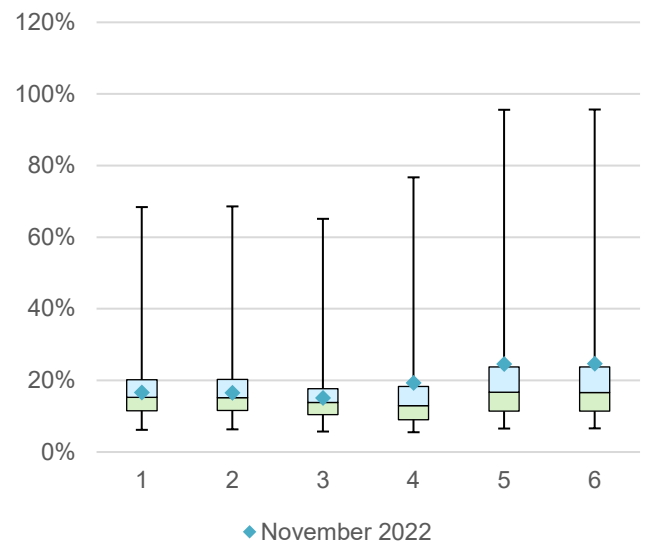


Figure 22: Monthly annualized volatility analysis, EUR gross return. Apr. 2018 – Nov. 2022. Source: Qontigo.

Climate Indices – Impact, Change Leaders and Awareness indices

Key points

Among other STOXX Climate Indices, the [STOXX® Global Climate Change Leaders index](#) outperformed the STOXX Global 1800 index by more than 2 percentage points last month. The Climate Change Leaders index selects corporate pioneers that are publicly committed to reducing their carbon footprint.

The [STOXX® Global Climate Impact Ex Global Compact Controversial Weapons & Tobacco index](#), meanwhile, returned 112 basis points more than the STOXX Global 1800 Index. The STOXX Climate Impact Ex Global Compact Controversial Weapons & Tobacco Indices include companies that are leading in terms of climate change as well as those that are managing the effect of climate-related issues. They additionally exclude companies in contravention of global norms, and those involved with coal, tobacco or controversial weapons.

We have partnered with CDP, a leading climate data provider, to track companies taking action on, managing and understanding the effects of climate change.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Europe Climate Impact*	7.5	-5.8	0.0	12.0	-14.7	-8.6	13.4	19.1	18.8	23.1	25.4	24.7
2. STOXX Global Climate Impact*	3.9	-3.9	0.3	8.2	-12.9	-8.2	16.9	16.9	16.7	23.0	19.8	19.3
3. STOXX North America Climate Impact*	2.4	-3.7	0.2	6.7	-12.8	-8.3	22.4	22.6	22.2	26.3	23.6	23.0
4. STOXX Asia/Pacific Climate Impact*	6.7	-3.4	-1.8	11.1	-12.6	-10.2	14.8	16.7	16.5	22.1	19.6	19.1
5. STOXX Global Climate Change Leaders	4.8	-5.8	-2.4	9.1	-14.7	-10.8	12.4	14.0	14.0	20.1	18.2	17.8
6. iSTOXX Europe ESG Climate Awareness Select	5.8	-7.5	-2.6	10.2	-16.2	-10.9	12.5	15.0	14.7	21.8	21.1	20.4

Risk and return performance figures for STOXX Climate indices, gross return. Data as of Nov. 30, 2022. *Indices are the Ex Global Compact Controversial Weapons & Tobacco versions. Source: Qontigo.

Index and volatility performance

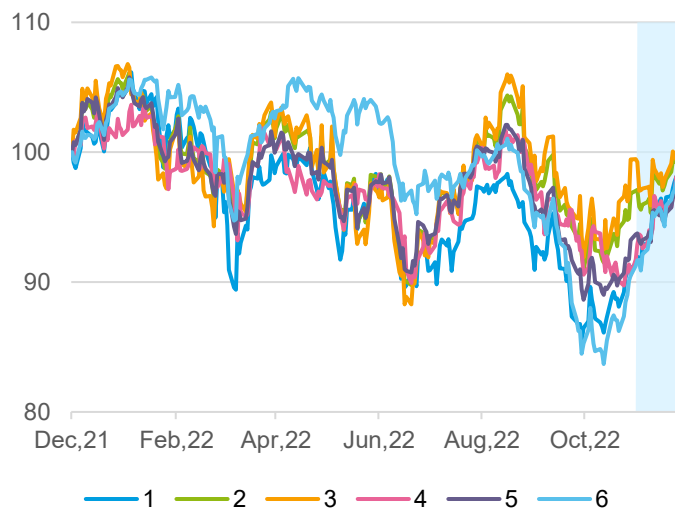


Figure 23: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

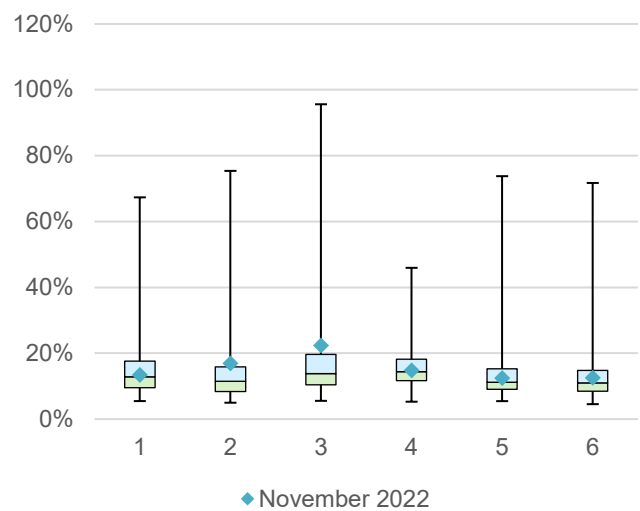


Figure 24: Monthly annualized volatility analysis, EUR gross return. Jan. 2013 – Nov. 2022. Source: Qontigo.

Climate Indices - Willis Towers Watson Climate Transition Indices

Key points

The STOXX Willis Towers Watson Climate Transition Indices (CTI) employ a unique Climate Transition Value at Risk (CTVaR) methodology that quantifies the anticipated impact of an economic transition on equity valuations. The CTIs enable a more sophisticated way of managing climate transition risk, one that looks beyond carbon emissions and makes a forward-looking, bottom-up evaluation of asset repricing risks in a decarbonization pathway.

By using the CTVaR projections, the indices tilt towards companies that are expected to fare well and away from companies that are expected to experience meaningful losses in value as the economy moves to a global-temperature scenario of 'well below' 2°C.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Willis Towers Watson Europe 600 Climate Transition	7.1	-9.9	-5.1	11.6	-18.4	-13.2	15.3	20.1	19.8	25.0	26.4	25.7
2. STOXX Willis Towers Watson World Climate Transition	3.0	-9.3	-6.6	7.4	-17.9	-14.5	20.2	20.0	19.7	26.1	22.4	21.9
3. STOXX Willis Towers Watson USA 500 Climate Transition	1.5	-9.8	-7.6	5.8	-18.3	-15.5	25.8	25.7	25.2	29.9	26.6	26.0

Risk and return performance figures for STOXX Willis Towers Watson Climate Transition Indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

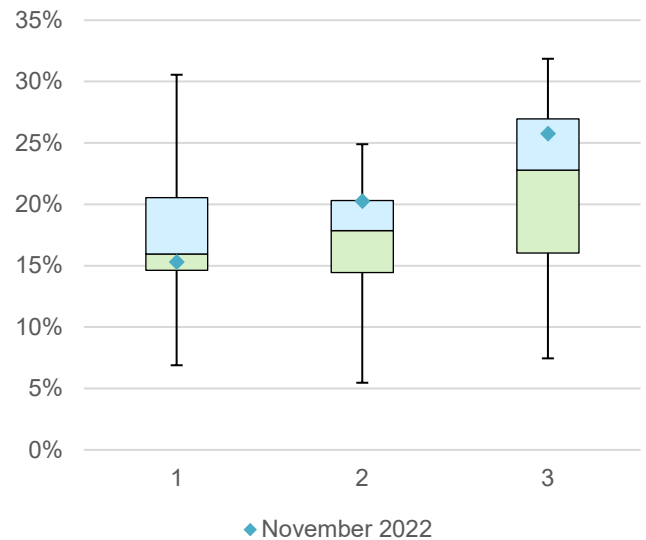


Figure 25: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 26: Monthly annualized volatility analysis, EUR gross return. Jul. 2021 – Nov. 2022. Source: Qontigo.

Low Carbon indices

Key points

Among the [STOXX Low Carbon indices](#), the [EURO STOXX® 50 Low Carbon index](#) outperformed the EURO STOXX 50 by 31 basis points in November.

The STOXX Low Carbon indices were designed to help reduce the carbon footprint of portfolios and limit their exposure to climate-related risks. They use data from CDP and ISS ESG.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX 50 Low Carbon	10.0	-5.6	0.0	14.6	-14.6	-8.5	16.4	24.5	24.1	26.3	30.8	30.1
2. STOXX Europe 600 Low Carbon	6.9	-7.1	-2.2	11.4	-15.9	-10.5	14.0	19.3	19.1	23.9	25.6	25.0
3. STOXX Global 1800 Low Carbon	2.9	-5.5	-2.2	7.2	-14.5	-10.6	18.4	18.6	18.3	24.1	21.2	20.7
4. STOXX Global 1800 ex Europe Low Carbon	2.0	-5.0	-2.1	6.3	-14.0	-10.5	20.5	20.8	20.5	25.0	22.2	21.7
5. STOXX USA Low Carbon	1.4	-5.6	-2.6	5.6	-14.6	-10.9	23.7	24.2	23.8	27.4	25.2	24.6
6. STOXX Japan Low Carbon	5.1	-7.9	-7.0	9.5	-16.6	-15.0	18.1	19.0	18.7	24.4	21.5	21.0

Risk and return performance figures for STOXX Low Carbon indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

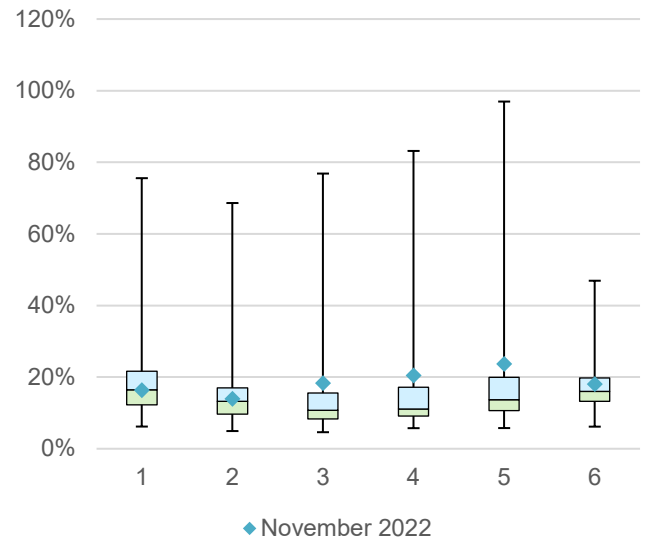
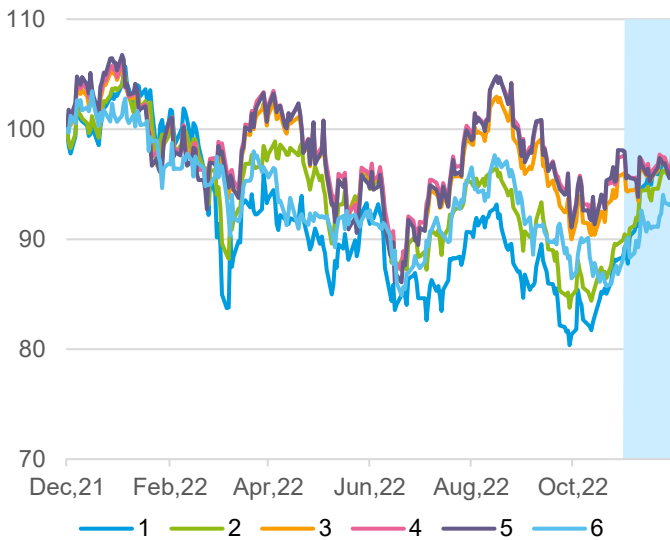


Figure 27: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 28: Monthly annualized volatility analysis, EUR gross return. Jan. 2012 – Nov. 2022. Source: Qontigo.

Thematic indices – Revenue-based

Key points

The **STOXX Thematic indices** seek exposure to the economic upside of disruptive global megatrends. They follow two approaches: revenue-based and artificial-intelligence-driven.

There were mixed performances from the revenue-based thematic indices in the month that ended, with 13 of 24 indices outperforming the benchmark STOXX Global 1800.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Global Ageing Population	2.2	-2.2	1.7	6.4	-11.5	-7.0	16.6	17.6	17.5	21.5	20.5	20.1
2. STOXX Global Artificial Intelligence	6.9	-28.4	-29.2	11.4	-35.2	-35.2	40.8	37.8	37.2	46.5	39.2	38.4
3. STOXX Global Automation & Robotics	4.7	-24.5	-23.4	9.1	-31.6	-29.9	28.9	27.5	27.1	35.6	30.3	29.6
4. STOXX Global Breakthrough Healthcare	2.0	-11.8	-10.1	6.3	-20.2	-17.8	21.1	25.8	25.6	25.0	27.4	27.0
5. STOXX Global Broad Infrastructure	3.3	2.4	6.3	7.6	-7.3	-2.7	12.0	12.9	12.7	17.0	15.8	15.3
6. STOXX Global Digital Entertainment and Education	1.7	-25.1	-25.6	6.0	-32.1	-31.9	31.5	29.7	29.2	37.5	31.5	30.8
7. STOXX Global Digital Security	-2.2	-17.5	-16.8	1.9	-25.3	-23.9	25.0	24.5	24.2	31.0	26.5	26.0
8. STOXX Global Digitalisation	1.7	-24.6	-25.7	5.9	-31.7	-32.1	31.7	29.5	29.0	38.2	31.7	30.9
9. STOXX Global Electric Vehicles & Driving	6.0	-12.4	-10.8	10.4	-20.7	-18.4	23.8	23.2	22.8	30.7	26.7	26.2
10. STOXX Global Fintech	0.5	-19.2	-18.1	4.7	-26.9	-25.1	30.0	27.4	27.0	36.9	29.4	28.8
11. STOXX Global Health & Weight Loss	9.9	-19.1	-17.1	14.5	-26.7	-24.2	18.1	21.7	21.5	23.9	24.4	24.0
12. STOXX Global Housing Construction	6.7	-13.8	-10.7	11.2	-22.0	-18.3	26.7	23.9	23.5	33.2	26.2	25.6

Risk and return performance figures for STOXX Thematic indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

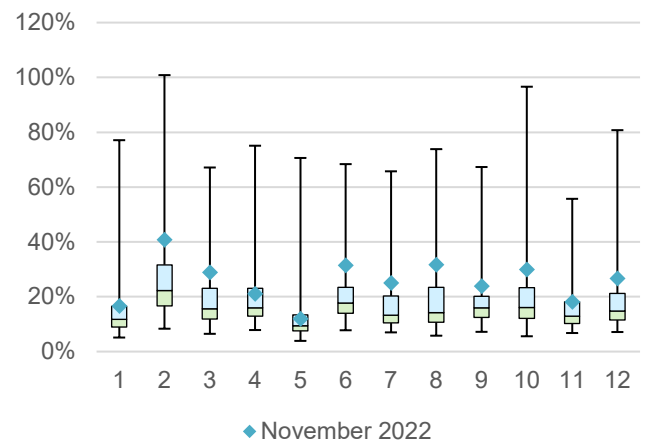
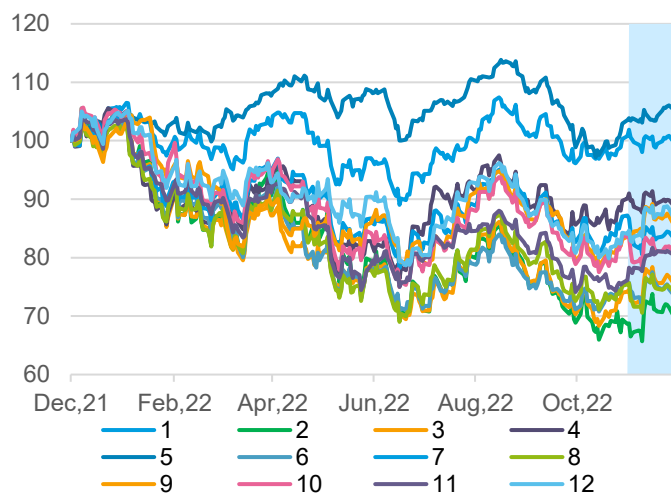


Figure 29: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 30: Monthly annualized volatility analysis, EUR gross return. Jul. 2015 – Nov. 2022. Source: Qontigo.

Thematic indices – Revenue-based (cont.)

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
13. STOXX Global Industry 4.0	3.3	-18.2	-15.5	7.6	-25.9	-22.7	29.7	27.5	27.1	36.5	29.4	28.8
14. STOXX Global Millennials	4.5	-26.9	-27.2	8.9	-33.8	-33.4	31.5	32.0	31.2	38.0	33.8	32.8
15. STOXX Global Next Generation Telecoms	2.7	-11.8	-6.7	7.0	-20.1	-14.7	20.5	19.0	18.6	25.8	20.5	20.0
16. STOXX Global Pet Care	2.3	-7.5	-3.1	6.6	-16.3	-11.4	18.4	17.3	16.9	22.7	18.5	17.9
17. STOXX Global Sharing Economy	2.1	-23.6	-23.0	6.4	-30.8	-29.5	35.0	34.6	33.8	41.6	36.7	35.7
18. STOXX Global Silver Economy	3.7	-9.3	-6.0	8.0	-17.9	-14.0	24.4	25.1	24.7	30.0	27.1	26.5
19. STOXX Global Smart Cities	-1.8	-16.5	-19.6	2.3	-24.4	-26.5	34.8	34.6	34.5	40.4	35.9	35.5
20. STOXX Global Smart City Infrastructure	2.8	-10.9	-7.3	7.1	-19.4	-15.2	19.3	18.0	17.8	25.7	21.2	20.7
21. STOXX Global Smart Factory	6.9	-17.1	-14.3	11.4	-25.0	-21.6	34.8	30.3	29.7	41.3	32.1	31.4
22. STOXX Global Video Gaming & eSports	5.0	-20.1	-20.9	9.4	-27.6	-27.6	30.0	25.8	25.5	36.6	27.8	27.3
23. STOXX USA ETF Industry				8.9	-16.7	-13.6				32.4	27.4	26.9
24. iSTOXX Developed Markets B.R.AI.N.	5.4	-4.2	-4.0	9.8	-13.3	-12.2	18.9	23.4	23.3	22.3	24.8	24.4

Risk and return performance figures for STOXX Thematic indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

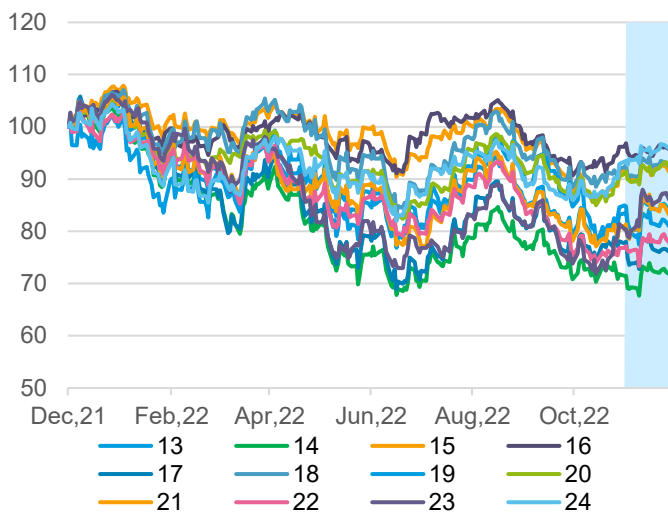


Figure 31: 13-22, 24 EUR gross return index performance; Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

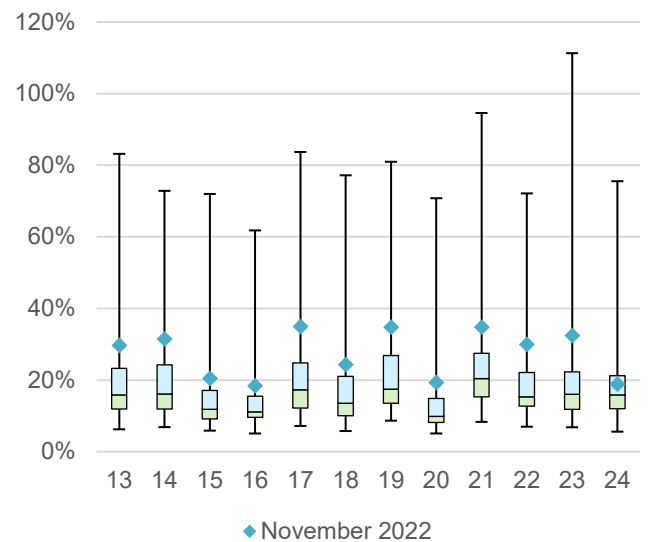


Figure 32: Monthly annualized volatility analysis, EUR gross return. Jul. 2016 – Nov. 2022. Source: Qontigo.

Thematic indices – AI-driven

Key points

The STOXX artificial-intelligence-driven thematic indices employ computational systems to select businesses investing in the adoption of intellectual property underpinning the respective theme. Two of them track companies exposed to the AI theme and one selects businesses investing in blockchain.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX AI Global Artificial Intelligence	3.1	-13.5	-11.2	7.4	-21.6	-18.7	20.9	21.2	20.9	27.4	23.7	23.1
2. STOXX AI Global Artificial Intelligence ADTV5	3.3	-12.8	-10.5	7.6	-21.1	-18.1	21.6	21.7	21.3	28.0	24.1	23.5
3. iSTOXX Yewno Developed Markets Blockchain	2.0	-7.7	-4.5	6.3	-16.5	-12.6	20.5	22.9	22.6	26.3	25.5	24.9

Risk and return performance figures for STOXX Thematic indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

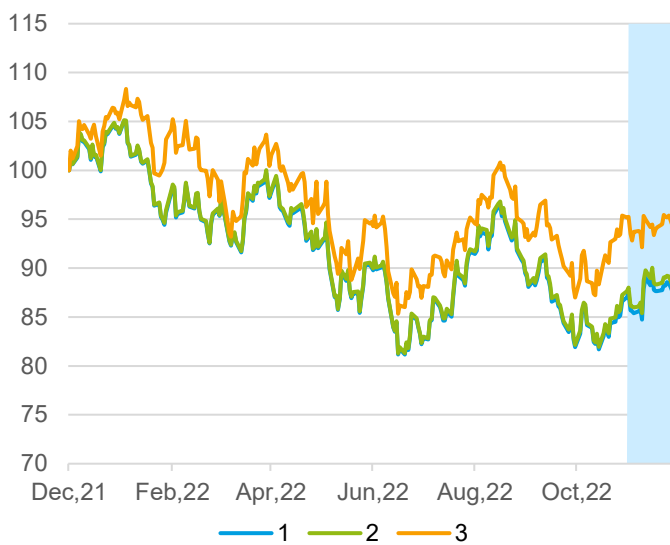


Figure 33: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

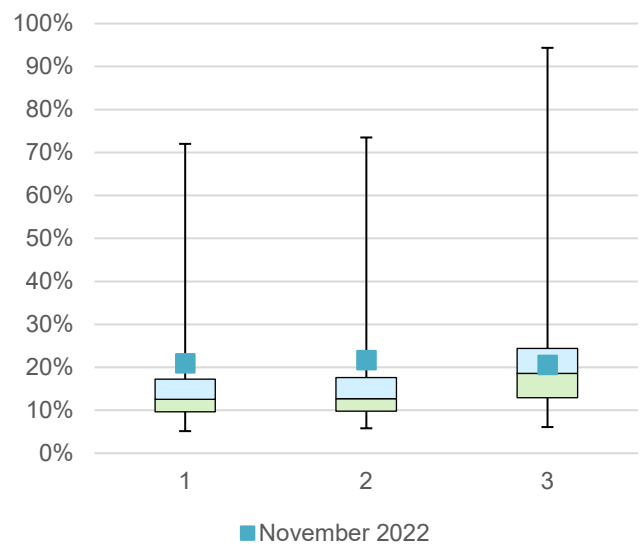


Figure 34: Monthly annualized volatility analysis, EUR gross return. Apr. 2013 – Nov. 2022. Source: Qontigo.

Factor indices – Global

Key points

The [STOXX Factor indices](#) offer robust factor definitions and targeted factor exposures, and ensure the tradability of component stocks. They employ the institutionally tested analytics of Axioma Factor Risk Models.

On a global basis, Quality and Value were the best-performing styles in the month that ended, while Momentum fared the worst.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Global 1800 Ax Low Risk	2.0	2.6	7.2	6.3	-7.1	-1.9	13.1	14.1	13.8	18.0	15.6	15.2
2. STOXX Global 1800 Ax Momentum	1.6	-8.4	-7.0	5.8	-17.1	-14.9	19.4	22.9	22.5	23.9	25.2	24.6
3. STOXX Global 1800 Ax Multi-Factor	2.4	-2.8	1.5	6.7	-12.0	-7.2	14.5	16.7	16.6	19.5	18.9	18.6
4. STOXX Global 1800 Ax Quality	4.4	-4.8	-2.0	8.7	-13.8	-10.3	17.4	18.9	18.7	24.5	21.5	21.0
5. STOXX Global 1800 Ax Size	4.2	-6.9	-4.0	8.5	-15.7	-12.1	19.0	18.1	17.8	25.1	21.3	20.7
6. STOXX Global 1800 Ax Value	4.3	0.4	6.0	8.7	-9.1	-3.1	16.9	17.3	17.0	22.7	20.6	20.0
7. STOXX Global 1800 ex USA Ax Low Risk	4.0	-3.1	0.3	8.3	-12.3	-8.2	8.0	9.7	9.7	17.5	15.1	14.8
8. STOXX Global 1800 ex USA Ax Momentum	6.0	-11.4	-7.6	10.5	-19.7	-15.5	11.3	18.0	17.8	20.3	23.7	23.2
9. STOXX Global 1800 ex USA Ax Multi-Factor	6.7	-8.8	-5.2	11.2	-17.4	-13.3	11.0	12.9	12.9	20.4	18.4	18.1
10. STOXX Global 1800 ex USA Ax Quality	8.3	-14.1	-11.7	12.8	-22.2	-19.3	16.5	17.2	16.9	26.9	23.0	22.5
11. STOXX Global 1800 ex USA Ax Size	6.9	-10.1	-7.8	11.4	-18.6	-15.6	14.9	15.7	15.5	25.3	22.0	21.4
12. STOXX Global 1800 ex USA Ax Value	7.3	-3.5	0.8	11.8	-12.6	-7.7	13.3	15.0	14.9	22.9	21.3	20.8

Risk and return performance figures for STOXX Factor (Global) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

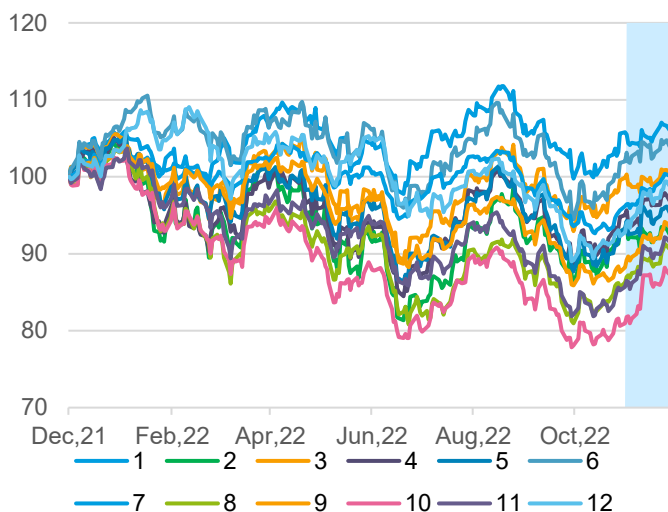


Figure 35: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

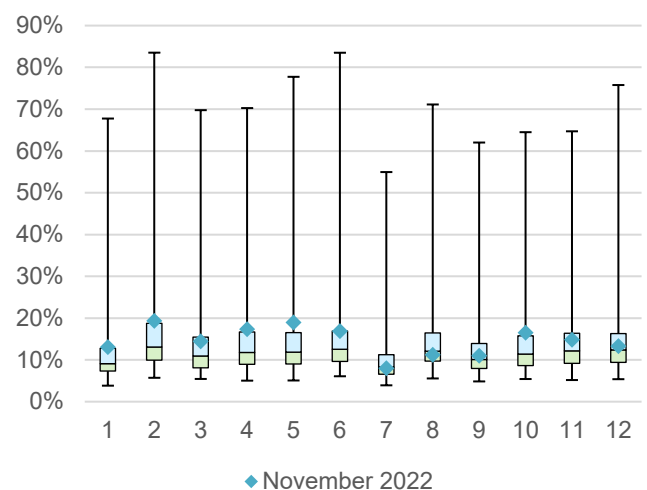


Figure 36: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

Factor indices – Regional: Europe

Key points

Size was the best-performing signal in November among style factors in Europe, according to the STOXX Factor regional indices. Momentum followed closely in terms of returns.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Europe 600 Ax Low Risk	4.3	-7.2	-2.9	8.7	-16.0	-11.2	11.5	14.5	14.3	21.0	20.5	19.9
2. STOXX Europe 600 Ax Momentum	6.6	-15.4	-11.9	11.1	-23.4	-19.4	12.2	23.1	22.7	20.7	29.0	28.3
3. STOXX Europe 600 Ax Multi-Factor	4.5	-18.5	-14.1	8.9	-26.2	-21.4	14.1	20.0	19.6	23.7	26.2	25.5
4. STOXX Europe 600 Ax Quality	6.3	-19.1	-16.2	10.7	-26.8	-23.4	21.6	23.0	22.6	31.6	29.1	28.3
5. STOXX Europe 600 Ax Size	6.7	-18.0	-14.2	11.2	-25.8	-21.5	17.4	22.5	21.8	27.6	28.8	27.8
6. STOXX Europe 600 Ax Value	5.4	-10.8	-5.4	9.7	-19.2	-13.4	15.2	20.8	20.4	24.8	27.0	26.4

Risk and return performance figures for STOXX Factor (Regional) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

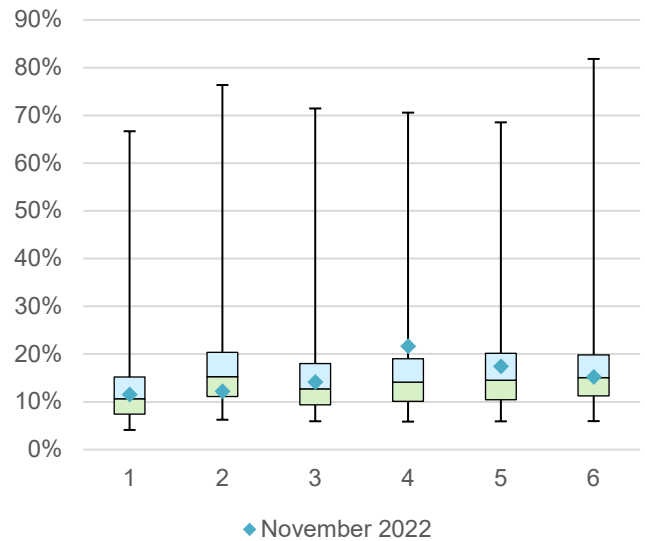


Figure 37: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 38: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

Factor indices – Regional: US

Key points

Within US markets, Size also led gains while Momentum struggled on a relative basis.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX USA 500 Ax Low Risk	1.5	0.3	5.8	5.7	-9.2	-3.2	19.1	20.4	19.9	21.8	20.6	20.1
2. STOXX USA 500 Ax Momentum	-0.8	-4.8	-4.4	3.3	-13.8	-12.6	24.0	25.9	25.6	26.8	27.1	26.5
3. STOXX USA 500 Ax Multi-Factor	1.8	-0.7	2.2	6.0	-10.1	-6.5	21.7	24.0	23.8	24.6	25.0	24.6
4. STOXX USA 500 Ax Quality	1.0	-1.6	0.1	5.3	-10.9	-8.4	25.3	26.0	25.4	29.9	26.7	26.0
5. STOXX USA 500 Ax Size	3.3	-4.7	-0.8	7.6	-13.7	-9.3	24.5	24.8	24.5	28.5	25.9	25.4
6. STOXX USA 500 Ax Value	2.0	-1.0	4.5	6.3	-10.3	-4.4	23.2	23.7	23.2	27.9	25.1	24.5
7. STOXX USA 900 Ax Low Risk	1.5	-0.1	5.4	5.7	-9.6	-3.5	19.1	20.4	19.9	21.9	20.6	20.0
8. STOXX USA 900 Ax Momentum	-1.1	-4.2	-3.1	3.0	-13.2	-11.4	24.0	25.8	25.5	26.7	26.9	26.4
9. STOXX USA 900 Ax Multi-Factor	1.8	-1.9	2.2	6.1	-11.2	-6.5	23.1	24.5	24.2	26.9	25.7	25.2
10. STOXX USA 900 Ax Quality	0.5	-5.0	-3.4	4.7	-14.0	-11.6	25.3	26.5	26.0	29.8	27.3	26.6
11. STOXX USA 900 Ax Size	3.4	-1.7	2.0	7.7	-11.0	-6.7	25.0	24.4	24.0	28.0	25.4	24.8
12. STOXX USA 900 Ax Value	2.1	0.5	6.0	6.4	-9.0	-3.1	23.6	23.8	23.3	28.4	25.3	24.6

Risk and return performance figures for STOXX Factor (Regional) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo

Index and volatility performance

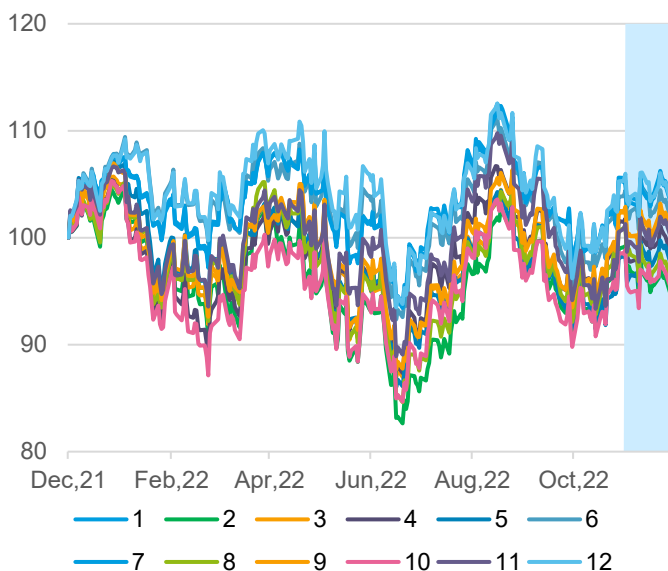


Figure 39: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

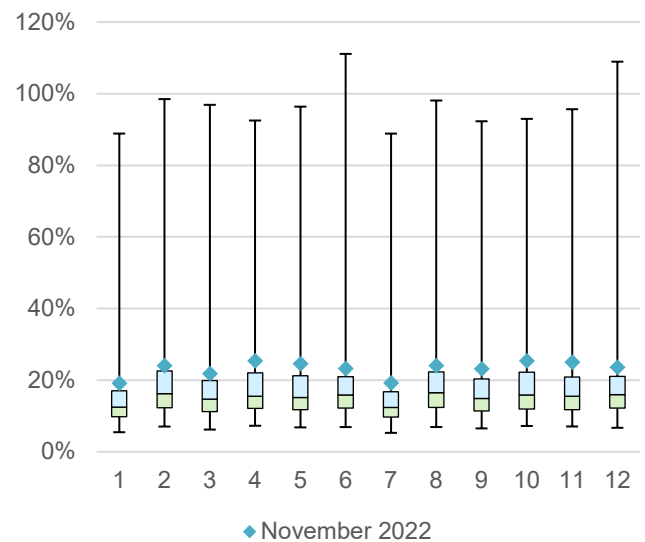


Figure 40: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

Factor indices – Regional: Asia/Pacific

Key points

In Asia/Pacific, Quality was the best-performing signal in November, while Multi-Factor and Value also outperformed. In Japan, Value took the lead. The benchmark [STOXX® Japan 600 index](#) advanced 9.4% in dollars last month.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Asia/Pacific 600 Ax Low Risk	5.5	-1.0	0.4	9.9	-10.4	-8.2	11.4	11.8	11.6	18.5	14.4	14.0
2. STOXX Asia/Pacific 600 Ax Momentum	5.6	-5.6	-2.0	10.0	-14.5	-10.4	13.5	19.0	18.7	21.1	21.9	21.4
3. STOXX Asia/Pacific 600 Ax Multi-Factor	8.5	3.3	6.4	13.0	-6.5	-2.7	12.9	15.0	14.7	19.8	17.2	16.8
4. STOXX Asia/Pacific 600 Ax Quality	9.0	-8.1	-7.0	13.5	-16.8	-15.0	17.9	18.8	18.4	26.2	21.8	21.2
5. STOXX Asia/Pacific 600 Ax Size	6.6	-2.3	-1.9	11.1	-11.6	-10.3	12.3	16.8	16.7	20.4	19.8	19.4
6. STOXX Asia/Pacific 600 Ax Value	7.9	2.3	4.7	12.4	-7.4	-4.2	14.6	16.0	15.8	21.0	18.7	18.2
7. STOXX Japan 600 Ax Low Risk	4.0	-5.4	-4.6	8.3	-14.3	-12.7	14.4	14.9	14.8	20.4	16.9	16.5
8. STOXX Japan 600 Ax Momentum	6.3	-8.3	-6.2	10.8	-17.0	-14.2	17.7	20.3	20.2	23.8	22.6	22.3
9. STOXX Japan 600 Ax Multi-Factor	7.1	3.4	5.0	11.6	-6.4	-4.0	17.0	17.0	16.9	22.6	18.9	18.5
10. STOXX Japan 600 Ax Quality	5.8	-9.3	-10.2	10.2	-17.9	-17.9	20.2	18.9	18.6	26.2	21.3	20.9
11. STOXX Japan 600 Ax Size	5.1	-1.7	-2.4	9.5	-11.0	-10.7	16.2	17.5	17.4	21.4	19.6	19.3
12. STOXX Japan 600 Ax Value	8.1	2.5	3.7	12.6	-7.2	-5.2	18.0	18.7	18.6	24.2	21.1	20.7

Risk and return performance figures for STOXX Factor (Regional) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

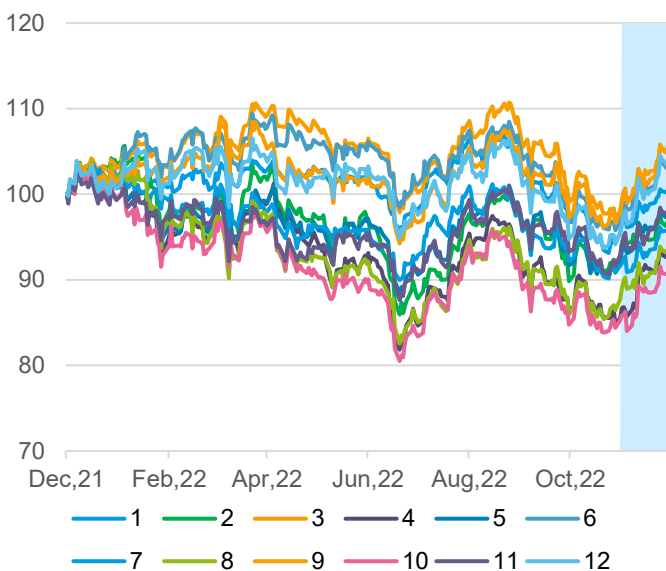


Figure 41: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

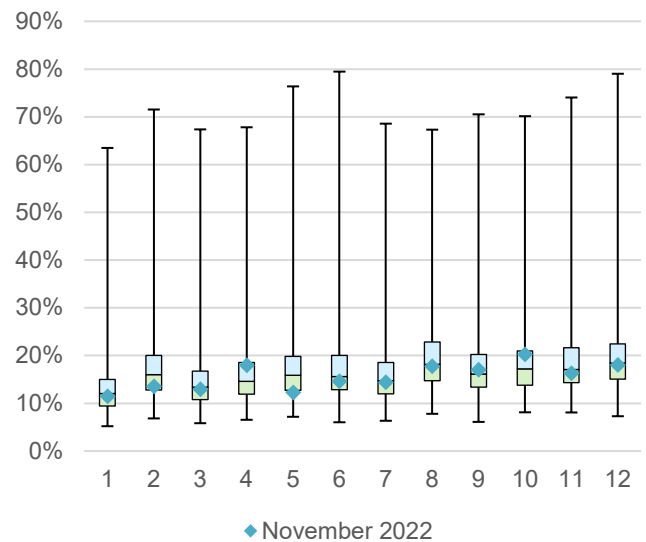


Figure 42: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

ESG-X Factor indices – Global

Key points

The [STOXX® ESG-X Factor indices](#) implement the same factor-based methodology of the STOXX Factor Indices, seeking exposure to five style signals, but do so on slightly smaller universes that exclude stocks based on the responsible policies of leading asset owners.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Global 1800 ESG-X Ax Low Risk	2.1	-0.2	3.9	6.3	-9.6	-5.0	13.5	14.5	14.2	18.7	16.1	15.7
2. STOXX Global 1800 ESG-X Ax Momentum	1.7	-9.3	-8.0	6.0	-17.8	-15.8	20.4	23.4	23.1	25.1	25.8	25.2
3. STOXX Global 1800 ESG-X Ax Multi-Factor	2.2	-5.1	-1.8	6.5	-14.1	-10.2	14.8	17.3	17.2	20.4	19.6	19.2
4. STOXX Global 1800 ESG-X Ax Quality	4.3	-6.3	-3.6	8.7	-15.1	-11.8	17.9	19.4	19.1	25.1	22.0	21.5
5. STOXX Global 1800 ESG-X Ax Size	4.5	-9.0	-5.9	8.8	-17.6	-13.9	19.5	18.9	18.5	25.8	21.9	21.3
6. STOXX Global 1800 ESG-X Ax Value	4.6	-0.3	5.1	9.0	-9.7	-3.8	17.1	17.3	17.1	22.9	20.6	20.1

Risk and return performance figures for STOXX ESG-X Factor (Global) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

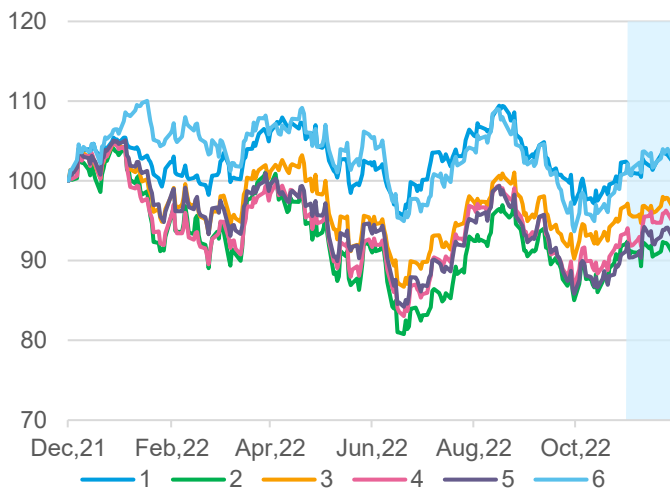


Figure 43: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

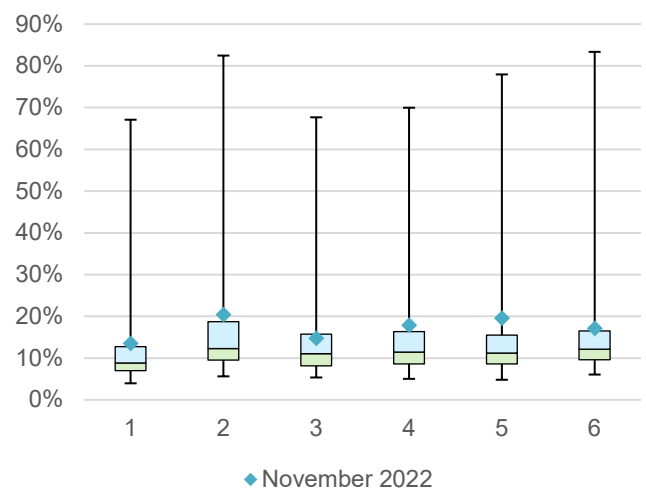


Figure 44: Monthly annualized volatility analysis, EUR gross return Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG-X Factor Indices – Regional: Europe

Key points

In Europe, the [STOXX® Europe 600 ESG-X Ax Momentum](#) index led gains in November.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Europe 600 ESG-X Ax Low Risk	4.6	-9.2	-4.9	8.9	-17.7	-13.0	12.0	15.1	14.8	21.7	21.1	20.5
2. STOXX Europe 600 ESG-X Ax Momentum	7.8	-14.4	-10.7	12.3	-22.5	-18.3	13.4	22.9	22.5	22.6	28.9	28.2
3. STOXX Europe 600 ESG-X Ax Multi-Factor	4.4	-20.5	-16.4	8.7	-28.0	-23.5	15.4	20.2	19.8	25.1	26.3	25.6
4. STOXX Europe 600 ESG-X Ax Quality	6.3	-19.2	-16.2	10.7	-26.8	-23.4	21.8	23.0	22.6	31.8	29.1	28.4
5. STOXX Europe 600 ESG-X Ax Size	6.6	-20.1	-16.9	11.0	-27.7	-24.0	19.8	24.3	23.5	29.9	30.7	29.6
6. STOXX Europe 600 ESG-X Ax Value	5.6	-12.7	-7.8	10.0	-21.0	-15.7	15.5	20.9	20.5	25.3	27.1	26.4

Risk and return performance figures for STOXX ESG-X Factor (Regional) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

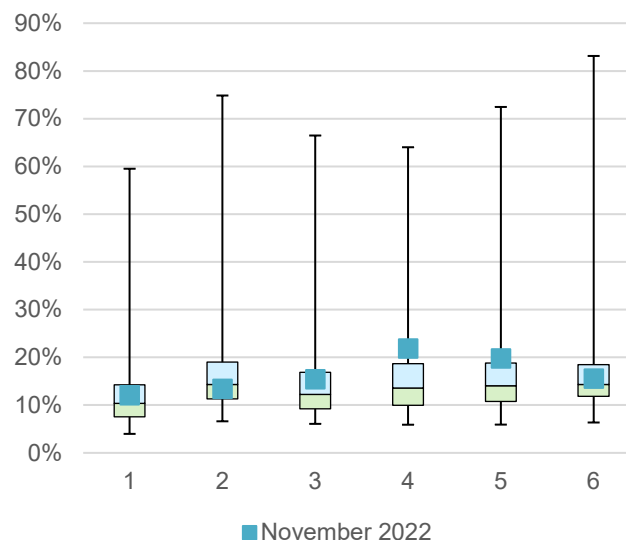


Figure 45: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 46: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG-X Factor indices – Regional: US

Key points

Within the [STOXX® USA 500 ESG-X index](#) and [STOXX® USA 900 ESG-X index](#) universes, the Size factor also showed the best returns in the month and Momentum the weakest.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX USA 500 ESG-X Ax Low Risk	1.5	-1.1	4.0	5.7	-10.5	-4.8	19.7	20.9	20.3	22.8	21.2	20.6
2. STOXX USA 500 ESG-X Ax Momentum	-0.8	-5.5	-5.0	3.3	-14.4	-13.1	24.6	26.2	25.9	27.8	27.4	26.9
3. STOXX USA 500 ESG-X Ax Multi-Factor	1.4	-2.4	1.0	5.6	-11.6	-7.6	22.5	24.7	24.3	26.3	25.8	25.3
4. STOXX USA 500 ESG-X Ax Quality	1.1	-3.8	-2.3	5.3	-12.9	-10.6	26.2	26.8	26.3	31.1	27.6	26.9
5. STOXX USA 500 ESG-X Ax Size	3.5	-5.7	-0.6	7.8	-14.6	-9.1	24.2	25.3	24.9	28.0	26.4	25.8
6. STOXX USA 500 ESG-X Ax Value	2.0	-1.8	3.2	6.3	-11.1	-5.6	23.8	24.0	23.6	28.5	25.5	24.9
7. STOXX USA 900 ESG-X Ax Low Risk	1.5	-1.6	3.6	5.7	-10.9	-5.2	19.8	20.8	20.3	23.0	21.2	20.6
8. STOXX USA 900 ESG-X Ax Momentum	-1.1	-6.4	-5.8	3.0	-15.3	-13.8	24.8	26.3	26.0	27.8	27.5	27.0
9. STOXX USA 900 ESG-X Ax Multi-Factor	1.7	-4.0	-0.2	5.9	-13.1	-8.7	23.9	24.9	24.6	28.1	26.1	25.6
10. STOXX USA 900 ESG-X Ax Quality	0.7	-6.4	-4.9	4.9	-15.3	-13.0	26.1	27.2	26.7	30.9	28.1	27.4
11. STOXX USA 900 ESG-X Ax Size	3.8	-2.7	1.8	8.1	-11.9	-6.9	25.5	24.8	24.4	28.7	25.7	25.2
12. STOXX USA 900 ESG-X Ax Value	2.2	-0.1	5.2	6.5	-9.6	-3.8	24.1	24.2	23.7	29.0	25.7	25.0

Risk and return performance figures for STOXX ESG-X Factor (Regional) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

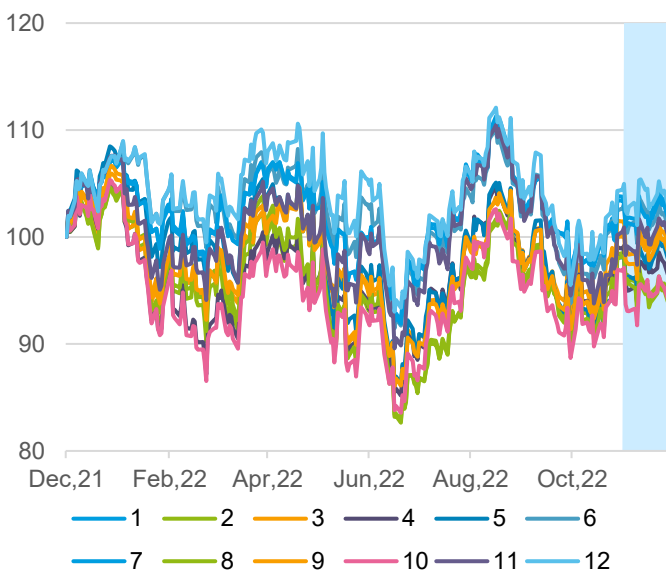


Figure 47: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

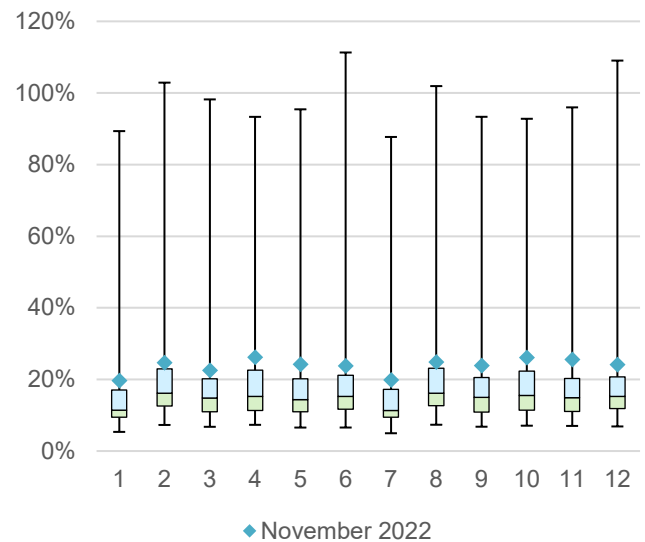


Figure 48: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

ESG-X Factor indices – Regional: Asia/Pacific

Key points

The STOXX ESG-X Factor indices covering the Asia/Pacific and Japan markets showed largely similar performances to the standard factor indices.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Asia/Pacific 600 ESG-X Ax Low Risk	4.6	-2.5	-1.2	9.0	-11.7	-9.7	11.0	11.8	11.7	18.4	14.4	14.0
2. STOXX Asia/Pacific 600 ESG-X Ax Momentum	5.5	-6.1	-2.7	9.9	-15.0	-11.0	14.2	19.2	18.8	21.6	22.1	21.6
3. STOXX Asia/Pacific 600 ESG-X Ax Multi-Factor	8.7	2.2	5.3	13.2	-7.5	-3.6	12.8	15.0	14.8	19.8	17.3	16.8
4. STOXX Asia/Pacific 600 ESG-X Ax Quality	8.9	-8.6	-7.6	13.4	-17.2	-15.4	18.5	18.9	18.5	26.6	22.0	21.4
5. STOXX Asia/Pacific 600 ESG-X Ax Size	7.5	-5.7	-5.7	12.0	-14.6	-13.8	11.3	16.4	16.3	19.5	19.6	19.2
6. STOXX Asia/Pacific 600 ESG-X Ax Value	8.0	1.5	3.9	12.5	-8.1	-4.9	14.8	16.0	15.9	21.1	18.7	18.3
7. STOXX Japan 600 ESG-X Ax Low Risk	3.6	-6.5	-5.8	7.9	-15.3	-13.8	14.5	14.9	14.7	20.4	16.9	16.5
8. STOXX Japan 600 ESG-X Ax Momentum	6.3	-8.2	-6.5	10.7	-16.9	-14.4	17.5	20.2	20.1	23.7	22.6	22.3
9. STOXX Japan 600 ESG-X Ax Multi-Factor	6.9	0.6	2.8	11.4	-8.9	-5.9	16.8	17.2	17.0	22.5	19.1	18.8
10. STOXX Japan 600 ESG-X Ax Quality	5.7	-9.6	-10.5	10.1	-18.1	-18.1	20.4	19.0	18.7	26.4	21.4	21.0
11. STOXX Japan 600 ESG-X Ax Size	4.4	-2.4	-3.3	8.8	-11.6	-11.6	15.7	17.1	17.1	21.1	19.3	19.0
12. STOXX Japan 600 ESG-X Ax Value	8.3	0.9	1.8	12.8	-8.7	-6.9	18.4	18.9	18.7	24.4	21.3	20.9

Risk and return performance figures for STOXX ESG-X Factor (Regional) indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

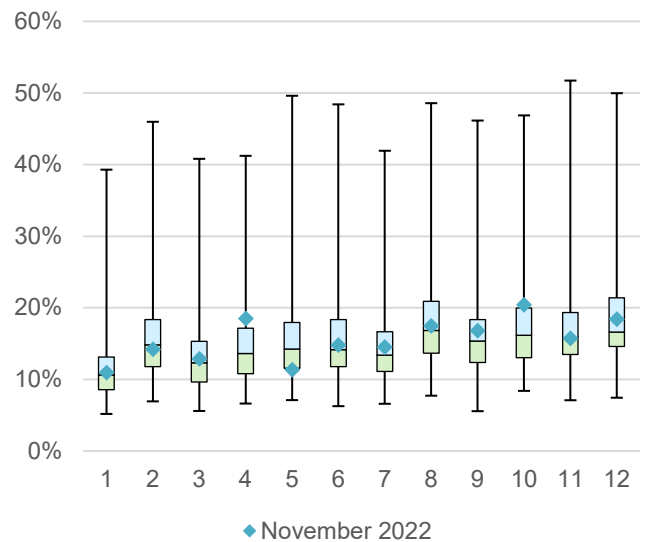
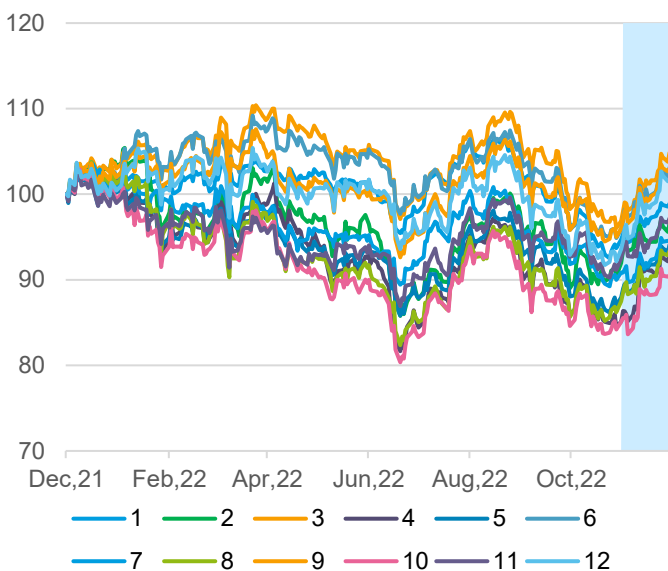


Figure 49: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 50: Monthly annualized volatility analysis, EUR gross return. Apr. 2012 – Nov. 2022. Source: Qontigo.

Industry Neutral Factor indices

Key points

The STOXX Industry Neutral Single and Multi-Factor indices aim to harvest the risk premia of several academically validated style factors — Value, Momentum, Quality, Size and Low Risk — within each ICB industry.

The indices rely on Axioma’s proven factor models and keep the same industry allocation as the respective benchmarks, helping remove unintended industry exposures and enabling access to the ‘pure’ return of the factor.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Europe 600 Industry Neutral Ax Low Risk	4.9	-6.2	-1.9	9.3	-15.1	-10.3	12.0	14.5	14.3	21.1	20.5	19.9
2. STOXX Europe 600 Industry Neutral Ax Momentum	7.2	-15.6	-11.4	11.7	-23.6	-19.0	13.4	23.0	22.5	22.5	29.1	28.3
3. STOXX Europe 600 Industry Neutral Ax Multi-Factor	4.7	-13.6	-8.4	9.1	-21.8	-16.2	13.9	19.4	19.0	23.6	25.6	24.9
4. STOXX Europe 600 Industry Neutral Ax Quality	6.3	-16.5	-13.4	10.8	-24.4	-20.8	20.5	21.7	21.3	30.5	27.8	27.1
5. STOXX Europe 600 Industry Neutral Ax Size	6.7	-17.6	-13.9	11.2	-25.4	-21.2	18.4	22.5	21.9	28.8	28.9	28.0
6. STOXX Europe 600 Industry Neutral Ax Value	6.3	-8.0	-2.3	10.8	-16.7	-10.6	14.7	21.3	20.9	24.4	27.4	26.8
7. STOXX USA 500 Industry Neutral Ax Low Risk	1.6	1.9	7.6	5.8	-7.7	-1.6	19.5	20.4	19.9	22.5	20.7	20.1
8. STOXX USA 500 Industry Neutral Ax Momentum	0.1	-6.9	-7.7	4.2	-15.7	-15.6	23.0	26.4	26.1	26.1	27.4	26.9
9. STOXX USA 500 Industry Neutral Ax Multi-Factor	0.7	-1.4	1.4	5.0	-10.8	-7.2	21.1	23.6	23.4	24.2	24.4	24.0
10. STOXX USA 500 Industry Neutral Ax Quality	0.9	-5.1	-3.3	5.1	-14.0	-11.5	24.3	25.5	25.1	28.5	26.2	25.6
11. STOXX USA 500 Industry Neutral Ax Size	2.6	-6.9	-3.2	6.9	-15.7	-11.4	24.1	25.2	24.8	27.9	26.2	25.6
12. STOXX USA 500 Industry Neutral Ax Value	1.2	-2.8	2.4	5.5	-12.0	-6.3	23.6	23.9	23.5	28.3	25.2	24.7

Risk and return performance figures for STOXX Industry Neutral Factor indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

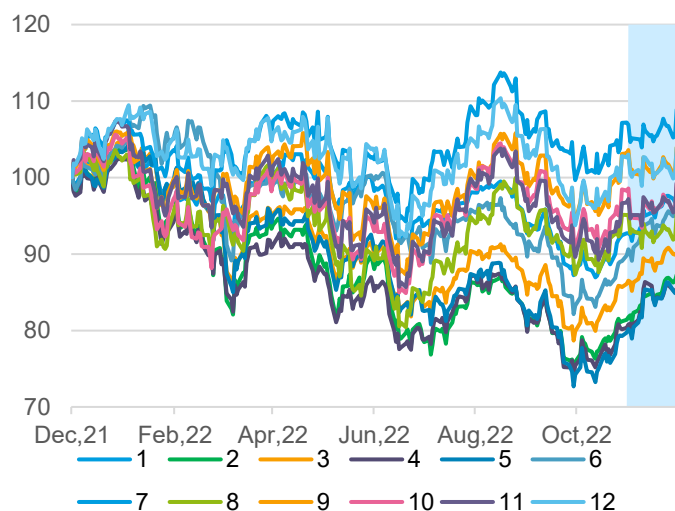


Figure 51: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

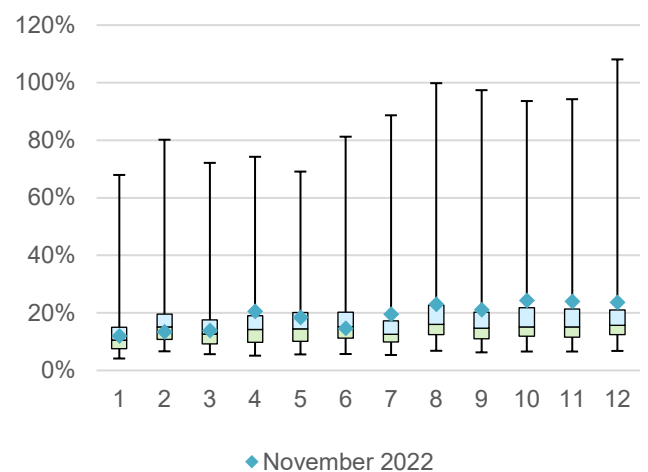


Figure 52: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

Europe Factor Market Neutral indices

Key points

The [iSTOXX® Europe Factor Market Neutral indices](#) assume a short position in STOXX Europe 600 futures to help investors neutralize systematic risk and tap exposure to pure factor investing.

Risk and return characteristics

	(EUR) Return (%)			(EUR) Annualized volatility (%)		
	1M	YTD	1Y	1M	YTD	1Y
1. iSTOXX Europe Carry Factor Market Neutral	-1.4	-4.8	-5.9	3.7	4.1	4.1
2. iSTOXX Europe Low Risk Factor Market Neutral	-0.8	2.6	2.8	3.4	4.4	4.4
3. iSTOXX Europe Momentum Factor Market Neutral	0.3	-3.4	-4.1	6.0	4.7	4.7
4. iSTOXX Europe Quality Factor Market Neutral	-1.0	-0.6	-0.7	4.2	3.9	3.9
5. iSTOXX Europe Size Factor Market Neutral	-1.2	-5.1	-6.4	7.7	6.4	6.4
6. iSTOXX Europe Value Factor Market Neutral	-0.6	-11.0	-11.8	8.6	6.4	6.3
7. iSTOXX Europe Multi-Factor Market Neutral	-0.8	-1.5	-1.7	4.0	4.5	4.6

Risk and return performance figures for iSTOXX Europe Factor Market Neutral indices, net return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

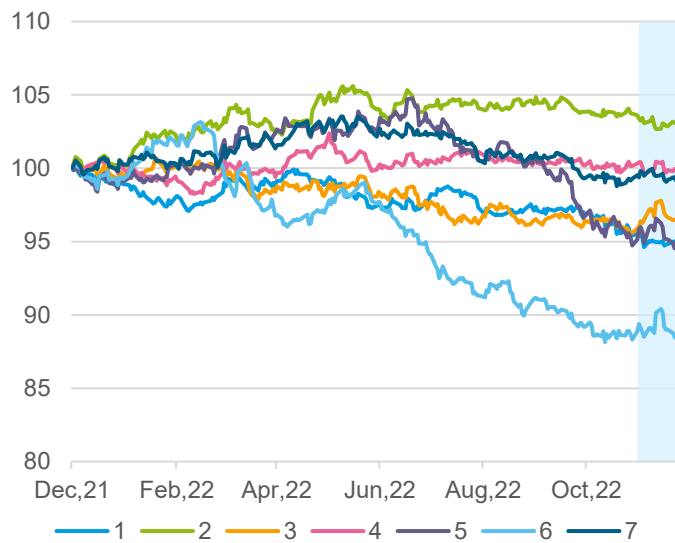


Figure 53: EUR net return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

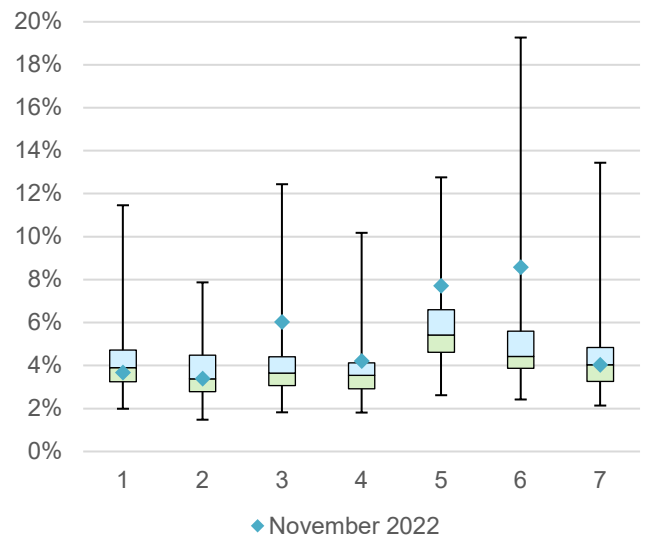


Figure 54: Monthly annualized volatility analysis, EUR net return. Aug. 2010 – Nov. 2022. Source: Qontigo.

Minimum Variance indices

Key points

There were strong relative performances from [Minimum variance strategies](#) covering global markets last month. The STOXX Minimum Variance indices come in two versions. A constrained version has similar exposure to its market-capitalization-weighted benchmark but with lower risk. The unconstrained version, on the other hand, has more freedom to fulfill its [minimum variance mandate](#) within the same universe of stocks.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Europe 600 MV	4.7	-10.5	-6.0	9.0	-19.0	-14.0	13.0	15.9	15.5	21.9	22.1	21.4
2. STOXX Europe 600 MV Unconstrained	3.4	-9.0	-4.3	7.7	-17.6	-12.5	9.7	13.4	13.1	17.9	19.3	18.7
3. STOXX Global 1800 MV	3.9	2.7	6.9	8.3	-7.0	-2.2	11.9	13.7	13.5	14.9	14.5	14.2
4. STOXX Global 1800 MV Unconstrained	4.9	1.2	5.8	9.3	-8.4	-3.3	7.3	9.5	9.4	12.7	11.2	10.9
5. STOXX USA 900 MV	1.4	9.5	13.8	5.6	-0.9	4.1	16.4	17.4	17.1	15.3	16.8	16.4
6. STOXX USA 900 MV Unconstrained	0.7	12.9	20.1	4.9	2.2	9.8	14.6	16.2	15.8	12.6	15.4	15.0

Risk and return performance figures for STOXX Minimum Variance indices, gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

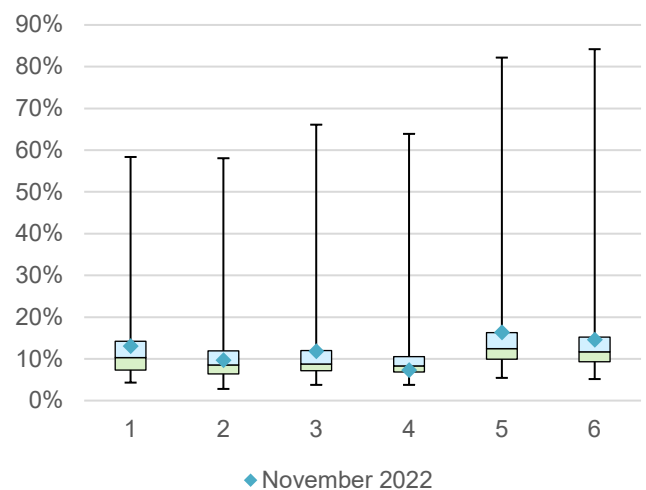
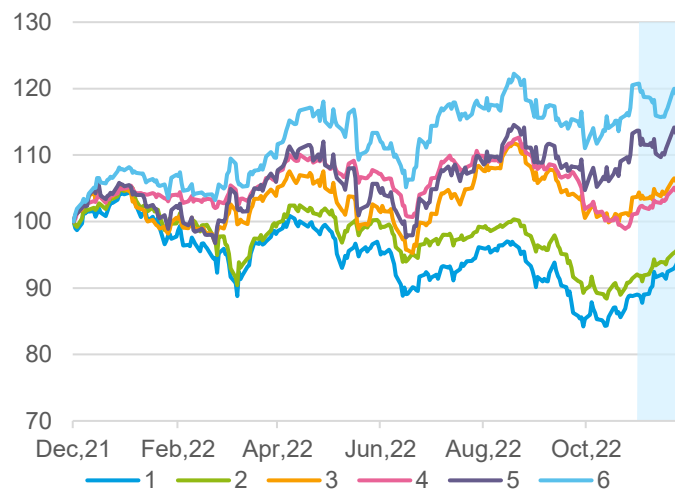


Figure 55: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 56: Monthly annualized volatility analysis, EUR gross return. Jan. 2004 – Nov. 2022. Source: Qontigo.

Dividend indices

Key points

[Dividend strategies](#) outperformed last month.

The [STOXX® Global Maximum Dividend 40 index](#) selects only the highest-dividend-yielding stocks. The [STOXX® Global Select Dividend 100 index](#), meanwhile, tracks companies with sizeable dividends but also applies a quality filter such as a history of stable payments. The [STOXX® Global ESG-X Select Dividend 100 index](#) targets the highest-yielding stocks within universes screened for responsible investment criteria.

The [STOXX® Global Select 100 EUR index](#) blends increasing dividend yields with low volatility and is calculated in euros.

Risk and return characteristics

	Return (%)						Annualized volatility (%)					
	EUR			USD			EUR			USD		
	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y	1M	YTD	1Y
1. STOXX Global Maximum Dividend 40 ¹	5.5	6.3	13.4	9.9	-3.8	3.7	13.1	17.5	17.1	20.8	22.4	21.7
2. STOXX Global Select Dividend 100	7.4	2.3	7.4	11.9	-7.3	-1.7	10.6	11.9	11.8	19.5	17.1	16.6
3. STOXX Global ESG-X Select Dividend 100	7.3	2.7	7.7	11.8	-7.0	-1.5	10.5	12.3	12.1	19.4	17.5	17.0
4. STOXX Global Select 100 EUR	4.8	0.0	3.9				7.2	8.8	8.7			

Risk and return performance figures for STOXX Dividend indices, gross return except when shown. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

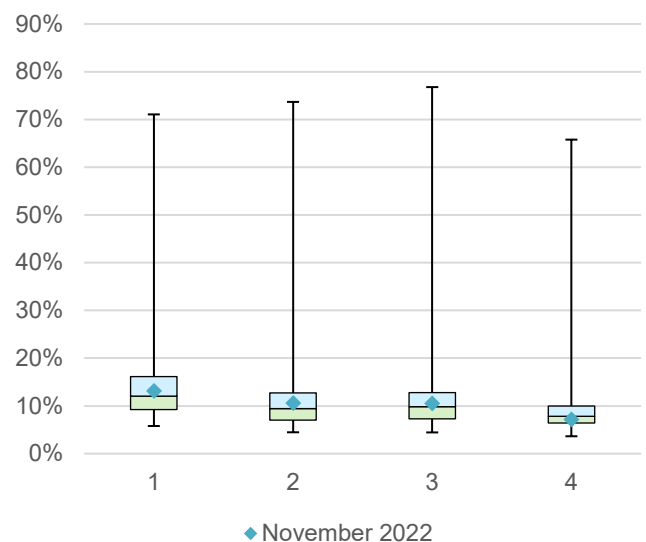
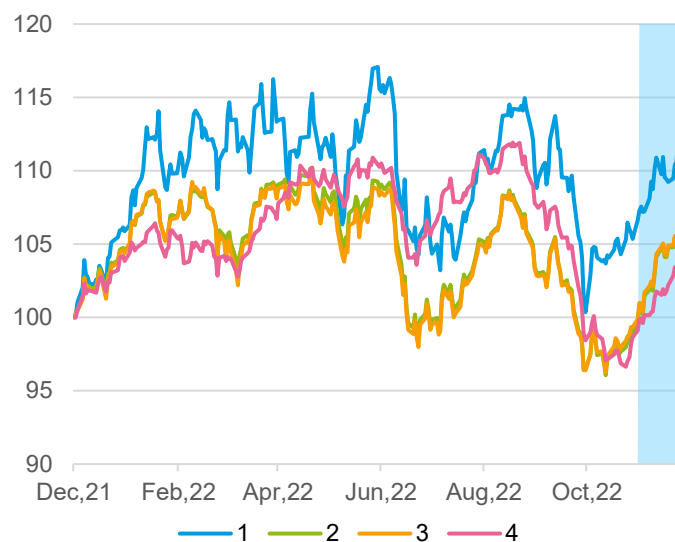


Figure 57: Annual price performance, EUR net return for 1; EUR gross return for 2-4. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

Figure 58: Monthly annualized volatility analysis. EUR net return for 1; EUR gross return for 2-4. Apr. 2012 – Nov. 2022. Source: Qontigo.

¹ EUR net return and USD net return used for STOXX Maximum Dividend 40.

Volatility indices

Key points

European equity volatility eased slightly in November, as measured by the [EURO STOXX 50® Volatility \(VSTOXX®\) index](#) and [VDAX-New® index](#). The [EURO STOXX 50® Volatility of Volatility index \(V-VSTOXX\)](#) increased.

The VSTOXX and VDAX measure the implied volatility of EURO STOXX 50 index and DAX index options, respectively, across their entire expiration curve. The V-VSTOXX measures the implied volatility of options on VSTOXX futures, hence reflecting expectations regarding the volatility of volatility. All three are significantly lower than their March 2020 peaks. The VSTOXX, for example, rose to 86 in March 2020.

The correlation between the VSTOXX and VDAX and share prices has become less negative in recent months compared to earlier this year.

Risk and return characteristics

	Index Level			Correlation	
	T	T-1M	T-12M	1M	1Y
1. VSTOXX	21.2	24.8	30.1	-0.7	-0.8
2. V-VSTOXX	76.1	72.5	127.1	-0.5	-0.7
3. VDAX	21.7	25.2	27.5	-0.6	-0.8

Index levels for STOXX and DAX Volatility indices. Correlation for VSTOXX and V-VSTOXX compared with EURO STOXX 50 price return, and VDAX relative to DAX gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

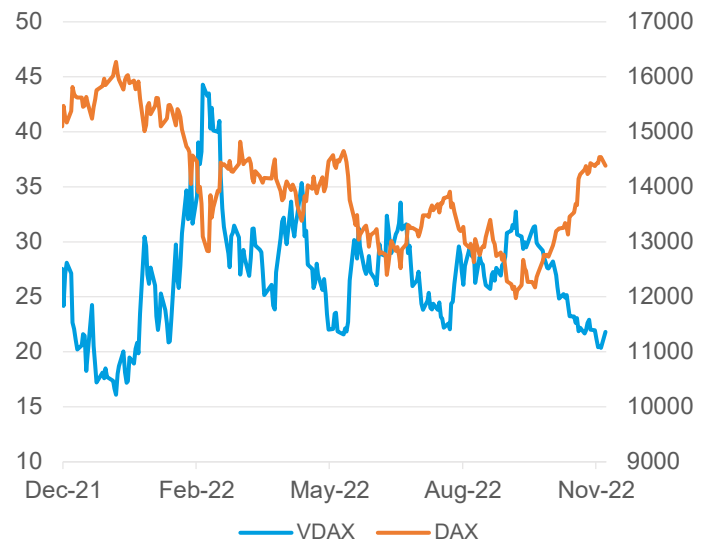
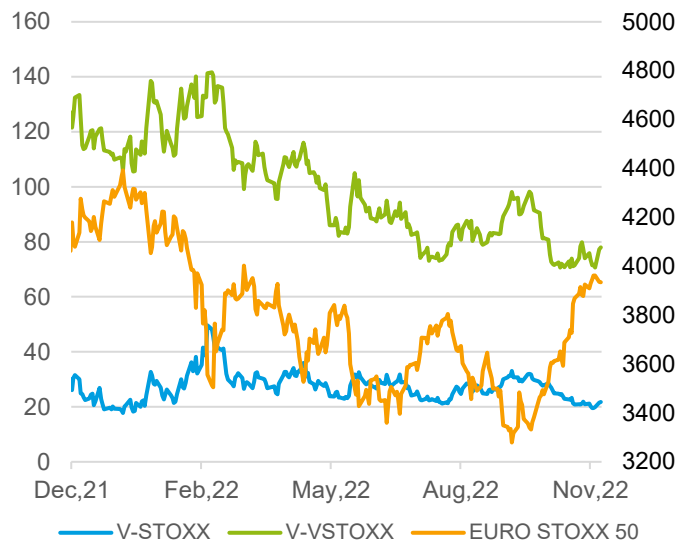


Figure 59: VSTOXX and V-VSTOXX (primary axis). EURO STOXX 50 price return Index (secondary axis). Dec. 2021 – Nov. 2022. Source: Qontigo.

Figure 60: VDAX (primary axis). DAX gross return index (secondary axis). Dec. 2021 – Nov. 2022. Source: Qontigo.

Volatility Strategy indices

Key points

The [VSTOXX® Short-Term Futures](#) and [VSTOXX® Mid-Term Futures](#) indices, which track the return from a rolling long position in VSTOXX futures contracts on Eurex, had negative returns in the month that ended. The [EURO STOXX 50® Investable Volatility index](#), which measures forward implied volatility in the Eurozone equity market, also fell.

The [Dynamic VSTOXX® index](#) dropped 1.5% in the month. The index combines the VSTOXX Short-Term Futures index and the VSTOXX Mid-Term Futures index to exploit the superior performance of short-term futures when the volatility forward curve is in backwardation and of mid-term futures when the volatility forward curve is in contango.

Lastly, the [EURO STOXX 50® Volatility-Balanced index](#) rose 9%. The index combines investments in the EURO STOXX 50 and in the VSTOXX Short-Term Futures index.

Risk and return characteristics

	(EUR) Return (%)			(EUR) Annualized volatility (%)		
	1M	YTD	1Y	1M	YTD	1Y
1. EURO STOXX 50 Investable Volatility	-16.7	7.3	-4.0	29.5	54.0	53.6
2. VSTOXX Short-Term Futures	-17.1	-9.2	-29.7	32.1	68.5	71.9
3. VSTOXX Mid-Term Futures	-9.6	13.2	2.7	17.1	30.3	31.5
4. Dynamic VSTOXX	-1.5	0.6	-1.7	5.6	19.3	19.0
5. EURO STOXX 50 Volatility-Balanced	9.0	-0.1	-1.1	14.9	18.6	18.6

Risk and return performance figures for STOXX Volatility Strategy indices, EUR gross return. Data as of Nov. 30, 2022. Source: Qontigo.

Index and volatility performance

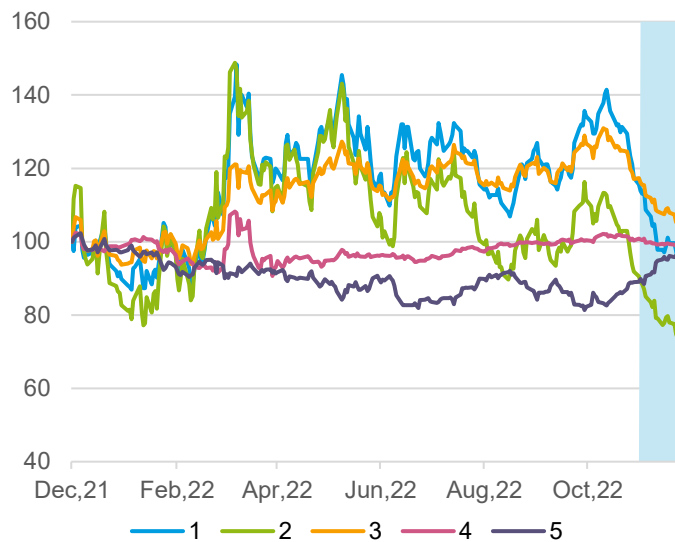


Figure 61: EUR gross return index performance. Dec. 2021 – Nov. 2022. Shaded area: Nov. 2022. Source: Qontigo.

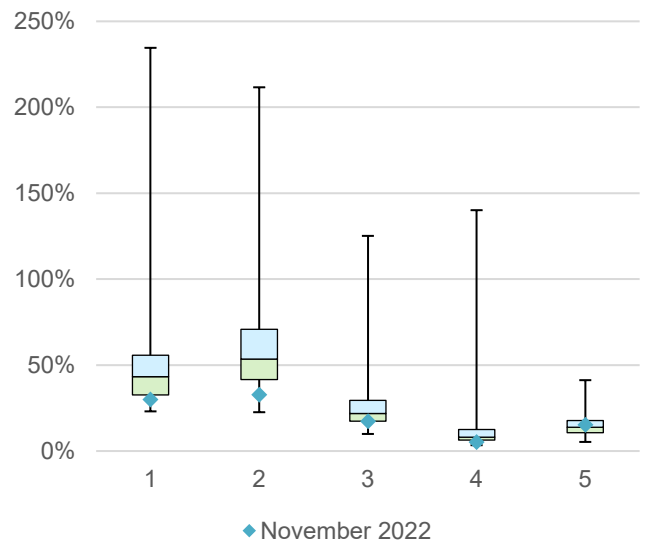


Figure 62: Monthly annualized volatility analysis, EUR gross return. Jun. 2010 – Nov. 2022. Source: Qontigo.

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