X-pand into the **Future**

Eurex Seminars

Volatility in Eurex Fixed Income Options

Chicago, September 26, 2007

Agenda

- Introduction
- Technological Achievements to Date
- Planned Technology Upgrades
- Introduction to Eurex Fixed Income Options Markets

Speakers

- Heike Eckert, Executive Vice President, Eurex
- Stephan Reinartz, Executive Vice President,
  Deutsche Börse Systems, Inc.
- Jürg Spillmann, Member of the Executive Board, Eurex
- Gerhard Leßmann, Member of the Executive Board,
  Deutsche Börse Systems AG
- Dr. Paul Wilmott, Founder, Wilmott Magazine

Who is Eurex and DBS?

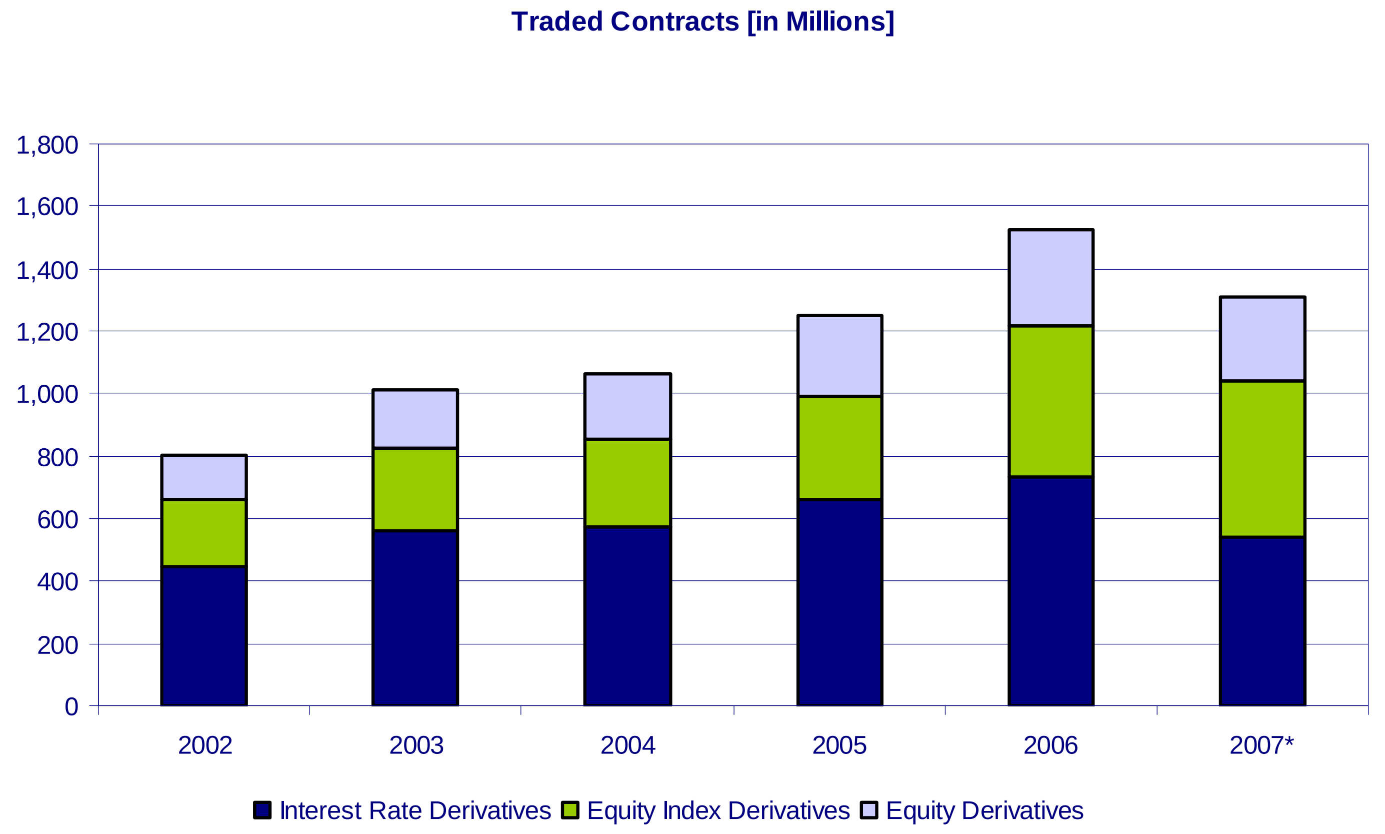
- Eurex
  - Eurex is one of the world's largest derivatives exchanges and the leading clearing house in Europe with an average daily volume in 2007 of 7.6 million contracts
  - Eurex offers decentralized access from around the globe to the benchmark futures and options market for European derivatives
  - Eurex offers significant advantages in terms of speed, anonymity, cost, fairness and reduced risk
- Deutsche Börse Systems (DBS)
  - DBS acts as the information technology services provider for Eurex as well as 16 other exchanges worldwide
  - DBS supports the full IT supply chain with application development, hard- and software operations, networks and customer technical support
  - The ‚follow-the-sun' model with operations centers in Frankfurt - Germany and Chicago, enables U.S. based clients to have access to the optimum of technical support and expertise in every time-zone

Eurex Product Portfolio

	Products
Interest Rate Derivatives	• Futures on Euro-Schatz, Euro-Bobl, Euro-Bund and Euro-Buxl® and options on these futures • Futures on CONF • One-Month EONIA Futures, Three-Month EURIBOR Futures and options on these futures
Equity Derivatives	• Over 200 equity options and over 410 single stock futures covering most of DAX®, MDAX®, SMI®, Euro STOXX® and STOXX® components
Equity Index Derivatives	• Futures and options on the most liquid Global, European and national indexes like the Dow Jones Global Titans 50SM Index, Dow Jones EURO STOXX 50® Index, DAX® or SMI® as well as derivatives on 18 different sectors.
Volatility Index Futures	• VDAX-NEW®, VSMI® and VSTOXX® Futures
ETF Derivatives	• ETFs based on DAX®, SMI® and the Dow Jones EURO STOXX 50® Index
Credit Derivatives	• iTraxx® Europe Crossover 5-year Index, iTraxx® Europe 5-year Index and iTraxx® Europe HiVol 5-year Index Futures

Only a limited number of asset classes and products are CFTC-approved and are available for trading directly from U.S. based terminals
For the full product list please visit http://www.eurexchange.com/trading/products_en.html

Eurex Volume by Product Segment



* Source: Eurex, As of August 31, 2007

X-pand into the **Future**

Jürg Spillmann

Eurex invests in challenging goals to lead on functionality and technology exchange offerings

- **Quote transactions**
  Enhance quote transaction capability to 1.6 billion per day by 2009. (Current observed peak 0.23 billion in 10/2006)
- **Order book updates**
  Enhance the number of order book updates per sec. from current observed peak of 125 to 2,500 (Futures) and from 1,800 to 10,000 (Options) by 2009
- **Number of products/series**
  Technology to support an increase in the number of products and series
- **Traded contracts**
  Scalability: System to support 25% per annum increase in the number of traded contracts until 2009

Eurex Technology Roadmap

Eurex Technology Roadmap focuses on close interaction with customers to meet industry goals

Functionality

Member Access/ Connectivity

- Lean API or socket with reduced functionality
- Text or binary interface without server requirements
- Protocol (e.g. Fix) to lower entry barrier

Risk Management/ Market Surveillance

- Real-time risk monitoring to protect clearing firms
- Surveillance systems able to process the load and identify sophisticated trading schemes in conformance to market rules

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Timing

Latency and Throughput

- Reduction of latency for order and quote transactions, especially in peak situations
- Increase overall system capacity

Broadcast

- Real-time data, not netted
- Every change to the order book, but not necessarily depth of ten

eurex

Accessibility / Connectivity

Functional.

Member Access/ Connectivity

Risk Management/ Market surveillance

Achievements

- Market/Performance-driven extension of bandwidth from 64 Kbps to 1 Mbps implemented in two steps (Nov. 2005 & Dec. 2006)
- By means of increasing the existing bandwidth of factor eight, sufficient capacity has been generated for further growth and improved service during transmission of price data.
- FIX adapter with basis functionality allows easy connectivity for new customers.

Further Measures for Implementation

- Offering of high bandwidth connections tailored to customers' bandwidth requirements (Nov. 2007)
- Enhancement of exchange connectivity via one consolidated programmable interface
- Protocol based interface to allow high-performance and platform independent integration in market participants technical infrastructure

Risk management functionality

Functional.

Member Access/ Connectivity

Risk Management/ Market surveillance

Achievements	- Provision of real time risk information via exchange broadcast feed - Enhanced application for the distribution of Clearing Reports every 15 minutes - Optimization of Intraday Margin Process due to continuous improvements in Trading and Clearing integration
Further Measures for Implementation	- Clearing Members will be provided with additional functionality to better control pre-trade risk of their Non-Clearing Members - Real-time risk monitoring will be further improved to protect clearing firms - Surveillance systems able to process the load and identify sophisticated trading schemes in conformance to market rules

X-pand into the **Future**

Gerhard Leßmann

Low latency

Timing

Latency and Throughput

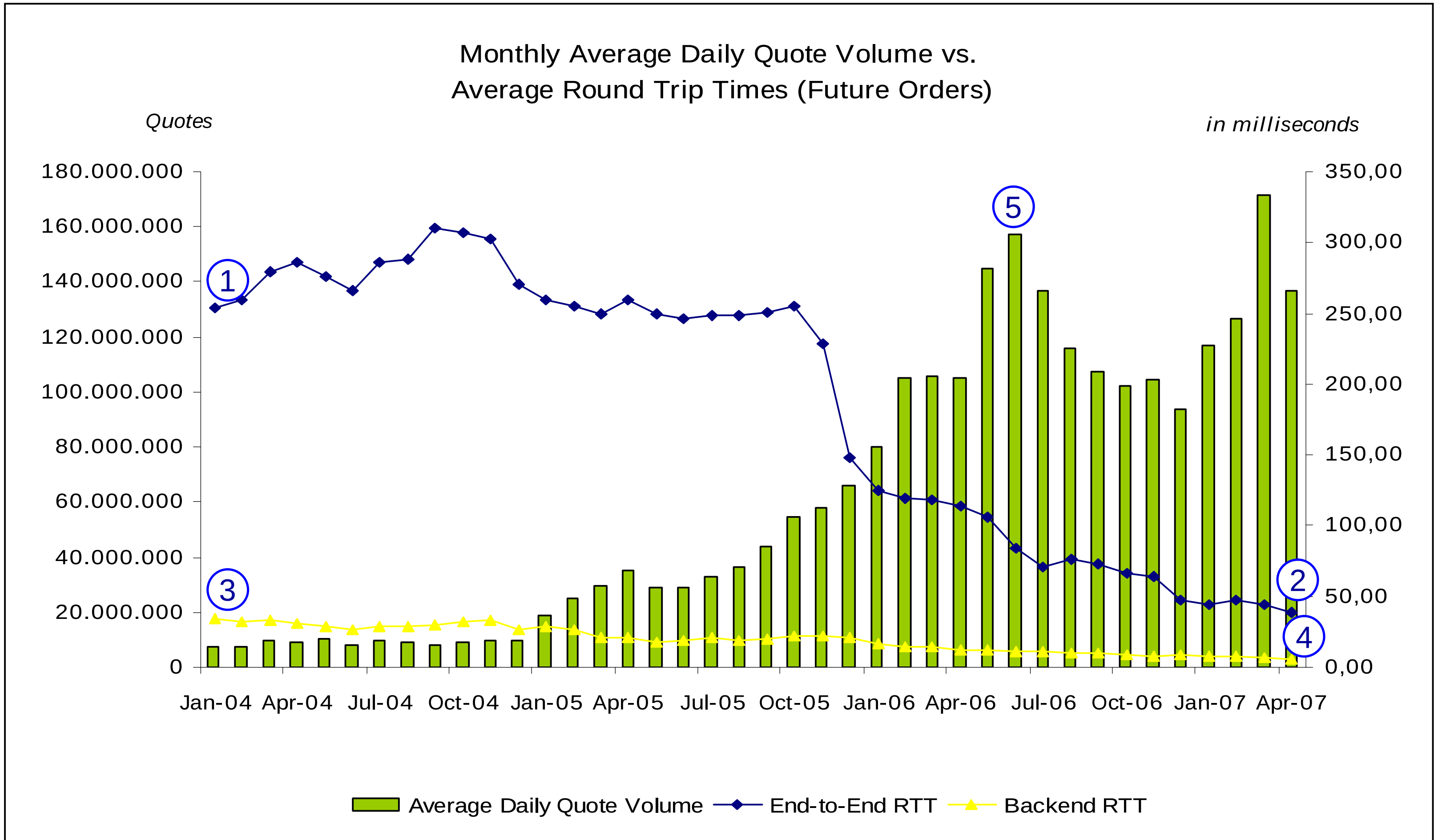
Broadcast

Achievements	- Higher bandwidth connections from 64 kbps (Nov 2005) to 1 Mbps introduced in Dec 2006 - Implementation of additional system power to decrease processing time in Dec 2006 - Introduction of next generation processors (Itanium) in Jan 2007 - Support co-location (Proximity Services) by offering hosting in same place as Frankfurt Access Point in Oct 2006 - Reduction of Roundtrip time down to “best values” of 10ms in Frankfurt and 148ms in New York*
Further Measures for Implementation	- Further enhancements to Software and Hardware will be implemented with Eurex Release 10.0 (Nov. 2007) - Introduction of separate Broadcast and Transaction infrastructure (planned for H1 2008)

*Round Trip Time: Processing time for a transaction sent from a customer server to the exchange, being processed and sent back to the customer server.

The average Roundtrip time has been reduced from 120ms to 42ms (incl. USA).

Round-trip times were reduced significantly with simultaneously rising transaction volumes



RTT: Round Trip Time

1 (Jan 2004), End-to-End RTT= 254ms

2 (Mar 2007), End-to-End RTT= 42ms

3 (Jan 2004), Backend RTT= 34ms

4 (Mar 2007), Backend RTT= 8ms

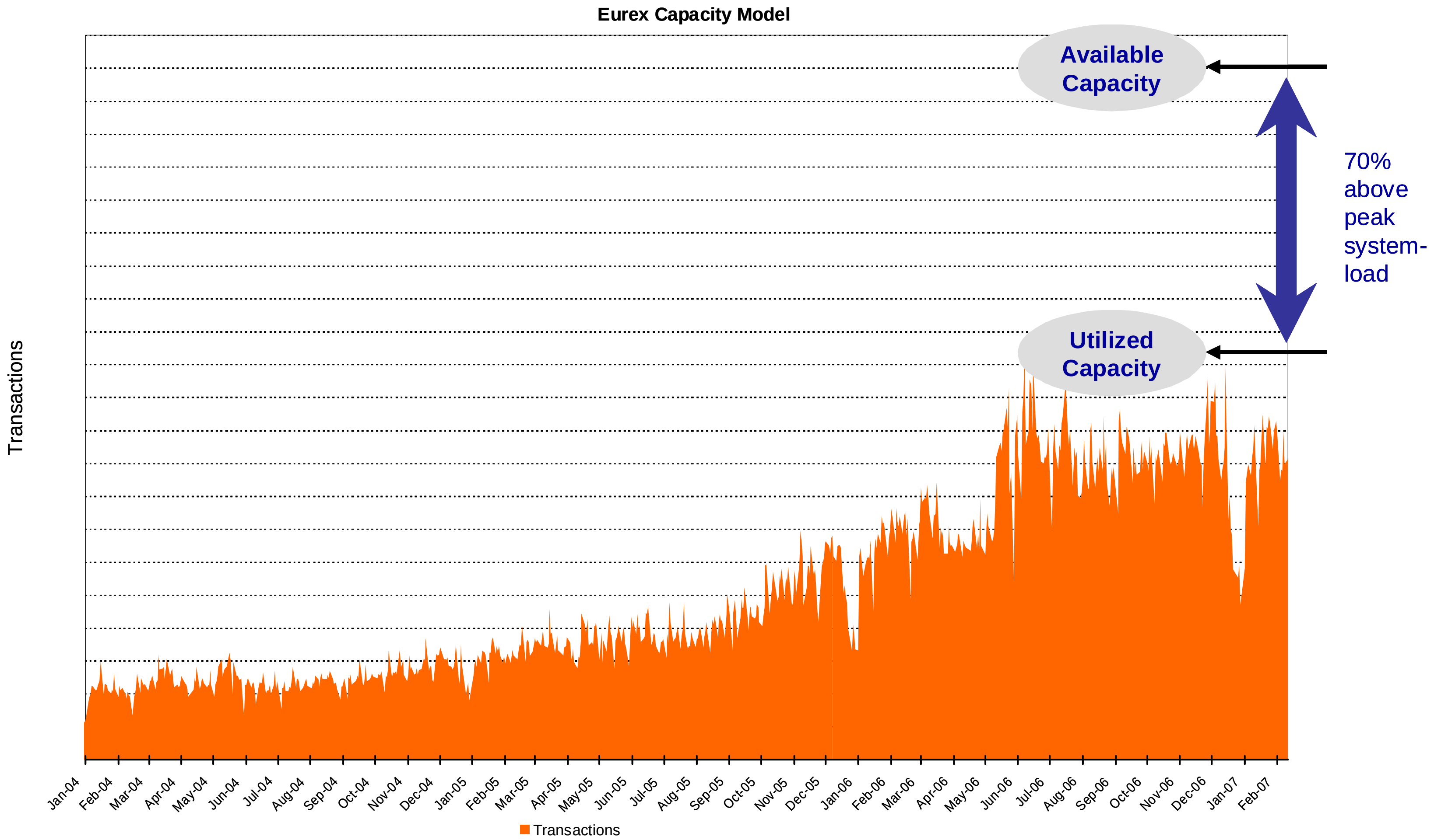
5 (Jul 2006), Average Daily Quote Volume= 158Mil

Higher throughput

Timing → Latency and Throughput | Broadcast

Achievements	▪ Additional host devices installed in late 2006 have increased capacity headroom to 70% ▪ Usage of Itanium processors (in Jan 2007 - being one of the first exchanges) to further increase capacity ▪ Although transaction volumes increased significantly no processing queues occurred
Further Measures for Implementation	▪ Ongoing hardware and software optimization measures (full switch to Itanium, more host devices depending on demand) exploiting the scalability of the Eurex system architecture ▪ An upgrade of the Eurex matching engine performance will not only reduce single product latency but also increase overall capacity

Eurex capacity headroom provides the solid basis to handle further system load



Broadcast concept

Timing	
	Latency and Throughput
	Broadcast

Achievements	The introduction of a new Broadcast Solution in Dec. 2006 included: • the distribution of un-netted market data and current order book depths • high bandwidth connections to receive the full range of market data • an easy to program Socket Interface that can be easily integrated into customer trading environments. 80 customers have migrated to this value adding technology so far.
Further Measures for Implementation	The “Enhanced Broadcast Solution” will include*: • A new data distribution mechanism containing all order book depth. • A sophisticated subscription model which allows to subscribe according to individual customer requirements • Usage of IP Multicast instead of TCP increases scalability while reducing latency. • Connect members via dedicated data lines with higher capacity and close to industry standard (FIX).

*Scheduled for Q4 Quarter 2007

Proximity Services - Setup

- Customers can choose between two data centers, where Deutsche Börse Systems has installed its own infrastructure to reduce latency by placing the trading engine physically close to the market
- Additional services:
  - Remote access to the trading engine via ExServes Management Link
  - Hardware setup, maintenance and continuous monitoring via ExServes RSM

Market	Proximity	Frankfurt	London	Chicago
Eurex / Options	13ms	14ms	29ms	n/a
Eurex / Futures	15ms	16ms	29ms	126ms
Xetra	16ms	18ms	34ms	--

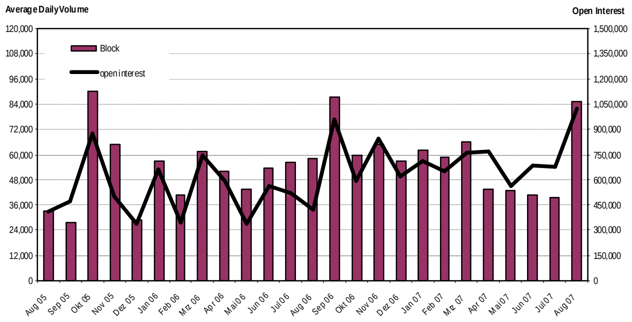
(Average RTT Host-MISS for best MISS with more than 1000 transactions)

X-pand into the **Future**

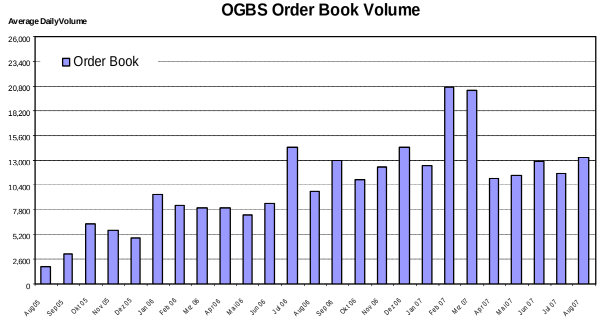
Heike Eckert

Eurex Fixed Income Options Volume Development

OGBS OTC

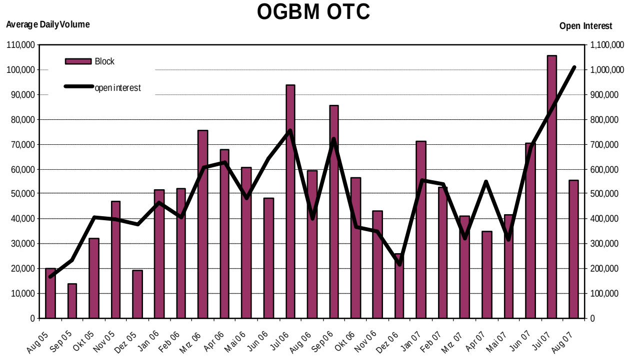


OGBS Order Book Volume

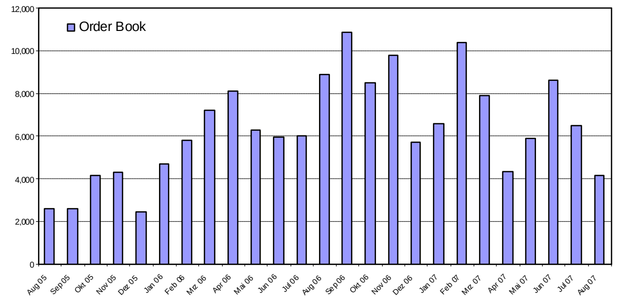


OGBS	Order Book	Block	avg cpd	OI end of month	Order Book
Aug 06	14.4%	85.6%	67,564	424,799	9,761
Sep 06	12.9%	87.1%	100,379	954,340	12,996
Okt 06	15.6%	84.4%	70,691	590,723	11,000
Nov 06	15.9%	84.1%	77,281	843,262	12,290
Dez 06	20.2%	79.8%	71,232	623,085	14,406
Jan 07	16.7%	83.3%	74,696	708,875	12,476
Feb 07	26.1%	73.9%	79,264	644,882	20,720
Mrz 07	23.5%	76.5%	86,544	757,182	20,378
Apr 07	20.2%	79.8%	54,695	769,719	11,074
Mai 07	21.1%	78.9%	54,034	566,433	11,382
Jun 07	24.2%	75.8%	53,223	684,375	12,902
Jul 07	22.8%	77.2%	50,849	675,049	11,591
Aug 07	13.6%	86.4%	98,368	1,022,283	13,379

OGBM OTC

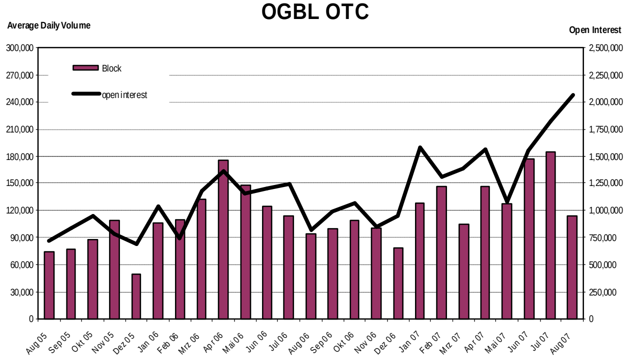


OGBM Order Book Volume

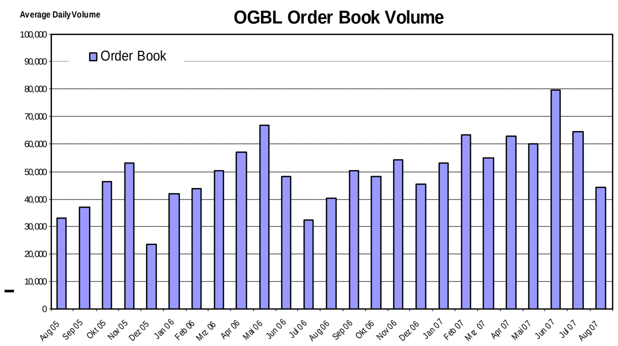


OGBM	Order Book	Block	avg cpd	OI end of month	Order Book
Aug 06	13.0%	87.0%	68,335	399,564	8,872
Sep 06	11.3%	88.7%	96,607	721,472	10,897
Okt 06	13.0%	87.0%	65,120	366,218	8,491
Nov 06	18.6%	81.4%	52,679	349,766	9,811
Dez 06	18.0%	82.0%	31,644	214,552	5,689
Jan 07	8.5%	91.5%	77,835	553,300	6,589
Feb 07	16.5%	83.5%	62,935	538,621	10,400
Mrz 07	16.1%	83.9%	48,866	320,649	7,891
Apr 07	11.1%	88.9%	39,111	550,549	4,343
Mai 07	12.3%	87.7%	47,648	313,578	5,882
Jun 07	10.9%	89.1%	79,056	686,888	8,615
Jul 07	5.8%	94.2%	111,951	843,325	6,492
Aug 07	6.9%	93.1%	59,817	1,010,183	4,130

OGBL OTC

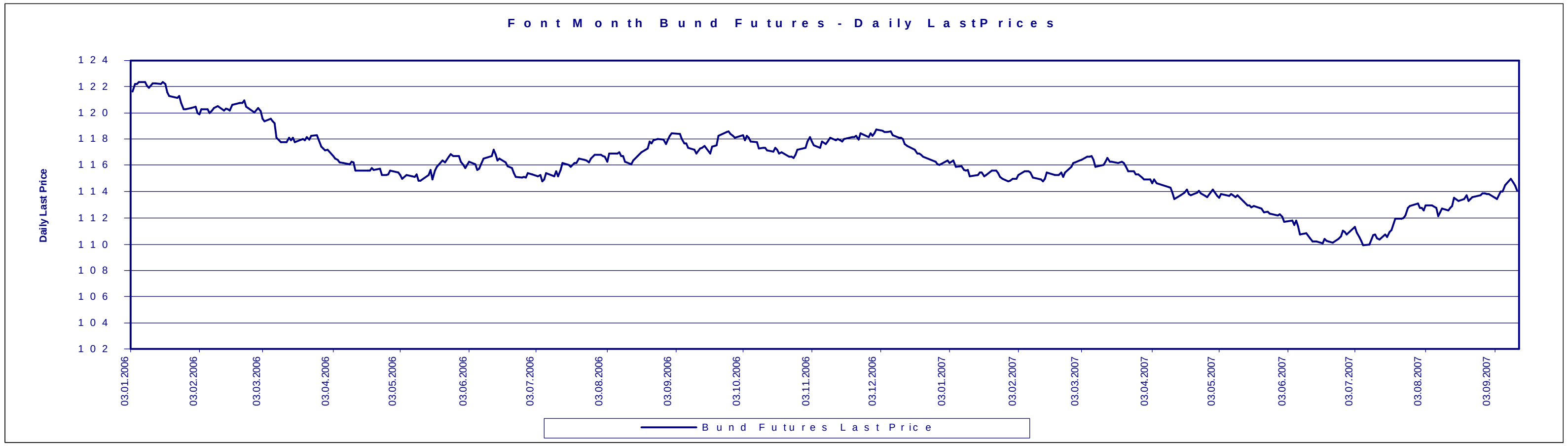


OGBL Order Book Volume

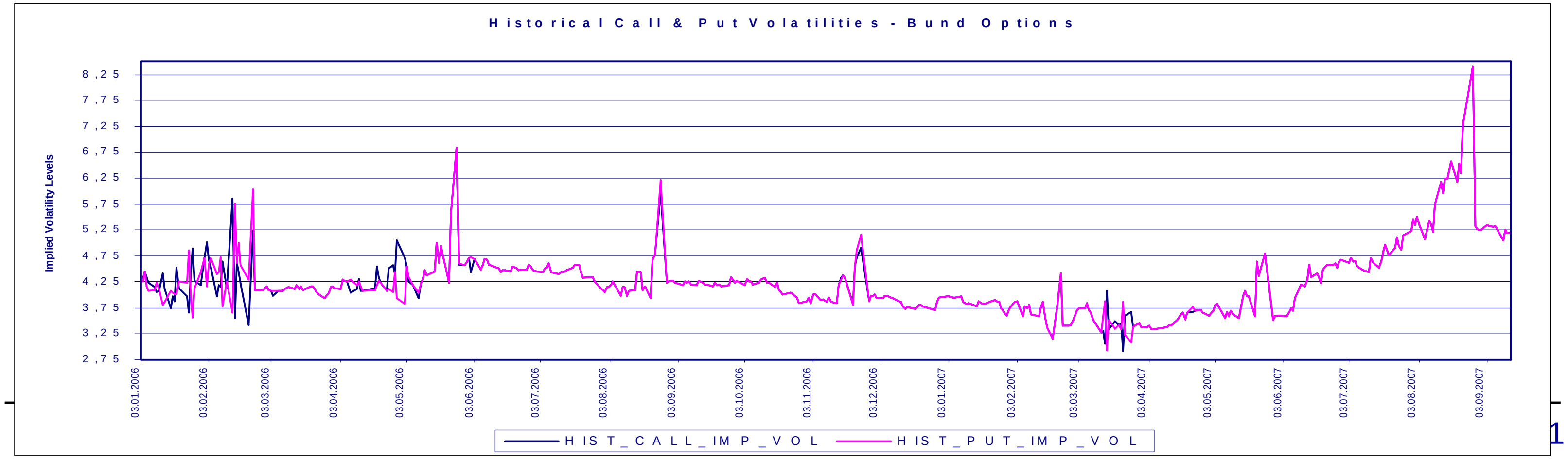


OGBL	Order Book	Block	avg cpd	OI end of month	Order Book
Aug 06	29.8%	70.2%	134,615	813,827	40,142
Sep 06	33.4%	66.6%	150,006	993,130	50,076
Okt 06	30.9%	69.1%	156,531	1,071,848	48,332
Nov 06	34.9%	65.1%	155,242	853,291	54,169
Dez 06	36.6%	63.4%	124,100	949,173	45,396
Jan 07	29.2%	70.8%	181,452	1,588,074	53,068
Feb 07	30.2%	69.8%	209,705	1,310,403	63,425
Mrz 07	34.4%	65.6%	159,568	1,391,596	54,824
Apr 07	30.2%	69.8%	209,355	1,566,186	63,122
Mai 07	32.2%	67.8%	186,939	1,082,572	60,150
Jun 07	31.1%	68.9%	256,289	1,550,047	79,725
Jul 07	25.9%	74.1%	249,357	1,822,946	64,573
Aug 07	27.9%	72.1%	158,730	2,060,802	44,351

Market Trends



- Euro Fixed Income Futures have recently shown strong price movements
- This is also reflected in a strong increase in volatility



Onscreen Liquidity

Markets are quoted for Bund Options,

Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OGBL JUL07					11000			0.02	1,250
OGBL JUL07					11050	7,834	0.02	0.03	4,150
OGBL JUL07	50	1.29	1.37	50	11100	8,652	0.06	0.07	906
OGBL JUL07	50	0.90	0.95	117	11150	3,078	0.15	0.16	2,247
OGBL JUL07	463	0.57	0.60	200	11200	240	0.31	0.32	1,580
OGBL JUL07	1,186	0.32	0.34	980	11250	440	0.55	0.57	340
OGBL JUL07	4,812	0.16	0.18	4,520	11300	117	0.88	0.92	206
OGBL JUL07	8,446	0.07	0.09	8,509	11350	50	1.28	1.34	50
OGBL JUL07	6,700	0.03	0.04	8,168	11400	50	1.73	1.81	50
OGBL JUL07	9,908	0.01	0.02	4,107	11450	50	2.21	2.29	50
OGBL JUL07			0.01	1,000	11500	50	2.70	2.78	50
OGBL JUL07			0.02	200	11550				

Bobl Options

Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OGBM JUL07	100	0.78	0.84	100	10600	3,354	0.02	0.03	1,280
OGBM JUL07	50	0.57	0.62	100	10625	4,412	0.05	0.07	4,612
OGBM JUL07	100	0.39	0.41	150	10650	2,638	0.11	0.13	2,487
OGBM JUL07	882	0.24	0.26	675	10675	900	0.21	0.23	1,790
OGBM JUL07	2,138	0.13	0.15	2,138	10700	650	0.35	0.37	700
OGBM JUL07	3,006	0.06	0.08	2,686	10725	650	0.53	0.55	500
OGBM JUL07	150	0.03	0.04	4,312	10750	150	0.72	0.77	200
OGBM JUL07	1,630	0.01	0.02	1,330	10775	100	0.95	1.00	150

and Schatz Options

Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OGBS JUL07	175	0.280	0.305	175	10240	1,300	0.005	0.010	1,300
OGBS JUL07	175	0.195	0.220	175	10250	4,511	0.015	0.025	3,968
OGBS JUL07	175	0.125	0.140	150	10260	3,611	0.040	0.050	2,657
OGBS JUL07	1,603	0.070	0.080	2,457	10270	2,720	0.080	0.095	2,926
OGBS JUL07	1,657	0.035	0.045	3,835	10280	2,050	0.145	0.155	50
OGBS JUL07	1,350	0.015	0.025	5,224	10290	900	0.225	0.240	950
OGBS JUL07	2,450	0.005	0.015	1,300	10300	175	0.305	0.330	175
OGBS JUL07	1,200	0.005	0.010	1,200	10310	50	0.385	0.440	150

Source: Eurex Trading System on May 25th at 17:00 CET

Onscreen Liquidity – Back Months

Also for options based on the back month futures

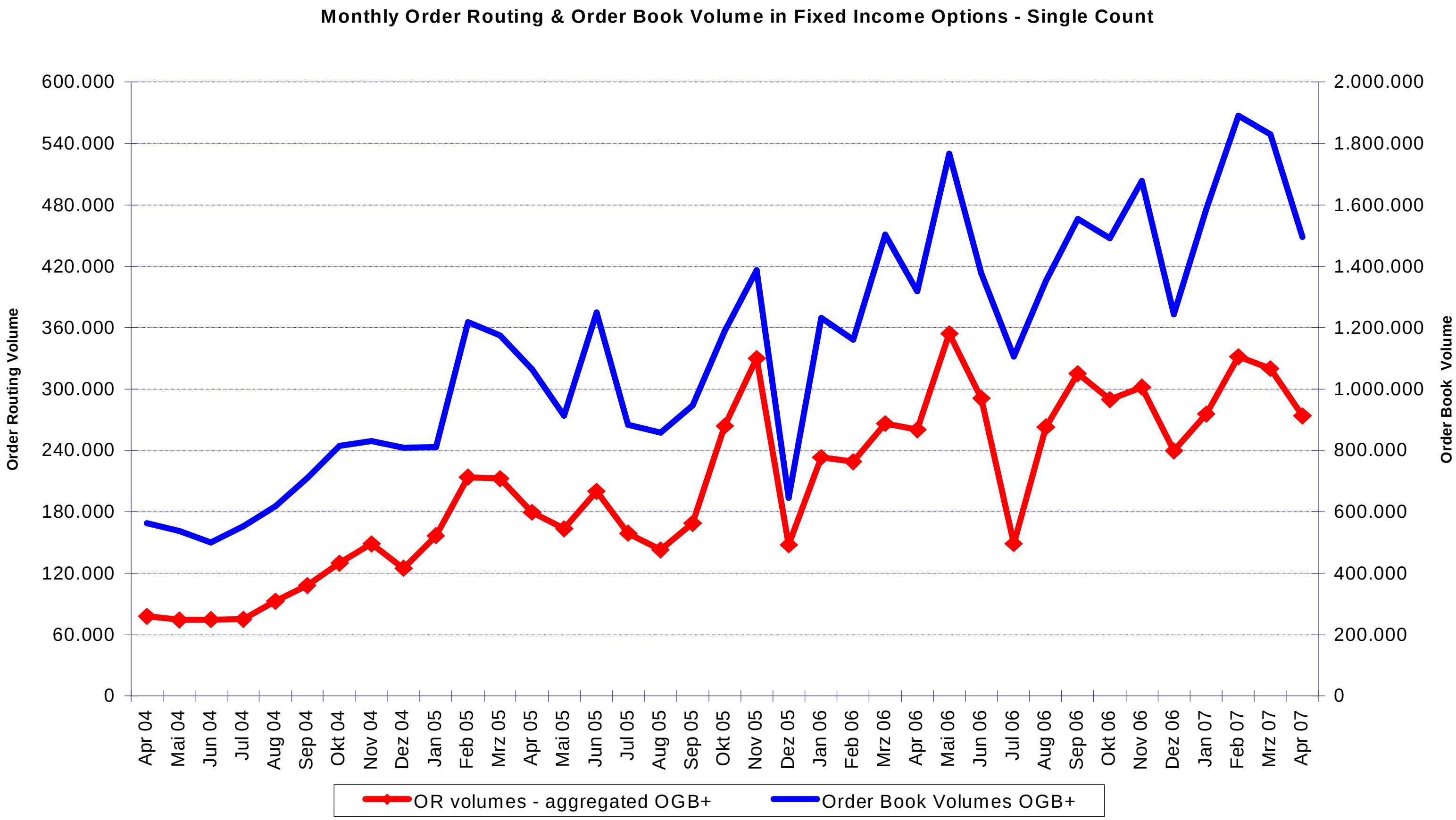
Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OGBL SEP07					10800	880	0.01	0.02	600
OGBL SEP07					10850	1,904	0.02	0.03	3,384
OGBL SEP07					10900	1,104	0.04	0.05	3,884
OGBL SEP07					10950	3,081	0.07	0.08	600
OGBL SEP07					11000	3,611	0.12	0.14	3,911
OGBL SEP07					11050	300	0.20	0.21	2,280
OGBL SEP07					11100	2,529	0.30	0.32	330
OGBL SEP07					11150	607	0.46	0.48	1,832
OGBL SEP07	306	0.91	0.94	152	11200	180	0.66	0.68	780
OGBL SEP07	356	0.66	0.69	150	11250	150	0.90	0.93	267
OGBL SEP07	607	0.47	0.49	757	11300	150	1.20	1.23	150
OGBL SEP07	330	0.32	0.33	989	11350				
OGBL SEP07	3,853	0.20	0.22	3,361	11400				
OGBL SEP07	1,150	0.13	0.14	2,884	11450				
OGBL SEP07	750	0.08	0.09	3,361	11500				
OGBL SEP07	3,861	0.04	0.06	3,961	11550				
OGBL SEP07	3,738	0.02	0.04	3,811	11600				
OGBL SEP07	3,834	0.01	0.03	3,334	11650				

Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OGBM SEP07					10475	1,087	0.01	0.02	780
OGBM SEP07					10500	3,168	0.01	0.03	2,284
OGBM SEP07					10525	3,091	0.03	0.05	3,091
OGBM SEP07					10550	3,218	0.05	0.07	2,591
OGBM SEP07					10575	700	0.09	0.10	400
OGBM SEP07					10600	500	0.14	0.15	380
OGBM SEP07	100	0.73	0.77	100	10625	1,888	0.20	0.22	1,261
OGBM SEP07	100	0.57	0.61	256	10650	1,238	0.29	0.31	1,338
OGBM SEP07	475	0.43	0.45	525	10675	525	0.40	0.42	1,059
OGBM SEP07	130	0.32	0.34	575	10700	350	0.53	0.55	50
OGBM SEP07	150	0.23	0.24	1,238	10725	150	0.69	0.72	350
OGBM SEP07	1,936	0.15	0.17	1,468	10750	100	0.84	0.90	100
OGBM SEP07	1,030	0.10	0.11	200	10775				
OGBM SEP07	3,118	0.06	0.08	3,118	10800				
OGBM SEP07	200	0.04	0.05	2,438	10825				
OGBM SEP07	550	0.02	0.03	1,204	10850				
OGBM SEP07	1,587	0.01	0.02	400	10875				

Contract	CBidQty	CBid	CAsk	CAskQty	Strike	PBidQty	PBid	PAsk	PAskQty
OGBS SEP07					10210	1,192	0.005	0.015	1,192
OGBS SEP07					10220	2,811	0.010	0.020	4,061
OGBS SEP07					10230	3,061	0.020	0.030	3,586
OGBS SEP07					10240	100	0.040	0.045	957
OGBS SEP07	175	0.245	0.270	175	10250	100	0.065	0.075	3,013
OGBS SEP07	578	0.185	0.195	353	10260	100	0.100	0.110	2,113
OGBS SEP07	1,016	0.130	0.145	753	10270	741	0.145	0.155	353
OGBS SEP07	1,159	0.090	0.100	1,711	10280	50	0.205	0.215	50
OGBS SEP07	775	0.060	0.070	3,235	10290	250	0.270	0.285	425
OGBS SEP07	3,563	0.035	0.045	4,303	10300	250	0.350	0.365	250
OGBS SEP07	3,586	0.020	0.030	3,461	10310	250	0.435	0.450	250
OGBS SEP07	3,663	0.010	0.020	3,586	10320				
OGBS SEP07	427	0.005	0.015	350	10330				

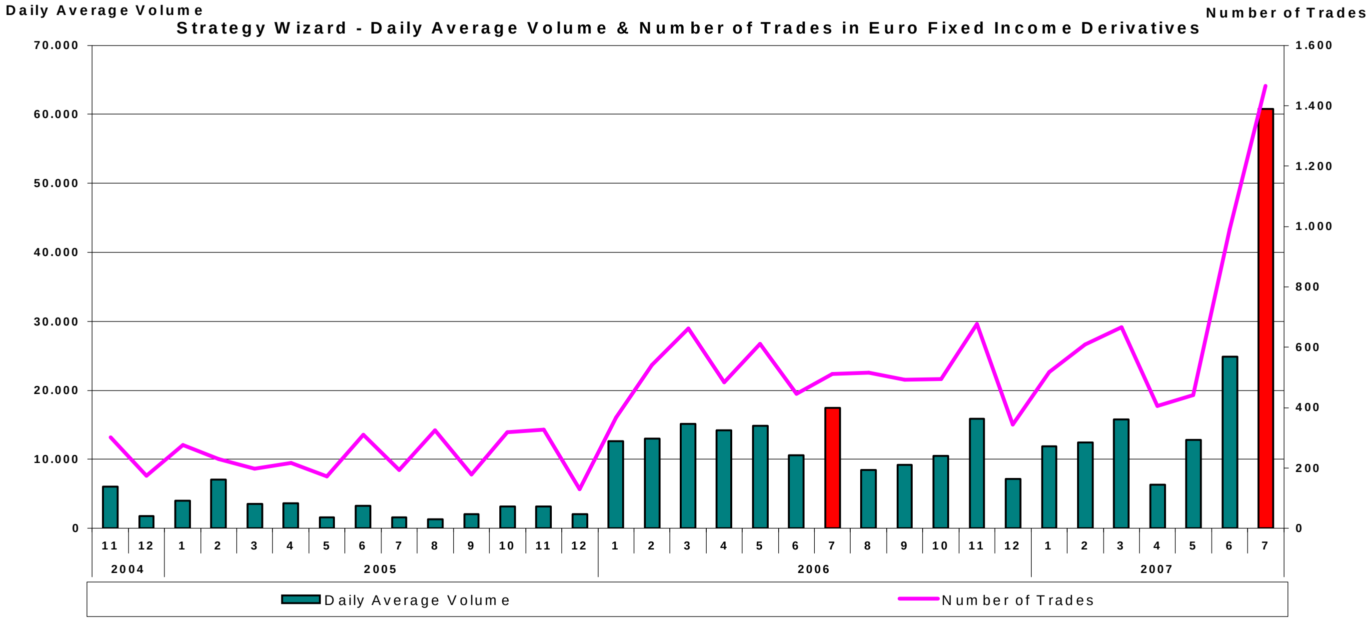
Source: Eurex Trading System on May 25th at 17:00 CET

Development of Order Routing Volume



- With the introduction of continuous quotation, onscreen volumes have nearly tripled
- Today, over four times as much order routing business is transacted in FI options than in 2004

Strategy Wizard - Volume in Fixed Income Options



Strategy	Contract	BidQty	Bid	Ask	AskQty
BER	OGBL BER JUL07 11250 - 11200	750	0.24	0.25	750
BUL	OGBL BUL JUL07 11300 - 11400	750	0.13	0.14	750
BUL	OGBL BUL JUL07 11250 - 11350	750	0.25	0.26	750
BER	OGBL BER SEP07 11450 - 11250	300	1.45	1.46	300
STD	OGBL STD JUL07 11250	250	0.88	0.90	250
STG	OGBL STG JUL07 11150 - 11350	250	0.22	0.25	250
BER	OGBM BER JUL07 10700 - 10650	150	0.23	0.24	150
BER	OGBM BER JUL07 10700 - 10675	150	0.13	0.15	150
STD	OGBL STD AUG07 11250	150	1.28	1.31	150
STD	OGBL STD SEP07 11250	100	1.58	1.60	100
CNV	OGBL CNV SEP07 11300	50	-0.74	-0.70	50
STD	OGBM STD JUL07 10675	50	0.45	0.47	50
STD	OGBM STD JUL07 10700	50	0.48	0.50	50

- Average Strategy Wizard volume in fixed income options has risen to over 15,000 contracts per day since 2006, but utilization has grown in 2007
- Select market makers are mass quoting strategies
- An increasing number of brokers are using the Strategy Wizard for the entry of OTC Block Trades in Strategies

Source: Eurex Trading System on May 25th at 17:00 CET

Contact Information

Eurex

- www.eurexchange.com

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