Today's Presentation

- Introduces you to Eurex
  - the company
  - its products
  - and its technology

- Describes the competitive and regulatory landscape in which exchanges are operating

- At the end of the presentation:
  - Explore specific topics in special ‘Focus’ sessions
  - Focus on product development: Euro-BTP Futures
  - Focus on trading: explore the Eurex trading front-end and quantitative examples
# Agenda

## Company Overview
- U.S. vs European Market Model
- Products
- Exchange Participants
- Clearing
- Exchange Connectivity
- Focus Products: Euro-BTP Futures
- Focus Trading: Trading at Eurex
Eurex is One of the Top Derivatives Markets Worldwide
Eurex Offers Some of the Most Actively Traded Derivatives Products Worldwide

Traded Contracts
Eurex Services

- Exchange traded futures & options
- Fully electronic, anonymous trading platform
- 2009 total volume ≈ 2.65 Billion contracts (Eurex + ISE)
  \(\text{\(\sim\)}\) i.e. an average of 10.5 Million contracts a day

- Key Products & U.S. Equivalents

<table>
<thead>
<tr>
<th>Eurex</th>
<th>U.S. Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Index Futures:</td>
<td></td>
</tr>
<tr>
<td>€EURO STOXX 50® Index Futures</td>
<td>€E-mini S&amp;P 500 Futures</td>
</tr>
<tr>
<td>€DAX® Futures</td>
<td>€S&amp;P 500 Futures</td>
</tr>
<tr>
<td>Fixed Income Futures:</td>
<td></td>
</tr>
<tr>
<td>€Euro-Schatz Futures</td>
<td>€2 year Treasury Note Futures</td>
</tr>
<tr>
<td>€Euro-Bobl Futures</td>
<td>€5 Year Treasury Note Futures</td>
</tr>
<tr>
<td>€Euro-Bund Futures</td>
<td>€10 Year Treasury Note Futures</td>
</tr>
</tbody>
</table>


Eurex Services

- Eurex currently has more than 400 direct members connected from 24 countries (80% in Europe, 19% in the U.S. and 1% in Asia)
  - Investment banks
  - Execution brokers
  - Clearers
  - Proprietary trading groups
  - Market makers
  - Hedge funds and Institutional investor groups

- Hundreds of financial institutions located in countries where Eurex can not offer direct connectivity yet route their orders through already established Eurex members

- Eurex offers decentralized access from around the globe to the benchmark futures and options market for European derivatives
A Global Marketplace - 405 Members in 24 Countries

- **Host**
- **Access point** (number of connected members in brackets)
- **Additional member sites**
- **Direct exchange connection**
- **Applying for direct exchange connection**
Eurex Ownership Structure

SIX Swiss Exchange AG

Deutsche Boerse AG

Eurex Zürich AG*

34.73%

European Energy Exchange AG

Eurex Deutschland**

Eurex Frankfurt AG

100%

Eurex Clearing AG

100%

Eurex/US Exchange Holding, Inc.

100%

Eurex Repo GmbH

100%

Eurex Bonds GmbH

79.44%

BSP Regionalna Energetska Borza d.o.o. (SouthPool)

49%

International Securities Exchange Holdings, Inc.

100%

* Also an Exchange under Swiss Law

** Exchange under public law according to German law
## Historical Evolution

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1585</td>
<td>Right to regulate official exchange rates granted to the city of Frankfurt</td>
</tr>
<tr>
<td>1988</td>
<td>Electronic trading of Swiss stock options launched at SOFFEX</td>
</tr>
<tr>
<td>1990</td>
<td>Launch of electronic trading of options and futures on German securities at DTB (Deutsche Terminbörse)</td>
</tr>
<tr>
<td>1998</td>
<td>DTB and SOFFEX merge to form Eurex</td>
</tr>
<tr>
<td>1998</td>
<td>After eight years of competition with LIFFE, Eurex wins the battle for the Bund Future: electronic trading vs floor trading</td>
</tr>
<tr>
<td>1998</td>
<td>EURO STOXX 50® introduced and futures and options trading launched</td>
</tr>
<tr>
<td>1999</td>
<td>Eurex’s Bund Future becomes the most actively traded futures contract in the world</td>
</tr>
<tr>
<td>2001</td>
<td>IPO of Deutsche Börse AG</td>
</tr>
<tr>
<td>2007</td>
<td>Eurex acquires the International Securities Exchange (ISE)</td>
</tr>
<tr>
<td>2010</td>
<td>Eurex receives regulatory approval from Autorité des marchés financiers (AMF) in Québec, Canada</td>
</tr>
<tr>
<td>2010</td>
<td>Eurex and Singapore Exchange (SGX) launched SGX EURO STOXX 50® Index Futures in Asia</td>
</tr>
</tbody>
</table>
Eurex Subsidiaries: International Securities Exchange (ISE)

- 100% subsidiary of Eurex
- One of the largest equity option markets in the U.S with a market share of 20%.
- The ISE traded approx. 1 billion contracts in 2009, i.e. an average of 4 million contracts a day.

2009 Equity Options Industry Market Share by Exchange
Eurex Subsidiaries: Eurex Clearing

• 100% subsidiary of Eurex
• One of the largest clearing houses in the world, clearing stock, bonds and derivatives
• The clearing house through its role as central counterparty (CCP) acts as principal to both sides of the trade thus mitigating counterparty credit issues
  - Eliminate counterparty risk
  - Anonymity
• Centrally cleared contracts allow all the benefits of:
  - Netting
  - Real time position keeping
  - Trade validation and
  - All of the post-trade processes necessary for settlement and risk management purposes
• Standardized Clearing in combination with harmonized products
  - Increase speed of trading
  - Increase liquidity and transparency
Strong Growth in Contract Volume

- Eurex reached the 1 billion traded contracts threshold for the first time in 2003
- Surpassed 1.5 billion contracts and grew more than 22% in 2006
- In 2009 roughly 1.7 billion contracts were traded at Eurex
Benefits of Exchange Trading

- **Speed**
  - Trading is not rerouted through an intermediary
  - Co-Location services allow further reduction of order roundtrip times (~ 2 ms)
  - Network uptime 99.997%

- **Anonymity**
  - Direct Market Access provides complete anonymity and independence
  - Memberships are unlimited in number and are open to a broad customer base
  - Flexible connection options (proprietary and FIX like connection types)

- **Fairness**
  - Similar costs for entering and exiting positions
  - All members are equal to the exchange

- **Reduced Risk**
  - Single counterparty, therefore limited risk of counterparty default

- **Lower Cost**
  - No Membership fees – Line fees only
  - High liquidity and low transaction fees
  - A variety of fee rebate programs
  - Free trading and clearing system
  - Free access to market data
  - Exchange trading eliminates OTC contract administration and reduces costs
Agenda

Company Overview

U.S. vs European Market Model

Products

Exchange Participants

Clearing

Exchange Connectivity

Focus Product: Euro-BTP Futures

Focus Trading: Trading at Eurex
Deutsche Boerse Group

Trading
- Cash Market: Xetra
- Derivatives: Eurex
  - Operation of open electronic order books
  - Connectivity to international trading participants

Clearing
- Eurex Clearing
  - Verification of trade-related information
  - Central counterparty (CCP)
  - Risk management

Settlement
- Clearstream
  - Delivery of securities (in exchange for payment)
  - Financing services

Custody
- Physical custody of securities
- Related services, e.g. tax, corporate actions

Market Data & Analytics
- Streaming data, data terminals, indices, reference data

Information Technology
The Competition

- Global competition:
  - CME Group
  - NYSE-Euronext Group
  - Nasdaq-OMX Group

- Local competition
  - ICE
  - CBOE
  - BOX
Market Model: Eurex

- Eurex is a combined futures and options exchange
- Eurex and ISE are fully electronic exchanges
- Eurex has a fully integrated clearing house: Eurex Clearing
Market Model: U.S. Exchanges

- Futures and Options exchanges are separately regulated
  - Separate organizations (CFTC for Futures; SEC for Options)
  - Multiple listings
  - Trading Floors and Specialist System
  - Payment for Order Flow

- Floors and Specialist system exist along-side electronic platform

- Clearing Houses
  - Futures: exchange-affiliated, no bank status (CME Clearing, ICE Clearing, OCC Futures Clearing)
  - Options: one clearer for all options exchanges, the Options Clearing Corporation (OCC)

- Custody and Settlement services are provided by DTCC
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# Tradable Eurex Products from the U.S.

**Fixed Income Derivatives**
- **Fixed Income Futures**
  - Euro-Schatz, Euro-Bobl, Euro-Bund and Euro-Buxl® Futures
  - CONF Futures (CONF), Euro-BTP Futures
- **Options on Fixed Income Futures**
  - Options on Euro-Schatz, Euro-Bobl and Euro-Bund Futures

**Commodity Derivatives**
- **CO2 Derivatives**
  - EUA Futures (F2PE/F2EA), CER Futures (FCER/F2CR), Options on EUA Futures (O2PE)
- **Agriculture Derivatives**
  - European Processing Potato Futures (FEPP), London Potato Futures (FLPI), Piglet Futures (FPFG), Hog Futures (FHOG)
- **Precious Metal Derivatives**
  - Gold Futures (FGFX), Gold Options (OGFX)
  - Silver Futures (FSFX), Silver Options (OSFX)
- **Hurricane Futures**
  - USA, Florida, Gulf
  - Phelix Futures

**Property Derivatives**
- IPD UK Annual All Property Index Futures (PUKA)

**Equity Index Derivatives**
- **Benchmark Equity Index Futures**
  - DAX® Index, MDAX® Index, TecDAX® Index, EURO STOXX 50® Index, STOXX Europe 50® Index, SLI Swiss Leader Index® and RDxt® USD - RDX Extended Index Futures
- **Sector Index Futures**
  - STOXX® Europe Large 200 Index, STOXX® Europe Mid 200 Index, STOXX® Europe Small 200 Index, EURO STOXX® Banks Index, STOXX® Europe 600 Banks Index, STOXX® Europe 600 Industrial Goods & Services Index, STOXX® Europe 600 Insurance Index, STOXX® Europe 600 Media Index, STOXX® Europe 600 Personal & Household Goods Index, STOXX® Europe 600 Travel & Leisure Index, STOXX® Europe 600 Utilities Index, EURO STOXX® Banks Futures, EURO STOXX® Select Dividend 30 Index, STOXX® Europe 600 Index, Global Titans 50 SM Index, SMIM® Index

**Money Market Derivatives**
- **Money Market Futures**
  - One-Month EONIA Futures (FEO1)
  - Three-Month EURIBOR Futures (FEU3)
- **Options on Money Market Futures**
  - Options on Three-Month EURIBOR Futures (OEU3)

**Inflation Derivatives**
- **Euro-Inflation Futures (HICP)**

Please find the current products available for trade in the U.S. and the current trading hours on our website: [www.eurexchange.com](http://www.eurexchange.com):

- Trading > Products > Eurex Derivatives in the U.S.
- Trading > Trading Calendar > Trading Hours
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Customer Groups Trading at Eurex – End Customer Flow Providers

● Banks
  - Execution of client business in Eurex products by means of telephone brokerage or execution on behalf of a client in public order books
  - Many banks have developed electronic order routing solutions to provide institutional clients such as mutual funds and hedge funds with direct market access to Eurex
  - Execution of banks’ internal proprietary business for different asset classes
  - Hedging off-exchange/OTC transactions with exchange-listed derivatives

● Brokers
  - Execution of client business in Eurex products by means of telephone brokerage or execution on behalf of a client in public order books
  - In addition, some brokers have developed electronic order routing solutions or online trading platforms to provide institutional and retail clients with direct market access to Eurex
Customer Groups Trading at Eurex – Liquidity Providers

- **Proprietary Traders**
  - Firms trading at Eurex with their own money and a speculative trading motivation
  - Strategies can be algorithmic, trend following, contrarian or scalping institutional flows (earning off the bid/offer spreads) for bigger-sized orders from banks and brokers.
  - By buying and selling derivatives on a speculative basis, existing liquidity is utilized, and additional liquidity is provided.

- **Options Market Makers**
  - Liquidity is provided by hedging option positions with comparable products or with cash market instruments, with the intention of earning the bid/offer spread.
  - Fee rebates apply for Market Makers who fulfill the exchange's quotation obligations.

- **Liquidity Providers in Futures**
  - In the early stage of a new futures contract, institutional and retail trading flows often require provision of liquidity by Market Makers specialized on providing liquidity in futures markets.
  - Such liquidity is provided by hedging futures positions with comparable products or with cash market instruments, with the intention of earning the bid/offer spread.
  - Fee rebates also apply for such activities.
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Clearinghouse: What makes futures & options special?

- Buyer to every seller, seller to every buyer
- Anonymity or no anonymity
- Joe not as trustworthy as John, but you can still do business with him
Risk Management

Main role of clearinghouse

Especially in today’s markets

- OTC trades gone wild
- Counterparty creditworthiness

Looking for safety

- Clearinghouse role (next slide)

Risk Tools

- Pre-Trade
- Post-Trade (automated margin calls, risk profile every 10 minutes)
- Stop-Button

Lines of Defense

- Clearing Member admission requirements
- Clearing Member margins
- Clearing Fund
- Eurex reserves and own capital
- Stress testing
Default protection for Non Clearing Members and Clearing Members

Position Netting
Collaterals of member in default
Clearing fund contribution of member in default
Reserve fund of Eurex Clearing AG
Clearing fund contribution of other members
Liable equity of Eurex Clearing AG

- Close-out of all positions results in a surplus or shortfall
- Collateral Sell-Out to cover potential shortfall
- Min. 1,0 mn EUR / DCM or 5,0 mn EUR / GCM
- Approx. 5 mn EUR (6/2010)
- Approx. 1.53 bn EUR (6/2010)
- Approx. 111 mn EUR (6/2010)

Coverage in normal market conditions
Coverage in extreme market conditions

Losses resulting from a default of a Non Clearing Member are covered by the corresponding Clearing Member

* Collateral Value after haircuts.
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## Socket-Based and Traditional Connectivity Solution

### Enhanced Trading Solution (Trading Interface)
- Low latency trading access to Eurex via a FIX like interface
- Easy to integrate into existing IT infrastructure, no operating system, hardware or programming language requirements
- Reduced round-trip time to under 4 msecs (from proximity facility in Frankfurt)

### Enhanced Broadcast Solution (Real-Time Data Interface)
- Optional low latency, un-netted public IP Multicast market data broadcast
- Deep order book depth
- Easy to integrate into existing IT infrastructure, no operating system, hardware or programming language requirements

### Enhanced Risk Solution
- Offers distribution of real-time risk data
- Two-way socket interface used by member to receive and inquie its intraday and end-of-day risk and position data
- Low latency, uses new FIXML-based connection over new industry standard AMQP transport
- Easy to integrate into existing IT infrastructure, no operating system, hardware or programming language requirements

### Enhanced Confirmation Solution
- Two-way socket interface to receive recoverable order, trade and matching event information without the need to use a MISS
- Low latency, message-based, session-oriented, open interface
- Own gateway to prevent performance impact
- Easy to integrate into existing IT infrastructure, no operating system, hardware or programming language requirements

### VALUES (MISS) – (Trading/Data Interface)
- Direct access to the Eurex Trading & Clearing System via Internet, dedicated E1/T1 or channel on a higher bandwidth Ethernet connection via a proprietary protocol (VALUES)
- Including 250 ms pulsed Market Data Broadcast
- Free MISS Gateway software, free proprietary Trading & Clearing GUI for Windows and Sun Solaris

### Access via a Service Provider
- Several service providers offer access to the Eurex system.
Co-Location Services

Eurex offers Co-Location services in Frankfurt via Equinix and Colt to access its markets. Benefits:

- Lowest latency access available (Order roundtrip times of ~2 ms.)
- Actual network availability of more than 99.999%
- Prompt line orders (Market data feeds of 10 - 120 Mbit available)
- Scalable hardware and rack requirements to your needs
- Trading Connections via E1 or Ethernet
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Euro-BTP Futures – Italian Government Bond Futures

Brief background

- Since the inception of the Euro, and until 2007, spreads on German government bonds and those of other countries in the Eurozone were very stable

The sub-prime crisis

- Since the start of the sub-prime crisis in July 2007, several government bond spreads over Germany have significantly widened. These spread differentials have continued to widen dramatically in Q1 2010.
- The market requires a new hedging instrument which will better track non-triple A-rated European government bonds and potentially other interest rate bearing instruments (i.e. swaps)

BTP Futures on Eurex

- Eurex therefore decided to launch futures based on notional long-term debt instruments issued by the Republic of Italy (Buoni del Tesoro Poliennali – BTP)
- The BTP Futures were launched on 14 September 2009
Total Issuance Size of European Government Bonds with a remaining maturity of 8 to 11 years

- Total Issuance Size of US Government Bonds with a remaining maturity of 8 to 11 years is $224 Billion.

Source: Bloomberg, March 10
## Benefits of Eurex’s BTP Futures at a glance

| **Hedging** | Offers the market an instrument to hedge non-AAA Eurozone debt on-exchange, and mitigates the basis risk currently present when hedging with Bund Futures. |
| **Spread Opportunities** | Offers the market an alternative to cash bonds to trade the yield spread between German and Italian debt. |
| **Basis Trading** | Presents an opportunity to trade the basis on Italian debt instruments and will therefore complement the Italian cash market. |
| **Exposure to non-German debt** | BTP futures serve as a proxy for hedging exposure to all non-AAA rated European government debt. |
| **Eurex Clearing** | The involvement of Europe’s leading clearing house mitigates counterparty risk, provides effective risk and collateral management and improves operational efficiency. |
Volume and Open Interest Development

BTP: Volume vs. Open Interest

Volume
Open Interest

0 5,000 10,000 15,000 20,000 25,000 30,000

Development of bond spreads over Germany

Bonds Yield Spreads vs Germany since 2007

Yield Spreads (in %)

Italian Spread  French Spread  Greek Spread  Spanish Spread  US Spread
## Contract specifications

<table>
<thead>
<tr>
<th>Contract Standard</th>
<th>Notional long-term debt instrument issued by Italy with an original maturity not longer than 16 years and a remaining term of <strong>8.5 to 11 years</strong> and a <strong>six percent coupon</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Value</td>
<td>EUR 100,000</td>
</tr>
<tr>
<td>Fee and Pricing</td>
<td>EUR 0.20 per contract; OTC: EUR 0.30 per contract</td>
</tr>
<tr>
<td>Price Quotation</td>
<td>In percentage of the par value, with two decimal places</td>
</tr>
<tr>
<td>Tick Size / Value</td>
<td>0.01% / EUR 10</td>
</tr>
<tr>
<td>Settlement (via CBL)</td>
<td>Italian government bonds that have an original maturity of not more than 16 years and remaining term of 8.5 to 11 years on the Delivery Day. Such debt securities must have a minimal issue amount of EUR 10 billion and a nominal fixed payment.</td>
</tr>
<tr>
<td>Delivery Day</td>
<td>Tenth calendar day of the respective quarterly month (Mar, Jun, Sep, and Dec)</td>
</tr>
<tr>
<td>Last Trading Day</td>
<td>Two exchange trading days prior to the Delivery Day of the relevant delivery month. Trading in the maturing delivery month ceases at 12:30am CET</td>
</tr>
<tr>
<td>Trading Hours</td>
<td>8:00am to 7:00pm CET</td>
</tr>
<tr>
<td>Market Making</td>
<td>9:00am to 5:30pm CET for the first six months</td>
</tr>
<tr>
<td>Block Trade Size</td>
<td>250 contracts</td>
</tr>
</tbody>
</table>
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Back-Up
European Market Outlook e-Newsletter

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Covers the upcoming day in European Markets
- What’s driving markets
- Economic calendar
- Technical analysis charts
Sign up under www.eurexchange.com
- Step 1 – Go to the ‘Education’ tab
- Step 2 – Click on ‘Investor Newsletter’ on the left panel
- Step 3 – Enter your e-mail address and confirm
## Major Futures Contracts

<table>
<thead>
<tr>
<th>Time Zone</th>
<th>Future</th>
<th>Exchange</th>
<th>Tick</th>
<th>Contract Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>Euro STOXX 50</td>
<td>Eurex</td>
<td>1 point = 10 Euro</td>
<td>10 Euro per index point</td>
</tr>
<tr>
<td>America</td>
<td>S&amp;P 500 mini</td>
<td>CME</td>
<td>0.25 point = $12.50</td>
<td>$50 per index point</td>
</tr>
<tr>
<td>Asia</td>
<td>Nikkei 225</td>
<td>OSE</td>
<td>0.01 points = 10 Yen</td>
<td>1000 Yen per index point</td>
</tr>
<tr>
<td>Europe</td>
<td>Bund</td>
<td>Eurex</td>
<td>0.01 point = 10 Euro</td>
<td>100,000 Euro</td>
</tr>
<tr>
<td>America</td>
<td>Treasury Note</td>
<td>CBOT</td>
<td>½ of a 32\textsuperscript{nd} point = $15.625</td>
<td>$100,000</td>
</tr>
<tr>
<td>Asia</td>
<td>JGB</td>
<td>TSE</td>
<td>0.01 point = 100 Yen</td>
<td>10,000 Yen</td>
</tr>
</tbody>
</table>