



# Effective Risk Management – Trends in Central Clearing

Thomas Book

19 April 2013

# What are the functions of a clearinghouse (CCP) in the Financial Market?

## CCPs Eliminate Counterparty Risk

- The individual counterparty risk of a market participant is replaced with the higher creditworthiness of the CCP

## CCPs Reduce Systemic Risks

- CCPs reduce risks from domino-effects in a crisis situation by replacing complex bilateral relationships with high interconnectedness („spiderweb“) with a 1:1 relationship to a CCP

## CCPs Create Transparency

- CCPs perform a continuous and independent valuation of risk positions and create transparency of individual risk positions of market participants for regulators

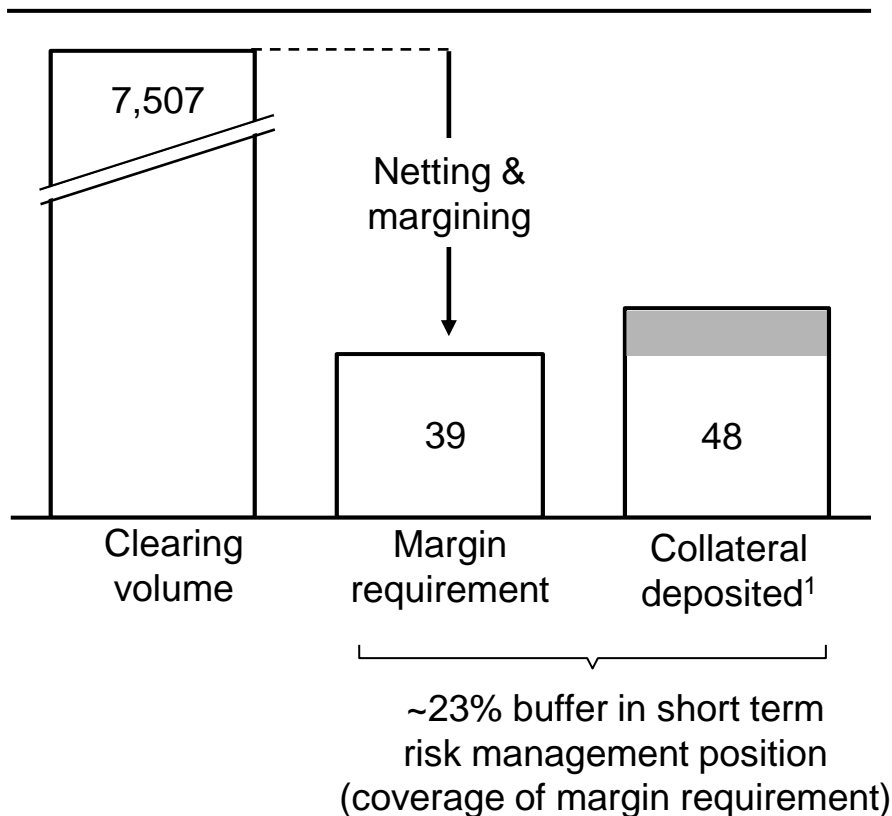
## CCPs Reduce Operational Costs

- CCPs perform a netting of trades and positions and provide straight-through-processing of transactions

**By their design CCPs act like shock absorbers in the financial markets  
with a primary focus on risk mitigation and control**

# Eurex Clearing: Effective risk management by netting, margining and collateralisation

Monthly average 2012 in € billions



Lines of defence

1. Liquidation of open positions (Defaulting clearing member)
2. Liquidation of collateral
3. Clearing fund contribution
4. Eurex reserves
5. Eurex Clearing guarantee fund
6. Eurex Clearing equity capital

~ 49 bn EUR total guarantee position<sup>2</sup>

  Defaulting member only

<sup>1</sup> Cash and securities collateral after haircut end of 2012, cash collateral ~ 32% of total  
<sup>2</sup> Not considering the liquidation of defaulting member's open positions

## How do CCPs ensure their superior creditworthiness and their stability?

- 1) CCPs impose **high standards on member admission** and enforce on-going compliance
- 2) CCPs have a balanced position and **perform a rigorous mark-to-market** calculating the expected worst case loss of a position
- 3) CCPs ensure **strict collateralization of exposures by margining** from market participants in order to be covered in a member default
- 4) CCPs are protected through **additional lines of defence** mutually funded by the CCP and its members (e.g. a guarantee fund)
- 5) CCPs operate a tight **default management process** to ensure swift and loss minimizing liquidation of positions in case of a member default

**CCP risk management has to be built to the highest standards**

# Eurex Clearing's value proposition is built on safety and efficiency in mitigating counterparty risk

## Value Proposition

**Broad Product Coverage**

**Efficient and prudent Risk Management**

**Efficient Collateral Management**

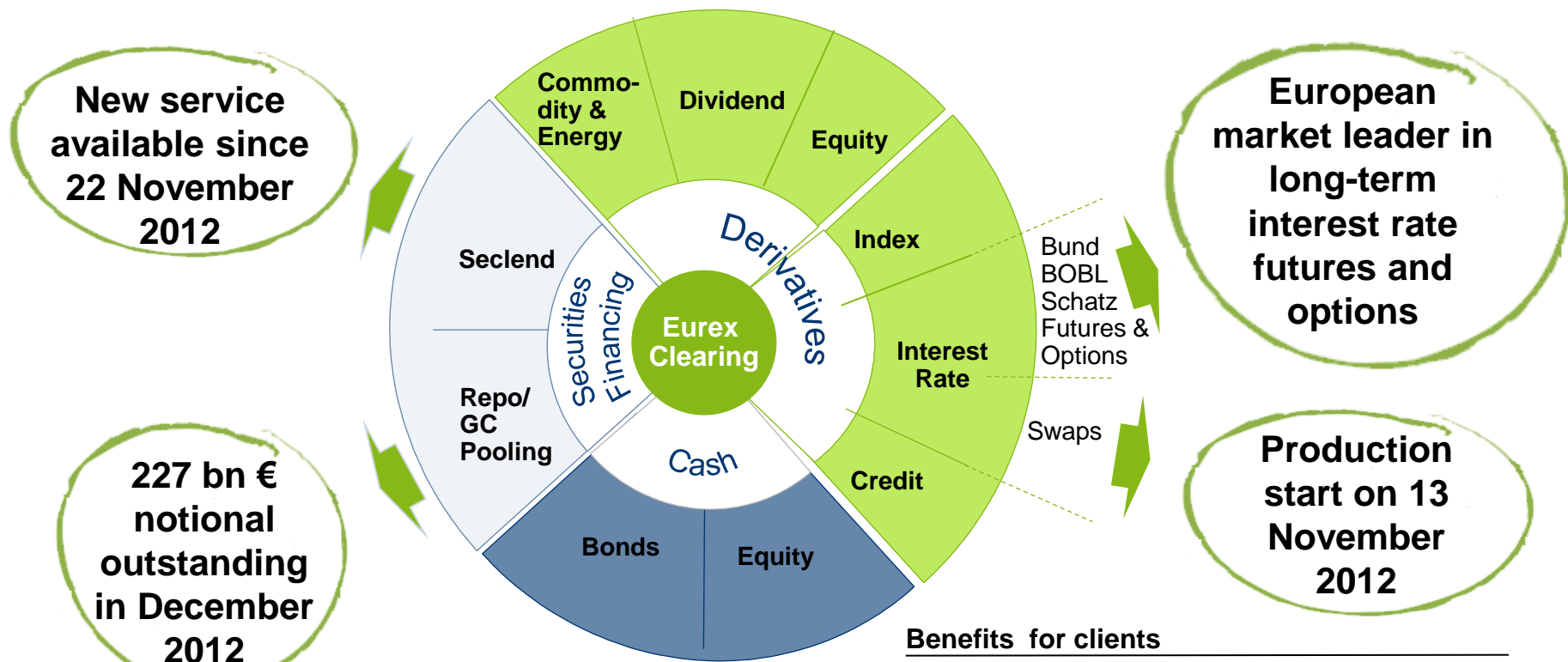
**Protection of Client Assets**

**Proven and robust CCP**

## Benefits

- One-stop-shop across listed and OTC derivatives to maximize client capital & operational efficiencies
- Netting of regulatory capital under Basel III across cleared products
- State-of-the-art methodology avoiding pro-cyclical effects
- Portfolio margining between listed and OTC derivatives
- Consistency between default management process and margining method
- Full integration into Clearstream liquidity hub
- Re-use of investment portfolio for collateralization
- Non-cash variation margin by leveraging Repo and SecLend offerings (in development)
- Customer choice of different protection models
- Maximum protection and portability by offering full individual segregation
- Consistent offerings across all markets cleared
- Integrity and stability of Eurex Clearing in default and crisis scenarios
- Strong capital foundation and regulatory regime
- Liquidity and cash management based on central bank money

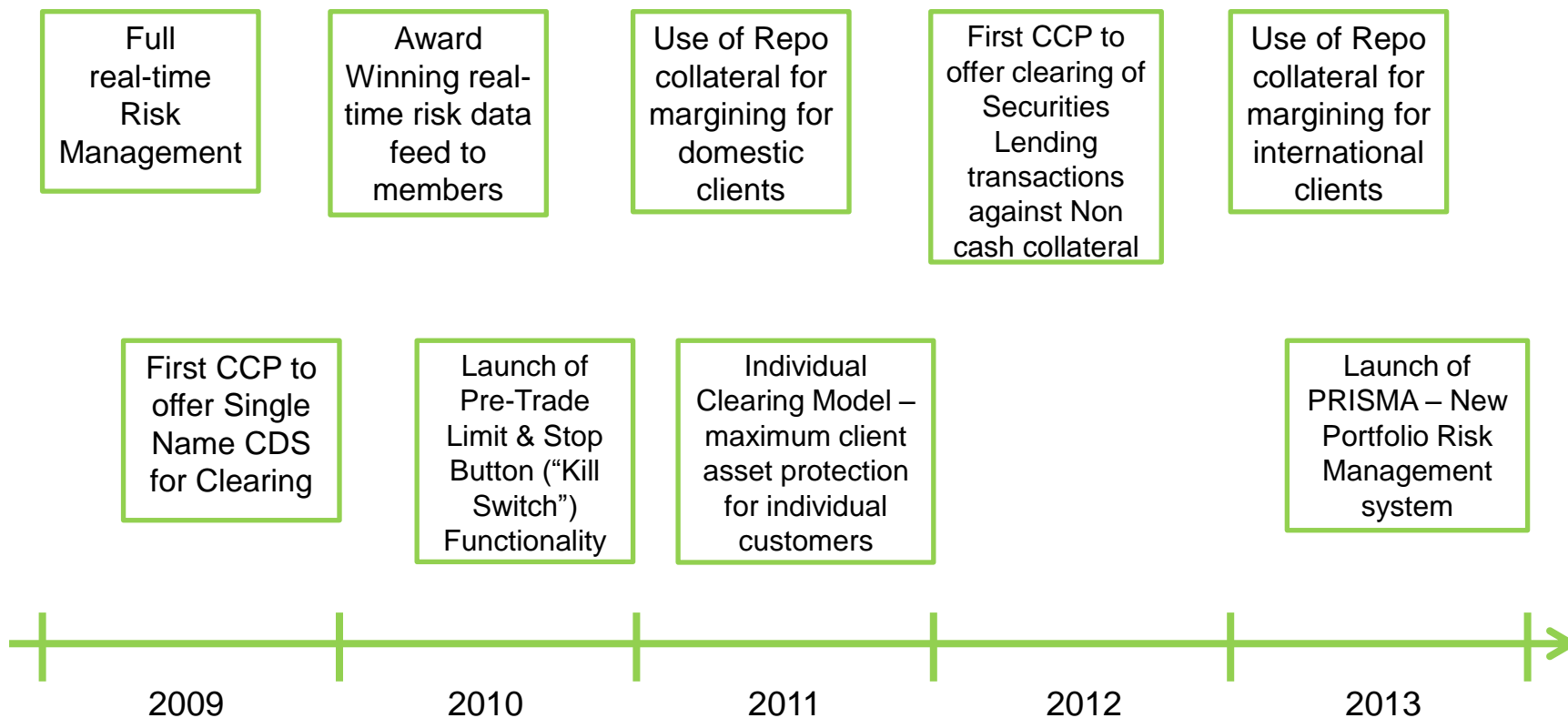
# Broad product and service offering is the basis for capital efficiencies and cross-selling



**Benefits for clients**

- One-stop shop - unparalleled product scope under a single framework in Europe allowing balance sheet netting

# Eurex Clearing has a Track Record of Thought Leadership and Innovation in Risk Management

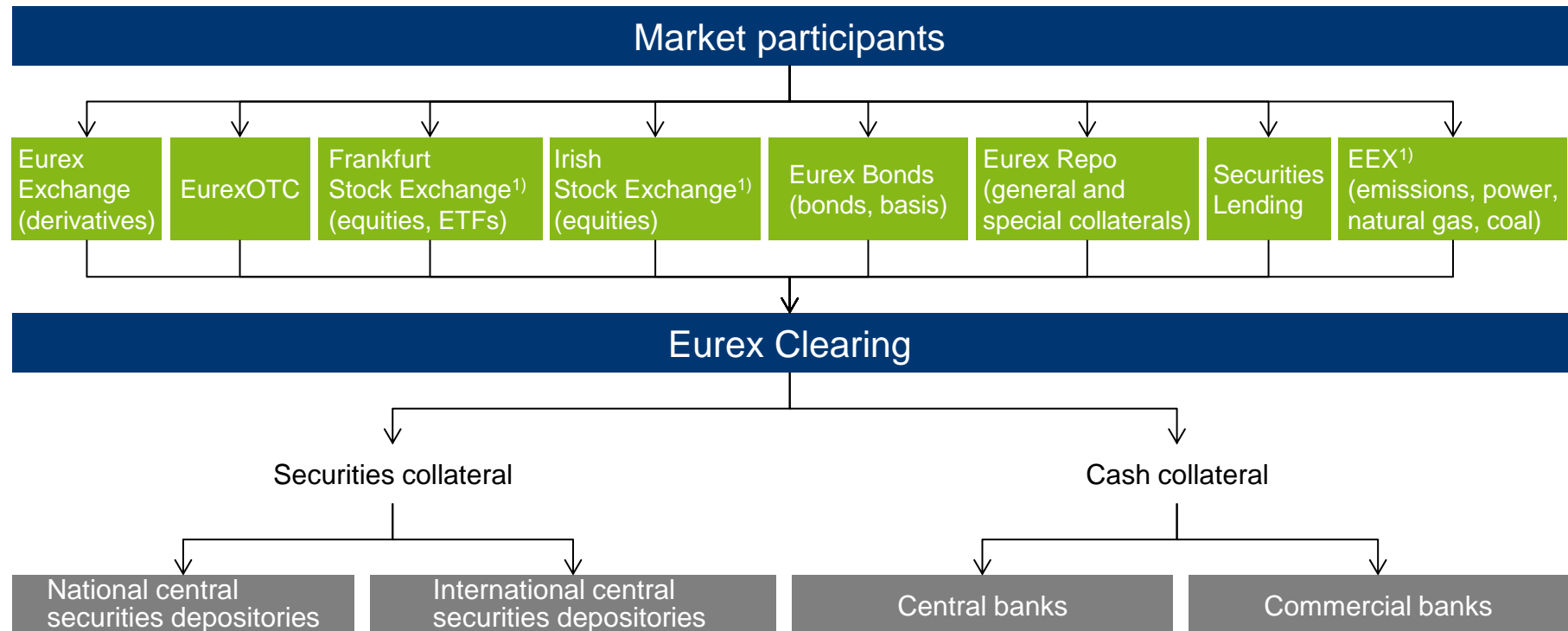


THANK YOU FOR YOUR ATTENTION!



# BACKUP

# Eurex Clearing offers central counterparty services for asset classes on different trading platforms



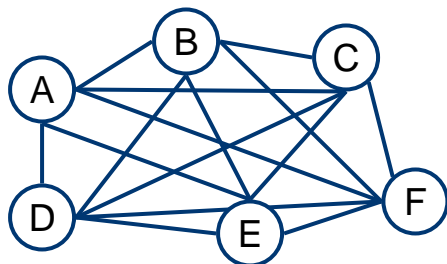
• Advantages:

- Effective risk and collateral management
- Mitigation of counterparty risk
- Reduction of cross-border settlements
- Straight-through processing (STP)

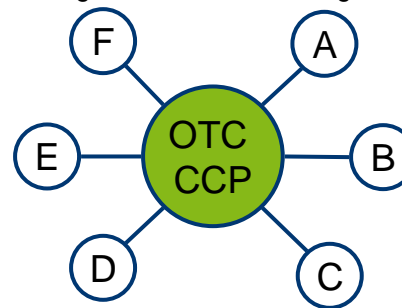
1) For Frankfurter Wertpapierbörse (FWB®, the Frankfurt Stock Exchange), the Irish Stock Exchange and the European Energy Exchange, Eurex Clearing is the central counterparty only for CCP-eligible trades.

# Central clearing improves the soundness of market infrastructure and strengthens market integrity

Current OTC market structure – 1:n relationships  
Bilateral trading & clearing



Proposed OTC market structure – 1:1 relationships  
Bilateral trading & multilateral clearing



## Benefits of multilateral clearing with OTC Central Counterparty

### ① Reduced systemic risk

- CCP takes over counterparty risk through trade novation
- CCP enforces strict risk control and adequate collateralisation of open positions
- Multilateral netting reduces gross risk exposure

### ② Increased transparency

- Transparency in position risks by central instance
- Neutral position valuation by independent institution
- Early warning function by daily mark-to-market (profit and loss balance)

### ③ Efficiency gains

- Full automation and straight-through-processing reduces manual errors
- Efficient use and management of collateral
- Increased capital efficiency by reduced balance sheet exposure

# Eurex Clearing Prisma

## Ensuring consistency between default management process and risk margining method

- Eurex Clearing plans to introduce portfolio margining combining its OTC and listed business
- Therefore in case of a Clearing Member (CM) default the liquidation will be on portfolio level and not on position level in order to utilize offsets granted

### Guiding principles - default management process

- Aim of the default management process is to transfer the clearing house's risk exposure, inherited from a defaulting member, to others willing to overtake it
- The guiding principles of default management process are:
  - Minimize losses to the clearing house's Lines of Defence
  - Minimize the effect and disruption on the membership and the wider market

### Guiding principles – margin methodology

#### Greater capital efficiency

- More efficient risk aggregation across listed and OTC products

#### Enhanced accuracy

- The new method captures more risk factors and better reflects true risks

#### Increased robustness

- Designed to avoid pro-cyclical margin requirements

#### Consistent framework

- Consistent risk and default management framework for listed and OTC products

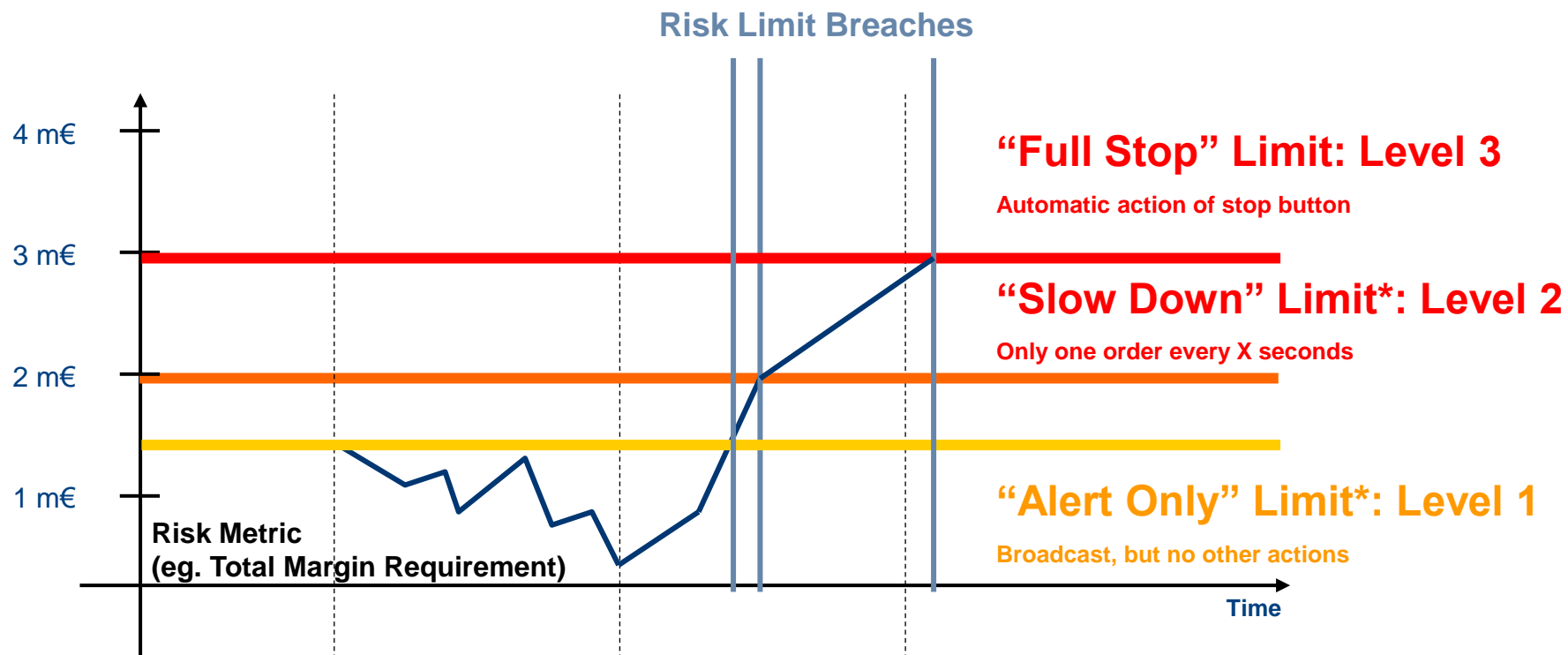
#### More flexibility

- Broader range of instruments covered with faster to time-to-market

## Eurex Clearing has implemented a number of tools to strengthen its risk protections in all three areas

- Eurex Clearing calculates margins in real-time based on actual price and position data and provides this data also in real-time to its trading and clearing members.
- Eurex Clearing performs a continuous intraday margining to avoid accumulation of risks and posts an intraday margin call if defined limits are exceeded.
- Eurex Clearing offers a suite of advanced risk tools for its member such as a Stop Button that allows quick reaction of CMs in emergency situations to prevent any further risk and pre- and post trade risk limits that allow to limit the trading activities of market participants, traders or machines
- Eurex Clearing implements a capital asset protection regime, that ensures full portability in a default situation

## Example: Pre-trade risk controls at Eurex Clearing provide for an innovative solution for risk protection



Pre-trade risk limits act like a “phased circuit-breaker” for a participant’s risk and contribute to absorb shocks in financial markets.

\* It is optional to also automatically clear the order book if the limit is breached.

© Eurex 2013

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

#### Trademarks and Service Marks

Buxl®, DAX®, DivDAX®, eb.rexx®, Eurex®, Eurex Bonds®, Eurex Repo®, Eurex Strategy Wizard<sup>SM</sup>, Euro GC Pooling®, FDAX®, FWB®, GC Pooling®, GCPI®, MDAX®, ODAX®, SDAX®, TecDAX®, USD GC Pooling®, VDAX®, VDAX-NEW® and Xetra® are registered trademarks of DBAG. Phelix Base® and Phelix Peak® are registered trademarks of European Energy Exchange AG (EEX). The service marks MSCI Russia and MSCI Japan are the exclusive property of MSCI Barra. RDX® is a registered trademark of Vienna Stock Exchange AG. IPD® UK Annual All Property Index is a registered trademark of Investment Property Databank Ltd. IPD and has been licensed for the use by Eurex for derivatives. SLI®, SMI® and SMIM® are registered trademarks of SIX Swiss Exchange AG.

The STOXX® indexes, the data included therein and the trademarks used in the index names are the intellectual property of STOXX Limited and/or its licensors. Eurex derivatives based on the STOXX® indexes are in no way sponsored, endorsed, sold or promoted by STOXX and its licensors and neither STOXX nor its licensors shall have any liability with respect thereto.

Dow Jones, Dow Jones Global Titans 50 Index<sup>SM</sup> and Dow Jones Sector Titans Indexes<sup>SM</sup> are service marks of Dow Jones & Company, Inc. Dow Jones-UBS Commodity Index<sup>SM</sup> and any related sub-indexes are service marks of Dow Jones & Company, Inc. and UBS AG. All derivatives based on these indexes are not sponsored, endorsed, sold or promoted by Dow Jones & Company, Inc. or UBS AG, and neither party makes any representation regarding the advisability of trading or of investing in such products.

All references to London Gold and Silver Fixing prices are used with the permission of The London Gold Market Fixing Limited as well as The London Silver Market Fixing Limited, which for the avoidance of doubt has no involvement with and accepts no responsibility whatsoever for the underlying product to which the Fixing prices may be referenced.

PCS® and Property Claim Services® are registered trademarks of ISO Services, Inc.

Korea Exchange, KRX, KOSPI and KOSPI 200 are registered trademarks of Korea Exchange Inc.

BSE and SENSEX are trademarks/service marks of Bombay Stock Exchange (BSE) and all rights accruing from the same, statutory or otherwise, wholly vest with BSE. Any violation of the above would constitute an offence under the laws of India and international treaties governing the same.

The names of other companies and third party products may be trademarks or service marks of their respective owners.