ICMA
International Capital Market Association

Professional Repo Market and Collateral Management Course

types of repurchase transaction

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variants of repurchase transactions

variants of repo

- there is only flavour of buy/sell-back --- fixed-term plain vanilla
- but there are numerous variants of repurchase transactions including:
  - fixed-rate
  - floating-rate
  - open
  - forward
  - evergreen
  - extendible
  - synthetic

variants of repurchase transactions

fixed-rate repo

- fixed repurchase date
- fixed repo rate
- return due at repurchase date as part of repurchase price
- but parties can agree ad hoc to renegotiate contractual terms

variants of repurchase transactions

floating-rate repo --- short-term

- fixed repurchase date or open term
- repo rate linked to regularly updated index +/- spread
- repo interest on short-term floating-rate repo is due at repurchase date as part of repurchase price
- overnight index-linked repo:
  - do not compound but average
  - if index fixing is too late for repurchase instruction, use penultimate fixing for last 2 days & settle difference later
  - ERCC decision to avoid interdealer floating-rate repo
- how to fix multiple interest rate periods --- check ICMA Guide

variants of repurchase transactions

floating-rate repo --- longer-term

- term rate-linked repo (eg 1-month EURIBOR) --- interest usually paid at each rate refixing
- repos over one year tend to be floating-rate

variants of repurchase transactions

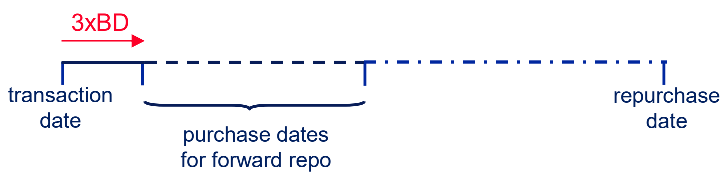
open repo (on demand, terminable on demand)

- option ready for use is built into GMRA
- no repurchase date agreed at start --- termination at option of either buyer or seller
- repo rate reset by agreement --- “re-rating”
- interest is not compounded
- repo interest paid, as pre-agreed, at (1) repurchase date, (2) when repo is re-rated or (3) an agreed number of days after each month-end

variants of repurchase transactions

forward repo

- provisions included in part 2 of GMRA Annex I
- purchase date later than latest conventional purchase date
- default in GMRA is T+3
- under GMRA, there is no variation margin until the forward purchase date but best practice is to move to margining from transaction date
- collateral can be agreed in general terms & then allocated just before forward purchase date
- how to fix forward dates --- check ICMA Guide



7

variants of repurchase transactions

evergreen repo --- version 1

- usually fixed-term but can be open term
- key feature is extended termination notice period
- termination at option of buyer or seller
- innovation in response to LCR, which can be avoided if termination notice period is over 30 days
- repo rate reset ad hoc by agreement
- repo interest is paid, as pre-agreed, at (1) repurchase date, (2) when repo is re-rated or (3) (for open evergreens) an agreed number of days after each month-end
- check ICMA Guide

8

variants of repurchase transactions

evergreen repo --- version 2

- dynamic/crawling end-date
- alternative form of fixed-term evergreen has repurchase date which automatically moves to next business day until it is terminated or matures

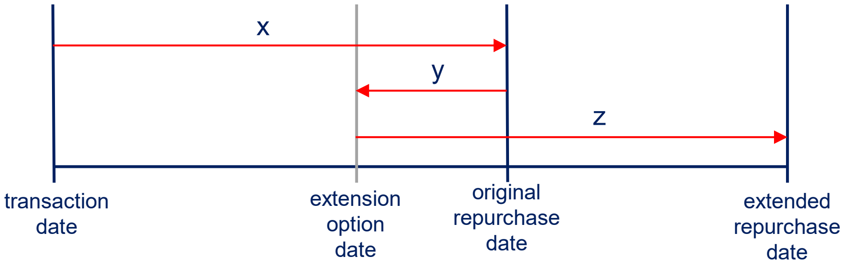
9

9

variants of repurchase transactions

extendible repo

- fixed-term repo with a repurchase date that can extended to an agreed later date by the seller at an agreed date during the original term
- described in terms of a series of three numbers x-y-z
  - x = months to original repurchase date
  - y = months before original repurchase date on which extension option can be exercised
  - z = months from option date to extended repurchase date

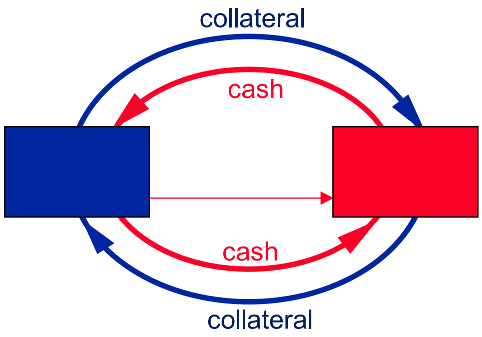


10

10

variants of repurchase transactions

question --- who has ownership & who has risk/return?



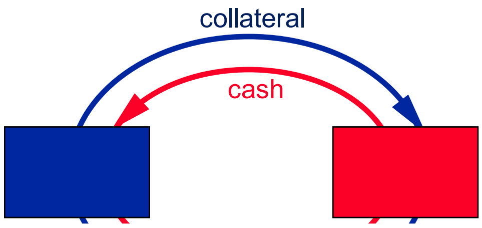
repo

11

11

variants of repurchase transactions

questions --- who has ownership & who has risk/return?



cash transaction

12

12

variants of repurchase transactions

questions --- who has ownership & who has risk/return?

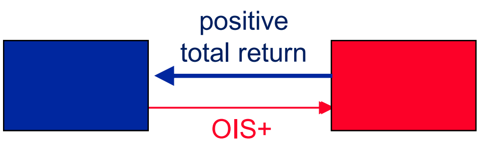
total return swap

- TRS pays total return = change in total value of reference asset
- over contract period
- if total return is positive, red pays blue

13

variants of repurchase transactions

questions --- who has ownership & who has risk/return?



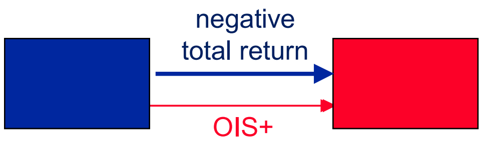
total return swap

- TRS pays total return = change in total value of reference asset
- over contract period
- if total return is positive, red pays blue
- if total return is negative, blue pays red

14

variants of repurchase transactions

questions --- who has ownership & who has risk/return?



total return swap

- TRS pays total return = change in total value of reference asset
- over contract period
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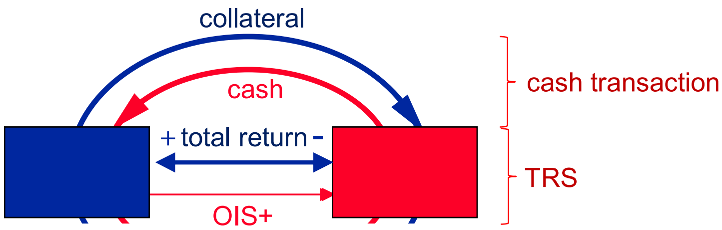
15

variants of repurchase transactions

questions --- who has ownership & who has risk/return?

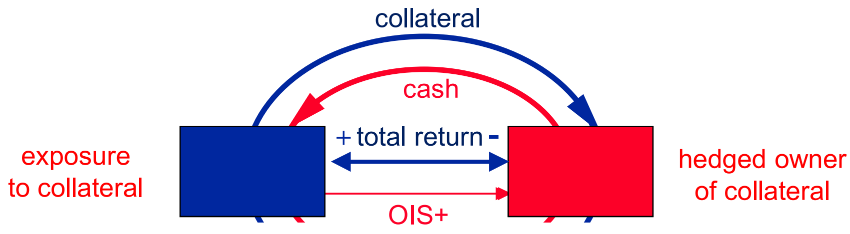


cash transaction + total return swap

16

variants of repurchase transactions

questions --- who has ownership & who has risk/return?



synthetic repo

variants of repurchase transactions

some features of synthetic repos

- repurchase by gentleman's agreement
- start and end legs can be between different counterparties
- TRS can be substituted by other derivatives (futures, delta-one exchange-traded options, OTC option combos)
- more common in equity

variants of repurchase transactions

why do synthetic repos?

- cash costs OIS+ rather than repo rate
- extra cost should be offset by balance sheet neutrality = capital saving --- possible under US GAAP (as cash-settled transactions or using index CDS) but not under IFRS

19

variants of repurchase transactions

why do synthetic repos?

- preferential netting treatment under Leverage Ratio
- reduction of hedge fund willingness to allow re-hypothecation of assets in favour of segregated custodial accounts
- rationing of balance sheet by prime brokers
- synthetics allow new prime brokers to compete
- can use existing ISDA documentation
- avoids legal uncertainty, restrictions on repo
- allows access to repo for parties without collateral management capacity
- preserves repo lines for liquidity management
- tax arbitrage
- avoids corporate actions
- popular for emerging markets:
  - reduces exposure to capital controls
  - avoids settlement frictions
  - expensive & difficult registration for local securities trading
  - may avoid tax obstacles;

20

Professional Repo Market and Collateral Management Course

GC v specials

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GC v specials

topics

- what is general collateral (GC)?
- GC repo rate
- what are specials?
- specials rates
- what makes collateral go special?

GC v specials

definition of general collateral

- in the OTC repo market, GC is a subset (called a "basket") of security issues within the same class that are all equally acceptable among most buyers as collateral at the same repo rate (GC repo rate) --- buyers are indifferent between these issues, which are therefore substitutes for each other
- usually a subset of government securities
- OTC basket emerges by tacit consensus in market & is the result of interaction between repo dealers
- GC is also a term used by automatic trading systems (ATS) & central counterparties (CCP) to describe the standard fixed baskets of security issues which they publish & from which sellers or tri-party management services can select for the settlement of trades executed on their 'GC trading or financing' facilities: anything else is called 'special'
- ATS & CCP define GC baskets in terms of central bank eligibility or by credit rating

GC v specials

definition of general collateral

- in a GC trade, parties agree dates, amount & repo rate, then the collateral
- seller selects & proposes one or more of the securities in the basket
- buyer must approve selection unless eligible collateral has been pre-agreed
- because parties do not know, when fixing the repo rate, which security will be delivered, GC repo rate is cash-driven --- repo rate determined by supply/demand for cash
- GC repo is another money market instrument & alternative to unsecured lending of cash --- GC repo rate should therefore be highly correlated with other money market rates

GC v specials

GC repo can be benchmarked against:

- other (unsecured) money market rates --- spread should measure credit & liquidity risks of unsecured funding --- but lack of arbitrage channels between repo & other money market segments due to market fragmentation means spread can be distorted
- central bank rate
- overnight index swap (OIS) curve

25

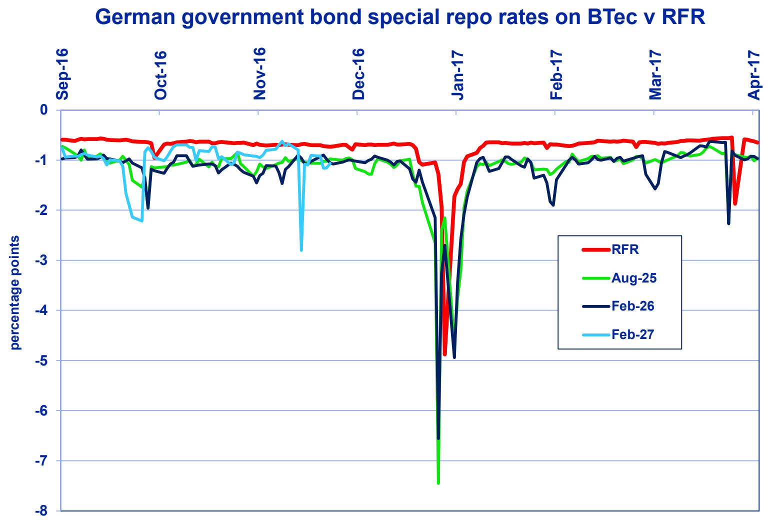
GC v specials

definition of a special

- **special** is a single security issue trading below GC repo rate
- specials created by strong demand/scare supply of specific security issue --- security-driven repo
- specials buyer has to offer cheap cash to seller
- each special has unique repo rate
- collateral is selected at start of negotiation
- specials are the most liquid securities --- valued by dealers & investors for narrower bid/offer & being easier to liquidate long positions & close out short positions
- loss of interest on cash loaned against special collateral is implicit premium or borrowing fee paid for liquidity of special securities
- but special is also a term used by automatic trading systems (ATS) & central counterparties (CCP) to describe specific (non-GC) collateral being traded or cleared on their systems

26

GC v specials



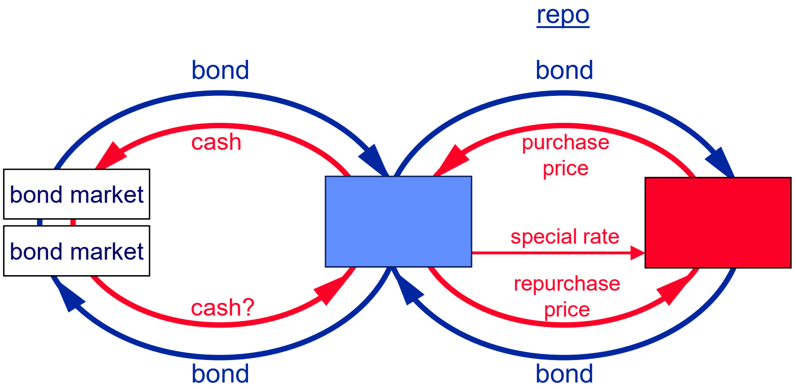
27

27

GC v specials

arbitrage link between repo & cash market

- why not buy special in cash market & repo out for cheap cash?



28

28

what are specials?

arbitrage link between repo & cash market

- why not buy special in cash market & repo out for cheap cash?

GC (ON)	5.00%
special (ON)	0.85%
specialness	4.15%

$$\text{capital premium} = \text{EUR}100{,}000{,}000 \times \frac{4.15 \times 1}{100 \times 360} = \text{EUR}11{,}528$$

- income gain from repoing out a special security should in theory be offset by extra capital cost of purchasing that security
- but market could be wrong

29

what makes collateral go special?

what drives specials rates?

- excess demand
  - benchmarks
  - cheapest-to-deliver for futures and options
  - regulation (eg LCR creating demand for HQLA)
  - when current benchmark issues are borrowed to hedge issues of new issues
  - flights to safety
  - short-selling
  - end-period window-dressing
- scarce supply
  - safe haven hoarding by risk-averse investors
  - market squeezes
  - anticipation of corporate actions
  - lenders need to process income payments direct from issuer
  - central bank purchases, especially QE

30

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repo v securities lending

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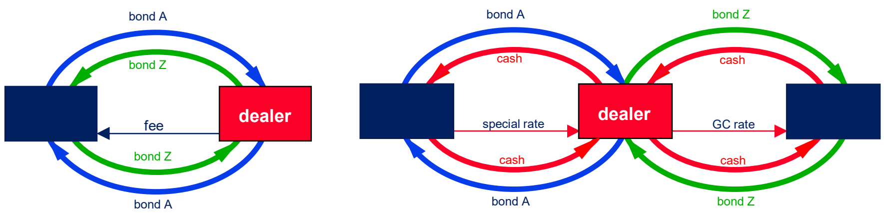
repo v securities lending

- securities lending against cash collateral looks similar to repo
- securities lending against non-cash collateral can be replicated by a back-to-back repo & reverse repo
- why are there two separate markets?



lending fee = GC rate – specials rate

repo v securities lending

differences

- instruments --- title transfer in repo is by sale but not in securities lending --- sale dates are fixed by the requirement for payment but title transfer on its own depends on delivery:
  - repo starts to accrue interest on the purchase date and stops accrual on the repurchase date
  - securities lending does not start to accrued fee or rebate interest until delivery and does not stop until redelivery
- typical assets
- typical market participants

repo v securities lending

repo v securities lending assets

- GMSLA is designed to also manage equity but GMRA is designed only for bonds
- typically equity traders need to borrow securities to cover short positions while bond traders need to borrow cash to finance long positions
- consequently:
  - securities lending initial margins favour the securities lender but repo initial margins/haircuts usually favour the securities borrower
  - securities lending tends to be small & customised transactions like the underlying equity transactions but repo tends to be large & plain vanilla transactions as these are best for funding
  - securities lending tends to be open transactions to allow the management of corporate actions but repo tends to be fixed-term transactions as these are best for funding