

Dallas Fed

Speech by President Lorie K. Logan

Preventing and responding to dysfunction in core markets

Dallas Fed President Lorie Logan delivered these remarks March 3, 2023, at the [Workshop on Market Dysfunction](#) at the University of Chicago Booth School of Business.

Thank you for the introduction, [Anil \[Kashyap\]](#), and thank you for organizing this workshop and bringing focus to this important topic. I'm looking forward to sharing perspectives with [Andrew \[Hauser\]](#), drawing on our unique experiences in recent years as well as work that we led together for the Markets Committee at the Bank for International Settlements (BIS).^[1]

I'm pleased that so many experts have joined us today to discuss central bank responses to financial market dysfunction. The repeated severe stresses in core markets around the world in recent years emphasize the need for two types of change. The public and private sectors must work together to enhance market resilience so that these episodes will be far less frequent going forward. And, to be prepared for those rare occasions when extreme stresses in core markets threaten financial stability or the macroeconomy, central banks must continue to develop the toolkit for mitigating dysfunction. Finding the best approaches will require a wide range of perspectives, and I'm looking forward to today's conversations. Before I proceed, let me note that these views are mine and not necessarily those of my Federal Reserve colleagues.

Core bond markets, such as those for government debt, are crucial to the economy—not only because national governments obtain financing in these markets, but also because these markets are used for implementing monetary policy, provide a safe source of collateral and establish a benchmark yield curve that underpins financing for households, businesses, and state and local governments.^[2]

Breakdowns of trading and price discovery in core markets thus put a vast array of economic activity at risk. But I would emphasize that the type of dysfunction I have in mind is more extreme than merely low liquidity. I am referring, rather, to fundamental failures in the process of intermediating between buyers and sellers, or lenders and borrowers, and identifying a market-clearing price for their transactions.

The U.S. financial system has become increasingly vulnerable to core market dysfunction because the supply of intermediation has not kept pace with demand as the Treasury market's size and complexity have grown.^[3] Treasury debt held by the public rose from 35 percent of GDP at the end of 2007 to about 95 percent of GDP in late 2022. And a growing share of the debt is held by investors such as hedge funds and mutual funds that trade more frequently or rely on the ability to quickly monetize assets when needed. Meanwhile, primary dealers, which are major intermediaries in these markets, have not increased the balance sheet devoted to Treasury holdings and Treasury repurchase agreements (repos) since 2007—even in nominal terms. The rise of electronic trading has also shifted intermediation toward principal trading firms, which typically hold less capital with which to absorb shocks, and increased the pace at which market developments unfold.

These themes are similar globally, and core markets around the world have repeatedly experienced dysfunction that posed risks to the broader economy.^[4] The source of each stress episode has been unique, and each central bank intervention has been crafted to address the specific problems of the day. Yet, despite the varied initial shocks, central banks have faced a common problem: how to support market functioning without undermining the features that make these markets so important in the first place.

That central problem is the first of three topics I'll address today. I'll then offer three guideposts that I believe should shape central bank interventions given this problem: transparency, backstop pricing and distinguishing support for market functioning from monetary accommodation. And finally, I'll assess our March 2020 operations in light of these guideposts and draw out some implications for market regulation and infrastructure and for the central bank toolkit.

The central problem

Central banks should rarely intervene to support the functioning of core markets, but when such interventions are needed, they must be effective. At one level, intervening effectively should be straightforward. Central banks have powerful tools and, in principle, need only deploy them in sufficient size. But at another level, it is not at all straightforward to intervene in a way that ensures core markets continue to serve their crucial roles in the financial system.

As the Inter-Agency Working Group for Treasury Market Surveillance (IAWG) indicated in its 2021 principles for the Treasury market, good market functioning is multifaceted.^[5] In a well-functioning market, participants can efficiently buy, sell and borrow against assets. These transactions take place at prices that reflect economic and financial fundamentals. And there are minimal price distortions due to technical factors, externalities or frictions between closely related markets.

If, say, a rush of sales in the government bond market overwhelms intermediaries' capacity to absorb the sales and find buyers, it is straightforward in principle for the central bank to step in and purchase some of the assets. But such an intervention may create risks and spillovers that would undermine other aspects of market functioning. Excessive purchases might crowd out private buyers. Poorly calibrated purchases could also push prices—of the specific securities purchased or of other securities—to a different level than would prevail in a well-functioning market. By removing duration from the market, the central bank's purchases could reduce term premia and create a degree of monetary accommodation that policymakers might view as inappropriate given the macroeconomic fundamentals. And the mere potential for central bank intervention may create distortions, especially if market participants become overconfident and do not appropriately manage their own risks.

In the end, an intervention that substitutes one form of dysfunction for another may not represent an improvement. The problem is simply that avoiding this is easier said than done, because an intervention that improves the market's functioning in one respect may change incentives in ways that impede the market's functioning in other respects. Yet, in severe circumstances, refusing entirely to intervene would put the central bank's fundamental macroeconomic and financial stability objectives at risk.

Guideposts

Central banking is an imperfect art, often practiced under great time pressure and with incomplete information. So it is useful to have some guideposts to aim for in designing interventions in those rare

instances when they are needed—though I do not view these guideposts as rigid rules that can or must be achieved in every instance.

The accumulated knowledge of central bankers and scholars provides a wealth of such guideposts. From my own experience, three stand out as particularly important for mitigating the side effects of market functioning interventions:

- Transparency.
- Backstop pricing.
- Distinguishing support for market functioning from monetary accommodation.

Transparency is fundamental across many central bank activities. We must be transparent about how we carry out our responsibilities so that we remain accountable to the public we serve.

And transparency has special importance for promoting smooth market functioning. By clearly explaining how it is designing and carrying out its operations, a central bank can help ensure that all market participants have an equal opportunity to trade and have equal information about how the operations will influence the market. This is a matter of basic fairness. It promotes diversity in the market ecosystem. And by reducing uncertainty about the central bank's activities, transparency helps ensure that prices reflect economic and financial fundamentals.

The second guidepost, backstop pricing, is one that we also emphasized in the report Andrew and I led for the Markets Committee. If a central bank's operations are out of the money relative to normal market prices, then, when the market is functioning normally, no one will transact with the central bank. And when the market is not functioning normally, transactions with the central bank will generally push prices back toward the normal level. Thus, the risks of distorting prices or crowding out private activity are mitigated. Operations at a backstop price will naturally wind down when market functioning recovers. And pricing an operation as a backstop helps to make it transparent and distinguish it from monetary accommodation.

The third guidepost, distinguishing support for market functioning from monetary accommodation, recognizes that central banks have multiple goals. A central bank's tools for supporting market functioning involve lending against assets or buying them. These are the same operations that are used to provide monetary accommodation. But, while smooth market functioning is critical to good macroeconomic outcomes, the scale of lending or asset purchases that is appropriate to support market functioning may not be the same as the scale appropriate to support aggregate demand.

The need to distinguish support for market functioning from monetary accommodation is most obvious when monetary policymakers are trying to tighten financial conditions to reduce inflation. However, even when policymakers are trying to ease financial conditions to boost economic growth, they may benefit from the ability to adjust the amount of monetary accommodation separately from actions to support market functioning.

Implications

Three years ago this month, the Federal Reserve took forceful steps to respond to disruptions in core markets at the onset of the COVID-19 pandemic. Among other actions, we offered up to \$1 trillion per

day in overnight repos with primary dealers, plus additional term repos. And we purchased Treasury and agency mortgage-backed securities (MBS) at an unprecedented speed and scale.

The scope and purpose of our operations evolved. In March 2020, with purchases peaking at more than \$100 billion per day, the Federal Open Market Committee (FOMC) said the program's goal was to support smooth market functioning and the transmission of monetary policy. By June, as market functioning improved, we reduced the pace of purchases to \$80 billion per month in Treasuries and \$40 billion per month in MBS. The FOMC also changed its statement in June 2020 to say the purchases were meant to "sustain" rather than "support" smooth market functioning, and in September 2020, the FOMC added a second goal: to foster accommodative financial conditions.

Having led the Fed's trading desk during this period, I may not have an unbiased perspective, but I don't think there is any doubt that our actions succeeded in restoring smooth functioning of core markets. Still, it is appropriate to reflect on what the experience teaches us about how to better support market functioning in the future. The guideposts I just described provide a helpful framework for this reflection.

Repos measure up nicely, in part because their duration is short and in part because they can be priced as a backstop to the monetary policy target. The offering of practically unlimited repos was also straightforward to communicate transparently. These characteristics minimize the potential negative side effects of repos. In fact, the side effects of repos can be so well mitigated that the FOMC decided in 2021 to make backstop repos a standing part of our operations through the Standing Repo Facility (SRF) and the Foreign and International Monetary Authorities (FIMA) Repo Facility.[\[6\]](#)

However, repos do not solve all problems. Smooth market functioning requires both funding liquidity, or the ability to borrow against an asset, and market liquidity, or the ability to easily buy and sell the asset. Repos directly support only funding liquidity. Moreover, repos directly provide funding only to the central bank's counterparties. A central bank's ability to support funding liquidity for the broader market depends on its counterparties' willingness and ability to serve as intermediaries, which may be particularly limited during stress episodes.

Thus, as we saw in March 2020, purchase operations can be necessary both to directly support market liquidity and to influence market conditions for participants beyond the central bank's counterparties. But purchases can pose challenges relative to all three guideposts.

Monetary policy does not provide a benchmark for backstop prices on longer-term securities, unless a central bank is engaged in yield curve control. In addition, the deterioration of market functioning in March 2020 reduced the reliability of market indicators that could have helped derive a backstop price.

In consequence, we offered to buy fixed quantities of securities, evaluating the offers received in a multiple-price auction against both market prices and measures of relative value. While this approach was extremely effective in addressing dysfunction, it was not easy to provide a transparent link between the operation sizes and the degree of dysfunction.

Moreover, while our market functioning purchases aimed to affect the flow of transactions, we could not avoid also changing the amount of duration risk held by the private sector and thus having some effect on term premia through a portfolio balance channel. The resulting monetary accommodation was

appropriate following the large negative shock from the pandemic. But it did blur the signals about how we calibrated the size of our purchases.

To me, this experience has three implications.

First, because both actual interventions and the potential to intervene can have side effects, central banks and other authorities should strive to reduce the need for intervention.

I'm pleased by the relevant authorities' ongoing focus on enhancing Treasury market resilience. Importantly, the Securities and Exchange Commission has proposed to expand the scope of central clearing of Treasury transactions.^[7] Research by the Dallas Fed's staff highlights that expanded central clearing would have four key benefits: uniform risk management standards, reduced balance sheet intensity of repo intermediation, reduced settlement risks and improvements in transparency.^[8] In addition, the Financial Industry Regulatory Authority last month began releasing [daily statistics](#) on Treasury trading volume and average prices, while the Office of Financial Research has proposed to close gaps in the collection of data on bilateral repos—both steps that will enhance transparency in the market—and the Federal Reserve Board's holistic review of bank capital standards is evaluating, among other factors, the effects of leverage ratio requirements on Treasury market liquidity.^{[9], [10]}

I am optimistic that with continued reforms, we can make core markets resilient enough that interventions to support market functioning will be extraordinarily rare.

Second, because repos typically have far fewer drawbacks than outright purchases, central banks should work to enhance the efficacy of repo tools. While repos directly provide only funding liquidity, improvements in funding liquidity can enhance market liquidity as long as the funding liquidity reaches the right market participants, whether as direct counterparties of the central bank or through onward lending from direct counterparties.

For example, in March 2020, some foreign official holders sold Treasury securities for precautionary reasons to ensure they would have cash if needed. Only at the end of that month did the Fed establish a temporary FIMA Repo Facility—since made into a standing facility—to provide funding to foreign and international monetary authorities.^[11] Had the facility been available sooner, it could have reduced precautionary sales and thereby improved the balance between the supply of and the demand for market liquidity. Transparency about the availability of the FIMA Repo Facility makes our repo operations more effective and should reduce the likelihood of needing to employ purchases to support market functioning in the future. The SRF does the same for domestic counterparties.

Central banks can also enhance the reach of repo operations by reducing existing counterparties' cost of intermediating to the broader market. For example, the FOMC could further consider the potential benefits of centrally clearing SRF operations, as several committee participants suggested in a 2021 meeting.^[12] Central clearing would reduce our counterparties' balance sheet costs by allowing them to net funding received from the facility against onward lending to other market participants.

Finally, when purchase operations are appropriate to support market functioning, it would be desirable to have options for clearly distinguishing these operations from monetary accommodation.

One approach, following the recent example of the Bank of England, could be for a central bank to separately track assets purchased to support market functioning and sell these holdings in a timely way once market functioning has normalized—independent of the direction of monetary policy at that time. The expectation of timely sales would limit the asset purchases' effect on term premia.

But this approach could be complicated if the central bank were simultaneously buying assets to provide accommodation. And even if assets purchased to support market functioning are held in a separate portfolio, there remains the difficult question of what price to offer for them—both to ensure purchases take place at a backstop price and to distinguish market functioning interventions from operations to provide monetary accommodation.

To see why this question is difficult, it's helpful to start with some cases where it is less difficult. MBS are typically priced at a spread to comparable-duration Treasuries, for example, using option-adjusted models. Option-adjusted spreads vary within a relatively limited range when the market is functioning smoothly. It would therefore be possible in theory—though even this would be operationally complex, so I mean this only as a thought experiment and not as a policy proposal—to support the functioning of the MBS market by offering to purchase MBS at a much higher spread to Treasuries than the range that normally prevails. Such a backstop price for MBS would avoid crowding out normal private transactions in MBS and allow monetary policy and private market trading to continue to influence the Treasury yield curve. Similarly, if severe market dysfunction caused large deviations between the prices of economically similar instruments, such as two Treasury securities of similar durations, it would be possible in theory to establish a backstop price for one of those securities by reference to the market price of the other.

But this process cannot go on forever. Eventually, we will run out of other securities to refer to. There will be one last security, or one last core group of securities, for which we have no other reference price. As the philosophers say, it can't be turtles all the way down.

There is, as I alluded to earlier, one case where the central bank has a price to use as a reference even for those very last securities. The Reserve Bank of Australia and the Bank of Japan have at times implemented monetary policy through yield curve control. In that case, the yield caps established by monetary policy provide a natural reference point for backstop market functioning purchases. But this example simply shows why choosing the reference price is so consequential. At least in some circumstances, it may require determining where the yield curve belongs, which is the opposite of distinguishing market functioning from monetary accommodation and of letting the private market discover the price based on fundamentals.

So, in the spirit of a research workshop, let me conclude with some questions for further investigation. How should central banks establish prices when they buy securities to support market functioning? What methods can be employed to establish a backstop price for some core securities by referring to market prices of other securities? How effective would this be? And are there ways to establish backstop prices across the entire yield curve while still distinguishing that operation from monetary accommodation? Turning to broader topics, what further innovations can make central banks' lending tools more effective? And what additional reforms, besides the ambitious road map that the U.S. authorities have laid out, can further enhance market resilience?

Thank you.

Notes

I am grateful to Sam Schulhofer-Wohl for assistance in preparing these remarks.

1. [“Market dysfunction and central bank tools,”](#) by the Bank for International Settlements Markets Committee, 2022.
2. Central banks typically view core markets as including, at minimum, cash and repo markets for government securities as well as short-term money markets.
3. See, for example, [“Still the World’s Safe Haven: Redesigning the U.S. Treasury Market After the COVID-19 Crisis,”](#) by Darrell Duffie, Hutchins Center Working Paper no. 62, Brookings Institution, 2020; [“Enhancing Liquidity of the U.S. Treasury Market Under Stress,”](#) by Nellie Liang and Pat Parkinson, Hutchins Center Working Paper no. 72, Brookings Institution, 2020; [“U.S. Treasury Markets: Steps Toward Increased Resilience,”](#) by G30 Working Group on Treasury Market Liquidity, 2021; [“Task Force on Financial Stability,”](#) by Glenn Hubbard et al., Brookings Institution and University of Chicago Booth School of Business, 2021; [“Recent Disruptions and Potential Reforms in the U.S. Treasury Market: A Staff Progress Report,”](#) by the 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, 2021.
4. See, for example, [“Holistic Review of the March Market Turmoil,”](#) by the Financial Stability Board, 2020; [“Open Market Operations During 2019,”](#) by the Markets Group of the Federal Reserve Bank of New York, report prepared for the Federal Open Market Committee, 2020; [“Understanding Recent Fluctuations in Short-Term Interest Rates,”](#) by Sam Schulhofer-Wohl, Chicago Fed Letter no. 423, 2019; [“The Federal Reserve’s Market Functioning Purchases: From Supporting to Sustaining,”](#) by Lorie K. Logan, remarks at SIFMA webinar, July 15, 2020; [“Financial Stability Report: November 2020,”](#) by the Board of Governors of the Federal Reserve System; [“2020 Annual Report,”](#) by the Financial Stability Oversight Council, 2020; [“Open Market Operations During 2020,”](#) by the Markets Group of the Federal Reserve Bank of New York, report prepared for the Federal Open Market Committee, 2021; U.S. Department of the Treasury et al. (2021).
5. U.S. Department of the Treasury et al. (2021).
6. [“Statement Regarding Repurchase Agreement Arrangements,”](#) by the Board of Governors of the Federal Reserve System, 2021.
7. [“Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule With Respect to U.S. Treasury Securities,”](#) by the Securities and Exchange Commission, Federal Register 87, no. 205, Oct. 25, 2022, pp. 64610–64682.
8. [“Expanded central clearing would increase Treasury market resilience,”](#) by Matthew McCormick and Sam Schulhofer-Wohl, Dallas Fed Economics, Dec. 23, 2022.
9. [“Collection of Non-Centrally Cleared Bilateral Transactions in the U.S. Repurchase Agreement Market,”](#) by the Office of Financial Research, U.S. Department of the Treasury, Federal Register 88, no. 5, Jan. 9, 2023, pp. 1154–1170.
10. [“Why Bank Capital Matters,”](#) by Michael S. Barr, speech at the American Enterprise Institute, Dec. 1, 2022.
11. [“Federal Reserve announces establishment of a temporary FIMA Repo Facility to help support the smooth functioning of financial markets,”](#) by the Board of Governors of the Federal Reserve System, March 31, 2020.
12. [“Minutes of the Federal Open Market Committee, June 15–16, 2021,”](#) by the Board of Governors of the Federal Reserve System, 2021.

Share this

About the Author

Lorie K. Logan is president and CEO of the Federal Reserve Bank of Dallas.

The views expressed are my own and do not necessarily reflect official positions of the Federal Reserve System.