



Eurex Clearing AG

Repo margining and collateral processing best practices at Eurex Clearing AG

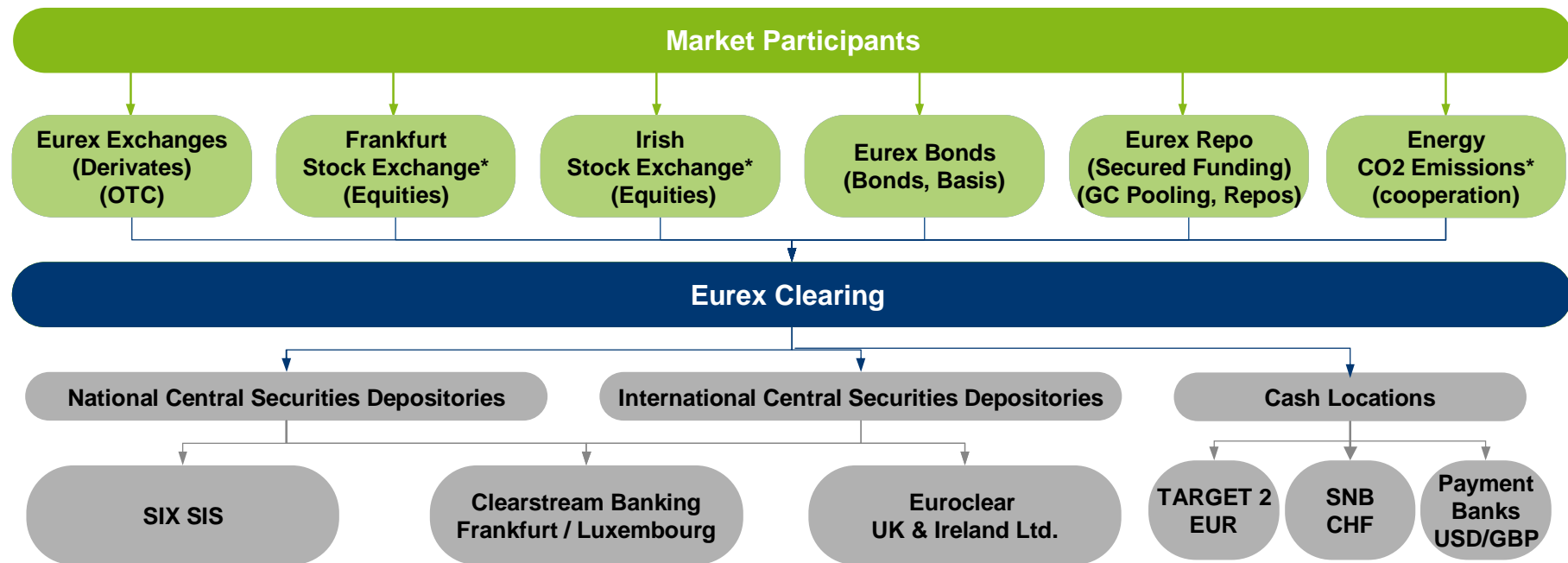
ECB MMCG Meeting, June 1, 2011

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

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

A 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
<ul style="list-style-type: none"> • Member becomes insolvent 	<ul style="list-style-type: none"> • Member credit risk <ul style="list-style-type: none"> – Highest default probability – Margin calculation / collateralization – Default fund contribution – Stress Testing
<ul style="list-style-type: none"> • Market volatility changes 	<ul style="list-style-type: none"> • Market risk <ul style="list-style-type: none"> – Risk flooring – Continuous and short-term calculation sequences – Default fund
<ul style="list-style-type: none"> • Collateralization 	<ul style="list-style-type: none"> • Collateral risk <ul style="list-style-type: none"> – 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

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Margin requirements are measured for all financial obligations

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, while a worst case loss is anticipated
- The AM for the cash provider is calculated by using the security specific ECB haircuts.
- The AM for the cash taker is already covered by the daily re-evaluation and adjustment of allocated collateral within Clearstream's Xemac collateral management system

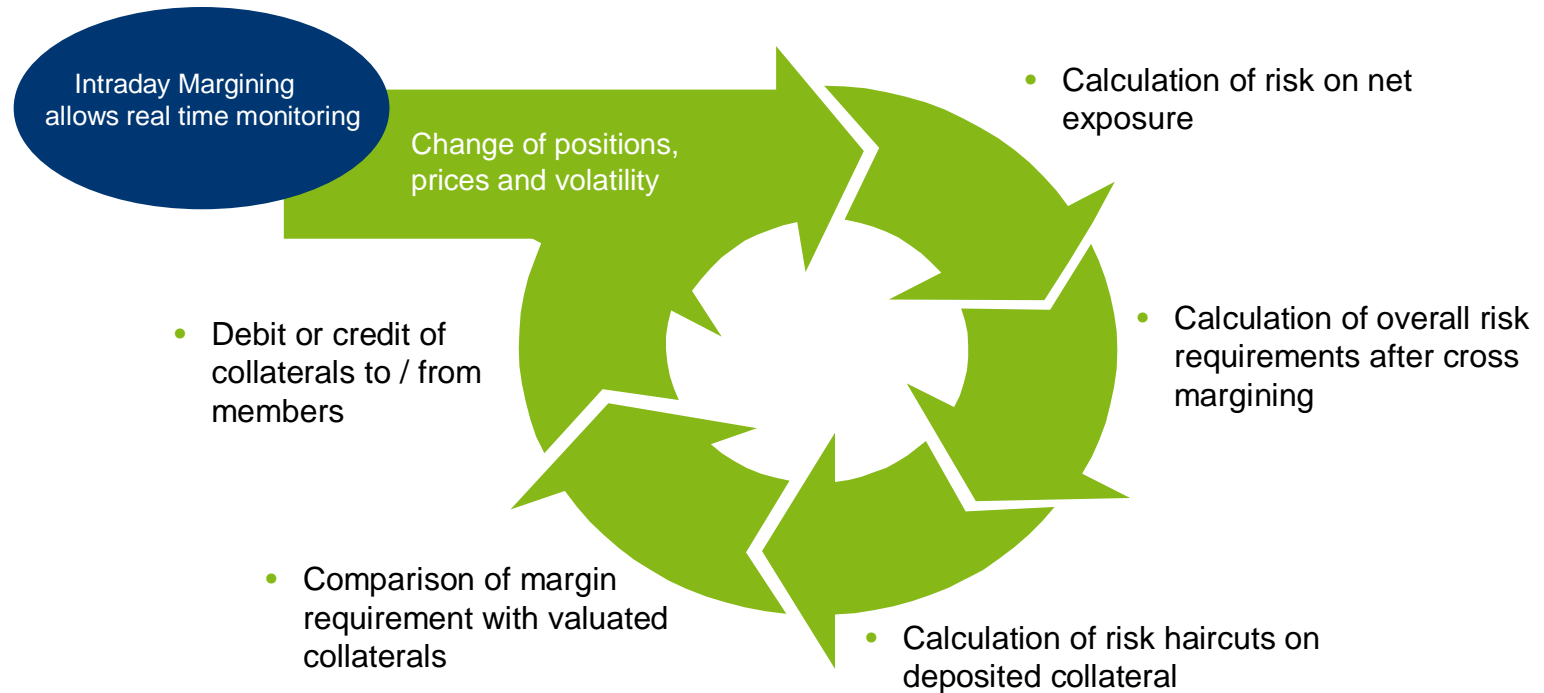
Repo margin calculation wording and concepts

- A repo trade consists of two trades, the front leg and term leg, each of which can be considered a regular bond trade. Both of these are further divided into 2 half-trades, one for the securities component, and one for the cash component.
- Eurex Clearing will perform separate calculations for these components and aggregate the results to obtain the risk evaluation of the trade.
- The risk evaluation per half-trade is split into two parts:
 - **Additional Margin (AM)**, a forward looking margin which guards against price changes in the securities.
 - The **Current Liquidating Margin (CLM)** covers losses that would occur in the case that a position was closed out on the respective trading day. The CLM is composed of “CLM Securities” and “CLM Cash”.
 - The Additional Margin (AM) for special repo trades is based on the Margin Parameters that reflect to risks of the individual ISIN as determined by Eurex Clearing.
 - For GC Pooling trades, the AM is derived per each particular basket from the volume weighted average of the ECB Haircuts of the constituent bonds.
 - The Current Liquidating Margin (CLM) consists of a charge for the market-to-market to prevent existing losses from accumulating, and a conservative discounting charge based on stressed interest rates.
 - For GC Pooling trades, the value of the basket is kept at 100% and therefore the Profit & Loss component of the CLM margin is zero. The discounting component of CLM still applies however, and is non-zero for GC Pooling margining.
 - As the securities provider has pledged a haircut on top of the basket, he will have a CLM Securities credit equal to the haircut. The cash provider has received the haircut, and consequently she has a CLM Securities debit equal to the haircut.

Margining process at Eurex Clearing

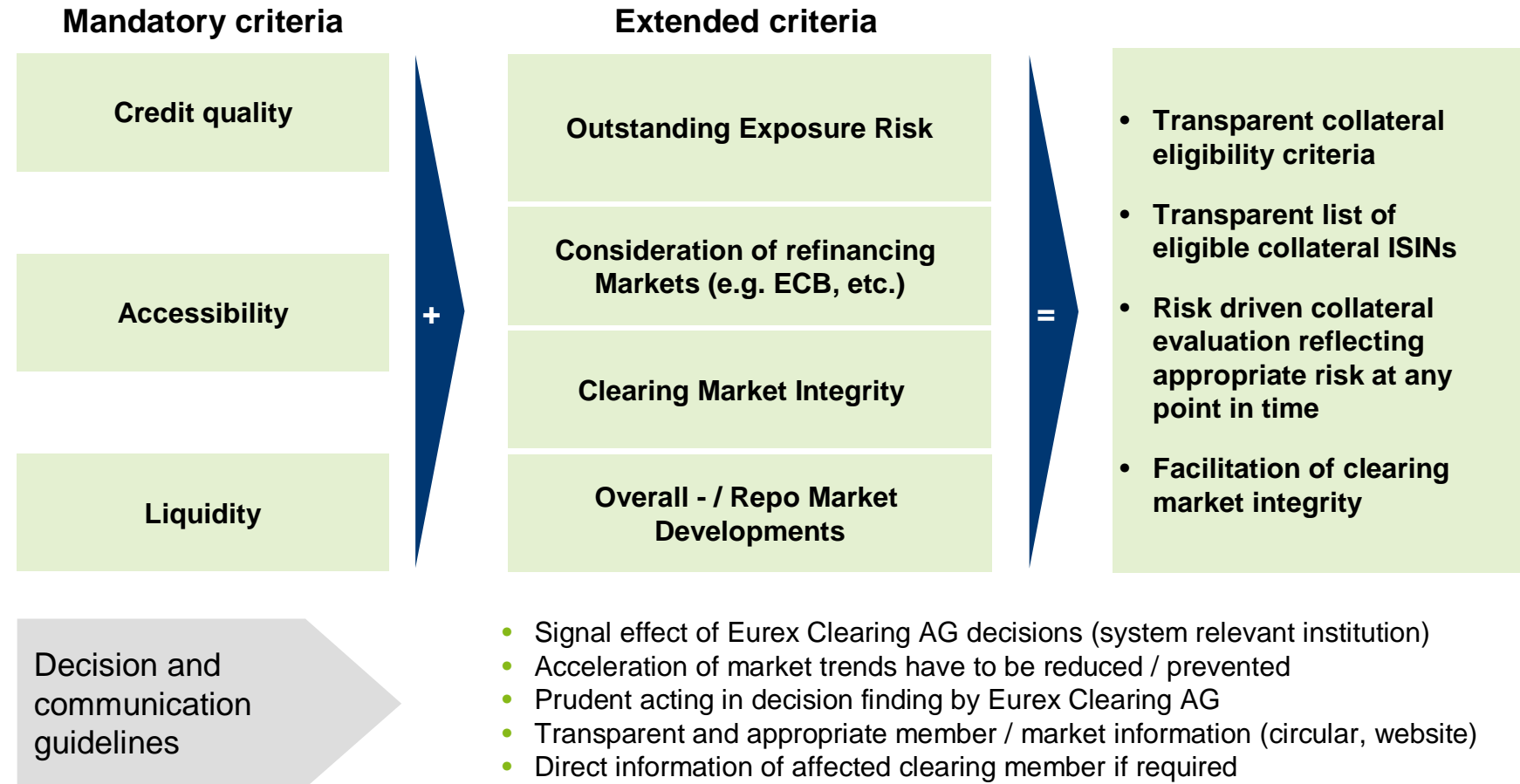
Real time intraday margining and overnight margin calculation with equal principles

... 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

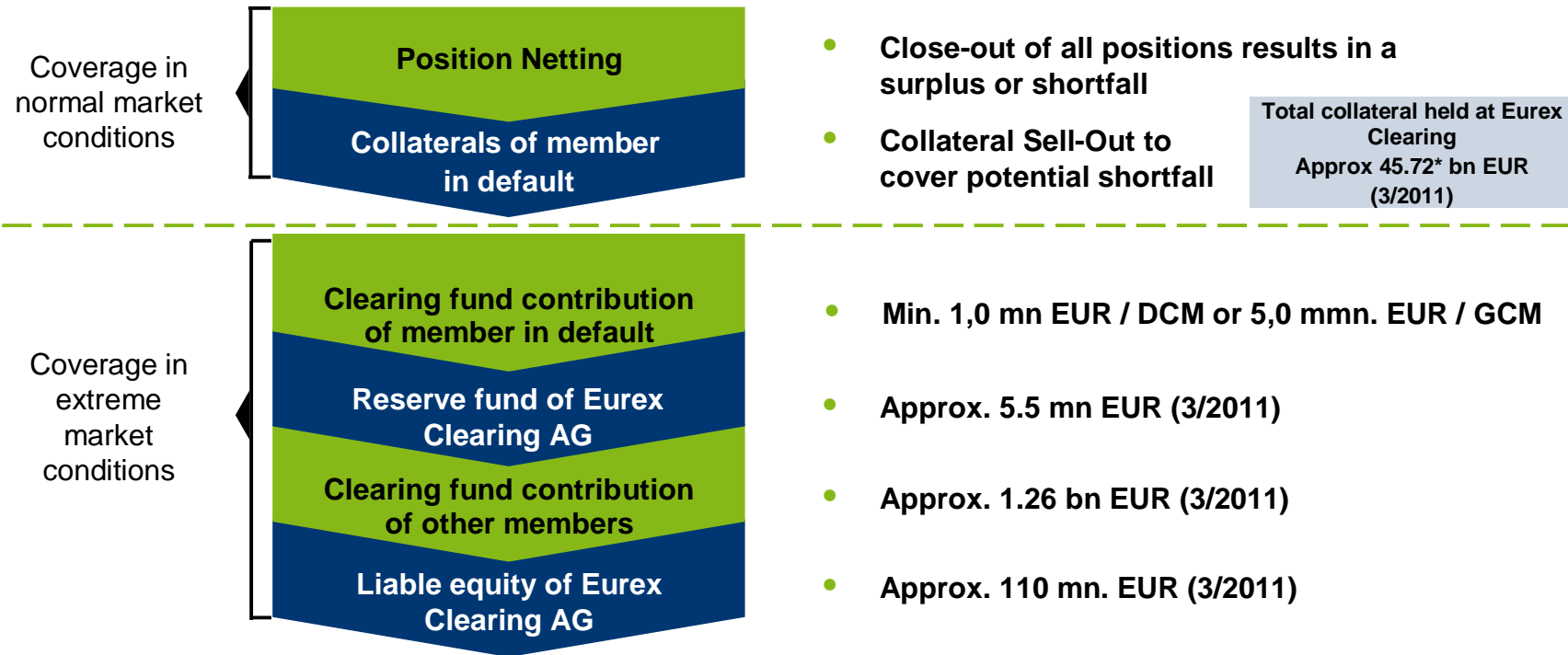


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Default protection for Clearing Members and Non Clearing Members

Pre-funded lines of defense at Eurex Clearing



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

* Monthly Average Collateral Value after haircuts.

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	<ul style="list-style-type: none"> n ECB Liquidity Classes I-IV* n Issuer ≠ Clearer n Exchange listing & price n Admissible proportion of the issued capital is 25% 	<ul style="list-style-type: none"> n Government and Short Term Bonds n State Issues n City and Municipality Bonds n Corporates & Other Bonds n Bank Bonds
	Haircut 3,1% - 20,5%**	
CHF	<ul style="list-style-type: none"> n SNB Repo eligible n Issuer ≠ Clearer n Exchange listing & price n Admissible proportion of the issued capital is 25% 	<ul style="list-style-type: none"> n Federal Bonds and Bills n Kantonal Obligations, Bonds, Bills n City and Municipality Bonds n State Agencies n Corporates & Other Bonds n Bank Bonds, Mortgage Bonds
	Haircut 3,1% - 20,5%**	
USD, GBP, DKK, NOK, SEK, AUD, CAD, JPY	<ul style="list-style-type: none"> n Exchange listing n Admissible proportion of the issued capital is 25% 	<ul style="list-style-type: none"> n Government Bonds
	Haircut 3,1%**	

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