

Fragmentation Risks to the Dollar-Dominated International Financial Order

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Drawing from work with
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Research assistance by Hannah Firestone, Renhao Jiang, Hala Moussawi, and Zachry Wang.

ABFER, May, 2023.

Robust dollar dominance

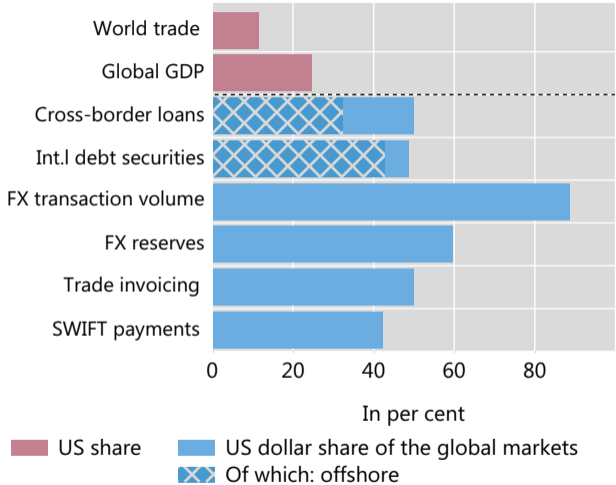


Figure: Hofmann, Igan, and Rees, BIS, April, 2023.

But with ongoing diversification of FX reserves away from USD

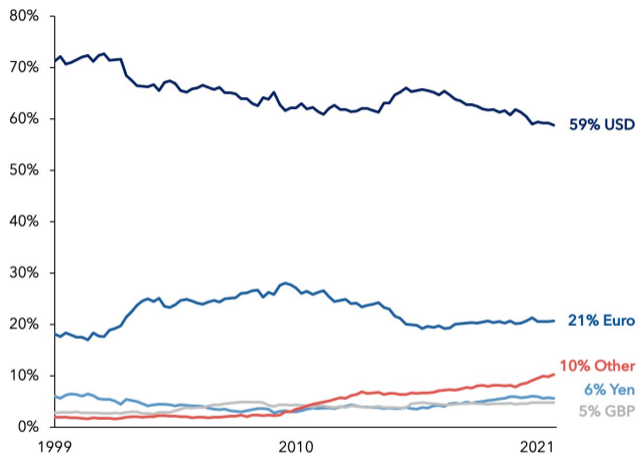
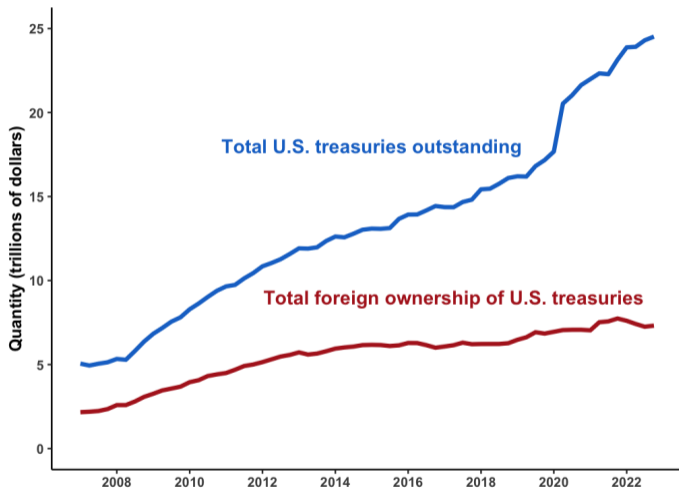


Figure: IMF Currency Composition of Official Foreign Exchange Reserves (COFER). The “other” category includes RMB, at 2.7% in Q4 2022. See, also, Arslanalp, Eichengreen, and Simpson-Bell (2022).

Foreign demand for Treasuries is outpaced by issuance



Data: US Treasury, TIC.

The US dollar is the vehicle currency of choice

FX price impact: direct and with USD as an intermediate currency

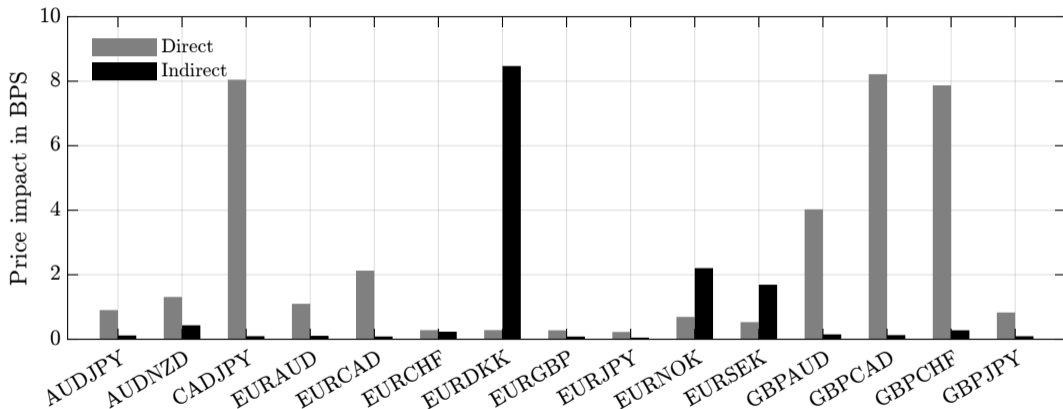
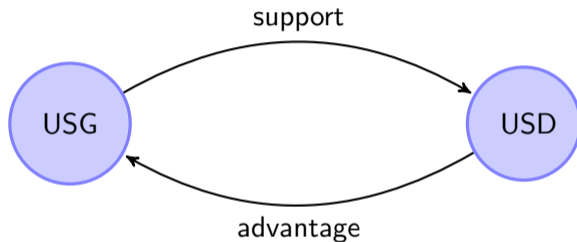


Figure: Somogyi (2023).

The political science of currency power

Great powers have great currencies. – Robert Mundell, 1993



Cohen (2015), Orrlöf (2023), Weiss (2022).

Potential reductions in UST FX reserves for non-Western trade partners

Predicted reduction in dollar reserves after export invoicing switch

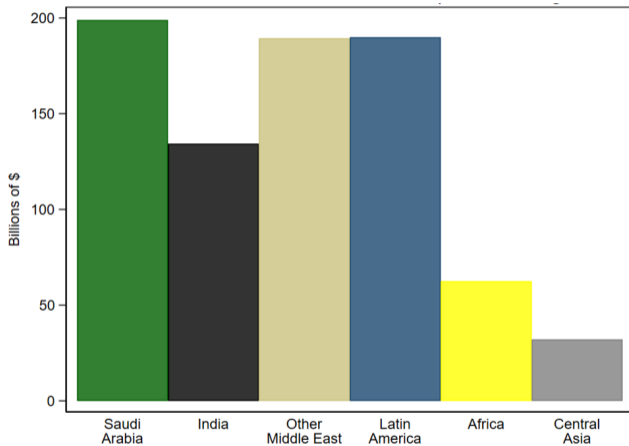


Figure: "Geopolitics and the U.S. Dollar's Future as a Reserve Currency," Weiss (2022).

How the Fed supports stable global dollar liquidity

- ▶ Central bank swap lines (Bahaj-Reis-23).

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- ▶ Term Auction Facility crisis dollar funding to foreign banks through their US offices (Cetorelli-Goldberg-11).

But recent US geopolitical support for the dollar has been more muted

- ▶ Decades ago, the US used its clout to support the dollar internationally.
 - ▶ Pressure on sovereigns not to convert USD to gold.
 - ▶ Bretton Woods.
 - ▶ The Bundesbank's Blessing letter of 1967.
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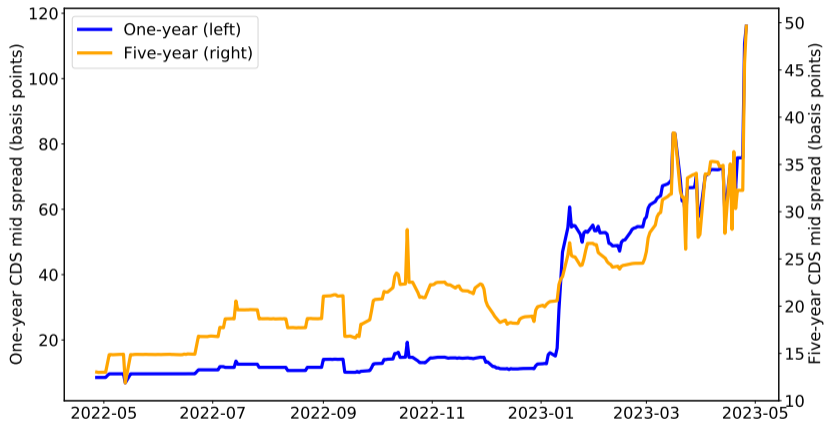
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 - ▶ Sanctions (Norrlöff-22).
 - ▶ Even China's official 2023 complaints over US hegemonic support for the dollar don't include any specific post-Bretton-Woods power plays.

The debt ceiling erodes trust in US Treasury securities



Data: Bloomberg

The debt ceiling may adversely impact dollar reliance

A reaction to the debt-ceiling standoff:

The world is starting to question whether this is only just a game of repetition that can be solved, or the world's to start to learn to wean ourselves from that kind of situation at the end of the day. That's not good for the United States.

Indonesian Finance Minister Sri Mulyani Indrawati, at the current G-7 meeting.

How China supports internationalization of the renminbi

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- ▶ The Cross-Border Interbank Payment System (CIPS).

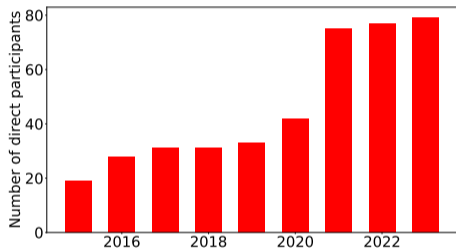
The emerging BRICS block

Countries that are in BRICS, have applied to join, or have expressed interest in joining

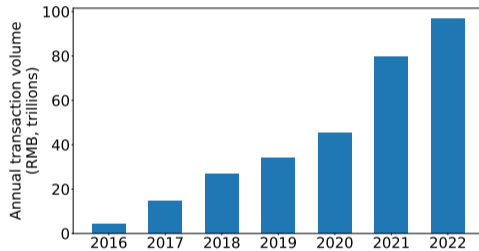
- ▶ BRICS countries: Brazil, Russia, India, China, South Africa
- ▶ Have formally applied to join: Saudi Arabia, Iran.
- ▶ Expressed interest: Afghanistan, Algeria, Argentina, Bahrain, Bangladesh, Belarus, Egypt, Indonesia, Iran, Kazakhstan, Mexico, Nicaragua, Nigeria, Pakistan, Saudi Arabia, Senegal, Sudan, Syria, Thailand, Tunisia, Turkey, United Arab Emirates, Venezuela, and Zimbabwe.

Sources: Bloomberg News, Wikipedia.

China is expanding its Cross-Border Interbank Payment System



(a) CIPS direct participants. Total participants number 1400, of which 800 are offshore.



(b) CIPS payment volumes.

But, so far, the impact of China's CBDC is overrated

- ▶ In 2022, total e-CNY volume was probably between 150 and 200 billion RMB, compared to approximately 100 trillion RMB for Alipay, which has 711 million users and significant international presence.
- ▶ Total holdings of e-CNY at December 2022 were only 0.13% of official RMB.
- ▶ e-CNY is piloted in mBridge and will soon be accessible in Hong Kong's fast payment system.
- ▶ CNHC is a nascent cross-border stablecoin.

China has substantial dollar funding rollover risk

The USD cross-currency basis for renminbi, euro, and yen

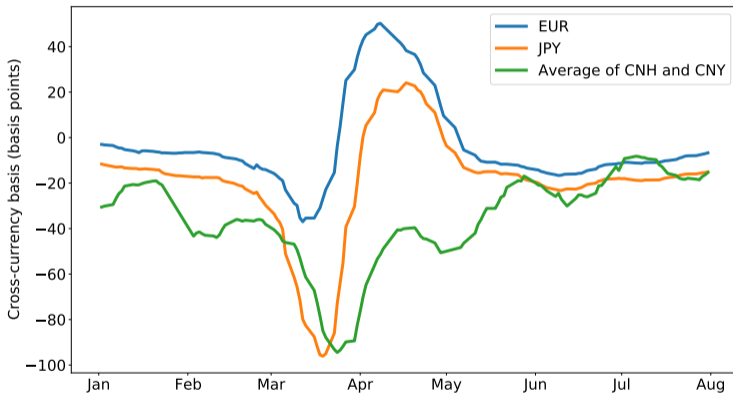


Figure: Source Kodres, Sheng, and Duffie (2022).

Is China de-dollarizing?

China's allocation of FX reserves to US Treasuries



Figure: R. Leung, ANZ (2023).

US Treasuries are a crisis safe haven and source of liquidity

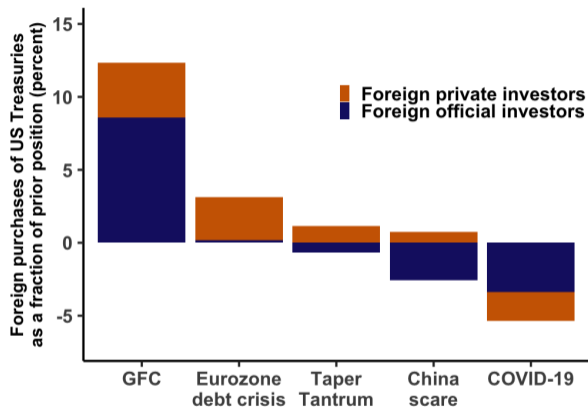


Figure: Based on Weiss (2022).

US Treasuries are a crisis hedge

Changes in 10-year yields during the Covid crisis

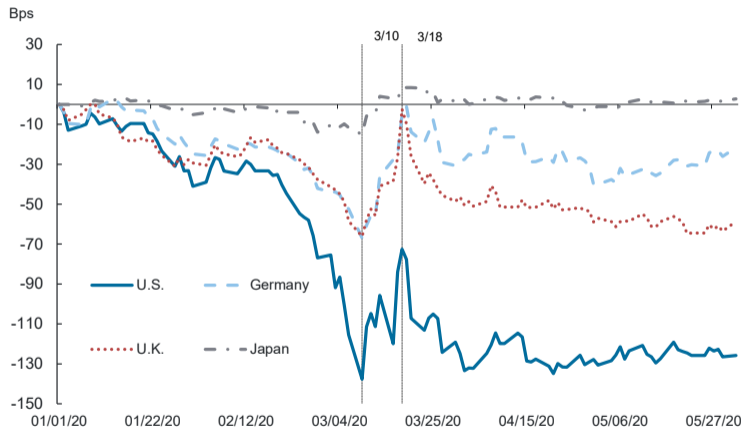


Figure: Barone, Chaboud, Copeland, Kavoussi, Keane, and Searls (2022).

Flight to Treasuries

Negative high-frequency return correlation between 10-year Treasury Futures and SP500 futures

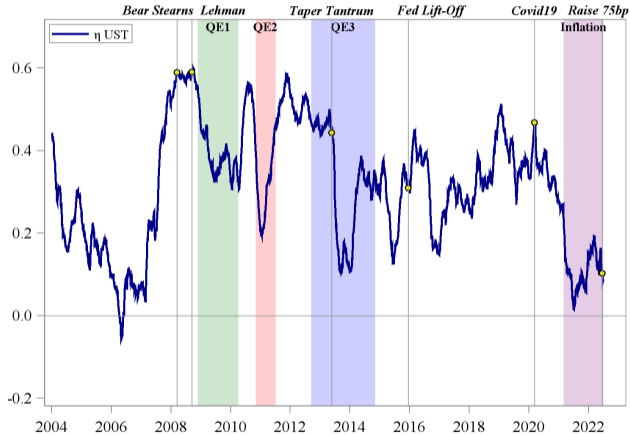


Figure: Based on “Comovements in Global Markets and the Role of U.S. Treasury,” Hu, Jin, and Pan, 2023.

COVID induced record foreign gross sales of Treasuries to U.S. dealers

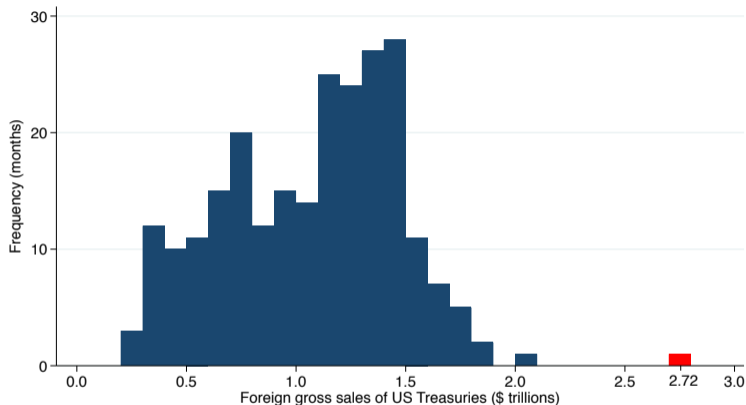
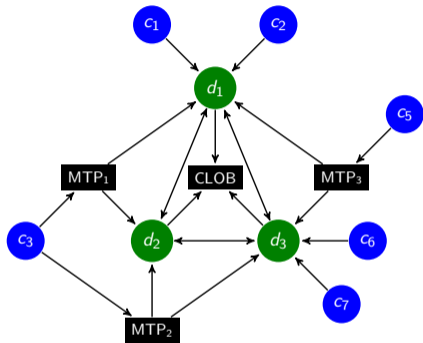
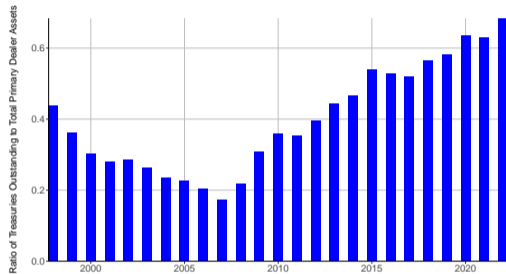


Figure: A histogram of monthly gross sales of U.S. Treasury bonds and notes by foreigners to U.S. residents, from January 2000. Data source: U.S. Department of the Treasury, Treasury International Capital System. The March 2020 observation is indicated in red. Source: Duffie (2020).

But the US Treasury market has limited dealer intermediation capacity



(a) market structure schematic



(b) The ratio of Treasuries outstanding to primary dealer assets

Figure: *Fragmenting Markets*, Duffie (2022)

Interdealer market depth

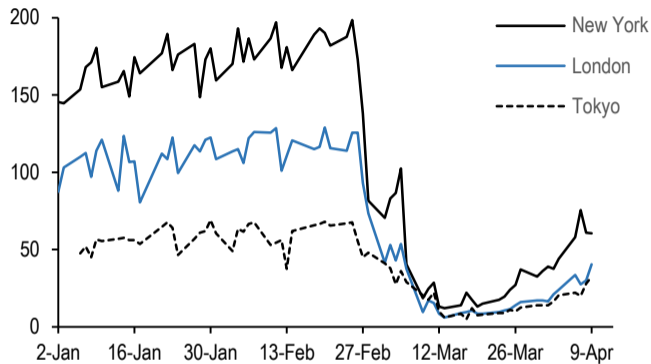


Figure: Treasury market depth on Brokertec, in millions of dollars, is the average of the largest three amounts bid or offered on Brokertec's interdealer central limit order book market for on-the-run 10-year U.S. Treasuries between 8:30am and 10:30am EST. Source: JP Morgan, US Fixed Income Strategy, Joshua Younger and Henry St. John, April 2, 2020.

Estimated US Treasury market dealer capacity utilization

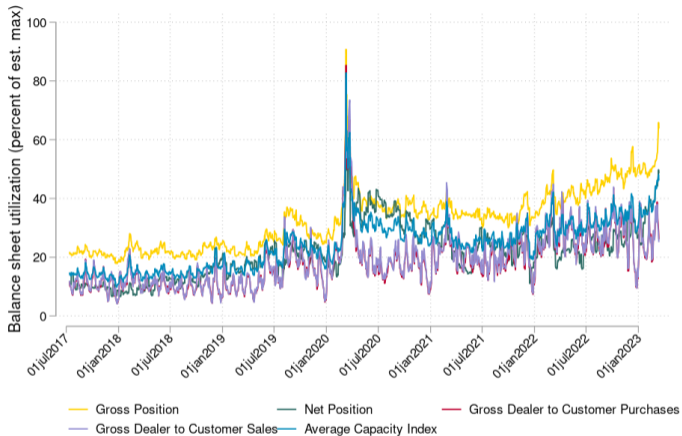


Figure: Dealer balance-sheet utilization is the ratio of the given intermediation measure to the sample record-high measure. The capacity utilization of primary dealers as a group is the weighted average of the dealers' utilizations. Source: Duffie, Fleming, Keane, Nelson, Shachar, and Van Tassel (2023).

Normally, UST illiquidity is proportional to yield volatility, but not at the extreme levels of March 2020

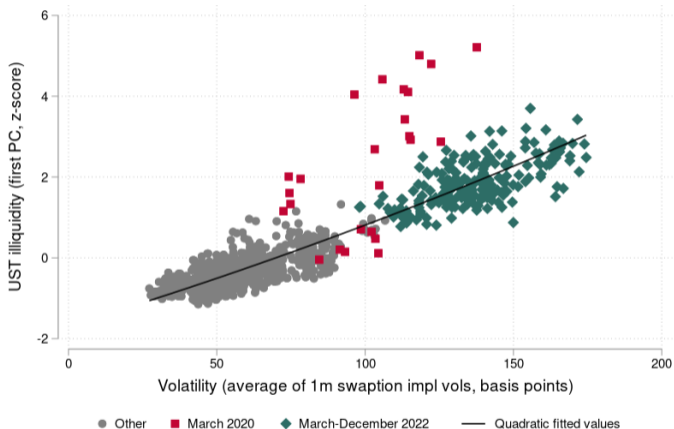


Figure: Duffie, Fleming, Keane, Nelson, Shachar, and Van Tassel (2023).

The component of illiquidity not explained by yield volatility is high when utilization of dealer balance sheets is high

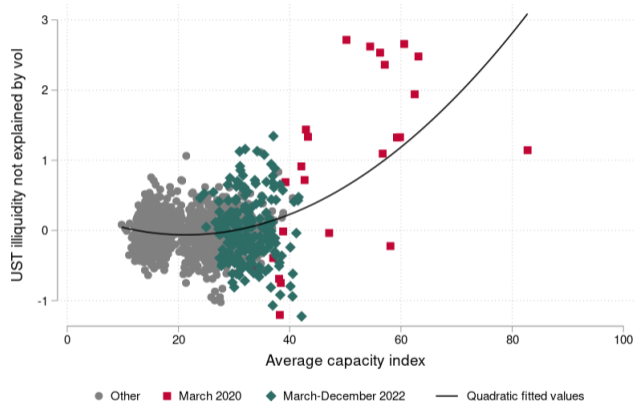


Figure: Duffie, Fleming, Keane, Nelson, Shachar, and Van Tassel (2023).

Appendix

Market function purchase programs

From NY Fed Staff Report with Frank Keane

1. Purchase only when lending is insufficient to quell market dysfunction.
2. Distinguish between market function purchases and QE, to improve the effectiveness of both.
3. Transparency can mitigate moral hazard by causing investors to pay at issuance for the implied liquidity put.
4. Monitor dealer balance-sheet capacity utilization for signs of stress.
5. Adapt reverse-auction design to settings of market dysfunction. Consider a “delivery-choice” auction design.
6. Consider harnessing buybacks by the fiscal authority, to mitigate potential concerns over monetary policy communication and fiscal dominance.

The Fed's market-function purchases of US Treasuries

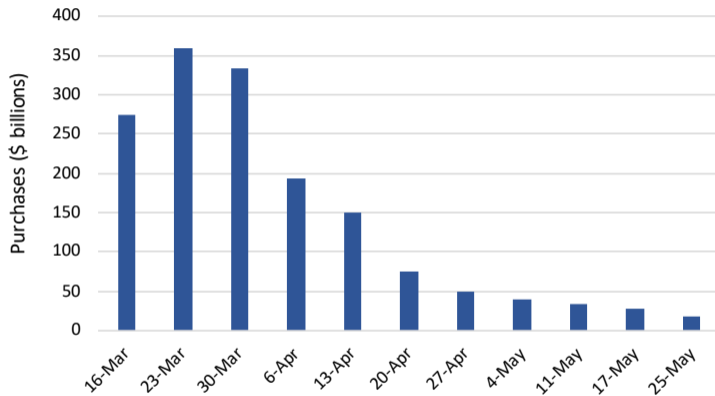


Figure: The Fed's purchases of treasuries, March 16 to May 25, 2020. Source Duffie (2022).

Estimating dealer capacity utilization

- ▶ Net and gross positions in UST and agency MBS, dealer level, are from FR2004.
- ▶ Dealer purchases from customers over the past three business days, are from TRACE.
- ▶ Risk adjustment is based on swaption-implied volatilities and security-level DV01.
- ▶ The capacity of a dealer for a given activity is estimated, based on revealed preference, as the sample maximum (implying a downward bias).
- ▶ The capacity utilization of a dealer is the ratio of its current activity metric normalized by its estimated maximum.
- ▶ The collective capacity utilization of dealers is the weighted average of utilization across dealers, using capacity weights.

Dealer-to-customer bid-offer spreads

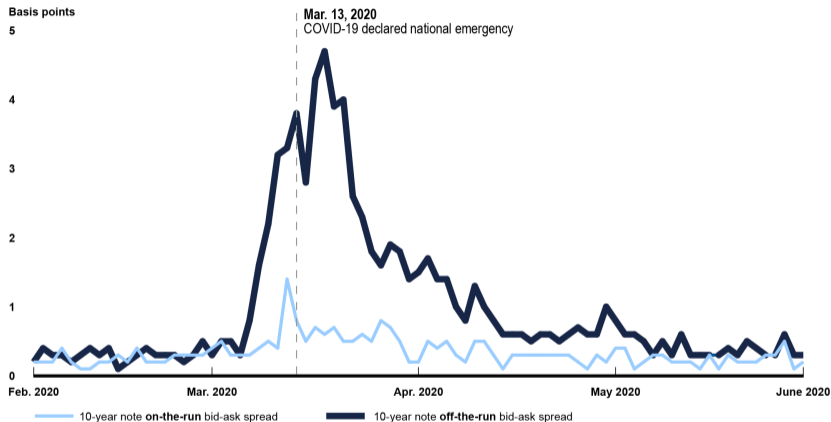


Figure: Source: Congressional General Accounting Office, August, 2021. The underlying data source is Bloomberg Financial LP. Bloomberg.