BNY MELLON

U.S. TREASURY MARKET TRENDS CLIENT WEBINAR

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PRESENTATION

Brian Ruane

Good morning, good afternoon, and good evening. I'd like to welcome you to today's panel discussion on recent trends in the U.S. Treasury market. The Treasury market has been the focus of attention in recent months. We've seen continued high levels of volatility, a rise in long-term interest rates, and an increasing conversation around the prospect of structural change.

The SEC's proposal to expand central clearing is top of mind for many of us as we begin to look ahead to 2024. And the Treasury has recently announced that it will begin buying back its debt in small amounts to help improve liquidity in the market.

The Treasury market is the safest and most liquid market in the world. Just earlier this morning, we published an article from Nate Wuerffel on the Treasury market and central clearing that you'll receive after today's webinar, as well as you'll be able to access it on our website. Nate points out these two characteristics. Safety and liquidity are the foundational attributes of the market all the way back to its foundation in 1790 and the first Treasury Secretary, Alexander Hamilton, who's also the founder of the Bank of New York Mellon.

I think we all have an interest in ensuring the safety and liquidity of this market, particularly as we go through periods of turbulence like we did during the pandemic and in the spring of this year. Those are the moments when holders of U.S. Treasuries want to know that they can safely and quickly convert their U.S. Treasury securities to cash.

The SEC's proposed rule to expand central clearing is a key element in the official sector's plan to improve resilience in this market. As we'll discuss this morning, it will help improve the safety and liquidity of the market in times of stress, but it's a rule that will have profound implications on how the Treasury market operates.

We are preparing here at Bank of New York Mellon, and we think all market participants should be as well.

I'm very pleased to have a number of my colleagues here from BNY Mellon – it's an excellent panel – here to discuss recent trends in the market, including the central clearing proposal and Treasury buybacks.

So, firstly, Jason Granet, who's our chief investment officer. Then we have next to Jason, Laide Majiyagbe, who's our Head of Financing and Liquidity. Then we have Andrea Pfenning, President and Chief Operating Officer of Government Securities. And Nate Wuerffel, Head of Market Structure. Nate previously spent 25 years at the Fed, most recently as the head of domestic markets on the trading desk here in New York.

So, before we begin, just a few quick housekeeping items. We'll be recording today's webinar, and we'll make it available to you for replay at a later date. We're going to reserve time at the end of the panel to field questions. If you'd like to submit a question – if you look to the question mark symbol on the right-hand side of your screen – type in your question. You will be the only person to see your question. And we'll do the best we can to answer all questions before the one hour is complete.

So, now on to the panel discussion. The first question will be to all of the panelists. Please share your thoughts on the current state of the U.S. Treasury market from a rates and a funding perspective. We've certainly seen a rise in long-term yields. The Treasury market's expected to grow tremendously. Meanwhile, the amount of collateral in funding markets is also growing. What's the outlook for the Treasury cash and financing market given all of this?

And I'll start with you, Jason.

Jason Granet

Thanks, Brian. Wonderful to be here. Great to be with my colleagues, and I hope all of you are doing well. A few thoughts from me. I think it's hard to disentangle what's happened with Fed and monetary policy with what's happened in the Treasury market over the last few years. We've seen over 500 basis points of tightening in a very, very short period. The Fed has not made a move on policy rates since the July meeting, but we continue to have quantitative tightening happening in the background. And so, once quantitative easing and then

quantitative tightening, either the purchasing or the letting-the-securities-roll-off became part of the very substantial piece of the Fed's toolkit, they've entangled themselves very meaningfully in the Treasury market.

You couple that with the post-COVID periods of, A, inflation, and B, substantial supply and financing needs of the Government, and we have ourselves a cocktail with higher rates, with a lot more funding, with a lot more duration and supply coming to the market.

And so, what's happened is that that was reasonably well managed and digested through the summer. And then there was a big inflection point when the debt ceiling was resolved. Because when the debt ceiling was resolved, that opened the doors for the supply to come into the market at a much faster pace and a much different speed. And so, that's what we saw from the summer through now. And as a result, term premia rates moved very quickly. The curve steepened very substantially over that period. And now, we're sitting with both – a somewhat resilient economy, with higher rates and a market adjusting to a lot more supply and a lot longer expectation for rates to be at not historically-historically high levels, but historically local historically high levels. And I think that's important because people got locally used to 0/1% rates.

And then finally, that's been met with geopolitical tensions, changing buyer bases. The rate moves have caused challenges for some investor bases in the market. And so, as a result, you have more supply, higher rates, and a buyer base that's shifting to be more price sensitive and more demanding of being compensated, with specifically the Central Banks being pulled out of the market globally. And so, here we are with higher rates and, quite frankly, more volatility from an interest rate perspective than people are used to over, call it, the last 20, 25 years.

Brian Ruane

Maybe we'll go to Nate next.

Nathaniel Wuerffel

Jason, I think you mentioned that the Treasury market and monetary policy are closely related. And I think the year ahead is going to be a very interesting time in monetary policy implementation. As you mentioned, the Fed's rolling off the assets on its balance sheet. So, as treasuries mature, as agency MBS prepays, the balance sheet is coming down. And the Fed's balance sheet is coming down by about a trillion dollars a year. It's rolled off a trillion dollars. And that's been quite smooth, actually. What happens is when the assets side come down, so too do the liabilities. And on the liabilities side, it's either coming out of the ON RRP facility, this very large facility that is used to drain reserves from the system, or it comes out of reserves themselves.

And so far, it's come out of the ON RRP. And that's meant that in money markets, it's been really a smooth sailing thus far. But the year ahead, the next trillion dollars, I think that's the question about how that process goes. Seared in my mind from my time at the trading desk, and I think probably in most Fed policymakers' minds, is the experience from the fall of 2019. That was the first time the Fed was going through this QT

process. And that was a moment when you suddenly saw that reserves had dropped tremendously and there was scarcity.

And so, in the year ahead, that's what we're going to be looking for here. And I'm sure the Fed is monitoring this closely. But what are those signs that – as reserves drop – that reserves have gotten too scarce in the system because they really want to be in a position where the Fed is slowing down its quantitative tightening to allow for there to be enough liquidity in the system? And I think that that's going to be something that every market participant needs to be thinking about. And it's at that moment in time when the Treasury market and its liquidity and its safety and its ability to provide cash and funding liquidity becomes super important.

Jason Granet

Totally.

Brian Ruane

Maybe we'll go to Laide next.

Laide Majiyagbe

Thank you for having me as well here. The other lens I wanted to add to that is thinking about deposit pressures. So, a lot of the monetary policy has led to rates rising so fast. And then I'll just start from the SVB, what happened in March. That led to some dislocation in terms of where deposits have gone, but that settled back down. And since then, though, we continue to see more ask for funding in the funding markets.

So, repo, if you look at whether it's cleared repo or even just the GC market, that continues to grow. Demand spreads are widening there. Nate and Jason touched on the almost trillion dollars of bill issuance that has occurred. Whilst that's happened smoothly, there is a lot more collateral looking for financing. And I think that's going to continue going into next year.

Yes, we may have hit peak rates, but higher for longer will continue to put pressures on a lot of institutions. We're seeing more utilization of wholesale funding. A lot of banks are issuing more wholesale funding, relying on it. And regulations that are coming, whether it's the regulatory response to the SVB crisis asking for more term funding or the upcoming Basel rules, those will require more long-term funding. So, I only see, on the forward, more funding pressures for banks, more reliance on wholesale funding, and definitely more deposit pressures.

Brian Ruane

And Andrea.

Andrea Pfenning

So, good morning, everybody. Good afternoon. It's great to be here. So, I represent more of the post-trade settlement of the Treasury activity. And so, a lot of folks – my panelists have touched upon this, nut what we're

really seeing is just with the changes in market dynamics, really the increase in the settlement from both a bilateral perspective, so a lot more activity there, as well as on the tri-party side. And as Nate mentioned, we've seen the reverse repo facility come down. Year-over-year, it's been down about 44%. So, it's pretty significant. And it's been a little quick. I think folks expected it to come down, but maybe not at the pace that it's come down. But nonetheless, it's been a very smooth process. So, the market dynamics have operated very smoothly in the post-trade space to allow for the RRP facility to come down, which in turn has allowed the money market funds to work with some of their more natural counterparties. And that would be the dealers.

So, they've moved their activity from the reverse repo facility to the dealer community. And I think all of that has translated into some significant market shifts, but also just done very smoothly.

Brian Ruane

Thank you. So, now let's turn to Treasury market functioning. After the pandemic, both the public and private sector have been focused on improving the resiliency of the Treasury market. It's a big agenda item that's been laid out. Nate, can you help us understand what's being considered?

Nathaniel Wuerffel

Absolutely. And it is true that there's a tremendous focus on this after the wobbles in the Treasury market and outright dysfunction in the Treasury market during the pandemic-dash-for-cash and even more recently in the banking stresses of the spring. And on the public sector side, the group that gets together to talk about how can we make the Treasury market more resilient is this thing called the Interagency Working Group. It's the IWG. So, sometimes you'll hear that. And basically, it consists of the Treasury, the Federal Reserve Board, the New York Fed, the SEC, and the CFTC. And those five entities, they all have separate mandates and authorities, but they get together to try and coordinate the activity and the oversight of the Treasury market.

And after the pandemic, that group got together. I was a member of the IWG at the New York Fed, and we helped devise a set of workstreams that the official sector could look at. There are five of them.

First, improving the resiliency of market intermediation. So, that's making sure that intermediaries can actually intermediate the huge flows that are coming through the Treasury market. And the Treasury market is growing tremendously from $27 trillion today, it'll be $46 trillion in 10 years if the CBO is right. So, that's a really big increase and you want the intermediation to work effectively.

The second area is around improving data quality and availability. So, a lot about transaction data reporting and trace.

Third is evaluating central clearing, I'll come back to that.

Fourth is enhancing trading venue transparency and oversight. And so, that's basically the venues where you can trade Treasury securities and making sure they're safe and resilient.

And then lastly, examining effects of leverage and fund liquidity risk management practices. So, that's the official sector thinking about leverage in the Treasury market and how it might amplify, exacerbate moves. And it also is thinking about the money-funded industry.

So, it's a really big slate. The IWG just this week put out its latest update on the five workstreams. So, it does that on an annual basis ahead of the Treasury Market Structure Conference in mid-November. So, I would just encourage you to read through that. It's a very long list of things that are underway. Central clearing is probably the most, I would say – if it's implemented as proposed – the most transformative of those five for the market. And they put it out in September of 2022. It's yet to be finalized.

Brian Ruane

So, maybe that's a good segue. So, let's talk a little bit more about central clearing, a very important change for the market and certainly for us here at BNY Mellon. What specifically has the SEC proposed and why? And where is the rule right now? Where are we in that rulemaking process?

Nathaniel Wuerffel

So, maybe I'll just take a few minutes to walk through this. There's a lot of information on central clearing. So, I'll try to summarize it. But in the first instance, why central clearing?

So, the SEC looked at the Treasury market and the official sector looked at the Treasury market. And the way that the Treasury market clears and settles, usually it's a very safe, very straightforward process. It's a short settlement time. It's this risk-free instrument. But it's clearing and settling Treasury securities, as we know well, it's not without risk. And it really relies on counterparties to a transaction making good on that transaction. So, you have to know that your counterpart is going to come up with the security and the other one is going to come up with cash. And what the official sector observed is that, in times of real stress, you start to worry about whether your counterparty is actually going to make good on their obligation. And if you're worried about that, you might start pulling back from your counterparties. You might start even pulling back from the Treasury market.

And in the pandemic, we actually saw the early signs of that where prices were falling rapidly. And so, market participants started backing away because they were worried. Will my counterparty have the cash? Will they be able to deliver the securities?

Of course, the Fed stepped in, cut that off. But the SEC, looking at that situation, wanted to push Fed intervention further out the tail. And one way you could do that is to try and help make the market itself more resilient.

So, central clearing – when they looked at the market, central clearing in the U.S. Treasury market today, there is a central clearing entity, the Fixed Income Clearing Corporation. There are trades that are centrally cleared, but only a small portion of the cash market is fully centrally cleared, around 13% in 2017. And the SEC was

worried that this growing share of the market that is not centrally cleared actually poses risk to the central counterparty entity. The risk of that is that there are not transparent or consistent practices for clearing and settling Treasury securities.

And so, they've proposed central clearing to manage three contagion sources of risk.

First, they highlight inter-dealer brokers and principal trading firms, where the SEC views that as – principal trading firms are typically not FICC members. They don't typically centrally clear their trades. And so, the SEC was worried that that activity could expose the CCP in the event of a default.

Second, they were worried about leveraged trades, so hedge funds where leverage could amplify losses that could flow back into the CCP.

And then lastly, they focus on bilateral repo. That's the biggest portion of the repo market. And those trades are bilaterally cleared, and there's typically not margin on those collateral transactions. So, the SEC highlighted that in particular. And they want central clearing to step in because central clearing offers a bunch of risk management. It has a default management process, it has margin requirements, and the CCP has liquidity resources. So, all of those things can help manage the risk in the system.

So, what did the SEC actually propose? It proposed that the FICC require that its members clear eligible transactions. And so, that means that FICC members need to look at their transactions and make sure that they're clearing the ones that are eligible, and I'll talk about that in one second. It also proposed that FICC should have models so that members can clear their trades centrally, but also people who are not members of FICC can also clear their trades centrally.

The eligible transactions, it's quite broad. All repo and reverse repo transactions the SEC has mandated to be cleared under their proposal. All purchase and sale transactions between a FICC member and hedge funds or levered accounts. And then lastly, if a FICC member is operating as an inter-dealer broker, it's got to clear its trades.

There are some exemptions here under the proposal which apply to Central Banks and some sovereign wealth funds and others. But when you look at the size of the market that this will impact, it's really quite large.

So, we have this table that breaks down the cash market and the repo market. On a daily basis, $700-plus billion of cash market trading is happening. About half of that is on inter-dealer platforms. All of that would need to be cleared. Between dealers and customers, like hedge funds, that portion of the dealer-to-customer market would need to be cleared. And then on the repo side of things, it's a 4.5 or more trillion dollar market a day. And 2 trillion of that is uncleared bilateral repo. And about a trillion dollars of that is tri-party. And all that would need to be centrally cleared.

So, what you're looking at when you aggregate those pieces, you're looking at $3 trillion of activity that today is not centrally cleared and could be subject to those rules, that mandate. That doesn't include the Fed's

overnight reverse repo facility, which is around a trillion. The Fed would have to decide whether they want to centrally clear that.

So, one of the things we've been advocating and thinking about ourselves is preparation, as you said, Brian. And there are really four areas that we've talked about. I'll just mention them quickly and then turn it back to you.

But one is you need to think about whether the trades that you do will be eligible under the mandate. Are they going to be eligible transactions? Do you need to centrally clear them? There are some trade types that are similar to trades that are mandated. Securities financing trades, you can operate in futures instead of cash. So, there are things that will not be centrally cleared, but a lot will be.

You need to think about, secondly, how do you access clearing. Talking to sponsors who sponsor in indirect members into clearing and making those arrangements.

Third, thinking about managing risk and collateral management. There's going to be margin requirements. There's going to be collateral you need to manage.

And then lastly, it's just a massive change effort. So, having a change management program, documentation, legal, onboarding, et cetera. It's a big effort.

Brian Ruane

Thanks, Nate. Maybe now, Laide, given the amount of repo that will need to be centrally cleared, how do you think this is going to be done? Do sponsors have the capacity to meet the demand for clearing? And how will the market absorb the additional margin requirements or handle the additional margin requirements?

Laide Majiyagbe

Thanks, Brian. So, I think I'll answer that question in three stages. The first is I'll go through the basics of who a sponsor is and how you get sponsored. Then let's talk about our ability as sponsors or for the market to absorb it. And then the economic impacts, because I think those are very important.

So, to start off with, who is a sponsor? A sponsor is any netting member of the FICC. It excludes inter-dealer broker. But anyone that is a netting member excluding inter-dealer brokers can be a sponsor.

Who can be sponsored? The FICC has definitions. Any qualified institutional buyer in FICC-approved jurisdictions. And that's important because that has continued to expand over time. And I expect under a mandatory clearing world, that will continue to expand.

As Nate said, today there are models. So, what models are available to get sponsored? There are three to four models that is available today. One of them is called the SMP, which is the sponsored member program. That is the most used today. And that's the one that we, BNY Mellon, also are a huge participant of. The process to get sponsored is usually a bilateral conversation between you, as a qualified institutional buyer, and an eligible

sponsor. But there is a myriad of legal documentation that has to get through between the sponsor, the sponsee, and the FICC. And that process takes a lot of time, which then comes to my next response.

Is the market ready? And do we have the bandwidth? I think the answer is yes and no. At this point in time, not ready. But I think the market has the capacity to expand and preparing is going to be key. I'll put it in context. Today, about 780 billion is currently being sponsored and cleared. Nate just told us 3 trillion could potentially be eligible. That's a lot of legal documentation. That's a lot of process change that has to happen. And there are only about 30 sponsors currently in the market participating. So, I think both the number of sponsors will have to expand. There's probably going to be an expansion of the models that get utilized that the FICC makes available.

And then to the margin point, I think the estimate the FICC gave us was about 27 billion of new margin requirement. That's a lot of financing that I just talked earlier about funding pressures. This is another incremental funding pressure that is going to hit the market.

I think, as Nate said, the market is resilient. We will expand, but preparing and depending on the implementation timeline is going to be key.

Now, what does this mean? Economically, there are trades in the market today that are high volume, very low margin that I think will get dislocated on the back of a clearing mandate because margin requirements, in one shape or form, will increase and that will make some trades more expensive. I do think, and I think this is some of the intended objectives, this might open up new entrants into the market too. People that couldn't participate historically will participate in the market right now. But fundamentally, you should expect – I expect bid-offer spreads will increase, financing cost will go up because, ultimately, the cost of the legal work that has to happen, the operational processes that people will have to put in place to support a clearing mandate and even the incremental margin, all those things will trickle back into the market, either a higher transaction cost or in the form of bid-offer spreads.

I'm going to quote Nate. Nate used the word “reassemble” and I like that. I think fundamentally the Treasury market will have to reassemble in a post-mandatory clearing world.

Brian Ruane

Thank you. Andrea, given what Laide just said, what are some of the implications for tri-party repo collateral management and risk management?

Andrea Pfenning

So, as everyone's talked about, a lot of change is potentially coming. We have an understanding of what's going to happen based on the proposed rules. We're all anxiously awaiting the final rules just to obviously be certain of what actually the mandate will be and then what the market has to do to prepare. But certainly, tri-party is

an important part of the Treasury market, an important part of the financing market and we would see that continuing in the future.

Collateral management provides a lot of – in addition to allowing the buy side and the sell side to finance transactions and to invest cash, it really is also a risk management tool. So, a number of clients are using it because it manages their collateral from a back office and middle office perspective. And if you think about as this market has grown larger and continues to grow larger with all of the issuance and all of the new margin that's going to be out there, having an ability to have that collateral centrally managed within your back office or middle office is super important.

So, a lot of clients have really embraced collateral management from that perspective and it also helps risk mitigate, a little bit of what Nate was talking about that you see in the bilateral market, concern that the counterparties are going to deliver what they're expected to deliver on a maturity date. And with tri-party repo, what we are able to do is ensure at all times that both counterparties are secured, that they have the collateral that they expected through their collateral schedule, and that they're also margined. And those are really important components of why tri-party is such an important part of the settlement.

And what we've seen happen, and this has also been highlighted, as the reverse repo facility has come down – so it's trending at about a trillion, which is pretty significantly below where it had been at its height – we have seen more traditional tri-party expand. So, what does that mean? That means that the dealers have made some balance sheet available for repo. A lot of that's due to the rate structure and the higher rates that we've been talking about. And generally speaking, the buy side does prefer to work with their traditional counterparties. Obviously, they have accessed the Fed reverse repo facility in the past and that had a lot to do with the market dynamics at the time, which was really a low interest rate environment and lack of dealer balance sheet availability in the rate structure. That has all changed. And what we're seeing, from our perspective, is a very orderly move from the Fed reverse repo program into traditional tri-party. And certainly, with the central clearing mandate, we would expect to see that to continue to expand for basically the reasons we all discussed. There's more collateral, there's going to be more issuance. And we do expect those benefits of tri-party or collateral management and some of the added tools such as optimization and all the different things that you can do when you have a centrally managed collateral pool to just continue to be of interest to the market.

Brian Ruane

Earlier, Treasury Market Practices Group was mentioned. Maybe Andrea, I'll ask you this given that you're a member. What is the TMPG doing on the topic of Treasury market resiliency?

Andrea Pfenning

So, I've been a member for a couple of years representing the bank and it's really a terrific organization. Just as a bit of background, its main function is to ensure the resiliency and efficiency of the Treasury market. So, who works to do all of that? There's a number of market participants that are members. That includes a number

of dealers, large dealers, smaller dealers, as well as the buy side. So, it's a nice mix of folks or market participants, I should say.

And then, of course, it's sponsored or managed by the Fed and the Treasury is also part of that group. So, we have very interesting discussions about the Treasury market. Obviously, with everything that's happened over the last couple of years, and more recently with the regional banking crisis, it continues to be in focus.

And I would say one of the things that we spend a lot of time is talking about the uncleared bilateral market. And there's a paper that was completed last year. It's on their website. It's really an interesting and pretty thorough paper. It just talks about all the various bilateral flows. So, you think there's one bilateral flow potentially. You sell the security, you get cash and that's it. But there are many different facets to what a bilateral flow could mean and what the underlying transaction is. And that's all covered in this paper and I think that's super interesting.

But I think Nate touched upon it. What the TMPG – I'm concerned about is maybe too strong of a word, but the sense in the market and the concern that's been voiced by the regulators is just the margin or lack thereof that is part of a bilateral transaction. And you can only imagine, as rates move, as there's a crisis, in normal times there's no problem with that. But in the time of a crisis, if that's not properly margined or haircut, you could only envision someone trying to sell and what that could do to the market in terms of dislocation. So, that is a focus of the TMPG. Obviously, we don't set regulatory requirements or anything. We have best practices that we ask the market to participate in or to think about. And that's similar here, but we have highlighted or the TMPG has highlighted what some of those risks are on the bilateral flows.

And I would say the number one – maybe not the number one, but one of the biggest concerns is just the margining practice in an uncleared bilateral transaction.

Brian Ruane

So, maybe, Nate, maybe you can help us to summarize or to bring together. How are all these changes going to affect the functioning of the U.S. Treasury market?

Nathaniel Wuerffel

I think it's going to be pretty profound if the mandate moves forward as it was proposed and a lot of the other workstreams too. You can see that the SEC, in particular, has a very significant agenda. And so, it's really going to reshape the Treasury market.

And central clearing, as Laide mentioned, the recent reassembly of the Treasury market, I think it will be quite significant if the proposed mandate moves forward. You've got the counterparty and the systemic risk mitigation that I think central clearing can provide, especially in times of stress that Andrea was talking about. There have been some studies that central clearing can reduce balance sheet costs by netting down transactions. So, there might be some capacity that you get out of that. There's a New York Fed study that

found that, in times of stress, you can get almost a 70% reduction in the settlement flows for particular dealers. So, that's a possible effect. So, that's going to help the market, I think, in times of stress, the balance sheet capacity and the risk management.

On the other side, you're going to have this increase in transaction costs that Laide talked about, whether that's spreads or rates or yields. And so, that's going to, I think, affect these margin trades, the spreads between cash and futures, maybe on/off-the-run security transactions, RV strategies. And I think that those four things together, I think, are really going to reshape the way that the market works, the types of participants, and the types of strategies that they go about. So, I think it'll be quite profound.

The SEC proposed this rule over a year ago now. And I think that there are a lot of expectations that the final rule is coming somewhat soon. You have this market structure conference in the middle of next week on the 16th. That's sometimes used by these agencies as this marker where they want to get stuff done. Even if they don't do it by then, I think we're going to see a final rule probably fairly soon and it will be pretty significant in its impact.

Jason Granet

Brian, I just want to add here that when Laide and Nate talk about this reassembly, I just want to reference back to something that Nate said. We're reassembling something that's growing at a very rapid speed. We're in mid to late 20s trillions, headed to 40s trillions. And that's assuming there are no waves in the ocean. And so, reassembling something that's big and staying big or maybe shrinking is one set of challenges. Reassembling something that's big and growing at a very fast clip is a second challenge for the market. And I think that that's an important piece of the puzzle here as well.

Brian Ruane

Great comment. Maybe I'll stay with you, Jason. The Treasury announced it's planning to conduct buybacks. What are these buybacks and how will they affect the market? Tell us a little bit about that.

Jason Granet

So, a couple of things on buybacks. One is – let me just go back in time a little bit to the early 2000s. In the early 2000s, Treasury conducted buybacks. Those buybacks were for a totally separate reason, the exact opposite of what I was just saying now. We had shrinking issues. We had shrinking deficits. Outstanding issues were getting small and the Treasury was worried about the liquidity of the market because of the small size of what was outstanding. To think about where we are 20 years later is minus one times that.

And so, now Treasury's come back and has solicited market participants' opinions and feedback both formally and informally over, call it, the last 18 months or so. At the May refunding, Treasury announced the intention to launch a buyback program in 2024. I'll share some of the perspectives, but importantly, they haven't put the Sharpie pen on exactly what it will look like yet, but they've given us a lot of pen and a lot less pencil recently.

Two things that they're targeting on the buyback program. One, liquidity support. And two, cash management. What they are explicitly not targeting is acute market stress, ad hoc or tactical operations to deal with anything that comes out of the way or to change the maturity profile of the U.S. Treasury market. Changing the maturity profile is something that they go through, through their refunding process and planning of the Treasury market. The buyback program is not intended to do those things. So, I think it's important to think about – as much as what it's for is also what it's not for, so market participants have a set of expectations.

And then also, it's grounded in this resiliency concept. We've talked a lot about things that the official sector is looking to have resiliency in markets. It's grounded in that.

And then lastly, and very importantly, if the Treasury conducts a buyback, that has to be funded, whereas if the Fed would do an operation, a QE, or a purchase, that would create a reserve. Totally separate, different things, and so people don't get confused between the two.

So, let's take the two pillars, the liquidity support pillar. The liquidity support pillar is under the umbrella of regular and predictable. You'll hear Treasury officials talk about the fact that the market operates in a regular and predictable manner. That's the hallmark of the U.S. Treasury market. They're targeting something like $30 billion per quarter. That being said, they might not conduct all of that because these operations are going to be price-sensitive in nature. Usually, you hear Central Banks participating, usually in non-price sensitive manners. They're buying X amount. This is they will buy up to $30 billion per quarter. And they do it to smooth maybe some bloated dealer inventory in a part of the curve, maybe a big off-the-run/on-the-run spread develops, maybe some different liquidity dislocations that have come into the market because of flows or moving pieces. They will have regular and predictable announcements of what these operations look like so you know when it can go. But it will be maximum size, not minimum size. And that's an important aspect of it because we might go a period of time where they don't happen for liquidity support.

And then the last thing on the liquidity support is that they won't necessarily add the DV01 back into the market one-for-one. So, if they take out a 20-year, that doesn't mean that the next 20-year auction is going to be that size bigger. The refunding will be the refunding. The maturity profile of the Treasury debt will be managed. What gets massaged through these $30 billion maximum per quarter will be separate from that.

The second thing is on the cash management side. This came into a lot of focus this year because of the drain and the rebuild of the Treasury General Account or the TGA. Cash balances for the Government can be lumpy. They get a big cash payment in on taxes. Maybe they lose something on a big outlay or program that's launching. And so, there can be some volatility to that. And now, the way that volatility is managed through the bill market. And so, bill issuance can yo-yo a little bit depending on what the ins and outs of what's going on here. So, if they use a buyback program, they can smooth out that yo-yo-ness or the highs and lows of the bill market and smooth out the TGA ups and downs as well.

And so, what we've talked about before around how the money markets have operated reasonably smoothly between the intersection of the reverse repo program and the bill market. When we get to a steady state, there are ups and downs, tax dates, et cetera. And so, they're talking about something in the neighborhood of $120 billion in size here for this cash management targeted specifically in the zero to two-year part of the curve, whereas the liquidity support is stretched across the nine buckets across the whole curve. The cash management is structured on the front end to help with this management and smooth out the bills.

And so, this is very common across other markets. Most developed countries have some type of buyback or debt management programs that they use. The Government has a history in this, 20 years ago, albeit for the other side of the coin's reasons. But I think that there have been a lot of thought and a lot of feedback from the system. And so, 2024 brings that to the table.

Nathaniel Wuerffel

And I think that the market has taken on the news of this fairly well, in part because it's really about improving the liquidity in normal times of the Treasury market. To put this in scale, you were saying this earlier, it's very different from the Fed operations. As of October, the market's $27 trillion now. The Fed owns $4.5 trillion of Treasury securities. And these are going to be $120 billion a year. So, the size of the operations is a lot smaller, but they will still have this benefit in terms of helping tighten up liquidity in the market, I think, and manage those cash management flows.

Jason Granet

And so, I think this is all interesting in the concept of this reassembly of the Treasury market. Because if you look at the shape of the curve now, there are on-the-run/off-the-run kinks. There are different points of the curve that trade with very, very discounted rates relative to other parts. So, it's not as smooth as we've gone from up to 27 and headed to 43 as we keep saying.

And so, putting these tools in the belt, or re-putting – in the case of this tool, re-establishing this tool in the belt, is definitely going to help as this reassembly happens. Because it can massage some corners along the way. But I think that what it's not is important. Because it's not a dislocation. It's not an acute stress. It's not an ad hoc tool. It falls under this regular and predictable umbrella so that market participants know “Hey, next week, they're doing a long-end operation. So, if I'm a little mismatched on what's going on, I know I have an outlet there”. And I think that can only be a good thing for the market that's going through this change.

Nathaniel Wuerffel

One brief note, an addendum to this is that sometimes you might hear “Oh, the New York Fed is conducting this Treasury buyback operation”. And so, it's important to be clear. The New York Fed runs through its trading desk a lot of operations for the Treasury. But they're Treasury operations. And in this case, the New York Fed would

be engaged in conducting those buyback operations, but for Treasury. As you said, fundamentally different from QE.

Brian Ruane

Thank you all. I think it's fair to say that we all will need to prepare for the changes that are ahead. Central clearing is going to be a significant restructuring of the Treasury market. And we're likely to hear about that mandate shortly.

So, at this time, we'd like to go to the questions that have been submitted. And so, maybe I'll ask for the first question. And then we'll allocate them out to the panel.

Brian Ruane

Participant

We have a few questions that have come from our attendees. The first one "Can you explain the differences between the sponsored delivery versus payment and sponsored general collateral models from an operational and settlement point of view?"

Andrea Pfenning

So, those programs that John mentioned are related to the FICC's program. So, the FICC, several years ago – well, more than several years ago – they've had in place a sponsored program, which was really for bilateral activity. And what they put in place two years ago was sponsored GC, which allows you to do the same but within tri-party transaction. And what we've seen, and Laide had talked about it, is a steady increase since, I guess, really the middle of this year in both the GC as well as just the sponsored member program. And the sponsored member program, which is bilateral, is much larger at this point. But we are seeing an increase in the tri-party... the sponsored GC.

So, clients prefer one or the other for the same reasons they prefer to do unclear bilateral versus unclear tri-party. The bilateral market is one that's super important. And one of the main reasons is you have your cash back early in the morning. So, there are a lot of market participants, money funds for example, which are very large, significant providers of cash in the market, do need their cash back earlier in the day so they can manage redemptions.

And then the other side of that is tri-party, also something that the money funds do utilize. But obviously there, they have to manage their cash because those trades don't unwind until later in the afternoon.

So, those are the main differences. One's really a bilateral trade that's centrally cleared at FICC through a sponsor. And the other is a tri-party transaction that's also centrally cleared at FICC through a sponsor. And it just allows non-members and probably counterparties that will never become members unless there are

significant rule changes because they're prohibited from being in a model that requires, if there's a default, that this is collective repayment under a default, which they can't participate in.

Laide Majiyagbe

The only thing I'll add to what Andrea said, just from a desk perspective in terms of – and we worked really closely with the FICC on the GC model as an institution to deliver that. The other preference or the other optionality that the GC gives you is you don't have to agree each CLIP when you trade. So, then it's a little bit of a pool. And that was important to some of our participants in terms of some, you have very little CLIPs of CUSIPs and you don't have to move that operationally. So, then some of it was also the ease on the GC versus the bilateral. But as you say, if you want your cash earlier, then you pick it slightly differently.

Participant

So, I think a follow-up to that would be we have seen the growth, as you pointed out, Andrea, of the two sponsored programs. What's driving that current growth, given that the central clearing requirement has not yet been mandated?

Laide Majiyagbe

Should I take that? Yes, why don't I do that? So, I think it's two things. When we came into the beginning of the year, and I can give some perspective as well on how we've grown as a sponsor, there was a lot of liquidity in the system. And then when SVB happened, there was a dislocation. A lot of regional banks and other banks started to find the need for wholesale funding. So, in the sponsor space, we saw a huge amount of increase in demand for sponsoring assets that were on people's balance sheet requiring funding. As the liability side got funding pressures, that led to a growth in both the notional and in the spreads.

To give you context, the sponsored industry grew about 117% year-on-year. We, as an institution, have grown by over 300%. And that's just a function of a lot of collateral needed funding. Then as the year progressed, that's stayed. But with a lot of issuance, as Nate and both Jason have talked about, there's a lot more collateral in the system looking for financing. And that has basically kept that balance steady. And I expect that it probably will continue to grow. There's still a lot of demand out there in terms of growth. And that's high level why we've seen that grow, even though sponsorship is not mandatory just yet.

Andrea Pfenning

And I think it's also folks or counterparties preparing. I think everyone expects there to be a mandate at some point in some fashion. And Laide had mentioned, yourself for that is really important. So, I do think we're seeing some counterparties get ahead of it and start doing a bit more of the centrally cleared through the sponsored program.

Jason Granet

Two things. One is definitely the preparing because it's unclear if and when and then how long to be ready. And so, if you already know that some version of something's coming, it doesn't hurt to start walking down that road already.

The other piece that we haven't mentioned explicitly, but it's been somewhat implied, is that if you move out of this pure bilateral role, completely bespoke negotiated world into a more centrally cleared world, you're talking about more margin and haircut. And we use the word "collateral" for different types of things, but more collateral that needs to be put up. Or said another way, the system is going to feel some pressure of de-levering. And so, therefore, if the system feels some pressure of de-levering, as Laide has indicated, then people are going to need more funding because they're not going to be able to get the same amount of leverage per unit of what they had before. So, they're going to have to go replace that.

And so, one of the crosscurrents for me that I think is very important from both the market dynamics, but also an operating model dynamic, is what that de-leveraging and how that haircutting flows through from the different participants all the way down to the end user who either needs the point of leverage or is maximizing the value of that collateral.

And so, to me, that's something that's happening below the surface that has real economics attached to it when everyone puts their cards on the table.

Brian Ruane

Next question.

Participant

A few questions have come in on a similar topic here. So, I'll try to make this succinct. Do you feel that the central clearing mandate will help or hurt the market absorb the increased supply? And specifically in times of stress, would a BAU scenario be different as opposed to times of stress?

Brian Ruane

Do you want to take that, Nate?

Nathaniel Wuerffel

Yes, and Jason might want to add on the supply side, too. I think in times of stress, I think central clearing is helpful in part because the risk management that we've all been talking about helps to make sure that you don't start pulling back from your counterparty. And really, if you think about these foundational characteristics that Brian and I have been talking about, the safety and the liquidity of the Treasury market, you always want to be able to take a Treasury security and convert it to cash no matter the conditions. And when that starts to break down, that really fundamentally undermines the effectiveness of the Treasury

market. The Treasury market is used as this liquidity tool for regulatory reasons and for practical reasons, and you never want that to go away.

So, when I think about central clearing in that context, it costs more because you're paying for the risk management in times of stress. So, I think in times of stress, yes.

I think in normal times, it means that the system bears more cost. I think it means that liquidity is less continuous than it would otherwise be. I think it means that spreads are a little bit wider. And so, right now, that will make it a little bit harder to, I think, absorb more supply. And I think the important thing, in my mind, is this transition period. If the SEC really has a short transition period, then I think it could be a bumpier process than if there's enough time for market participants to make all these sponsor arrangements to think about their collateral needs and their risk management processes. So, time, I think, would be the friend of the transition to get to this better long-term state.

I don't know, Jason, on the supply side.

Jason Granet

Some of these things are lucky. If you implement changes like this at a time when rates are going up, there's a lot of pressure on the market, and then you're also increasing costs to absorb them, then it makes it – the turbulence has a higher probability of being felt.

If rates are coming down, prices are rallying, the demand structure is very strong, and you're trying to implement change, then it can be absorbed. The turbulence will feel much less.

And so, if we tried to do this over the last 18 months, I think it would have been very, very, very, very challenging. I think we all have views, but we don't know what the next 18, 24, 36 months look like. There are arguments for it to be both turbulent and maybe not less so. But part of it will be luck at when the peak of the implementation and what the backdrop of the market will be.

And so, that's why I think Nate's idea is if you give time, then it allows market participants to lead their way in.

But to answer the question very directly, in the stress point, I believe that there's a higher cost run rate. That's the insurance premium for when you have stress for the insurance to be used, which is people won't step away from their counterparts. People won't back away from the market. And so, the system is designed for all the different pieces of resiliency – we're happy to be talking about the Treasury market now, but this is embedded in a lot of things that the market has digested since, call it, 2008 – is absorbing a little bit of cost or some cost all the time so that there isn't a giant cost when something happens. And this, to me, is in that box.

So, there's going to be a real run rate cost in normal times that's going to be absorbed. Wider bid offers, fees, whatever it may be, it'll get marinated through. But that's just the financial world and the trade-offs that we have.

Laide Majiyagbe

Two things I wanted to just add to that is just to counterbalance some consideration. Some participants – so in the ability to absorb, timing matters. But to my point earlier about if there is more cost and there are margin requirements, some huge Treasury participants today might step away or feel differently about the ability to participate in that market. That's a consideration that I think time will tell.

Jason Granet

Or change the price at which—

Laide Majiyagbe

Change the price at which they want to price their trades. The second benefit, though, is transparency. We shouldn't underestimate, if in a centrally cleared world, then at least a lot more of the transactions are visible. And I think that's probably some of what is intended here, that there's just a lot more transparency onto who's holding them, how are they trading it, et cetera.

Jason Granet

That gives the official sector—

Laide Majiyagbe

More oversight.

Jason Granet

—a better view into what's happening because it's all happening in one—

Laide Majiyagbe

In one place.

Jason Granet

—central location.

Nathaniel Wuerffel

And I also think the official sector... there's always a certain level of dysfunction where I think you're going to need the official sector to intervene. And so, if the official sector did need to intervene in the future, it also knows where to go. You've got all the risk concentrated in one spot. It can be better managed there. But that's also where the official sector could turn. It's one of the reasons why I think that these CCP entities, they really need to have very good access to Central Bank liquidity because in those really extreme times, it's the CCPs that are now going to be these locus points for risk.

Brian Ruane

Next question.

Participant

In the early portion, we referenced reserve scarcity and potential markers of that. What do you think that the market participants should be looking for, for signs of that reserve scarcity?

Brian Ruane

Jason.

Jason Granet

Yes, sure, I'll give some perspective and then others can chime in. This seems to be one of the top two questions that hits my desk each day. So, a lot of people are thinking about this, which tells you that it's bubbling is kind of how I think about it.

The first thing is we talked about this relationship of the overnight reverse repo facility and reserves. The Fed is shrinking its asset side of its balance sheet at the tune of a trillion a year, plus or minus, depending on mortgage speeds. That's going to come from something. So, the number one thing to look at is where is it coming from. Each week, the Fed publishes the numbers. Did the asset coming down equal the RRP number, equal the reserve number? It's like A plus B equals C. It's pretty easy and reasonably transparent. It's a higher-frequency data series that's available. And so, that's the number one thing to look at.

What that doesn't show – that's kind of a blimp view. What that doesn't show is the distribution of those reserves in the system. And so, the system might look okay, but you might have one home of reserves that's very healthy and another home of reserves that's starving. And so, you're going to then have to go peak.

And I think Laide touched on this during her comments earlier is that are you seeing demand for deposits in the form of significantly higher marginal betas play through? If you look through the most recent bank earnings, you saw lots of organizations that had 200, 300 marginal beta payments on their deposits. That, to me, tells me money's leaving. They've got to figure out the right level to pay for it to get it back. It's not one-for-one. It's two-for-one, three-for-one that they're paying for it. So, that, to me, is indicative that there is some – I wouldn't call it starving, but there's a little bit of hunger, and they're looking for some meals out there. And they're doing that in the form of paying for deposits.

You can look at aggregate assets of banks. And is there cash to support those assets? We're seeing a lot of banks dispose of assets to non-banks. There's been a bunch of those that have played out over the last, call it, three to six months. You're seeing lots of – and so that's moving. If you move assets out of the bank system into private equity or other asset owners, then you don't need to have the reserves and the cash to support it.

And so, there's a little bit of a cocktail to watch. But the headline is this relationship between – as the Fed's balance sheet shrinks on the asset side, where is it coming from on the liability side? And then is the banking system appropriately sized for that? Those are the things that I've been watching quite closely.

Nathaniel Wuerffel

I would also just mention that, on the Fed side, they watch – in addition to those things, they're looking very carefully at market prices. And they have a dashboard a mile long that is being monitored every single day. But some of the early signs back in 2018 and 2019 were around these large payment dates, whether that's tax payment dates. It could be large Treasury issuance dates. It could be quarter-end reporting dates, where you would start to see blips in money market rates as the prices are responding to big flows within the cash or collateral markets. And so, those are some of the early signs.

By the time you got towards the fall of 2019, those early warning signs were starting to blip more significantly. And generally, some people talk about the Fed funds market, that you're looking for pressure in the Fed funds market. That's like the tail wagging the dog. It's really the secured money markets that are going to show you those warning signs through prices or even the non-Fed funds, unsecured markets, CP, CD issuance. So, when you start to see some of those blips, I think those will be some of the early warning signs that the Fed needs to be thinking about.

Jason Granet

And what's interesting is through the very period of high QE and very large Fed balance sheet, some of the markets went into hibernation because they weren't really needed as much anymore. And so, now, what you see is some of those things coming out of hibernation and reawaking because they're needed again because the QE is being taken out in the form of QT.

And so, to Nate's point, that's like these ratios that banks or the deposit funding or the wholesale demands. You're seeing tools that weren't used by funders being used because the liquidity is less.

The way I heard it explained, and I'll share it here, is what used to be superabundant is less abundant. And so, that shows up in places.

Andrea Pfenning

That’s right.

Brian Ruane

I think we're at time. I'd like to thank the panel for an excellent discussion today and for our audience for all of your questions.

The Treasury market is central to what we do here at BNY Mellon, as I know it is for all of you. We look forward to engaging with you on these changes as some of the announcements come out. And please reach out to your relationship manager or to any of us if you'd like to follow up on any of the things we talked about today.

Thank you very much.

Jason Granet

Thank you.

Laide Majiyagbe

Thank you.

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