# The Central Bank's Balance Sheet and Treasury Market Disruptions

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# Repo and the financial market

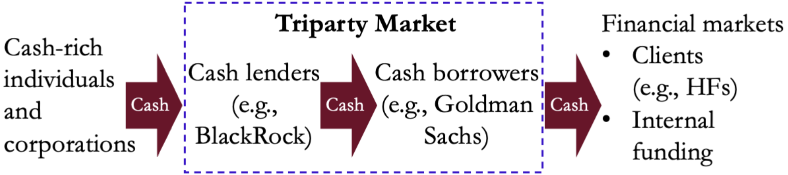
- Repurchase agreement (repo) allows for hugely leveraged purchases, enabling arbitrageurs to bring about the efficient price.
  - Menand and Younger (2023) argue that repo market is indispensable to the development of the U.S. Treasury market.

- Strong academic interest:
  - Repo during the 2007-09 GFC: e.g., Copeland, Martin, and Walker (2014).
  - Fed facility (ONRRP) and repo: e.g., Anderson and Kandrac (2017).
  - Dealers' market power in repo funding: e.g., Huber (2023).

- Most of these papers focus on the Triparty repo market, where funding enters the system.

- This paper: a holistic framework for the whole repo system — and more.

# This paper – part I



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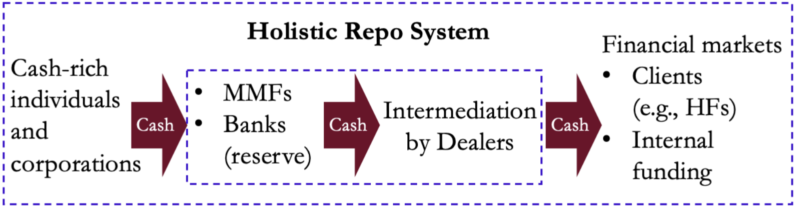


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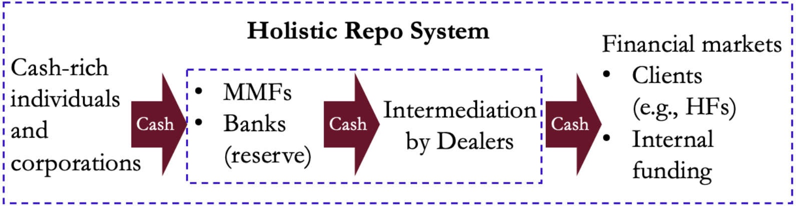


- Holistic repo system:
  - Repo funding also from (traditional) banks' reserve.
  - Bank-dealers' intermediation of repo funding to shadow banks (HFs).
- With a holistic repo system, can trace out the impact of any stress:
  - Funding shocks to MMF: (1) tax day, (2) RRP.
  - Funding shocks to banks: (1) quarter-ends, (2) QE / QT.
  - Intermediation shocks: counterfactual of excluding Treasury / repo from balance-sheet-cost-calculation.

# This paper – part II


- Key innovation: linking repo with Treasury.
  - Prolonged repo market shock leads to HF (fire)sell, depressing Treasury yield.
  - $\Rightarrow$ Repo market disruptions affect Treasury — and by extension, the broader financial system.
- Intuitive yet novel:
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- Intuitive yet novel:
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  - Shocks to HFs' funding should affect securities they arbitrage.
- Discussion (future research): quantify the strength of the link between repo and Treasury, in normal times vs. in crises.

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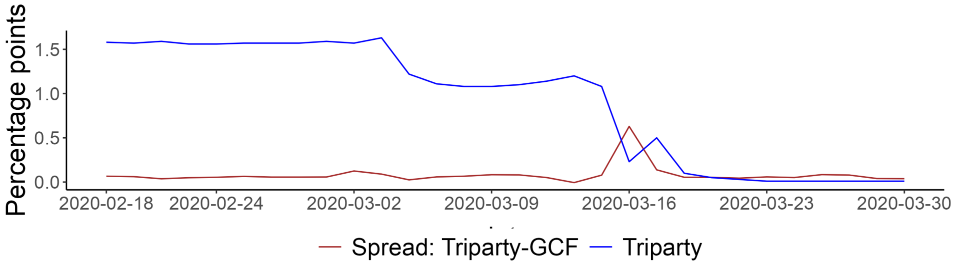
    - Myriad interventions: increased repo ops (3/9), primary dealer credit facility (3/17), MMF facility (3/18).



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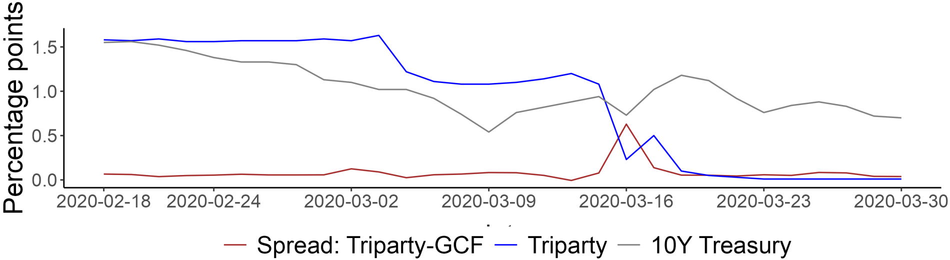

# COVID: Treasury market → repo disruption

- A body of literature suggests that during COVID, Treasury pricing was determined by "HHs"' demand and dealers' intermediation capacity.
  - E.g., Vissing-Jorgensen (2021), He, Nagel, and Song (2022).
  - "HHs": owning assets not with repo leverage, e.g., pensions, SWFs, insurance.
- What were HFs doing in COVID?
  - Kruttli et al. (2021) use admin data and find (1) HFs reduced short — and not long — Treasury positions; (2) repo funding smooth in volume and rate.

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- ⇒ During COVID, shocks came from the Treasury market and possibly affected repo. Evidence for the other direction is limited.
- Tricky to study the role of HFs on Treasury in crises.
  - In normal times, we view HFs as the marginal pricer for Treasury.
  - But HFs have limited capital. In crisis, marginal pricer likely changes to "HHs".
  - ⇒ Key to understanding Treasury dynamics during crisis is "HHs" elasticity, or their ability to absorb HFs' (fire)sale.

# Open question: extent of impact of repo financing on Treasury yield

- To model Treasury dynamics requires considering "HHs" optimization.
  - NOT contradictory to intermediary-based AP.
  - Question is who is marginal — in normal times vs. crises: banks/dealers who intermediate vs. "HHs" who own vs. HFs who lever up.

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- There deserves to be a separate paper that examines the feedback between repo market and Treasury yield.
- This paper can continue to focus on the holistic repo market. None of the major policy experiments is compromised.
  - E.g., model shows that QT generates pressure on intermediation because HFs are "forced" to hold more repo-financed Treasurys.
  - But QT leads to low levels of reserve, which will impede intermediation even in the absence of HFs' increasing demand.

# Conclusion

- This paper offers an impressive model that ties together many aspects of the repo market and offers a link to the Treasury market.
- While the model is exhaustive in its description of the repo system, its Treasury market is relatively simple.
  - Optimization by "HHs" is missing yet key to understand Treasury dynamics.
- But maybe the paper doesn't need the Treasury market.
  - The focus on just the repo market is powerful enough to consider all of the major policy experiments.
- Of course, how the repo market affects Treasury is an extremely interesting question: an exciting agenda for the future!

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