FRIC Practitioner Seminar

The role of the repo product in finance

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Agenda

- What are repos and what are their function?
- An overview of the European repo market
- Legal framework
- Trade types
- Market infrastructure
- Regulations
- Conclusions
- Further material

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What are repos and what are their function?

What are repos?

- a hybrid money market and fixed income product
- a form of secured financing, the main characteristics being
  - collateralised with fixed income assets (99%)
  - short duration (typically less than a month)
  - low risk product providing a good return on capital (30-40%)
    - settlement risk => delivery versus payment
    - credit counterparty risk => daily margining and haircuts
    - operational risk => standardised product with high level of electronic trading
    - market risk => short duration of trades

Used for 3 main purposes

- Support the activity of fixed income bond traders – covering shorts and 'repoing out' long position (fixed income activity)

- Optimising short-term liquidity management processes for the period from overnight to 3 months (money markets activity)

- Support the liquidity and funding requirements of fixed income clients, e.g. pension funds and asset managers (both money market and fixed income activity)

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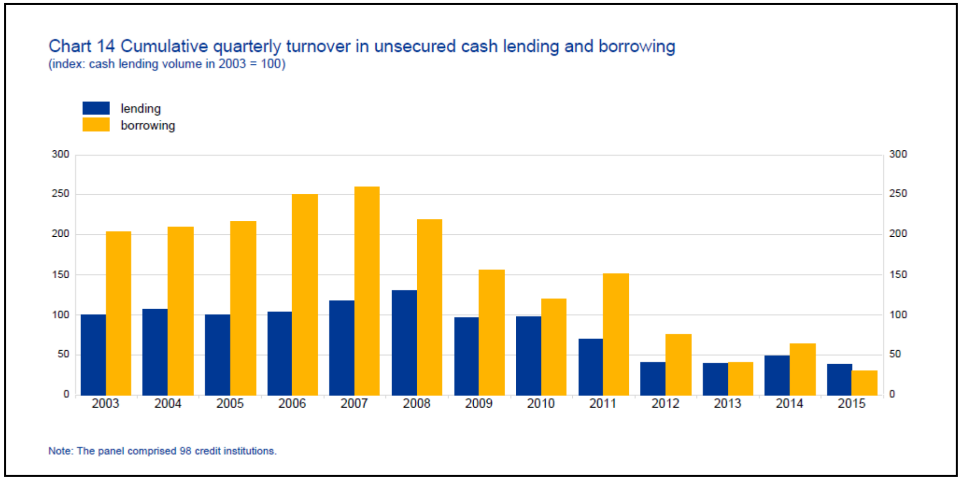
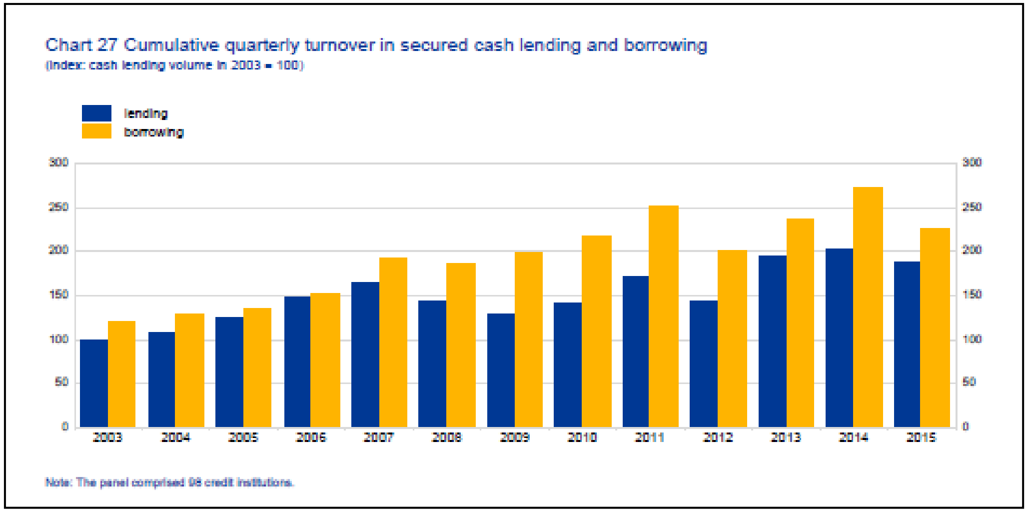
Markets

The move from unsecured to secured funding...





Source: Euro money market survey, September 2015
https://www.ecb.europa.eu/pub/pdf/other/euromoneymarketsurvey201410.en.pdf?78a462cfc8806934def1de95916406b8

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An overview of the European repo market – ERC Survey

- June 2015 survey
  - their are approximately 65 regular participants in this twice a year survey
  - market size EUR 5,612 bn
  - a 3.7% year on year decrease
  - DKK/SEK collateral represents 2.9% => EUR 202 bn
  - peak market size was EUR 6,979 bn in June 2010

- the market is going through many changes

  - Current downward trends
    - CCP/electronic trading
    - voice broking
    - tri-party repo
    - government bond collateral
  - Current upward trends
    - maturity (slightly longer)
    - directly negotiated trades
    - cross border trades
    - sell/buybacks
    - USD activity (cash)
    - market share of top 10 repo desks
    - equity collateral
    - securities lending

Agenda

Legal documentation

- The most common European agreement is the Global Master Repo Agreement (GMRA) which is supported by the International Capital Markets Association (ICMA). It is basically the ISDA-equivalent of the repo market

- Other domestic master agreements also exist, e.g. Germany, France, Denmark (and Switzerland)

- The GMRA includes provisions covering:
  - Events of default and close-out netting - GMRA, paragraph 10, 13 and 16
  - Margining provisions - GMRA, paragraph 4
  - Settlement process, i.e. delivery versus payment – GMRA Section 6
  - Rights of substitution - GMRA, paragraph 8
  - Termination of open repos - GMRA, paragraph 3
  - Treatment of corporate actions and manufactured coupons - GMRA, paragraph 2 and 5
  - Legal ownership (versus economic ownership), i.e. transfer of title - GMRA Section 6
  - Right of re-use (not rehypothication) - GMRA Section 6

- Annexes to the GMRA also exist. These annexes support other aspects of the repo market that are not part of the standard document/market, e.g. Equity Annex, Buy/Sellback Annex, Gilt Annex, etc

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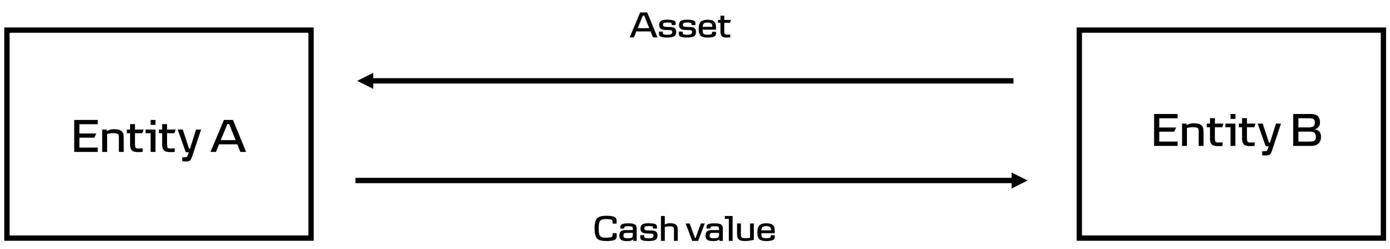
Trade type - bilateral classic repo

- a sale of assets and a simultaneous agreement to repurchase equivalent (same or similar) assets at a future date or on demand for the original value plus a return on the use of the cash (can be negative)
- coupons paid out on the underlying asset during the term of the trade will be received by Entity B but must be immediately passed through to Entity A (manufactured coupon)

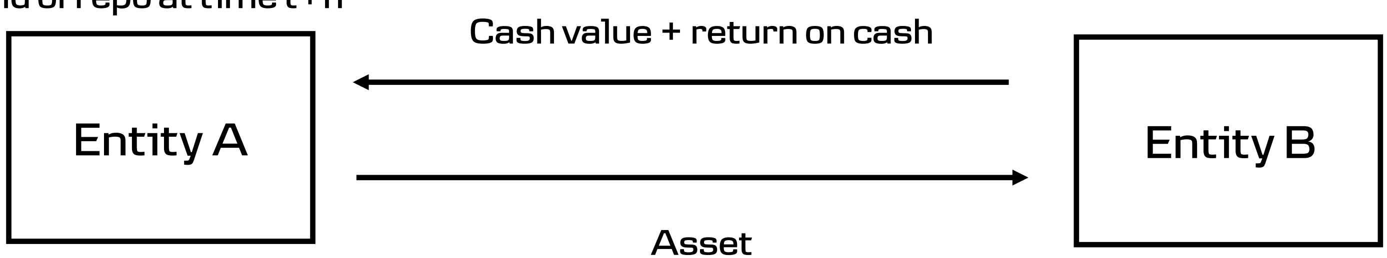
Start of repo at time t



Entity A 'reverse repo' (asset)

Entity B 'repo' (liability)

End of repo at time t+n



Remember: The term 'reverse repo' is just a name used to indicate a repo trade seen from the cash providers point of view

Trade type - bilateral classic repo

- variations/attributes can include…

  – open repo

  – variable rate repo

  – cross currency repo

  – extendable/evergreen repo

  – agency repo

  – buy/sell back repo

  – triparty repo

  – cleared repos

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Trade type - bilateral classic repo

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  - open repo
  - variable rate repo
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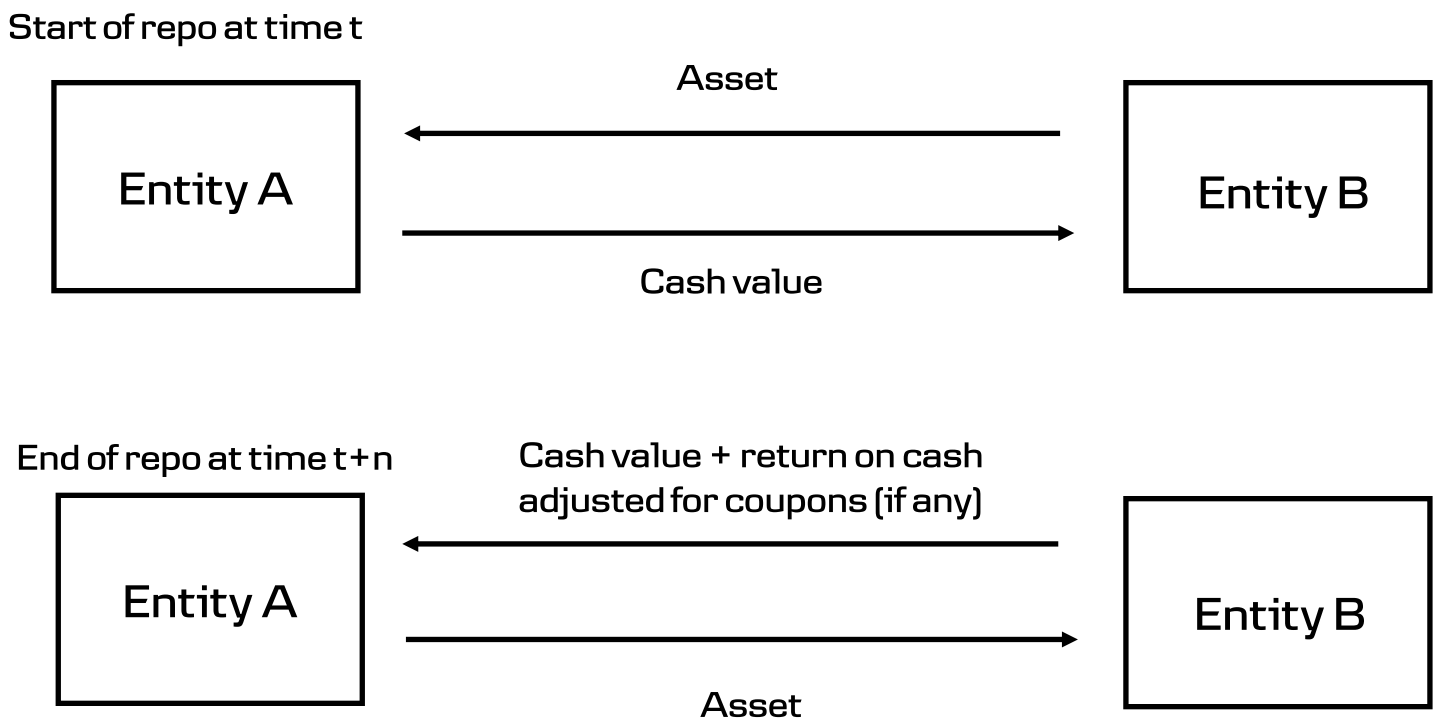
  - agency repo
  - buy/sell back repo
  - triparty repo
  - cleared repos

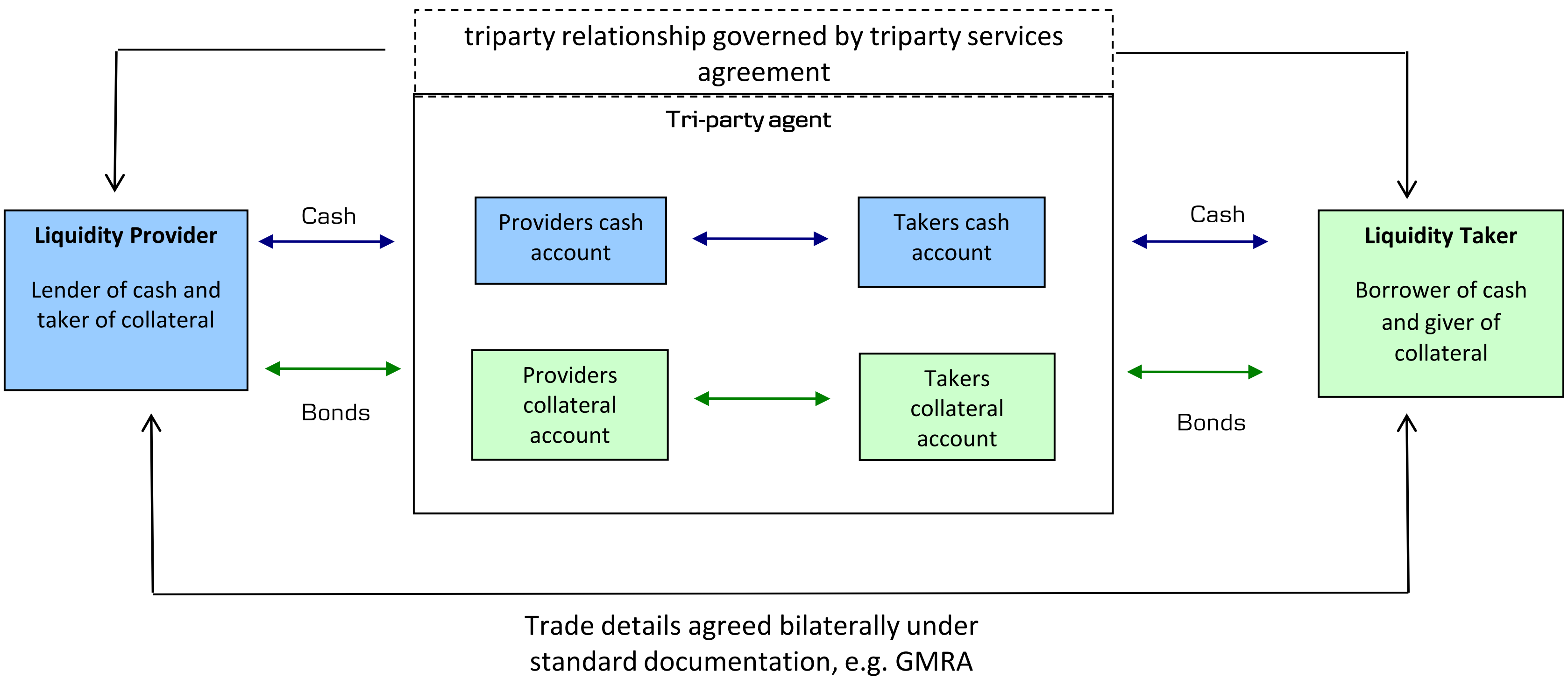
Trade type - bilateral buy /sell back

- On trade date Entity A agrees to buy a bond (on start date) from Entity B. On the same date they agree that Entity A will 'sell back' the same bond at a fixed date in the future (end date)
- The price for the 'sell back' of the bond is the forward price of the bond for that date discounted by the agreed repo rate
- <u>Any coupons due between the start and end date will be adjusted for in the forward price - as no manufactured coupon is exchanged between the parties.</u>
- Trades are entered into under a GMRA with Buy/Sellback annex



Trade type - triparty repo

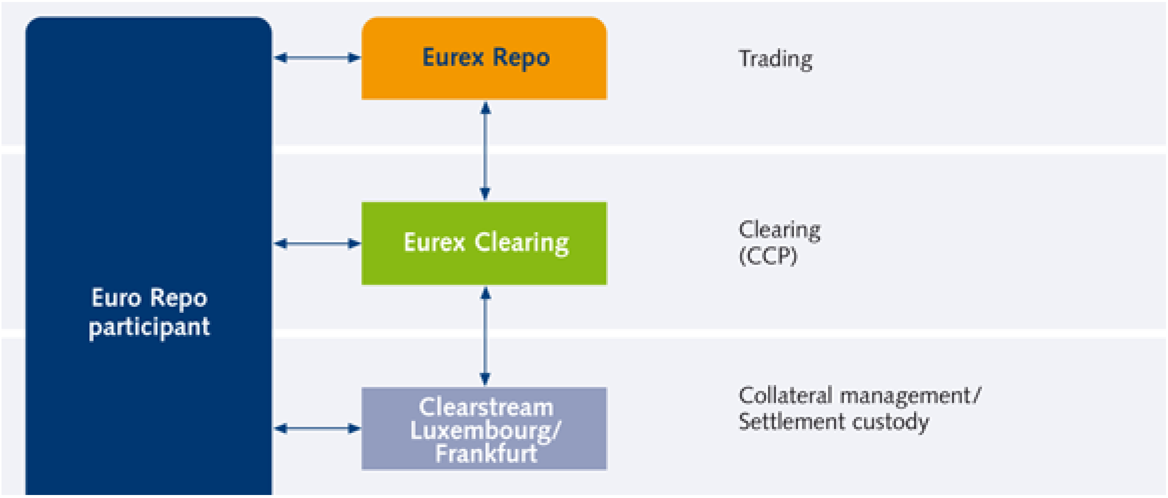
- the counterparties to a trade agree to outsource certain operational activities to a triparty agent, i.e. collateral management, settlement and asset servicing
- the triparty agent is not a legal party to any trade
- the assets eligible for a trade are covered by a pre-defined eligibility set (including haircuts)
- triparty agents are typically ICSDs (Euroclear, Clearstream and SIS) or large custodian banks (Bank of New York Mellon, JP Morgan, Citibank)



Trade type - cleared repos

- a central counterparty (CCP) steps into the trade to become the legal counterparty to both parties to the trade
- the original counterparties have no risk on one another
- trading can be anonymous (via trading platforms) or on a give up basis
- a triparty agent can also be involved

e.g. the cleared repo market offered by Eurex repo (GC Pooling)



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Market infrastructure

- triparty agents ✓
- central counterparties ✓

other important elements…

- **brokers**
  - intermediaries who help connect counterparties and find market liquidity, e.g. Tullets, ICAP, BGC, GFI
- **trading platforms**
  - electronic market places that support the trading of repos in a standardised and automated way, e.g. BrokerTec, MTS, Eurex, SIX Repo and tpRepo
- **international central securities depositaries (iCSD)**
  - regulated entities who hold securities on behalf of members and offer related services, including cross border settlement (DVP) and triparty repo, e.g. Euroclear, Clearstream, SIS
  - Not to be confused with domestic based CSDs, e.g. VP, VPS, Euroclear Sweden, Euroclear UK, etc (typically only active in their local domestic markets)

Market infrastructure (continued)

- **target 2 securities**
  - an European wide settlement platform which will improve cross border settlement flows between domestic CSDs. Due to go fully live in February 2017

- **agent lenders**
  - custody banks who lend assets on behalf of their custody clients on an agent basis, i.e. have no counterparty credit risk on the trade
  - the agent lender leverages off of their own internal trading/settlement operations
  - the custody clients are the ‘principal lenders’ who carry the counterparty credit risk

- **custody banks**
  - large global banks who offer smaller entities safe keeping services for their assets and access to a sub-custodian network, e.g. JP Morgan, Citibank, Deutsche Bank, BNP
  - often offer add on services such as asset servicing and securities lending/repo, i.e. they become agent lenders
  - for smaller entities this is an alternative to establishing their own CSD or custody network

- **principal lenders**
  - entities who allow their assets to be used by agent lenders under their lending programs
  - most often asset managers with no wish to operate extensive lending/repo trading programs, e.g. pension funds, central banks, Supranationals, sovereign wealth funds, etc

Agenda

Regulatory overview – pre 2008

Crisis response

CRD III/Basel II

Asset management

Undertakings in Collective Investment in Transferable Securities (UCITS III)

Solvency I Directive

Primary markets

Market Abuse Directive (MAD)

Secondary markets

MiFID

Market infrastructure

Target2 Securities

Regulatory overview – post 2008

Crisis response

- CRD IV/CRR (Capital costs, LCR, NSFR, Leverage ratio, asset encumbrance)
- Shadow Banking
- US Volcker rule
- FTT
- Regulation on credit rating agencies (CRAs)
- Structural Reforms in Banking – Liikanen report
- Bank recovery and resolution/TLAC

Asset management

- Undertakings in Collective Investment in Transferable Securities (UCITS VI)
- Alternative Investment Fund Managers Directive (AIFMD)
- Solvency II Directive
- Framework for Corporate Governance

Primary markets

- Foreign Account Ta Complian (FATCA)
- Prospectus Directive (PD)
- Market Abuse Directive (MAD II/MAR)
- Packaged Retail Investment Products (PRIPs)
- Transparency Directive (TD)

Secondary markets

- MiFID II/MiFIR
- Short Selling Regulation (SSR)

Market infrastructure

- Central Securities Depositary (CSD) Regulation
- Target2 Securities
- Indices Serving as Benchmarks
- EMIR
- Securities Law legislation (SLL)

Regulatory overview – impact on repo markets

Crisis response

- CRD IV/CRR (Capital costs, LCR, NSFR, Leverage ratio, asset encumbrance)
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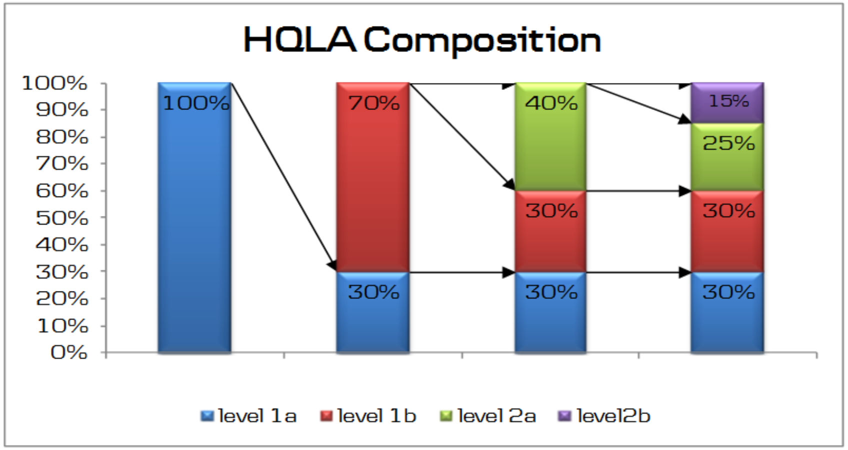
Regulatory initiatives: CRD IV/CRR - liquidity coverage ratio

- LCR = $\dfrac{\text{stock of High Quality Liquid Assets}}{\text{assumed net cash outflows over 30 days}}$

- minimum = 100%

- main issues being faced is the impact of level 1b assets, i.e. Scandinavian covered bonds, and the HQLA buffer caps

Four HQLA compliant portfolios



Right column is minimum requirement

Repo as a mitigating tool for LCR

- Repos can help mitigate LCR and normally do no harm and repos of a duration greater than 30 days can have a positive impact

- Repos with central banks / supranationals have favourable treatment with regards to assumed outflows

- Good tools for managing LCR include:
  - evergreen / extendable repos
  - collateral swaps, i.e. lending of level 1b or level 2 assets against the borrowing of 'level 1'
  - tri-party repos for the long term funding of non 'level 1' assets

But there are challenges…

- when a mitigating repo rolls in under 30 days the LCR impact can be very negative – can disturb the make up of the HQLA buffer, i.e. 30/30/40

- own issues that are out of category for one entity can be level 1b to others. Collateral swap?

Regulatory initiatives: CRD IV/CRR – net stable funding ratio

- NSFR = $\dfrac{\text{available source of stable funding (ASF)}}{\text{required source of stable funding (RSF) over a one year period}}$

- minimum = 100% (2018)

- Still awaiting final standards from a European level (BCBS published in December 2014)

- What challenges do the standards present?
  - understanding the impact on the financial markets
  - changing the type of funding banks will require

Regulatory initiatives: CRD IV/CRR - leverage ratio

- Leverage ratio = $\frac{\text{Capital Measure}}{\text{Exposure Measure}}$
- minimum 3% (2018). Potentially higher for SIFIs or per regulatory jurisdiction
- capital Measure = Tier 1 capital
- exposure Measure = on-balance sheet + derivatives + SFT + other off-balance sheet
- main issues being faced are that repos are hit hard in a leverage ratio measure
  - no offset for collateral and RWA will be added to the exposure calculation
  - full impact whether it is AAA or BBB that is the underlying asset
  - CCP related netting is the only certain relief where as the recognition of bilateral netting (same counterparty, same end date and same currency) is still uncertain

Regulatory initiatives: CRD IV/CRR - capital

- repos are low users of capital as...
  - trades are fully collateralised with typically high quality collateral (often with haircuts)
  - trade duration is short
  - if appropriately documented, i.e. GMRA, there is also:
    - netting benefits
    - recognition of a shorter liquidations period (margin period of risk)

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Regulations: market infrastructure

- **European Commission**
  - CSDR
    - mandatory buy-ins
    - trade matching requirements
  - MiFID II/MiFIR
    - trade reporting requirements ?
    - possible post/pre trade requirements ?
    - liquidity calibrations used to determine MiFID II/MiFIR buy-in scope ?
  - SFTR
    - additional trade reporting requirements for repos
    - possible consent requirements for re-use of collateral received under a repo
  - Bank Recovery and Resolution Directive (BRRD)
    - stay of close out
    - ex-ante contributions to resolution financing arrangements
- **ECB**
  - Money Markets Statistics Regulations (MMSR)
    - data reporting requirements covering repos
- **Financial Stability Board Shadow Banking (FSBSB)**
  - Minimum haircuts
  - Standards and processes for Securities Financing data collection
  - Examination of re-use from a financial stability perspective

Agenda

Conclusions

- Pre 2008 repo activity in Europe (globally) grew steadily
- Immediately after 2008 this growth increased dramatically – move from unsecured to secured financing
- Since 2011 the impact of regulations have caused a decrease in activity – focus on capital costs and deleveraging
- This is having a clear impact on other markets, e.g. covered bonds
- Are these consequences good/bad or even intended/unintended?
- Is repo the correct target? Is the amount of leveraging real or just a consequent of accounting rules not fit for purpose?
- What is the solution – balance sheet derecognition and focus on risk based measures rather than notional sizes

Liquidity Squeeze Hits Repos in Denmark as Market Makers Retreat

by Frances Schwartzkopff

June 26, 2015 – 12:00 AM CEST *Updated on* June 26, 2015 – 3:39 PM CEST

As turnover in Denmark's repo market shrinks, the fallout is spilling over to Europe's biggest supply of covered mortgage bonds.

The $450 billion market, three times the size of Denmark's government-bond market, provides as much as 70 percent of the liquidity buffers that Danish banks must hold to guard against capital markets freezing. It's the one market that Denmark relies on more than any other to keep all financial transactions running smoothly and to provide affordable home finance. But it, in turn, relies on a healthy repo market.

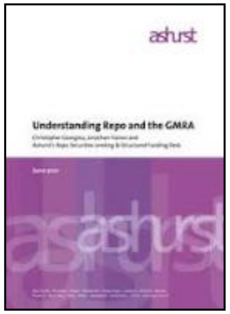
"We are concerned," Soeren Gade, deputy director at the Danish Bankers Association

Agenda

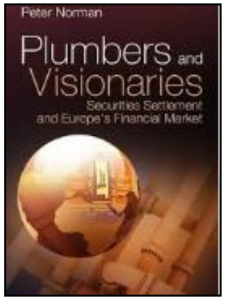
Further material

- European Repo Council - http://www.isma.org/About-ICMA/icma-councils-and-committees/European-Repo-Council/
    - FAQs
    - Repo Survey
    - Best practice guides
    - Contributions to public consultations
    - Legal documents and legal opinions (members only)
    - Quarterly report (issued by parent organisation ICMA)

- Christopher Georgiou, Jonathan Haines and Ashurst's Repo, Securities Lending & Structured Funding Desk (2011), Understanding Repo and GMRA



- Peter Norman (2007), Plumbers and Visionaries: Securities Settlement and Europe’s Financial Market



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