

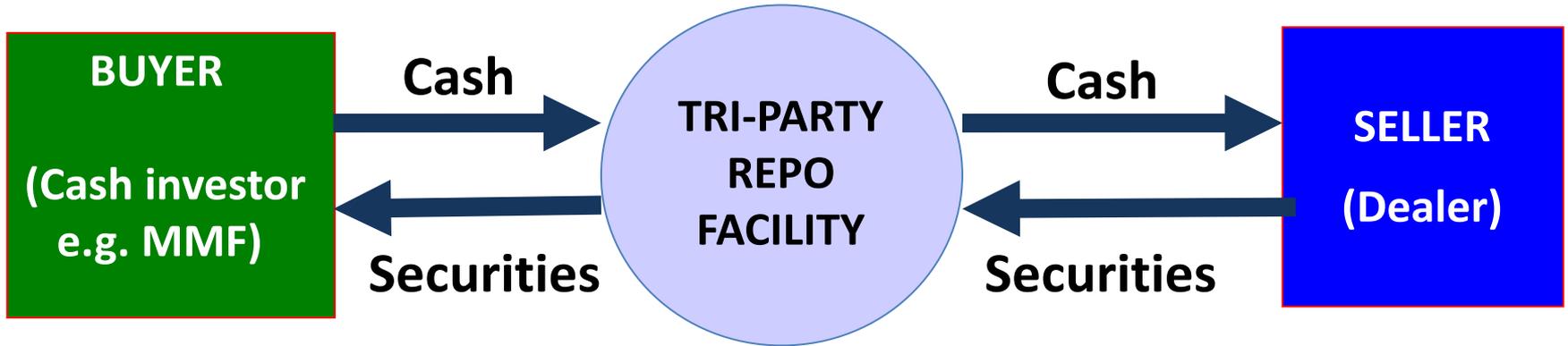
Tri-Party Repo Utility Design

Darrell Duffie
Stanford University

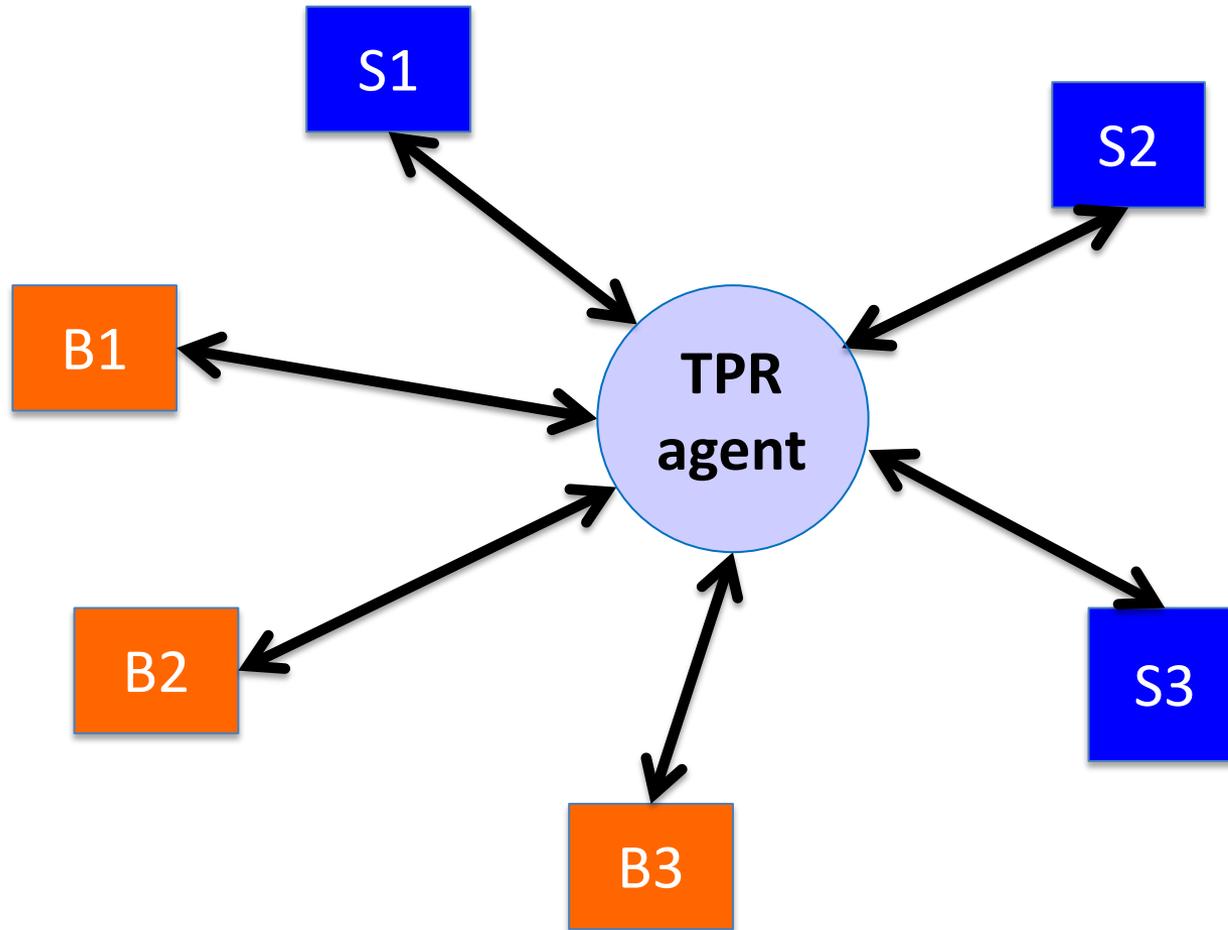
FRBNY Conference

October, 2013

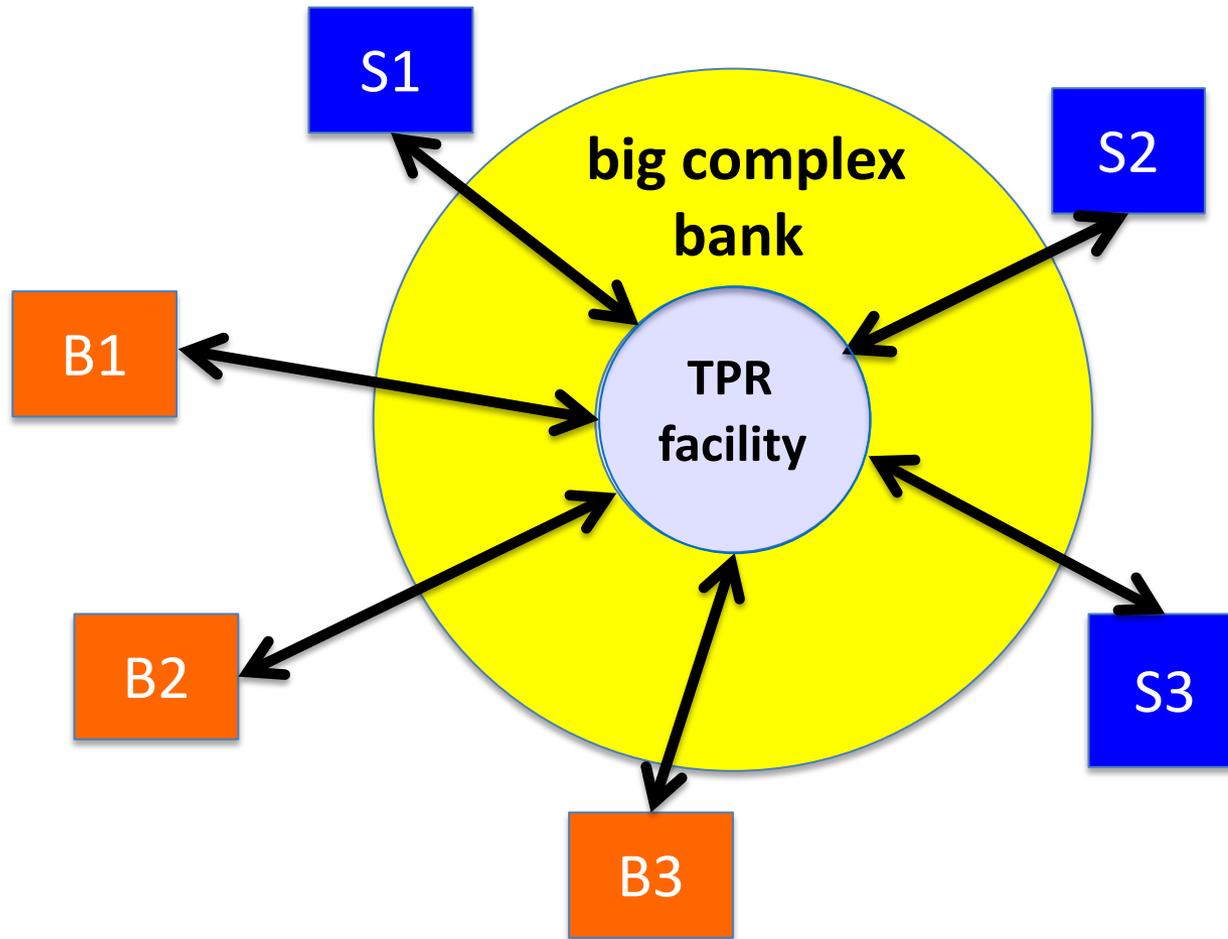
Tri-Party Repo



Tri-party Repo Clearing

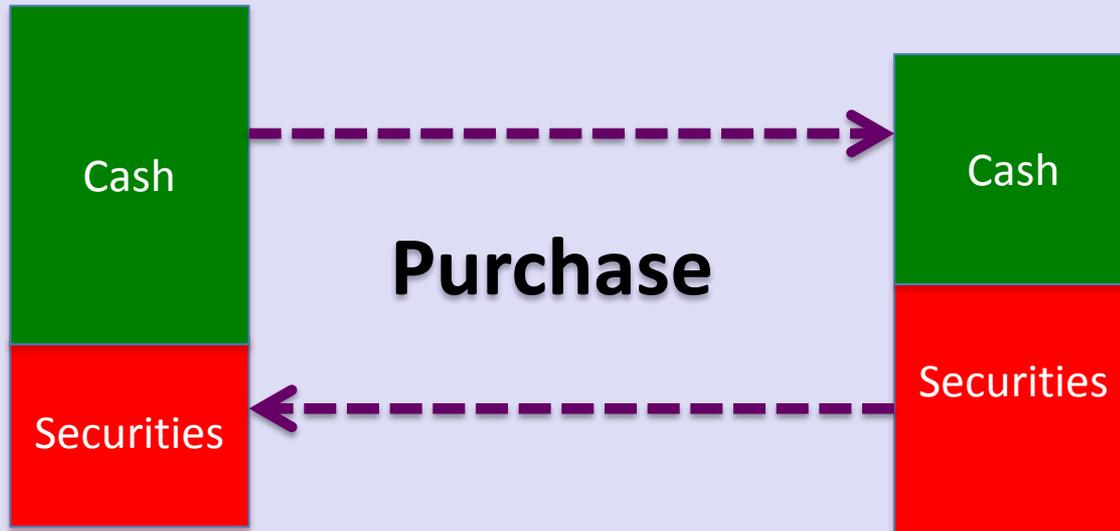


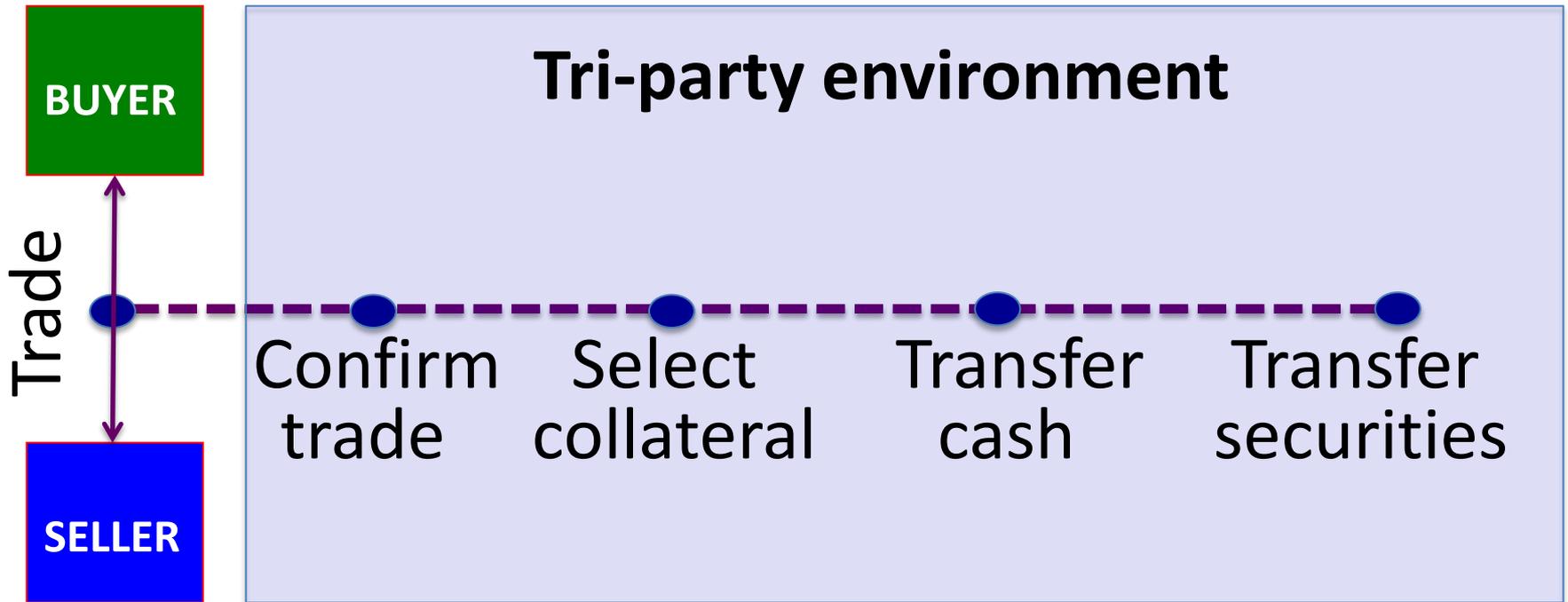
A systemic flaw



Cash Investor Accounts

Dealer Accounts





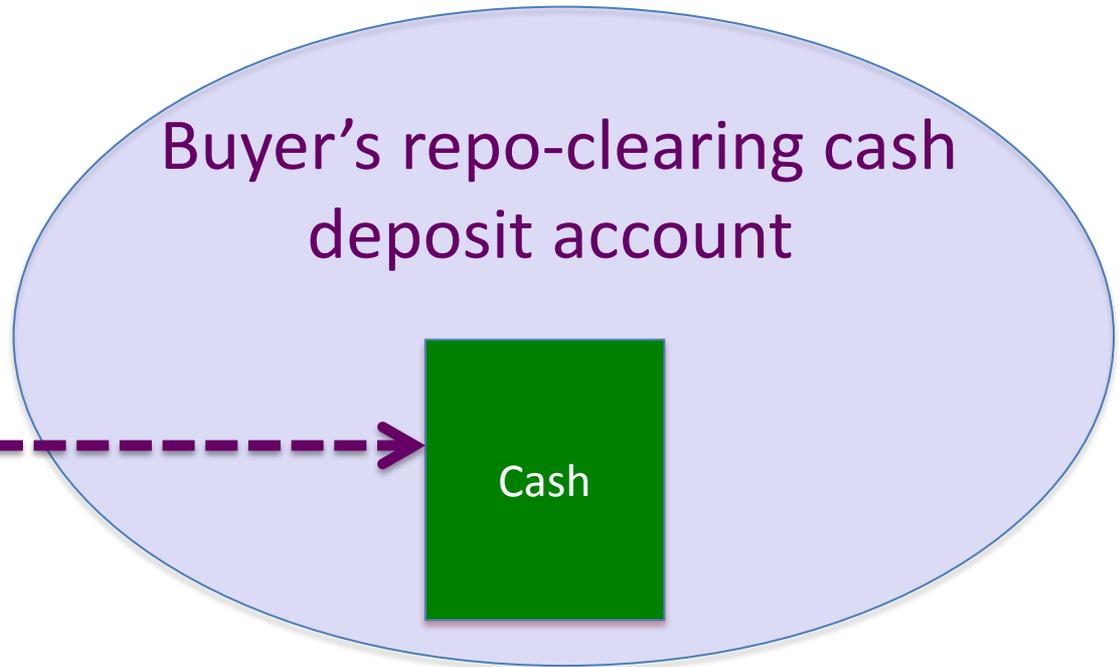
Cash Investor Accounts

Dealer Accounts



Repurchase

Buyer's other cash
deposit accounts



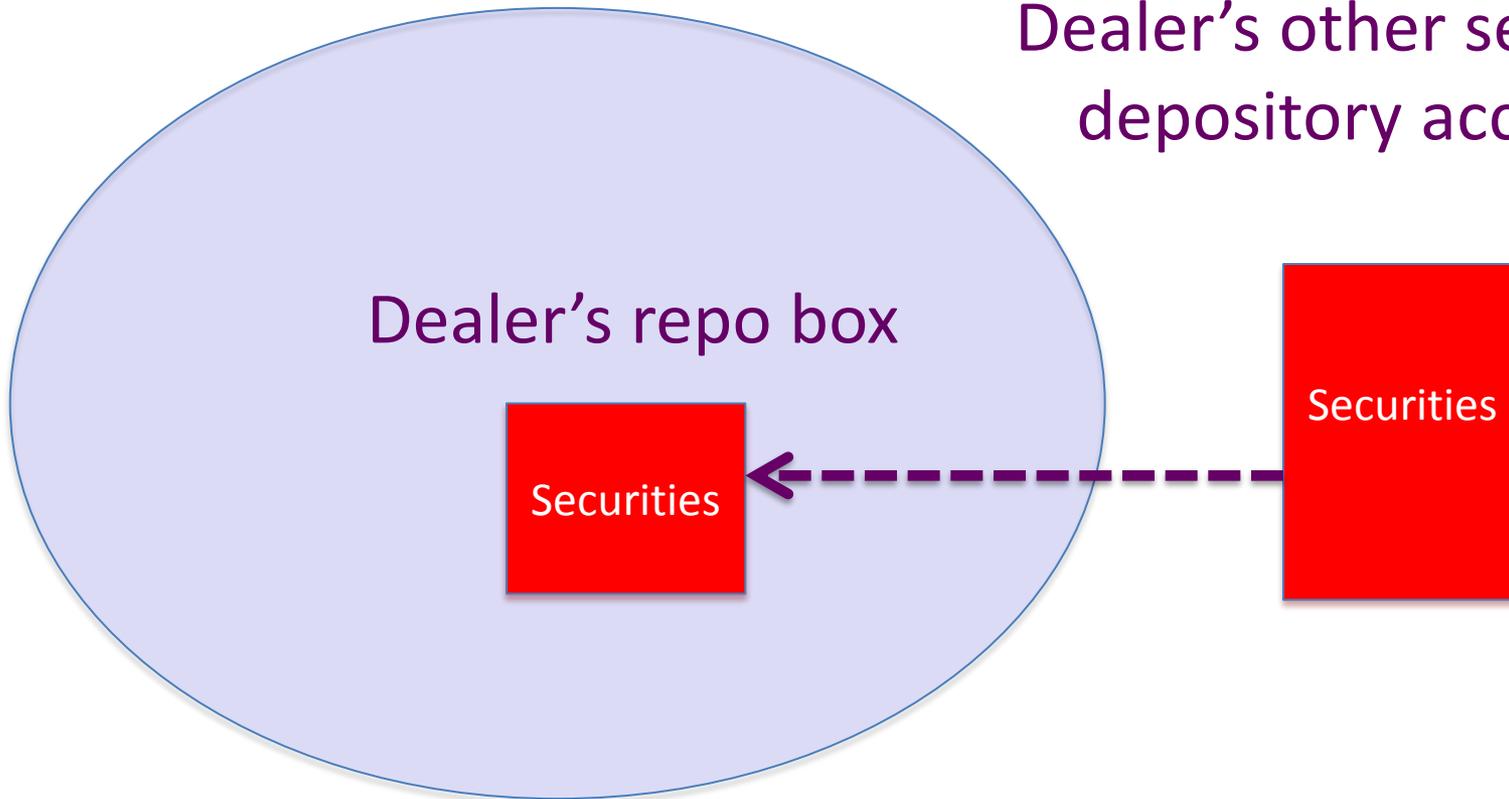
CPSS-IOSCO FMI Principle 9

“An FMI should conduct its money settlements in central-bank money where practical and available.

If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.”

“One way an FMI could minimize these risks is to limit its activities and operations to clearing and settlement and closely related processes.” (CHIPS)

Dealer's other securities
depository accounts

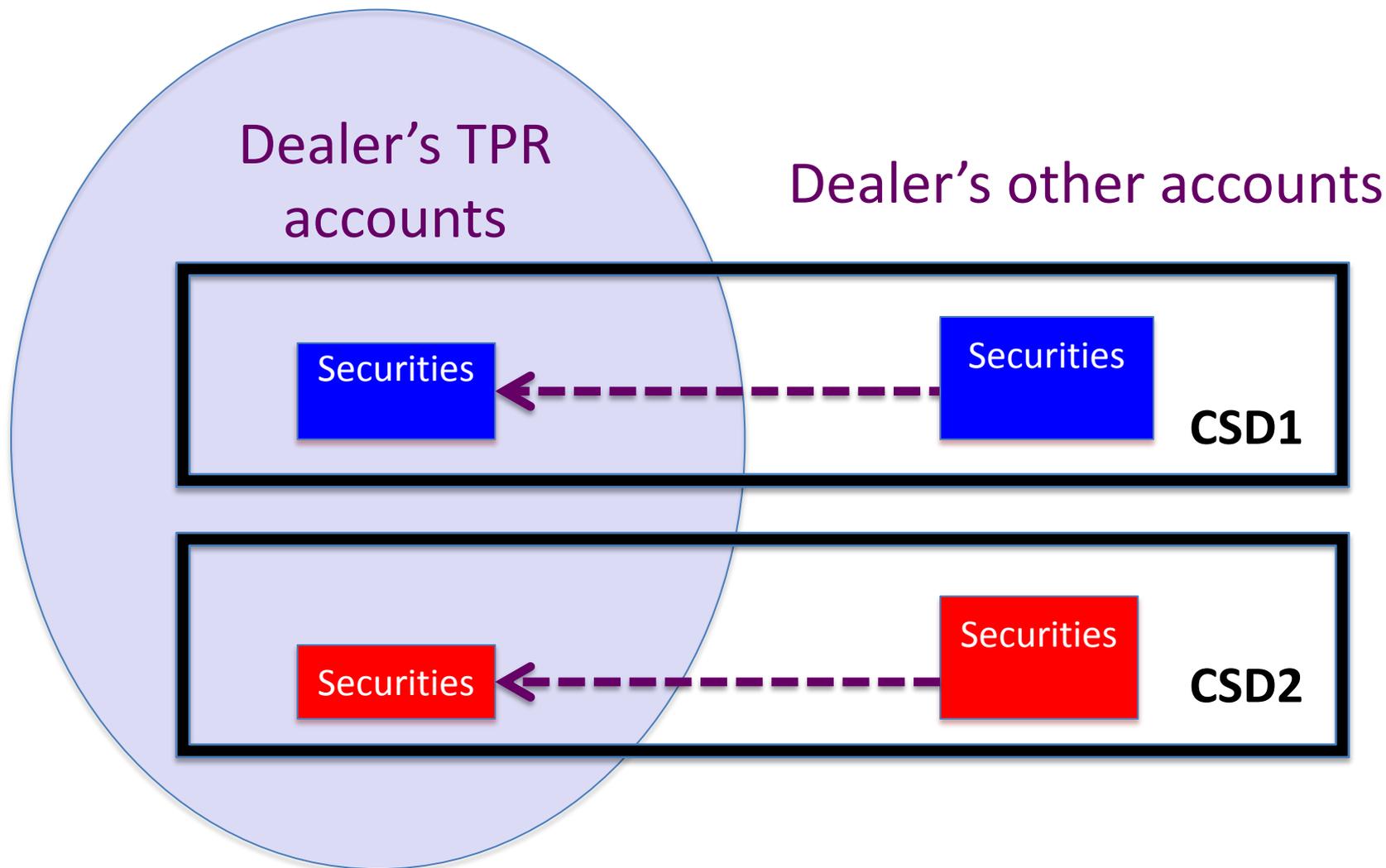


Dealer's repo box

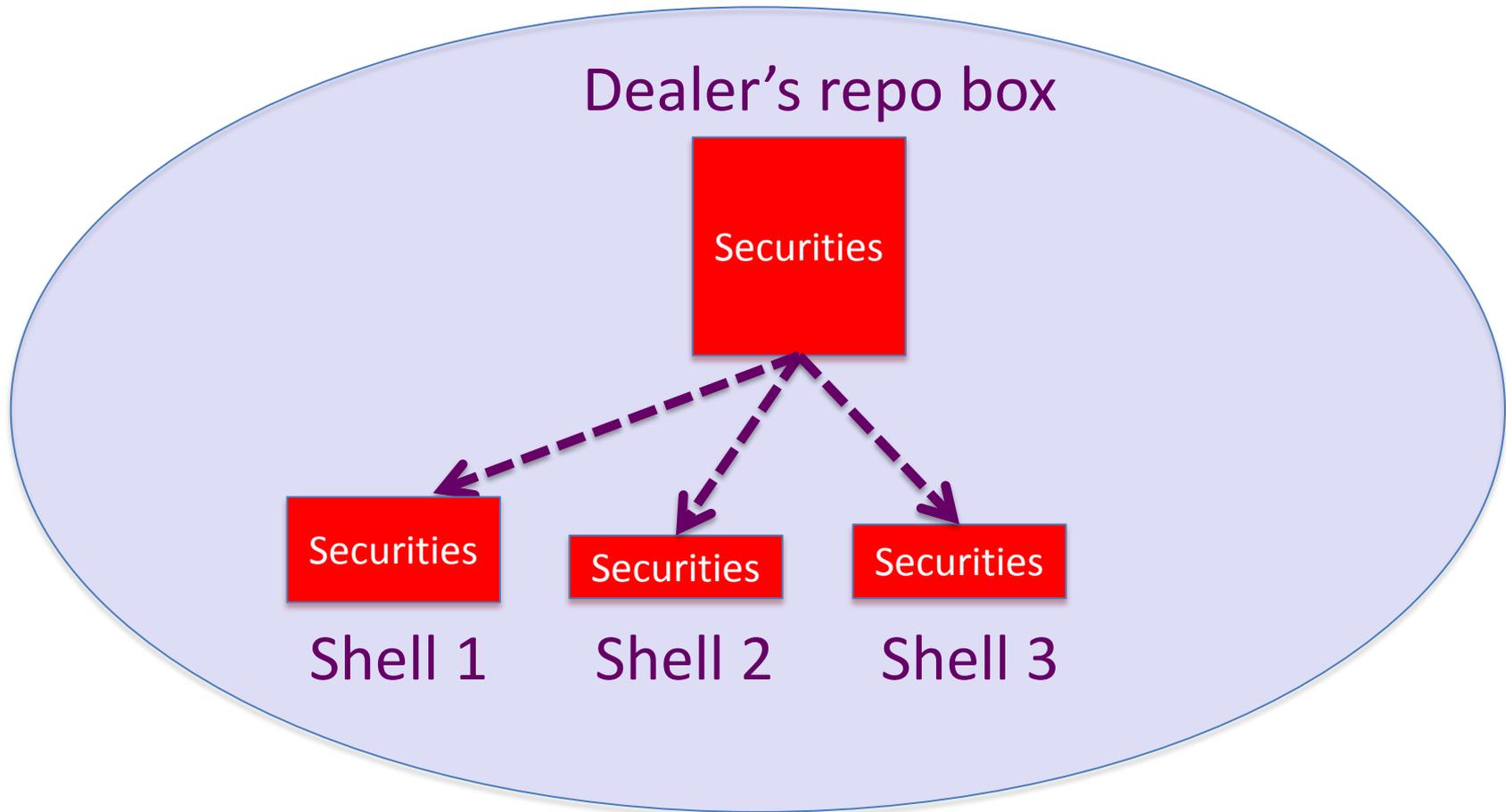
Securities

Securities

Securities are transferred into TPR accounts at custodians or central securities depositories

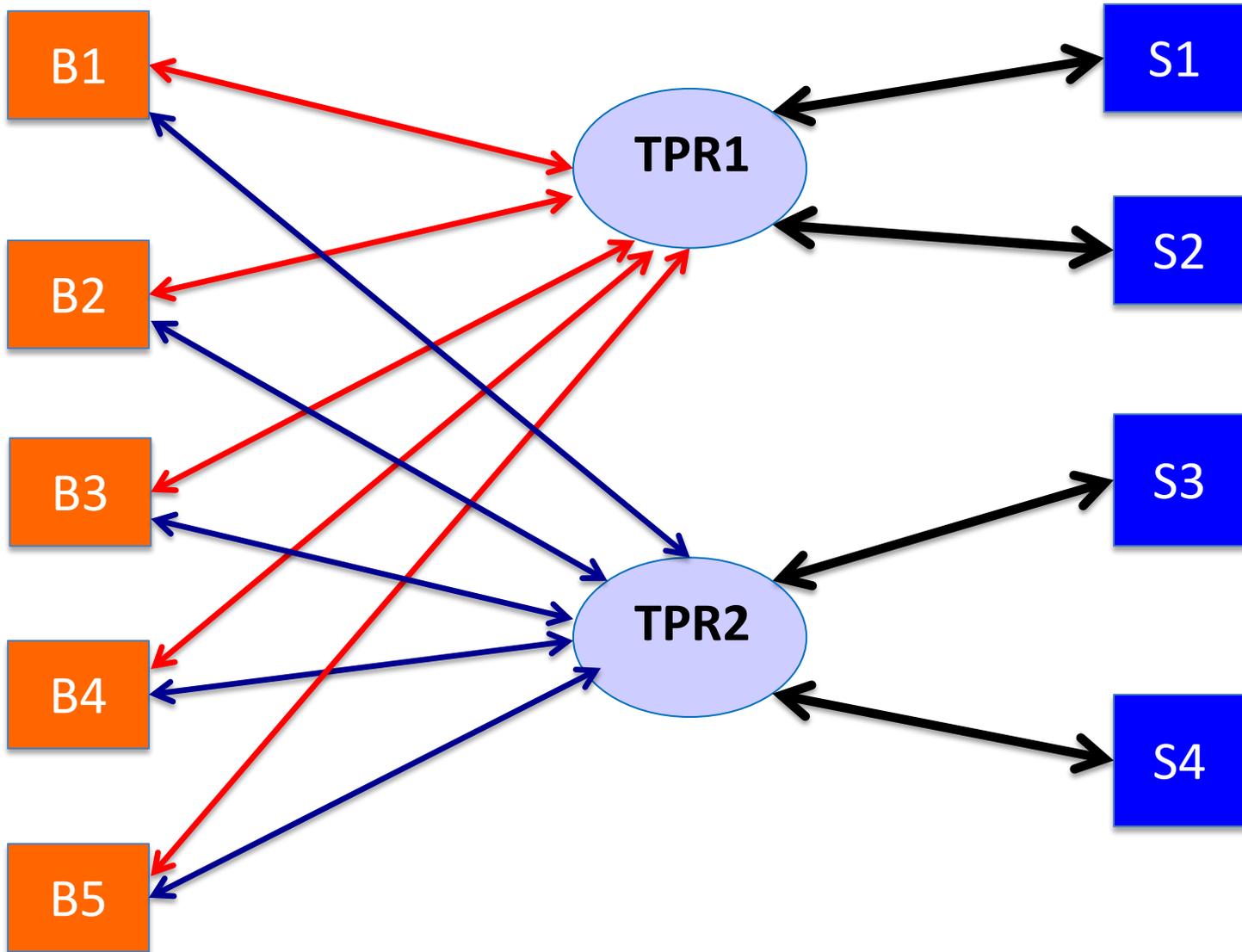


Collateral is allocated to shells



Tri-party Repo Infrastructure

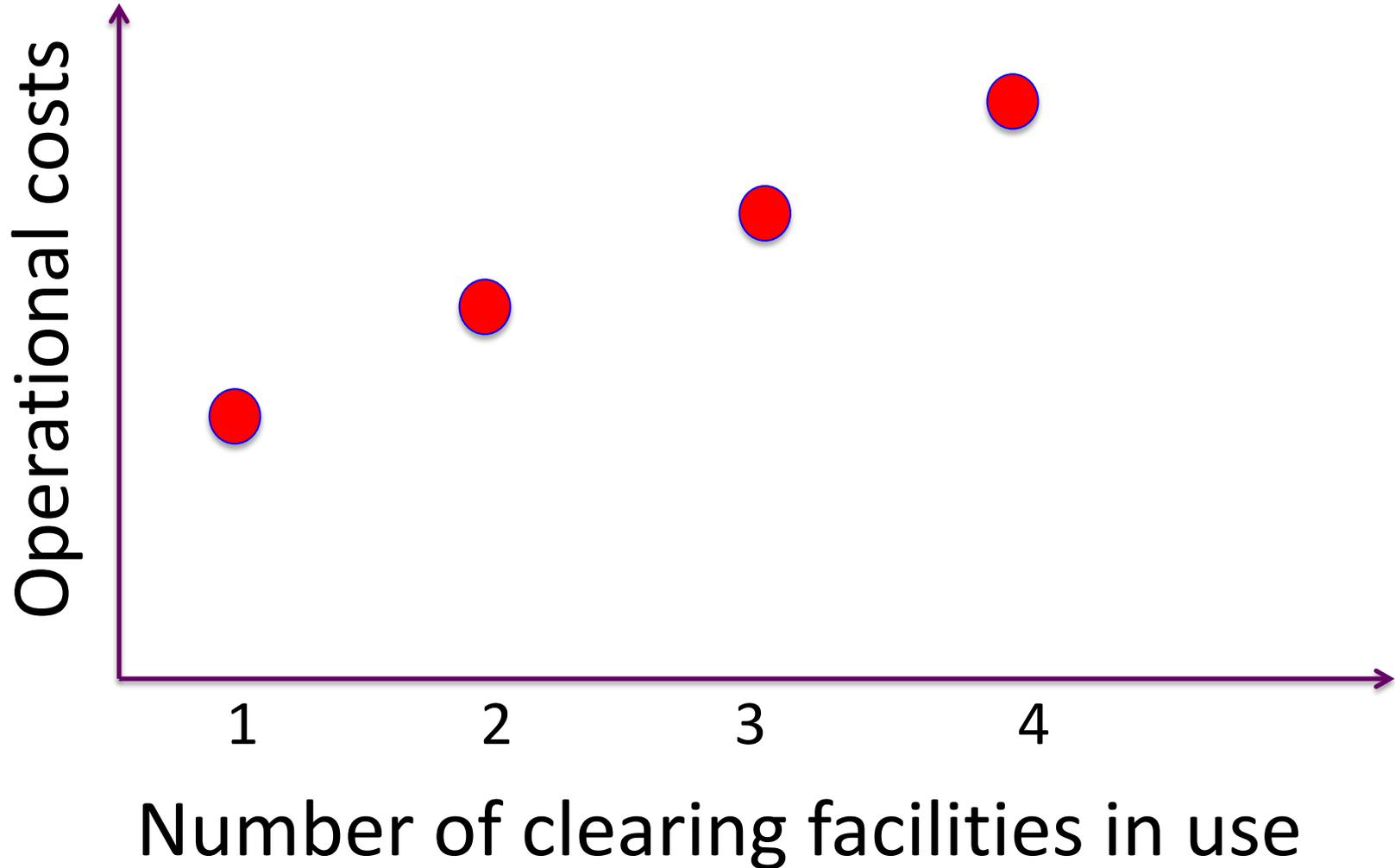
- **Tri-party agent:** issues confirmations and instructions for cash and collateral transfers.
- **Securities custodian or depository:** maintains securities accounts.
- **Bank (or central bank):** maintains cash deposit accounts; may also provide secured liquidity.
- **Settlement systems:** processes requests received for cash or securities transfers.



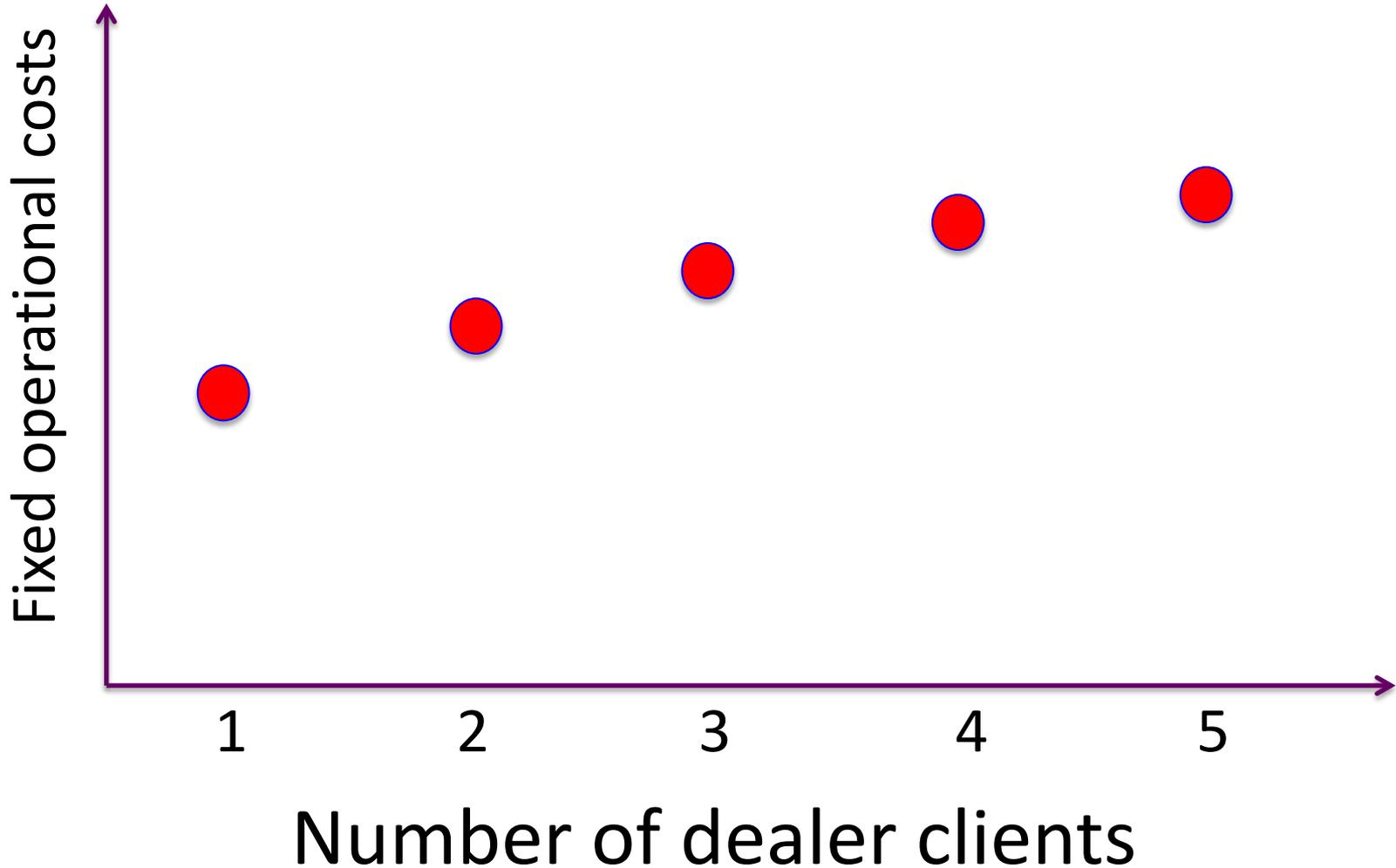
Cash lender diversification benefits



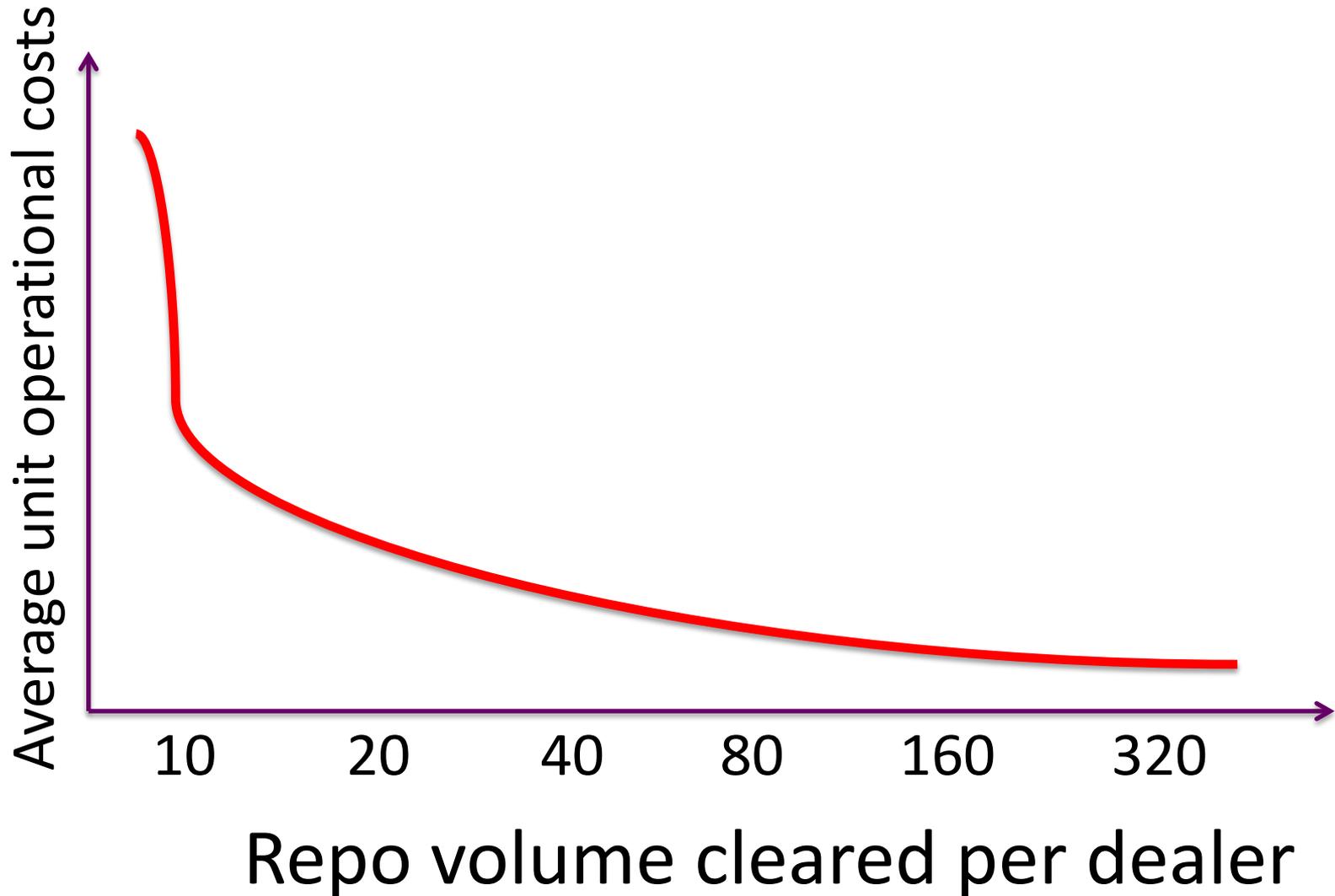
A dealer's economies of scale



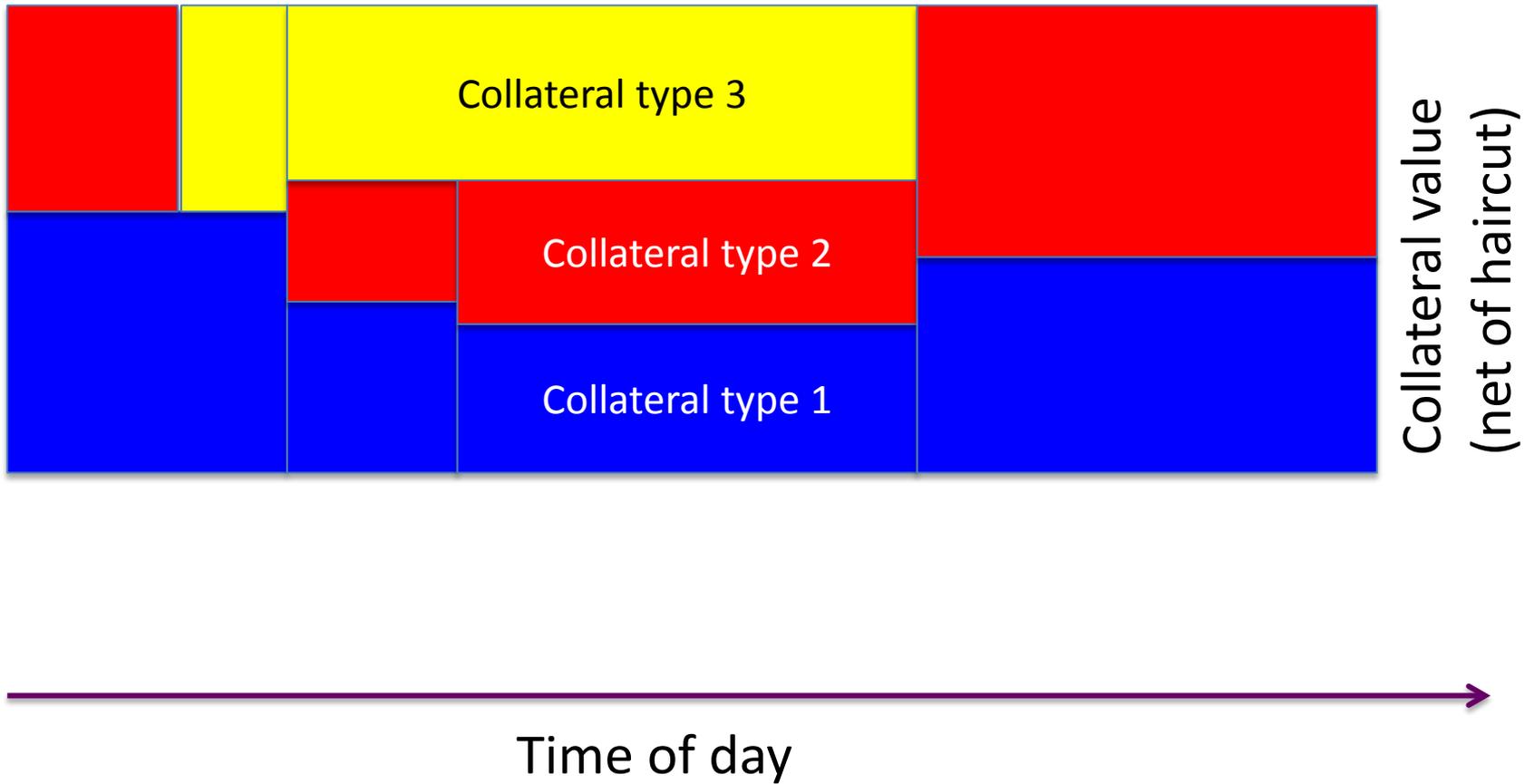
Clearing bank economies of scale



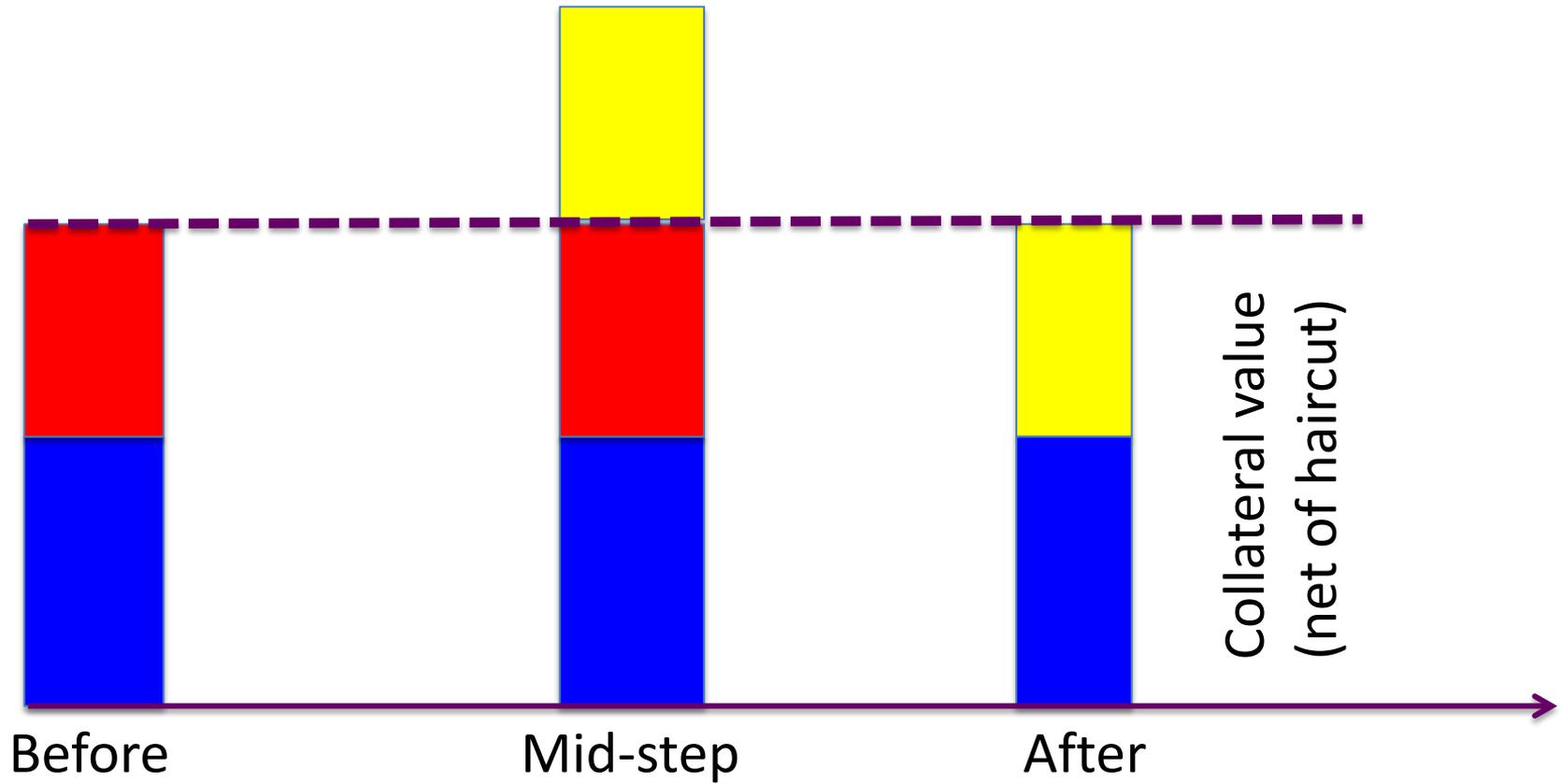
Clearing bank economies of scale



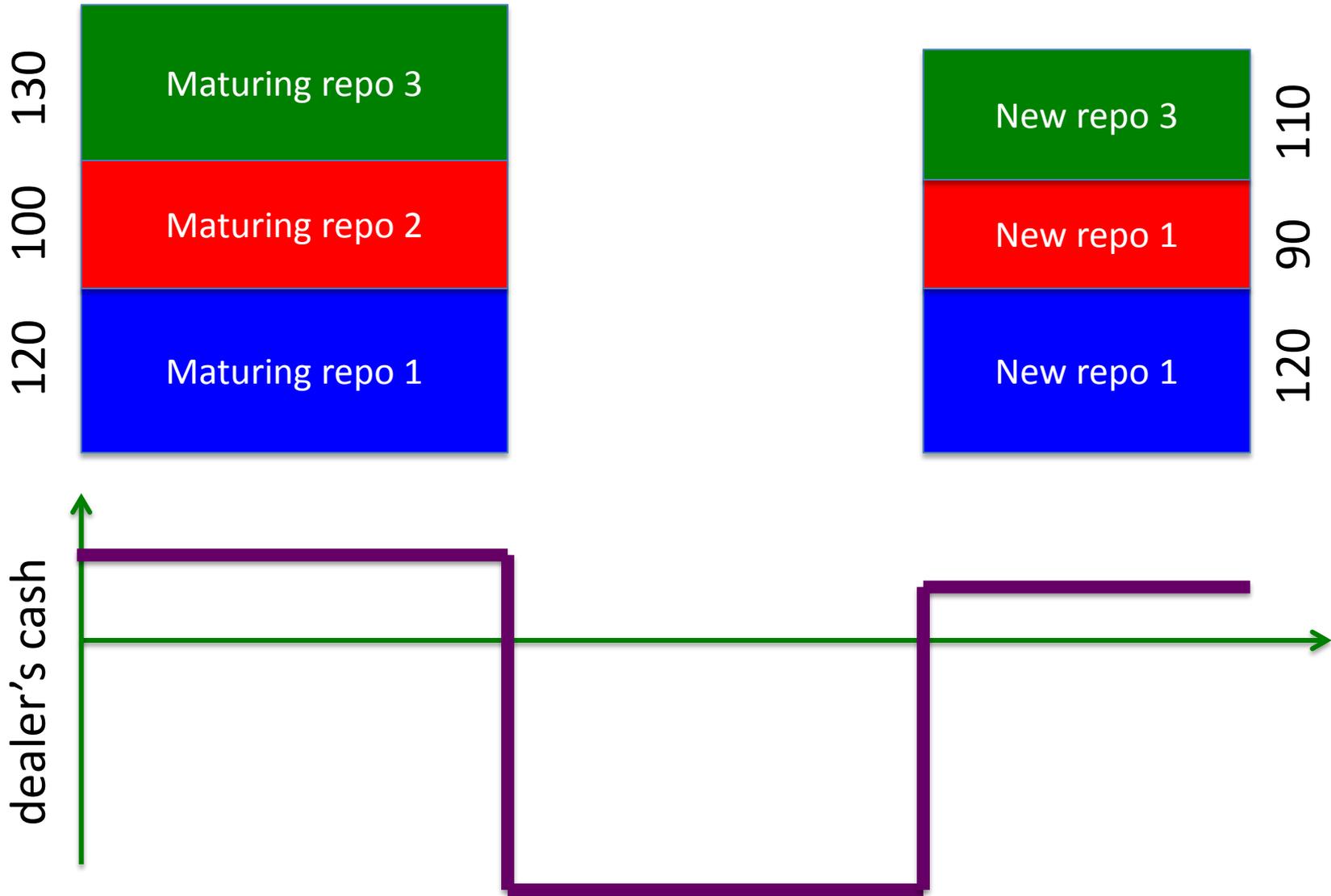
Collateral substitutions



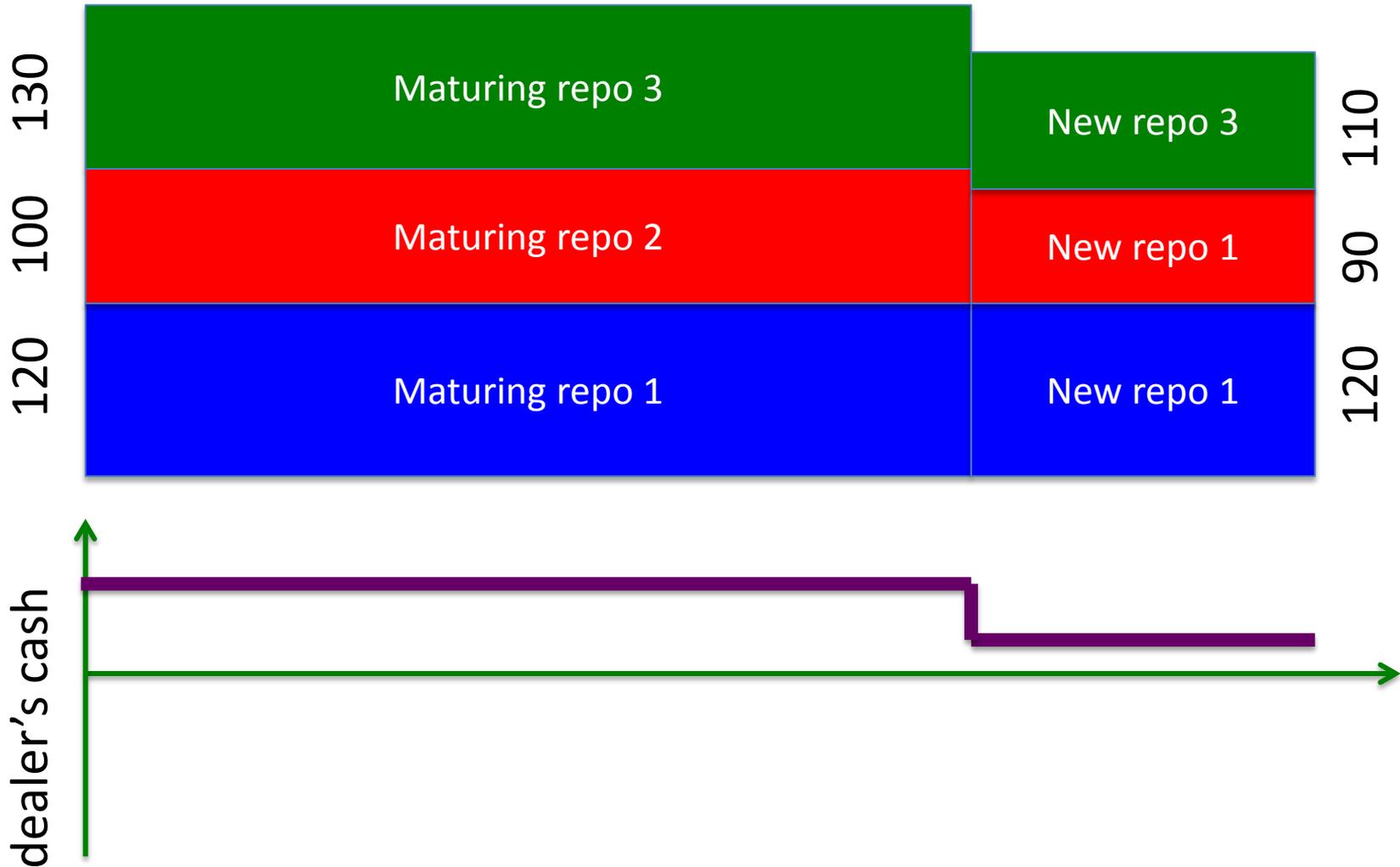
Collateral substitution in two steps



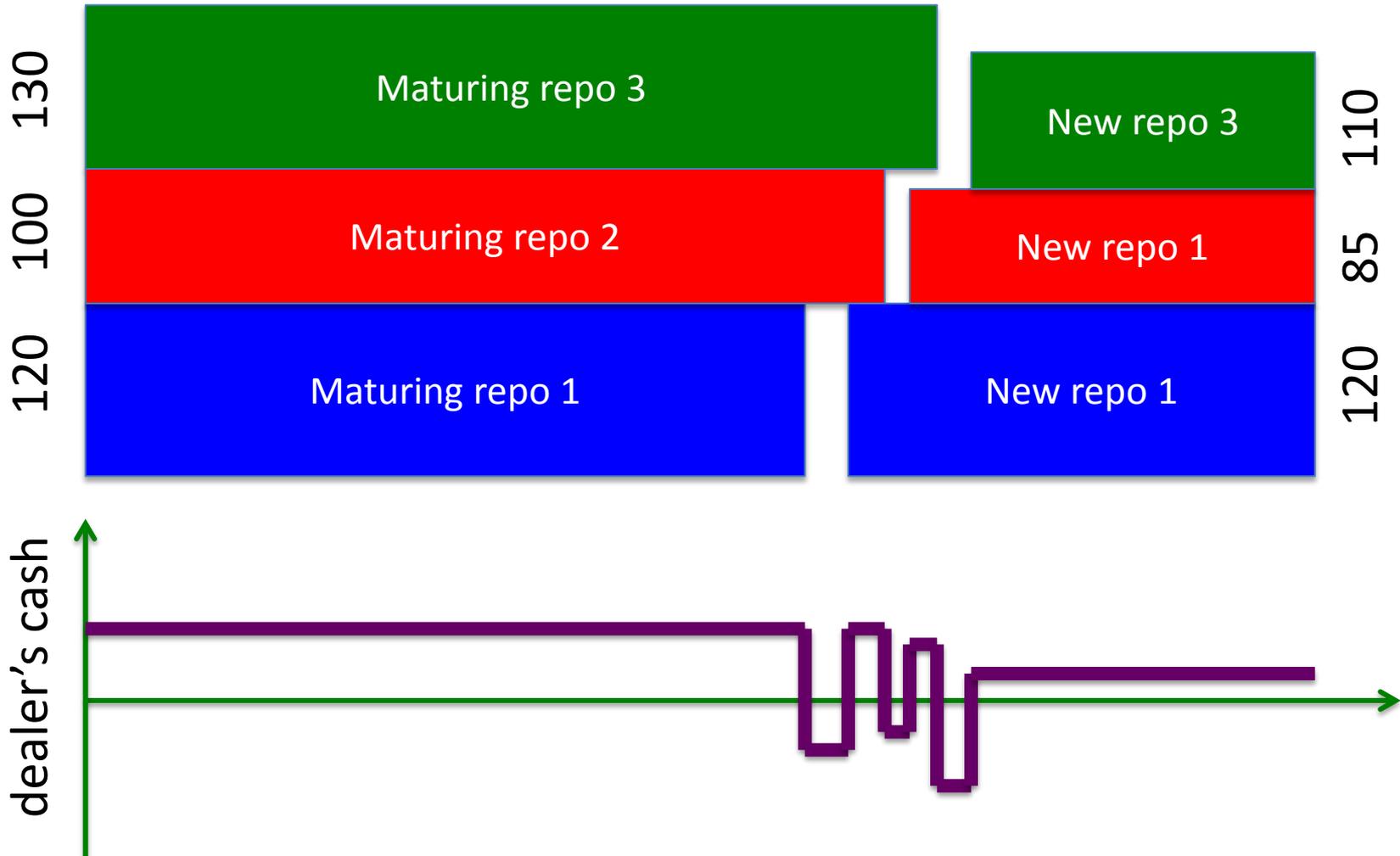
Intra-day credit is needed to unwind repos



Liquidity for unitary batch processing



Liquidity for sequential processing



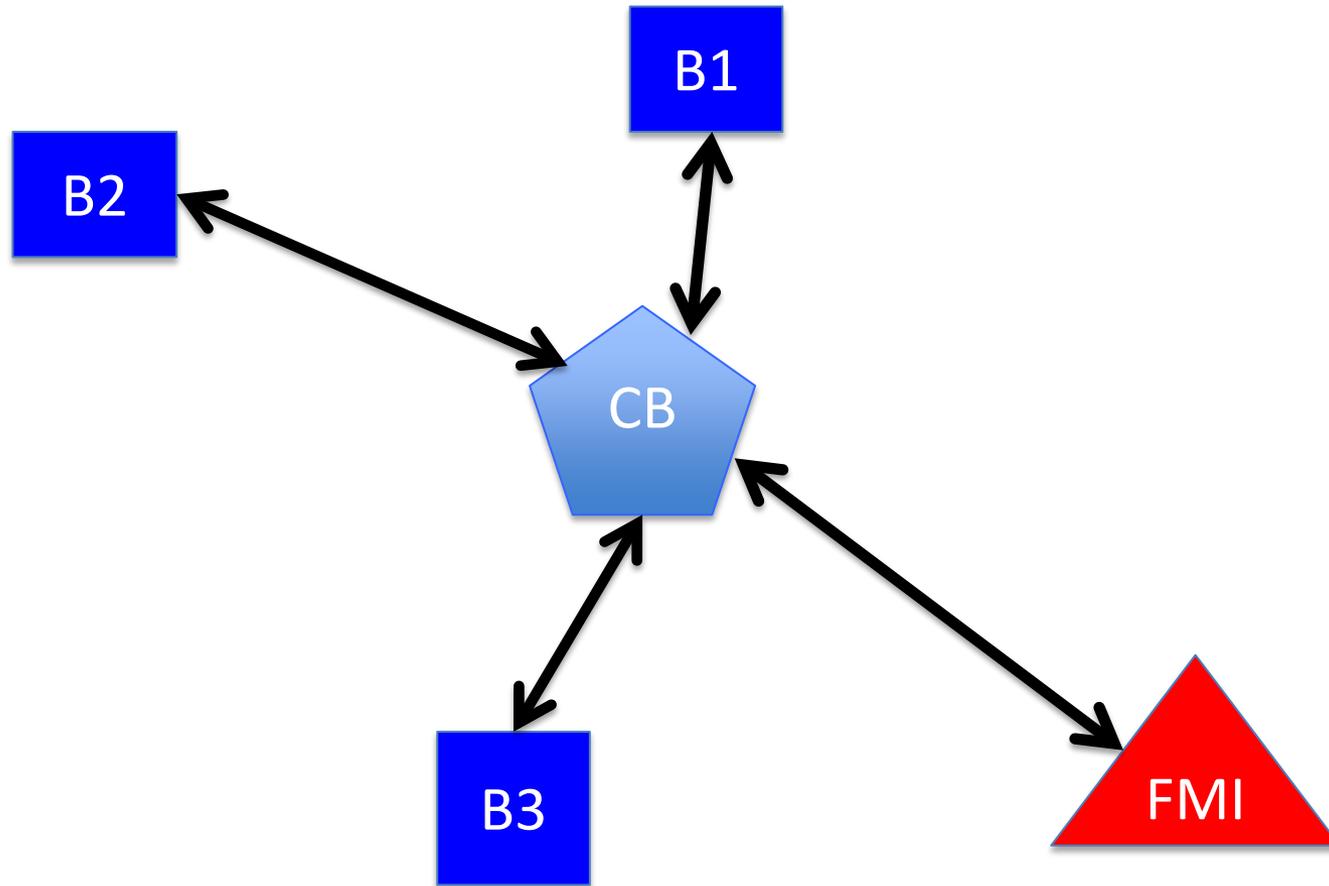
Tri-party Repo FMI Design Goals

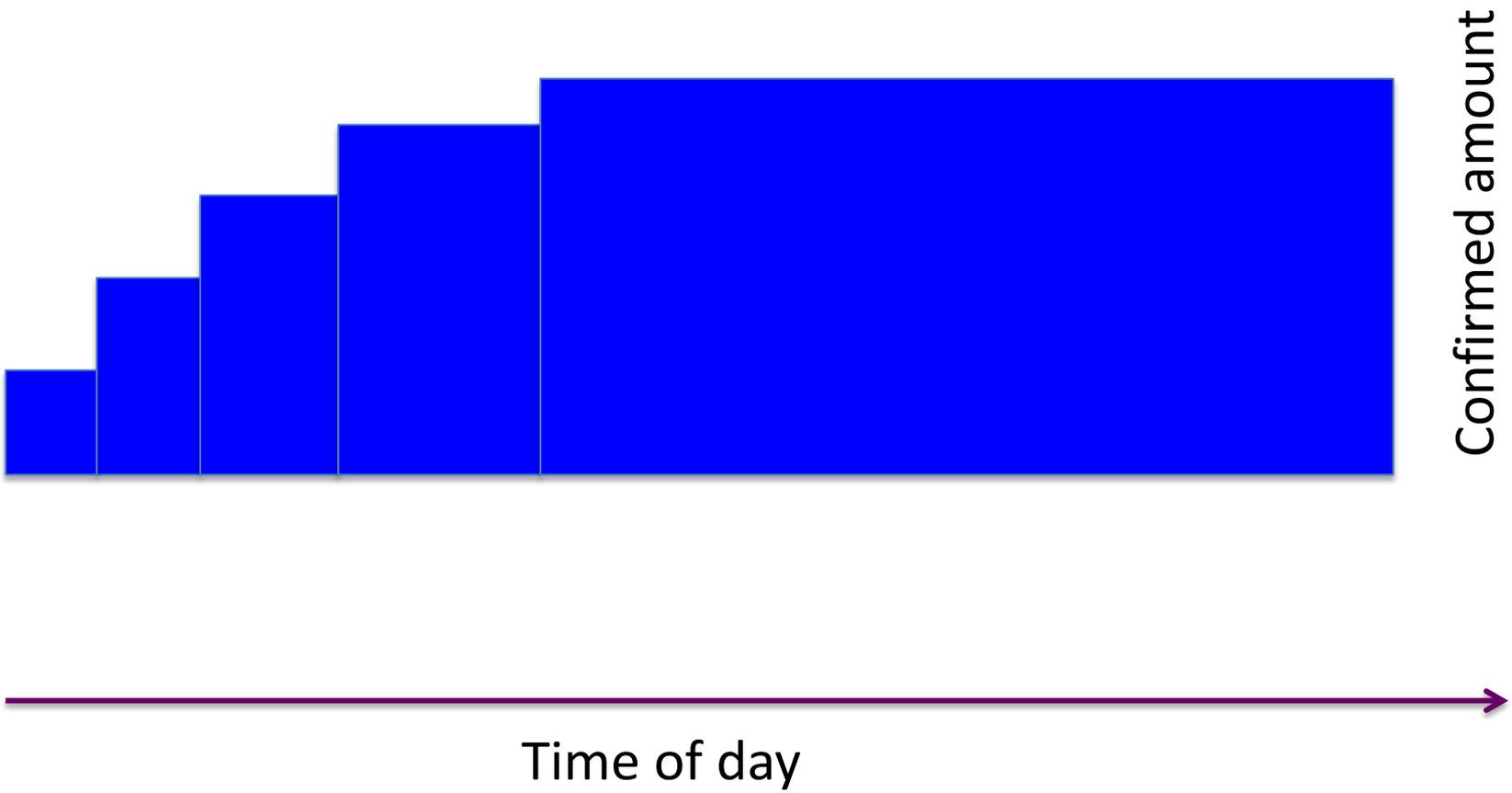
1. Accessible accounts for cash and securities.
2. Low total operating costs.
3. Low risk of loss to survivors and “taxpayers.”
4. Low settlement liquidity requirements.
5. Low tri-party agent conflicts of interest through provision of liquidity, collateral valuation, haircut setting, demands for cross-guarantees, continuation of service.
6. Low too-big-to-fail distortions.

Enabling mechanisms

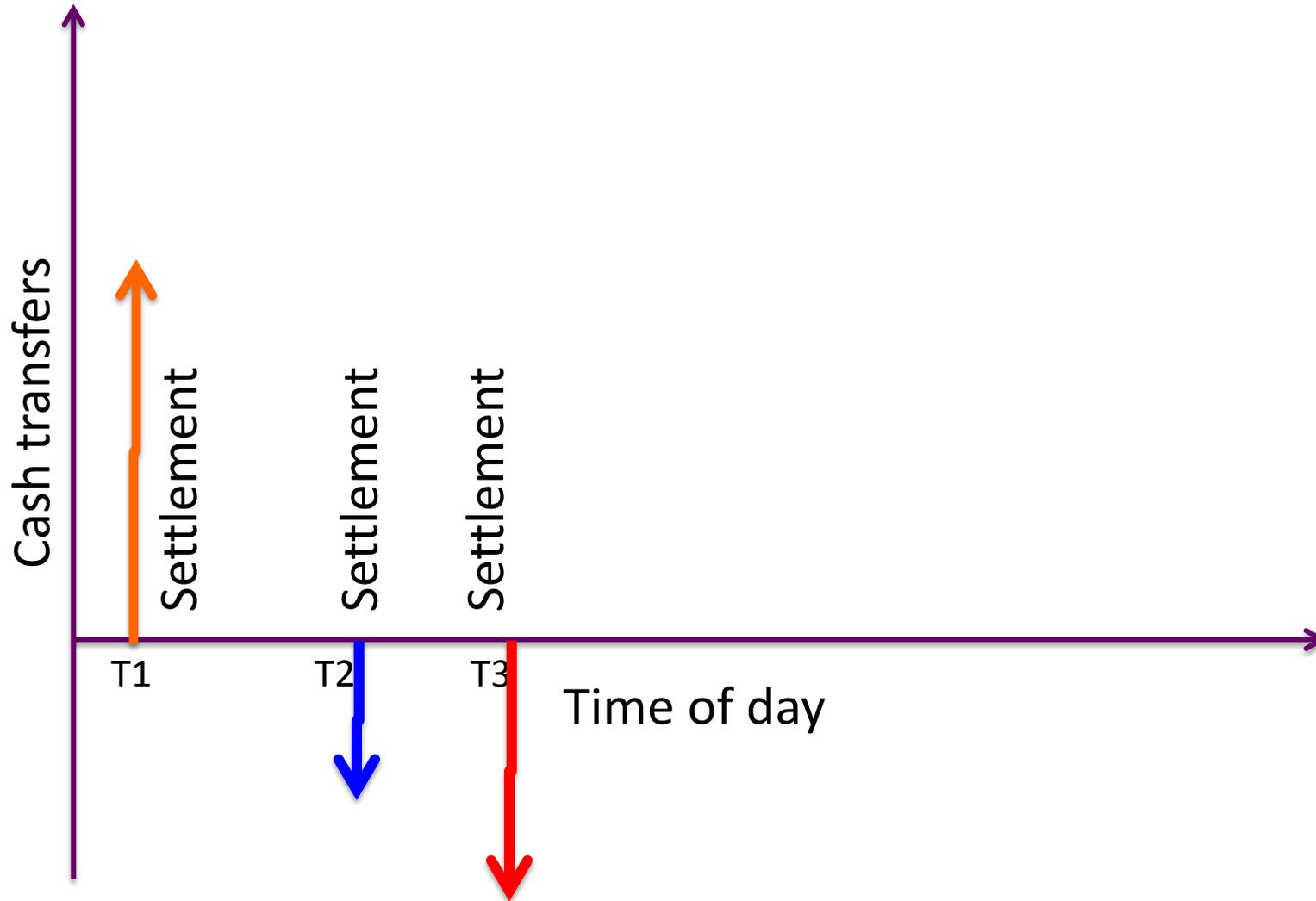
1. Cash settlement in central bank money, or narrow-bank deposits.
2. Securities held in secure depositories.
3. State of the art information technology.
4. Settlement finality.
5. Independent collateral valuation and haircuts.
6. Exemption from automatic stay.
7. Enforceable netting.
8. Access to central bank lending of last resort.

Liquidity to Financial Market Infrastructure

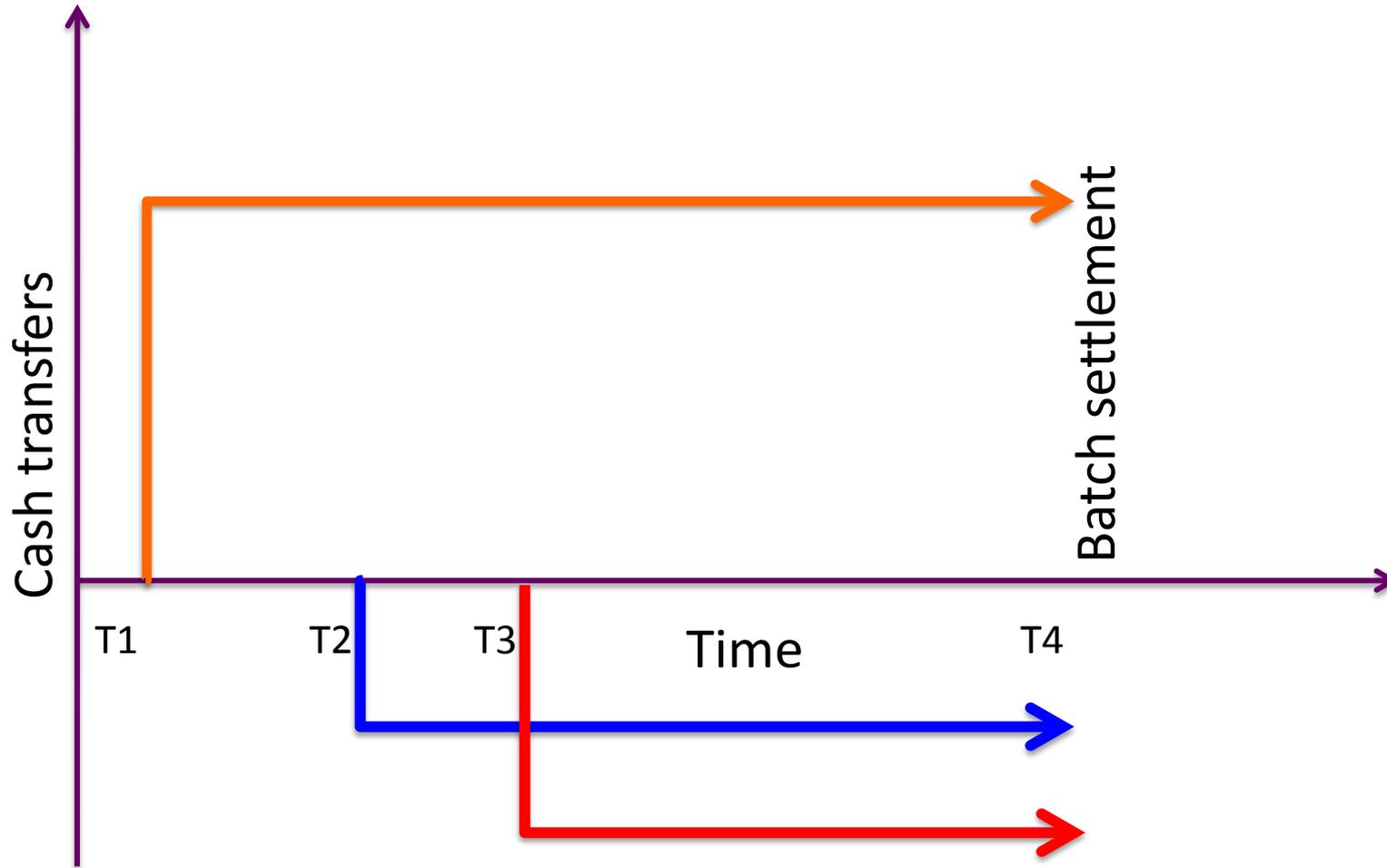




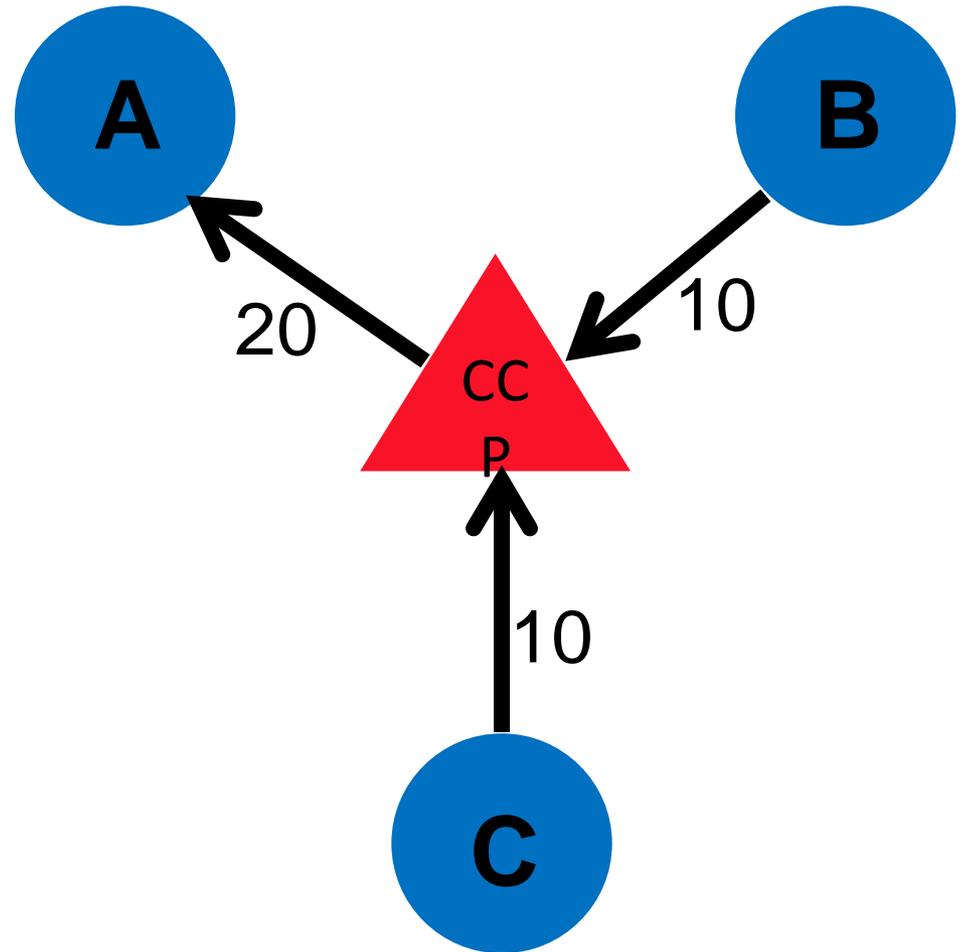
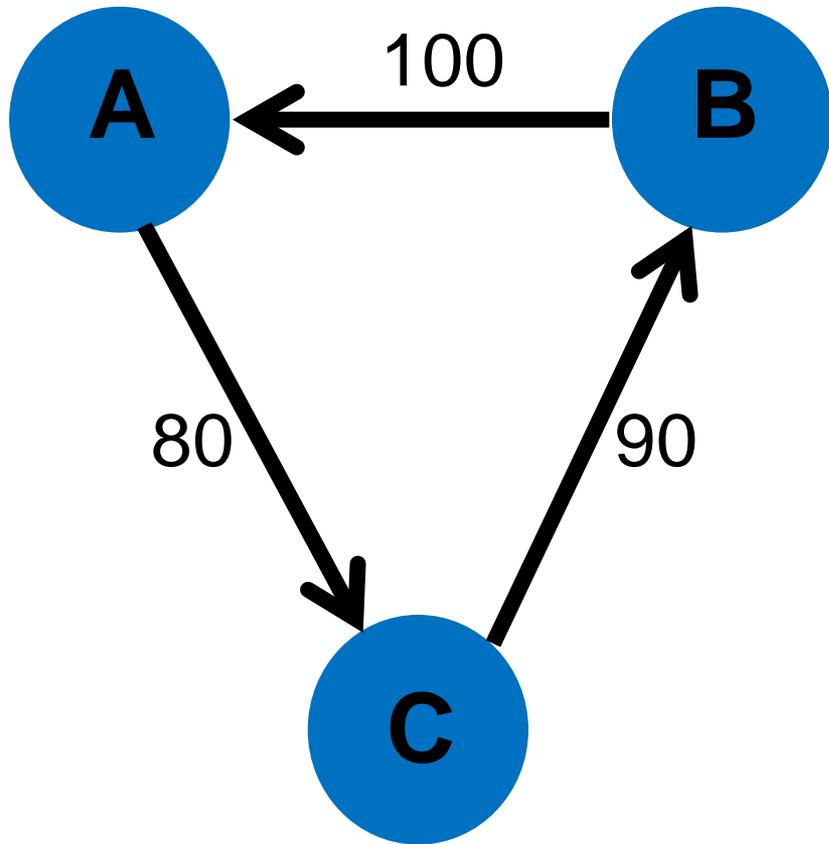
Real-Time Gross Settlement



Deferred Net Settlement



Loss mutualization via CCP



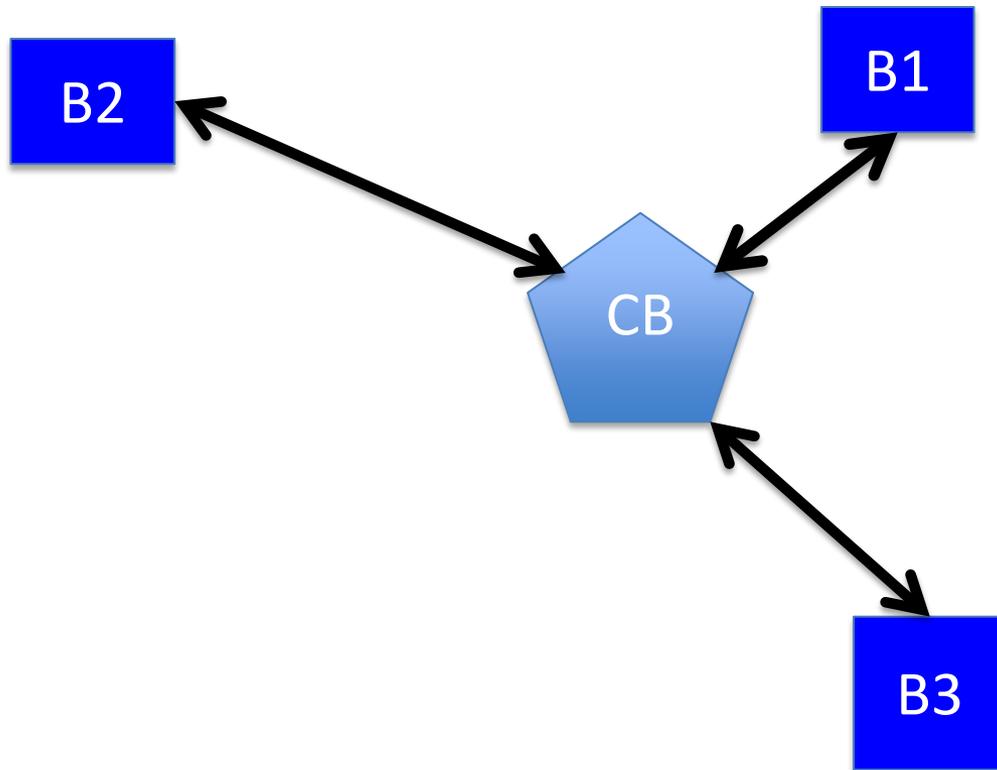
A few of the dangerous scenarios

1. The TPR agent bank is weakened by unrelated losses. TPR is stopped. Or, dealers or clients are unwilling to place funds in cash clearing account to mature repos. Repos terminate early; collateral held by cash lenders.
2. A dealer fails. The cash investors or clearing bank hold a fire sale of collateral securities.
3. A dealer is in trouble. Cash investors fail to settle purchase leg. Or, the TPR agent is unwilling to provide interim liquidity to unwind repos. Dealer is unable to obtain other financing. Collateral fire sale and dealer failure.

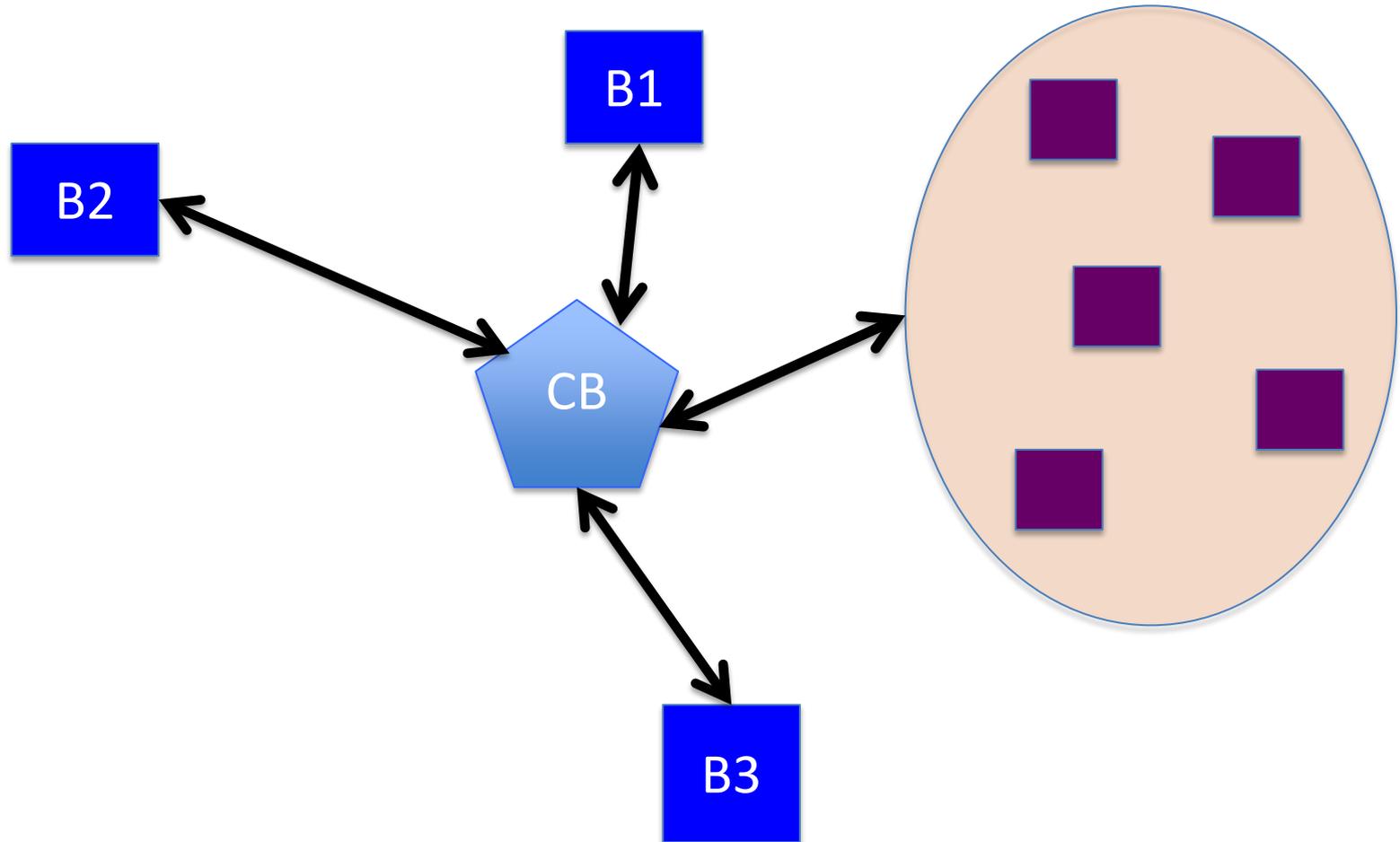
Clearing Bank

1. Capital requirement based on maximum intra-day balance sheet potential exposure to collateral that it could receive that is not eligible for financing at central bank.
2. Unencumbered liquid assets covering maximum potential draw.
3. Settlement unwind: settlement finality.
4. Access to contingent lender of last resort.

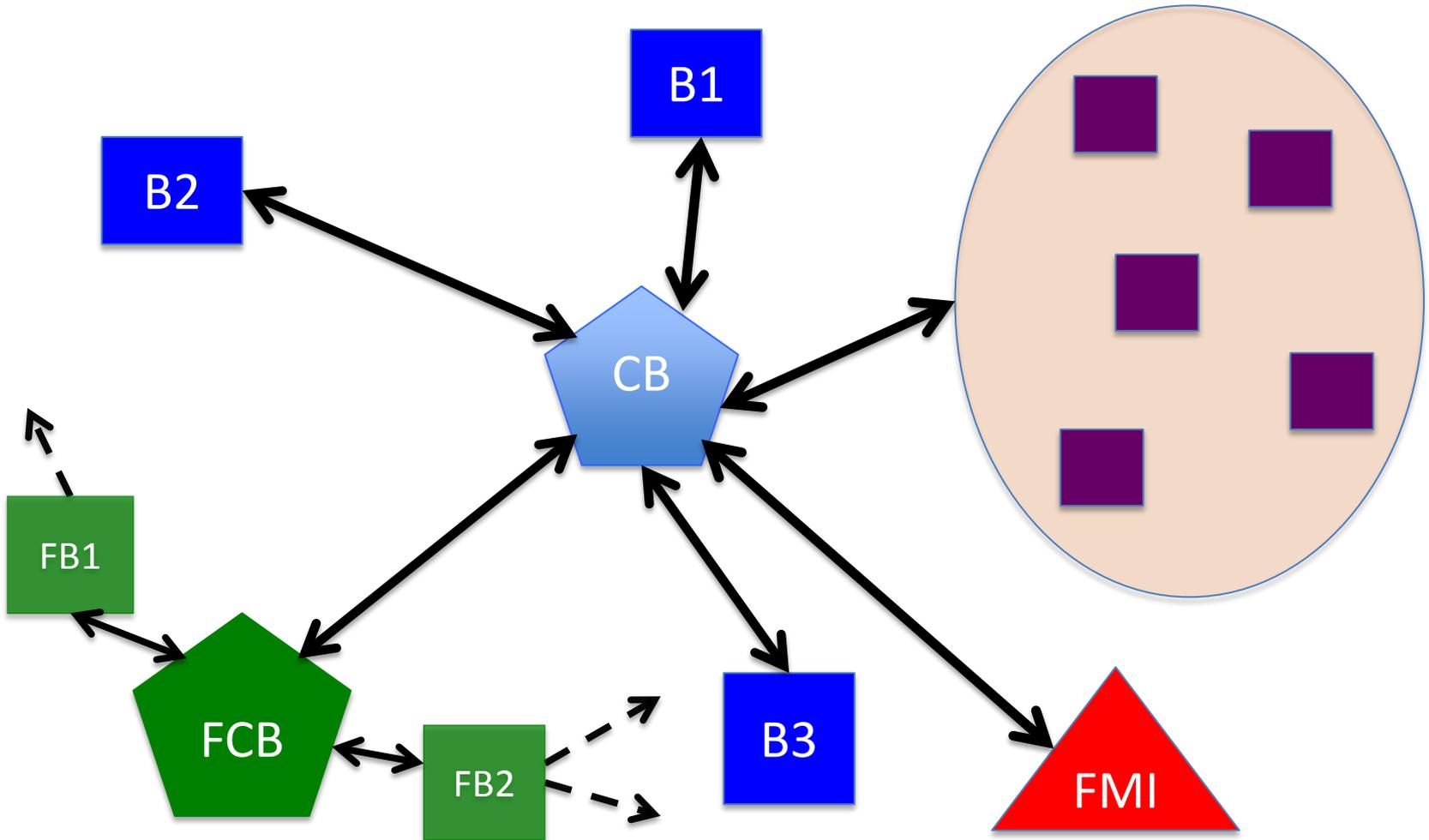
Central Bank Emergency Liquidity



Broad Programmatic Credit Facilities

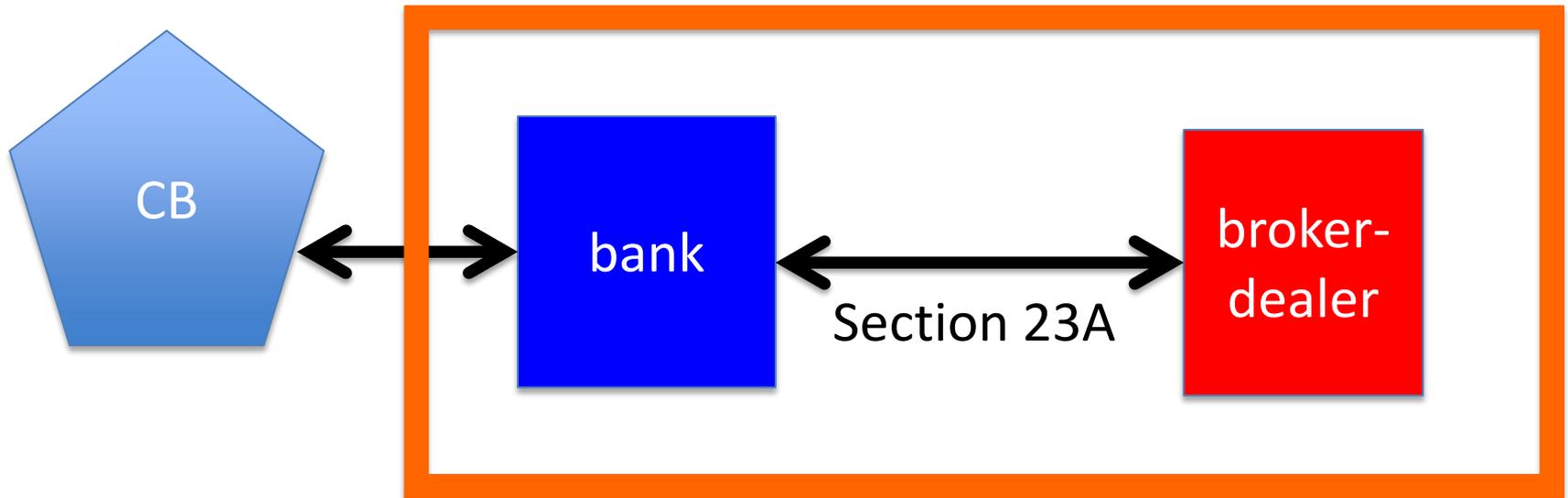


Lending of Last Resort

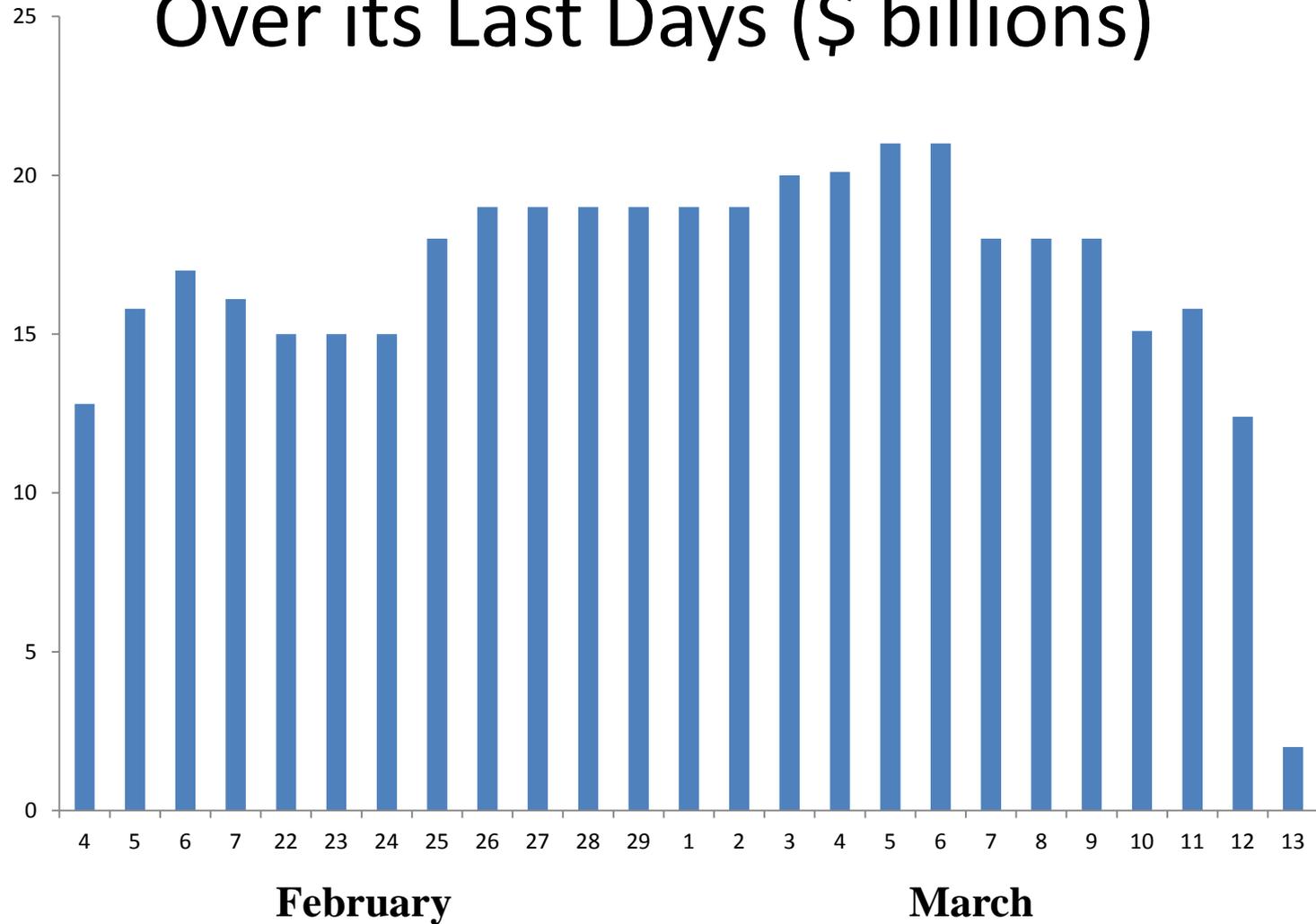


Limited liquidity to an affiliated dealer

bank holding company

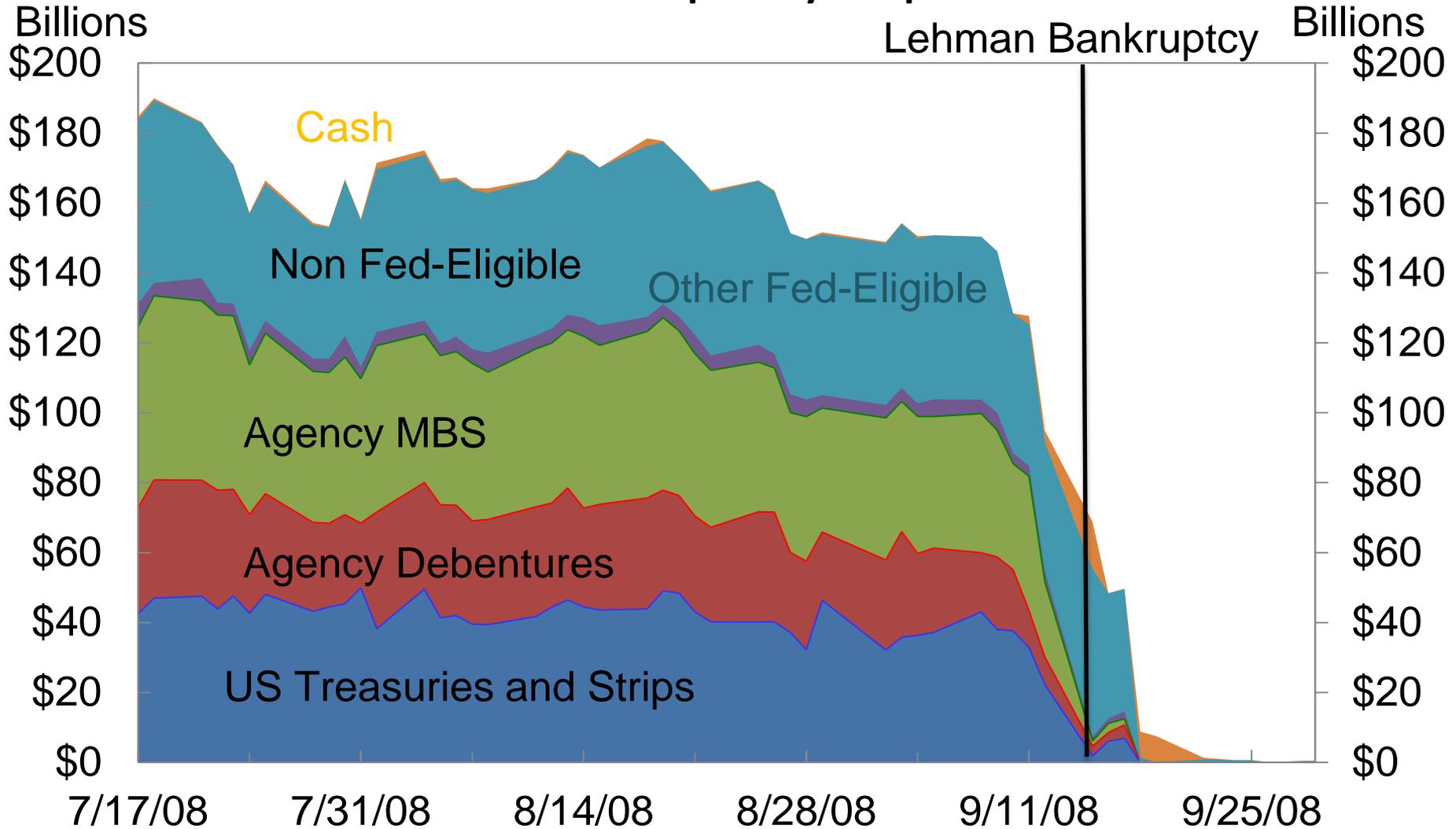


Bear Stearns' Liquidity Pool Over its Last Days (\$ billions)



Data Source: Cox (2008)

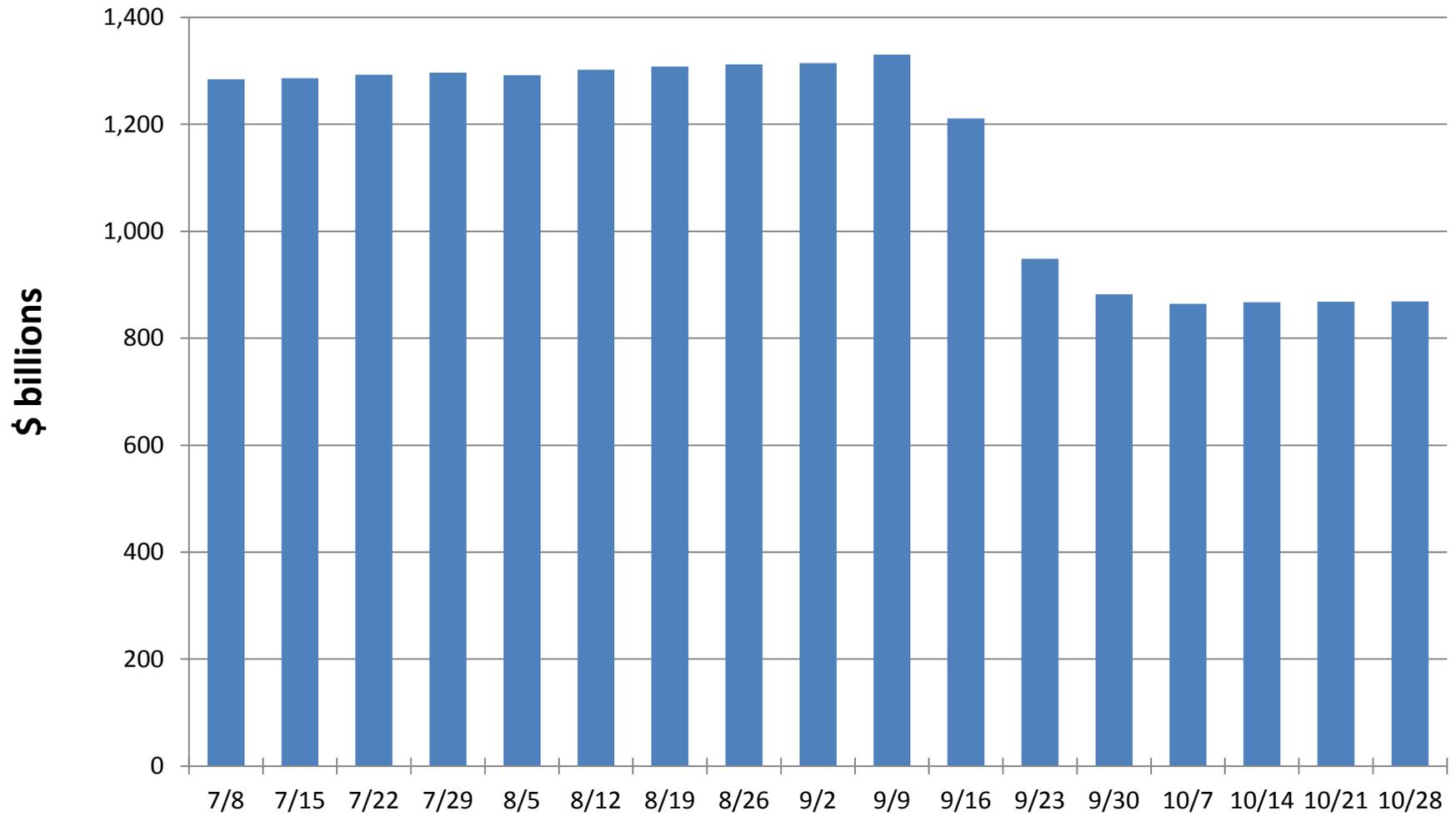
Lehman's tri-party repo book



Source: Copeland, Martin, Walker (2011) FRBNY

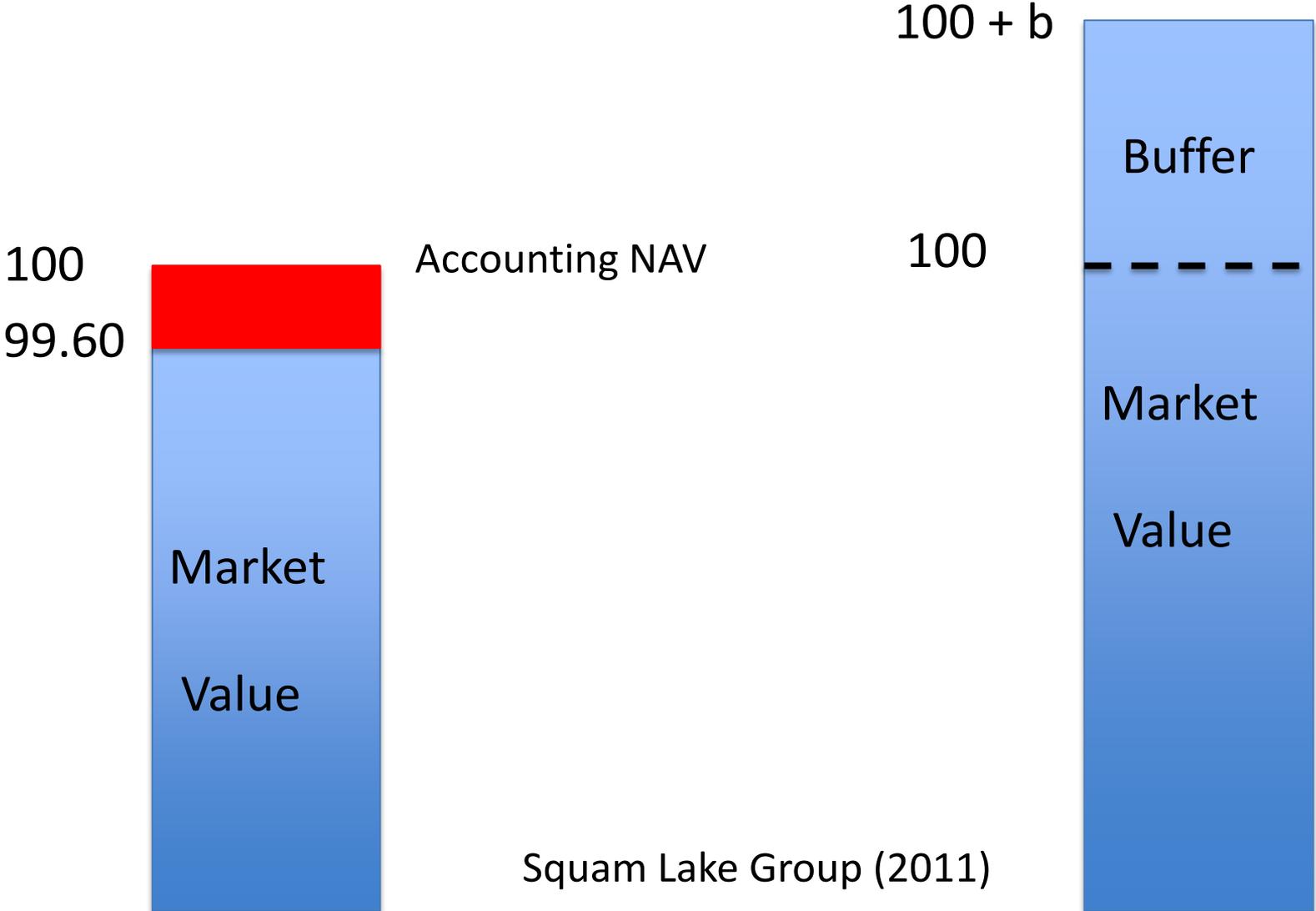
September 2008 Run on Money Market Funds

Institutional investment in prime money market mutual funds



Source: Duffie (2012)

Money Market Fund Capital Buffers

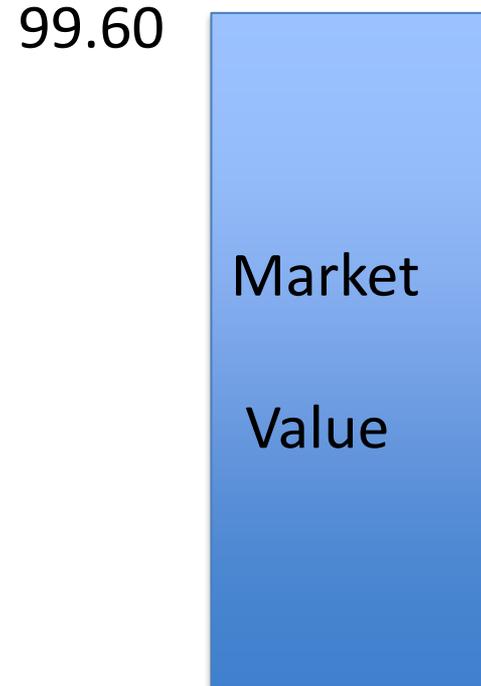


Money Market Funds

“Stable” NAV



Floating NAV



Tri-party environment

Cash Investor Accounts

Dealer Accounts



Current Reform of Tri-Party Repo Infrastructure

Pre reform



FICC GCF repos
settle

DTCC equities
available

Fedwire Securities
interbank open

3:30PM

Post reform

