Volatility Index Derivatives

Eurex Volatility Index Derivatives – Pinpoint Pan-European Risk

eurex

Targeted Exposure to European Volatility

Eurex has extended its volatility segment and now offers mini futures as well as options on the European VSTOXX®, that enables you to trade European volatility. VSTOXX® Mini Futures and VSTOXX® Options are the tools you need to gain pure volatility exposure, take a view on future volatility changes, trade the spread between different volatility indexes or hedge the volatility exposure of your portfolio.

Eurex volatility index derivatives products are well-positioned to become the benchmark European "investor fear gauge", as the VSTOXX® is based on market estimates of expected volatility in benchmark EURO STOXX 50® Index Options. VSTOXX®-based derivatives represent an important advance in risk management, as they offer a convenient, cost-effective way (that is no transaction costs in managing delta) and a targeted, leveraged way (that is initial margin) to take a view on European volatility. And since investments based on active benchmark strategies require frequent rebalancing which drives up costs, the negative correlation of the VSTOXX® to the EURO STOXX 50® Index has the added benefit of offsetting rebalancing costs.

As exchange-traded and centrally cleared derivative products, Eurex volatility index derivatives offer added benefits vis-a-vis their OTC relatives in terms of independent mark-to-market valuation and substantially reduced counterparty risk due to Eurex Clearing acting as the central counterparty.

The Underlying Index

The VSTOXX® is a market estimate of expected volatility that is calculated every five seconds by using real-time EURO STOXX 50® Index Options bid/ask quotes. VSTOXX® uses nearby and second nearby options, weighting them to yield a constant, 30-day measure of the expected volatility of the EURO STOXX 50® Index. Further information about the index is available at **www.stoxx.com > STOXX Indices > Strategy Indices**.

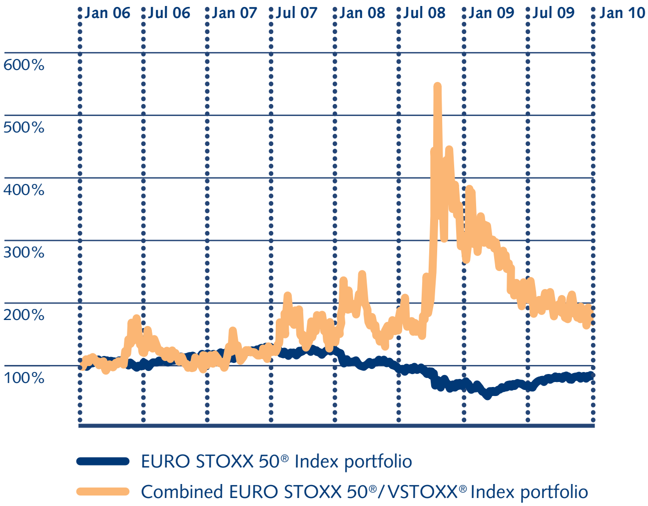
Trading Opportunities

Eurex's volatility derivatives offer many benefits to equity fund managers and can be used to implement or enhance a wide variety of trading strategies.

Increased Portfolio Diversification and Enhanced Portfolio Returns

As volatility index derivatives are negatively correlated to equity markets, they are an attractive asset class for equity fund managers in that they can be used to increase portfolio diversification aiming to enhance returns and importantly, protect portfolios in times of economic turmoil. The chart below illustrates the benefits of adding volatility exposure during the 2008 financial crisis. As compared to a portfolio tracking the EURO STOXX 50® Index, a portfolio tracking the VSTOXX® consistently outperformed over a four-year period, and significantly so during periods of market turmoil.

EURO STOXX 50® Index Portfolio Versus Combined 70%/30% EURO STOXX 50®/VSTOXX® Index Portfolio



Many equity funds are short on volatility and if equity markets fall, volatility rises. Equity put positions can be substituted by a position in a volatility call, offsetting a decline in the equity by a rise in the volatility position. Investors can take positions on future volatility levels with volatility options that limit downside risk to paid premiums for outrights or option spread positions.

Managing Tracking Error and Rebalancing Costs

Benchmark/passive index equity fund managers are in essence, short volatility. As equity markets become more volatile, tracking error and rebalancing costs increase. Equity fund managers can go long VSTOXX® derivatives to protect against increases in portfolio tracking error and rebalancing costs of its benchmark/passive index funds. Similarly, convertible bond arbitrage fund managers can use Eurex VSTOXX® derivatives to hedge their imbedded volatility exposure, especially in periods of low dispersion/high correlation across equities which make it difficult for fund managers to extract alpha in stock selection.

Cost-effective Vega Positioning and Volatility Spreads

Eurex volatility index derivatives offer a cost-effective and leveraged way to initiate volatility directional strategies as there is no requirement to delta hedge for movement in the underlying asset. Axel Vischer in "Volatility settles down as an Asset Class", FT Mandate, calculated that volatility options strategies such as straddles and strangles were 10/20-times more expensive than volatility indexes in initiating volatility directional trades.

Trading Benefits at a Glance

- Hedge your portfolio exposure in equity, credit and option portfolios
- Explore spreads between European and non-European volatility indexes
- Diversify your portfolio by adding new asset class
- Generate additional alpha, due to mean-reversion nature of volatility
- Set up trading strategies on anticipated volatility levels
- Engage in dispersion Trading
- Create a disaster hedge
- Directionally trade or speculate on the level of a single volatility index

Market-Making

At Eurex we are dedicated to developing our volatility market and encouraging active Market-Making in VSTOXX® Options. Market Makers will continuously provide tight spreads, which will foster liquidity in the new product. The complete Market Maker obligations are available at **www.eurexchange.com > Trading > Market Model > Market-Making > Market Maker Obligations**.

The following Market Makers have committed to support liquidity:

VSTOXX® Options

Company	Contact Person	Telephone Number
J.P. Morgan (Screen and Block Trades)	Index Desk	+44-20-73 25-63 95
Barclays Capital (Block Trades)	Joshua Spitz Regis Loeb	+44-20-77 73-92 64 +44-20-77 73-80 73
DRW Investments (Block Trades)	Ben Hillier Vincent Kory	+44-20-72 82-09 03

VSTOXX® Mini Futures

Company	Contact Person	Telephone Number
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Dominicé & Co Asset Management (Screen Trades)	Alain dos Santos	+41-22-319-21 74

VSTOXX® Options – Contract Specifications

Product ID	OVS
Underlying	VSTOXX®
Contract Value	EUR 100 per index point of the underlying
Settlement	Cash settlement, payable on the first exchange day following the Final Settlement Day.
Price Quotation and Minimum Price Change	The Price Quotation is in points with two decimal places. The Minimum Price Change is 0.05 points, equivalent to a value of EUR 5.
Contract Months	The three nearest calendar months and the following quarterly month of the February, May, August and November cycle thereafter.
Last Trading Day and Final Settlement Day	Last Trading Day is the Final Settlement Day. Final Settlement Day is 30 calendar days prior to the expiration day of the underlying options (i.e. 30 days prior to the third Friday of the expiration month of the underlying options). This is usually the Wednesday prior to the second last Friday of the respective expiration month.
Daily Settlement Price	Established by Eurex, based on applicable theoretical pricing model.
Final Settlement Price	Established by Eurex, based on the average of the values of the VSTOXX® between 11:30 and 12:00 CET on the Last Trading Day.
Exercise	European-style; an option can only be exercised on the Final Settlement Day of the respective option series until the end of the Post-Trading Full Period (21:00 CET).
Exercise Price Intervals in Index Points	≤ 20: 1 index point > 20 and ≤ 50: 2.5 index points > 50: 5 index points
Number of Exercise Prices	Upon the admission of a contract, at least eleven exercise prices shall be made available for each term for each call and put, such that five exercise prices are in-the-money, one is at-the-money and five are out-of-the-money.
Trading Hours	09:00–17:30 CET (Order Book) 09:00–18:30 CET (OTC Block Trades)
OTC Block Trades – Minimum Size	500 contracts

VSTOXX® Mini Futures – Contract Specifications

Product ID	FVS
Underlying	VSTOXX®
Contract Value	EUR 100 per index point of the underlying
Settlement	Cash settlement, payable on the first exchange day following the Final Settlement Day.
Price Quotation and Minimum Price Change	The Price Quotation is in points with two decimal places. The Minimum Price Change is 0.05 points, equivalent to a value of EUR 5.
Contract Months	The three nearest calendar months and the following quarterly month of the February, May, August and November cycle thereafter.
Last Trading Day and Final Settlement Day	Last Trading Day is the Final Settlement Day. Final Settlement Day is 30 calendar days prior to the expiration day of the underlying options (i.e. 30 days prior to the third Friday of the expiration month of the underlying options). This is usually the Wednesday prior to the second last Friday of the respective expiration month.
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Trading Hours	09:00–17:30 CET (Order Book) 09:00–18:30 CET (OTC Block Trades)
OTC Block Trades – Minimum Size	1,000 contracts

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