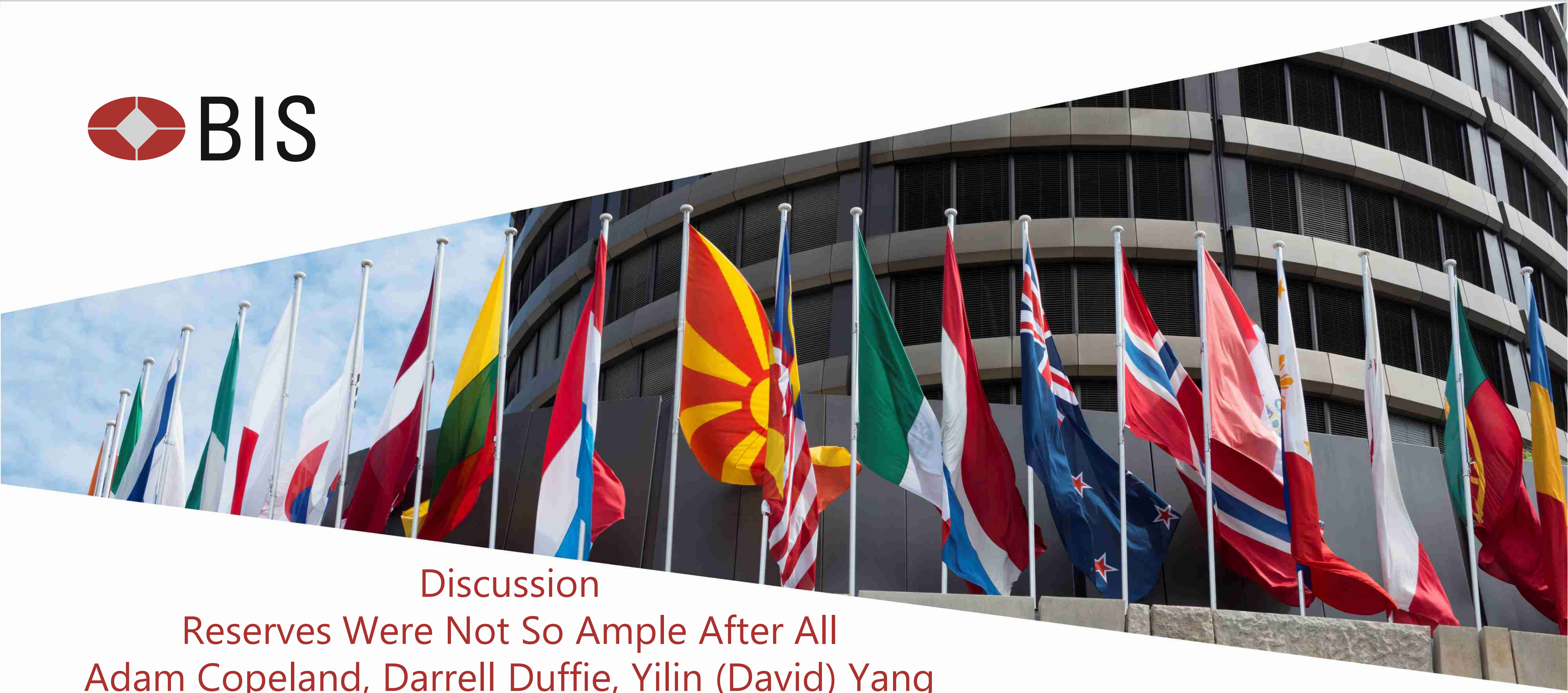


Discussion
Reserves Were Not So Ample After All
Adam Copeland, Darrell Duffie, Yilin (David) Yang

Dora Xia, Bank for International Settlements

ABFER 10th Annual Conference, Singapore, May 2023

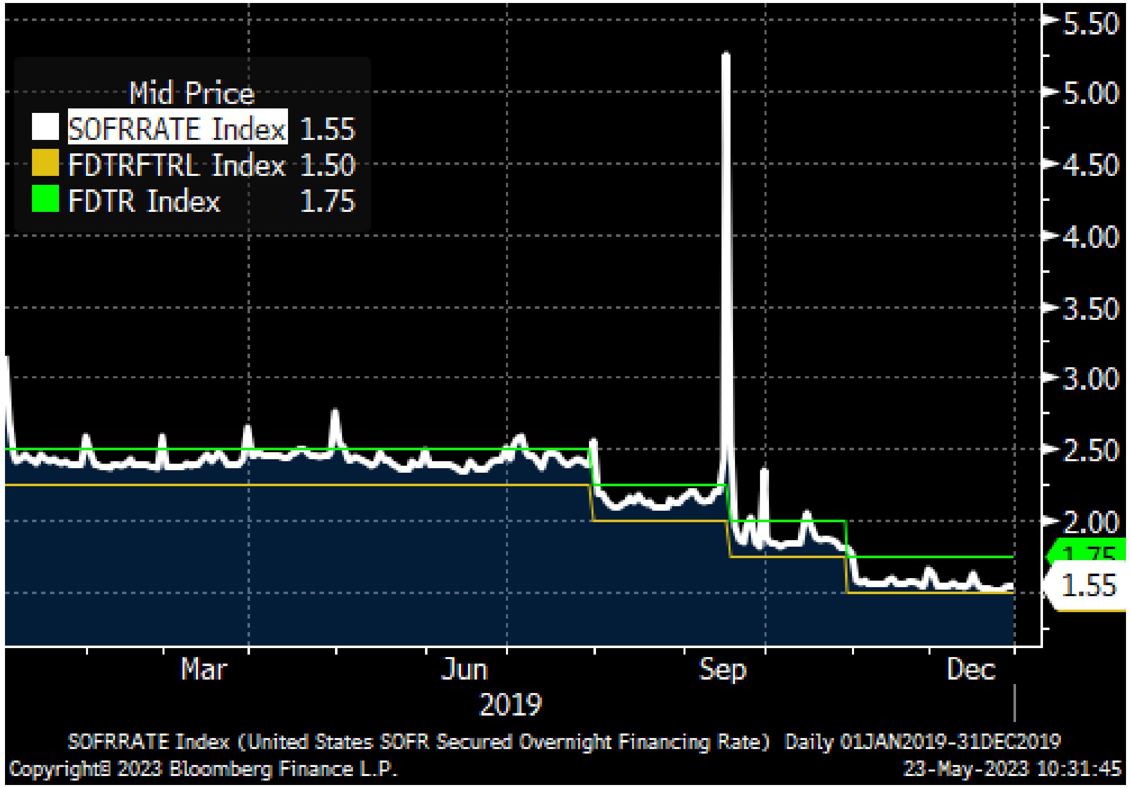
Summary

- A great paper with rich information - monetary policy, regulation, monetary market stress, etc. Key messages are
  - Low reserve balances of + delayed intraday payments of reserves to repo-active large banks ➔ repo rate spikes
  - A higher aggregate level of reserves would help eliminate repo market disruptions

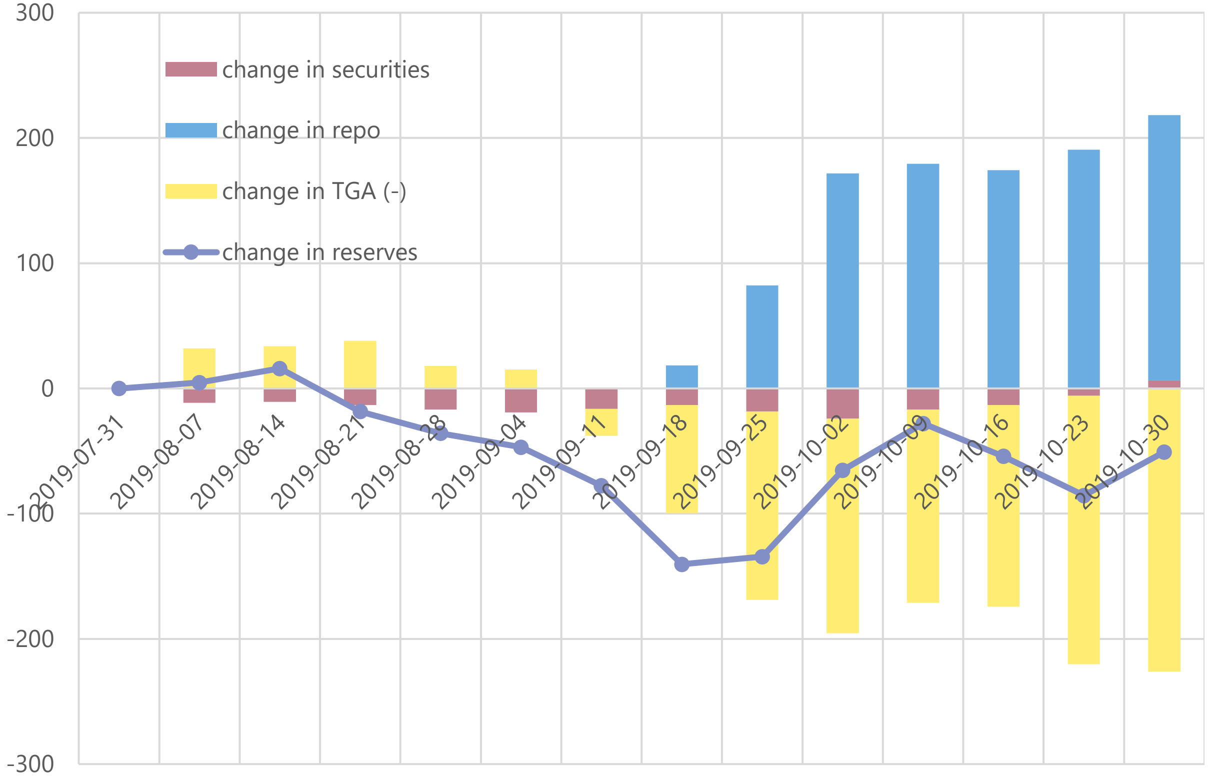
- My discussion focuses on
  - September 2019 repo spike
  - A high aggregate level of reserves in practice

September 2019 Repo spike

Money market rates (%)

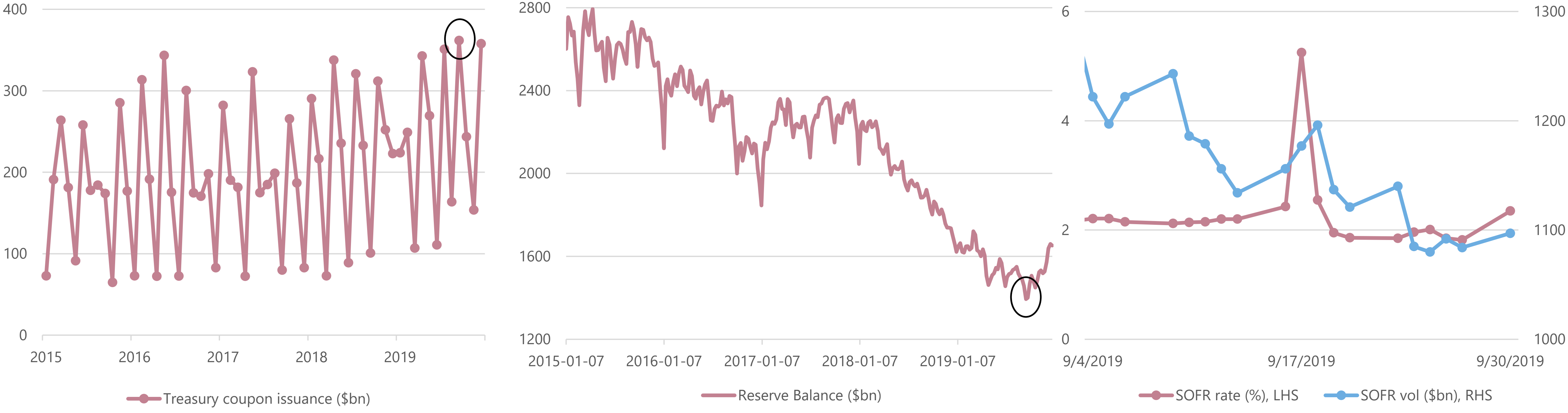


Cumulative change in Fed balance sheet($bn)



High level story: demand – supply imbalance

- Treasury issuance → demand ↑
- Corporate tax payment + Treasury issuance → TGA ↑ and reserve ↓ → supply ↓



- The demand and supply factors were at stretched but not extreme levels.
- small shift in demand/supply factors & large swing in price & stable volume

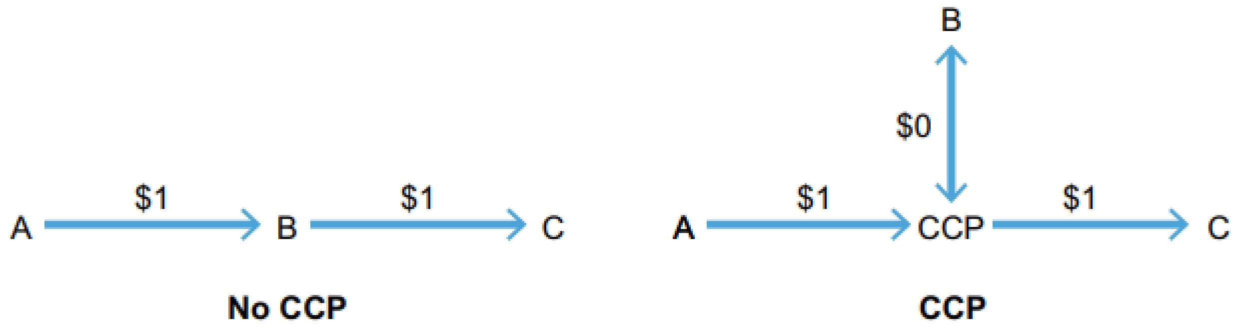
  ➔ inelastic demand and supply curve

- Why supply was inelastic?

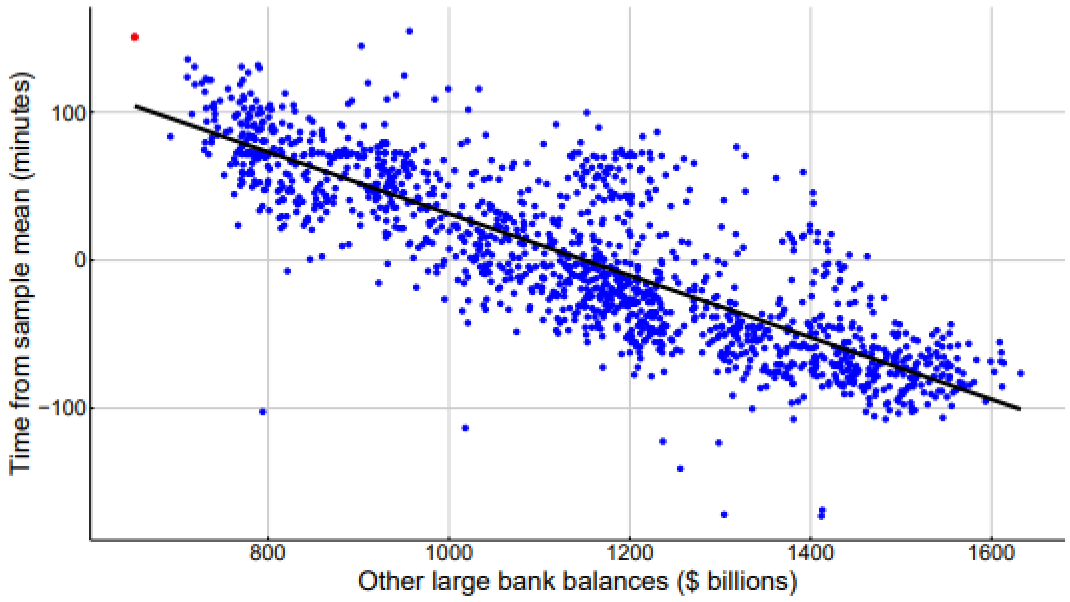
- Large repo-active banks were reluctant to step in due to high regulation costs.
  - To avoid daylight overdraft: delayed intraday payments of reserves from other banks due to lower reserve balances of these banks (Copeland et al, 2022)
    - self-fulfilling expectations → amplification of shocks
  - To avoid expand balance sheet: a loss of ability of netting due to retrench of MMFs from sponsored repo (Afonso et al, 2020)

- How about other players?
  - MMF
  - FHLB

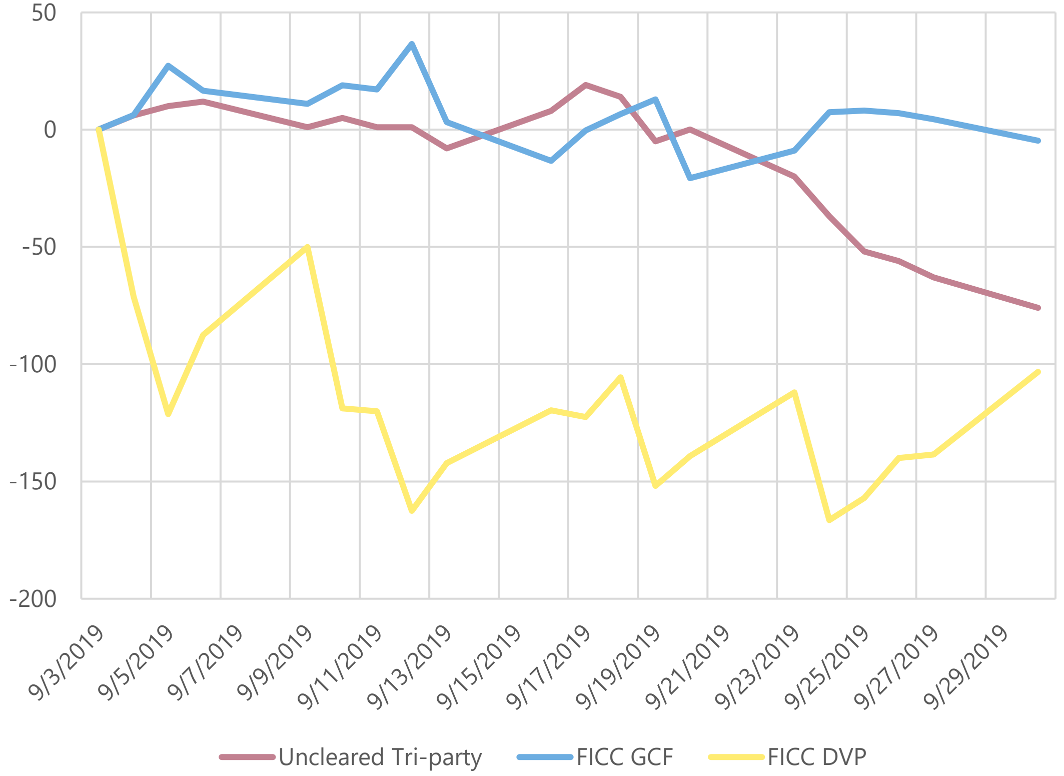
EXHIBIT 3
The Role of the CCP



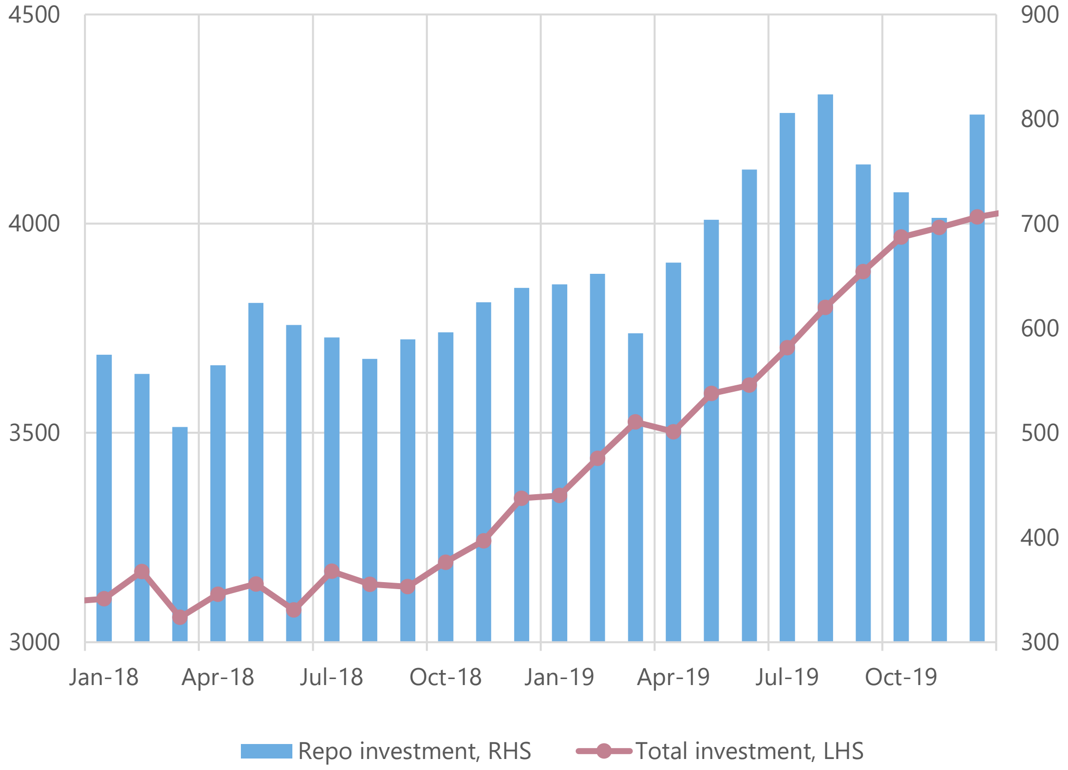
Delayed intraday payments



Cumulative change in repo volumes ($bn)



MMF Investments ($bn)



Money market rates (%)

Ample reserve in practice

- Sufficiency
  - While the Fed can control the *aggregate* reserve level, it can not control the *distribution* of reserves.
- Costs
  - Interest rate expenses
  - Treasury market functioning
  - Hysteresis effect (Avalos et all, 2019)
    - depressed interbank trading activity in an abundant reserves regime ➔ Norges Bank switched to a quote-based system in 2011
- Necessity
  - Other options such as SRF, more usage of discount window