

EUREX

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GROUP

Whitepaper

Innovations with
balance sheet
netting solutions
for repo trading



Executive summary

- 1** Substantial balance sheet consumption from repo trading continues to constrain banks and broker-dealers and limits their ability to provide clients with liquidity.
- 2** While Eurex's GC Pooling and Special Repo markets are increasingly interlinked, comprehensive accounting standards must be satisfied prior to the recognition of balance sheet netting.
- 3** Enhancements to Eurex and Clearstream's trading, clearing and settlement infrastructure has delivered an innovative solution that places repo trading clients in the best possible position to achieve balance sheet netting and benefit from the highly liquid and flexible GC Pooling TriParty repo market.
- 4** The solution complements Eurex's ongoing initiatives to support direct buy-side participation in cleared repo markets, which then allows banks and broker-dealers to unlock the capital benefits from multilateral netting through the clearinghouse.

Introduction

Balance sheet size and composition are important characteristics when describing a bank's activities and in comparing performance with peers. Balance sheet size indicators are used in a number of financial performance and prudential regulatory measures.

Repurchase agreements ('repos') and reverse repurchase agreements ('reverse repos') are reported on a gross basis on the balance sheet. This makes balance sheet capacity for repo trading and market-making a scarce resource that needs to be managed prudently.

Banks are heavily incentivized to pursue strategies that maximize opportunities to reduce gross balances. The accounting and regulatory standards permit the offsetting of financial assets (reverse repos) with financial liabilities (repos), also known as "balance sheet netting", subject to several criteria being met.

In response, Eurex and Clearstream have made several enhancements to their trading, clearing and settlement infrastructure and processes to deliver an innovative solution that puts repo trading clients in the best possible position to achieve balance sheet netting under the IFRS (IAS 32 Financial Instruments: Presentation) and US GAAP (FASB Interpretation No. 41) accounting standards.

In this whitepaper, we present a high level overview of the Eurex GC Pooling and Special Repo markets. We describe the growing interlinkage of these products by repo traders, and the inefficiencies resulting from the inability to achieve netting. We then present a qualitative overview of the accounting standards for achieving balance sheet netting, and review the solution against the accounting standards. For illustrative purposes, we finally present a case study highlighting the potential for benefits to be achieved.

This whitepaper does not constitute accounting advice or guidance. Customers should consider the accounting requirements in the jurisdictions relevant to them before using Eurex and Clearstream products or services.



GC Pooling and Special Repo markets

The Eurex GC Pooling and Repo markets are compared in Table 1.

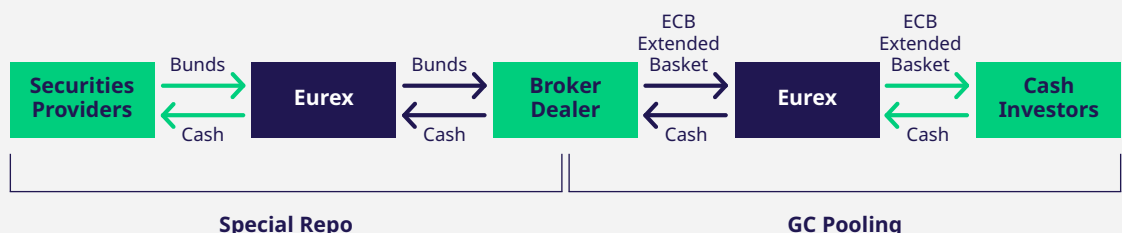
Table 1 – Key characteristics of the Eurex GC Pooling and Repo markets

GC Pooling Market	Repo Market
Funding	Financing
<ul style="list-style-type: none"> • Cash-driven basket trading • Funding in EUR, USD, CHF, GBP collateralized by five standardized collateral baskets with approx. 14,000+ ISINs ranging from government to corporate bonds • Automated allocation of securities and straight-through-processing efficiency (STP) • Real-time substitution of collateral • Settlement netting on basket / currency level • Automated re-use of collateral to ECB/Bundesbank or BCL & Eurex Clearing margining 	<ul style="list-style-type: none"> • Securities-driven trading • Financing of approx. 11,000 ISINs single securities against EUR and GBP • Manual allocation of securities allows selective collateralization • Settlement netting on single ISIN level

According to the Bank of International Settlements, the Euro repo market has increasingly been driven by investors in search of specific collateral rather than investors seeking funding. At Eurex, the GC Pooling and Special Repo markets are increasingly closely interlinked. Market participants raise cash in GC Pooling

as it permits the monetization of less liquid securities through the liquid GC Pooling baskets. This cash is then used to purchase a specific security. The example in Figure 1 shows a Broker Dealer looking to secure a specific-on-the-run issue of German Bunds which is funded by borrowing cash against the ECB Extended Basket.

Figure 1 – Interlinkage between GC Pooling and Special Repo



The Eurex GC Pooling and Special Repo market designs have evolved over the years in response to demand from clients for the most efficient,

effective and optimal mechanisms for cash deployment and collateral use (and re-use).

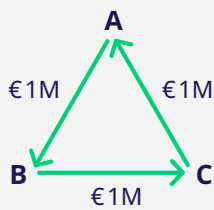
The integrated trading, clearing and settlement designs of the Eurex's markets are highly efficient from a risk and operational perspective. Further, as all trades ultimately face the clearinghouse there is significantly more scope for efficiencies from multilateral netting as compared to facing

numerous counterparties in the bilateral markets (see Box 1).

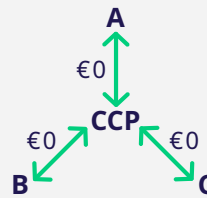
The latest evolution stems from the desire from clients for market designs which are more effective in meeting the accounting standards required to achieve balance sheet netting.

Box 1 – Netting through a CCP

In this illustration, the repo market has three participants, A, B and C. Each participant lends €1M and borrows €1M from another market participant for the same duration. If conducted bilaterally, these transactions would increase the counterparty exposure of the participants.



In the second illustration, the trades are cleared. The counterparties no longer face each other, and instead face the clearinghouse. As the inflows and outflows are netted, the trades do not increase the counterparty exposure.



Accounting standards and the Balance Sheet Netting solution

The accounting standards and guidance for the recognition of balance sheet netting under IFRS and US GAAP are summarized in Box 2. They are comprehensive and will always be open and subject to the interpretation of accountants, auditors and legal advisors.

The Balance Sheet Netting solution developed by Eurex and Clearstream is illustrated in Figure 2,

where the settlement flows for GC Pooling and Special Repo share a common settlement account structure.

We discuss the key requirements below and the Balance Sheet Netting solution features that address compliance.

Box 2 – Pre-requisites for Balance Sheet Netting











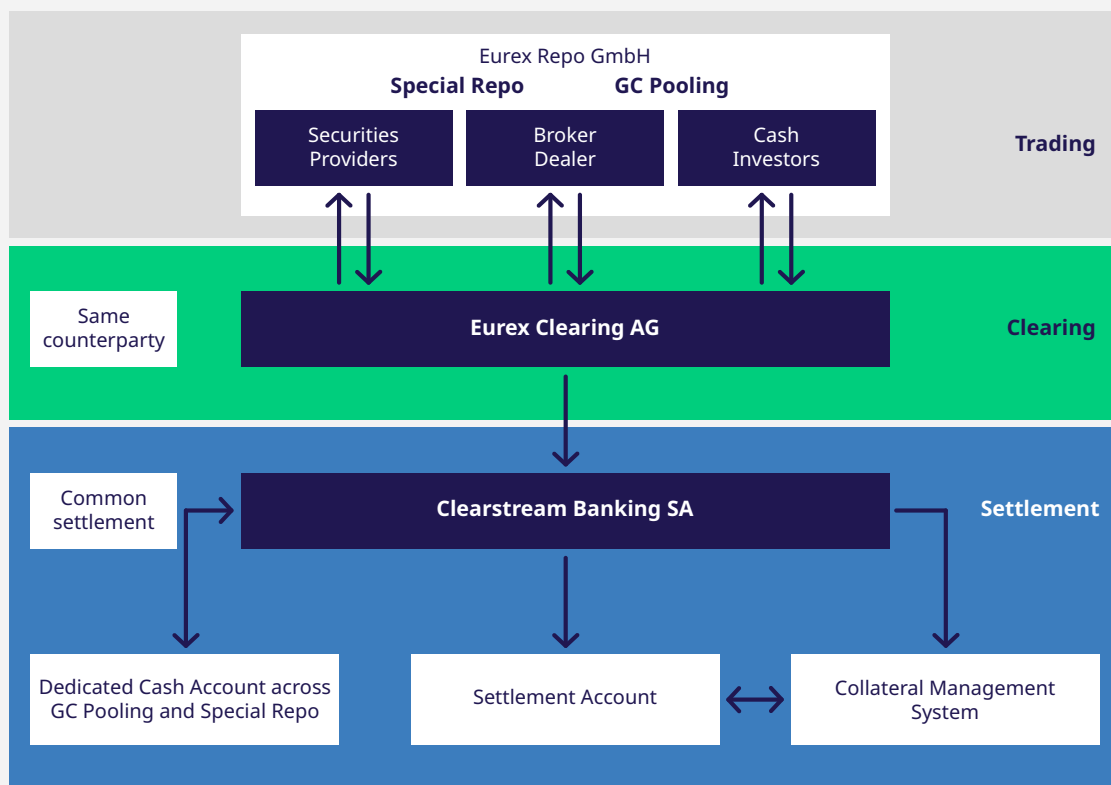
	Same counterparty	
	Same explicit settlement date	
	Netting agreement and rights of set-off	
	Settlement on a net basis	
	Intraday credit facilities	

Figure 2 – Balance sheet netting efficient market design – trading, clearing and settlement



Same counterparty

The minimum requirement is that the repo and the reverse repo face the same counterparty. In Eurex's GC Pooling and Special markets, all trades face the clearinghouse (Eurex Clearing AG).

Same explicit settlement date

For a repo and reverse repo to qualify for off-setting, the transactions need to have the same explicit settlement date. Clients need to account for this criterion in the management of their balance sheet resources.

Netting agreement and rights of set-off

A master netting agreement covering the repo and the reverse repo transactions must be in place before netting is permissible under the accounting standards. Participants in Eurex's GC Pooling and Special markets are required to access one of the available clearing memberships and sign a clearing agreement with Eurex Clearing AG, which forms the basis of legally enforceable rights of set-off. In signing a clearing agreement, the clearing member and Eurex Clearing AG are both bound to the Clearing Conditions of Eurex Clearing AG which specify the netting/rights

of set-off arrangements, analogous to those which would be found in a bilateral repo netting agreement, such as a GMRA.

In order to apply netting, clients need to be satisfied that the current legally enforceable rights of set-off are not contingent on a future event and the rights of set-off are legally enforceable in: the normal course of business; the event of default; and the event of insolvency or bankruptcy. The Clearing Conditions do not intentionally prejudice any of those requirements, but clients will need to seek their own counsel to ensure that those criteria continue to be met for any specific scenarios that the client may face.

Settlement on a net basis

The standards require an intent either to settle on a net basis, or to realize the asset and the liability simultaneously. The existence of a single cash account for transacting the cash inflows and cash outflows provides strong support for this objective. Historically, GC Pooling has been settled through central bank money, while Special Repo has been settled through commercial bank money. In response to client's requirements

to meet the standards, Clearstream now offers a dedicated cash account for GC Pooling and Special activities, settled through commercial bank money. In the future, this solution is expected to be complemented by a central bank money solution, subject to completion of the T2/T2S consolidation project by the ECB.

Additional support for the standard can be found from Clearstream's robust settlement processes where cash assets and liabilities eligible for set-off are submitted for settlement in a single cycle with hard submission deadlines. Counterparties are committed to settle once submitted, with no potential for the settlement amounts to change following submission. The securities leg settlements are all required to be settled through Clearstream and

are transferred by means of book entry records, with securities settlement fails also causing the settlement processing of the cash payables or receivables.

Intraday credit facilities

To promote further certainty around simultaneous settlement, the guidance on the accounting standards encourages the availability of intraday credit lines at the settlement date, and that there is a high probability that those credit lines will be honored. Clearstream provides credit lines in support of client's requirements for balance sheet netting for Special Repo. As long as those credit lines remain fully collateralized in line with Clearstream's requirements, there is no reason to believe that they would be withdrawn.

Case study – European Broker-Dealer

“ By enhancing collateral mobility and credit efficiency for post-trade market participants, we continue to improve access to liquidity and to securities financing markets across the Eurosystem.

Richard Glen

**Head of Collateral Management, Banking Funding & Financing
Clearstream Banking S.A.**

The balance sheet netting solution offers substantial benefits to clients and an illustrative case study is described in Box 3.

Box 3 – Illustrative Broker-Dealer

The European subsidiary of a US broker-dealer has a repo trading desk, supporting a wide range of sell-side and buy-side clients on a bilateral and cleared basis. The desk trades a matched / internalized repo market-making book (€25 Bn notional). The cleared trades

include activity on Eurex’s GC Pooling and Special Repo market. The desk is supported by a trading inventory of €16 Bn notional comprising sovereign, bank and corporate bonds. The balance sheet of the broker-dealer legal entity is shown below.

Assets	€MM	Liabilities	€MM
Cash	900		
Trading assets	2,820		
Trading assets (Pledged)	13,180		
Reverse Repurchase Agreements	25,000	Repurchase Agreements	25,000
Derivatives Assets	100	Derivatives Liabilities	1,000
Default Fund Contribution	40	Unsecured Borrowings	14,040
		Equity	2,000
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Total Assets	42,040	Total Liabilities	42,040

The broker-dealer trades in Eurex’s Special Repo (cleared) market (c. €3.8 Bn Assets). The Special Repo trades are funded by cash borrowings in Eurex’s GC Pooling (cleared) market (c. €3.8 Bn Liabilities), similar to the example shown earlier in Figure 1. While these trade combinations are efficient from an economic netting perspective, the previous market design

involved settlement in both central bank money (GC Pooling) and commercial bank money (Special Repo), and hence did not meet all the criteria required by the accounting standards. By employing the new Balance Sheet Netting solution shown in Figure 2, the revised balance sheet is shown below.

Assets	€MM	Liabilities	€MM
Cash	900		
Trading assets	2,820		
Trading assets (pledged)	13,180		
Reverse Repurchase Agreements	21,200	Repurchase Agreements	21,200
Derivatives Assets	100	Derivatives Liabilities	1,000
Default Fund Contribution	40	Unsecured Borrowings	14,040
		Equity	2,000
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Total Assets	38,240	Total Liabilities	38,240

By employing the solution, the economic efficiencies from interlinked GC Pooling and Special Repo trading have also been realized in the accounting balance sheet, with a reduction in assets of c. €3.8 Bn. This will have

a materially positive impact on their financial performance and prudential regulatory capital measures and metrics, such as return on assets, Leverage Ratio, and the Global Systemically Important Banks (GSIB) framework.

Summary

“ Running the funding and the securities-driven repo business via the same platform, CCP and settlement system provides unique benefits for our clients, significantly reducing capital requirements for a more efficient and profitable business.

Matthias Graulich

Member of the Executive Board

Eurex Clearing AG

Member of the Management Board

Eurex Repo GmbH

The GC Pooling and Special Repo markets administered by Eurex are increasingly closely interlinked.

In response to client demand, Eurex Repo and Clearstream have made several enhancements to their trading, clearing and settlement infrastructure and processes to deliver an innovative solution that puts repo trading clients in the best possible position to achieve balance sheet netting for GC Pooling and Special Repo under the IFRS (IAS 32 Financial Instruments: Presentation) and US GAAP (FASB Interpretation No. 41) accounting standards.

The completion of this initiative marks a major milestone in Eurex and Clearstream's efforts to deliver capital efficiencies for participants in the European repo market landscape.

The initiative also complements Eurex's capabilities to support direct access to cleared repo markets for buy-side counterparties. Eurex's ISA Direct models enable buy-side cash investors and cash takers to achieve their objectives in the repo market with secure access to a large liquidity pool through a streamlined process at competitive pricing. Increasing the buy-side participation in the Eurex's cleared repo markets allows banks and broker-dealers to unlock the capital benefits from multilateral netting through the clearinghouse.

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