TRI-PARTY REPO & COLLATERAL SOLUTIONS

MAY 28, 2015
09:00–12:00
Clearstream’s Global Liquidity Hub
Where collateral belongs

Charlie Bedford-Forde
GSF Sales for UK, Ireland and the Americas
A repurchase agreement, or repo, is the sale of a security with a simultaneous agreement to repurchase it from the same counterparty at a later date.

**What is repo used for?**
- Financing of inventory and short coverage
- To support market-making and liquidity management
- A safer alternative to unsecured deposits
- Open market operations

**Who uses repo?**
- Banks: Investment, Commercial & Central
- Asset Managers, Insurance Companies
- Funds: Mutual, Pension, MMF, Hedge & SWF
- Corporations, State Agencies & Local Authorities

**Pre-requisites**
- Accounts
- Relationships
- Documentation
- Back-office Capabilities
Bilateral Repo: Operational Flows

A repo trade confirmation includes:
- ISIN
- Nominal
- Price
- Start and end date (term)
- Cash currency and amount
- Interest rate
- Haircut
- Settlement Location

**Triparty Repo for Treasurers**
Bilateral Repo: Operational Flows

**Day 1**
- **Cash Provider** (Repo Buyer / Collateral Receiver)
- **Cash Taker** (Repo Seller / Collateral Giver)
- Delivery of securities vs cash principal

**Day T + n**
- **Cash Provider** (Repo Buyer / Collateral Receiver)
- **Cash Taker** (Repo Seller / Collateral Giver)
- Return of securities vs cash principal plus accrued interest
Triparty Repo for Treasurers
Outsourcing the administration to a trusted third party

Bilateral Repo
- Single security focus
- Smaller trade sizes
- Operationally intensive
- Usually same currency
- More often screen & broker traded

Triparty repo
- Both parties appoint a third party collateral management agent
- Trade terms are still agreed bilaterally
- Collateral received is held in a segregated account in the name of the cash giver
- Triparty agent handles all post-trade administration

Benefits for participants
- Reduced costs and administration
- Increased transparency and efficiency
- Unlimited rights of substitution and rehypothecation
- Basket based
- Dynamic margining
Triparty Repo for Treasurers

Step 1: Cash provider pays in funds

- Account at cash correspondent bank
- Cash provider (Collateral receiver)
- Matched Trade details:
  - Currency
  - Principal
  - Repo (or interest) rate
  - Collateral set (or basket)
  - Trade dates (or term)
- Triparty collateral account

- Opening Date
  - Buyer delivers cash into Clearstream

Cash

Cash

Cash provider
(Collateral receiver)
Triparty Repo for Treasurers

Step 2: Opening of the trade

- Opening Date
  - Cash is used to fund the purchase of eligible securities onto the collateral account

### Opening Trade details
- Currency
- Principal
- Repo (or interest) rate
- Collateral set (or basket)
- Trade dates (or term)

### Custody account of Cash taker
(Collateral giver)

### Triparty collateral account

### Simultaneous delivery vs payment (DVP)
(cash against collateral)
Triparty Repo for Treasurers
Step 3: Collateral Management

Clearstream provides a full collateral management service. During the trade:
- Eligibility screening
- Margin calls
- Daily mark-to-market
- Ratings and corporate action monitor
- Automatic interest accrual

Top-ups, Withdrawals and Substitutions

Custody account of Cash taker (Collateral giver)
Triparty Repo for Treasurers
Step 4: Closing

- Collateral provider pays back cash principal plus interest, this is used to buy back their securities.
- Collateral taker receives cash back on their Clearstream account or directly into their CCB.

Closing Date
- Collateral provider pays back cash principal plus interest, this is used to buy back their securities.
- Collateral taker receives cash back on their Clearstream account or directly into their CCB.

Simultaneous delivery vs payment (DVP)
(collateral vs cash)
**Triparty Repo for Treasurers**

Example Bloomberg Ticket – STP into Clearstream

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**GRAB**

<table>
<thead>
<tr>
<th>Repo Information</th>
<th></th>
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<tbody>
<tr>
<td>Repo Type</td>
<td>Repo - Customer Borrows Securities / Dealer Borrows Cash</td>
</tr>
<tr>
<td>Salesperson</td>
<td>CHARLIE BEDFORD-FORD (CLEARSTREAM BANKING)</td>
</tr>
<tr>
<td>Par Amount (MM)</td>
<td>50 EUR</td>
</tr>
<tr>
<td>Rate / Spread</td>
<td>0.050000 360</td>
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<tr>
<td>As Of Settlement Date</td>
<td>01/26/15</td>
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<td>Settlement Date</td>
<td>01/26/15</td>
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<td>Termination Date</td>
<td>01/27/15</td>
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<tr>
<td>Customer</td>
<td>CHRIS SERMAN (BLOOMBERG/LONDON)</td>
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<tr>
<td>Collateral Label</td>
<td>SET 1</td>
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<tr>
<td>Seller Legal Entity</td>
<td>S.</td>
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<tr>
<td>Notes</td>
<td></td>
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</tbody>
</table>

**Money Information**

<p>| | |</p>
<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>Settlement Money</td>
<td>50,000,000.00</td>
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<tr>
<td>Repo Interest</td>
<td>69.44</td>
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<tr>
<td>Termination Money</td>
<td>50,000,000.00</td>
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</tbody>
</table>

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- **SWIFT MT527** is sent on your behalf by Bloomberg to Clearstream
- No **external connectivity** required
- No complex **set-up**
- No added **cost**
- Already used by all **bank counterparties**
Triparty Repo for Treasurers
Benefits of trading triparty repo through Clearstream

- An award-winning collateral management service
- State of the art technology
- Proactive “Marriage-Broking” service
- Optimisation across counterparties and products
- A neutral, AA rated third party
- Easy reuse of securities to other collateral receivers to cover swap exposures, clearing house obligations and margin requirements
- Luxembourg Law CMSA and compatibility with existing documentation, such as the GMRA, ISDA CSA and clearing house agreements
- Possibility to use the unique Clearstream Repurchase Conditions
Bloomberg Tri-Party Repo Processing Solutions

![Diagram of Tri-Party Repo Processing Solutions]

- **BUYSIDE**: Trade Affirmed → Trade Allocated
- **VCON**: Trade Execution
- **SELL SIDE**: Trade Recap
- **STP BLOTTER**: Matched Status → Notification of Allocation
- **CLEARING AGENTS**: Allocation Details
Tri-Party Repo YTD Metrics (Jan – Apr)

- VCON Trade Confirmations - 33,317 (avg 8,300 per month)
- Allocation Tickets Processed - 93,795 (avg. 23,400 per month)
- Allocation Tickets Matched – 82,047 (avg. 20,500 per month)

Bar chart for trades confirmed:
- April 7,500
- March 8,000
- February 7,000
- January 6,500

Bar chart for allocations matched:
- April 23,000
- March 20,000
- February 18,000
- January 16,000

Bar chart for allocation tickets:
- April 7,000
- March 8,000
- February 7,000
- January 6,000
Trade Confirmation Work Flow (VCON)
Trade Confirmation Work Flow (VCON)
Notification & Matching of Allocations
Notification & Matching of Allocations
Completing the Work Flow
Collateral Monitor – An aggregation, validation, and analysis tool
Collateral Monitor Validation Checks

» Collateral Eligibility
» Margin Calculations
» Maturity Range
» Currency
» Ratings
» PSET

» Exclusion
» Concentration Level
» Security Reference Data
» Security Valuations
» Worse Collateral Check
» Maturity Date
Collateral eligibility & exclusions checks defined using CSMT
Real-time discrepancy resolutions using the Post Trade Chat tool
Comprehensive metrics and analysis tools
Coming soon…

 ✓ Electronic eligibility schedules for Clearstream & Euroclear
 ✓ Dealer eligibility schedules for DVP repo
 ✓ Reporting of pledged collateral via SWIFT MT 569
 ✓ Support for defined collateral baskets
 ✓ Expansion of repo & collateral reporting capabilities for new markets; Mexico, Russia, Japan
 ✓ Interoperability with AIM (XFIN) and TOMS (collateral optimization)
 ✓ Components leveraged for a broader suite of collateral management services
No matter the type, size or sector, any business in Europe that undertakes derivative transactions, will be impacted by the European Market Infrastructure Regulation (EMIR). However obligations will vary in scope according to organisation type.

1. **Clearing** OTC derivatives, as determined by the European Securities and Markets Authority (ESMA), must be cleared on a recognised Clearing House, unless the counterparty has an exemption. Cash FX products are exempt. Mandatory clearing through an authorised clearing house (CCP such as Eurex) for specific IRS and CDS products is to be phased in from 2015-2017.

2. **Mandatory bi-lateral variation margining** will be introduced as of Sept 1, 2016*. Certain non-clearable derivatives to be subject to mandatory margin requirements. A similar counterparty exemption applies. The exchange of initial margin will be phased in from 2016 to 2020*, depending on the size of the average aggregate notional amounts.

3. **Reporting** All derivatives are to be reported to a regulated Trade Repository (TR) by all counterparty types. FX spot transactions are out of scope.

4. **Risk Mitigation** Mandatory confirmation timelines and mandatory portfolio reconciliation for all counterparty types.

* Dates are updated to reflect the ISOCO – BCBS Final document on Margin requirements for non-centrally cleared derivatives – March 2015*
• The economic crisis that began in 2007 exposed significant weaknesses in the resiliency of banks and other market participants to shocks in the financial system.

• In the context of over-the-counter (OTC) derivatives, the crisis triggered a drive from regulators, towards improved market transparency, an attempt to curtail perceived excessive and opaque risk-taking through the use of OTC derivative instruments.

• There is now, more than ever a focus on the mitigation of systemic risk posed by OTC derivatives transactions, markets, and practices.

The genesis of the regulation currently being implemented was the Group of Twenty (G20) meeting in Pittsburgh 2009. The G20’s reform programme comprised four key elements:

1. All standardised OTC derivatives should be traded on exchanges or electronic platforms, where appropriate.
2. All standardised OTC derivatives should be cleared through central counterparties (CCPs).
3. OTC derivatives contracts should be reported to trade repositories.
4. Non-centrally cleared derivatives contracts should be subject to higher capital requirements.
EMIR distinguishes between financial counterparties (FCs) and non-financial counterparties (NFCs) and these terms are important to understanding your obligations under EMIR. An FC is an investment firm, credit institution (i.e. bank), insurance undertaking, assurance undertaking, reinsurance undertaking, undertaking for collective investments in transferable securities (UCITS), institution for occupational retirement provision or an alternative investment fund.

An NFC is an undertaking established in the EU that is not an FC, a central counterparty or a TR – in more general terms, it is a non-financial company, or a corporate entity.

Under EMIR, NFCs will be classified as either:
- NFC+: an NFC which exceeds the clearing thresholds (NFC+ is subject to similar requirements on clearing and margining as an FC).
- NFC-: an NFC which meets the hedging test and does not exceed the clearing threshold.

If a Corporate determines itself to be an NFC+, it must confirm its status as an NFC+ to its counterparties, ESMA and the local regulator. In the UK, the local regulator will be the Financial Conduct Authority (FCA).
Commercial purposes hedging test
An NFC’s derivative contracts are exempt from EMIR’s clearing and margining obligations if they meet ESMA’s ‘hedging for commercial purposes’ definition: “Swaps that are...objectively measurable as reducing risks related to commercial activity or treasury financing activity of the NFC or of that group”

To meet the above definition just one of the following conditions needs to be met:
• The swap covers the risk arising from the normal course of business (includes proxy hedging and stock options arising from employee benefits).
• The swap covers indirect risks.
• The swap is consistent with the International Financial Reporting Standards (IFRS) hedging definition.

Derivatives that do not meet the definition are aggregated and then subject to the clearing threshold test.

Clearing Threshold test
An NFC will exceed the clearing threshold if its average rolling position over 30 working days (excluding hedging positions that are “objectively held for the purpose of directly reducing commercial risks or treasury financing activity”) remains above the following thresholds:
• €1 billion* in credit derivative contracts;
• €1 billion* in equity derivative contracts;
• €3 billion* in interest rate derivative contracts;
• €3 billion* in FX derivative contracts; and
• €3 billion* in commodity derivative contracts
• €3 billion* other OTC derivative contracts not captured in the above categories

* In gross notional value

Importantly, exceeding the threshold in any individual asset class will require an NFC to clear transactions in all asset classes. When calculating its positions, an NFC must include all contracts entered into by other NFCs within its group.
EMIR Timelines

- **2013**
  - 15 March 2013: Confirmation Daily Valuation NFC+ Reporting
  - 15 Sept 2013: Portfolio Reconciliation Portfolio Compression Dispute Resolution

- **2014**
  - 12 February 2014: Phase 1: Reporting to TRS - Trade
  - 11 Aug 2014: Phase 2: Reporting to TRS - Collateral Val.

- **2015**
  - 11 Aug 2015
  - FL²² Cat 1 - 2

- **2016**
  - 15 March 2016: 1st Clearing Obligation in Category 1
  - Sept 2016: 1st Clearing Obligation in Category 3

- **2017**
  - March 2017: VM exchange for All
  - Sept 2017: IM for Group 1 (threshold > €3 trio.)
  - Sept 2017: IM for Group 2 (threshold > €2.25 trio.)

- **2018**
  - Sept 2018: IM for Group 3 (threshold > €1.5 trio.)

- **2019**
  - Sept 2019: IM for Group 4 (threshold > €0.75 trio.)
  - Sept 2019: IM for the rest (threshold > €8 bio.)

- **2020**
  - Sept 2020: IM for the rest (threshold > €8 bio.)
**EMIR additional IM obligations**

<table>
<thead>
<tr>
<th>Period</th>
<th>Initial Margin if average aggregate not. amounts</th>
<th>Variation Margin – All participants</th>
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<tbody>
<tr>
<td>Sept 1, 2016</td>
<td>Variation margin – Phase 1</td>
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<td>2016-17</td>
<td>Initial Margin if average aggregate not.</td>
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<td>2017-18</td>
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<td>2018-19</td>
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<td></td>
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<tr>
<td>2019-20</td>
<td>Initial Margin if average aggregate not.</td>
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<td></td>
<td>amounts &gt; € 0.75 trio.</td>
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<tr>
<td>2020 &amp; Onwards</td>
<td>Initial Margin if average aggregate not.</td>
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<tr>
<td></td>
<td>amounts &gt; € 8 bio.</td>
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A summary of the requirements stipulated under the RTS:

- A requirement to segregate collateral for initial margin
- Non-affiliation and segregation from proprietary assets recommended
- Annual legal opinions needed
- Restrictions on rehypothecation or other re-use of IM collateral
- No provision for initial margin netting: two-way IM collection

* Dates are updated to reflect the ISOCO – BCBS Final document on Margin requirements for non-centrally cleared derivatives – March 2015. Final EMIR RTS is expected to be in line with the proposed dates.

03 June 2015
Collateral market trends

The implementation of new rules across the financial industry has meant that firms are increasingly hamstrung by cost from the cost of capital to the drag of the cost of infrastructure and IT investment. Costs can be divided into three main categories,

1. The cost of additional margin requirements
2. Capital charges incurred for exposures under the new regulatory regime
3. The cost of compliance with the new rules (operational costs for trade reporting etc.)

The market is being forced to evolve to ensure that regulation, however well intentioned, does not inadvertently have a counterproductive effect through decreased liquidity and increased market risk.

1. Triparty repo as an alternative to placing unsecured cash with banks
2. Consolidation of product and liquidity silos
3. Drive towards uniformity and standardisation: TARGET2-Securities (T2S), market utilities and the Clearstream Repurchase Conditions (CRC) documentation
BETTER COLLATERAL MANAGEMENT INCORPORATES RISK AND OPTIMISATION

Valuation layer - consistent market data reduces disputes - sensitivity metrics and simulation increase visibility and reduce risk

Reconciliation layer – do trades, collateral and eligibility rules match those of my counterparty/custodian/CCP?

Workflow

- Margin requirements, dispute status, interest, substitutions, optimal collateral moves, risk metrics, reconciliation status, settlement status

Optimisation

Messaging layer

CPs

Eligible assets currently not used as collateral