

**Remarks at American Finance Association Panel**  
**Doing Research with an Impact**  
**Jessica Wachter**  
**January 4, 2025**

Thank you, Ulrike, for inviting me to be on this panel. It is an honor to be here with John and David who have done so much research that matters. I am going to share a perspective based on my research, but also based on my three and a half years as Chief Economist of the Securities and Exchange Commission. Though I am here in my official capacity, these remarks reflect my own views and do not necessarily reflect the views of the Commission, the Commissioners, or other members of the staff.

Economic growth has real, tangible, and important consequences for peoples' lives. Much evidence shows that well-functioning financial markets contribute to economic growth and resilience.<sup>1</sup> Well-functioning capital markets allow issuers to raise funds and allow people to save. They enable capital to flow to its most productive use. When we talk about doing research that matters, we are talking about the real, tangible, ways in which economics can improve people's lives. With improved understanding, we can solve difficult problems that may have eluded us before, to the benefit of humanity.

I want to give some concrete examples of how research can matter from my time at the U.S. Securities and Exchange Commission. I would like you to cast your mind back to two prior events. The first is the beginning of Covid in March 2020. Equity markets plunged, but the most significant disruption occurred in Treasury markets, as investors abroad sought to convert trillions worth of Treasury securities to bank deposits in a short period of time.<sup>2</sup> The Fed stepped in with a massive intervention to purchase Treasury securities. The second is early spring of 2021. A little-known video game company became a household name, leading to what was known as the meme stock frenzy, bringing historic levels of trading volume and drawing new attention to our system of Clearance and Settlement.<sup>3</sup> Some investors were temporarily unable to buy stock, and conspiracy theories abounded. Both events were top of mind when I joined the SEC later in the spring of 2021.<sup>4</sup>

<sup>1</sup> See Ross Levine, "Finance and Growth: Theory and Evidence, in the Handbook of Economic Growth 865, 865-934 (Philippe Aghion & Steven N. Durlauf eds., vol. 1A, Elsevier B.V. 2005); and Nina Boyarchenko and Leonardo Elias, "Financing Private Credit" (2024) in Federal Reserve Bank of New York Staff Reports, no. 1111, available at [https://www.newyorkfed.org/medialibrary/media/research/staff\\_reports/sr1111.pdf](https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1111.pdf).

<sup>2</sup> SEC, Division of Economic and Risk Analysis, *U.S. Credit Markets Interconnectedness and the Effects of the COVID-19 Economic Shock*, (Oct. 5, 2020) at 17 ("The uncertainty and market volatility from the COVID-19 economic shock caused a sharp, unexpected increase in demand for cash and short-dated, near-cash investments and disrupted the [short-term funding market]. This disruption resulted in significantly constrained liquidity, higher funding costs, increased bid-ask spreads, and increased margin requirements and collateral haircuts."); *Recent Disruptions and Potential Reforms in the U.S. Treasury Market A Staff Progress Report*, Nov. 8, 2021.

<sup>3</sup> SEC, *Staff Report on Equity and Options Market Structure Conditions in Early 2021*, Oct. 14, 2021.

<sup>4</sup> SEC, Regulatory Flexibility Agenda (Oct. 5, 2021), available at <https://www.sec.gov/rules-regulations/2021/10/regulatory-flexibility-agenda>.

These events cast light on problems for which research really matters. Treasury securities often act as a form of cash. If investors cannot easily convert Treasury securities into bank deposits or other forms of cash, then they may be less likely to purchase Treasury securities. I don't think this audience needs to be reminded of what the negative effects of that would be. Higher costs of issuance for the U.S. taxpayer, higher costs of borrowing, potential inflation, weaker dollar, potential loss of the USD's status as a global reserve currency, and the primacy of U.S. markets.

It is also the case that the public needs to trust that the equity markets will operate as intended, namely that retail investors will not be shut out at key moments perhaps by forces they do not understand. Participation in the equity markets by individual investors is an important aspect of our capital markets and our broader economy. It can act as a stabilizing force, undoing the general tendency towards greater concentration.

Congressional hearings following the meme stock frenzy found a strong consensus in favor of something called "T+1." Many of us have studied the equity markets for years without knowing much about the settlement cycle or what this term might mean. The key point is that our current system of trading imposes future obligations but without full guarantees. Namely, trade occurs, but, as of Spring 2021, a gap of two full days after end of trade existed before cash and securities changed hands. The length of this time added an unnecessary degree of risk to the system.<sup>5</sup> Brokers must post margin to the clearinghouse that is a function of the risk posed by its outstanding trades.

The two days is what is known as "T+2" and it was set by a rule from the Securities and Exchange Commission.<sup>6</sup> Changing the set of policies and procedures that together determine the settlement cycle is a classic collective action problem. One way to think about this is that the system may be at a local optimum. We can all agree that a better one exists, but getting there requires all relevant entities to act in concert: should one entity make the required investments, they will internalize only costs, not benefits. Any entity endeavoring to make a unilateral change, without coordinating across the market, risks making the system worse, not better. The subject of notice and comment rulemaking will be for another day.<sup>7</sup> But to make a long story short, the SEC proposed a rule on February 29, 2022, which was then finalized on February 15, 2023.<sup>8</sup> The U.S. along with Canada and

<sup>5</sup> [Shortening the Securities Transaction Settlement Cycle](#), Feb. 15, 2023, 88 FR 13872, at 13919 ("The settlement cycle spans the time between when a trade is executed and when cash and securities are delivered to the seller and buyer, respectively. During this time, each party to a trade faces the risk that its counterparty may fail to meet its obligations to deliver cash or securities. ... The length of the settlement cycle influences this risk in two ways: (i) through its effect on counterparty exposures to price volatility, and (ii) through its effect on the value of outstanding obligations.")

<sup>6</sup> Securities Transaction Settlement Cycle, 17 CFR 240, [82 FR 15564](#) (Mar. 29, 2017).

<sup>7</sup> Jessica Wachter, "Remarks at American Economic Association Panel: Translating Economic Research into Public Policy: Lessons from Economists in Government", Jan. 5, 2025.

<sup>8</sup> [Shortening the Securities Transaction Settlement Cycle](#), Feb. 15, 2023, 88 FR 13872.

Mexico, successfully transitioned to a T+1 settlement cycle over Memorial Day weekend in May of last year.<sup>9</sup>

U.S. equity markets are, for the most part, transparent. Equities that are part of the national market system (NMS) trade on national securities exchanges.<sup>10</sup> These exchanges, which are self-regulatory organizations, publish quotes in a manner that is widely accessible.<sup>11</sup> Whether traded on-exchange or off-exchange by a broker-dealer, a trade in an NMS equity security is reported promptly to the Trade Reporting Facility and then disseminated via a data feed that also is widely available.<sup>12</sup> This transparency promotes both resilience and competition.<sup>13</sup> There are many diverse market participants in the equity markets and liquidity can enter quickly if it needs to.

The Treasury market operates differently.<sup>14</sup> One reason may be statutory.<sup>15</sup> Part of the difference may be simply the accident of different initial conditions.<sup>16 17</sup> While it might seem in some respects that the Treasury market is less intermediated, in important respects it is more so. Research on Treasury markets speaks of the dealer-to-dealer segment and the dealer-to-customer segment. The dealer-to-customer segment is dominated by the primary dealers as regulated by the Federal Reserve Bank of New York. Customers, for the most part, do not use brokers as agents to trade on exchanges, like they do in equity markets. Transparency in the Treasury markets lags far behind that of equity markets. There are no national securities exchanges, but rather alternative trading systems, some of which are currently exempt from regulation. These ATS's typically trade

<sup>9</sup> <https://www.reuters.com/markets/us/financial-markets-association-pleased-with-shift-faster-trade-settlement-2024-05-29/>. The reduction in risk from the shortening of the settlement cycle by a day reduced daily margin posted to the clearinghouse by an average of \$3B. See T+1 After Action Report, SIFMA, September 2024, at 6, available at <https://www.sifma.org/wp-content/uploads/2024/09/T1-After-Action-Report-FINAL-SIFMA-ICI-DTCC.pdf>.

<sup>10</sup> *Regulation NMS—Regulation of the National Market System*, 17 CFR § 242.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> Not all equities in the U.S. trade under the NMS. For example, many equity investments by private funds, especially private equity, are not conducted on national trading centers, and so do not experience any of the transparency provided for by the NMS. See Morgan Stanley, [Public to Private Equity in the United States: A Long-Term Look](#) (Aug. 4, 2020).

<sup>14</sup> The corporate bond market is an in-between case, whereas equity options operate similar to the equity markets.

<sup>15</sup> The SEC doesn't have sole authority over the Treasury market – it shares this both with Treasury and with the Fed. The authority it has was granted later than the authority for equities. Also, depository institutions can intermediate in Treasury securities, which they cannot, without a broker-dealer in other securities.

<sup>16</sup> One commonly mentioned reason is that Treasury securities, like cash, travels via Fedwire. Other securities don't. Entities have access to Fedwire through their custodial banks, without the need to transact via a broker-dealer intermediary. Buy-side firms can trade on alternative trading systems or access RFQ platforms in the Treasury markets.

<sup>17</sup> The Treasury market may simply be different, but how? There is not the fragmentation one sees in corporate bonds and in options, and yet these markets are closer to equities in the type of structure than the Treasury market.

on-the-run securities, implying that there is little if any transparency of quotes (sometimes called pre-trade transparency) for off-the-run Treasury securities. Except for between registered dealers, repo is nearly all arranged through negotiation, with little direct competition on terms. Once a trade is executed, the prices are not available within seconds. Instead, they are simply not available, that is, until this past spring, when FINRA for the first time disseminated on-the-run Treasury market trade data at the end of day.<sup>18</sup>

But perhaps the most significant difference is that trades in the equity market are subject to central clearing. Trades in the options market, the futures markets, and corporate bond markets, are also subject to central clearing. Title VII of Dodd Frank brought the swaps market into central clearing. The lack of central clearing of many derivatives trades was implicated in the financial crisis. Research, both data and theory, has documented the value of post-trade transparency<sup>19</sup> and of central clearing.<sup>20</sup>

Returning to the dash for cash of 2020: Often Treasury securities act as a cash substitute. Market participants look for a store of value and a unit of exchange, which means common knowledge and lack of information asymmetries regarding value. What better than Treasury securities? But you need to be able to liquidate these quickly. That means a resilient market structure, in which sellers and buyers interact in as seamless a way as possible.

2020 was not the first time the Treasury market had experienced jitters, nor would it be the last even during my tenure. February 2021, as well as September 2019 and October 2014 all featured significant disruptions to Treasury markets.<sup>21</sup> These episodes featured what

<sup>18</sup> See TRACE: The Source for Real-Time Bond Market Transaction Data, [https://www.finra.org/sites/default/files/TRACE\\_Overview.pdf](https://www.finra.org/sites/default/files/TRACE_Overview.pdf); Updated Agreements: Non-Real-Time TRACE Data (Treasury End-of-Day Availability) & Enhanced Historical Data (Mar. 11, 2024), <https://www.finra.org/filing-reporting/trace/technical-notice/updated-agreements-non-real-time-trace-data-treasury-end-day-availability>.

<sup>19</sup> Edwards, A. K., L. E. Harris, and M. S. Piwowar (2007). Corporate bond market transaction costs and transparency. *The Journal of Finance* 62 (3), 1421–1451; Bessembinder, Hendrik, and William Maxwell. "Markets: Transparency and the corporate bond market." *Journal of economic perspectives* 22.2 (2008): 217-234.

<sup>20</sup> See, e.g., "The potential impact of broader central clearing on dealer balance sheet capacity: a case study of UK gilt and gilt repo markets," Bank of England Staff Working Paper No. 1,026, <https://www.bankofengland.co.uk/working-paper/2023/the-potential-impact-of-broader-central-clearing-on-dealer-balance-sheet-capacity>; "U.S. Treasury Markets: Steps Toward Increased Resilience," Group of Thirty, [https://scholar.harvard.edu/files/stein/files/g30\\_paper.pdf](https://scholar.harvard.edu/files/stein/files/g30_paper.pdf).

<sup>21</sup> See, e.g., Staffs of 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, *Recent Disruptions and Potential Reforms in the U.S. Treasury Market: A Staff Progress Report*, at 1 (Nov. 2021), available at <https://home.treasury.gov/system/files/136/IAWG-Treasury-Report.pdf> ("Inter-Agency Working Group for Treasury Market Surveillance; *Enhancing the Resilience of the U.S. Treasury Market: 2022 Staff Progress Report* (Nov. 2022), available at <https://home.treasury.gov/system/files/136/2022-IAWG-Treasury-Report.pdf>; *Enhancing the Resilience of the*

decades of economic research has led us to understand as a run: illiquidity combined with expectations can create highly directional and destabilizing flows. Spelling this out a little further: if one fears one will be unable to exit a position at a reasonable price in the future, the incentive to exit that position in the present becomes very strong. The ultimate answer to this is also well-understood. If markets function well, then demands for liquidity will be met by additional suppliers of liquidity.

Ensuring that Treasury markets are functioning well is key, because without the expectation of liquidity, economics tell us that prices on Treasuries will be lower, and yields will be higher. That is, the cost of issuance will go up, and so will the cost to the taxpayer. When and how this will happen is something that no one knows. But without added resiliency, the possibility of a rush to sell in response to a liquidity shock is there. Not surprisingly, central clearing had been proposed as a means of promoting well-functioning Treasury markets and encouraging additional suppliers of liquidity by many prior to our rulemaking.<sup>22</sup>

Why exactly does central clearing help? The first reason is netting. When trades are centrally cleared, offsetting positions with different counterparties are netted against one another. Counterparty risk is reduced by orders of magnitude. However, for netting to have its largest benefit, most trades need to be centrally cleared. If some of the largest positions stand outside central clearing, then an enormous opportunity for netting, and hence risk reduction, is lost.

This could be especially important in a tough situation where a market participant faces the possibility of margin calls. Faced with this threat, the participant may well pull back from market-making activity. Margin calls that could happen in a non-netted situation, as was a factor in the financial crisis, could potentially be avoided if positions are netted.

*U.S. Treasury Market: 2023 Staff Progress Report* (Nov. 2023), available at [https://home.treasury.gov/system/files/136/20231106\\_IAWG\\_report.pdf](https://home.treasury.gov/system/files/136/20231106_IAWG_report.pdf)

<sup>22</sup> See, e.g., Nellie Liang & Patrick Parkinson, *Enhancing Liquidity of the U.S. Treasury Market Under Stress* (Dec. 16, 2020), available at [https://www.brookings.edu/wp-content/uploads/2020/12/WP72\\_Liang-Parkinson.pdf](https://www.brookings.edu/wp-content/uploads/2020/12/WP72_Liang-Parkinson.pdf); Darrell Duffie, *Still the World's Safe Haven Redesigning the U.S. Treasury Market After the COVID-19 Crisis*, Hutchins Center Working Paper # 62 (Brookings Inst.) (June 2020), available at [https://www.brookings.edu/wp-content/uploads/2020/05/WP62\\_Duffie\\_v2.pdf](https://www.brookings.edu/wp-content/uploads/2020/05/WP62_Duffie_v2.pdf); Remarks by Under Secretary for Domestic Finance Nellie Liang at the 2022 Treasury Market Conference available at <https://home.treasury.gov/news/press-releases/jy1110>, *Enhancing The Resilience of the U.S. Treasury Market: 2022 Staff Progress Report* (Nov 10, 2022), available at <https://home.treasury.gov/system/files/136/2022-IAWG-Treasury-Report.pdf>; Darrel Duffie, *Resilience redux in the US Treasury market*, Jackson Hole Symposium (Sept. 2, 2023), available at <https://www.kansascityfed.org/Jackson%20Hole/documents/9780/JH-2023BW.pdf>; Darrell Duffie, Michael Fleming, Frank Keane, Claire Nelson, Or Shachar, and Peter Van Tassel, *B.6.aa*, Internal SEC seminar (July 2023), available at <https://www.sec.gov/comments/s7-23-22/s72322-260739-614102.pdf>; Group of Thirty Working Group on Treasury Market Liquidity, *U.S. Treasury Markets: Steps Toward Increased Resilience*, at 1 (2021), available at <https://group30.org/publications/detail/4950> (“G-30 Report”).

Another feature of central clearing is novation -- the replacement of multiple counterparties with a single counterparty. In the absence of novation, each financial product is really a bundle of the product, and counterparty credit risk. When counterparties are replaced by one central counterparty, this product is unbundled, and the security becomes a standard contract. Standardization is well-known to bring liquidity.

Moreover, once counterparty risk is less of a consideration – namely you no longer need to trade only with those you know – more liquidity providers can come in. Less counterparty risk increases competition and improves resiliency. In those moments when some dealers become capital constrained, the ability to bring in liquidity quickly is very important.

Imagine if the equity markets were like the Treasury markets – you could only trade with those you know rather than on exchange. My guess is many of you in the audience have had occasion to buy or sell a stock through a broker or online brokerage account. Maybe you have even done this with a corporate or municipal bond. But probably not with a Treasury security using your brokerage account. What if we never held individual stocks but only held mutual funds and there was a large movement in the stock market. Such a market might feature more destabilizing runs than the equity market we have now.

For these reasons, it was important to adopt a rule that brought more Treasury clearing, as the SEC did, and to implement such a rule, as the SEC is currently in the process of doing. Rules requiring the central clearing of eligible cash secondary market transactions will become effective at the end of 2025 and those for eligible repo transactions six months later.<sup>23</sup> The goal of these changes is to render the market more competitive and resilient.

This problem needed the action of the official sector, but it also needed research. Besides the background knowledge that is part of our collective heritage, this kind of progress requires the knowledge I outlined earlier: of why clearing would be expected to help. It builds on the research that was done following central clearing reforms of Title VII of Dodd Frank in the swaps market. The fact that these were found to be successful, and that this conclusion was agreed to by many, was a valuable piece of knowledge. These changes too will be studied and used to inform further work.

It was an honor to serve as Chief Economist for the past three and a half years, but I am also happy to be coming back to this community. I believe that ultimately it is ideas that drive humanity forward and for that reason, research certainly matters.

<sup>23</sup> [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](#), December 13, 2023, 89 FR 2714 at 2768 (“Compliance Dates”).