Hearing on

Examining Treasury Market Fragilities and Preventative Solutions

Testimony before the House Financial Services Committee
Task Force on Monetary Policy, Treasury Market Resilience, and Economic Prosperity

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Thank you for inviting me to testify on Treasury market fragilities and preventative solutions.[1] The burgeoning quantity of U.S. Treasury debt and weaknesses in the design and regulation of U.S. Treasury markets have reduced the reliability of the world's premier safe-haven asset. This raises costs to American taxpayers for funding government spending, erodes many other advantages to the United States of dollar dominance, and poses risks to financial stability and effective monetary policy.

Since the Global Financial Crisis (GFC), the intermediation capacity of the Treasury market is far more constrained by the balance sheets of primary dealers. Since 2007, for example, the quantity of Treasury debt held by the public, relative to the total size of primary-dealer balance sheets, has increased four-fold (Figure 1). This trend continues because of large U.S. fiscal deficits and post-GFC regulatory capital constraints, some of which are necessary for financial stability but constrain Treasury market intermediation capacity and liquidity during crises.

For U.S. Treasuries to remain the world's preferred safe-haven asset and the anchor of dollar dominance, the intermediation capacity of the Treasury market must be greatly expanded. Although there is no silver bullet for achieving this, regulators should fix the bank capital regulation known as the Supplementary Leverage Ratio (SLR), encourage (although not mandate) the emergence of all-to-all trade in the Treasury market, further exploit the Treasury Department's Buyback program, and ensure that the Federal Reserve's last-resort purchases of Treasuries to maintain market functionality are clearly

[1] This testimony includes, with permission, some passages from "How US Treasuries Can Remain the World's Safe Haven," Journal of Economic Perspectives, Volume 39, Number 2, Spring 2025. I am grateful for expert research assistance from Renhao Jiang and Hala Moussawi.

separated from the Fed's other asset purchases. To my understanding, Treasury market regulators already have sufficient authorities from Congress to address these objectives.

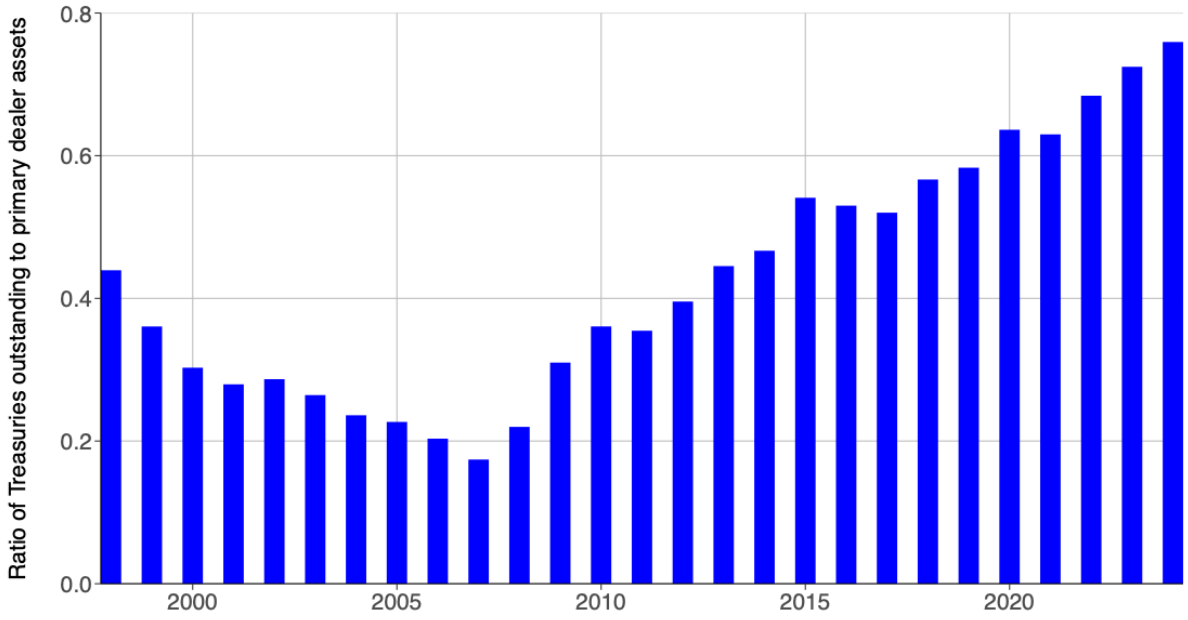

Figure 1. The ratio of US Treasury securities outstanding to primary dealer assets, 1998-2024. Data: The Federal Reserve and public company filings. Assets are measured at the holding-company level.

Dollar dominance is part and parcel with a deep and liquid Treasury market. U.S. Treasury securities are, by far, the first choice of safe-haven investors around the world. Treasuries serve two distinct safe-haven roles. First, they are a crisis hedge. As the risk of a crisis rises, global investors reduce risk by buying Treasuries and dollars in a flight to quality. With the tariff news that shook financial markets in early April of this year, it was worrisome that this historical pattern was broken when the market values of the U.S. Dollar and U.S. Treasuries dropped sharply together.

Figure 2 shows significant changes over time in the composition of investors in U.S. Treasuries. Since 2009, foreign investors, the largest of which are foreign central banks, have reduced their share of the total from over 50% to less than 35%. As the pace of Treasury debt issuance rises, it will be a challenge for the U.S. Government to attract enough demand for its debt by safe-haven investors without offering them higher yields.

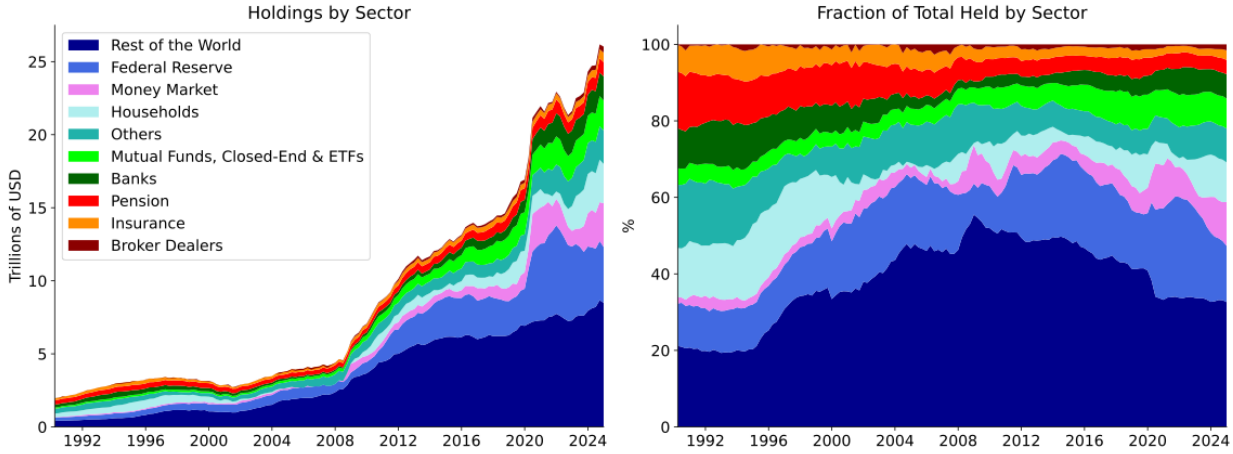

Figure 2. The composition of owners of U.S. Treasury securities, 1990 to 2025, from research in progress by Rafael Berriel, Miguel Chumbo, and Darrell Duffie. Data: Federal Reserve, Financial Accounts.

More discretionary investors such as hedge funds and mutual funds will fill the gap, but with yet higher yields and less stable holdings.

The second safe-haven role of Treasuries is to act as a store of value that can be quickly liquidated for cash whenever a crisis hits. When this happens, the market must be able to quickly intermediate surging investor demands to sell Treasuries.[2] When the World Health Organization declared COVID-19 a global pandemic on March 12, 2020, the Treasury market was suddenly unable to meet this second safe-haven role effectively because bond dealers could not expand their balance sheets sufficiently to handle the flood of demands by investors around the world to sell their Treasuries. Total customer-to-dealer bond-market trade volumes suddenly jumped to over ten times their respective 2017-2022 sample medians.[3] Bond dealers reached the limits of their intermediation capacity, and the Treasury market became dysfunctional.[4] Dealer-to-customer bid-offer spreads and

[2] Duffie, Darrell (2023) "Resilience Redux in the US Treasury Market," in Structural Shifts in the Global Economy, A Symposium Sponsored by Federal Reserve Bank of Kansas, Jackson Hole Wyoming, August, 2023, pages 77-119.

[3] Duffie, Darrell, Michael Fleming, Frank Keane, Claire Nelson, Or Shachar, and Peter Van Tassel (2023) "Dealer Capacity and US Treasury Market Functionality," Federal Reserve Bank of New York Staff Report 1070, October.

[4] Bräuning, Falk, and Hillary Stein (2024) "The Effect of Primary Dealer Constraints on Intermediation in the Treasury Market," Federal Reserve Bank of Boston Working Paper 24-7, Federal Reserve Bank of Boston, July; Duffie, Darrell, Michael Fleming, Frank Keane, Claire Nelson, Or Shachar, and Peter Van Tassel (2023) "Dealer Capacity and US Treasury Market Functionality," Federal Reserve Bank of New York Staff Report 1070, October; and He, Zhiguo, Stefan Nagel, and Zhaogang Song (2022) "Treasury Inconvenience Yields During the COVID-19 Crisis," Journal of Financial Economics, Volume 123, 57-79.

market depth[5] worsened by over ten-fold. Among other steps taken to backstop the market, the Federal Reserve purchased almost $1 trillion dollars of Treasury securities from primary dealers in the first three weeks after March 12, freeing dealer balance-sheet space to handle more sales by domestic and global investors. Weak market functionality nevertheless persisted. Although Treasury market liquidity gradually returned to normal, many investors must have noticed that at the crux of the March 2020 crisis that they had not benefited from a liquid and deep Treasury market.

In early April of this year, tariff policy shocks threatened a similar crisis. As shown in Figure 3, a surge of Treasuries trading sharply increased the flow of risk onto dealer balance sheets. The depth of the market for 10-year Treasury notes on the largest dealer platform for trading Treasuries plunged on April 8 from a norm of about $200 million to a mere $30 million.[6] A full-blown crisis in the Treasury market was averted when the Administration postponed its tariff plans.

The quantity of U.S. federal debt held by the public has now reached the level of U.S. GDP for the first time since World War II and is expected by the Congressional Budget Office to rise from about $29 trillion today to approximately $52 trillion by 2035, implying an even greater imbalance between the supply of Treasury securities and the surge intermediation capacity of Treasuries dealers. Bonds issued by other governments are unlikely to displace the premier safe-haven status of U.S. Treasuries for decades. But until concerns about the resilience of the markets for Treasuries are addressed, global investors who anticipate a need to raise large amounts of cash quickly in future crises will reduce their reliance on U.S. Treasuries. The cost of funding the U.S. government will rise correspondingly.

Improvements in Treasury market structure and regulation can increase the resilience of the Treasury market to future crises. Please let me suggest the following approaches for consideration by Treasury-market regulators.

[5] Market depth is the quantity of securities that can be traded at prices that are within a defined difference from the midpoint price on the Brokertec order-book market.

[6] This is 2.4 standard deviations worse than the average depth over the preceding three years. Data: "US Treasury Market Daily, There's no crying in basis: Dissecting Treasury market liquidity, swap spreads, basis, and funding," J.P. Morgan, April 9, 2025.

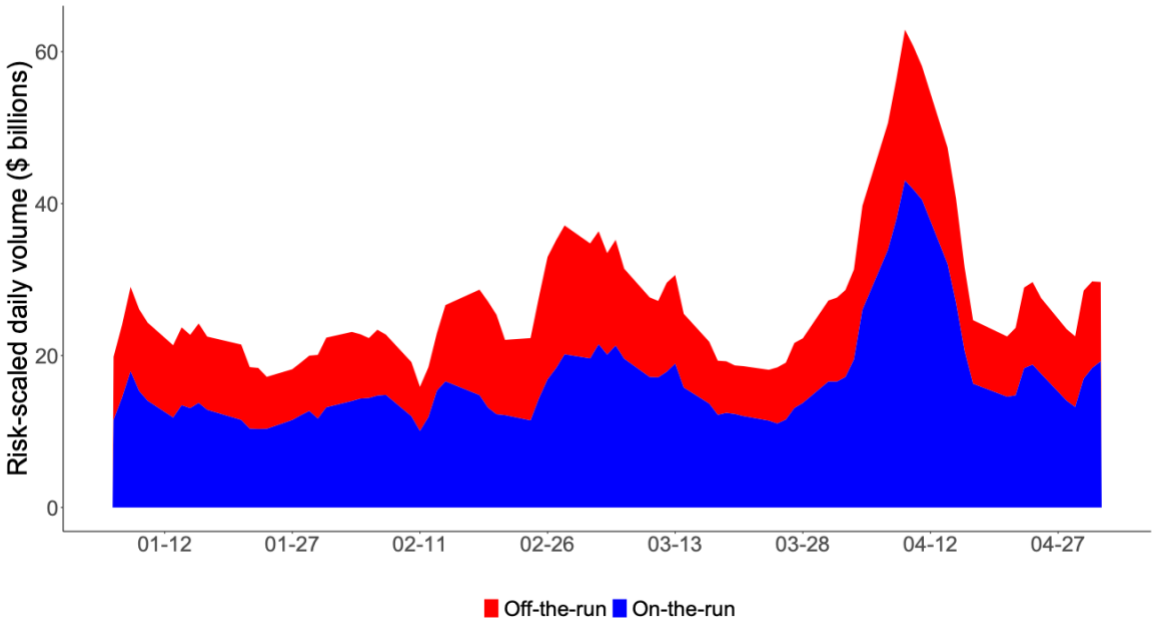

Figure 3. Risk-scaled daily volumes of trade in the market for U.S. Treasury notes, January through April 2025 (trailing 3-day average). Risk weighting is by approximate maturity and by Treasury yield volatility (MOVE). Data sources: FINRA TRACE for Treasuries and Bloomberg (MOVE).

Reducing the Distortionary Effect of Leverage-Based Capital Requirements

A leverage-based capital rule requires that a bank's capital exceeds a fixed fraction of its total assets—without considering the riskiness of the assets. Relative to foreign versions of leverage-based capital rules, the U.S. enhanced Supplementary Leverage Ratio (SLR) leans particularly heavily on the largest bank holding companies and thus on the largest primary dealers in the U.S. Treasury market.[7] Leverage-based capital rules are distortionary. For instance, the SLR requires significant capital to cover losses on reserves held by banks at the Fed even though reserves have literally no risk of loss and are instantly liquid. Short-term Treasury securities and Treasury repurchase agreements (repos) have low risk but require the same SLR capital buffer per dollar of assets as a risky real-estate loan. By contrast, the prices of long-term Treasuries can be volatile, especially in crises, and are therefore not risk-free from the perspective of bond dealers.

In March 2020, amidst the crisis selling of Treasury securities, the balance sheets of the largest dealers became heavily loaded with bonds of all types, among many other assets. The SLR required some the largest primary dealers to allocate significant amounts of

[7] Tarullo, Daniel (2023) "Capital Regulation and the Treasury Market," Hutchins Center on Fiscal and Monetary Policy, Brooking Institution, March.

capital to their positions in Treasuries, Treasury repos, and reserves, even though these are on average very safe assets. The SLR inefficiently reduced the incentives of these dealers to absorb additional investor positions. On April 1, 2020, regulators recognized this impediment to market liquidity, exempting reserves and Treasuries from the SLR. Those dealers that were relatively more constrained by the SLR quickly reacted by committing relatively more of their balance sheets to Treasury positions.[8] However, the SLR exemption lasted for only one year.

An exemption from the SLR for Treasuries (and perhaps reserves) was supported in early 2025 by the Jerome Powell, Chair of the Federal Reserve[9] and by Treasury Secretary Scott Bessent.[10] A much reduced role for leverage-based capital regulation, or a permanent exemption from the SLR for reserves and a major reduction in the SLR for Treasuries, would allow more efficient use of dealer balance sheets and improve the incentives of dealers to absorb more customer Treasury positions in a crisis.[11]

The reduction in dealer capital implied by these changes to the SLR should be offset by changes in risk-based capital requirements. Without an offset, dealer capital levels would decline. Among other concerns, a decline a dealer capital would increase the interest rates that dealers pay to finance their inventories and reduce the incentives of dealers to offer liquidity to financial markets. Today, the best-capitalized dealers have lower debt funding costs and lower required returns on equity than less well capitalized dealers. Better capitalized dealers thus provide relatively more liquidity to their customers, especially during a crisis.

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[8] Bräuning, Falk, and Hillary Stein (2024) "The Effect of Primary Dealer Constraints on Intermediation in the Treasury Market," Federal Reserve Bank of Boston Working Paper 24-7, Federal Reserve Bank of Boston, July. The finding that SLRs constrained Treasury market intermediation was not confirmed in other research. See "Dealers' Treasury Market Intermediation and the Supplementary Leverage Ratio," Paul Cochran, Sebastian Infante, Lubomir Petrasek, Zack Saravay, Mary Tian, FEDS Notes, October 2024, Federal Reserve Board.

[9] "Powell Says Easing Bank Capital Requirements Could Help Treasury Market," Wall Street Journal, February 12, 2025.

[10] Bessent, Scott (2025) "Remarks at the Economic Club of New York," US Treasury Department, Washington, March 6. 2025.

[11] Duffie, Darrell (2022) Fragmenting Markets: Post-Crisis Bank Regulations and Financial Market Liquidity, DeGruyter: Berlin; Group of Thirty (2021) "US Treasury Markets: Steps Toward Increased Resilience," G30 Working Group on Treasury Market Liquidity, Group of 30, Washington, DC, July.

All-to-all trade

As the Treasury market continues to grow, I expect exchange entrepreneurs to introduce venues at which investors can trade Treasuries (and perhaps Treasury repos) not only with dealers, but also directly with each other, thus expanding market capacity.[12] Congress and regulators should strongly encourage the emergence of all-to-all trade, but forcing this outcome with prescriptive regulation could have unintended adverse consequences for market liquidity. Dealer-intermediated trade is also crucial to market liquidity.

Once all-to-all platforms for trading Treasuries emerge, investors will continue to conduct many of their trades directly with dealers. But the option to trade on all-to-all platforms will improve competition, market efficiency,[13] and market resilience. Notably, all-to-all Treasury futures markets maintained their functionality even through the COVID shock of March 2020. Incentives for the emergence of all-to-all trade of Treasury securities are improved by (1) greater use of central clearing,[14] (2) more post-trade price transparency,[15] and (3) avoiding the "done-with" practice by which dealers require that customers who clear their Treasuries trades through a dealer must also trade with the same dealer.[16] Regulators should push further in all three of these directions.

Market-functioning purchases by the Fed and Treasury Department Buybacks

In a future crisis, Fed purchases of Treasuries to support market functioning may once again become necessary as a last resort,[17] but could act at cross purposes with monetary policy or could even be confused with fiscal actions by the Fed.

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[12] Chaboud, Alain, Ellen Correia-Golay, Caren Cox, Michael Fleming, Yesol Huh, Frank Keane, Kyle Lee, Krista Schwarz, Clara Vega, and Carolyn Windover (2022) "All-to-all Trading in the US Treasury Market," Federal Reserve Bank of New York Staff Report No. 1036, October.

[13] Allen, Jason and Milena Wittwer (2023) "Centralizing Over-The-Counter Markets," Journal of Political Economy, 131, 3310–3351; Kutai, Ari, Daniel Nathan, and Milena Wittwer (2023) "Exchanges for Government Bonds? Evidence During COVID-19," Working paper, Bank of Israel, July.

[14] Duffie, Darrell (2020) "Still the World's Safe Haven? – Redesigning the US Treasury Market After the COVID-19 Crisis," Hutchins Center Working Paper 62, Brookings Institution, May; DTCC (2024) "The US Treasury Clearing Mandate: An Industry Pulse Check," DTCC White Paper, Depository Trust and Clearing Corporation, July.

[15] Brain, Doug, Michiel Pooter, Dobrislav Dobrev, Michael Fleming, Pete Johansson, Colin Jones, Frank Keane, Michael Puglia, Liza Reiderman, Tony Rodrigues, and Or Shachar (2018) "Unlocking the Treasury Market through TRACE," FEDS Notes, September.

[16] Clancy, Luke (2025) "PTFs clash with banks over 'done-away' US Treasury clearing," Risk.net, March 14.

[17] Fleming, Michael, Haoyang Liu, Rich Podjasek, and Jake Schurmeier (2022) "The Federal Reserve's Market Functioning Purchases," Economic Policy Review Number 28, Federal Reserve Bank of New York, June; Bernardini, Marco, and Annalisa De Nicola (2020) "The market stabilization role of central bank asset

In some cases, not all, the Treasury Department could also play an important backstop role in a crisis to support market functioning.[18] The Department of the Treasury recently instituted a Buyback program, by which it re-purchases ("buys back") less liquid Treasury securities from primary dealers. In normal times, regular and predictable buyback purchases improve Treasury market liquidity[19] and reduce the outstanding stock of illiquid off-the-run Treasuries that could later be sold to dealers during a crisis. The Treasury Department's Buyback program therefore reduces the extent to which dealer balance sheets could become clogged with illiquid securities in a future crisis. Treasury Secretary Bessent recently commented that the Buyback program could indeed address Treasury market instability, saying that "we have a big toolkit that we can roll out … we could up the buybacks if we wanted."[20]

In some future crises, Fed purchases to support market functioning may not naturally align with the Fed's monetary policy. This sort of misalignment happened when the United Kingdom had severe fiscal problems in September 2022. The Monetary Policy Committee of the Bank of England had previously decided to begin selling gilts (the British equivalent of Treasury securities) to maintain price stability, a monetary policy goal. But within a day of the MPC's announcement, a U.K. fiscal budget crisis caused a fire sales of gilts by "liability-driven investors." This destabilized the gilt market, leading the Financial Policy Committee of the Bank of England to institute a program of gilt purchases that helped to restore gilt market stability.[21] Bank of England Governor Andrew Bailey commented "There may appear to be a tension here between tightening monetary policy as we must, including so-called Quantitative Tightening, and buying government debt to ease a critical threat to financial stability. This explains why we have been clear that our interventions are strictly temporary and have been designed to do the minimum necessary."[22] Drawing from this U.K. experience, the Fed should set out a clear policy of distinguishing its market-

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purchases: high-frequency evidence from the COVID-19crisis," Working paper 1310, Banca d'Italia, December; Duffie, Darrell and Frank Keane (2023) "Market-Function Asset Purchases," Federal Reserve Bank of New York Staff Report 1054, February.

[18]Duffie, Darrell and Frank Keane (2023) "Market-Function Asset Purchases," Federal Reserve Bank of New York Staff Report 1054, February.

[19] Jing Jhou (2025) "Testing the Liquidity Support Effects of the U.S. Treasury Buyback Program," IMF Working Paper 2025-088, May.

[20] "Bessent Says Treasury Has Big Toolkit If Needed for Bonds," Bloomberg News, April 14, 2025.

[21] Hauser, Andrew (2022) "Thirteen Days in October: How Central Bank Balance Sheets Can Support Monetary and Financial Stability," Speech given at the ECB's 2022 Conference on Money Markets, Bank of England, November.

[22] Bailey, Andrew (2022) "Monetary Policy and Financial Stability Interventions in Difficult Times," speech presented at the G30 meeting in Washington DC, Bank of England, October.

functioning purchases from monetary policies such as Quantitative Easing, with separately defined entry and exit criteria and separate strategies for purchasing and then selling.[23]

The Federal Reserve's Treasury-market operations should also be settled at the same clearinghouses used by dealers. With this, dealer balance sheet space that is tied up for the settlement of customer trades can be reduced by netting customer trades against trades with the Fed. These netting offsets are especially important in a crisis that threatens to overwhelm the available space on dealer balance sheets.

In conclusion

The approaches on which I have focused are not exhaustive---every opportunity to improve Treasury market efficiency should be considered by policy makers. For example, in the not-so-distant future, Treasury securities will be more widely available in a tokenized form, making them accessible 24 x 7 x 365 globally, further improving the liquidity of Treasury markets and investor demand for U.S. Treasury debt.[24] Congress and Treasury market regulators should be open to supporting this development.

U.S. Treasuries will likely remain the world's premier safe-haven asset for decades to come. No serious contender is in sight. The paramount concerns of policy makers should be the rapidly increasing quantity of Treasury debt and how much more costly it will be for the U.S. government to finance itself if it does not sufficiently shore up the resilience of Treasury markets. While already planned improvements in Treasury market regulation and design--such as increased central clearing--are helping, these are not nearly enough.[25] The crisis capacity of the Treasury market should be significantly expanded. Treasury market regulators are well positioned to accomplish this critical objective.

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[23] Duffie, Darrell and Frank Keane (2023) "Market-Function Asset Purchases," Federal Reserve Bank of New York Staff Report 1054, February.

[24] "Digital Assets and the Treasury Market," Treasury Borrowing Advisory Committee presentation, October, 2024.

[25] Interagency Working Group (2023) "Enhancing the Resiliency of the US Treasury Market: 2023 Staff Progress Report," U.S. Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, U.S. Securities and Exchange Commission, and U.S. Commodity Futures Trading Commission, Washington DC, November.