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WEBINAR

THE ECONOMIC OUTLOOK: A CONVERSATION WITH THE FED'S RANDAL QUARLES

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P R O C E E D I N G S

MR. HUTCHINS: Good afternoon. I'm Glenn Hutchins, co-chairman of Brookings and one of the many people on this call who work for David Wessel at the Hutchins Center. And it's my pleasure today to welcome Randy Quarles to our to Brookings, virtually, and we hope physically in the future.

Since October of 2017, as many of you know, Randy has been vice-chairman for supervision of the Fed, serving a term which ends in October 31 of this year, unfortunately. He also shares the International Financial Stability Board which was established by the G20 coordinate worldwide regulatory policy, another very important role that I had the opportunity to witness him in earlier in the pandemic.

Randy, in my view, brings two qualities to his work that are both unfortunately in short supply in Washington; business experience and erudition. He previously worked in money-management at Carlisle and at the Cynosure Group, and as a result, he brings in valuable market experience to the Fed board. Not to mention invaluable experience that is lacking broadly, in my view, in the D.C.-wide economic policy making apparatus, and plays, as a consequence, a very important role.

Also, he was trained as a classicist at Columbia, and consequently peppers his speeches with quotes from the likes of Thucydides, Shakespeare, and even Alfonso, who I gather was a 13th century team of Spain.

In my role as director of the Fed, the New York Fed, I was there for the actions Randy and his colleagues took a year ago to stabilize the markets and create the conditions under which the economy could absorb the shock of the pandemic; and which sets the stage for today's discussion about the future. In his erudite manner, Randy once to describe the actions as a “gallimaufry,” which is 16th century French word roughly meaning hodgepodge, and a word that I understand was introduced in the English language and by William Shakespeare, in “The Merry Wives of Windsor.”

On this, I would beg to differ on this characterization of the Fed's actions, I would beg to differ with Randy, and instead would describe the Feds actions in using the words that Shakespeare wrote for a character in “Cymbeline,” which is, "boldness be my friend." The Fed's boldness was, in my

view, a friend to us all.

This summer, as I sit in the Delacorte Theater at Central Park for my first post pandemic theatre outing watching, “The Merry Wives of Windsor,” which they are putting on the summer, I do hope that I can think about the play rather than Fed policy. If not, like the stabilization of the markets and recovery of the economy, Randy, I intend to hold you responsible.

Over to you, and thank you for joining us.

MR. QUARLES: Thank you. Thanks, Glenn. Thanks to Brookings and the Hutchins Center for the opportunity to leave things off and be part of this very distinguished panel today. So today, I'll explain why I expect the U.S. economy to continue growing strongly over the remainder of this year, and what the implications of that of that outlook are for monetary policy.

After the shutdowns and other measures taken in response to the COVID-19 outbreak last spring caused the swiftest and deepest recession in U.S. history, the economy has made a powerful recovery. Households and businesses adapted supported by the flexibility and inherent strength of our market-based economy, by the continued resilience of our banking system, and of course, by significant fiscal and monetary policy support.

Highly accommodative monetary policy by the Federal Reserve has fostered strong growth in the interest-rate sensitive sectors of the economy such as housing and durable goods, offsetting some of the historical weaknesses in the service sector last year. Now, with the service sector reopening while other household and business spending remain strong, I expect rapid growth to continue for some time before slowing to a still robust pace next year.

Inflation is running significantly above the Federal Reserve's longer run goal of 2%, primarily as a result of three factors. The surge in demand as more services come back online while goods spending remains robust. The emergence of bottlenecks in some supply chains, and the very low inflation readings recorded last spring dropping out of the calculation of 12 month inflation. For reasons I'll detail in a moment I expect that a significant portion of that recent boost and inflation will be transitory, and many do, and that it will not interfere with the rapid growth of driving progress towards the Fed's maximum employment goal.

We've come a long way since last spring, but reopening's over the past year have been uneven, both within the U.S. and around the globe. So it will still be sometimes before we repair all the economic damage. Supply bottlenecks will likely hinder the quick expansion of production in some industries in the next few months, place called, in some cases significantly. The progress in reopening has been slower in countries that are among our largest trading partners and that will wait on U.S. growth by reducing the demand for U.S. exports.

But even with those impediments I believe that a very strong recovery will keep rolling forward. And let me walk through the evidence for that optimistic view. First, I see increasing recognition by the private and public sectors that reopening can be done safely. The Centers for Disease Control and Prevention has dropped most social distancing recommendations for vaccinated people. Although local COVID-19 restrictions on schooling and economic activity continue in some areas, most schools are teaching in person at least part-time, and more than half of the states have dropped all capacity constraints on restaurants, bars, and retail establishments. More than a dozen more states are planning to do so over the coming weeks.

With these reopening, consumer spending, which is two-thirds of gross domestic product will remain robust, supported by personal income that has, thanks to significant fiscal report now surpassed the trend it was on before the COVID event. April's retail sales were flat, but that came after enormous gains in March of that were boosted by the latest round of stimulus checks. Looking beyond the headline numbers, sales were up 13% in March, and 3% in April at restaurants and bars, one of the sectors hardest hit by the COVID-19 event.

April and March were the third and fourth best month for vehicle sales to consumers in U.S. history, if you filter out sales to car rental companies which is a sector that's just beginning to recover. So we might expect this bounce will subside after consumption regains the strong trend that it was on pre-COVID-19. But one reason I think it will continue is the still high rate at which people have been adding to their savings.

Even as personal consumption expenditures rose at a huge 10% annual rate in the first quarter of 2021, the savings rate averaged 21% over those three months. Again, a lot of that reflected

the most recent round of stimulus payment, but as employment grows and people return to normal life and work, the accumulated stock of saving will support spending for many months to come.

The business investment took a big hit in the first half of 2020, obviously. But it's come back strongly. It's now running above pre-COVID levels. Current indicators of business spending are pointing to continued elevated levels of investment in the months ahead, supply bottlenecks have depleted inventories for many goods, rebuilding those inventories will be an important supplement for business spending and factory output.

I see two potential headwinds for the economy. The uneven global recovery and the supply bottlenecks that I mentioned before. Strong U.S. demand is boosting imports, but weaker demand outside the United States where recovery is slower is restraining exports and that problem may not resolve for some time. Supply bottlenecks are more prevalent now especially in the auto and housing industries with shortage of inputs leading to slower production, and that reduces employment growth.

Although I expect employment to rise significantly in coming months the picture is more mixed for the labor market than it is for spending. The unemployment rate remains at 6.1% compared with 3.5% pre-COVID, there are eight million fewer jobs. Despite recent gains amid reopening's employment in the travel, leisure, and food services sectors remains well below pre-COVID levels.

My optimism here reflects the apparent recovery in overall labor demand. By many metrics job openings are above 2019 levels including for workers without a college degree, a group especially affected last year. In the job openings and labor turnover survey data for March, private sector job openings as a percentage of total employment increased to 5.6%, which is above the previous record for that series that was set in November of 2018.

Job growth of 266,000 in April was a disappointing slowdown from recent months. There was some good news underneath the headline. For those who were working average hours increased. The number of people working part-time because they couldn't find full-time jobs decreased significantly, and wage growth was very strong. That underlying strength in hours and wages went support to widespread reports that worker shortages are impeding hiring.

Labor force participation remains about three and a half million people lower than before

COVID-19. Among the many factors driving the shortage is indicated in the Fed's own report on the economic well-being of U.S. households and 2020 as parents who need to care for their children because of remote school and aftercare. We've also seen a wave of retirements by older workers in the past year, and although the evidence is mixed because it's hard to parse out, we've received plenty of reports about the influence of generous unemployment benefits and large cash payments on the willingness of workers to return to work.

But those benefits are slated to expire over the summer, and I hope that a fuller reopening of schools in the fall will ease the pressure on parents. The spike in retirement may well moderate in a stronger economy, as we saw in the year or two before the pandemic, so while labor shortages could weigh on job creation in coming months, I don't yet perceive this development as significantly slowing the U.S. economy beyond the next few months.

Now, let's turn to the other half of the Federal Reserve's economic goals; inflation. As I mentioned last week during congressional testimony, I agree with the widespread view among my colleagues on the Federal Open Market Committee, and most private forecasters, that the recent rise in inflation to well above 2% is driven by temporary factors.

I expect inflation to begin subsiding at some point over the next several months to be running close to 2% again at some point during 2022. Market implied inflation expectations have risen only to the levels that prevailed in the early 2010 and if you recall after some of those readings, inflation never ran consistently above 2%, most survey measures are sending similar signals.

So I consider these recent increases in inflation expectations actually a welcome development given the possibility that they may have been anchored somewhat too low before. It reverses the large declines that we saw last spring, perhaps edging up in response to the message in the FOMC's new policy framework. That said, my optimistic outlook for growth and employment places me among those who do see the wrist to inflation over the medium term as weighted to the upside relative to this baseline forecast.

And broadly speaking, there are three reasons for this. First, wage pressures. So a moment ago I wrote glowingly of the upturn in wages in April, but it may be a sign that the torrid growth of

the economy and labor supply shortages have begun pushing up wages faster than occurring with the moderate economic growth over much of the past decade. Wages are a large component of business cost, that could past through to prices more readily than increases in the cost of the other inputs.

It seems like a paradox in that there could be labor supply problems and wage pressures at 6% unemployment, but it is also a fact. Some of this surprising outcome reflects temporarily lower labor force participation coming out of the enormous economic shock last spring, but some of the Fed's contacts have said that shortages of skilled laborers, particularly in manufacturing, transportation and construction pre-dated COVID and are likely to persist.

Another factor that I referred to earlier, fiscal policy, carries potential costs as well as the obviously benefits. Even as the huge amount of stimulus money in people's pockets has been boosting income and spending in eye-popping ways much of that stimulus was still saved. A larger than expected, or faster release, of those accumulated savings while the economy is already growing rapidly could result in output expecting potential output by more than it has in decades.

It's reasonable to ask if the strength of spending stemming from this unprecedented fiscal stimulus will put significant upward pressure on inflation as households and businesses emerge further from the COVID event. But at least to date, the latest round of stimulus seems to be supporting spending and growth without causing an inordinate rise in interest rates or in inflation expectations. And that outcome aligns with the advice of those in the economics profession who produced research in recent years that leaves them much more comfortable with high deficits, and that in countries with low interest rates, than they used to be.

In 2006, when I was serving as undersecretary of the Treasury we were subject to harsh criticism for running a deficit of not quite $250 billion with total debt held by the public at 35% of GDP. By contrast in 2021, the deficit is currently projected to be $3.4 trillion and total debt held by the public at the end of fiscal year 2020 was 100% of GDP and rising.

Further fiscal policy actions are, of course, the purview of Congress and the administration, but history tells us that once the dreadnought of government spending gathers speed it's difficult to slow and turn around. Surely the deficits being run to offset the COVID related shocks have

made it even more critical to address the sustainability of government debt in the years ahead.

And finally, recently monthly readings on import prices, producer prices, and consumer prices have all come in above consensus expectations. These upside surprises cannot be attributed to base effects. It's true that many of the factors driving the April consumer price index report and other inflation surprises continue to be supply bottlenecks. It's reasonable to conclude that these will ease over time.

But clearing some of those supply disruptions will require additional investment and the time to expand production capacity. If these shortages persist into 2022, people may adjust their expectations higher for future inflation and that could make above target inflation more persistent than we currently expect.

I don't want to overstate my concern; I'm not worried about a return to the 1970s. We designed our new monetary policy framework for the very different world we live in now, which involves an equilibrium for the economy with slow workforce growth, lower potential growth, lower underlying inflation and therefore lower interest rates. One of those differences is that the kinds of wage price spirals that characterized inflation dynamics in the 1970s have not been present for a long time.

It's quite possible that the situation now prevails because inflation is never high enough, for long enough, to enter decision-making in a material way. So what are the implications for monetary policy? I'm fully committed to the FOMC's new monetary policy framework and the two pieces of related guidance that we put in place for asset purchases in the federal funds rate to implement that framework. The conditions required to change the pace of that sense purchases, those required to increase in the federal funds rate, are sequential.

The latter, increases in the federal funds rate, requires improvement in the economy that clears a much higher bar than for the former. So let me address each of them in turn. The guidance on asset purchases introduced in December commits us to increasing our holdings of securities at least at the current pace until substantial further progress has been made towards the committee's maximum employment and price stability goals.

My personal view is that the rise in inflation, even after discounting the temporary factors

and inflation expectations since December will prove sufficient to satisfy the standards for inflation and the guidance around asset purchases sometime later this year. But improvement in the labor market has been slower than I would have liked. For instance, the unemployment rate has decreased to only six-tenths of a percentage point to 6.1%, and the labor force participation rate is still nearly the same as it was at the time of the December meeting.

So we need to remain patient in the face of what seemed to be transitory shocks to prices and wages so long as inflation expectations continue to fluctuate around levels that are consistent with our longer end inflation goal. For me, it's a question of risk management. The best analysis we currently have is that the rise in inflation to well above our target will be temporary. But those of us on the FOMC are economists and lawyers, not profit seers and revelators. We could be wrong, and what happens then?

Well, part of the calculus in balancing the risk of either overshooting or under shooting our 2% goal is that the Fed has the tools to address inflation that runs to high while it's more difficult to raise inflation that falls below target. If were wrong, we know how to bring inflation down. And if our assessment is correct that inflation is temporary it would be unwise for us to take actions that might slow the recovery prematurely phone trying to stay ahead of inflation, when our best estimate is that we are not far behind.

If my expectations about economic growth, employment, and inflation over the coming months are borne out, however, especially if they come in stronger than I expect, then, as we noted in the minutes of the last FOMC meeting it will become important for the FOMC to begin discussing our plans to adjust the pace of asset purchases at upcoming meetings. In particular, we may need additional public communication about the conditions that constitute substantial further progress since December toward our broad and inclusive definition of maximum employment. This standard presents inherent communications challenges because it can't be summarized by a single labor market indicator such as the unemployment rate thresholds used in the committee's interest rate forward guidance between late 2012 and late 2013.

In contrast, the time for discussing a change in the federal funds rate remains in the

future. The guidance for the federal funds rate commits to maintain the current rate until labor market conditions are consistent with our goal of maximum employment, and inflation has not only reached 2%, but also is on track to moderately exceed 2% for some time. In the FOMC's most recent summary of economic projections no participants, even those with optimistic growth forecast such as I've outlined today thought it appropriate that liftoff occur before 2022.

Perhaps, even more important than the timing of liftoff will be the expected trajectory of rate increases afterwards, and you can see that even among participants with an earlier expected liftoff those paths are quite shallow. So I expect the monetary policy will remain highly accommodated for some time.

Let me conclude with a few thoughts on financial stability. As the Fed's most recent financial stability report notes, the bright outlook, ample supply of credit, and accommodated fiscal and monetary policy have pushed some asset valuations to very high levels that could be subject to sharp reversals if expectations aren't met. Likewise, business that aside relative to past experience, which is a good reason to carefully weigh the risks.

But the strong economy is reassuring here. Earnings are growing, many businesses have ample stockpiles of cash, expected the bond defaults are below their long run medians and the pace of credit rating downgrade has slowed to a trickle. When I think about financial stability I think most directly about resilience to shocks, and it would be hard to imagine a better test of that resilience than what occurred in the spring of 2020.

Bank's met extraordinary demands for credit last spring from non-financial businesses and households, while simultaneously providing forbearance on millions of existing loans and building substantial loan loss reserves all without significant strains to their overall health. The largest banks at the core of the financial system are better capitalized than they've been in decades, better capitalized actually than they were at the outset of the COVID event. These institutions are sitting on large amounts of liquid assets, while relying on relatively low levels of short-term funding. The banking sector is strong.

I also see a resilient household sector. Household credit is primarily owed by borrowers with prime credit scores, rising home prices have most homeowners flush with equity and as I noted

earlier households are sitting on a large stock of savings. It's true that there are structural vulnerabilities in the non-bank financial sector, particularly money funds and hedge funds and these are being scrutinized by U.S. and international authorities including, especially, the financial stability board under my chairmanship.

But I believe these risks are manageable and I come down on the side of the research that concludes these and other concerns are best addressed by targeted financial regulation and supervision rather than the blunt tool of monetary policy.

At a crucial moment in our recovery from the COVID-19 event, the utility of using monetary policy to try to address financial stability concerns would be greatly outweighed by the cost to employment and growth.

Before ending, I'd like to reemphasize that I'm quite optimistic about the path of the economy. While prices will run above our 2% target this year, I believe most of this increase will be transitory and after an exceedingly difficult year we're poised to enter a robust and durable expansion.

Thanks again, for the invitation to be here today and I'm looking forward to our discussion.

MR. WESSEL: Thank you very much Governor Quarles. I appreciate that very comprehensive account. I'm jointed now by a few people who have (inaudible) expertise in the areas about which the vice-chairman spoke. Tim Duy who's at the University of Oregon and with SGH Macro, and my colleagues at Brookings Louise Sheiner, and Don Kohn, of course, it was a previous advice chair of the Federal Reserve Board.

What we're going to do, is I'm going to ask each of them to comment on the vice-chairman's speech, or pose a question, and then will try to have a conversation.

So Tim, I'd like to start with you.

MR. DUY: Well, thank you very much, David. And thank you very much Governor Quarles for this opportunity. It's a very interesting speech. A lot of great material here to work with. I'll kind of start this off with a question. You sort of said maybe isn't going to be time to start talking about what constitutes substantial progress for the labor market. I was wondering if you had any thoughts

about what that substantial progress might be, yourself?

MR. QUARLES: Well, I think I said it would soon be time to start talking about what would constitute substantial progress. So that would suggest it would be premature for me to be putting down some markers yet. But obviously, there's more to go and we're still significantly short on any of the measures you want to look at, whether you're looking at the unemployment rate, whether you're looking at labor force participation, whether you're looking at the underemployed.

You know, like any of those measures we are far enough away from where ever one would lay down a marker that I think financial theories says it never exercise an option until it's about to expire, and we have plenty of time before this option is about to expire.

MR. DUY: So if I can ask a related, or follow up question. So how about would there be any sort of an idea of a trade-off between higher than expected inflation now, and meeting that employment objective? That seems like maybe a more relevant concern given the current environment where we are having these elevated inflation pressures. Is there sort of a sense that those two things could be – that they're not equally weighted, or could not be equally weighted?

MR. QUARLES: I, at least in my own thinking – so I won't – you know I certainly will try to speak for the committee again because we are – you know, there are a variety of views on the committee and we haven't – and we haven't begun sort of quantifying where we would put down the thresholds. But I do think it – I think at least my base approach of thinking about the current conjuncture is not that it's a trade-off. But rather that our experience over the course of the last decade, as well as our expectation about what's driving current inflation is that we can, in fact, be patient and allow unemployment to fall, allow unemployment to rise to fairly high levels and that patience will not engender a significant cost in inflation.

So I would put it less of we've rejiggered our -- where we balance in that trade-off, if I'm understanding your question correctly, or at least, I don't view it as having changed where I would balance the trade-off. And more, that the experience in the performance of the economy over the decade preceding COVID, as well as what we would expect to see in the form of substantially higher temporary inflation coming out of a shutdown like this, because it takes, you know, varying times for different parts of

the production apparatus regear up.

All of that would say – we wouldn't expect those macroeconomic relationships to have changed substantially from pre-COVID and that's a world in which we can be much more patient before taking action to address inflation. I don't – if that gets to your question.

MR. DUY: It does.

MR. WESSEL: Let me follow-up, if I might, Governor Quarles. So I'm having a little trouble understanding how you put the pieces together. You say that you think that the inflation conditions are sufficient to satisfy the standard for inflation. And you say that you think that the risk of inflation are the upside. So doesn't that suggest that this patience runs a substantial risk of -- having patience for the labor market to be involved runs a risk of getting more inflation than you would like?

MR. QUARLES: No. I think – there, I was trying to draw the difference in the sort of, sequencing thresholds between changes in our asset purchasing practice and then changes in our interest-rate policies. So I do think that one, and as we indicated, the one will happen before the other, should happen before the other, and that of the thresholds we've set down I think that, you know, what we're seeing currently is a sufficient inflation to satisfy the inflation condition for the asset purchase guidance that we put down.

MR. WESSEL: Right.

MR. QUARLES: I don't think that – and I certainly --I don't think that indicates that I would expect that inflation will be sorted durably and worryingly above our 2% threshold; simply that it has reached a level that satisfies that condition for that step of the evolution of our policy, if you will, which is just the first step.

I think we've got significantly more to go before we moved to the second step, with respect to interest rates.

MR. WESSEL: Louise?

MS. SHEINER: Yes. I have a comment that's followed by a question. Question that I have is sort of how do we think about the long run effects of COVID on the economy? Which I'll ask you in a second. But if we sort of think that COVID is this transitory phenomime, it's huge and unprecedented,

but sort of transitory, and we're going to get back to the world we were in after COVID; then my comment is more going to be about how to think about the (inaudible) deficit and the outlook and how to think about that.

So if we're going back to a world where we're worried about (inaudible); if we're going back to a world where I would argue our big problems are mobility and inequality, then is it important to think about, I think, the economy is moving to the point where we think about, you know what, a lot of what the federal government does is actually investment. It's infrastructure, it's climate change and there's a lot of evidence of sort of giving money to poor families as very substantial long-run growth effects.

And so I just sort of am worried that we are going to use this huge run-up in debt to fight COVID to then say that we shouldn't be making these investments, these public investments that I think we are moving towards this recognition that we shouldn't make. So that's my comment.

And my question is sort of more broad -- goes to that question which is; is it the right – do you think about COVID as this transitory phenomenon, or do we think it will have long-lasting implications? It could be on sort of the labor market (inaudible) that you point to. One of the things that wasn't on your list could be, preferences; that people have gotten used to being home and being home with their kids and they sort of changed their preferences.

Or productivity effects; from what we've learned about using Zoom. So how does the Fed think about sort of the effects on potential of COVID and (inaudible) important?

MR. QUARLES: So how does the Fed think? There's a lot of research that some going on, on these issues around the Federal Reserve and in academia and throughout the financial system. And I think it's too early for – I mean, people can have views and people need to form views. But I think it's too early to say that there's a view. Certainly not a view at the Fed.

I do think that, not particularly surprisingly, I think there will be some sectors of the economy where there are lasting impacts of COVID. Office space in large cities -- I think everyone's talked about that. I do think that even in these durable, and for some of the reasons that you cite, people working remotely, people not working there anymore. You know people wanting to co-work elsewhere for

a variety of reasons and realizing, oh, one can.

I do think that even those effects are likely to be less pronounced than some are expecting. And that for the most part it has been a difficult year but it has only been a year. And I think of the many dramatic things that have happened in all of our lifetimes that seemed very dramatic at the time and you think back about it and say oh yeah, that happened. I mean, I don't think we'll -- all of us will remember that COVID happened, but I don't think that – I do believe that it is going to be a transitory effect as far as durable, measurable significant material changes in the overall economy.

MR. WESSEL: Don Kohn?

MR. KOHN: Thank you, David. And thank you Vice Chair Quarles. Great to see you again.

So I think one comment, picking up on, and perhaps this is a topic we can explore some in our conversation, picking up on Louise's point, if this a broad and inclusive definition of full employment. And how to define it, and if there are changes, sectoral shifts, in the economy and some of the things like retirement, or staying at home with the kids are more permanent, I think it going to be harder for the Federal Reserve to figure out when you do get to full employment.

And I think it's important to make sure that whatever -- however you define full employment, broad and inclusive, it's consistent with stable inflation over time. And that's going to be difficult. So any comments you have on that would be interesting. But I also want to pick up on the last part of your speech, the financial stability part. And I agreed with that. I think the banks stepped up and did -- made a lot of loans and met the moment, with the assistance of the federal government through PPP and other backstops.

But the non-bank markets failed us at a crucial time and required, as Glenn was referring, massive Federal Reserve intervention in non-bank -- and sort of in market base finance. So I wonder, and you said, and I agree with that, that the way to approach that is through targeted actions that are targeting the financial instability or potential financial instability, not through monetary policy.

But I wondered if you had thoughts on what those targeted actions might be so that the next time around, hopefully not COVID but something much less severe, the Fed's -- the Fed doesn't

need to intervene so much in financial markets. The markets are more stable by themselves.

MR. QUARLES: So I do. I mean, obviously, particularly where we're beginning the process domestically of thinking through what some of the implications for non-bank financial regulation are. We're -- we're a little bit ahead of that process, I think in the international discussion at the FSB. Just inevitably there was an administration thing in the U.S. and people had to find out where the men's room is and then they get to pick up the issues and continue to run with them. And so the domestic process will catch up very quickly, I think.

But at the FSB we've identified in both non-banks and finance generally, the fault lines that were revealed in March and April of 2020 as the high priority to address. To some extent you could say it's unfinished business from the financial crisis. But there are additional things we learned from the COVID event itself. I think some of the measures that were put in place that were intended to address financial instability in non-bank finance after the financial crisis, actually didn't work that well. Some of them actually increased financial instability.

I'm thinking particularly of some of the liquidity regulations, the particular structure of liquidity regulation for money market funds. Actually, it turned out to -- it ensured that they had liquid assets but because of the consequences that would attach to falling close to that liquid assets threshold it simply set a -- actually much more easily reached and faster reached threshold for potential contagion than existed before.

So I think we have to address those. The specific areas we're looking at the FSB, you know the potential for procyclicality of margining practices, money market funds as I mentioned, other open-ended funds; in general the performance of other open-ended funds during the crisis. You know, all of that I think -- the one thing I would add to that is I think there were fault lines that were revealed in the structure of regulation across all of those areas throughout non-bank finance.

I don't think we should try to structure a response or a regulatory solution to try to make ex t ra ordinary support faced with something like March of 2020 impossible or unnecessary. I mean, we shouldn't solve for March of 2020 because there's nothing you can do. If something like that happens there's nothing you can do. And if you create a system that actually can shrug that off, you have -- you

don't have an efficient system, you know, for the other 100 years of the century.

When we were building our house my wife kept coming up with all sorts of -- well, we need to do this because this -- you know, this could happen. You know, we'll want to do this someday. It's, like, well, that may happen. You know, two days of the remaining 40 years of our lives and the rest of the time the house will be awful because we address this problem. So I don't think we should fall prey to that. But I do think that there are significant things that we can do to improve the resilience of non-bank finance.

The other thing I would say about non-bank finance is I don't think that we should -- I think it would be a mistake to conclude that the measures that we took to improve resiliency in the banking system are the same sorts of measures that will improve resiliency in the non-bank system. It's a much different system. As you know, it's significantly more fragmented.

You can't – in the banking system you can say there are a core of very large systemically important and connected institutions at the core of it. And then, you know, firms that approach that Cold War. And if you take measures to ensure the particular resilience of those firms you've done a great deal to prevent the propagation of instability throughout the system in times of stress.

The non-bank financial system is structured much differently. You don't have those leviathans at the center of it with their interconnectedness and their runability. Much more fragmented, much more important to look at activities rather than entities, I think, and to structure your regulation that way. But that also doesn't mean that well, there's nothing we can do. I think that there are things that we can do, and we've very actively been doing it.

MR. WESSEL: Thank you. Tim?

MR. DUY: So I wanted to come back to the same of your speech, vice chair. So one of the premises is that, we're basically taking a lesson from the last 10 years when thinking about what's going to happen after this pandemic. But it strikes me that the next 10 years are – and that the current economy is actually very different than we had in the last 10 years. And to name a few things is that after the pandemic – are excuse me, after the great financial crisis the financial system was impaired, the Federal Reserve did a great job at saving the financial system this time so that's not a problem.

As you mentioned, household balance sheets are much stronger. The housing market is much stronger. Job openings, as you mentioned, have really leaped back up past pre-pandemic highs. And I would say to that the demographic situation here is very different. The last 10 years were really in a demographic hold of the GenXers. And now, were kind of climbing the demographic hill of the millennial's entering into their home buying and peak earning years.

And then, as Don said, there could be really – there could be longer lasting impact in the labor market then we're understanding at this – finding a labor supply. So it seems to me that we have, in fact, a very different set up going forward than we did over the last 10 years. And so my question is really, what should we be looking for as signs of that, yeah, now it's going to really call for a different monetary policy than we planned. Or when are we going to know whether this future economy is really as much like the past economy as we thought?

Mr. QUARLES: Yeah. Well, I think that as we pursue the current monetary policy framework obviously it is calibrated for the economy that we have seen and have obtained for a long time. And really, even longer than a decade. If it had just been a decade I might have been of the view that well, decades, decades ago. But it has been a long period of time.

You know, the points that you're raising are perfectly plausible and I attach plausibility to the Charles Goodhart thesis as well that in addition to our own domestic demography you've got a change in the international demographic downward pressure on wages in the United States. And so it certainly possible that that transition was - -you know, COVID hit just at the inflection point in that transition in order to mask what could be a significantly different kind of response of the economy to our monetary policy framework.

That said, inflation expectations have been so low for so long, inflation itself so low for so long, we will see if we pursue the policy path that's indicated by this framework and we see inflation quite a bit above 2% for a longer period of time and not reacting as quickly as we would expect under this framework, you know, then we will need to begin to say oh, okay. Well, maybe the world has changed. There are things that could obtain -- I'm particularly – at least I, myself, again, I'm not speaking for the committee, but I express this in our discussions; these demographic points that you are raising could

mean that the world will react differently.

But we have a lot of headroom. We can respond. We'll see that that's happening. If this were happening when we were at – you know, if we had changed our monetary policy framework at say 6% inflation that would be a different sort of thing. But we have room to – you know, we have some elbow room to be wrong here as long as we're conscious of the fact that we could be and looking closely at the data as they come in to see if it consistent with what we were expecting them to be.

MR. WESSEL: I want to channel some of the questions we got from people in the audience, Vice Chair.

One is, look, one of the most interest rate sensitive sectors of the economy is housing. Housing prices are going up at a pretty good clip. Why should the Fed continue to buy mortgage back securities in an environment like this? What's the purpose?

MR. QUARLES: Well, you know, I think that it's a perfectly fair question is; is that practice ripe for reconsideration and we'll certainly be looking at again as we consider our asset purchase policy generally. We put the policy in place during the crisis last year when it was sorted for the obviously useful. The Fed is a leviathan, moves cautiously, but surely in changing direction. And so we'll certainly be considering that as we deliberate on our asset purchase policy.

MR. WESSEL: And one other question, completely different topic. In your testimony at Congress this week, you were asked about the regulation of the cryptocurrencies, and you said that the Fed, the comptroller of the currency, and the FDIC are engaged in what you called a sprint, so much for the leviathan. I'm trying to capture the leviathan sprinting. A sprint to pull together views on a common regulatory framework, capital treatment, operational treatment and so on. I wonder if you'd expand a little bit about what are you talking about here?

MR. QUARLES: So first I should give credit where credit is due, which is this is something that the new acting Comptroller Mike Hsu, formerly of the Fed, has placed on the table and has been enthusiastically adopted by the FDIC and the Fed, of course.

The second thing I should say just as framing it is that as you noted sprint needs to be interpreted in the context of the entities that are doing the sprinting. So I wouldn't set our chronological

expectations sort of an Olympic levels for sprint but we do have a – you know, there's – there are increasing activity of the banks and involved with crypto that didn't exist, really even a few years ago. You had plenty of crypto activity a few years ago.

There's evolutions in crypto that make it sort of less of a sort of – again, a few years ago my view was crypto assets as we call them, no longer crypto currencies were going to be a perpetual oddity and speculation. But the development of sort of a variety of stable coins versus purely crypto assets makes that potentially of much broader use in the financial sector.

So as we look at all of that there's been enough activity and enough sort of isolated one-off responses to it in each of our agencies that we need to get together and say, okay, well what financial institutions are now holding crypto assets? What will be capital charge for those assets to be? And it should be uniform among the three agencies.

What's our supervisory guidance for sort of an operationally safe way to handle some of these partnerships that are being developed with crypto firms, with custody being crypto assets for customers as there is increasingly interested in that. And I think there is both enough that's happened that we can in a relatively short space of time come up with some joint views that will be useful and informed. And it's become a broad enough phenomenon that that's worth addressing.

MR. WESSEL: Thank you. Louise?

MS. SHEINER: Yeah. I want to go back to the question about inflation and obviously it's one where there's a lot of controversy and a lot of disagreement. And so you talk about the risk to inflation, and you talk about sort of whether or not the data were to come in differently than you expected.

And so one question I have is on inflation expectations. What is it that sort of, you're expecting to go along with this transitory period of high prices, what would make you worry? And do you focus more on sort of the market expectations and the TIPS rates, or do you really care about how house -- what do you think is more important for the (inaudible) of inflation? Is it the house sold expectations, the business expectations, or the leader?

MR. QUARLES: So we just had a longish discussion about that as I pressed on exactly the same questions in our internal discussions. So first, what would be worrisome with respect to inflation

expectations you know I think it would be -- first, a number of the surveys of inflation expectations are volatile. So I'm not going to be worried about particularly high result one way or another, you know, out of Michigan for example, or -- and even across a broad range of surveys.

I think one would expect, because of the temporary factors we're seen here that that will result in surveys of inflation expectations to kind of go up sharply and then probably go back down. That would not surprise me if that happened so I wouldn't be particularly worried if I saw that happening over a quarter or two. If, at this time next year, you were still seeing surveys of inflation expectations, you know, substantially over 2.5 then I might be saying okay. Well, the world seems to be evolved -- that is not what I expected, the world seems to be evolving in a different way. And that's long enough that maybe that starts to durably affect expectations.

For my own point of view, I think that – I mean, we look at both the obviously. I put a slightly higher weight on surveys that have been placed on expectations than the market based measures. You know, I think that ultimately what drives inflation is people's expectations about what they're going to need in the way of wages, which then feeds into prices, which then feeds into wages and if that cycle starts that's really what drives the kind of inflation spiral that gets in difficult for the Fed to control. And I think those are imperfectly measured, obviously, but better measured by surveys rather than the market based measures.

MR. WESSEL: Don?

MR. KOHN: So I'm picking up on that theme with another aspect, Mr. Vice Chairman, and I was thinking about the inflation expectations thing. Sometimes, I wonder whether inflation expectations isn't what we used to hide our ignorance of the whole inflation process. And I think Dan Tarullo spoke eloquently about that at a Brookings event some time ago.

But the other aspect is wages. So I think – maybe this is a comment rather than a question. I think the other thing to look at would be if, as we are expecting labor supply to pick up to meet this demand that should take some of the pressure off wage increases. And I think another risk sign, a sign that as you pointed out – I think it was a very constructive that you noted the upside risks to inflation. And I think maybe one aspect of that would be continued increases in wages that businesses – rates at --

higher rates of increase in wages that businesses would then have to eventually build into prices. That would be an important thing to watch.

So my question, I want to return to my financial stability thing for a second. One of the things you didn't mention was the big U.S. Treasury market. And that's a U.S. problem. So perhaps closer to things that you can control, or at least can control in cooperation with only a couple of other agencies, rather than global, dozens of agencies.

So what are your thoughts on what happened in March 2020 when Treasury prices went the wrong direction? How to produce a better market liquidity and then tying the – one of the things tying that to would be the leverage ratios. So I was actually surprised. I wonder whether you were that the Arkansas Community Bankers were responding to – war were concerned about the constraints from the leverage ratio constraining their ability to buy Treasury, hold deposits at the Fed. So overall where do you think you and your colleagues should be focused on the Treasury market, and then on the leverage ratio you guys said in March and that we would have some proposals soon. I know leviathans – having been part of the Leviathan for a long time I know it moves very, very slowly, but give us a – do you have any clues about when and what might be coming on that?

MR. QUARLES: Sure. So a few things. One, yet – so the Treasury market -- I guess I would repeat, although in a more condensed fashion what I said before that as we think about sort of ways to improve Treasury market functioning in light of what we learned in March 2020, I don't think we should try to solve for March 2020. We should be informed by sort of frictions and weaknesses that we saw, but there were a few days in March 2020 where there was simply only sellers, and no buyers. And if you create a market that will somehow clear when there are only sellers and no buyers, you're going to have a very inefficient process for the rest of the time. So in a world like that, there's nothing to be done, but for the Fed to step in and provide the -- and purchase as we did.

I do think though that then you should look at how the Treasury market function in the face of that stress, even if you acknowledge that you're not going to be able to completely solve for that. But there would – there are clearly ways that – there were clearly some pressures on dealers as a result of our regulatory framework that didn't exist before.

I don't know whether -- I mean at the end of the day the changes that we -- the temporary change we made to the supplemental leverage ratio which was designed to help Treasury market functioning, principally had that much of an effect on Treasury market functioning. Again, I think what basically solved the issue there was our stepping in to activate purchaser.

But it's also true that we calculated these leverage ratios in four largest firms there are a series of leverage ratios. There's the tier 1 leveraged ratio, there's a supplemental leverage ratio, there's the enhanced supplemental leverage ratio. There's a whole wedding cake of leverage ratios. And we calculated them in a world where – in 2014 when we calculated the supplemental leverage ratio the staff, at that time, projected that at this – on this day in 2021 there would be $25 billion of reserves in the system.

We're now projecting by the end of the year $5 trillion in reserves. So we calculated a leverage ratio that would sort of accommodate a banking system that would attract a capital charge on $25 billion of cash, not on $5 trillion of cash. So I think it's fair to say that it's worth thinking about recalibrating that somehow. Now how could you recalibrate it? And that that would improve in general the efficiency of the financial system in a world where there was going to be a much greater number of treasuries, as a consequence a much greater continuing -- well, and a much greater continuing issuance of treasuries. And as a consequence a much greater amount of reserves in the banking system.

So I -- you could either turn down the numerator and say we turned the -- we set the numerator where we did expecting a much lower level of reserves. You could exclude reserves from the leverage ratio. The difficulty of turning down the numerator is that if the level of reserves continues to grow, at some point that in itself will be a constraint. So if you exclude reserves you've solved the problem forever. But you've solved the problem at a potential significant decrease in the sort of aggregate level of capital in the system unless you do something somewhere else with respect to risk based capital to try to keep the total cushion roughly the same.

You could do that within the structure of the leverage ratio itself so rachet up the numerator of the leverage ratio as you exclude reserves and as the amount of reserves continue to grow, rachet up the numerator even more. I think that would lead to sort of a perverse disincentive to provide

credit to the private sector, if you will, because you're increasing the capital cost of sort of non-cash. Particularly if you added to that because another way of doing it would be reserves and treasuries, to exclude both reserves and treasuries in order to allow the banking system to hold the much larger amount of these safe assets that we currently have that we expected when the leverage ratios were calibrated.

But you could end up having calibrated the system now to provide a great incentive for the financial sector to prefer financing the government to financing the private sector, which I don't think that we would want to do.

So there are pros and cons of all of those approaches. Right now, we're trying to work through all of that. As to what we think would be the best thing to propose, maybe we propose a number of options for some public input. The system is handling the amount of reserves that are in the currently the supplemental leverage ratio that we imposed during the – that we implemented during the crisis to lapse, there was basically not a bump in anything. We thought that that might lead to some volatility and it did not.

But that tightness is going to continue to grow over time and we're working through all of those options.

MR. WESSEL: Thank you. Before we close I want to give Tim, Louise, and Don a chance to say something.

Tim, I'd like you to, if you would, Mary Daly, the president of the San Francisco Fed, said yesterday that the Fed is talking about talking about tapering. And I wonder whether you could – from where you said as someone who analyzes the Fed, having heard Governor quarrels and all the other speakers in the last few days, what do you expect the Fed to do in terms of tapering?

And Randy, I'm not going to ask you to respond, so you're safe.

MR. DUY: So my expectation is that the (inaudible) put us on a very long one-way toward tapering. That that was like the first event of, we're going to start having this conversation. And speakers since then, I think, have really coalesced around that; that point that we're going to start talking about talking about tapering.

My expectation is over the next couple of meetings that conversation will grow. We'll see

people start to talk about what is substantial progress; start to think about what that is more publicly. My expectation is that conversation is going to get to the point. That by September – sorry excuse, but Jackson Hole perhaps Chairman Powell will give us some more guidance on that. And then carry that conversation on through the end of this year and possibly begin tapering at the beginning of next year. Possibly moving that forward is the inflation turns out to be more -- larger, or less transitory than our current expectations.

MR. WESSEL: And Louise and Don I wonder if you could offer briefly something you think is really important for the Fed not to lose side of the as they go through this period of transition? What is something that you want to make sure is on -- and the Post-it on Governors Quarles' computer monitor? Louise?

MS. SHEINER: So I think it's really important to remember how incredibly effective a very low unemployment rate was at bringing people into the labor force that had not been in and that raise the wages at the bottom. And I'm worried that we will get to an unemployment rate of 4%, or 4.5% and sort of say that's a good enough, and lose the value of this experiment that we were running of really seeing how much bigger potential is then maybe we thought it was.

And so it looks like that's the course they're on is to continue that. But to me that's really important that that continue and hopefully the inflation will remain muted enough that that --

MR. WESSEL: And Don?

MR. KOHN: So I'll pick the other leg of the dual mandate, price stability. Maybe that's because I joined the Federal Reserve in 1970 and lived through that period.

But I think it's really important not to lose sight of that piece. And as we know, once it does get out of control on the upside it can -- you're right, the Fed has the tools to deal with it. That could be extremely painful. And now, with the Federal Reserve saying it's not going to anticipate inflation pressures, although it is -- I mean it is forecasting inflation now it's saying it will go up and down again even though it says it's data based policy – it's not really data based policy because it is forecasting inflation. But when it gets to full employment it won't forecast employment, and it won't forecast inflation based on employment.

So I think there's – because of the experience of the last 20 years that you've got a system that's well adapted to a low inflation environment. But I think the protection for Federal Reserve independence, which could be challenged when you start to raise interest rates, will be you need to point to that price stability mandate and maintaining that. And I think it's been -- come so the discussion I've seen in the last week or two has been constructive because people are pointing out that inflation is not good for people of lower income as well. And people just don't like inflation.

And I think you're going to need that – need to keep that in mind as people operating on Louise's leg of the dual mandate statement the unemployment rate get lower, or let it get lower, let it run hotter. So I think we've got both pieces covered here between Louise and me.

MR. WESSEL: Governor Quarles, any closing thoughts or questions you want to ask our distinguished colleagues?

MR. QUARLES: A very helpful discussion. And I guess I would say maybe just in response to the dual injunctions from Don and Louise that I'm probably taken among the members of the committee as one who is closer to Don's camp generally. But I am – I was – it was undeniable the benefits of that there were from the willingness that we had pre-COVID to maintain an accommodative monetary policy in the face of an unemployment rate that was lower than most of us thought would be inflation accelerating. It did not accelerate inflation.

As I have said publicly more than one time, I think one of the biggest things that Janet Yellen did as chair – I was not on the board during the time that that wasn't being architected, but she sort of held back, and held back in order to allow the labor market to continue to improve. I thought that was a mistake. I said so at the time from outside the Fed, and I'm very happy to admit now that she was right and I was wrong.

And so I think we should be driven by experience and data in looking at the evolution here on the basis of the best we've got in our most recent experience we can achieve Don's goal; which again, I edged more towards the back camp, while being more patient and getting the benefits from that greater level of employment, which were significant.

MR. WESSEL: Well, I want to thank Governor Quarles for his time and his good-natured

taking on these questions. And Tim, and Louise, and Don, for asking such good questions. And some of the questions in the audience we didn't get to a number of them came up in the conversation. And of course, I want to thank Glenn Hutchins for his entertaining and erudite introduction. I was disappointed, Governor Quarles, that you didn't quote Thucydides, Alfonso the 10th, or Shakespeare at all. But we'll invite you back so you can do that next time.

MR. QUARLES: I did quote P.G. Wodehouse, but you'll have to look hard for it.

MR. WESSEL: That's the thing about your quote you have to read the footnotes to find out it was actually a quote. It's very clever. It's forced me to the footnotes of your speeches and that's not my (inaudible).

Glenn Hutchins, did you want to have a closing statement?

MR. HUTCHINS: Just thank you. Well done. Good job to everybody. Really enjoyed it.

MR. WESSEL: Thanks everyone, and have a good day. Bye.

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