

Futures on iSTOXX® Europe Factor Indexes

Launch on Wednesday, 3 May 2017



Value proposition

Gain exposure to European Factors

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

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 indexes

U.S. availability

- CFTC approval planned for Q2/2017

Margin efficiencies

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

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 more precisely your expiration date

The traditional choice – active vs. passive

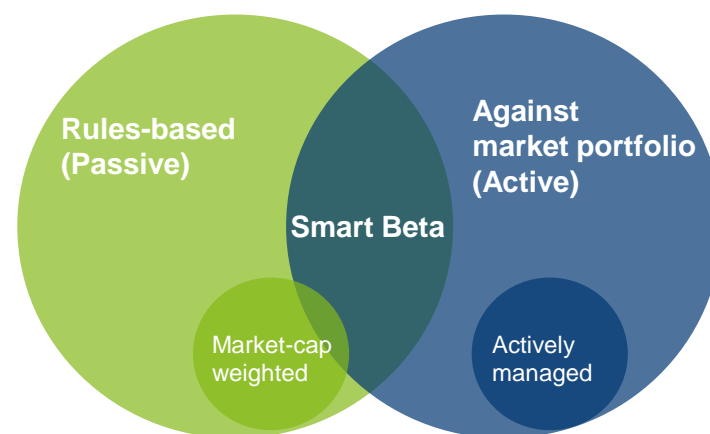
Evolution in indexing has filled the gap between active and passive investing

Historically only two choices:

Passive Management	Active management
Assumption: Markets are efficient, low-cost capitalization-weighted index funds	Assumption: Markets are inefficient, confident the manager can outperform
Limitations: <ul style="list-style-type: none"> systematically overweight the most overvalued securities expose investors to the idiosyncratic risk of the most weighted stocks 	Limitations: <ul style="list-style-type: none"> not very transparent higher fees tend to underperform the benchmark over long time periods

Third choice – Factor Investing or “Smart Beta”

- transparent and rules-based
- not weighted/selected by market capitalization (vs. traditional indexes)
- 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 indexes



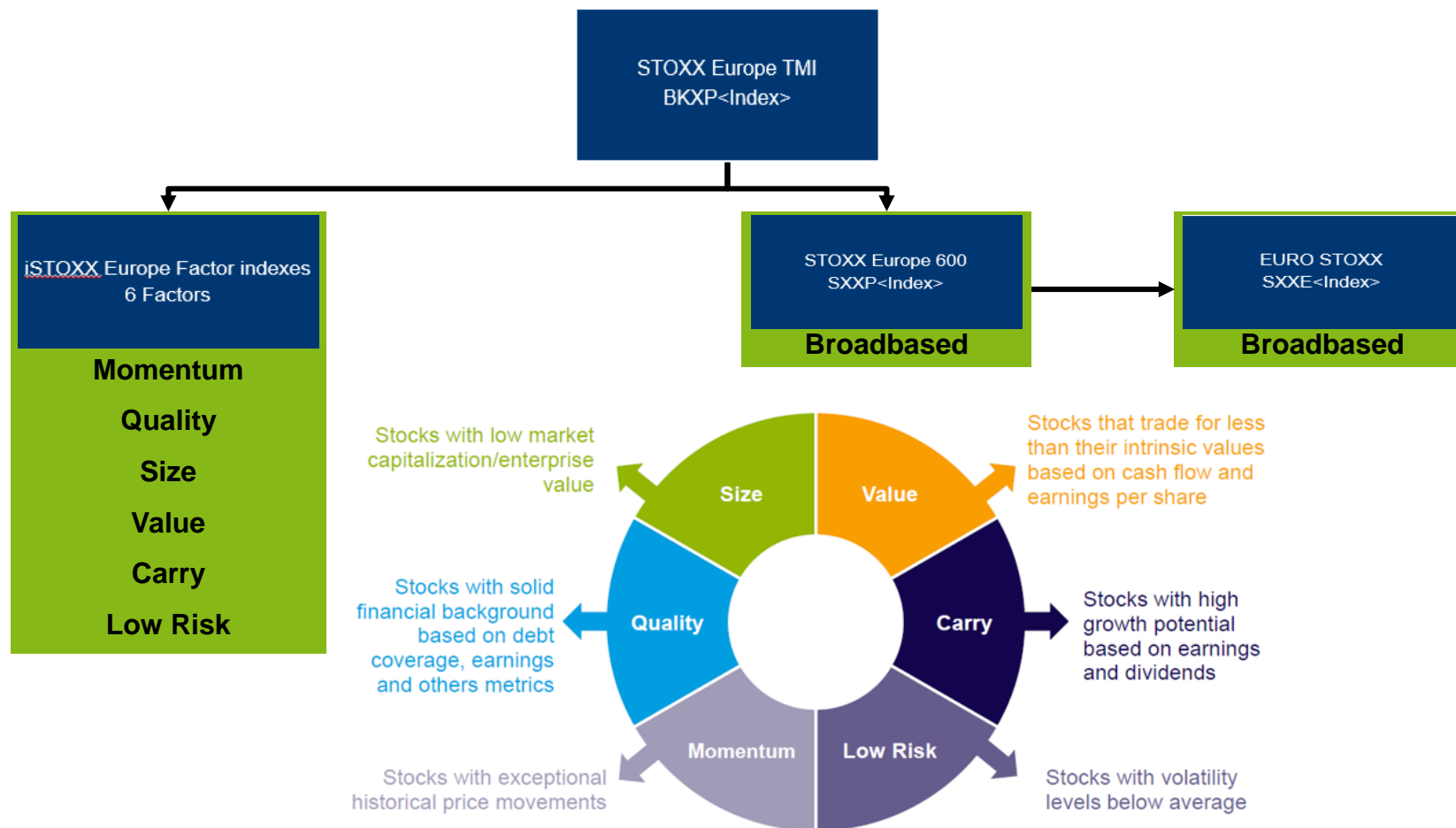
The new iSTOXX® Europe Factor Index Futures

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® indexes 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 indexes – today has established itself as the broader benchmark for Europe (ADV 2016: 45,553 contracts)

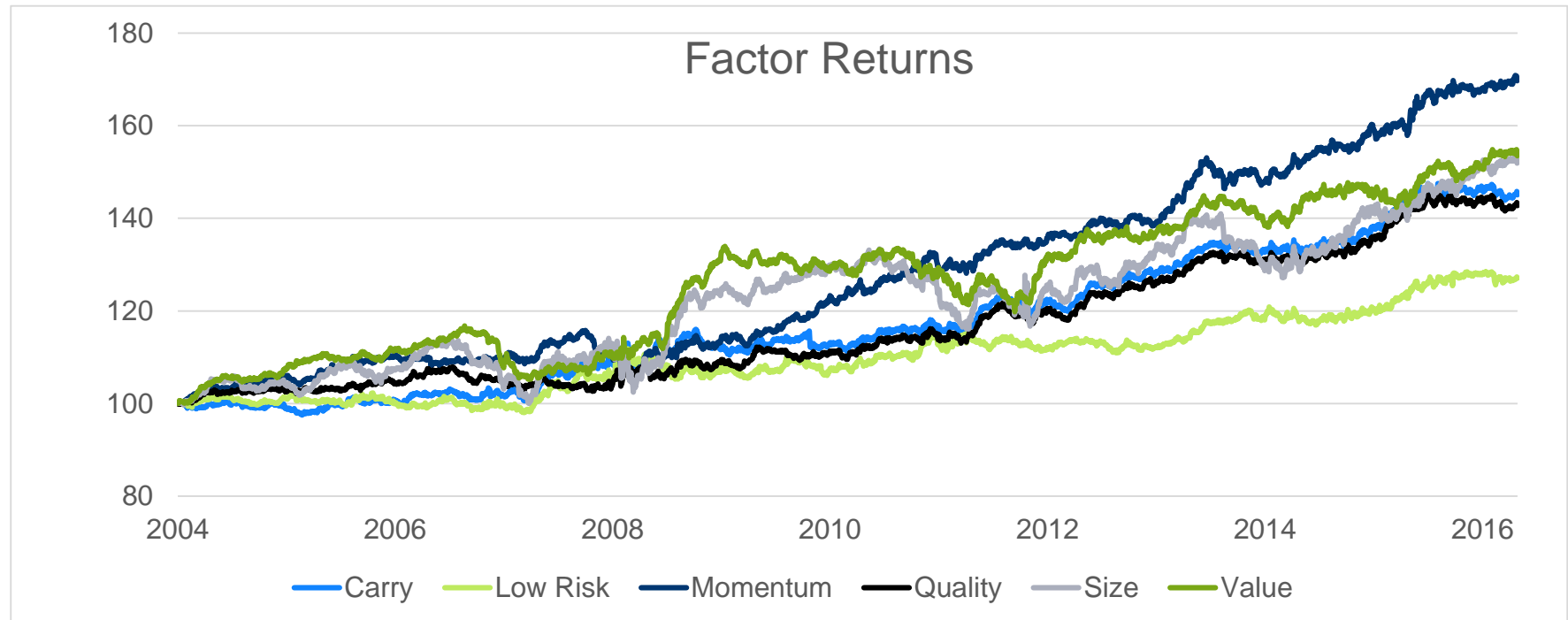
iSTOXX® Europe Factor Indexes

The iSTOXX® Europe Factor Index Futures offer six different dimensions



iSTOXX® Europe Factor Indexes

Historical development of factor premia



- Figure displays the historical development of single factor premia over a time period ranging from Oct. 2004 to Jan. 2017
- It is clearly observable 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

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	Contract value*	Fees (OB/TES)
New iSTOXX factor index futures												
iSTOXX Europe Low Risk Factor	EUR	Net Return	planned	CH0316370227	ISERRER	FXFR	50	1	0.1	5	5.800	0.30/0.45 €
iSTOXX Europe Momentum Factor	EUR	Net Return	planned	CH0316370250	ISEMFER	FXFM	50	1	0.1	5	5.800	0.30/0.45 €
iSTOXX Europe Quality Factor	EUR	Net Return	planned	CH0316370284	ISEQFER	FXFQ	50	1	0.1	5	5.650	0.30/0.45 €
iSTOXX Europe Size Factor	EUR	Net Return	planned	CH0316370318	ISEZFER	FXFS	50	1	0.1	5	6.000	0.30/0.45 €
iSTOXX Europe Value Factor	EUR	Net Return	planned	CH0316370342	ISEVFER	FXFV	50	1	0.1	5	5.900	0.30/0.45 €
iSTOXX Europe Carry Factor	EUR	Net Return	planned	CH0316370193	ISECFER	FXFC	50	1	0.1	5	5.950	0.30/0.45 €
Related products												
STOXX Europe 600 (Benchmark)	EUR	Price	Y		SXXP	FXXP	50	100	0.1	5	18.450	0.30/0.45 €
MSCI USA factor Index futures												
MSCI USA (Benchmark)	USD	Net Total Return	Y		M2US	FMUS	10	10	1.00	10	61.600	0.50/0.75 \$
MSCI USA Equal Weighted	USD	Net Total Return	N		M1USEWR	FMUE	10	1	1.00	10	38.710	0.50/0.75 \$
MSCI USA Momentum	USD	Net Total Return	N		M1US000\$	FMUM	10	1	1.00	10	18.470	0.50/0.75 \$
MSCI USA Quality	USD	Net Total Return	N		M1USQU	FMUQ	10	1	1.00	10	18.780	0.50/0.75 \$
MSCI Value Weighted	USD	Net Total Return	N		M1USVWGT	FMUV	10	1	1.00	10	22.210	0.50/0.75 \$

*as of 1 March 2017

*marked in green already covered by MSCI & in orange related Benchmark products for comparison

Contract specifications – Overview

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

	iSTOXX® Europe Factor Index Futures			STOXX® Europe 600 Index Futures (FXXP)		
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	EUR 5					
Price quotation	In points with one decimal place					
Minimum price change	0.1 index points					
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	Third Friday of each maturity month if this is an exchange day; otherwise the exchange day immediately preceding that day. Close of trading in the maturing futures on the last trading day is at 12:00 CET.					
Continuous / TES	08:00 – 22:00 CET					
Flexible contracts	Available					
Min block trade size	1 contract			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:0#FXFR:	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: FXRA Index Reuters: 0#FXFV:	Carry Eurex: FXFC BBG: FKSA Index Reuters: 0#FXFC:

Benefit from portfolio margin efficiencies

Bundle your
volume on
one platform

- Benefit from netting effects bundling your volume on one venue
- With Eurex Clearing Prisma Portfolio Margining, trading for example the STOXX® 600 Index Futures or EURO STOXX 50® Index Futures vs. iSTOXX® Europe Factor Index Futures, enables you to benefit from netting effects
- The same applies to trading different country segments at one platform

Mitigating
risks through
CCP clearing

- Benefit from mitigated counterparty risk with Eurex Clearing, as the central counterparty to all trades, Europe's leading clearing house for securities and derivatives transactions.
- Eurex Clearing provides effective CCP, risk management and collateral management services, thus improving operational efficiency, as well as market safety overall

Ask your Sales Manager for a detailed portfolio margining example or for access to our margin calculator

Market-Making – iSTOXX® Europe Factor Index Futures (I/II)

Term	Designated Market-Making scheme runs from product launch until December 31, 2017						
Minimum quote size	80 contracts for each Factor Index Futures on the bid and ask side						
Maximum spread	0.8 percent of the bid price	Equity index futures on	Index ISIN	Index ID	Eurex product code	Minimum quote size	Maximum spread
		iSTOXX Europe factor index				Contracts on bid and ask side	In percent of bid price
		Carry	CH0316370193	ISECFER	FXFC	80	0.8 %
		Low Risk	CH0316370227	SERRER	FXFR	80	0.8 %
		Momentum	CH0316370250	SEMFER	FXFM	80	0.8 %
		Quality	CH0316370284	SEQFER	FXFQ	80	0.8 %
		Size	CH0316370318	SEZFER	FXFS	80	0.8 %
		Value	CH0316370342	SEVFER	FXFV	80	0.8 %
Required coverage	At least 70 percent of the daily trading hours between 09:00 and 17:30 CET on a monthly average.						
Maturity range	Current front month contract only until five exchange trading days immediately preceding the last trading day of the front month contract; afterwards, MMs have the choice of quoting the front month or the back month.						
Market Maker rebates	80 percent for transactions in the electronic order book and for off-book transactions upon fulfilment in the quote obligation for the individual iSTOXX® Europe Factor Index Futures.						

Market-Making – iSTOXX® Europe Factor Index Futures (II/II)

Revenue sharing for Market Makers

- In addition, Designated Market Makers can participate in a revenue sharing scheme running until December 31, 2017 for the corresponding product.
- The conditions of the revenue sharing scheme are as follows:
 - The share in net revenue (transaction fees minus Market Maker rebates) is 40 percent of the net revenues generated in index Futures on iSTOXX® Europe Factor Indexes; whereby each product is considered separately
 - Distribution takes place on a monthly basis to a maximum of three best Market Makers, provided all Market Maker obligations were fulfilled.
 - The overall amount available for revenue sharing will be split at the end of the month between the eligible Market Makers based on their market share in the M-account as follows:

Number of DMM	1 st ranked	2 nd ranked	3 rd ranked
1	40%	0%	0%
2	25%	15%	0%
3	20%	10%	10%

- The market share is defined as the share in percent of the Market Maker's volume in the accumulated volume of all Market Makers participating in this revenue sharing scheme; whereby each product is considered separately. The Market Maker's volume consists of contracts traded at Eurex Exchange and is calculated as follows:
- For futures on the respective iSTOXX® Europe Factor Index: the overall volume of order book transactions in the M-account is considered.

Further information

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STOXX® indexes:

<http://www.eurexchange.com/stoxx>

For further information see March 2017 iSTOXX® METHODOLOGY GUIDE chapter 20. iSTOXX EUROPE FACTORS INDICES

Eurex Trade Entry Services:

www.eurexchange.com/exchange-en/products/eurex-trade-entry-services/

Eurex Clearing:

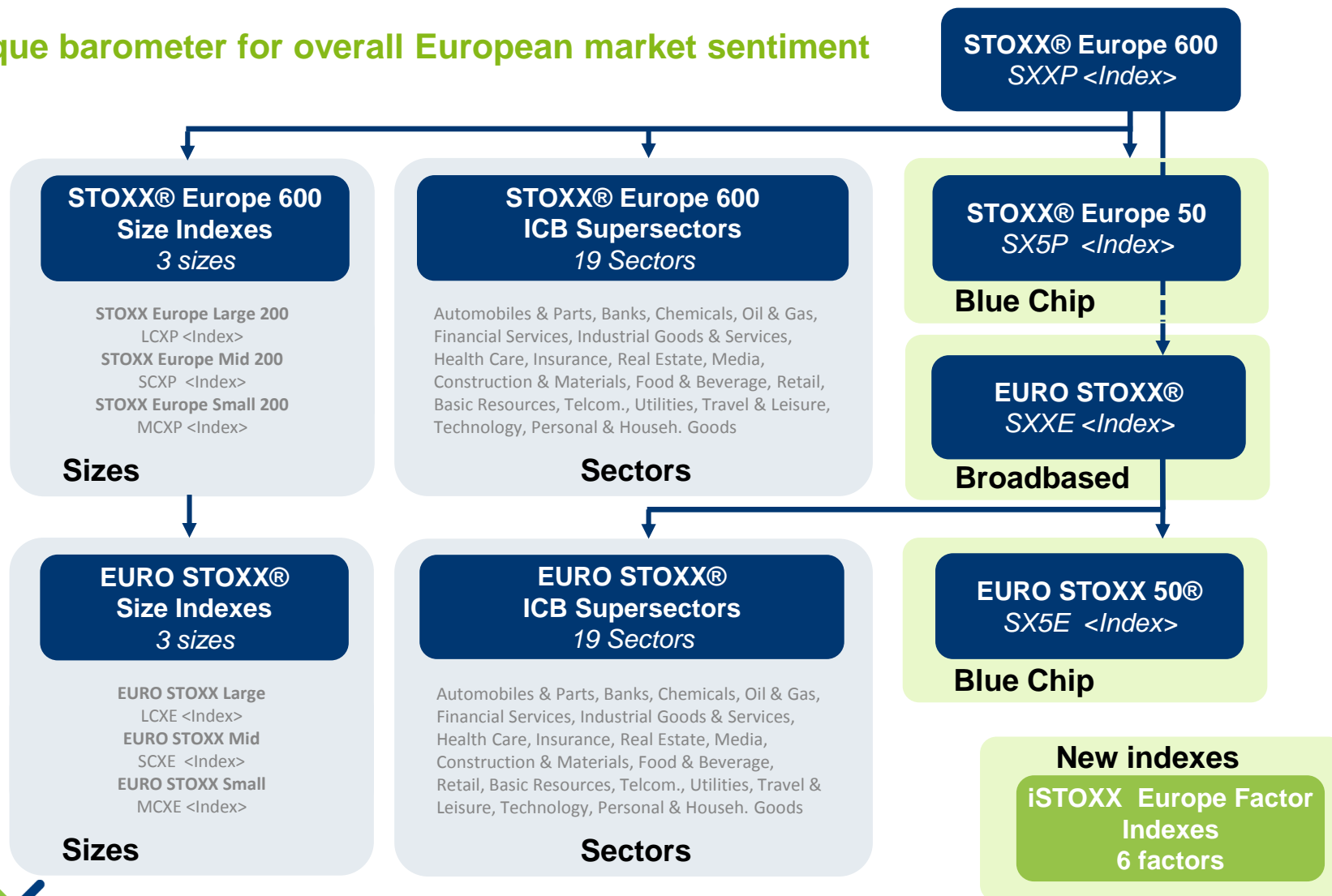
www.eurexclearing.com



Appendix

STOXX Europe index family

Unique barometer for overall European market sentiment



iSTOXX® Europe Factor Indexes – background

Normalization & combination

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

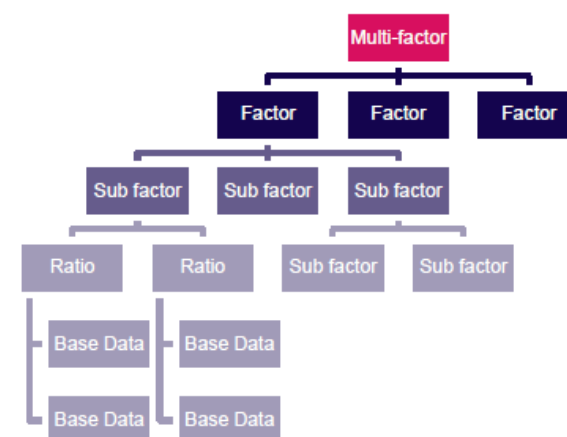
Step-by-step procedure

- » For each constituent, a set of ratios/sub-factors are calculated according to specific screening criteria tailored for each individual factor under consideration
- » A ranking process takes place, ranking the constituents among their supersectors¹⁾ and allocating a factor score to each, which is being neutralized by use of the normal distribution, to simplify the comparison
- » A multi-factor score is ultimately calculated for each constituent based on the individual factor scores that derived in the previous step

Screening criteria

Factor	Sub-factor / Ratio
Carry	<ul style="list-style-type: none"> Price/Dividend Internal Growth Earnings Dispersion Shares outstanding reduction
Low Risk	<ul style="list-style-type: none"> 3m Standard Deviation 12m Standard Deviation 12m Semi Deviation
Momentum	<ul style="list-style-type: none"> 1m momentum reversal 12m momentum
Quality	<ul style="list-style-type: none"> Operating Income/Common Equity Cash/Current Liabilities Net external financing Quality coverage²⁾ Accruals quality
Size	<ul style="list-style-type: none"> Inverse market capitalization Inverse enterprise value
Value	<ul style="list-style-type: none"> Forward earnings yield (12 m) Cash-flow yield

Combination of factors



iSTOXX® Europe Factor Indexes – 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 weighting is calculated under the main target to maximize the index factor exposure while still satisfying constraints.
 - maximum tracking error to the benchmark index (target: 3 %),
 - maximum systematic risk contribution to tracking error (target: 10 % of 3 % equals 0,3 % Tracking Error Points),
 - target beta of 1 to the benchmark index with allowed maximum deviation of 0.025 (target: $0,975 < \text{beta} < 1,025$),
 - target index size between 50 and 120 constituents,
 - industry weights,
 - liquidity,
 - turnover (target: 25% one way).
 - Components are capped at a maximum weight of 10% two days before implementation date based on the prices from three days before the implementation date.
 - 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: $\text{Weighting factor} = \text{weight} * (1,000,000,000 / \text{closing price of the stock})$, rounded to integers

iSTOXX® Europe Factor Indexes

Partners

Alpha Centauri models use FIS investment Risk Arbitrage Pricing Theory solution

FIS Investment Risk 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.

www.fisglobal.com

Empowering
the Financial World



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.

www.alpha-centauri.com



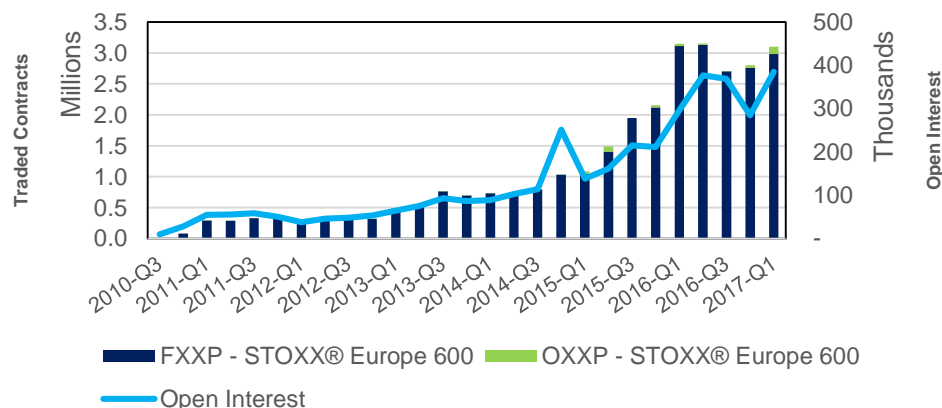
ALPHA CENTAURI
FINANZ-BERATUNGSGESELLSCHAFT mbH

Highly liquid – STOXX® Europe 600 success story

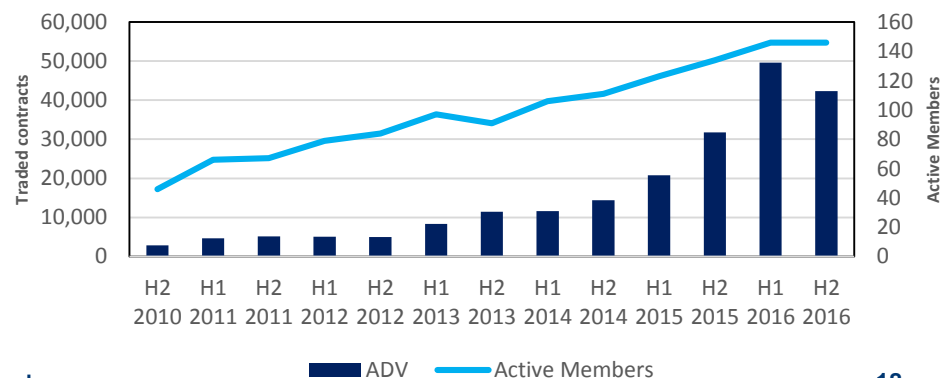
Growth Story over the last four years (over 12 million contracts in 2016)

- Increase after multiplier reduction in 2010 from 200 to 50 Euro
- Market participants (esp. end clients) are looking for an index with a broader representation of Europe
- In 2016, over 12 million contracts were transacted with approximately 64% via the order book
- ADV (y-o-y) grew by 148% to 48,000 contracts and open interest (over 350,000 contracts) doubled vs 2015
- Liquidity attracts liquidity and the product is supported by an increasing number of market makers
- The number of market participants increased further in 2016 with 146 members now active
- STOXX® Europe 600 and all broadbased & size index futures are approved by the CFTC; increased flow from US members

Traded Contracts and Open Interest



Average daily volume & active members (FXXP & OXXP)



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