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Introduction:

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Remarks:

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P R O C E E D I N G S

MR. WESSEL: Good afternoon. I'm David Wessel, director of the Hutchins Center on Fiscal & Monetary Policy at the Brookings Institution. I am very pleased today to welcome to our virtual stage, Richard Clarida, the vice chair of the Federal Reserve Board.

Mr. Clarida has been at the Fed since September 2018. Before that, he spent 30 years on the faculty of Columbia University; did a stint in the Treasury Department, as assistant secretary of Economic Policy in the George W. Bush administration; and he also has spent a number of years as advisor and managing director of PIMCO, the bank money manager.

After Mr. Clarida's remarks, we are going to do something a little unusual. I am going to be joined on the virtual stage by two people, who are not -- who don't usually get a chance to ask questions of Fed officials in public:

Seth Carpenter, as chief U.S. economist at UBS, a former staff economist at both the Fed and the Treasury, and I should note that UBS is a supporter of the Economic Studies program at Brookings; and the other interlocker will be Annette Vissing-Jorgensen, who is the Arno Raynor chair in Finance and Management at the Haas Business School at Berkeley, and before that was at Northwestern University.

So, with that, Mr. Clarida, welcome to Hutchins Center.

MR. CLARIDA: David, thank you so much. And I'll jump right into my remarks. On August 27, the FOMC unanimously approved a revised Statement on Longer-Run Goals, which represents a robust evolution of its monetary policy framework. The new framework has important implications for the way the FOMC will conduct monetary policy to achieve its dual mandate goals in a world of low neutral policy rates and persistent global disinflationary pressures.

At our September 16th FOMC meeting, the committee made material changes to our forward guidance for the funds rates to bring it into line with the new policy framework. And, in so doing, provided transparent outcome-based guidance linked to the macroeconomic conditions that must prevail before the committee expects to lift off from the effect of lower bound.

In my remarks today, I would like to look ahead and offer my individual perspective on the consequences of our new framework with the conduct of monetary policy over the business cycle and

provide some context that connects key elements of our new framework to the literature on optimal monetary policy subject to an ELB constraint.

Now, let me say at the outset that when I am not quoting directly from the consensus statement and the September FOMC statement, the views expressed are my own and do not necessarily express the views of other board members or FOMC committee participants.

In my remarks today, I will focus on six key elements of our new framework and the forward guidance provided by our September FOMC statement. Five of these elements define how the committee will seek to achieve its price stability mandate over time, while the sixth pertains to the committee's conception of its maximum employment mandate.

Of course, the committee's price stability and maximum employment mandates are generally complimentary. And, indeed, this complementarity is recognized and respected in the forward guidance language introduced in our September statement.

However, for ease of exposition, I will begin by focusing on key elements of the new framework that define how the committee will seek to achieve its price stability mandate before discussing how maximum employment is defined in the new framework and what this implies for the conduct and communication of monetary policy.

Five features of our new framework in September FOMC statement define how the committee will seek to achieve its price stability mandate over time. These are:

First, the committee expects to delay liftoff from the ELB until PCE inflation has risen to 2% on an annual basis and other complimentary conditions consistent with achieving this goal and to be discussed below are met;

Two, with inflation having run persistently below 2%, the committee will aim to achieve inflation moderately above 2% for some time in the service of keeping longer term inflation expectations well-anchored at the 2% longer-run goal;

Three, the committee expects that appropriate monetary policy will remain accommodative for some time after the conditions to commence policy normalization have been met;

Four, policy will aim over time to return inflation to its longer-run goal, which remains 2%, but not below once the conditions to commence policy normalization have been met;

And, fifth, inflation that averages 2% over time represents an ex-ante aspiration of the FOMC, but not a time and consistent ex-post commitment.

I believe a useful way to summarize the framework defined by these features is temporary price level targeting at the ELB that reverts to flexible inflation targeting once the conditions for liftoff have been reached. Just such a framework has been analyzed by Bernanke, Kiley, and Roberts; and Bernanke who, in turn, built on earlier work by Evans, Rich Schneider, and Williams, among others.

Each of the five elements of the new framework highlighted above is consequential. I now discuss each, in turn, and provide some context for how I understand them to relate to the monetary economics literature on temporary price level targeting. A policy that delays liftoff from the ELB until a threshold for average inflation has been reached is one element of a temporary price level targeting strategy.

In our September FOMC statement, we communicated that. Along with other complimentary conditions, inflation must have risen to 2% on an annual basis before we expect to liftoff from the ELB. Temporary price level targeting with such a one-year memory has been studied using stochastic simulations of FRBUS by Bernanke, Kiley, and Roberts.

An alternative version of TPLT would commit the Central Bank to delay liftoff until inflation has averaged 2% over a longer period of time; say, three years or perhaps over a longer period of time that would commence when policy hits the ELB itself.

In these versions of TPLT, inflation would likely have to moderately exceed 2% for some time before the condition for liftoff is met. But it is important to note that TPLT with a longer memory does not define ex-ante, the amount by which inflation must exceed 2%; nor does it specify ex-ante for how long inflation exceeds 2% or liftoff is considered.

In the case of the Federal Reserve, the FOMC chose a one-year memory for the inflation threshold that must be met before liftoff is considered, but also indicated in September that the committee expects to delay liftoff until inflation is "on track to moderately exceed 2% for some time." What "moderately and for some time" mean will depend upon the initial conditions at liftoff, just as they do under versions of TPLT with longer memory.

Crucially, the committee's judgement on the projected duration and magnitude of the

deviation from the longer-run 2% inflation goal will, at the time of liftoff, and every three months thereafter be communicated in the quarterly summary of economic projections for inflation.

The SEP has served this purpose before. For example, in 2018, as the FOMC factored in an unexpected tailwind from mid-cycle fiscal expansion and chose to maintain a gradual pace of normalization, the median participant at the September 2018 meeting projected that core inflation would moderately exceed 2% for three years.

The FOMC statement itself can in the new regime also be used as a platform to communicate the committee's tolerance for deviations of inflation from the 2% longer-run goal; and, indeed, it has served its purpose in the past. For example, what the threshold-based guidance linked to inflation outcomes introduced in the FOMC statement of December 2012.

In the TPLT studies I cited earlier, policy is assumed to revert to an inertia Taylor rule after liftoff. And, therefore, policy remains accommodated for some thereafter, which depends in these formulations on the degree of policy inertia and the reaction function.

Our September FOMC statement also calls for policy to remain accommodative for some time after liftoff. Once the conditions to commence policy normalization have been met, the SEP dot plot will convey the median participant's projection over a three-year horizon, not only for inflation, but also for the pace of liftoff, as well as the ultimate destination for the policy rate.

I will have more to say shortly about a relevant policy rule benchmark that I believe is consistent with our new framework. Our new framework is asymmetric; that is, as in the above-cited TPLT studies, the goal of monetary policy after lifting off from the ELB is to return inflation to its 2% longer-run goal but not to push inflation below 2%.

After liftoff from the ELB, monetary policy in these studies reverts to simple flexible inflation targeting, which is implemented with an inertia Taylor-type rule. The policy is flexible in that the desired pace of return to the 2% longer-run inflation goal can reflect considerations other than that goal that are relevant to the Central Bank's mandates.

In the case of the Federal Reserve, we have highlighted that making sure that inflation expectations remain anchored at our 2% objective is just such a consideration. Speaking for myself, I follow closely the Feds' staff's index of common inflation expectations as a relevant indicator that this goal

is being met.

Other things equal, if at time of liftoff the CIE index is below its pre-ELB level then my desired pace of policy normalization post-liftoff to return inflation to 2%, as well as the projected pace of return to 2% inflation would be somewhat slower than if the CIE index is at time of liftoff equal to its pre-ELB level.

Another factor I will consider in calibrating the pace of policy normalization post-liftoff is the average rate of PCE inflation since the new framework was adopted in August of 2020, at a time as it happened that the federal funds rate was constrained at the ELB.

If average inflation since August 2020 turns out to be notably below 2%, then my desired pace of policy normalization post-liftoff and the implied pace of return to 2% inflation would be somewhat slower than if average inflation since adoption was close to or equal to 2%.

Now, it is important to emphasize that the goal of our new framework is to keep inflation expectations well-anchored at 2%. And for this reason, I, myself, plan to focus more on indicators of inflation expectations, especially survey-based measures than I will on the calculation of an average rate of inflation over any particular window of time.

Our framework aims ex-ante for inflation to average 2% over time, but it does not make a time and consistent commitment to achieve ex-post inflation outcomes that average 2% under any and all circumstances and constellations of shocks; the same is true for the TPLT regime studied them, Bernanke, Kiley, and Roberts.

In this regime, the only way in which average inflation enters the policy rule is through the timing of liftoff itself. Yet, in stochastic simulations of FRBUS under TPLT that reverts to flexible inflation targeting after liftoff, inflation does average very close to 2%.

The model of Mertens and Williams also delivers a similar outcome. Even though the policy reaction function in their model does not incorporate an ex-post makeup element, it delivers a long-run unconditional average rate of inflation equal to target by aiming for a moderate inflation overshoot away from the ELB that is calibrated to offset the inflation shortfall caused by the ELB.

Now it is important to note that, as our new consensus statement emphasizes, the Federal Reserve is committing to using all of our available tools, not just the funds rate and forward

guidance, but also large-scale asset purchases to achieve our dual mandate goals.

Since our March 15th FOMC meeting, when the federal funds rate was reduced by 150 basis points to its effective lower bound, we have increased our treasury and MBS holdings by a total of $3.2 trillion and we continue to add to these holdings at a pace of $120 billion per month.

These large-scale asset purchases are providing substantial support to economic recovery by sustaining not only smooth market functioning but also fostering accommodative financial conditions that support the flow of credit to households and businesses.

At our November FOMC meeting, we discussed our asset purchases and the critical role they are playing in supporting the economic recovery. Looking ahead, we will continue to monitor develops and assess how our ongoing purchases can best support maximum employment and price stability objectives.

In this regard, I note that the simulation results reported in a recent paper by Ben Bernanke suggests that, in general, a monetary policy at the ELB that combines threshold guidance with large-scale asset purchases is best equipped ex-ante to achieve inflation outcomes that are consistent with price stability and inflation expectations anchored at the 2% objective.

Let me talk now about maximum employment in our new framework. An important evolution in our new framework is that the committee now defines maximum employment as the highest level of employment that does not generate sustained pressures that put the price stability mandate at risk.

As a practical matter, this means to me that when the unemployment rate is elevated, relative to my SEP projections of its long-run level and other indicators such as the prime age employment to population and labor force participation ratios are depressed relative to recent business cycle peaks, monetary policy should, as before, continue to be calibrated to eliminate such employment shortfalls, so long as doing so does not put the price stability mandate at risk.

Indeed, in our September FOMC statement, we indicated that we expect it will be appropriate to keep the funds rate in the current range until inflation has reached 2% and labor market conditions have reached levels consistent with the committee's assessment of maximum employment.

In our new framework, when in a business cycle expansion labor market indicators return

to a range that in a committee's judgement is broadly consistent with maximum employment, it will be data on inflation itself that policy will react to. But going forward, policy will not tighten solely because the unemployment rate has fallen below any particular econometric estimate of its long-run natural level.

This has important implications for the Taylor-type policy reaction function that I will consult. In particular, I will continue as I have since joining the Fed to consult policy rules that respect the Taylor principle as a benchmark for calibrating the pace and destination of policy normalization once that process commences.

Consistent with our new framework, the relevant policy rule benchmark I will consult is an inertia Taylor-type rule with a coefficient of zero on the unemployment gap, a coefficient of 1.5 on the gap between core inflation and the 2% longer-run goal, and a neutral rule policy rate equal to my SEP projection of long-run r-star.

As discussed earlier, the degree of inertia in the benchmark rule I consult will depend on initial conditions at time of liftoff, especially the reading of the staff's CIE index relative to its February 2020 level.

Such a reference rule, which becomes relevant once the conditions for normalization have been met is similar to the forward-looking Taylor-type rule for optimum monetary policy derived in my research with Mark Gertler and Jordi Galí.

One dimension along which our new framework may appear to differ from the threshold forward guidance proposals advocated by some others is that our September FOMC guidance explicitly requires that at time of liftoff, in addition to inflation reaching 2%, labor market conditions must have also reached levels consistent with the committee's assessment of maximum employment.

However, any differences between our September FOMC guidance and similar threshold guidance policies that depend only on realized inflation are, I believe, more apparent than real. This is because proponents of inflation-based threshold guidance typically acknowledge that liftoff following an ELB episode should be conditioned on the judgement that inflation has sustainably reached the target before liftoff is contemplated.

And such an assessment of sustainability in most circumstances would, I believe, be informed by an assessment of labor market conditions. The committee confronted just this situation in

the first half of 2012 when core inflation reached 2% at a time when the unemployment rate remained above 8% and well above the topo of the range the committee considered a longer-term normal level.

The committee at that time, wisely, in my judgement, chose not to liftoff in 2012. But I would hope -- and under our September rate guidance expect the future committee would reach the same judgement under similar circumstances.

In closing, I think of our new flexible average inflation targeting framework as a combination of temporary price level targeting at the ELB that reverts to flexible inflation targeting once the condition to commence policy normalization have been met. In this sense, our new framework is indeed an evolution not a revolution.

The committee is committed to using all of our tools including threshold-based forward guidance, as well as large-scale asset purchases, to achieve the price stability and maximum employment goals specified in our new consensus statement.

Thank you very much. And I look forward to my virtual conversation with Annette, David, and Seth. Thank you.

MR. WESSEL: Thank you very much, Mr. Vice Chairman. What we are going to do is, I am going to turn first to Seth who, as I introduced earlier, Seth Carpenter from UBS, and Annette Vissing-Jorgensen, from Berkeley. And I have a couple of questions that people have submitted in advance from outside this Zoom room.

So, Seth, why don't I start with you? What would you like to hear Mr. Clarida talk about?

MR. CARPENTER: Sure, thanks. And thanks for having me, all of you. And Mr. Vice Chairman, it's great to be with you. You talked a couple of times about the Fed being willing to use all of its tools. I think Chair Powell has used similar language. Chair Powell has used lots of adjectives to describe just how powerful he sees the tools that you have at your disposal.

So that forces me to ask a question. When we look at, for instance, the September Summary of Economic Projections, the median FOMC member doesn't have inflation getting above the 2% level, which is part of your newly-described objectives.

And the measurement of, you know, unemployment relative to the longer-run estimates looks like it's getting to full employment. But, as you noted, other considerations like labor force

participation, wage inflation need to be met. So it seems that from that projection the committee really isn't meeting its objectives for three years.

But the precondition or the assumption for those projections are the committee is doing "appropriate monetary policy." So it seems to me one could infer one of two conclusions: Either, at least three years, perhaps, longer is a fully acceptable time horizon to get back to the committee's objectives; or we're basically tapped out in the defense using all of the tools that we have, but this is about as good as it's going to get.

Can you walk us through how we should do that inference?

MR. CLARIDA: Well, Seth, I think there is a third possibility; it won't surprise you. And that is that the coronavirus pandemic leveled a severe, really unprecedented blow to the economy in the spring of this year. We had a 22 million increase in unemployment; we had a 30% annualized decline in activity.

And I think what our September projections reflect is the fact that the economy is in a very deep hole and we are starting to dig out. And the business cycle has not been repeated. Monetary and fiscal policies are powerful tools, but this is really an unprecedented hit.

So I think the only inference here is that it will take some time to recover under the median projection but that doesn't really reflect our judgement that our tools are not up to the tasks. It just really reflects the depth and severity of the shock that we are recovering to, you know, the economy is a complex place.

But, in general, you know, modest shocks can be -- generate faster recoveries than very deep shocks. So it's really more of a reflection of the shock than a judgement on the tools.

MR. CARPENTER: Thanks.

MR. WESSEL: Annette.

MS. VISSING-JORGENSEN: Sticking with the new framework, I was happy to see a bit more guidance on how you think about that in your comments. Are you worried that markets might have an inflation tantrum once inflation is allowed to go over 2%?

I noticed that you mentioned that you are going to base your thinking about survey expectations rather than actual inflation averages. Do you think there will be some concern that there is

not enough guidance about how much above 2% and for how long?

MR. CLARIDA: Well, thank you, Annette. You know, and as I make clear in my remarks the committee has a number of communication vehicles, as we approach that time, for communicating both how long and how much. And this actually gets back to Seth's question, you know.

If we were launching this new framework in a different set of circumstances then these would be, you know, in the horizon right now. But the shock, just is the hand we were dealt as we were ready to roll out the framework the pandemic hit.

You know, but that being said, we will be able, and I am sure we will communicate, and certainly we would try to avoid, you know, any such phenomenon, as you describe. But I think the committee -- I know the committee -- because we got unanimous support with Chair Powell's leadership.

The committee felt that we really had an opportunity to demonstrate that an important element of price stability is inflation expectations that are anchored to -- and our concern was simply that if we always are writing policy to get inflation to two and stop and we're successful then on average inflation will be below two because of the ELB and we wanted to avoid that.

And so, I think we are communicating what the goal is: long-run price stability is still 2%. I will be looking at surveys, but also market measures and model-based measures. And so, once of the reasons this will give me a chance to plug the fine work by the Fed staff.

One of the reasons I like the staff's new CIE index is that it is a model agnostic approach to extracting a common factor across 20 different measures and as I think it's quite useful in that regard. But we'll certainly do everything we can. And I think we will be able to avoid that scenario that you laid out there.

MR. WESSEL: Thanks. Seth?

MR. CARPENTER: Yeah. So, inevitably, though, one possible concern with inflation, there being a tantrum because people are worried that it goes too high. I think a natural question though could be in the opposite direction, so, too low.

Phrased hopefully not unkindly. The Fed had had a target of 2% for, you know, a long time, formally, since 2012, and never actually hit it. So if the Fed hasn't been able to hit two, where is the confidence that the Fed is going to be able to hit something higher than two

MR. CLARIDA: Yeah. Okay. Well, let's look at the videotape, as they used to say, the virtual videotape. I joined the Fed in September of 2018. Core PCE and headline PCE were actually running a nudge above two. When I got to the Fed, policy had been normalized gradually. The labor market was in the vicinity of full employment.

And I would argue, and indeed I was on the committee for the tail-end of that episode; that policy was doing exactly what it should do under the old framework, which is to get inflation to two and to keep it there.

What occurred in 2019 was that we had a sharp slowdown in the global economy that we in the private sector did not forecast. And we had, as a result of that, decline in global economic activity. And that slowdown in activity, we had some softening in inflation and we responded to that on a year-over-year basis.

In February of 2019, core PC was again back up to 1.9. So I would push back a little bit about the committee's ability to engineer a return to 2% inflation from below. That, indeed, is what we achieved in 2018. The challenge, of course, is in the world of low rates.

And when we began the review, I should point out, was in the early part of 2019 when the ELB was not a binding constraint. We were well above the ELB but we were concerned that on the next downturn we could get there. Of course, that's what turned out to be the case.

So that's really the way I think about that period of time.

MR. WESSEL: Thanks. Annette? And then I'll throw in a few.

MS. VISSING-JORGENSEN: Yeah. So sticking with the average inflation targeting, at Jackson Hole (phonetic), you were going to try and go to present as some interesting evidence that households tend to take high inflation as a bad thing and start downgrading their expectations for growth.

Is that something you are concerned about, in terms of that counteracting, any sort of initial increase in inflation? And what is the plan, in terms of communicating with households to not be concerned about this?

MR. CLARIDA: No, I am aware of that work. And it's one of a series of papers that he and co-authors have focused on this topic. You know, it is an important one. I guess what I take away from it is, I think for a lot of households it's just intuitively probably don't have sophisticated econometric

models here, or they are not looking at the tips breakeven curve.

But they are looking at actual inflation. And so that's one of the reasons why in our framework we really are focusing on a desire to have inflation average 2% over time. It's precisely cause we think that will help support inflation expectations.

Again, I'd like to study the work some more, but also point out that people typically like to get wage increases. And they don't oftentimes think that a wage increases inflation; but, of course, typically those two move together.

So I think it's a little bit more of a complex picture. But I do agree it is important and we are committed to communicating, as best as we can, about the new framework. But that is an important consideration, yeah.

MR. WESSEL: Mr. Clarida, as you mention in your answer, this is -- we are not living in ordinary times.

MR. CLARIDA: Yeah.

MR. WESSEL: The COVID virus seems to be on the rise again. Long-term interest rates have risen a little bit. You and Chair Powell assure us that the Fed is not of ammunition. But I wonder if you could talk a little bit about what ammunition do you have left? Is there something you could do with the composition of asset purchases or something? What is it that you can do to get us closer to full employment and price stability?

MR. CLARIDA: Excellent question. And I am going to touch on a couple of points before I directly answer your question, which I promise to. The first thing I would say is, although the hit the economy took, the global economy took from the pandemic shock -- or as my colleague, Vice Chair Quarles calls the COVID event -- it was severe shock, as we all know.

But the recovery from the COVID event has also been initially quite robust, about half of the jobs lost have been regained. We're still in the deep hole. But, certainly, if you look at where most forecasts were in, say, April or May, would not have had an unemployment rate now of 6.9% and the strong recovery that we had.

And, in particular, I would point to the fact that in the recovery in both employment and economic activity that we saw beginning in the summer, we saw it was the intra-sensitive sectors that

were actually powering the recovery -- durable goods, housing starts, capital spending.

And so, there had been some concern in the spring, oh, this shock is different; low interest rates, accommodative supported financial conditions won't be effective. I think it's clear now that the tools still have their power. But it's also, as I said in answer to the earlier question, we're in a deep hole.

Now answering more directly your question, I think most recent data has been really moving in opposite direction. So the economy entered the fourth quarter with good momentum in the macro data, both in the labor market and in the GDP data.

We also got some very, very, very encouraging news on the vaccine recently. On the other side though, of course, infection rates in the U.S. are definitely increasing at a very, very high rate, hospitalizations. And I think, as Chair Powell indicated in remarks last week, you know, the next couple of months, the next several months -- especially given the colder weather in much of the country and given what we are seeing in terms of the COVID infection rates -- you know, could be a challenging time for the economy.

You know, that said, in terms of our toolkit, we do think that our toolkit is amply stocked in terms of, you know, the way that we think about that, as the Chair indicated in the press conference last week, specifically with regards to asset purchases.

And in our November meeting, we discussed various aspects of the program including the composition of the portfolio, the pace of purchases, and the life cycle of the program. You know, right now, as of our November meeting, we like the way that policy is calibrated but we will continue to monitor developments and assess the outlook. And we'll make adjustments as needed.

MR. WESSELL: Does this act that we don't appear to have any additional fiscal support on the horizon lead you to accelerate the plans to think about changing your tool, using your tools?

MR. CLARIDA: Well, I am not going to get ahead of what we discuss at our December meeting. Certainly, at our most recent November meeting, we liked where we were in terms of the calibration of policy, both asset purchases and guidance. What I would say and I have said before publicly, is I do believe that further support from both fiscal and monetary policy will likely be needed.

Obviously, as we always say, that's a decision for the legislative branch and the

executive branch. But in my professional opinion, I do believe additional fiscal support will likely be needed. And, obviously, as we meet in December, we will factor in our projections for that in terms of our assessment of what we need to do on policy.

MR. WESSEL: And if I can ask one more: What will determine whether you and the Treasury decide to extend the emergency lending facilities that are otherwise set to expire at the end of December?

MR. CLARIDA: Yeah. Well, let me say a couple of things about that. First and foremost, I believe that the so-called 13(3) facilities have been very successful. They have served their purpose broadly. They, in essence, are backstop facilities.

I have always said and we have said the metric is not how big are they getting, but are they supporting the flow of credit? And I believe in most circumstances they are. So I think through the rearview mirror, they have been successful policies.

Now looking ahead, of course, they are due to expire at the end of this calendar year. And, by statute, that is a decision that will be made jointly by the Treasury and the Federal Reserve. And as Chair Powell indicated in his press conference, we are just turning to a discussion of that with or colleagues at the Treasury. And I don't have anything more for you on that right now.

MR. WESSEL: You don't want to share your particular position, not on behalf of Treasury or the FOMC?

MR. CLARIDA: I think I will leave my answer at that, David.

MR. WESSEL: (Laughter) Seth.

MR. CARPENTER: So then, David's question just before that, he was being extraordinarily Washington polite. And I think I have been in New York long enough to be, you know, slightly more direct. I mean part of the thrust was about the asset purchase program.

I will say, Wall Street is asking all of the time, is the Fed going to change them? Why wouldn't they do more? You mentioned the sort of estimated models that you rely on to sort of have justification for temporary price level targeting and things like that.

Those same models would, say, absolutely at the sell-off in the 10-year from 65 basis points up to 95 basis point. If you were to reverse that, it would ease financial conditions and those

models, say, would accelerate the pace of recovery.

So then it gets back to three years to get back to the Fed's objectives is clearly, sort of, are you happy with that calibration because otherwise the committee would just buy more longer term securities and down the 10-year? How should we unpack that?

MR. CLARIDA: Well, I would say several things. First of all, we are buying a lot of treasuries. We're buying 80 billion a month. That's comparable to the pace of Q-E2 (phonetic). And it's roughly the duration poll. And so these are big programs. The mortgage program is also quite substantial.

You know, I would point out that with long-term yields at historically low levels and below both current and projected inflation, you know, financial conditions are accommodative.

I would say more broadly, Seth, we also look not just at borrowing rates themselves but also the access and availability to credit. And, you know, the corporate bond market is functioning and capital is being allocated in that way. So I think relative to concerns many of us had the week of March 16th, I would say, you know, the financial system is really supporting recovery and we are certainly doing our part in that.

I guess the final thing I would say -- and, of course, you know, even I could go into length about this offline -- but the reality is that, you know, you look at a movement in the 10-year yield that's really reflecting the inflation component, the real rate component, and the term premium component.

And so, any assessment of what the market is telling you, you really need to sort of dig down a little bit and look at that. But I can say for myself, you know, I was not concerned when the yield on the 10-year went from 80 basis points to 92, or whatever. You consider the range that it's in and it's certainly still a very accommodative range.

MR. WESSEL: Thanks. Annette?

MS. VISSING-JORGENSEN: Yeah. I wanted to follow up a bit on what David asked about, the extension of the emergency facilities. Without extensions, are you worried that we might see something like we saw in March, in terms of market disruptions, or do you think the good vaccine news might be enough to prevent that?

MR. CLARIDA: Well, I don't think I am going to g beyond what I said in response to the

earlier question. I think the facilities have been very successful. I think that they have certainly served a very good purpose and by statute this is a joint decision with the Treasury. And we're just beginning to turn to that now, as Chair Powell said. And I will leave it at that.

MR. WESSEL: Mr. Clarida, when you talked about the options you had, is yield curve control getting more attention than it did before, or is that still something that's much more in the back pocket?

MR. CLARIDA: Yeah. Well, yield curve control is one element of the toolkit that our review did look at simply because other central banks, including the RBA, and the Bank of Japan are using versions of yield curve control. So we thought it would just make sense to analyze the pros and cons of implementing them in the U.S.

What I'd say about yield curve controls, we did look at it in our framework review. I think it is still in the toolkit. I think right now it's not something that we're considering because we actually think the current approach to our asset purchases is working well. I have also said before and believe that the most natural way to think about yield curve control is as a compliment to date-based forward guidance.

And what I would say on that is in September, of course, we, the committee, decided not to offer date-based guidance but really macro outcome-based threshold guidance and that also I think influences the role that yield curve control can or cannot play. So the bottom line is that it is in the toolkit but it's not something that we're actively considering right now.

MR. WESSEL: I see. Seth?

MR. CARPENTER: Yeah. So you were very gracious to allow me to sort of push a little bit hard in one direction with the tool --

MR. CLARIDA: Yeah.

MR. CARPENTER: Let me think in sort of the other direction. In this crazy Zoom world we live in, I was on a different conference and a little earlier today about central banks in the future. And part of that discussion was about inclusion, and equity, and distributional effects.

You all have made I think very, very clear how important many of those issues are for you at the Fed, how important full employment measured very flexibly to actually try to capture the crux of it is important.

So then, as you are thinking about the cost/benefit analysis with these tools, one of the other criticisms that gets slayed against the Fed is their asset purchase program, their forward guidance, keeping rates low, that's just pushing up asset prices, exacerbating wealth inequality.

So when you are thinking about that tradeoff, on the one hand, if you didn't do anything and all of the models are correct, presumably, we have worse outcomes in terms of employment inequality or income inequality. But if you use your tools then you potentially exacerbate wealth inequality.

Can you walk through that struggle, that cost/benefit analysis tradeoffs?

MR. CLARIDA: Yeah. And, of course, this is one instance where we have 17 members on the committee and each will have his or her own particular weighting in that calculation.

What I would say is one of the things that we learn from our review -- and the Fed listens -- events -- and I think it's something that many, if not all of us understood conceptually but it was really -- it really resonated with us in the context the Fed listens is -- and this idea goes all of the way back to Arthur Okun in the early '70s; and, of course, Janet Yellen did some very good work on this, and others.

But the basic idea is that when the labor market improves, it doesn't improve evenly. And, historically, the groups who benefit the most when the unemployment rates, say, goes from five to four, or six to five, or disproportionately at the lower end of the income distribution there are folks who are being pulled into a hot labor market.

They are getting job experience; they are getting contacts. And the value to society of being able to support a low unemployment rate is substantial. And, in particular, if achieving that low unemployment rate does not push up inflation then there is not even any reason not to aim and to try to do it.

And that's why, you know, in my remarks today, and in previous remarks, I have made the distinction between preemptively hiking rates based upon, you know, particular econometric model of full employment versus actually looking at the data. And I have really come down the view that because there is a cost to the economy of not achieving low unemployment that it's worth trying to et there if you don't see it in the inflation debt (phonetic).

Now let me 100% clear for this vice chair, if you push the unemployment rate to a level

where you see it in actual inflation and you see that wage gains are way ahead of productivity and it's not being absorbed in margin compression then, of course, we have a dual mandate.

We would, and I think we would act, but I think it does change the calculus. You know, in my academic work, I spent a lot of time thinking about monetary policy needs to be forward-looking. And I still believe that. But monetary policy also needs to be robust.

And I think the challenge with regards to the labor market is if our models are not very good, or if they're out-of-date then there is a real cost to gaging monetary policy on the wrong model.

Now, let me also say, we really -- although we have a powerful set of tools, they're pretty limited in number. They are either rates or they're balance sheet, and we do not have tools that can ameliorate or improve a number of aspects of the labor market that we don’t like. Those are really in the domain of fiscal policy.

And so, really, what we can do, and I think what our new statement says we want to do, is to achieve the maximum level of employment that is consistent, you know, with price stability.

Now, finally, on your point of income and wealth distribution, there I think it's important to note that we saw some important improvements in the income distribution data in the later two or three years of the last cycle. So sometimes income and wealth distribution can go in the same direction; sometimes they can go in the opposite direction.

But I would say the best thing that monetary policy can do, in tandem with other policymakers, is as quickly and as sustainably as possible, getting the unemployment rate down to a low level and that will do a lot for the income distribution.

MR. WESSEL: Thank you for that. I'm struck by how interesting this conversation is compared to the ones that we used to have about monetary policy where sometimes it seemed like getting inflation down was the sole goal. So I think things have changed a lot in my time in Washington.

In looking over the que stions that people sent in, Mr. Clarida, there were a number of people who asked about digital currencies. Do you think that it would be a good idea for the Fed to have a Feb-backed digital currency? Do you see this as being something transformative in the way financial services work?

Is this something that is, you know, 100 years away, or something that you can see

happening in the coming, you know, single digit years?

MR. CLARIDA: Well, as a number of my colleagues, including Governor Brainard, and Chair Powell, and Vice Chair Quarles have indicated, central bank digital currency is something that is under active study in the Federal Reserve system at the Board in the Reserve banks and partnership with MIT. And, obviously, the U.S. is -- the Fed is very much integrated into the BIS's innovation hub, which is also looking at that from the point of view of global central banking.

As Chair Powell indicated in some recent remarks, ,however, you know, the dollar is the global reserve currency. And so our focus is on not necessarily getting there first, but getting there in a way that makes sense given the role of the dollars.

I would also point out that we don't have the problem that the demand for our currency is evaporating. In fact, the growth in currency demand has been picking up in the last decade, in the last two or three years. So unlike some, say, Nordic countries where basically nobody holds cash anymore, that's not an issue for the U.S.

So central bank digital currency is on the radar screen. It's under intensive study in the system. We're working closely with central banks around the world and other through the BIS. But, as Chair Powell said, our focus is on getting it right not necessarily getting there first. So I'll leave it at that.

MR. WESSEL: I see. Annette?

MS. VISSING-JORGENSEN: Yeah. I wanted to touch on something we haven't discussed yet, which is the issue of moral hazard. And, you know, there is a debate about the moral hazard effects of the Fed's very successful policies this year.

On the one hand, some people argue that the curvature wasn't exogenous. But, on the other hand, you know, there has been a large runup in corporate debt before COVID. So, firms and masters (phonetic) have made themselves a bit more susceptible to shocks.

I wonder where you came down on that issue and whether you are worried about more moral hazard going forward? And I noticed the last financial stability report started discussing some regulatory initiatives. There was a lot of talk about fixed income funds. If you could just talk through what your thinking is on the moral hazard issues that would be great.

MR. CLARIDA: Yeah. I think there are two pieces to moral hazard. The first is easy and

the second is a lot harder. The easier one is -- and I think in one of my first interviews in March or April when I was asked this question -- what I said is, I am not at all concerned that by stepping in, as we did in March, that we validated a moral hazard calculation before. Because I think no one took on debt in 2019 or '18, saying, if there is a pandemic shock the Fed will step in.

So I am not too worried about that one. You know, what I would say is that we did step in under 13(3) authority, not so much in size, you know, in the corporate or the Muni markets, but we did step into markets that historically we had not stepped into. And, obviously, you know, the fact that we have done that indicates something about at least conditions under which it is feasible.

From my own perspective, I'm still -- maybe I'm a little bit old-fashioned -- I am still in the camp that thinks these 13(3) facilities should be unusual in exigent circumstance. I have no trouble going to sleep at night saying that the COVID shock was both unusual and exigent.

So I wouldn't revisit that one. And, as Chair Powell has indicated, and I have said, and others have said, you know, when the time comes we do want to put these tools away. I think the broader issue that you hinted at, perhaps -- and Vice Chair Quarles has also discussed this -- is there is I think a global recognition of a need to, not only understand better, but to calibrate and assess the interplay between the non-bank financial system and the bank financial system.

And I think anyone -- don't want to put you all on the spot -- but I think most people would have to agree that, you know, our banking, our U.S. banking system went through the ultimate real-world stress test in March and April and passed with flying colors.

And so the efforts that were undertaken post the GFC, in terms of capital liquidity leverage ratios, and the like, did serve the purpose of having a very resilient banking system that was a source of support for the economy through lending and not part of the problem.

So I think we should acknowledge success when we see it and I think those efforts were successful. And so I think that's the way that I sort of put those issues together in my own mind.

MR. WESSEL: Mr. Vice Chair, that implies you think maybe we ought to pay more attention to the non-banks?

MR. CLARIDA: Well, I think, you know, non-banks are an important part of our financial system. More than half of all credit in the U.S. is intermediated outside of the banking system. Obviously,

that part of the system is something that's overseen through different parts of the oversight architecture with the SEC, the OCC, and the CFDC, and the like. And that's all coordinated through the FSOC process.

MR. WESSEL: Did you draw any conclusions from the difficulties that the U.S. Treasury market had in March, which prior to Fed to step in with a lot of buying to calm things down and get that important market functioning again?

MR. CLARIDA: Well, I think it's fair to say, and I'll just, I will confess to your viewers that that event did take me by surprise. It was not something that I expected, based upon the historical behavior of the treasury market. There is typically a flight-to-quality, a flight-to-safety and that week of March 16th, and really the week of March 9th, we were not seeing that.

And so, you know, after the fact, in retrospect, I have a better understanding, and my colleagues have a better understanding of the interplay in that market between some technical factors, between the dynamics of dealer balance sheets, the way in which those trades are cleared.

I am not an expert on it. We recently hosted our annual virtual, Annual Treasury Conference, and had a panel or two on that. So I think it is an important issue. Obviously, the Treasury market is, you know, the single most important fixed income market in the world. So it's crucial that it function efficiently and with a high degree of liquidity.

MR. WESSEL: And another topic, there has been increasing pressure on central banks around the world to get involved in responding to climate change.

MR. CLARIDA: Yeah.

MR. WESSEL: And I noticed that recently -- I think it was the Vice Chair Quarles, or maybe it was the chairman said that the Fed was prepared to become more active in this network for green, a financial system. So I wonder if you could talk a little bit about what role do you think a central bank like the Federal Reserve should and can play in the climate change context?

MR. CLARIDA: Well, David, the way I think about it is that we have a very important role to supervise and regulate a number of financial institutions. And the public has a right to expect that we will calibrate and assess their risks and capital adequacy and liquidity in terms of all of the risks that they confront. And that includes risks to their investment and their portfolios from climate change.

And so that's the way I think that we really think about it, is our role as a regulator and a supervisor. Obviously, a number of central banks around the world are also looking into this now through the network for the greening (phonetic) of the financial system. We are working through the process of becoming a number of that group, although we have been very active in different working groups of that.

But, in my own perspective, I really think about it, really, that our bread and butter responsibility as a regulator and supervisor of banks, and to the extent that there is exposure in their portfolios to extreme weather or climate events, that's something we should factor into those assessments.

MR. WESSEL: Great. Seth, do you want to do the last question?

MR. CARPENTER: Sure. So far, the conversation has been pretty much, let's up the Fed and look at all of things that can go wrong. There has been a lot of really positive news for the economic outlook.

This morning with Moderna's report on their vaccine, Pfizer, last week, curious how you all have been thinking about calibrating the recovery from COVID, it was, as you noted, a massive hole we fell into; maybe the initial phase of the recovery happened faster than we though.

Everything is very clearly slowing down in the fourth quarter and then we get this news -- not just that a vaccine will be available but that the efficacy is higher than just about anybody anticipated. Talk about a hard forecasting environment, how are you thinking through that the range of outcomes?

MR. CLARIDA: That's an excellent point, Seth. And I am glad we do have a chance to talk about the upside because there is an upside. You know, sometimes in this job I do have to remind myself that probability distributions have both right and left tails. It seems as the central bank, they are always focused on the left tail.

But, no, there is some good news. Then, again, the momentum that the economy had going into the fourth quarter was very solid. I would say my own personal forecast and projection for '21 always had a baseline that there would be a vaccine but that was a -- you know, that was not a table pounding conviction.

And so, you know, first of all, I am not an epidemiologist and don't play one on TV. But, obviously, the news has been very good to have, now two successful trials with above 90% efficacy.

And so what that tells me personally is that I have got more conviction in my baseline for next year and more conviction that the recovery from the pandemic shock in the U.S. can potentially be more rapid, potentially much more rapid than it was from the global financial crisis.

So, for example, Seth, I give back, you know, the SEP in September, folks, including today, pointed out that it took three years to get, according to the SEP, medians to get to a low rate of unemployment and to get inflation up to two, but that took like more than seven years following the global financial crisis.

And so deep shocks do tend to have some prolonged recoveries but there is an upside here. Also I would also point out that there is an enormous quantity of pent up saving. Fiscal policy was so successful that this is the only downturn in my professional career in which disposable income actually went up in a deep recession.

And so, and a lot of that has been saved, a lot of that has been forcibly saved because people haven't been able to go out and necessarily spend all of that. So when you combine the good news on the vaccine with north of a trillion dollar of accumulated saving then there is a, you know, a very, very attractive right tail to this distribution as well.

And, obviously, the odds of that have gone up relative to where we were before the vaccine news. So I'll leave it at that.

MR. WESSEL: Great. Well, it's nice to end on this, an upbeat note. We don't have very many of those these days.

MR. CLARIDA: (Laughter)

MR. WESSEL: I appreciate that. Let me thank Vice Chair Clarida for his time today. And, particularly, I want thank Annette and Seth for joining me in these questions. I think it was a good discussion. And it's the first time I have ever been accused of not being direct enough. So I must have lost my edge, Seth. I have got to -- (laughter) -- before I cross swords with Rich Clarida again, retain my reputation.

And thank you, everybody, for joining us. And if you really enjoyed this you can watch the replay and see it over and over again. And I hope you will do that. Thank you all. I appreciate it.

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