Global reliance on the Dollar
Challenges and US policy responses

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Drawing from work with
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Views expressed are not necessarily those of the Federal Reserve Bank of New York or the Federal Reserve System.
Robust dollar dominance

- World trade
- Global GDP
- Cross-border loans
- Int.l debt securities
- FX transaction volume
- FX reserves
- Trade invoicing
- SWIFT payments

**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**

![Graph showing price impact in basis points (BPS) for different currency pairs.

**Figure**: Somogyi (2023).
The political science of currency power

*Great powers have great currencies.* – Robert Mundell, 1993

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

Predicted reduction in dollar reserves after export invoicing switch

Figure 2

Sources: Haver and country sources for international reserves, UN Comtrade for export shares. See Section IV.B for details of calculations. See section A2 of the Appendix for countries included in calculation.

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.
  ▶ Secret 1974 deal with Saudi Arabia for private “add-on” purchases of Treasuries.
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  - Only a bit of CBDC technology development and lagging regulation of stablecoins.
  - Sanctions (Norrlöf-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
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.
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- The Cross-Border Interbank Payment System (CIPS).
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?

Figure 3. China sources crude oil mainly from Gulf countries and Russia.

Using RMB for trade settlement can reduce demand for USDs to pay for imports. China bought USD360bn of crude oil in 2022 including USD64bn from Saudi Arabia, USD39bn from Iraq, USD32bn from UAE, USD29bn from Oman and USD25bn from Kuwait. If these countries are willing to accept yuan, the reduction in USD demand is equivalent to China's reduction of its holdings of US Treasury securities last year.

Figure 4. China is de-dollarising and reducing its UST holdings.

Different global context from petro-dollar

China's approach to promoting yuan-settlement differs from that of the petro-dollar which involved an exclusive agreement between Saudi Arabia and the US that stipulated the supply of oil to all other third parties in USDs. In the case of China, even if Saudi Arabia agrees to accept yuan, it is unlikely to apply the currency requirement to other oil buyers.

Most oil exporting states are cautious about a petro-yuan, except for countries with limited access to USDs, such as Russia and Venezuela. The Iraqi central bank is limiting its use of the yuan to imports, rather than exports to China. Countries like the US, Canada and Norway have increased their share of global oil exports, and are unlikely to promote yuan-settlement. Therefore, yuan-settlement is an option but is unlikely to become universal anytime soon.

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

In addition to the increase in yields in March 2020, there was an increase in the implied volatility of sovereign bond yields, reflecting in part investors' uncertainty over the global economic repercussions of the pandemic. Figure 2 charts a measure of this volatility and illustrates how, across a number of sovereign bonds, this volatility started increasing in late February 2020 and peaked in March 2020.

Alongside these changes in yields and volatility, sovereign bond liquidity deteriorated significantly in March 2020. A common measure of bond liquidity is the difference in prices that market makers offer to purchase and sell specific bonds, or the bid-ask spread. An increase in this bid-ask spread over late February and March 2020, for U.S., German, U.K., and Japan 10-year sovereign bonds is illustrated in Figure 3. This evidence, along with the aforementioned rise in volatility, suggests significant stress on trading conditions across sovereign bond markets.

**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

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)
Dealer-to-customer bid-offer spreads

Figure 6: Bid-Ask Spreads for 10-Year Treasury Notes, Feb. to June 2020

Notes: On-the-run Treasury securities are those most recently auctioned by Treasury. Off-the-run securities refer to any securities that were auctioned prior to the most recent offering. A basis point is equal to 1/100th of a percent, or 0.01 percent.

Principal trading firms initially increased their trading activity but later reacted to the volatile trading conditions and reduced their market-making activity. From March 16 to April 17, 2020, principal trading firms’ share of trading volumes on certain electronic trading platforms averaged just 45 percent, compared to an average of 57 percent from January to March 13, 2020—the date COVID-19 was declared a national emergency (see fig. 7).

Figure: Source: Congressional General Accounting Office, August, 2021. The underlying data source is Bloomberg Financial LP. Bloomberg.
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.
The Fed’s market-function purchases of US Treasuries

How much illiquidity should trigger purchases of last resort?

Figure: US Treasury secondary cash markets: Z-scores of 18 illiquidity metrics and their first PC. Source Duffie, Fleming, Keane, Nelson, Shachar, and Van Tassel (2023).
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 Tassell (2023).
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.
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.