

**Global Liquidity Speaker Series
Implications for a Potential Negative Rate Environment in the US
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Attendance List: John Thephasdin
 Mark Cabana
 Ian White

Title of Meeting: BOA Global Liquidity Speaker Series – Implications for a Potential
 Negative Rate Environment in the US

Hosted By: John Thephasdin

Coordinator Good day, everyone, and welcome to the first Bank of America Global
 Liquidity Speaker Series. Today's call is the Implications for a Potential
 Negative Rate Environment in the US. The call is hosted by John
 Thephasdin, Global Liquidity Specialist. My name is Elaine, and I'm your
 event manager. During the presentation, your lines will remain on listen
 only. [Operator instructions]. I'd like to advise all parties that the call is
 being recorded for training and monitoring purposes.

Now, I'd like to hand over to John. Please go ahead.

John Thank you, Elaine. As Elaine said, my name is John Thephasdin. I'm
 with Bank of America's Global Transaction Services Team. And, I just first
 want to thank everybody for joining today and taking time out of your
 schedules to be with us and I hope everybody is staying well in the current
 environment.

My team is called the Global Liquidity Specialist Team. We are responsible for developing tailored liquidity solutions, liquidity management solutions for our clients, and we provide clients with updates on current market conditions and regulatory changes that may influence how companies think about their liquidity strategy. Personally, I joined the bank in 2011 and I'm based out of Chicago.

I have a couple folks with me today who will help me talk through the implications of potential negative interest rates in the US. The first is Mark Cabana. He's a managing director and he's the head of our US Rate Strategy Team at the BofA Global Research Team. And, I also have Ian White with us, who leads our Global Liquidity Investment Solutions Team.

I will allow Mark and Ian to give a deeper introduction in just a moment when we get into the panel discussion but first I want to set the stage and talk about the Bank of America Global Liquidity Speaker Series calls that today is the first of, and these will be bi-weekly going forward. So the next one will be on October 20th.

The reason we've set up these calls is because what we are seeing across the entire span of our client base is that treasurers are dealing with a number of things right now and one of those things is how to optimize their cash holdings in a COVID environment. As advisors to our clients, we want to make sure we highlight the key liquidity themes that are top of mind for all of our treasurers today who are clients and talk about how we can determine how much cash is needed to operate and working capital, what to do with excess cash, and what kind of liquidity techniques can make your cash management more efficient, and some of those things would be consolidation of banking partners, visibility to global cash and other techniques.

In March of this year, as everybody knows, COVID brought the world into a shutdown state and we saw a number of central banks around the world take monetary policy actions, largely resulting in a low interest rate environment globally. The US Fed, in their last meeting in mid-September, projected zero rates through 2023 and we continue to see

negative rates in the Eurozone, Nordics, and Japan. There have been some recent headlines that have alluded to the possibility of negative rates in the US, and on this call we will look at the market outlook and also the Bank of America outlook for negative rates in the US as well as the impact of those negative rates on our US clients and our global clients who might be holding US deposits or investments.

So without further ado, I will jump into the first question in our panel discussion and I'm going to ask this to Mark Cabana. So, Mark, thank you for joining today. What is the market outlook and at the same time what is the Bank of America research outlook for negative short-end rates in the US?

Mark

Hi, John. Thanks for having me and thanks to everybody for joining. Great questions on negative rates. It's certainly been very topical over recent months and quarters, especially as the Fed has taken rates to zero and they face a very daunting challenge of trying to get the economy back to maximum employment and generate inflation that's above 2%.

So, what does that mean in the context of negative rates? Well, we think that it's quite unlikely that the Fed will take rates negative, but it's not impossible. The way that I've generally been thinking about it is that it's basically the last page in the Fed's playbook. They will do everything else to try and support the economy. And, if they exhaust every last option that they have, then and only then would they consider negative rates.

What can the Fed do to try and stimulate the economy before negative rates? Well, the Fed could buy more treasuries or mortgages. The Fed could expand its credit liquidity facilities and buy more credit outright. It could do the same thing for municipal securities. It could potentially employ something called yield curve control where the Fed would cap rates across the treasury curve. And, I think it would do all of those things before it would seriously consider negative rates.

Now, despite this, and the Fed has told the market this and so it's our view from a research perspective that it's very unlikely that the Fed will employ negative rates, but despite this it's a topic that keeps coming up. And if

you look at market pricing, what you can see is that Fed Funds futures contracts through early March of 2022, and there's not a lot of liquidity out there, but take it for what it's worth, have the Fed Funds rate falling from 9 basis points where it is today to 3.5 basis points by the end of that time horizon over the next year and a half or so. And, earlier this year, markets were pricing Fed Funds futures in negative territory. So, there was a view that the Fed might indeed take rates negative.

We recommended that clients [background noise - 6:31] that expression which turned out to be right, but still there's a downward slope that's associated with the Fed Funds curve. Now, why is this the case? Well, one, some market participants may believe that the Fed while they still have some capacity to expand the balance sheet and ease monetary policy doesn't have a tremendously deep set of tools and therefore the Fed may need to employ negative rates. And some may just think that we're going to see ongoing downward pressure on overall money market levels that would see Fed Funds gradually fall over time and that explains the shape of the curve.

Now, a lot of clients ask, well, why does the Fed suggest such strong resistance to negative rates? Well, the Fed generally believes that they're non-productive and maybe we can go into this in a little bit more detail going forward. But, they just don't really think they work and that's the bottom line.

Now, look, the market also has from time to time priced short-dated instruments into negative territory. For example in March of this year, one-month bills traded in negative territory. You also saw one-month bills trade in negative territory in the fall of 2015. And so, it's not unprecedented but typically when you see those short-dated interest rates trade negative it's due to technical factors. It's due to large flight to quality or just more demand for front-end treasuries than there is available supply, not necessarily the expectation that the Fed is going to take rates negative. And so, again, I would continue to caution that view and I see it as highly unlikely, but not impossible that the Fed would consider that in the years ahead.

John

Thank you, Mark. So, it does sound like a highly unlikely scenario but something that could still be out there.

I want to transition now to Ian White who heads up our Global Liquidity Investment Solutions Team, and I think a good segue into Ian's territory is talking about money market levels and pressure on money market levels that Mark mentioned. So, Ian, would you like to talk about how negative rates could impact our clients, especially when it comes to investment products like money funds, treasuries, and CDs?

Ian

Sure. Thanks for the time and thanks for everyone's time on the call today. As Mark mentioned, it's hard to believe we're back having this discussion again and certainly one that continues to pop up in client conversations for all the various reasons that Mark just mentioned.

I'd like to just tag on a little bit to say obviously we did see short treasuries trade negative early this year and we did have clients that actually invested in those treasuries at negative yields. I would say it was certainly a very limited number of clients and largely driven by extremely conservative investment policies, i.e. policies that are limited to US treasuries only. But in most cases we tended to see investors rotate out of maybe some of those normal routines to avoid those negative yielding options in search of other alternatives, for example most recently money market funds and/or bank deposits.

In some cases this requires a revision to policy but ultimately it's keeping with the spirit of that policy. So, if you're investing in US treasuries for stability of principle, so as not to lose money, investing in negative yielding US treasuries when there are other non-negative alternatives certainly doesn't make a lot of sense. So, from our perspective, we certainly saw a handful of clients that invested in treasuries at that point but by and large most rotated through other options that were positive yielding.

So, where do we sit today and where are we looking going forward? If we look at it from a money market fund perspective, and we use the global financial crisis as a guide, we're starting to see history repeat itself a bit here. As yields on money market funds, particularly treasury and

government money market funds start to approach zero, there are a number of things we start to see play out.

First, we typically see fee waivers wherein the asset managers temporarily waive a portion of the management fee to keep the net yield to money fund investors positive. And, as you may have seen, the headline suggests that many asset managers have already started this process, particularly with the higher fee or lower share class funds. If you think about a retail fund, for example, with maybe a 45 basis point fee on that, the economics don't make sense now. If you look at the treasury curve, one week out to the year, you're sort of in this range of 7 to 13 basis points today. So obviously those asset managers are waiving a portion of those fees to keep those net yields positive. I think you're now this month maybe end of last month starting to see that fee waiver process actually come into play in some of the institutional share classes where most of our clients are invested.

But beyond that, the next step is actually getting to floor rates in these money market funds. Most of the treasury and government funds that our clients are invested in typically have a net floor rate, generally pay debt one basis point. So, we're still a ways to go before we get to that point, working through fee waivers all the way down to those net floor rates but something to be cognizant of.

I think if we look back to the last cycle, looking where gross money fund yields got to, I think it was in the range of 8 to 10 basis points which allowed a bit of a cushion for the asset managers to continue to charge some fee and continue to operate and offer that product. So ultimately if you talk to asset managers now, I think that's generally where they would point to, to where we're heading.

For the investment perspective, you're clearly focused on net yields and where the value is from one fund to the next within certain categories, treasury, government, prime, etc. And, current treasury and government money market funds yield around 3 basis points with the top end performers still hovering around 6 to 7, and then prime funds that can buy credit and are subject to a floating NAV, potential fees and gates, etc., are

yielding slightly higher. The average today sits around 13 basis points with the top end providers yielding just under 20 basis points.

So, to be sure, the money market fund industry has to prepare for the potential of negative rates given the current environment and I think there's been a number of industry working group discussions around how best to handle negative rates here domestically. At this point, it seems that RDM, or reverse distribution mechanism, is the current favored option. Essentially, this would allow the CNAV, or constant NAV funds, those treasury and government funds, to maintain their ever-important \$1 NAV by cancelling shares on a nightly basis. You can think of it as a mirror of dividend reinvestment. Instead of reinvesting those dividends to purchase additional shares, RDM covers for that negative yield by cancelling shares on a nightly basis.

Another option is to convert those CNAV funds, the treasury and government funds, into FNAV or floating NAV funds, like what we have for the time [ph] funds here domestically, which would allow the NAV to absorb that negative yield. I think here it's a little tricky given the size of the industry, the intermediaries, the auto-sweep arrangements and many ultimate end investors that require that \$1 stable NAV making that transition a little tricky here domestically.

At the end of the day, the final decision is still yet to be made, but to me the appetite for money market funds in a negative rate environment is the culmination of both. It's the functionality of the product, how it would operate, like we just talked about, and then the relative value compared to other alternatives, including deposits and other short-term instruments. I think we'll continue to see what we've seen in the past, which is most clients seeking out the least negative or least painful option as it relates to other fixed income front-end products, CDs, commercial paper, etc., I think we still have a little ways to go there.

If you looked at LIBOR resets today, I think we're at 24 basis points across one-, three-, six-month LIBOR. So, the curve is obviously very flat on these products today, especially for the large domestic banks, their CD rates inside of three months. But, investors do have the option to extend maturities out the curve and improve returns. It's the whole notion of this

liquidity premium where maintaining liquidity now is essentially paying you zero per Fed design.

So, again, I think in a negative rate environment to me corporate investors tend to seek out the least negative option, staying within their policy and concentration limits.

John

Thank you, Ian. That was a great overview of the investment world and definitely something that our clients are thinking about as an investors in that market.

Mark, I want to go back to you and ask you what are the pros and cons you think there are of negative rates for banks and non-banks. You alluded earlier to the Fed thinking that negative rates are non-productive. Could you explain a little bit of what you mean by that?

Mark

Sure. I'm happy to, and I should also note that just as we're speaking, so is Fed Chair Powell and there are headlines that read negative rates are not a tool we are looking to use and the evidence on negative rates is mixed. So again, I think that just reiterates the point that it's quite unlikely in the near term for the Fed to do this.

But, what is the logic and what is the potential justification or costs and benefits to banks and non-banks? Well, from a central bank perspective, in theory, another way to stimulate the economy when constrained by limited other options to try and provide support is to take rates negative and essentially penalize banks for holding idle cash. The central banking community in theory believes that negative rates would act as a strong incentive to try and get banks to offer more cash on loan and to thereby stimulate the economy.

If you're a borrower, negative rates are great. There have been instances, I think in Europe, where mortgage rates have actually been negative. So, the bank would pay you to borrow money to invest in a home; pretty incredible if you think about that. So, you're not paying but you're getting

paid to take out a loan to do that. And in theory, that should incentivize consumption and it should incentivize loan making behavior.

But, in practice, the evidence is much more mixed. The evidence is more mixed because banks will only lend to institutes that they believe are credit-worthy, regardless of the rate or the penalty that they face. I don't think that central banks want to incentivize banks from lending imprudently. So, you don't really see a large increase in lending activity in a negative rate environment.

And also, from an end user, a non-bank perspective, negative interest rates can have let's say a hit to confidence because it's essentially, if you're a depositor—if you're taking a loan it's wonderful. If you're a depositor at a bank, what is a negative interest rate? Well, a negative interest rate is a tax on your savings, a tax potentially that you would face by keeping your cash at a bank. Bank of America theoretically could charge you to keep deposits with it. And, that does not sit well with depositors and again that has had some impacts that can weigh on confidence.

Also from a bank's perspective, negative interest rates are very, very problematic. They're problematic because they are a hit to profitability, especially when you consider the fact that banks, well, maybe they will make some loans at or near negative rates, but they're still going to own the assets just for liquidity and safety and soundness that will yield negative so that's a hit to profitability. And, even though assets that they invest in may be negative yielding, banks will really struggle to apply negative interest rates to depositors, again due to that notion that you could be charged or taxed on your savings. That, as you can imagine, is incredibly unpopular. While banks may be able to get away with charging savers if they are institutional depositors or big corporations, banks have generally proven unwilling to take rates negative for let's say retail investors, so the average person on the street. Banks have been very, very reluctant to do that.

Again, if your assets are falling, in terms of the rate that you earn or potentially becoming negative but your liabilities are still fixed at a higher

cost, because of your unwillingness to take rates negative for retail, that is going to hurt profitability.

The evidence, at least from academic studies that have looked at negative rates around the world in places like Europe and Japan find that overall bank profitability and lending activity erode the longer negative rates are in place. This is due primarily to banks' reluctance to pass negative rates onto retail depositors. And so, if a central bank was trying to incentivize more lending by penalizing banks for holding cash, what academic research has found is that it actually has the opposite effect. It doesn't incentivize lending. If anything, it may act as a hindrance to lending just because banks are not going to balance sheets as much because they're in this negative carry position where assets are yielding negative and liabilities are not.

So, as a result of that, I think there is really lack of clear evidence that negative rates can be impactful. And, as a result of that, I think that the Fed doesn't really want to take rates in that direction because they don't see clear evidence that it works and frankly the Fed has an ability to continue to ease monetary policy in ways that Europe and Japan may not.

In Europe, the ECB is constrained on how many bonds they can buy due to political considerations. Remember there is no fiscal union in Europe and so the ECB doesn't want to buy more Spanish bonds than German bonds because the Germans then might be resentful of the Spaniards for running on sustainable deficits and having higher debt outstanding.

Similarly in Japan, the Bank of Japan already owns a very, very large portion of the JGB market, their local government debt market, and there may be limits to how far the Bank of Japan can ultimately go before there are negative market consequences. Those issues are not present in the US today, and therefore, we continue to believe that the Fed has greater ability to engage in policies that it thinks will be more impactful as opposed to employing negative rates wherein the evidence is quite mixed on its efficacy.

John

Thank you, Mark. That's really interesting and I appreciate you pointing out the evidence and also giving a real-time update from the Fed's Chair Powell on that topic. What hit home for me specifically is that we are unwilling to take rates negative for retail or consumer clients and taking that hit to profit, or at least we've seen other economies who are unwilling to do that.

So, I want to move on, before we wrap up, to Ian, and ask Ian about more of the key differences, and Mark, you alluded to this, between US and European markets when it comes to negative interest rates. Ian, if you could give a quick update on this and then we can wrap up.

Ian

Sure. I think if we just look at money market funds for example and you look at Crain data and the AUM numbers, if you look at offshore funds, US dollar, euro, pound, it looks like the aggregate is roughly 1 trillion in size. If you compare that to the money market fund industry here domestically, it eclipses 5 trillion. It's just a little bit below that now at roughly 4.7 trillion, so a massive difference in the AUM. Like we talked about before, if we consider how those money market funds would react in a negative rate environment, RDM versus FNAV, the impact of FNAV here domestically would be far more significant given that AUM difference.

Other aspects that I think about domestically versus some of the other jurisdictions, and Mark could speak to this way better than I, but if you think about the issuance of US treasuries, the massive issuance to fund stimulus and the regular auctions of that new debt, those are all stored at zero so they can't come negative, if you think about the issuance of agencies that typically yield higher than that, and/or the structural aspect of the massive tri-party repo market that exists here domestically, 300 billion plus, which isn't really set up to trade negative. So there are a number of structural issues or concerns that would need to be addressed here domestically to potentially allow for negative rates that are different than other jurisdictions, as Mark mentioned.

I think to me the key from a corporate investor perspective is doing exactly what you're doing today. Stay on top of the developments, connect with your trusted advisors, understand how things are unfolding and most importantly understand what your options are. So, certainly have policies

and strategies in place but the key to all that is allowing for flexibility within the spirit of those policies.

I'll turn it back to you, John.

John

Thanks so much, Ian. I agree that it's really looking into the policy and making sure it makes sense given your risk appetite.

And so how I want to wrap up today, I just want to say thank you again to the panel. So Mark Cabana, and Ian White, thank you for joining. We covered a lot of ground today. We talked about outlook for negative interest rates. We talked about the impact on investment products and then also pros and cons of negative interest rates and what we've seen here and abroad.

And so, although we've really heard that there's no expectation, high unlikelihood that USD rates could go negative, we still do want to encourage companies to stay diligent when it comes to treasury management and specifically liquidity management. And so just to name a few things that treasurers should be considering right now, we should be looking at centralizing liquidity, so we encourage our client to review and consolidate banking partners. Make sure your banking partner has a strong credit rating and a strong balance sheet to continue to support you during these unprecedented times.

We encourage you to manage working capital. Use excess cash to pay down debt instead of earning what could be a very low yield in a very low rate environment.

And then something that Ian referred to, refresh your policies. So, think about your investments and your liquidity management. Make sure they reflect the current risk appetite of your organization.

Finally, another best practice here, among others, but fine-tune your cash forecasting. You want to have as much visibility into projected payables and receivables to allow for more informed investment decisions with that cash.

So, as a reminder, this session is part of the Bank of America Global Liquidity Speaker Series, which will happen every two weeks. The upcoming topics include COVID and liquidity management; that is on October 20th. And then in future sessions we will get into looking at AFP surveys and best practices from those surveys. We'll give global updates from different regions throughout the world, and then we'll look at notional pooling and FX netting among other topics.

As always, make sure you reach out to your treasury contact at Bank of America if you have any questions. Our team is always there for you to advise on best practices for liquidity structures and techniques.

And, with that, we will wrap up today. Thank you again for joining and everybody stay well.

Coordinator

Thank you, John. Everyone, that concludes your call for today. You may now disconnect. Thank you for joining. Enjoy the rest of your day.

[END OF CALL]