

Liquidity rules have increased the minimum size of the Fed's balance sheet

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Sufficiently low dealer-bank reserve balances causes liquidity crunches

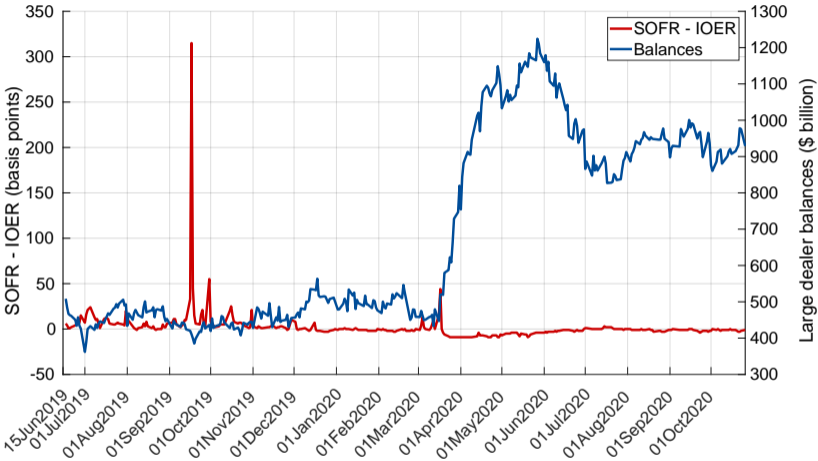


Figure: Copeland, Duffie, and Yang (2024). Right scale: The total reserve balances of the ten bank holding companies that are most active in repo markets (the “dealer banks”). Data: Fedwire Funds Service, FRBNY.

The dealer banks get paid later when other banks have lower balances

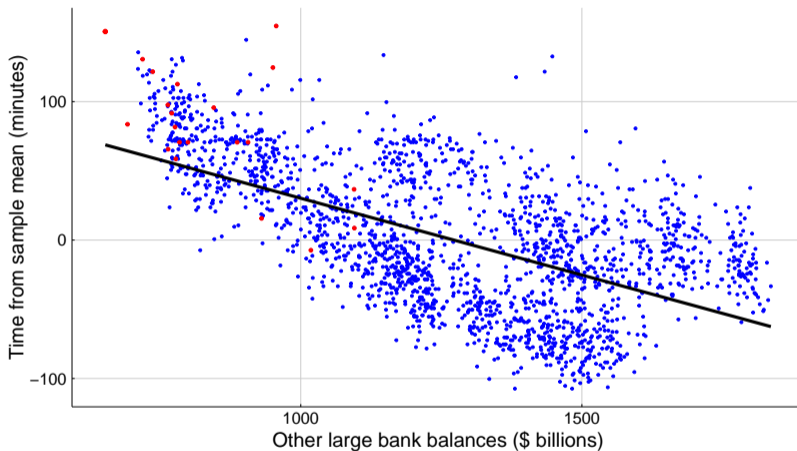


Figure: Time, relative to sample average, at which half of payments to the ten largest dealer banks is received from the next 90 largest banks, regressed on opening balances of next 90 largest banks. $R^2 = 0.69$. Red dots are days on which SOFR-IOR attained its highest 20 levels. Copeland, Duffie, and Yang (2024).

Achieving the minimum ample level of reserves is tricky

- ▶ Demand and supply factors that affect the minimum ample level of reserves include:
 1. liquidity regulations and stress tests, especially intra-day, and discount-window stigma.
 2. bank capital leverage-ratio regulations.
 3. Treasury securities issuances and USG Fed account balances.
 4. the supply of substitutes like T-bills and the Reverse-Repo Facility.

- ▶ A large balance sheet increases the Fed's footprint and the volatility of its net interest income.

- ▶ Pressing the Fed's balance sheet down sufficiently risks liquidity crunches with:
 1. funding-market rate spikes and allocative inefficiencies.
 2. intra-day payment timing stresses and cash hoarding.
 3. Fed reputation costs.
 4. financial instability caused by rollover risks for levered investors.

Early warning sign: 10-day trailing average intra-day payment delays to the dealer banks

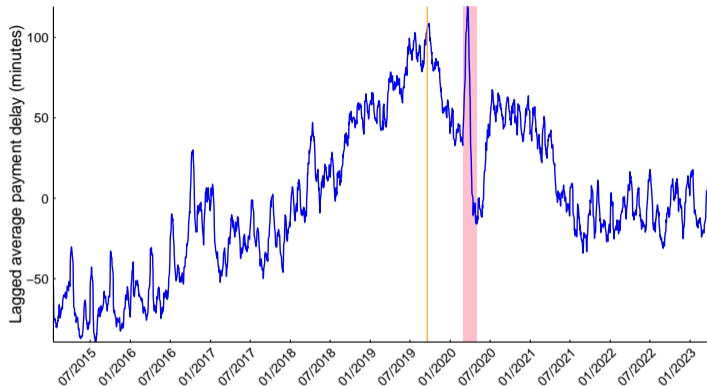


Figure: The lagged average of the time of day by which the ten largest repo-active bank holding companies had received half of their incoming payments from the next 90 largest banks, relative to sample mean, in minutes. The observation shown for date t is the average delay for business days $t - 10$ through $t - 2$ (inclusive). A vertical line is marked at September 18, 2019, the end of the three-day repo-market liquidity crunch of September 2019. A shaded bar marks the COVID shock period of March–April 2020. OLS regression: A one-standard-deviation increase in the trailing average payment delay predicts a 7-basis-point increase in SOFR–IOR. Source: Copeland, Duffie, and Yang (2024). Data: Fedwire Funds Service.