repo instrument in finance

Richard Comotto

frontclear
A financial markets development company

repo instrument in finance

frontclear

A financial markets development company

contents

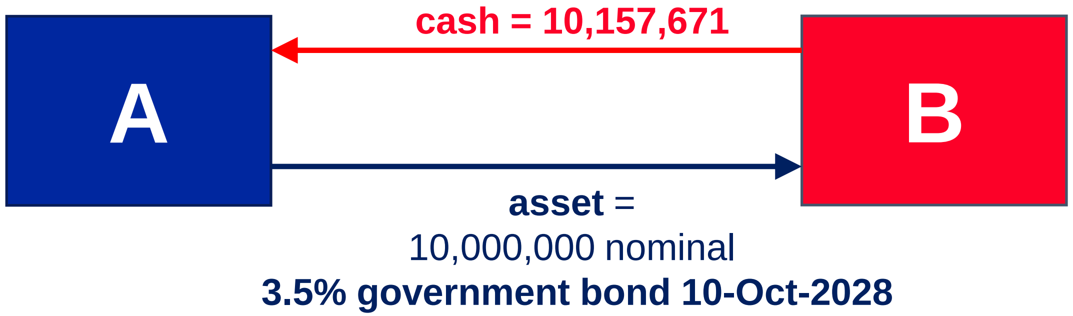
- what is a repo
- economics of repo versus legal structure
- more on the legal structure of repo
- more on the economics of repo
- how repo is used
- who uses repo
- what makes good collateral
- pricing repo

repo instrument in finance

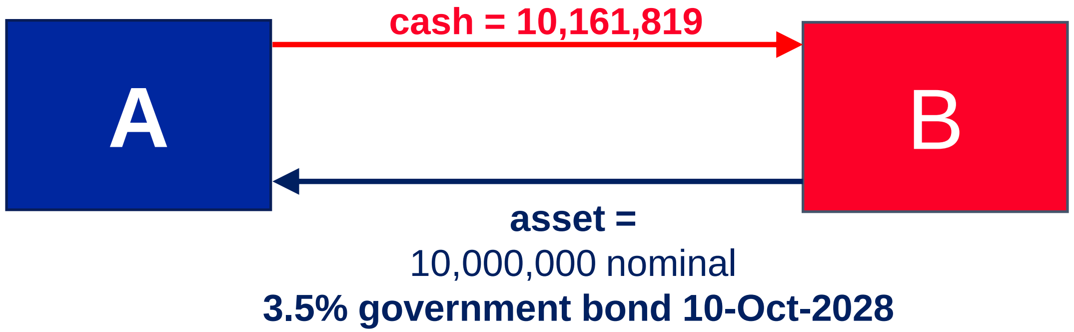
what is a repo

a sale of an asset & a simultaneous agreement to repurchase the same quantity of the same or a similar asset at a future date for the original value plus a return on the use of cash

sale on **value date** (Thursday 18 February)



repurchase on **maturity date** (Thursday 25 February)



repo instrument in finance

economics of repo versus legal structure

- between sale and repurchase:
  - A has use of the cash --- in effect a loan
  - B has assets to sell if A doesn't repay the cash --- in effect collateral
- repo functions like a secured loan (secured by pledged collateral) but differs legally in that repo transfers ownership of collateral to the lender (title transfer)

repo instrument in finance

economics of repo versus legal structure

- title transfer means
  - repo collateral <u>not</u> subject to statutory insolvency regime if borrower becomes insolvent
  - repos create mutual obligations which allow close-out netting in a default
  - greater control over collateral means less credit risk, which means cheaper funding
  - buyer can re-use collateral, which means
    - ability of buyer of collateral to sell to a third party is hedge against liquidity risk
    - ability of buyer of collateral to sell to a third party allows short-selling
- title transfer means certainty of control over collateral and access to close-out netting in insolvency --- essential for high-volume instruments with exposure driven by market risk (repos and derivatives) --- in contrast to pledges
- courts can get confused as to whether repo is a secured loan or a sale-and-repurchase --- re-characterization risk --- so may need statutory guidance

repo instrument in finance

more on the legal structure of repo

- seller of collateral (cash borrower) commits to repurchase collateral that is the same or similar to that sold at the start
  - this makes it practicable for the buyer of collateral (cash lender) to sell to a third party during a repo, because he will able to buy it back from a fourth party into to close the repo
  - ability of buyer of collateral to sell to a third party is proof of ownership
  - same or similar means (1) same issue but different certificate number for physical securities or (2) same ISIN for dematerialized security
- return on use of cash is called "repo interest" in the market and is quoted as an interest rate ("repo rate") but legally it is the difference between the purchase and repurchase prices

repo instrument in finance

more on the economics of repo

- seller of collateral (cash borrower) commits to repurchase the same quantity of collateral that he sold at the start:
  - nominal amount in the case of fixed-income securities
  - number of shares in the case of equities
- seller of collateral (cash borrower) commits to repurchase for the original value of the collateral plus repo interest
  - seller keeps risk on collateral
  - seller must also keep the return on the collateral
  - because seller keeps the risk and return on the collateral, he can use collateral to borrow cash to cheaply finance his inventory (seller could be a securities market-maker) or to borrow cash temporarily for liquidity or portfolio management (seller could be an investor) without losing exposure to the securities --- this means repo can be used solely for securities financing

repo instrument in finance

more on the economics of repo

- because the seller of collateral keeps risk on collateral --- international accounting standard is to keep collateral on the balance sheet of the seller
- because the seller receives cash, its balance sheet expands
- on balance sheet of the buyer
  - switch in asset from cash to receivable
  - no change in size of buyer’s balance sheet

seller → repo of 10 → **buyer**

before repo

Seller:

assets		liabilities	
bonds	100	capital	10
		debt	90
	100		100

Buyer:

assets		liabilities	
cash	100	capital	10
		debt	90
	100		100

after repo

Seller:

assets		liabilities	
bonds	100	capital	10
cash	10	debt	100
	110		110

Buyer:

assets		liabilities	
cash	90	capital	10
loan	10	debt	90
	100		100

repo instrument in finance

how repo is used

- repo has four basic uses:
  - borrow cash
  - lend cash
  - borrow securities
  - lend securities
- reasons for using repo are:
  - borrow cash --- collateral & legal structure means cheaper cash
  - lend cash --- collateral & legal structure means safer investment
  - borrow securities --- to fulfil delivery commitments & sell short
  - lend securities --- to earn incremental income
- but the reasons for borrowing and lending cash and securities are multiple

repo instrument in finance

who uses repo

- at the core of the repo market are securities dealers (often market-makers)
  - repo is cheap financing for inventory and long trading positions
  - repo allows borrowing of securities to make markets
  - repo allows borrowing to take short positions to hedge long positions
- risk-averse cash investors
- liquidity managers
  - repo is temporary source of funding
  - repo is short-term investment for sudden inflows of cash until longer-term decision
- portfolio investors
  - liability management
  - incremental income by lending securities
  - margin financing

repo instrument in finance

frontclear
A financial markets development company

who uses repo

- derivatives dealers
  - hedging and pricing derivatives
- central banks
  - safe money market operations
  - repo rate as gauge of monetary conditions (risk-free market rate)

repo instrument in finance

what makes good collateral

- good collateral should be:
  - default risk-free
  - liquid
  - free of “wrong-way” risk --- correlation between credit risk of repo counterparty & collateral issuer
- government securities are usually the best
- international regulators have formalized the definition of good collateral as High Quality Liquid Assets (HQLA) for Basel Liquidity Coverage Ratio (LCR)

repo instrument in finance

pricing repo

- price of a repo (its repo rate) depends on:
  - supply/demand of cash (general interest rate level)
  - reduction of credit risk by the collateral, margining & legal structure
  - reduction of liquidity risk by the collateral & legal structure
  - supply/demand of securities being used as collateral
- collateral for which the repo rate is cash-driven is called general collateral (GC)
- collateral for which the repo rate is securities-driven is called special

repo instrument in finance

pricing repo

- GC repo rate is fixed with reference to:
  - unsecured money market rates --- spread should measure credit and liquidity risks of unsecured funding
  - central bank policy rate --- risk-free but policy-driven rate
  - overnight index swap (OIS) curve --- near risk-free market-driven rate
- although spreads should measure credit and liquidity risks of unsecured funding, a lack of arbitrage channels between repo and other money market segments means the spread can be distorted and even the wrong way round