Eurex Clearing AG

Margining and Collateral Processing
Best practices at Eurex Clearing AG

ECB COGESI Meeting, May 18th, 2011

eurex clearing

Agenda

- Eurex Clearing AG – Central Counterparty (CCP) at a glance
- Eurex Clearing AG – Providing sustainable benefits to the members
- Eurex Clearing AG – Margining and Collateral Procedures
- Eurex Clearing AG – Maintaining Market Integrity

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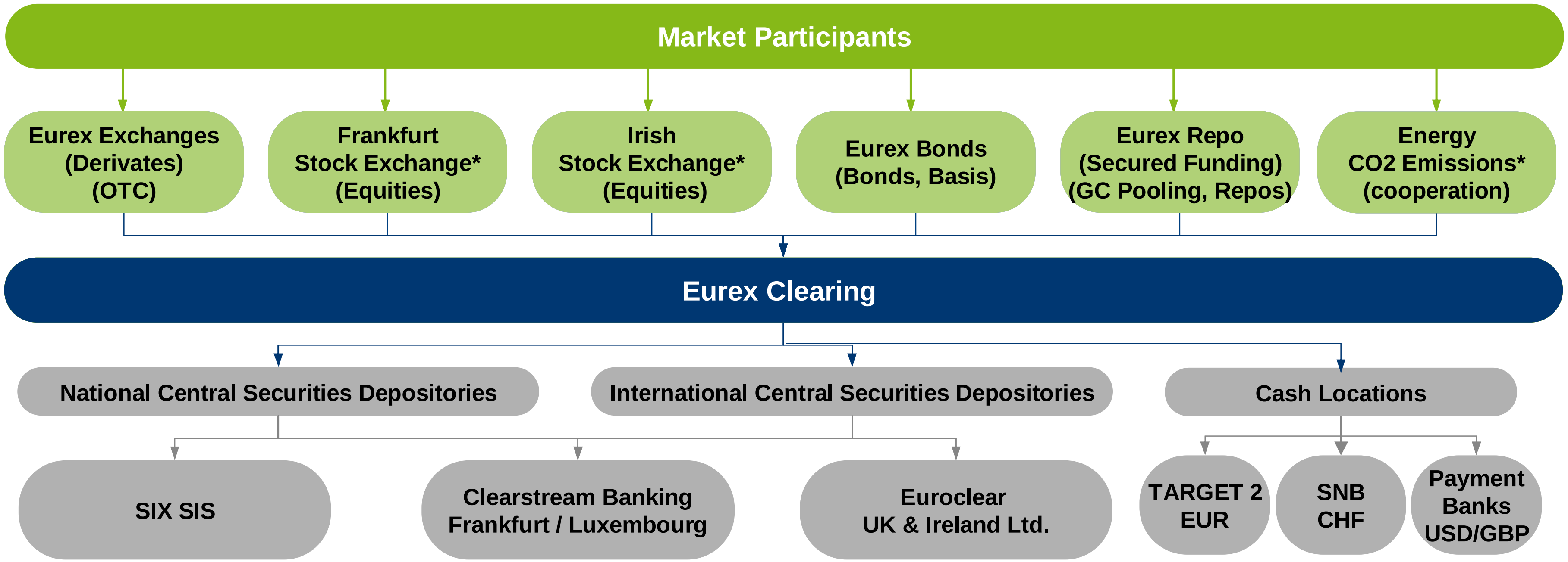
Eurex Clearing AG multiple markets one Clearing House

Central Counterparty (CCP) Services for Multiple Asset Classes across Multiple Markets



* For the Frankfurt Stock Exchange (FWB®), the Irish Stock Exchange and the European Energy Exchange Eurex Clearing is Central Counterparty only for CCP eligible instruments

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Eurex Clearing AG – benefits of a CCP

Eurex Clearing acting as CCP provides sustainable benefits to the members

Reduces Credit / Counterparty Risk

- Eurex Clearing AG becomes legal counterparty to all trades and reduced credit risk by
  - Multilateral netting
  - Replacement of bilateral credit risk by standard credit risk of CCP
  - Collateralization of risk exposure and provision of post-default backings

Reduce Capital Requirement

- Privileged with a zero percent weighting in regard to the solvency ordinance ("Solvabilitätsverordnung" based on Basel II recommendation). Therefore the ECAG counterparts are not required to back trades via the CCP with liable equity capital.
- Centralized collateral pool ensures efficient collateral usage

Processing Efficiency

- Standardised STP post-trading approach
- Netting of settlement instructions and volumes across trading locations
  - Reduction of back office complexity
  - Reduction in fails and financing needs

Comprehensive Risk monitoring

- Proven and comprehensive margin methodology
- Intraday pre- and post-trade risk mechanisms
- Event driven risk calculation, distribution of risk information (10 min. interval)
- Cross margining across group and class
- Extensive overnight risk reporting

Eurex Clearing AG – control and elimination of risks

Credit, market and collateral risk are the most relevant risks to a CCP

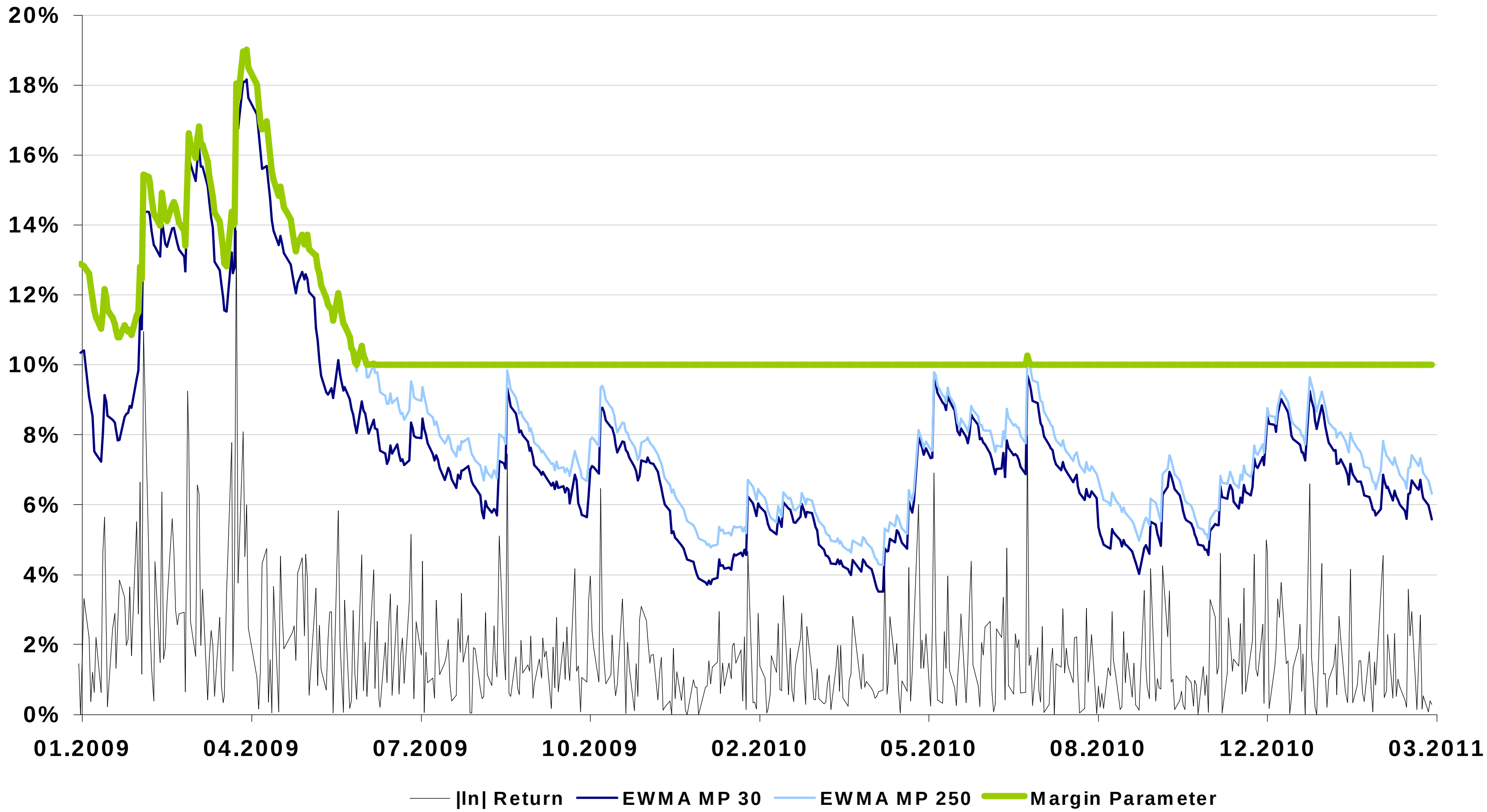
Event	Risks and Mitigating Actions
• Member becomes insolvent	• Member credit risk – Highest default probability – Margin calculation / collateralization – Default fund contribution – Stress Testing
• Market volatility changes	• Market risk – Risk flooring – Continuous and event driven real-time calculation sequences – Default fund
• Collateralization	• Collateral risk – Eligibility criteria – Daily calculation of dynamic haircut parameters – Continuous review of minimum haircut parameters – Concentration controls

Risk layers and procedures at Eurex Clearing AG acting as Central Counterparty prevent pro-cyclicality and ensure stable and transparent risk and clearing environment in distinction from the OTC markets

- **Consideration of extreme but plausible stress scenarios for risk parameters / confidence levels**
- **Pre-funded lines of defence with high confidence levels (clearing/default fund, equity capital, etc.)**
- **Continuous real-time risk monitoring**
- **Risk portfolio adjustments on member site due to changed market risk**

Eurex Clearing AG – risk parameter calibration

Continuous risk parameter calculation, flooring and review smoothens peak movements reducing pro-cyclicality to the absolute minimum



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Margin requirements are measured for all financial obligations until the next trading day

Timeframe	Yesterday to today			Forward looking	
	"Realized Profit & Loss"	"Unrealized Profit & Loss"		"Potential Loss"	
Type of margin	Variation Margin	1 Current Liquidating Margin	Premium Margin*	2 Additional Margin	Future Spread Margin
Coverage of margin requirement	Daily cash offset	Collateral deposit			
Equity-; Indexoptions					
Futures					
Options on Futures					
Bonds/ Repos					
Equities					
Cash					

Margin requirements are estimated for the timeframe yesterday to today (1) and forward looking (2)

1 Current Liquidating Margin (CLM)

- Current Liquidating Margin addresses the unrealized loss at the end of day for equities and bonds
- The securities and cash sides of trades are summed for the buy and sell sides (long/short)
- The netted positions of the buy and sell sides result in one security and one cash net risk position either on the long or on the short side.
- Pure cash positions are accumulated with other net cash
- Unrealized profit & loss to be covered by collateral

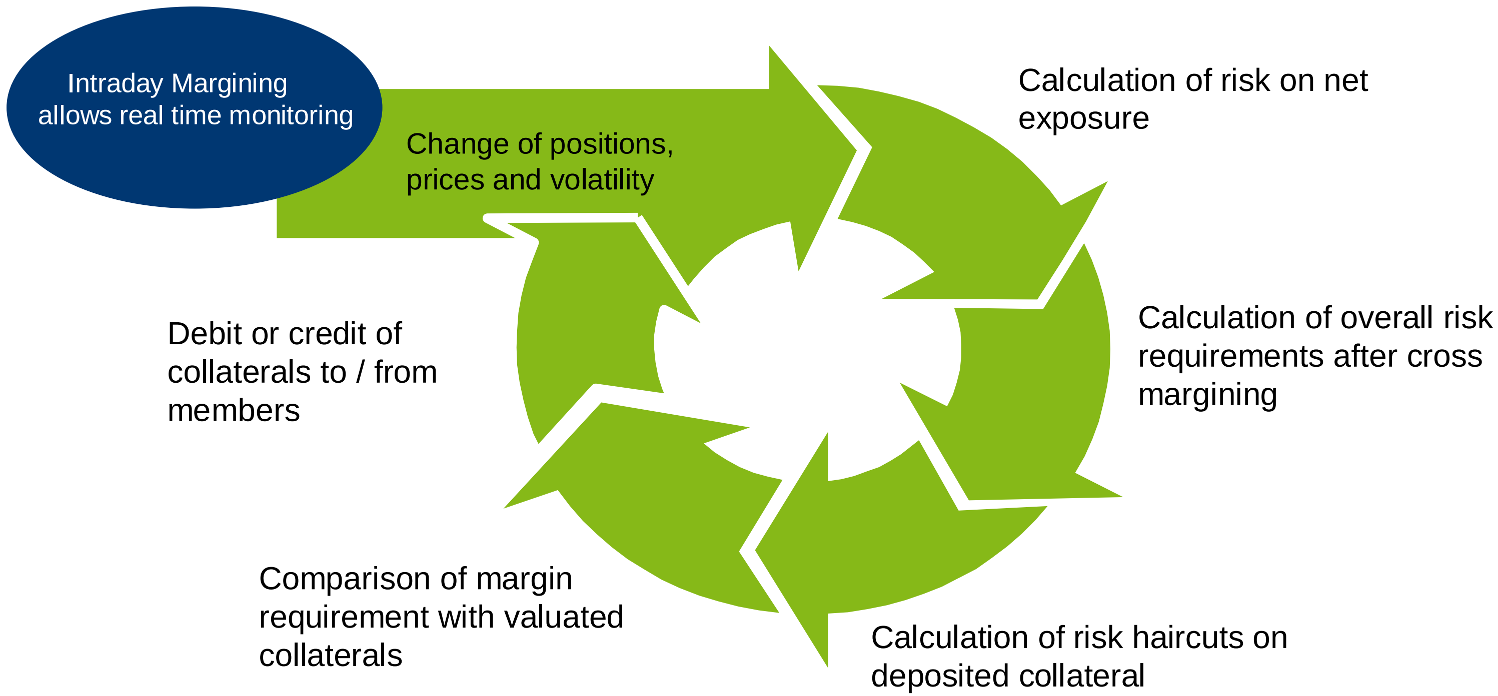
2 Additional (Initial) Margin (AM)

- The additional (initial) margin serves to cover through the expected liquidation period any potential additional costs that could arise if the positions had to be liquidated immediately.

Margining process at Eurex Clearing

Real time intraday margining and overnight margin calculation with equal principles

… allows Eurex Clearing to respond quickly to increased price volatility or member position changes, lowering the exposure to the CCP and protecting the market.



Eurex Clearing's margin and repo collateral criteria

Securities must fulfill specific requirements in order to become eligible as Eurex Clearing's collateral which are monitored continuously and adjusted if required

Mandatory criteria

- Credit quality
- Accessibility
- Liquidity

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Extended criteria

- Outstanding Exposure Risk
- Consideration of refinancing Markets (e.g. ECB, etc.)
- Clearing Market Integrity
- Overall - / Repo Market Developments

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- Transparent collateral eligibility criteria
- Transparent list of eligible collateral ISINs
- Risk driven collateral evaluation reflecting appropriate risk at any point in time
- Facilitation of clearing market integrity

Decision and communication guidelines

- Signal effect of Eurex Clearing AG decisions (system relevant institution)
- Acceleration of market trends have to be reduced / prevented
- Prudent acting in decision finding by Eurex Clearing AG
- Transparent and appropriate member / market information (circular, website)
- Direct information of affected clearing member if required

Eurex Clearing – admissible margin/repo collateral 1/2

Secure, liquid and accessible collateral is accepted - collateral haircuts are reviewed on a regular basis and adjusted if required

Bond Collateral		
	General Admission Criteria	**Security Type***
EUR	ECB Liquidity Classes I-IV* Issuer ≠ Clearer Exchange listing & price Admissible proportion of the issued capital is 25%	Government and Short Term Bonds State Issues City and Municipality Bonds Corporates & Other Bonds Bank Bonds
	Haircut 3,1% - 20,5%**	
CHF	SNB Repo eligible Issuer ≠ Clearer Exchange listing & price Admissible proportion of the issued capital is 25%	Federal Bonds and Bills Kantonal Obligations, Bonds, Bills City and Municipality Bonds State Agencies Corporates & Other Bonds Bank Bonds, Mortgage Bonds
	Haircut 3,1% - 20,5%**	
USD, GBP, DKK, NOK, SEK, AUD, CAD, JPY	Exchange listing Admissible proportion of the issued capital is 25%	Government Bonds
	Haircut 3,1%**	

** as of May 17, 2011

* Selected Issuer Groups and Security Types from ECB EAD list determine the "GC Pooling ECB Basket" and the "GC Pooling ECB EXT. Basket"

Eurex Clearing – admissible margin/repo collateral 2/2

Secure, liquid and accessible collateral is accepted - collateral haircuts are reviewed on a regular basis and adjusted if required

Equities*, ETFs		
	General Admission Criteria	**Security Type***
EUR, CHF	- Issuer ≠ Clearer - Admissible proportion of the free float is 5% - Maximum 30% of required daily collateral	- DAX, EuroStoxx 50 & SMI constituents - Other stocks as announced by ECAG
	- Admissible proportion of the free float is 5% - Maximum 30% of required daily collateral	- iShares DAX (DE) (DE0005933931) - iSH.II-iShares DJ EO STOXX 50 - Xmtch CH on SMI (CH0008899764)
	Minimum Haircut 20 %**	

Cash Collateral
EUR, CHF, USD, GBP

* HDAX components are included in the Eurex RepoEquity GC Pooling Basket

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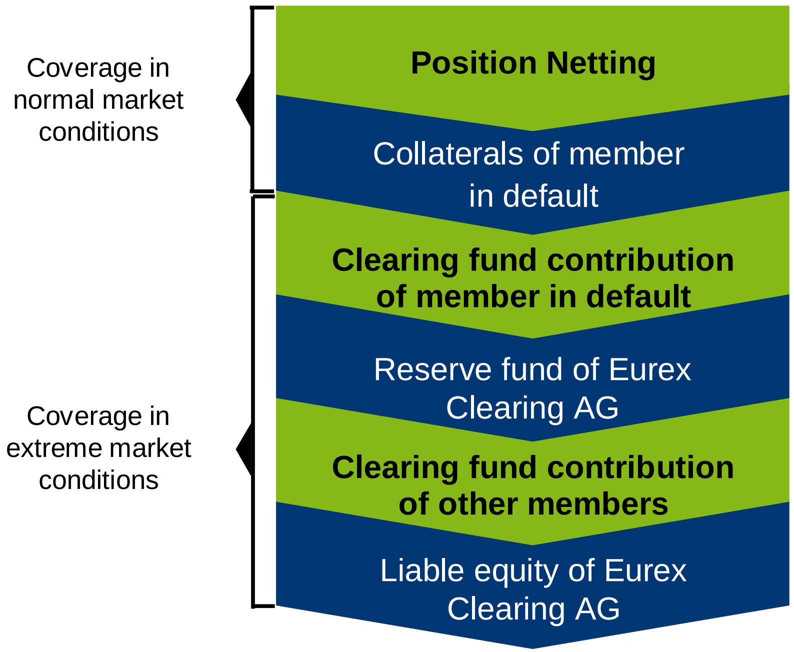
Default protection for Clearing Members and Non Clearing Members

Pre-funded lines of defense at Eurex Clearing



- **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**

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