

A faint, light blue world map is visible in the background, centered behind the main text.

eurex

Volatility Products at Eurex

January 2011

Agenda

Introduction to Eurex Volatility Products

Trading Opportunities

Liquidity and Volume

Market Making

Further Information and Contacts

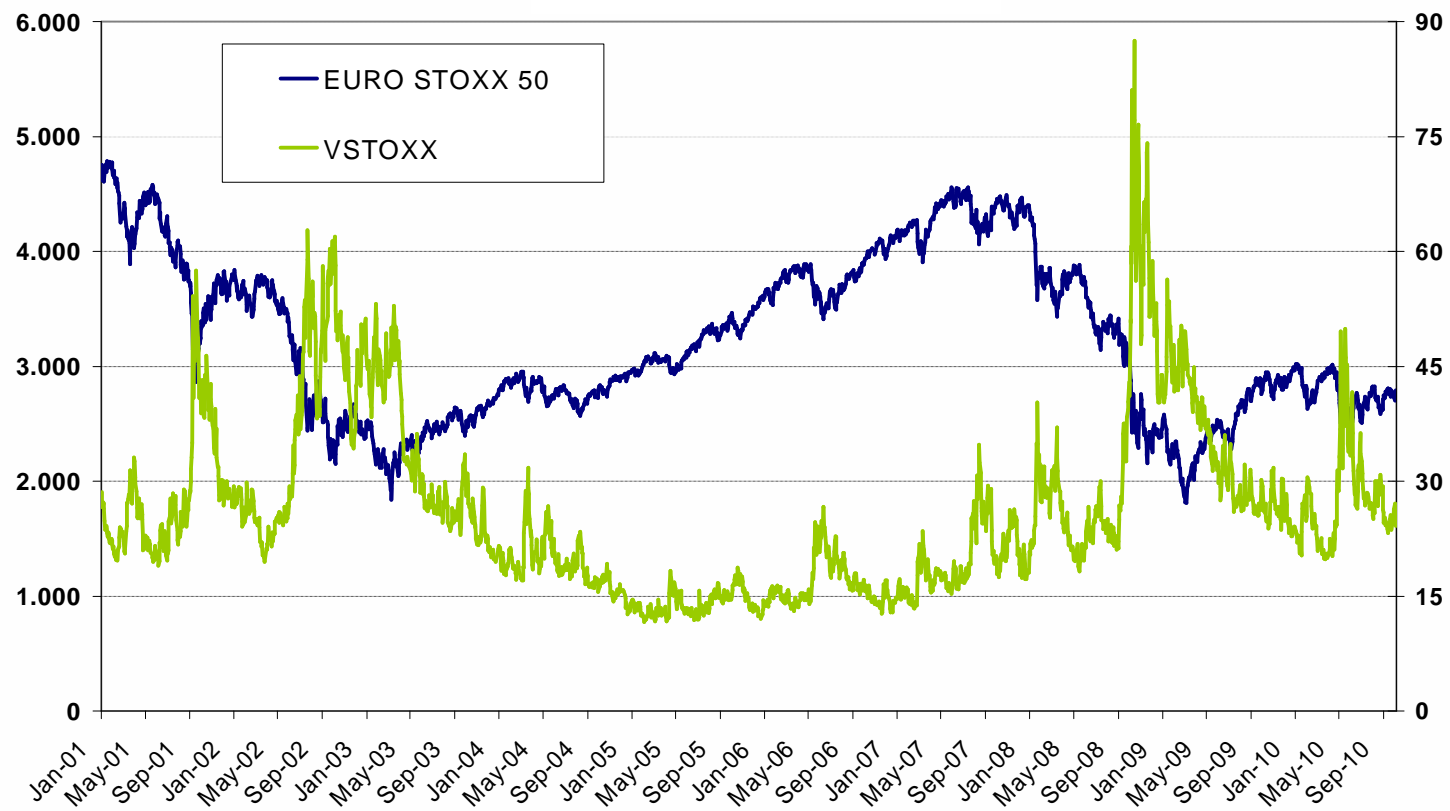
Overview

- On March 22, 2010 Eurex expanded its volatility segment with the launch of VSTOXX options.
- Since the launch, 573,000 contracts were traded by 28 exchange members in December 2010. Open interest reached 190,000 prior to the expiry of May options.
- In the sovereign crisis, the daily average options volume peaked at around 6,000 contracts, with 85 per cent thereof transacted as block trades with 6 major banks facilitating liquidity for clients in trade sizes of up to 10,000 contracts.
- Screen quotation is provided by JP Morgan, facilitating an average volume by transaction of 500 contracts onscreen.
- Trading in VSTOXX Futures has benefited from this development, with the daily average volume rising from 240 contracts, prior to the options launch, to over 4,400 contracts per day in December 2010.

Product Specifications

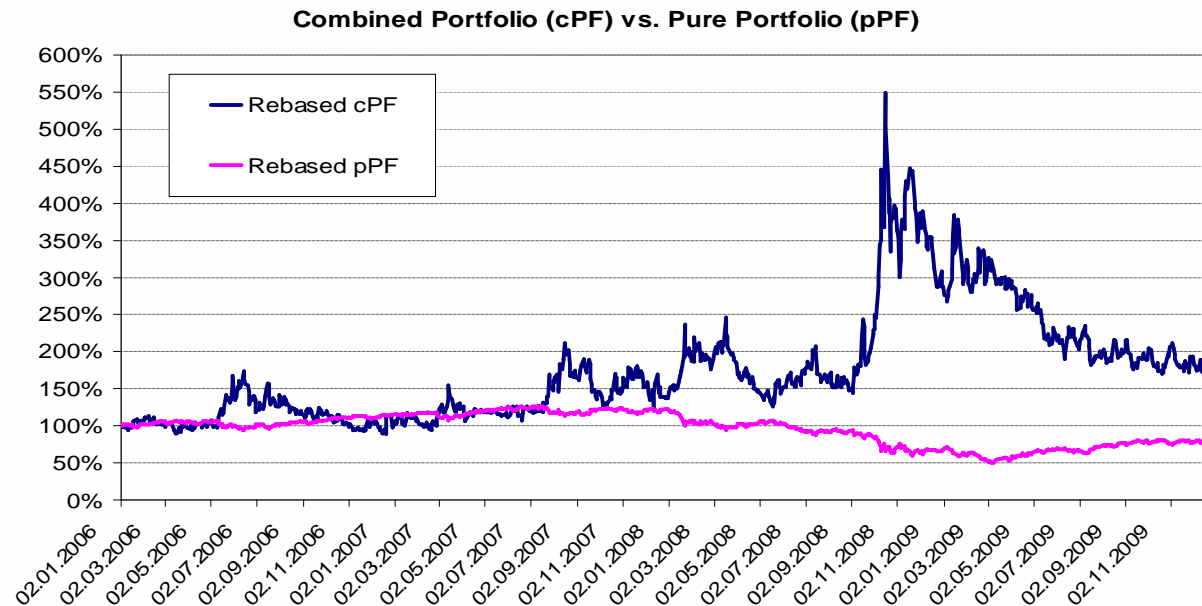
Symbol	OVS	FVS
Product Name	VSTOXX® Options	VSTOXX® Mini Futures
Underlying	The VSTOXX® Index, a market estimate of expected volatility that is calculated every 5 seconds by using real-time EURO STOXX 50® option bid/ask quotes.	
Contract Value	EUR 100 per index point of the underlying	
Price Quotation and Minimum Price Change	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 month and the following quarterly month of the February cycle	The next eight successive calendar months
Exercise Price Intervals	Staggered by Volatility Index Level: = < 20 - 1 Index Point > 20 and =< 50 - 2.5 Index Points > 50 - 5 Index Points	----
Exercise	European-style; an option can only be exercised on the Final Settlement Day of the respective option series until 21:00 CET	----
Settlement	Cash settlement, payable on the first exchange day following the Final Settlement Day.	
Daily Settlement Price	Established by Eurex, determined through the Black/Scholes 76 model.	Determined during the closing auction of the respective futures contract.
Last Trading Day and Final Settlement Day	30 calendar 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 / maturity month.	
Final Settlement Price	Average of the VSTOXX® values on the Last Trading Day between 11:30 and 12:00 CET.	
Block Trade Size	500 Contracts	1,000 Contracts
Position / Exercise Limits	No position or exercise limits	No position limits
Vendor Codes	Bloomberg: V2X INDEX OMON Reuters: 0#FVS+	Bloomberg: FVSA INDEX Reuters: 0#FVS:

Underlying & Volatility – Strong Negative Correlation



Portfolio Diversification with Volatility Futures

Futures on VSTOXX® (FVSX) and Futures on EURO STOXX 50® Index (FESX)



- pPF consists of long 3-month Futures on EURO STOXX 50® (FESX).
- cPF consists of 30 per cent long 1-month Futures on VSTOXX® (FVSX) and of 70 per cent long 3-month Futures on EURO STOXX 50® (FESX).
- Rebalancing once a week.

Agenda

Introduction to Eurex Volatility Products

Trading Opportunities

Liquidity and Volume

Market Making

Further Information and Contacts

Volatility Derivatives – Trading Opportunities

- Hedge your portfolio exposure, especially as a disaster hedge
 - Equity portfolios
 - Credit portfolios
 - Options portfolios
- Diversify your portfolio by adding a new asset class.
- Investments based on active benchmark strategies require a frequent rebalancing, driving costs up
 - Negative correlation of the VSTOXX® to the EURO STOXX 50® offsets rebalancing costs.
- Equity funds are short volatility
 - Equity falls, 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.
- Position taking on future volatility levels with volatility options limits downside risk to paid premiums for outright or option spread positions
 - Directional trading/speculation on the level of a single volatility index.
 - Speculation on spreads between volatility indexes.
 - Mean reverting nature of volatility index can generate additional alpha.
 - Dispersion Trading.

Observed VSTOXX Option Trading Strategies

- Trading VSTOXX direction – Long Calls & Puts or Call & Put Spreads.
- Synthetic VSTOXX Underlying – VSTOXX Conversion & Reversals.
- Trading the Volatility of VSTOXX – Straddles and Strangles in VSTOXX Options.
- Direction and Volatility of VSTOXX – Ratio Call / Put Spreads.
- Correlation between VSTOXX and VIX – Long volatility position in VSTOXX versus short volatility position in VIX implemented through long and short Butterfly positions.
- Premium efficient exposure to volatility – Sell out-of-the money VSTOXX Puts to generate premium while benefiting from rising volatility.

Agenda

Introduction to Eurex Volatility Products

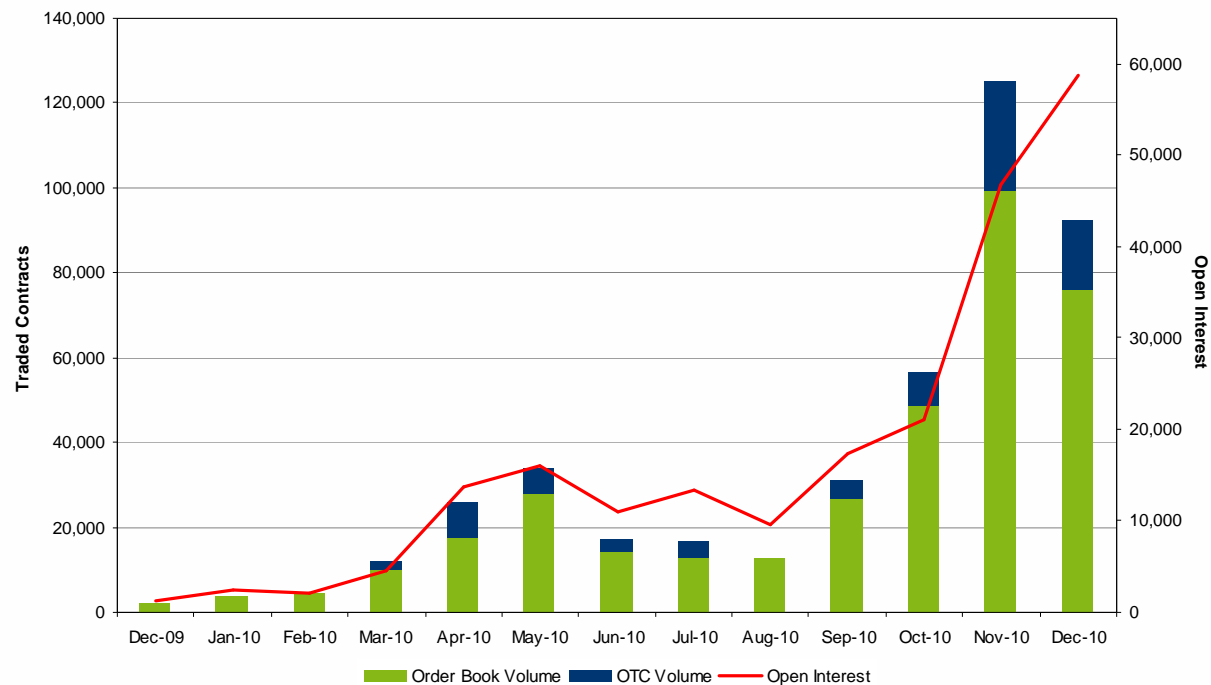
Trading Opportunities

Liquidity and Volume

Market Making

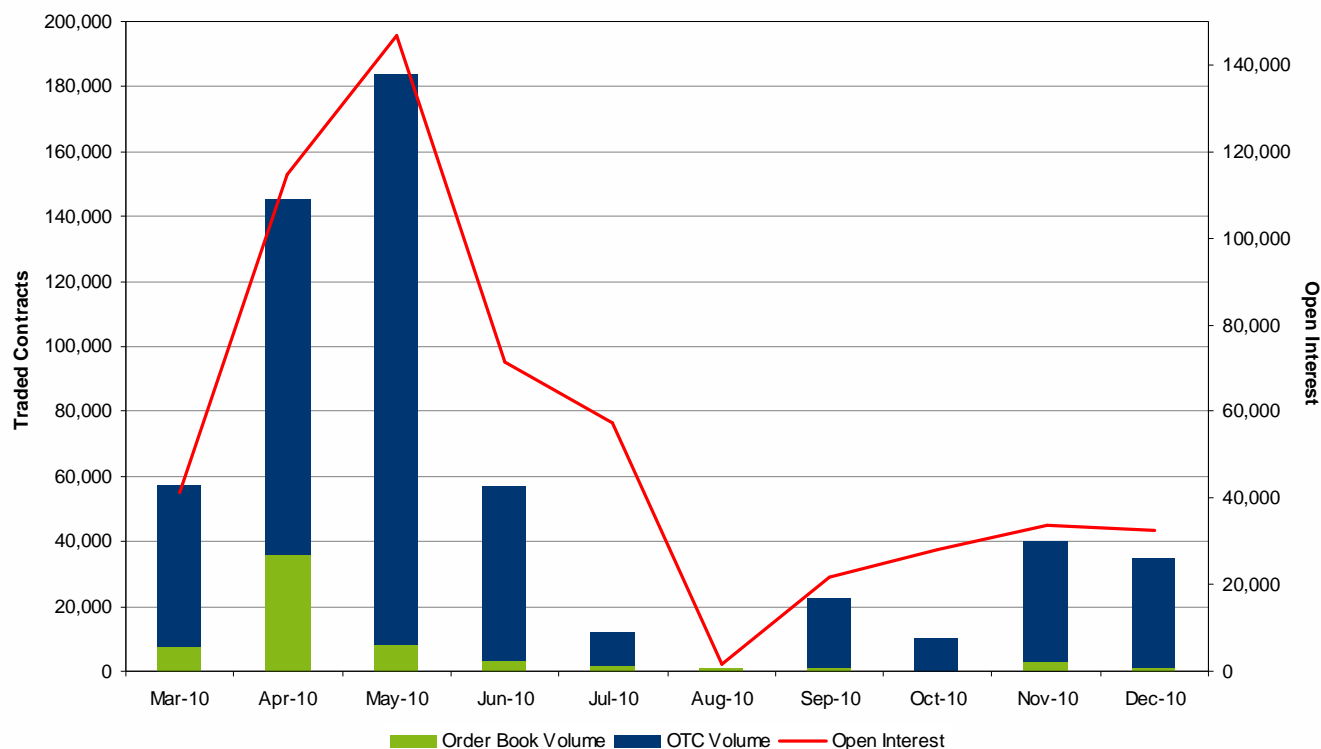
Further Information and Contacts

Volatility Futures – Volume and Open Interest*



- Trading activity increased with entry of a new futures Market Maker in 2009
- Significantly increased market volatility in light of the sovereign crisis is reflected in April and June 2010 volume growth.
- Institutional interest for a European volatility product remains high with an increasing number of structured products on VSTOXX and market players in facilitating execution.

Volatility Options – Volume and Open Interest



- Larger positions were built up before and during May sovereign crisis.
- Trading has picked up again after summer with six bank dealing desks facilitating block trades for size.

Liquidity Overview for Volatility Derivatives

Futures

Contract	CBidQty	CBid	CAsk	CAskQty
FVS NOV10	100	22.10	22.30	100
FVS DEC10	180	23.35	23.55	25
FVS JAN11	125	26.00	26.20	25
FVS FEB11	25	27.15	27.25	100
FVS MAR11	25	28.15	28.40	25
FVS APR11	25	28.25	28.45	25
FVS MAY11	125	28.45	29.00	50
FVS JUN11	25	28.95	29.45	25

BidAvg	BidAcc	BidQty	Bid	Ask	AskQty	AskAcc	AskAvg
23.35	180	180	23.35	23.55	25	25	23.55
23.33	285	105	23.30	23.65	44	69	23.61
23.30	385	100	23.20	23.70	100	169	23.66
23.26	535	150	23.15	23.75	150	319	23.70
23.25	545	10	23.00	23.80	205	524	23.74

- VSTOXX futures are quoted as tight as 0.20 volatility index points, reflecting a volatility spread of 1 percent at current VSTOXX level.
- Market depth shows further size.

Options

Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OVS NOV10	50	3.20	3.80	50	1900	50	0.05	0.40	50
OVS NOV10	50	2.40	2.85	50	2000	50	0.10	0.30	1
OVS NOV10	50	1.00	1.40	50	2250	50	0.95	1.35	50
OVS NOV10	50	0.30	0.70	50	2500	50	2.55	3.05	50
OVS NOV10	50	0.10	0.50	50	2750	50	4.60	5.50	50
OVS NOV10	50	0.05	0.45	50	3000				

- Typically all 4 option expiries are quoted onscreen.
- Traded volume since launch 573,000*.
- Open interest at 32,000*.

* As of January 1, 2010

Agenda

Introduction to Eurex Volatility Products

Trading Opportunities

Liquidity and Volume

Market Making

Further Information and Contacts

Market Making – Volatility Futures

Minimum Contract Size	500 contracts
Maximum Spread*	5 per cent of bid price, i.e. Future bid = 25 per cent, thus spread \leq 125 bps
Required Coverage	80 per cent of the total trading period on a monthly average
Maturity Range	all seven maturities have to be covered
Incentive	100 per cent free rebate for trades on M-account from March 1, 2010 until December 31, 2011, for fulfilling monthly obligations

*Currently the quoted spread in VSTOXX Futures is less than 1% of the bid price.

Market Making – Volatility Options

Minimum Contract Size	25 contracts
Maximum Spread*	<p>Bid up to 2 à max Spread 0.40 points</p> <p>Bids from 2 to 20 à 20 per cent of bid price i.e. Option bid = 4.00, thus a spread ≤ 80 bps</p> <p>Bid > 20 à max Spread 4 points</p>
Required Coverage	70 per cent of the total trading period on a monthly average for calls and puts in five out of nine strikes around the current index level. Asymmetric quotation is allowed.
Expiry Range	All four expirations have to be covered
Incentive	100 per cent free rebate for trades on M-account from March 22, 2010 until December 31, 2011, for fulfilling monthly obligations. Eurex will also grant a revenue sharing and distribute 50 per cent of the net trading fee among the top 3 performing Market Makers on a monthly basis. The kickback is determined as a ration of the trading volume of the three Market Makers.

Market Makers

Company	Contact Person	Phone
J.P. Morgan (VSTOXX® Options Screen and Phone Market Maker)	Index Desk	+44-20-73 25-63 95
Barclays Capital (VSTOXX® Mini Futures & Phone Market Making for VSTOXX® Options)	Regis Loeb Joshua Spitz	+44-20-77 73-80 73 +44-20-77 73-92 64
Dominicé & Co Asset Management (VSTOXX® Mini Futures)	Alain dos Santos	+41-22-319-21 74

Agenda

Introduction to Eurex Volatility Products

Trading Opportunities

Liquidity and Volume

Market Making

Further Information and Contacts

Further Information

Factsheets:

www.eurexchange.com > Documents > Publications > Eurex OTC Volatility Strategy with Cash Equity Leg

Flyer:

www.eurexchange.com > Documents > Publications > Flyer_Volatility_Index_Derivatives.pdf

Webinfos:

http://www.eurexchange.com/trading/products/VOL_en.html

VSTOXX Calculation

Apart from the eight subindices for the various option series, the VSTOXX is defined as the main index with a constant remaining time to expiry of 30 days (this index is therefore not linked to a specific time to expiry). The VSTOXX is determined by linear interpolation of the subindices which are nearest to the remaining time to expiry of 30 days. If there are no such surrounding subindices, the VSTOXX is calculated using extrapolation. In this case, the two nearest available indices are used, which are as close to the time to expiry of 30 calendar days as possible.

$$\begin{aligned}
 \text{VSTOXX} &= 100 \cdot \sqrt{\left[T_i \cdot \sigma_i^2 \cdot \frac{N_{T_{i+1}} - N_T}{N_{T_{i+1}} - N_{T_i}} + T_{i+1} \cdot \sigma_{i+1}^2 \cdot \frac{N_T - N_{T_i}}{N_{T_{i+1}} - N_{T_i}} \right] \cdot \frac{N_{365}}{N_T}} \\
 &= \sqrt{\left[T_i \cdot \text{VSTOXX}_i^2 \cdot \frac{N_{T_{i+1}} - N_T}{N_{T_{i+1}} - N_{T_i}} + T_{i+1} \cdot \text{VSTOXX}_{i+1}^2 \cdot \frac{N_T - N_{T_i}}{N_{T_{i+1}} - N_{T_i}} \right] \cdot \frac{N_{365}}{N_T}}
 \end{aligned}$$

Where:

- N_{T_i} = Time to expiry of the i^{th} OESX
- $N_{T_{i+1}}$ = Time to expiry of the $i + 1^{\text{th}}$ OESX
- N_T = Time for next days
- N_{365} = Time for a standard year

Contact Us

Sales Continental Europe

France Schuster

Eurex Frankfurt AG
Neue Börsenstraße 1
60487 Frankfurt / Main
Germany

P: +49 (0)69 2 11-1 52 38
F: +49 (0)69 2 11-61 52 38

france.schuster@eurexchange.com

Paul Beck

Deutsche Börse AG
Representative Office France
17, rue de Surène
75008 Paris
France

P: +33 (0)155 2 76-7 72
F: +33 (0)155 276-7 50

paul.beck@eurexchange.com

Markus-Alexander Flesch

Eurex Zürich AG
Selnaustrasse 30
8021 Zürich
Switzerland

P: +41 (0)58 8 54-29 48
F: +41 (0)58 8 54-24 66

markus-alexander.flesch@eurexchange.com

Sales UK

Stuart Heath

Deutsche Börse AG
UK Representative Office
One Canada Square, Canary Wharf
London, E145DR
United Kingdom

P: +44 (0)207 8 62-72 53
F: +44 (0)207 8 62-92 53

stuart.heath@eurexchange.com

Sales US

Vassilis Vergotis

Eurex
233 Souch Wacker Drive - Suite 2450
Chicago, IL 60606
USA

P: +1 312 5 44-10 58
F: +1 312 5 44-15 58

vassilis.vergotis@eurexchange.com

Sales Asia & Middle East

Roland Schwinn

Eurex Frankfurt AG
50 Raffles Place
No 21-05 Singapore Land Tower
Singapore 048623

P: +65 6304-52 52
F: +65 6304-52 80

roland.schwinn@eurexchange.com

Contact Us

Buy Side Relations Continental Europe

Lothar Kloster

Eurex Frankfurt AG
 Neue Börsenstraße 1
 60487 Frankfurt / Main
 Germany

P: +49 (0)69 2 11-1 72 89
 F: +49 (0)69 2 11-61 72 89

lothar.kloster@eurexchange.com

Dimitar Dimitrov

Eurex Frankfurt AG
 Neue Börsenstraße 1
 60487 Frankfurt / Main
 Germany

P: +49 (0)69 2 11-1 82 33
 F: +49 (0)69 2 11-61 82 33

dimitar.dimitrov@eurexchange.com

Nicolas Kageneck

Deutsche Börse AG
 Representative Office France
 17, rue de Surène
 75008 Paris
 France

P: +33 (0)155 2 76-7 76
 F: +33 (0)155 2 76-7 50

nicolas.kageneck@eurexchange.com

Juan Martini

Eurex Zürich AG
 Selnaustrasse 30
 8021 Zürich
 Switzerland

P: +41 (0)58 8 54-28 14
 F: +41 (0)58 8 54-24 66

juan.martini@eurexchange.com

Buy Side Relations UK

Byron Baldwin

Deutsche Börse AG
 UK Representative Office
 One Canada Square, Canary Wharf
 London, E14 5DR
 United Kingdom

P: +44 (0)207 8 62-72 32
 F: +44 (0)207 8 62-92 32

byron.baldwin@eurexchange.com

Chris Dopp

Eurex
 233 South Wacker Drive - Suite 2450
 Chicago, IL 60606
 USA

P: +1 312 5 44-10 58
 P: +1 212 8 97-0249
 F: +1 312 5 44-15 58

chris.dopp@eurexchange.com

Fabian Buchheim

Eurex
 233 South Wacker Drive - Suite 2450
 Chicago, IL 60606
 USA

P: +1 312 5 44-10 92
 F: +1 312 5 44-15 92

fabian.buchheim@eurexchange.com

© Eurex 2011

Deutsche Börse AG (DBAG), Clearstream Banking AG (Clearstream), Eurex Frankfurt AG, Eurex Clearing AG (Eurex Clearing) as well as Eurex Bonds GmbH (Eurex Bonds) and Eurex Repo GmbH (Eurex Repo) are corporate entities and are registered under German law. Eurex Zürich AG is a corporate entity and is registered under Swiss law. Clearstream Banking S.A. is a corporate entity and is registered under Luxembourg law. U.S. Exchange Holdings, Inc. and International Securities Exchange Holdings, Inc. (ISE) are corporate entities and are registered under U.S. American law. Eurex Frankfurt AG (Eurex) is the administrating and operating institution of Eurex Deutschland. Eurex Deutschland and Eurex Zürich AG are in the following referred to as the “Eurex Exchanges”.

All intellectual property, proprietary and other rights and interests in this publication and the subject matter hereof (other than certain trademarks and service marks listed below) are owned by DBAG and its affiliates and subsidiaries including, without limitation, all patent, registered design, copyright, trademark and service mark rights. While reasonable care has been taken in the preparation of this publication to provide details that are accurate and not misleading at the time of publication DBAG, Clearstream, Eurex, Eurex Clearing, Eurex Bonds, Eurex Repo as well as the Eurex Exchanges and their respective servants and agents (a) do not make any representations or warranties regarding the information contained herein, whether express or implied, including without limitation any implied warranty of merchantability or fitness for a particular purpose or any warranty with respect to the accuracy, correctness, quality, completeness or timeliness of such information, and (b) shall not be responsible or liable for any third party’s use of any information contained herein under any circumstances, including, without limitation, in connection with actual trading or otherwise or for any errors or omissions contained in this publication.

This publication is published for information purposes only and shall not constitute investment advice respectively does not constitute an offer, solicitation or recommendation to acquire or dispose of any investment or to engage in any other transaction. This publication is not intended for solicitation purposes but only for use as general information. All descriptions, examples and calculations contained in this publication are for illustrative purposes only.

Eurex and Eurex Clearing offer services directly to members of the Eurex exchanges respectively to clearing members of Eurex Clearing. Those who desire to trade any products available on the Eurex market or who desire to offer and sell any such products to others or who desire to possess a clearing license of Eurex Clearing in order to participate in the clearing process provided by Eurex Clearing, should consider legal and regulatory requirements of those jurisdictions relevant to them, as well as the risks associated with such products, before doing so.

Eurex derivatives (other than EURO STOXX 50® Index Futures contracts, EURO STOXX® Select Dividend 30 Index Futures contracts, STOXX® Europe 50 Index Futures contracts, STOXX® Europe 600 Index Futures contracts, STOXX® Europe Large/Mid/Small 200 Index Futures contracts, EURO STOXX® Banks Futures contracts, STOXX® Europe 600 Banks/Industrial Goods & Services/Insurance/Media/Personal & Household Goods/Travel & Leisure/Utilities Futures contracts, Dow Jones Global Titans 50 IndexSM Futures contracts, DAX® Futures contracts, MDAX® Futures contracts, TecDAX® Futures contracts, SMIM® Futures contracts, SLI Swiss Leader Index® Futures contracts, Eurex inflation/commodity/weather/property and interest rate derivatives) are currently not available for offer, sale or trading in the United States or by United States persons.