

Futures on iSTOXX[®] Europe Factor Indices

March 2021



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Value Proposition

Gain Exposure to European Factors

- STOXX® Europe 600 established as Europe's leading broad yet tradable benchmark
- iSTOXX® Europe Factor Indices offer investors easy access to a single approach to extract highest exposure from each factor

On-screen Liquidity

- Market Makers support liquidity with on-screen prices and via the Trade Entry Services

One-Stop Shop

- Eurex offers the entire STOXX® index family (Eurozone & pan-European)
- Blue chip & broadbased, small, mid & large caps, sectors as well as dividend-weighted and Factor Indices

U.S. Availability

- All contracts are CFTC approved for direct market access from U.S.

Margin Efficiencies

- Benefit from high netting effects across all index products and single names, e.g. STOXX® Europe 600 vs. iSTOXX® Europe Factor Indices

Market Trend

- Innovative product supporting current investment trends

Trade Entry Services & Flexible Trading

- Trade Entry Service facilitated by all major brokers, with a Minimum Block Trade Size of 1 lot
- Define your expiration date more precisely

The Traditional Choice – Active vs Passive (1/2)

Evolution in indexing has filled the gap between active and passive investing

Historically only two choices:

Passive Management

Assumption:

Markets are efficient, low-cost capitalization-weighted index funds

Limitations:

- Systematically overweighs the most overvalued securities
- Expose investors to the idiosyncratic risk of the most weighted stocks

Active Management

Assumption:

Markets are inefficient, confident the manager can outperform

Limitations:

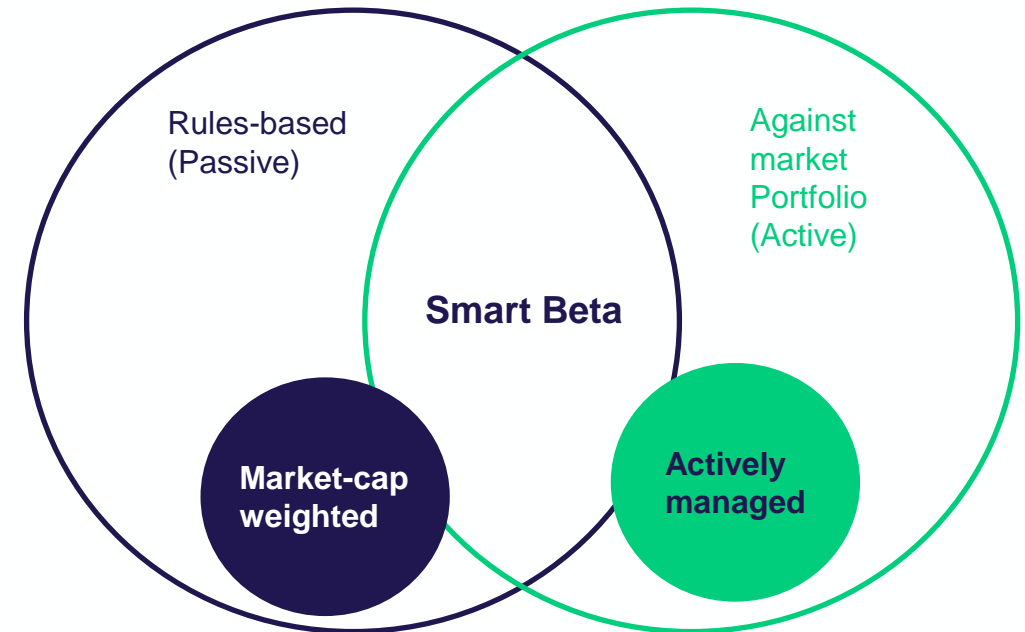
- Lack of transparency
- Higher fees
- Tend to underperform the benchmark over long time periods

The Traditional Choice – Active vs Passive (2/2)

Evolution in indexing has filled the gap between active and passive investing

Third choice – Factor Investing or “Smart Beta”

- Transparent and rules-based
- Not weighted/selected by market capitalization (vs. traditional indices)
- Typically focus on specific systematic risk factors
- Behavioural anomalies or structural inefficiencies
- Designed to enhance returns or reduce portfolio risk
- Combine risk factors to obtain multi-strategy exposure



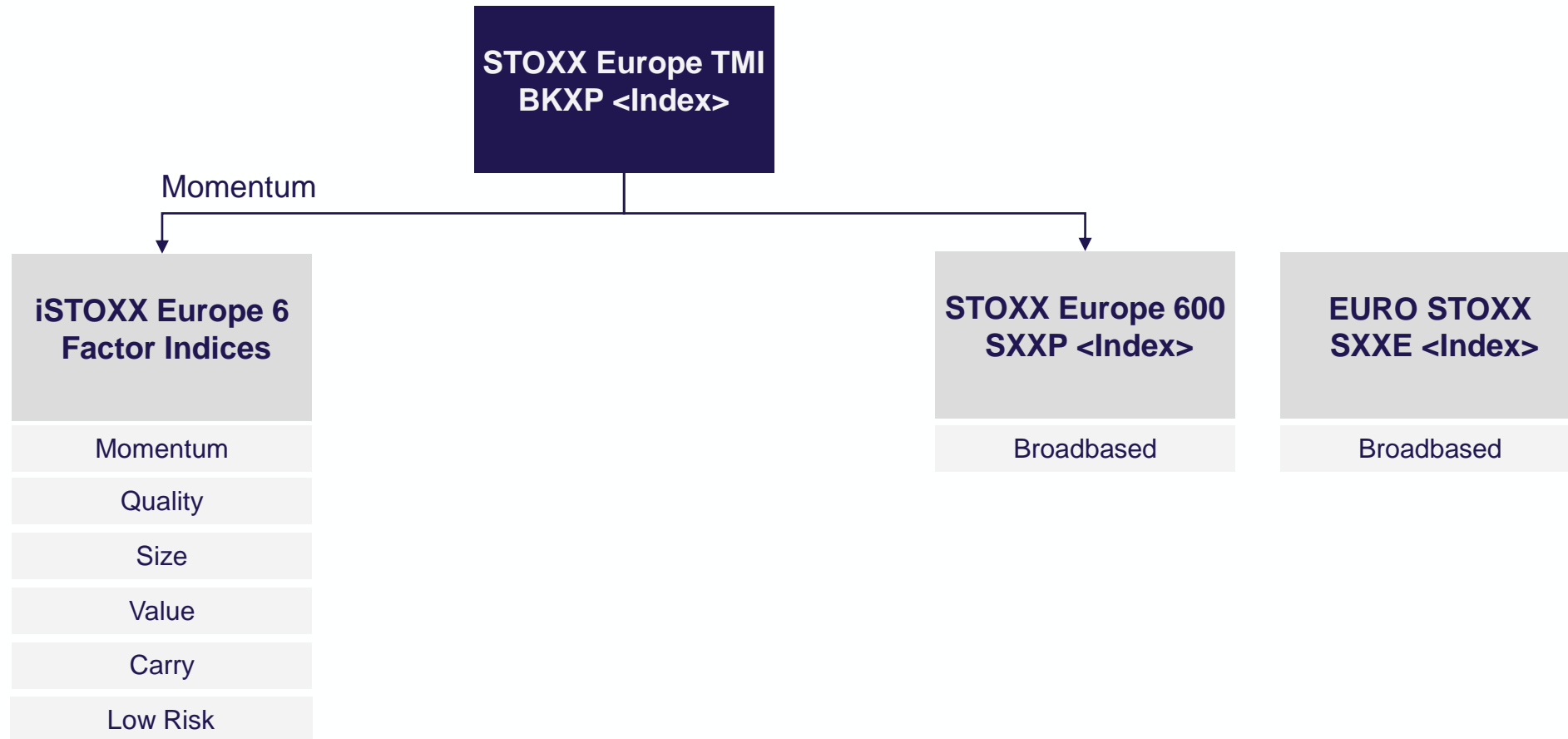
The iSTOXX® Europe Factor Index Futures

Opportunity with an investable access to factor risk premia

- Evolution in indexing has filled the gap between active and passive investing
- The iSTOXX® index concept developed by STOXX® and Alpha Centauri is a unique and innovative way to target and capture premia of six well-documented sources of systematic risk: **Momentum, Quality, Size, Value, Carry and Low Risk**
- In comparison to competitors iSTOXX® indices additionally offer investors extraordinary transparency through historical risk statistics, monthly risk scans and scenario analytics
- Selection process & optimization:
 - Designed to maximize the exposure to the respective targeted factor
 - Subject to a series of constraints chosen to achieve the best tradability/factor replication trade-off
- Great source of diversification:
 - When used in addition to STOXX® Europe 600 benchmark
- The STOXX® Europe 600 Index Futures (FXXP) – used as the benchmark for the iSTOXX® Europe Factor indices – today has established itself as the broader benchmark for Europe (ADV 2020: 91,639 contracts)

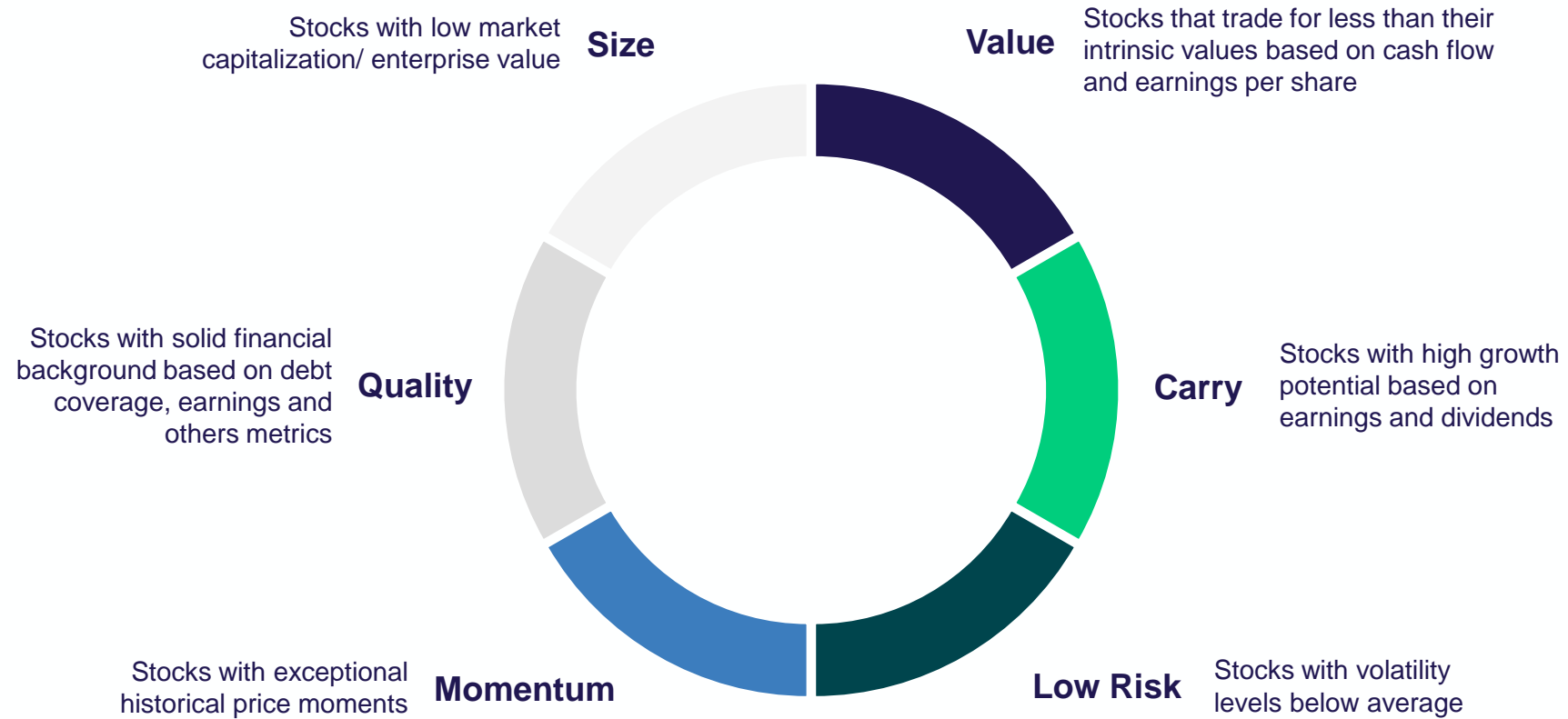
iSTOXX[®] Europe Factor Indices (1/3)

The iSTOXX[®] Europe Factor Index Futures offer six different dimensions



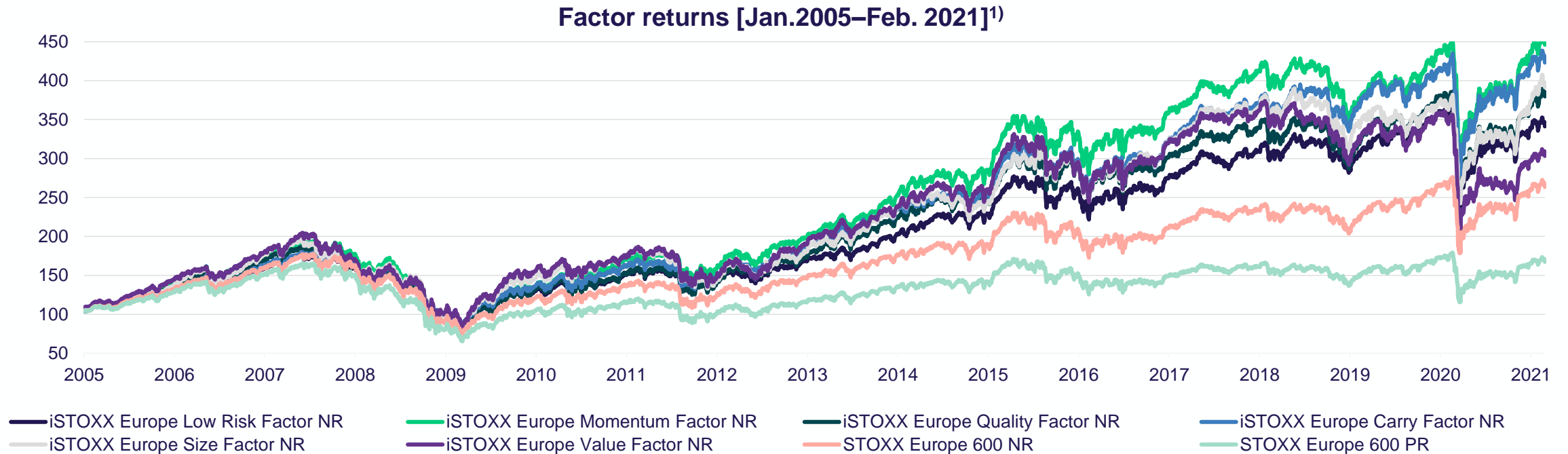
iSTOXX[®] Europe Factor Indices (2/3)

The iSTOXX[®] Europe Factor Index Futures offer six different dimensions



iSTOXX® Europe Factor Indices (3/3)

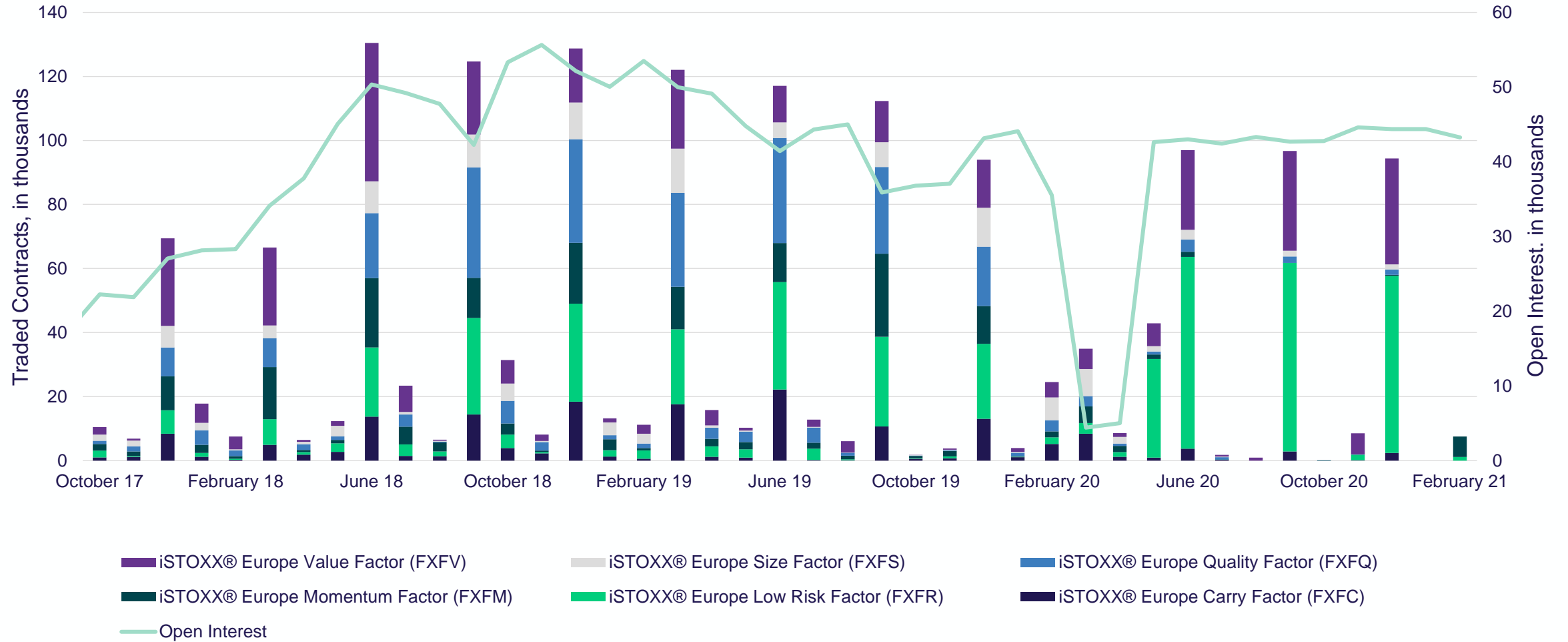
Performance of iSTOXX Europe Factor Indices



- Figure displays the historical development of iSTOXX Europe Single Factor Indices over a time period ranging from Jan. 2005 to Feb.2021
- It is clearly visible that the six sources of risk have been a significant source of return over the time period observed
- As a result, investors would have been compensated for being exposed to those additional sources of risk

1) iSTOXX Europe Factor Indices and Market performance in EUR.
All performance figures, except the STOXX Europe 600 PR, consider Net Return figures. STOXX Europe 600 PR uses Price data.

Traded Contracts and Open Interest



Factor Index Futures Product Suite at Eurex

Eurex now offers tradable factor investing covering Europe and USA

Index Name	Curr	Index type	US allowed	ISIN	Index code	Eurex contract code Futures	Multiplier	Minimum Block Trade Size	Tick Size	Tick Value	Notional Value per Contract*	Fees (OB/TES)
iSTOXX Europe factor index futures												
iSTOXX Europe Low Risk Factor	EUR	Net Return	Yes	CH0316370227	ISERRER	FXFR	50	10	0.1	5	-	0.30/0.45 €
iSTOXX Europe Momentum Factor	EUR	Net Return	Yes	CH0316370250	ISEMFER	FXFM	50	10	0.1	5	-	0.30/0.45 €
iSTOXX Europe Quality Factor	EUR	Net Return	Yes	CH0316370284	ISEQFER	FXFQ	50	10	0.1	5	-	0.30/0.45 €
iSTOXX Europe Size Factor	EUR	Net Return	Yes	CH0316370318	ISEZFER	FXFS	50	10	0.1	5	-	0.30/0.45 €
iSTOXX Europe Value Factor	EUR	Net Return	Yes	CH0316370342	ISEVFER	FXFV	50	10	0.1	5	4.78	0.30/0.45 €
iSTOXX Europe Carry Factor	EUR	Net Return	Yes	CH0316370193	ISECFER	FXFC	50	10	0.1	5	-	0.30/0.45 €
Related products											(EUR)	
STOXX Europe 600 (Benchmark)	EUR	Price	Yes		SXXP	FXXP	50	100	0.02	1	18.352	0.30/0.45 €
MSCI USA factor Index futures											(USD)	
MSCI USA (Benchmark)	USD	Net Total Return	Yes		M2US	FMUS	10	10	1.0	10	94.699	0.50/0.75 \$
MSCI USA Equal Weighted	USD	Net Total Return	Yes		M1USEWR	FMUE	10	1	1.0	10	-	0.50/0.75 \$
MSCI USA Momentum	USD	Net Total Return	Yes		M1US000\$	FMUM	10	10	1.0	10	33.685	0.50/0.75 \$
MSCI USA Quality	USD	Net Total Return	Yes		M1USQU	FMUQ	10	10	1.0	10	-	0.50/0.75 \$
MSCI Value Weighted	USD	Net Total Return	Yes		M1USVWGT	FMUV	10	10	1.0	10	28.196	0.50/0.75 \$

*as of 1st September 2020

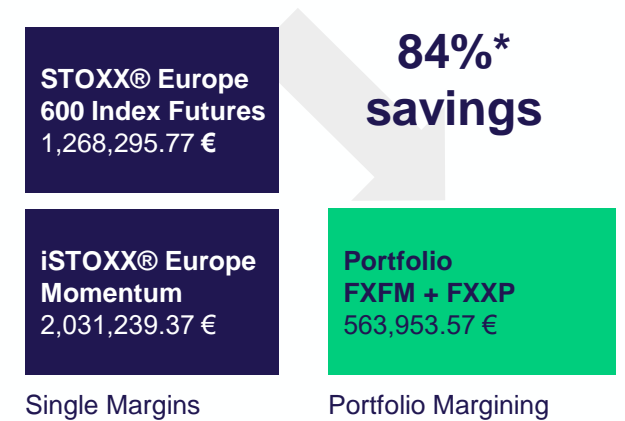
Contract Specifications

iSTOXX® Europe Factor Index Futures (in comparison to benchmark STOXX® Europe 600)

	iSTOXX® Europe Factor Index Futures	STOXX® Europe 600 Index Futures (FXFP)				
Underlying Index	iSTOXX® Europe Low Risk, Momentum, Quality, Size Value, Carry	STOXX® Europe 600 Index				
Index Type	Net Return Index	Price Index				
Contract Value	EUR 50 per index point					
Tick Value	5 EUR; 1 EUR for calendar spread					
Price Quotation	In points with two decimal place					
Minimum Price Change	0.1 index points; 0.02 for calendar spread					
Contract Months	Up to 9 months; 3 quarterly months					
Settlement	Cash settlement, payable on the first exchange day following the final settlement day					
Final Settlement Price	Based on the average of the respective iSTOXX®/ STOXX® index calculations from 11:50-12:00 CET					
Last Trading Day and Final Settlement Day	3rd Friday of each maturity month if this is an exchange day; otherwise the exchange day immediately preceding that day. Close of trading in the maturity futures on the last day is at 12:00 CET.					
Continuous/ TES	08:00-22:00 CET					
Flexible Contracts	Available					
Min. Block Trade Size	10 contracts	100 contracts				
Fees	0.30 EUR (order-book) – 0.45 EUR (off-book)					
Contract/ Vendor Codes (iSTOXX Europe)	Low Risk Eurex: FXFR BBG: XLRA Index Reuters: 0XFXFR:	Momentum Eurex: FXFM BBG: FXWA Index Reuters: 0#FXFM:	Quality Eurex: FXFQ BBG: FXOA Index Reuters: 0#FXFQ:	Size Eurex: FXFS BBG: FXEA Index Reuters: 0#FXFS:	Value Eurex: FXFV BBG: FXFR Index Reuters: 0#FXFV:	Carry Eurex: FXFC BBG: FKSA Index Reuters: 0~FXFC:

Portfolio FXFM vs. FXXP

With Eurex Clearing's PRISMA Portfolio Margining, trading for example the STOXX® 600 Index Futures vs. iSTOXX® Europe Factor Index Futures, enables you to benefit from netting effects



Product	Eurex ID	Long	Short	Maturity	Margin Total (in EUR)	Portfolio Margin Total (in EUR)	Margin savings
iSTOXX® Europe Momentum Factor Futures	FXFM	3,600	0	March 2021	2,031,239.37	563,953.57	84%*
STOXX® Europe 600 Index Futures	FXXP	0	1,150	March 2021	1,268,295.77		

Calculation date: 8th March 2021

*Disclaimer: In compliance with regulations, margin savings are capped at 82%, the exceedance is charged via supplementary margin.

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Screen Prices

Contract	Curr	CPrevSetlPrc	CNetChg	SetlPrcNetChg	CBQty	CBid	CAsk	CAQty
FXFC Mar21	EUR	150.800			141	151.0	151.7	194
FXFM Mar21	EUR	139.200			135	139.2	139.8	94
FXFQ Mar21	EUR	136.800			236	136.3	137.0	136
FXFR Mar21	EUR	140.200			141	140.0	140.7	136
FXFS Mar21	EUR	136.600			135	136.9	137.7	135
FXFV Mar21	EUR	108.500			41	108.4	108.9	95
FXXP Mar21	EUR	406.1000	0.8000	-0.5000	113	405.50	405.60	183

- **FXFC** = Futures on iSTOXX Europe Carry Factor Index
- **FXFM** = Futures on iSTOXX Europe Momentum Factor Index
- **FXFS** = Futures on iSTOXX Europe Size Factor Index
- **FXFR** = Futures on iSTOXX Europe Low Risk Factor Index
- **FXFQ** = Futures on iSTOXX Europe Quality Factor Index
- **FXFV** = Futures on iSTOXX Europe Value Factor Index
- **FXXP** = Futures on STOXX Europe 600 Index

STOXX Europe Index Family

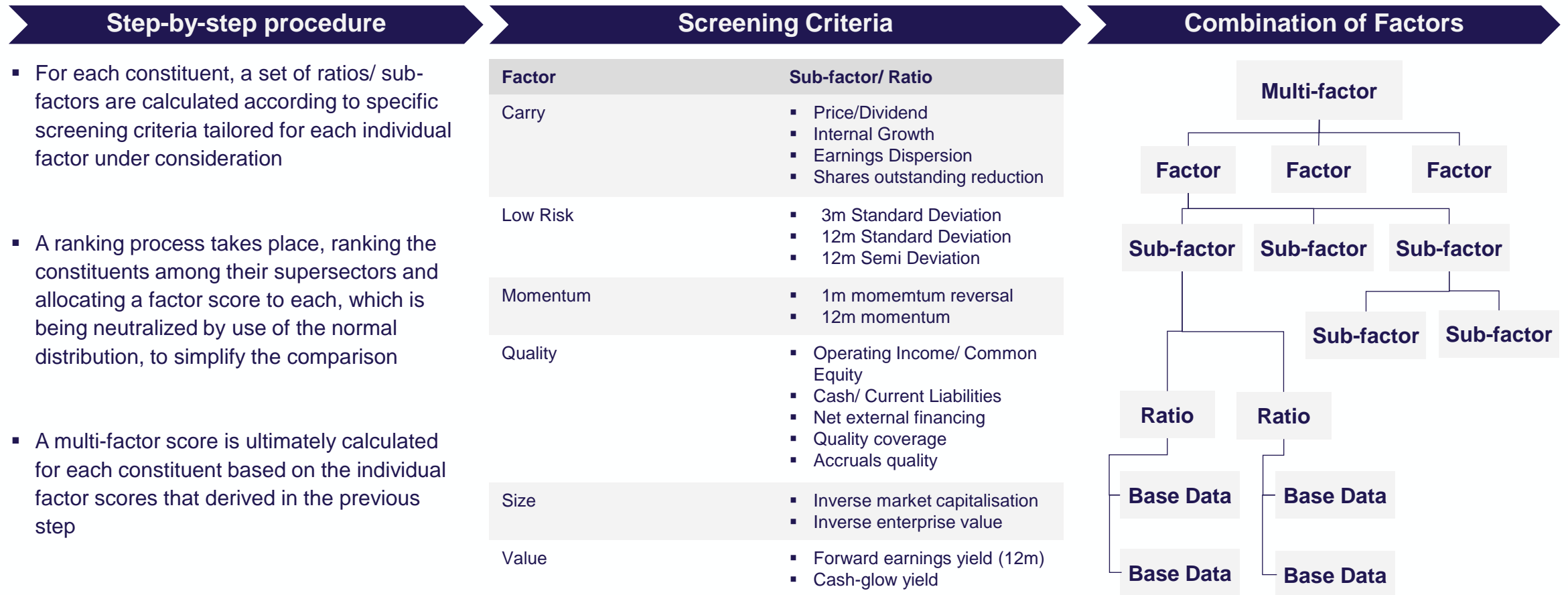
Unique barometer for overall European market sentiment



iSTOXX[®] Europe Factor Indices – Background

Normalization & Combination

Each single factor is a combination of sub-factors or ratios being normalized



iSTOXX[®] Europe Factor Indices – Optimization

Benchmark: The benchmark index for the optimization is defined as the STOXX[®] Europe 600 Index as of two days before the last Friday of each month which is the cut-off date.

- The optimizer uses the following inputs:
 - Vector with tilt values for every single stock
 - Most current SunGard APT Risk Engine Risk Model
 - Weight of every single stock in the benchmark index (if the stock belongs to the STOXX[®] Europe Total Market Index but not to the STOXX[®] Europe 600 Index, it gets a weight of 0%)
- The actual weighing is calculated with the main target of maximising the index factor exposure while still satisfying constraints
 - Maximum tracking error of three percent relative to STOXX Europe 600
 - Maximum systematic risk contribution of ten percent to tracking error
 - Targeted beta of one relative to STOXX Europe 600 with allowed maximum deviation of +/- 0.025
 - Maximum deviation of component weights from those of the STOXX Europe 600 of +/- 1.5 percentage points
 - Targeted number of components between 50 and 120
 - Components are capped at a maximum weight of 10%
 - Industry weights cannot deviate from those of the STOXX Europe 600 by more than +/- 1.5%
 - One-way turnover per month is set to a maximum of 25%
 - Liquidity constraint on constituent level: 100mn times weight needs to be at most 15% of the average 20-day value trade

If no solution is found with the initial set of constraints, a heuristic process is run to loosen constraints.

- Composition list: Variable number of constituents depending on the optimization process
- **Review frequency: The reviews are conducted on a monthly basis. The review cut-off date for the underlying data is two days before the last Friday of the month. The new composition is effective the next trading day after the first Friday of the month**
- Weighting cap factors: Weighting factor = weight * (1,000,000,000 / closing price of the stock), rounded to integers

iSTOXX® Europe Factor Indices Partners

Alpha Centauri models use FIS Investment Risk Arbitrage Pricing Theory Solution

FIS Investment Solution (APT)

- Provides award-winning investment technology for multi-asset class risk management, analytics and risk reporting, serving buy-side institutions globally
- Market risk and liquidity risk across both liquid and illiquid asset classes, supporting regulatory reporting, portfolio optimization
- Customers range from institutional asset managers, pension funds, hedge funds, private banks, wealth managers, sovereign wealth funds and life insurance firms



Alpha Centauri

- Independent multi-asset management boutique founded in 2005 and based in Hamburg, Germany
- Investment Manager specialized in innovative liquid alternative products, with factor investing at the core of its business
- Risk competence and financial index know-how based on a unique in-house infrastructure to fully address client needs
- Known for our high data quality solutions and risk management capabilities



Highly Liquid - STOXX[®] Europe 600 Success Story (1/2)

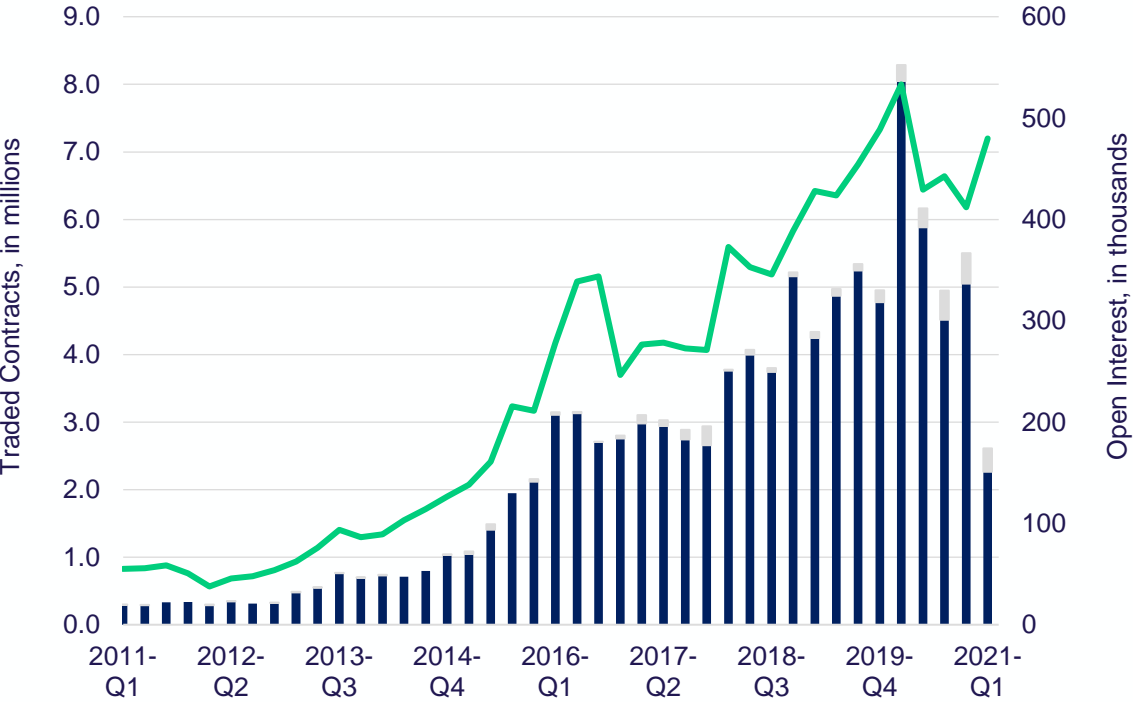
Growth Story over the last five years (over 20 million contracts in YTD 2020)

- Increase after multiplier reduction in 2010 from 200 to 50 Euro
- STOXX[®] Europe 600 and all broad-based & size index futures are approved by the CFTC; increased flow from US members
- Market participants (esp. end clients) are looking for an index with a broader representation of Europe
- In 2019, approx. 19.5 million contracts were transacted with approximately 73% via the order book
- ADV 2019 for FXXP was 75,614 contracts and open interest is 488,907 contracts as of end of December 2019
- Liquidity attracts liquidity and the product is supported by an increasing number of liquidity providers
- The number of market participants increased further in 2019 with 160 members now active

Highly Liquid - STOXX® Europe 600 Success Story (2/2)

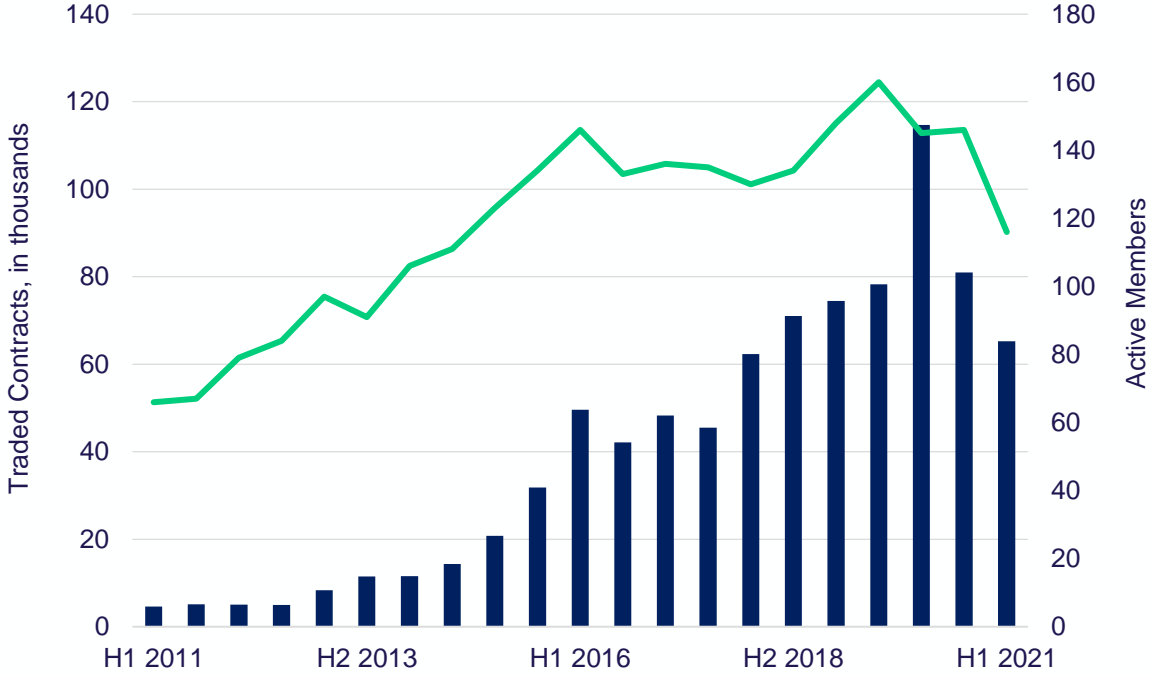
Growth Story over the last five years (over 20 million contracts in YTD 2020)

Traded Contracts and Open Interest



■ FXXP - STOXX® Europe 600 ■ OXXP - STOXX® Europe 600 — Open Interest

Average daily volume & Active members



■ ADV — Active Member

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STOXX® Indices: https://www.stoxx.com/document/Indices/Common/Indexguide/istoxx_index_guide.pdf

Eurex Trade Entry Services: www.eurex.com/ex-en/trade/eurex-trade-entry-services/

Eurex Clearing: www.eurex.com/ec-en/

Thank you!

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