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WEBINAR

BEN BERNANKE:
THE FED FROM THE GREAT INFLATION TO COVID-19

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P R O C E E D I N G S

MR. WESSEL: Welcome. I'm David Wessel, director of the Hutchins Center on Fiscal and Monetary Policy here at the Brookings Institution. I'm very pleased today to help Ben Bernanke celebrate the release of his new book, "21st Century Monetary Policy: The Federal Reserve from the Great Inflation to COVID-19." Contrary to popular opinion, he was not there for the great inflation, but everything that follows you're personally responsible for.

What we're going to do this morning is Ben has a presentation on his book, about 20-25 minutes. Then I'm going to join him on stage and ask some questions, and we've invited some people from the Washington community, people who are interested in economic policy, to join us. And I may ask some of them to ask questions as well.

It will be very difficult for people in the remote audience to ask questions today, but for reasons I don't understand Ben is soliciting feedback at Benbernankebook.com/feedback. And so you can tell him everything that you think he did wrong there.

With that, Ben, welcome to the stage.

MR. BERNANKE: There we go. Well, thank you all for coming. I really appreciate it and the chance to talk about my book. There's the title and the cover.

What motivated this book is the changes in the Federal Reserve over the last 90 years. In 1935 the Fed was reorganized because of its poor performance during the great depression. Since then there's been very little change in the mandate or the powers of the Fed and yet there's been remarkable changes in its tools, its frameworks, its approaches, its strategies. And that change is what the book is about. It wants to talk about how those changes took place, why they took place, and then what does it mean for the future.

So let me just give you some illustration, because if you don't think about it, you perhaps don't recognize or realize immediately what remarkable differences there are in

Fed policy today versus early post war period say. So looking at monetary policy and policy tools for rate guidance, that long horizon very explicit, that goes through — today that goes through multiple channels, the FOMC statements, has included date contingent, state contingent, and quantitative guidance, such as when we — when I was chair, we promised to keep rates low to a certain date or until certain conditions were met in the labor market. But the statement is not the only tool for guidance. We also have the summary of economic projections, which existed prior to 2000, but has been expanded to include the famous dot plot, which gives forecasts of rate changes as well as estimates by participants of the neutral interest rate and the sustainable unemployment rate. We have introduced chair press conferences, which provide more opportunities to give guidance about future policy. And beyond that, of course, testimony, speeches, and other vehicles. So there's a lot more talking going on today than was the case 30 or 50 years ago.

The other major new tool, of course, is quantitative easing, which was not done in the United States before 2008. Quantitative easing is the purchase of longer-term securities for macroeconomic purposes. Some quantitative easing has been state contingent, such as when the Powell Fed said that they would buy securities until substantial progress was evident. And this is not a small proposition. The balance sheet today is about $9 trillion versus $800+ billion when I first became chair at the Fed.

Now, beyond the policy tools there have been new policy frameworks. In 2012 the FOMC adopted a formal statement of its approach, which included a 2 percent inflation target. Flexible inflation targeting, meaning that there was room not only for targeting inflation but also for meeting the maximum employment mandate via what they called a balanced approach. In 2020 the Fed updated to the so-called flexible average inflation targeting approach — I'll explain that more later — and eliminated so-called preemptive inflation strikes based purely on rising employment.

On policy implementation, this is more inside baseball, but it is still quite significant. When most of us here were studying the Fed in college, we learned that open market operations and the small amount of reserves that the Fed operated on in order to manage the short-term interest rate, today the Fed works on what's called an ample reserves framework, which means it has a permanently large balance sheet and it manages short-term interest rates via administered rates, like the interest rates on reserves and the rate on reverse repos rather than through open market operations. This has consequences for the balance sheet and for policy as well.

Now, I talk a lot in the book also about financial stability, which isn't technically monetary policy, but it's closely intertwined because it involves preserving the stability of the economy and because the two sets of policies are often complementary in various ways. So the Fed was actually created in 1913 to be a lender of last resort, as the same way the Bank of England was in the 19th century in Britain. Following the **Bagehot dictum**, lend freely at a penalty rate, to a liquid but solid institutions, specifically banks. Banks were the dominant type of financial institution in 1913 and the Fed was given the power to lend to banks in a panic. But since then — and this was used — this power has been used — or at least announced after the 1987 stock market crash, after the 2001 terror attacks, for example — but as the financial system has changed, the Fed's lender of last resort function has greatly expanded in a variety of directions.

First of all, domestic banks are no longer, you know, the complete financial system. We have both non-bank financial institutions, which actually provide more credit than banks in the United States, and the of course we've got a global financial system which uses dollars. So the lender of last resort has expanded to include lending to non-bank financial institutions using emergency power — 13(3) is the provision of the Federal Reserve Act which allows the Fed to make emergency loans to money market mutual funds, to primary dealers, and other financial institutions. And then lending dollars internationally via currency swaps, which provides dollars to foreign central banks who in turn lend to their domestic financial institutions.

So the Fed has greatly expanded its lending to financial institutions in the context of a crisis.

But beyond that, the Fed has done other new things. It has become, for example, the buyer of last resort in key capital markets. And perhaps the best example of this was in March of 2020 when the Fed promised to buy mortgage-backed securities and treasuries in essentially unlimited amounts. It ended up buying more than $1.5 trillion of those securities in order to support what was a badly functioning market.

At the same time, even prior to this, it was providing large scale liquidity through term repos, et cetera, to the markets. So it's become much more than just lending directly to stressed banks. It's also providing liquidity to markets as well.

And then finally, and perhaps most radically, under emergency circumstances, the Fed has now become a source of credit for non-financial borrowers. For example, in the financial crisis we lent to commercial paper borrowers through a commercial paper facility and provided credit to the asset backed securities market. In March 2020 the Fed re-upped all of these programs but did much more. With congressional support it created programs to buy bonds and make loans to corporates, municipals, and nonprofits. It created a main street lending facility to lend through banks to medium-sized firms.

So here we have the Fed lending not to banks as Bagehot would have it, but to the broader economy.

There are other dimensions in which the Fed's response to financial instability has changed. In particular, one of the I think key insights of the last 20 years is that you need to have a macroprudential approach. That is, regulators need to look at the financial system as a whole and not just individual components in order to look for potential risks. So macroprudential oversight was an important component of the Dodd-Frank reforms in 2010. The Fed has taken de facto a leading role in the Financial Stability Oversight Council, which is the council of regulators headed by the Treasury Secretary which his supposed to keep an eye on the broad financial system. The Fed has created its own new division. Nellie Liang was here, was the first director of the division of financial stability, which is a staff division which is on an equal footing with the monetary policy division and the economic forecasting divisions. So very important and provides key information to policy makers.

The Fed provides financial stability reports on a set of criteria and has a number of roles provided to it through Dodd-Frank in the context of a financial crisis, such as its role in the orderly liquidation of a systemically critical financial institution.

So I ask you to imagine a conversation between William McChesney Martin, who was chair of the Federal Reserve from the time of the Treasury-Fed Accord in 1951 until 1970, and Jay Powell. Martin considered himself a very modern central banker and Christina Romer and David Romer's work suggests that he in many ways foreshadowed the types of policies that we saw with Greenspan and other Fed chairs. It was of course Martin who gave the famous quote about taking away the punch bowl before the party gets going. And his view of what the Fed should do is basically leaning against inflation. And that was kind of it.

In particular, he was not much for economic models, he didn't care much for economists in general, but flew by his instincts very largely in looking at markets and anecdotes. Obviously, he didn't do anything like forward guidance or quantitative easing. In particular, he didn't talk very much about policy or where it was going. And interestingly, his entire balance sheet was treasury bills. He didn't even hold treasury securities. He was not involved in any financial crises of note. He did run into some problems I'll talk about later with President Johnson, et cetera, but in general he had a quite simple institution and a quite simple set of tools.

Compare this to Chair Powell. I've just given you a sense of how much more complex and how much more diverse his policy tools are, both on the monetary side and on the financial stability side.

Now, why has this happened? So, again, there hasn't been that big a change in either the mandate or the legal authorities of the Federal Reserve. So how could all this change. And I argue in the book and document through a sort of a history of Fed policy making that three long-term developments in the economy are responsible for these changing types of approaches by the Fed.

The first of these three is the changing relationship of inflation and unemployment, the Phillips curve. After the Great Inflation we had 35 years or so of low and stable inflation, which anchored inflation expectations at a low level. The Phillips curve appeared to flatten at a lower U-Star or a lower natural rate of unemployment, there was more attention paid — Alan Blinder once got in trouble for talking about the trade-off between inflation and unemployment in Jackson Hole. Today, the Fed talks often and explicitly about the benefits of a hot labor market and clearly that's one of the goals that the Fed is pursuing. And given the low and stable inflation of 35 years and well-anchored inflation expectations, the Fed began to become somewhat more aggressive about achieving maximum employment while at the same time "looking through supply shocks". If inflation expectations are well-anchored, supply shocks can be allowed to pass through the system without policy response.

So that was the big change between let's say the '70s and the teens. And of course the question now arises, we've now suddenly seen a big inflation shock. How is that going to change this approach, how is this going to change thinking about inflation and unemployment. And I'll come back to that.

The second major development I stress in the book is the decline over 40 years or more of the nominal neutral rate of interest, which I call R-Star. The neutral rate of interest is the interest rate at which monetary policy is neither contractionary nor expansionary. It's the rate of interest which is consistent with full employment, stable inflation at the target, and, again, neutral monetary policy.

Now, as you can see, as any picture of interest rates over the last 40 years will show, while there have been ups and downs related to Fed policy, the overall trend is very clearly down. Neutral rate has come down. Why? Lower trend inflation means that the

Fisher premium has come down, the real neutral rate of interest has come down also about 3.5 percentage points since the '80s, according to some studies, and there have been –– Larry Summers has talked about secular stagnation, which is the idea that there is just less growth and less investment. I have talked about the global savings glut, which is the other side of the coin, more savings globally, which chasing a given number of investment opportunities and that's brought down real interest rates. Term premia are quite low, perhaps because of the demand for safe assets. Larry Summers again in work here at Brookings, has argued that without the big fiscal deficits we've seen, both in the United States and globally in the last few decades, that the neutral real interest would be this time and at this point decidedly negative.

So that declining rate of interest is an important development. And it's important for monetary policy because when the neutral rate of interest is low, say in the 2s — the Fed's current estimate is 2.4 — that cuts significantly the space for cutting rates in response to a downturn. And that forces the Fed to find new tools and frameworks. That why forward guidance and QE became important.

And the third of the three developments is the increased risk of financial instability. The financial system was — I think partly because it was somewhat repressed –– was pretty stable and quiet during the post-Depression post World War II era. Gary Gorton called it the quiet period. But then inflation disrupted the savings and loans and there was a great deal of regulation that began in the '70s and '80s and has continued at least through early 2000s. Among the many changes that occurred during the period was the explosive growth of shadow banking — shadow banking are institutions that provide credit but are not traditional banks — as well as increased complexity, opacity, and globalization that made the financial system much harder to monitor.

I think a really important development was the mismatch between America's financial structure and the regulatory structure. So our regulation is based on basically protecting the banking system. So the Fed, the FDIC, the OCC, and state banking regulators are focused on the safety and soundness of the banking system, and that safety and soundness has increased remarkably since the global financial crisis. But then you've got this whole other part of the financial system called shadow banking, which actually provides more credit than the traditional banking system, which does not have safety and soundness regulators. And I'll come back to this point. And it has been a source I think of instability, both at the global financial crisis and more recently.

And then another development has been the lack of macroprudential perspective, which is the idea that we should be looking at the whole system.

So the Fed's new approaches, which I described before, such as being — back stopping critical markets and becoming a macroprudential regulator was again motivated by this long-term development.

So what this book does basically is –– it doesn't just make this case in the abstract. The best way to do it is through history. So what I do is, first, the first two-thirds of the book is basically a history of Fed policy, which focuses on how these changes occurred over time. Here's some of the many questions I talk about — why didn't Martin take away the punch bowl in the late 1960s, why didn't Burns do more about inflation, even after Nixon left office, did Volcker's credibility reduce the cost of disinflation, Greenspan faced the issue of a very rapidly rising stock market throughout the '90s and some people have criticized his response to that. What do we know about that? I look again at the maestro episode in 1996 when Greenspan expected high productivity to keep inflation under control. And fake communication is a theme that comes out throughout the book.

Greenspan plays an interesting role here, by the way. He was not a very open Fed Chair on the whole. He talked about his ability to mumble with great incoherence. But on the other hand, some of the innovations to communication, including balance of risks in the statements, modest forward guidance, and so on, actually came in under Greenspan, the earlier publication of the minutes and other things. And so I talk a lot about how communication has evolved from Greenspan to me to Janet to Jay Powell. Because I think it is — as I once said, I think monetary policy is 98 percent talk and 2 percent action. And communication is a big part.

Then I spend a good bit of the history looking at — this is called 21st century monetary policy, so I spend a lot of time looking at the more recent history and the many changes in the Fed's approaches during that period, including the global financial crisis and the taper tantrum. Very substantial rethinking of policy and policy frameworks under Janet Yellen and Jay Powell. I have a chapter on the pre-pandemic Powell and in particular how he managed to navigate the occasional tweet that was aimed at his head and maintain Fed independence.

And, finally, the pandemic. The end of my history section of my book, is about the pandemic and the response, which provided many challenges, both on the financial side and the monetary side. And I'll talk about that some more as well.

So, again, much of the book is a history which tries to look at policy making and how the changing economy and changing exigencies moved the Fed towards new types of policy tools.

The book also looks forward to the Fed's future. The last third of the book is speculative discussions of where the Fed may be going from here. For example, we think forward guidance and QE are now a permanent part of the Fed's toolkit. You know, how powerful is QE, say? What are the costs and benefits of using these tools? Assuming the zero lower bound becomes a problem again, what new tools — that's interesting (laughter) –– let me see if I can fix that — nope. He'll try to fix it. But in the meantime if the zero lower bound becomes a problem again, what are the new tools that the Fed could look at? Other central banks have done some things that the Fed has not done, like buying broader classes of assets, using what's called funding for lending, which basically subsidizes banks based on their net increment to their lending, negative interest rates, (inaudible) curve control, and of course coordination with fiscal policy. These are all things that the Fed might have to look at and I try to evaluate them and consider them.

And then the Fed's framework. You know, believe it or not it's almost time to rethink — the Fed promises to look at the framework every five years. It last looked at in 2019, so in Jay Powell's current term there will be yet another review of the framework and how will that change, will there be a large change, say to nominal GDP targeting, or will they just be tinkering around the margin.

Financial stability. I do talk a lot about that. Obviously, it is very important. My views have shifted a bit on this. Our macroprudential policy is adequate and to what extent should the Fed incorporate financial stability into its monetary policy.

What about other Fed responsibilities, like central bank, digital currency, climate change, and the like, and what about the Fed's policy independence. Should the Fed remain independent or not.

I'm going to say a few words — I think I have time to say just a few words about lessons from all of this for the current situation. David is going to ask me about this as well, I'm sure, so this will be a little bit repetitive, but I want to just put on the table a few things that I think are interesting and relevant from the history for the current situation.

So I think on some dimensions the Fed learned effectively from previous experience and was very successful in responding to aspects of this current crisis. In particular, the Fed's response to the March 2020 financial crisis is widely viewed as being highly successful. The Fed used tools from 2008 and added its own. It did all three types of financial stability policy. It was a lender of last resort to all financial institutions and markets, including the currency swaps with global central banks. It was a market maker or buyer of last resort and the purchases of treasuries and MBS. And then of course very importantly, it became a lender of last resort to non-financial firms when the CARES Act passed by Congress provided funding for — to protect the Fed to allow it to make emergency loans to a variety of non-financial institutions.

Okay. I just want to note, though, of course, that while this was a successful response — well, you say that putting out a fire is a success for the fire department, the fact that the fire occurred is maybe not such a great thing in the first place, and so the question is, you know, what are the remaining gaps that we need to address.

I think there are also some successes in terms of macro monetary policy. Learning form 2007, the Powell Fed acted very proactively and aggressively and deployed both rate cuts — immediately cutting rates to zero — and nonstandard tools, including QE. I think their communication on the whole has been good and has kept markets pretty much aligned with their views. I say not taper tantrum, at least not yet. I don't know how you would talk about the last few months, but in any case –– and again I think that they've done a good job of signaling their thinking. And the easy monetary policy, together with the much more powerful fiscal policy then in the financial crisis led to a very strong recovery. I think as we worry about inflation, which is a real problem, we should also acknowledge that employment and growth have been very strong. Last year we had 5.5 percent growth and 6.4 million new jobs, stronger than any other major economy. And so we should get some positive credit I think for that.

Now, having said all that, I think that in some ways history may have steered the Fed a little bit wrong and the fiscal policy as well. First, from a purely macro point of view, I think fiscal policy was aimed mainly at disaster relief, mainly at helping people get through the crisis. But form a purely Keynesian macro policy point of view, policy makers, fiscal policy makers seem to have over learned the lessons of austerity from the post financial crisis period. So fiscal policy was much more expansionary this time than after the financial crisis.

Monetary ease, again, did support GDP, but it wasn't the Fed's fault, but this was a very strange recession, obviously. And one of the aspects in which it was strange was that unlike almost all recessions, the strongest sectors were the interest sensitive sectors. Usually housing and manufacturing and durable goods collapse during a recession. In this case it was just the opposite. Housing was strong, durable goods was strong, while services took the hit. And so the monetary ease helped the overall economy, but in a sectorally unbalanced way. Again, not the Fed's fault, but something I think worth noting.

The other aspect of this is the Fed was very focused on full employment and as I'll talk about more later, the standard measures of labor market slack were inadequate. And the case I would emphasize would be the Fed's continual discussion of employment and jobs and how that compared to pre-pandemic levels. Even today, after all the job creation, we're still 3 million jobs below trend. Okay, so the Fed would say that doesn't seem like a full employment situation to us, but that didn't take into account the participation effects, et cetera, of the crisis. And so the Fed had some difficulty assessing the state of the labor market, which I think affected their decisions.

The other thing that was difficult for them was figuring out how to deal with the pandemic supply shock. Putting aside the fiscal and monetary demand side effects, the pandemic, via broken supply chains, increased demand for durables, labor supply effects, et cetera, was a big supply shock. And the traditional Fed doctrine is when you have a big supply shock, as long as inflation expectation are well anchored, you should look through it and not try to undo it.

So the Fed was trying to assess whether this supply shock was "transitory" or was it something much longer. And what we found out was that it was in fact a bigger and more persistent shock and one that perhaps threatened to unanchor inflation expectations than the Fed expected. And then to make luck even worse, of course there has been traditional supply shocks, the food and energy, related to not just the Ukraine war, but to a variety of factors.

Okay, so — this is my last slide — so I think we'll talk about the Fed's response to the inflation problem. I think it has certainly been made more difficult by the difficulty of reading the labor market and the inflation situation. The Fed is now of course actively working to catch up. It has accepted its responsibility to lead the fight against inflation and to pay close attention to inflation expectations. We'll see how much it has to tighten in order to bring inflation down, but what we think we do know is that inflation expectations and wage trends and the extent to which pandemic supply constraints moderate will ultimately determine how much pressure the Fed has to put on demand in order to get inflation under control.

Okay. Well, thank you for your patience and I'm going to invite David Wessel to come up. (Applause)

MR. WESSEL: So, I'm impressed with the marketing technique of putting 25 really interesting questions up there, each with a question mark, and then saying you have to buy the book to get the answers. I compliment you on that. And I'm afraid I'm not going to get to ask you all of those.

But let me just start when you ended, Ben. Your book begins with a discussion of the Great Inflation of the 1970s and with consumer prices rising at better than an 8 percent clip over the last 12 months, there's lots of talk, are we back in the ugly days of the 1970s.

So I wonder if you could talk a little bit about the similarities and differences from that period, and what is your outlook now? Did the Fed make a colossal mistake that we're all going to pay for, or are we going to avoid a recession? Where are we right now given all that we know, admitting all the uncertainty?

MR. BERNANKE: Well, there are some — and I say this in a very limited way — similarities, like the effects of energy shocks, for example. But I think broadly speaking, this episode and the 1970s episode are really quite different. The 1970s episode first of all lasted for 15 years, from about 1967 to '81 or '82, and peaked at an inflation rate, CPI inflation rate of 13 or 14 percent. So it was a much, much bigger shock. Moreover, within that period there were two minor recessions and two very big recessions. So it was a very difficult period and so far, I think there's nothing to indicate that we are anywhere near that kind of situation.

Now, another important difference, which I talk about a lot in the book, is the political environment. So in the '60s, Chair Martin, who had — you know, again, his shtick was to kind of lean against inflation and Eisenhower had been cool with that and let him do that, but when he tried to do it in the late '60s, Lyndon Johnson basically told him no way, put a lot of pressure on him personally. He promised — Johnson promised to do fiscal contraction if the Fed would just not tighten, and he really didn't follow through on that except for the temporary 10 percent surcharge.

Then of course, most famously, Arthur Burns, who became Fed Chair in 1970, had his arms twisted into pretzels by President Nixon, who wanted to be reelected in 1972. So, again, a lot of political pressure. And even after — and this relates to one of the questions I put on the board –– even after Nixon left office, Congress was still very much pushing for –– against anti-inflation policies and for pro employment policies, in particular the 1978 Humphrey-Hawkins bill, which formally set the Fed's mandate, also set a long run unemployment target of 3 percent. And obviously a very difficult thing to meet, particularly since retrospective analysis suggests that the NAIRU — for what it's worth — was more like 6 percent at that time. So the politics was very adverse.

In contrast, while nobody wants to see a slowdown of the economy, I think both from the Executive and the Congress — you know, Jay Powell — and some of this is to his credit because he's worked really hard to mend relations with Congress –– I think the support for what the Fed is doing is much better than in the 1970s.

The third thing I want to mention is the Fed's theory of inflation. So Arthur Burns thought that inflation was driven primarily by cost to push factors. He thought that strong unions and strong corporations could push up wages and prices more or less as they wished and that tight monetary policy would throw the economy into a deep funk, but would be very, very tight in order to bring down inflation and so that other measures were better. And in particular it was Burns who proposed to Nixon that they have wage price controls, because he thought that would be the way to control this behavior.

Because of the strong consensus, political consensus, that we don't want to raise unemployment under any circumstances and because Burns thought that the Fed really was not a very effective tool for reducing inflation, the Fed never really took the lead in fighting inflation in the 1970s. In contrast, today's Fed, with 30 plus years of low inflation, with political support, and with leadership that is willing to say that the Fed must take the lead in reducing inflation, has much more credibility and much more commitment to reducing inflation than the 1970s.

So you asked for forecast. I don't want to — I don't really usefully give you really sharp forecasts, but I do think that the Fed will bring inflation down over the next couple of years and it will do that because it will be helped in doing that by the credibility that is built up and the relatively well-anchored inflation expectations that are still there.

MR. WESSEL: So some people have pointed out that in August 2020 the Fed introduced the new framework, flexible average inflation targeting, which was a response to a long period of time when inflation was below target. And I think the question that comes up was, was this the right strategy at just the wrong moment, and has it led them to be –– did it contribute to our current inflation problem?

So what do you think about the flexible inflation target? Did it contribute to today's inflation problem? And do you think it should be changed the next time we do the review that you mentioned, which is just around the corner?

MR. BERNANKE: So FAIT, flexible average inflation targeting, has two parts. The first part is that when inflation is below target for a time the Fed, instead of just going back to 2 percent, will moderately overshoot for a period. The idea there is to give an average inflation rate of around 2 percent and try to anchor inflation expectations around 2 percent.

The second part is a commitment not to tighten simply because employment is rising unless there are also signs of inflation. So that has been interpreted as the elimination of the so-called preemptive inflation strike. That's not quite right, because again if inflation is visible, the Fed can respond, even if the labor market is not at full employment. But that was the second part of it.

In way this framework was set up for a different set of problems that we're facing today. It was set up for a situation where inflation is too low and where the zero lower bound is the constraint. That's obviously not our problem today. So you might argue that it's less relevant than we thought it was going to be, but I don't think it's the reason that we have the inflation, or the Fed took some time to recognize the inflation.

As I talked about it in my presentation, I think the pandemic made recognizing the underlying situation much tougher in two ways. One is on the labor market; the standard indicators were not as reliable as was usually the case. So in June of 2021, you know, after the fiscal program, the unemployment rate was still almost 6 percent, and the number of jobs was still millions below where it had been before the pandemic. And so the Fed at that point was still saying that the labor market had a good bit of space to grow. And that was part of the reason why they were slow to respond in mid-2021.

Since then they've recognized that in a world where participation is suppressed by the pandemic, that the number of jobs, for example, is not a great indicator and they're looking now at things like vacancies as an indicator.

The other way in which the pandemic caused problems was, again, the supply shock that the pandemic generated. Again, if you think a supply shock is what's causing inflation –– and to the summer of 2021 core inflation was about 3.5, which is high but not that high –– then the standard central bank doctrine is to look through it and allow that to pass and not to raise rates just because you have a supply shock.

As everyone knows, it turned out that the pandemic supply shock was bigger, more persistent than we thought and as a result that persistence, together with a set of more standard supply shocks in energy and food, threatens to unanchor inflation expectations, which would make it much more difficult for the Fed to bring inflation down and therefore in those circumstances you actually have to respond to a supply shock, which is what they're doing now.

In terms of the future, I think that there are kind of two possibilities. One is, as I said, the FAIT is kind of –– the problem with it was that it was addressing a different problem than we are facing. If in fact inflation comes back down and we're back to sort of where we were in 2018, the FAIT will still be a relevant framework. If inflation is more persistent, then obviously they're going to have to think about how to deal with that and how –– for example, how quickly they want to bring inflation down, et cetera.

I think that nominal GDP targeting, which one of my concerns about it is that it's usually not sufficiently timely. This time it did suggest that inflation was becoming a risk in the middle of 2021. So something they would probably look at. But I think most likely the framework will stay as a variant of inflation targeting, probably average inflation targeting with perhaps some more flexibility in terms of –– it recognizes the fact that identifying full employment, even when you're there, is not such a simple matter.

MR. WESSEL: Let me try to understand your point on recent history. I hear you saying is the Fed made a mistake, but the mistake was not having a clear forecast understanding of the economy, a forecast that turned out to be accurate, but that reflects the fact that were in a particularly unusual situation and that it wasn't a failure of concept, it was just a failure of –– I don't know, imagination or not being –– the crystal ball just wasn't clear enough to see all these things happening.

MR. BERNANKE: Yes. And I think it's worth emphasizing that the framework needs to be distinguished from the guidance that they provided in September and December of 2020. That guidance said they wouldn't begin to raise rates until full employment had been reached. That is not in the framework; that is part of the guidance. And that in some sense tied their hands a bit because they –– you know, they wanted to be able to say there was full employment. And in the summer of 2021, with 6 percent unemployment and millions of jobs missing, so to speak, it was a little hard to say that they had reached that. So, in a way, that guidance tied their hands in a way that made it more difficult for them to respond in a timely way.

MR. WESSEL: Yeah, the forward guidance thing is interesting. You used forward guidance quite aggressively during the Great Recession and the following years when you were trying to convince the markets that the Fed was not going to be aggressive at raising rates because the economy was struggling to recover. But we seem to — I mean you talked about the McChesney-Martin-Powell contrast. I started covering the Federal Reserve when Alan Greenspan was the chairman and the Fed didn't even announce that they moved interest rates, and now Jay Powell has essentially said 250 basis points increase, one at each of the next two meetings. Christine LaGarde of the ECB put out a statement today that basically said what they're going to do in July and September.

What are the plusses and minuses of all this forward guidance? And isn't, as you just suggested, the risk that the Fed ties it hands? People will look at this as a commitment, but then the world will unfold differently and they'll be slow to react.

MR. BERNANKE: So let me first say that I think that the move towards greater transparency and openness as a whole is very desirable and it's made monetary policy more effective, and it has made the Fed I think more accountable to the general public.

With respect to forward guidance, which is communication about possible future policy, Charles Evans, the president of the Chicago Fed, and some co-authors in a Brookings paper some years ago made I think a very useful distinction between Delphic forward guidance and Odyssean forward guidance. Delphic forward guidance is just a forecast, here's what we think is going to happen. We're not promising anything, this is just our best guess. Okay. The dot plot is Delphic forward guidance. That's just where they think things are going based on current information. If information changes, the dot plot changes. Okay, so Delphic guidance can be useful. It's useful if it reduces uncertainty in the markets. It's useful if it helps align market pricing with the central banks goals, but it can also be a problem if the central bank doesn't really have clarity on where policy is going or on where the economy is going. It can hurt the credibility of the Fed, of the central bank, it can tie their hands, as you say.

So I think for Delphic forward guidance, the criterion ought to be by giving this guidance are we reducing uncertainty, are we aligning the markets with our policy goals, and are we pretty confident that we're not going to be proved wrong in an embarrassing way, you know, before the guidance comes true. So that's a calculation that the chair and FOMC have to make.

Odyssean guidance, like Odysseus was bound to the mast in the story, is usually relevant only when interest rates are zero. And that's when you promise, as we did, for example, after the crisis, not to raise rates until some period of time or until some specific set of circumstances follow. And in situations where you can't get extra stimulus by cutting short-term rates because you're already at zero and when the markets are, in your view, too optimistic about rate increases coming soon, that's I think an effective and powerful way to get more stimulus. And that's been very useful. But again there is a trade-off. In a situation where you promise to keep rates low for a very long time and suddenly the economy turns around, then you have a problem.

So, again, it has to be judiciously applied. You don't apply it to all cases, but I think a world in which forward guidance is offered at appropriate circumstances is a much better, more effective policy world than one in which you don't even tell people when the interest rate has been changed.

MR. WESSEL: Right. But I think the risk is that what may be intended as Delphic is taken as Odyssean. And that so now the Fed has basically locked itself in. If they don't raise interest rates 50 basis points at each of the next two meetings, people are going to say you broke your promise.

MR. BERNANKE: Well, that's — this is up to the chair to communicate. So I mean he might say if they don't raise rates 50 business points you'll say, well, we looked at it and circumstances didn't require it. I think it's important for — not in so many words, not using those — not using that language, but I think it's important for the chair or the FOMC statement to be clear about what is just a judgment about the economy, about the risks or upside or downside, whatever, versus a commitment to follow a certain policy. And I don't –– yeah, I –– you don't usually have much benefit from Odyssean commitment when you're well away from zero, as they are now.

MR. WESSEL: So you talked in your remarks about the long-term trends of the neutral rate of interest, R-Star, coming down. I think it's true of both the nominal rate and the real rate.

MR. BERNANKE: Mm-hmm.

MR. WESSEL: And of course now we are in a period of great flux, but I wonder what you think the world will look like when we get through this period. Do you think that the long-term rate of interest, R-Star, will continue to be low and continue to fall? Or do you think that there's a chance that we'll look at this as an inflection point and it will start to return to levels that we haven't seen in a while?

MR. BERNANKE: So it's very hard to make precise statements about changes in R-Star when we don't even know really the level of R-Star. I think it is quite low and probably will stay, broadly speaking, low in the future. I suppose if I had to guess, I would say there's more factors that are pushing it up than are pushing it down. And I would dare –– just to list them, I would say inflation expectations after this episode will probably be firmer. That will push up nominal interest rates a bit. I am hopeful that we may see some more productivity growth. There have been some signs of that. Very impressive how quickly the vaccines were developed, and maybe biomedical research is a one direction for that. But we've also had a lot of experience now with online meetings and working from home and online shopping, et cetera. We don't know yet exactly what the productivity consequences of that will be when it's all worked out. Third, investment has been pretty good for a number of reasons, but I would just point out that looking at the next five or ten years, that globally, even if not in the United States, we would expect to see a lot of green investment. I mean we have a lot of work to do to retrofit buildings, to put in clean sources of energy, et cetera, et cetera. And, again, I hope the United States moves in that direction, but even if we are limited there, Europe is very committed, other countries are very committed to doing that. So the extra demand for investment would be another factor raising neutral rates. And then, finally, there's been no shortage of government deficits globally, and that also should raise term premia and raise the neutral rates. All those things would tend to move the interest rate up.

There's a powerful force in the other direction, which is demographics. I think the most important explanation, other than lower inflation, for the low R-Star is the aging of the global population, which means that work forces are going to begin to decline, growth is going to be slower, people are living longer so they have to save for retirement. So those demographic factors are still working in other directions. So that's why I wouldn't hold out hope for a really big increase in the neutral rate.

MR. WESSEL: Finally, before I turn to the audience, you mentioned Fed independence. And I wonder if you could talk a little bit about what does that mean. And particularly has it been eroded by the implicit or explicit cooperation between fiscal and monetary policies of the last couple of years? The Fed bought a lot of government bonds, the Treasury issued a lot of government bonds. What does Fed independence mean? Do you think it can survive in the polarized political climate which we find ourselves today?

MR. BERNANKE: So Fed independence does not mean — everyone here knows this, but just to be clear, it does not mean the Fed can do whatever it wants. Stan Fischer made the distinction once between goal independence and policy or instrument independence. So the Fed does not set its broad objectives. That's done by Congress and the Fed is responsible to report to Congress regularly and to the American people and explain why their policies are leading us in the direction of those objectives. So the Fed is not independent in that sense. However, it is pretty independent. Perhaps not completely, but pretty independent in its ability to make policy decisions, choose interest rates, choose asset purchases as needed to approach.

And I think that that independence, which we trace back at least to the

Treasury-Fed Accord in 1951, and really back before that, is quite important. I think we need to have an institution which is on the one hand highly technocratically qualified. I mean making monetary policy requires a lot of technical information, requires continual monitoring of the economy and markets, requires communication with the markets. I mean it's not something that Congress could do itself obviously. And I think to be nonpartisan is also important because you want to have the Fed looking at the long run interests of the economy and not simply responding to every swing in the political winds.

So I think the nonpartisan aspect is important and perhaps even more so than it used to be because we now have frameworks and guidance that last many years. And if the Fed leadership completely changed over every time Congress changed, that would really make that continuity very hard to preserve. So I think this independence is really important.

Now, you mentioned threats to independence, and there are some. Obviously, I think it was totally appropriate when I was chair for us to coordinate with the Treasury, for example, on dealing with the financial crisis because that was an existential crisis for the U.S. economy. But obviously some of the things that happened, like some of the bailouts, et cetera, made the Fed much less popular and brought criticism from politicians and a very bad relationship at that time.

Likewise, you might worry a bit about the Fed's lending through these non-financial lending facilities that were set up in 2020. I would argue there that the Fed did a good job of protecting itself there because the lending was done via 13(3) emergency facilities so that — which require that credit markets be nonfunctional, or at least highly disrupted. So the Fed could always say well we can't be lending just to your favored borrower because credit markets are working fine. Moreover, the Fed retained the ability to set up those programs and to set the terms, et cetera.

So I don't think that's an immediate problem, but you're right that the expansion of the Fed's powers and authorities and the areas where it takes responsibility that I've described in my book does raise this risk.

In the end, while I think the defense of independence is an ongoing project –– and I give Jay Powell a lot of credit for his work to improve relations with Congress and so on –– I think as Sara Binder of Brookings once argued, there's two reasons why Congress in the end would prefer an independent Fed. The first is the desirable reason, which is that they in fact believe that an independent Fed is going to make better policy than a partisan controlled institution and a better economy is good for everybody. But the other reason is that often some of these decisions, like the one to raise interest rates now, are difficult decisions and the Congress would rather somebody else be doing it rather than the Congress passing laws saying we need to raise interest rates.

So I'm hopeful that independence will persevere, but I mean I do recognize that it needs to be continuously defended in a world in which we have a lot of polarization, a lot of distrust of technocratic institutions and where sort of nonpartisan policy making is –– at times has come under attack.

MR. WESSEL: Thank you.

So I want to turn to –– we've invited a number of people to be in the audience. I want to invite anybody who wants to ask a question, and if you don't, I'll either cold call on you or continue to ask my questions. But my favorite is there's a handheld mic at the table and you have to push to talk. And so for the benefit of people who aren't in the room –– Jonathan, do you want to start? And identify yourself first and then please go ahead.

MR. PINGLE: Thanks. It says push, not talk, but.

Jonathan Pingle from UBS.

In one of the questions you posed you mentioned that Chairman Martin sort of failed to take the punch bowl away in time. Do you see any similarities with that and Chair Powell say moving more quickly or being more adamant? I mean are there lessons to be drawn from that that you think the Fed might apply or be applying today?

MR. BERNANKE: Well, I think this relates to the question of whether the Fed is "behind the curve". And I think for a period retrospectively, given what we know now, they probably were given the difficulty of assessing the state of the economy in a pandemic environment. I think though that even though they've only raised rates twice so far, that because markets anticipate the entire future policy path, we've already seen a significant tightening of financial conditions. So I think they've already made significant progress in terms of reducing the inflationary impulse at this point. And we'll see how things evolve. It's going to depend on things like how quickly the supply chains begin to operate again and so on.

But the political constraints that Martin faced and the political negotiations that he was doing with the White House, where the CEA told him, look, leave rates where they are, we'll get the president to put through a big fiscal contraction. That never happened. And Martin — after it failed to happen, Martin did raise rates, but it was kind of late. At that point inflation had already sort of gotten out of the bag and there was nobody with the credibility, particularly since he was replaced at that point by Arthur Burns. There was nobody who could do it.

So I think it's a very different situation with politics playing a much bigger role in the '60s and '70s than it is playing now.

MR. WESSEL: Thanks.

David Wilcox.

MR. WILCOX: If R-Star remains — or unless we get quite a large increase in R-Star, QE is going to remain a big part of the Fed's portfolio. And that raises a question of coordination of debt management policy with the Treasury Department. The Fed, when it does QE is shortening the maturity of all else equals, shortening the maturity of debt securities held by the public. The Treasury can respond to low interest rates by lengthening the maturity of issuances.

MR. BERNANKE: Mm-hmm.

MR. WILCOX: Is there room for a new Treasury-Fed Accord to govern the hand off of debt management policy from the Treasury to the Fed or back again under changing circumstances?

MR. BERNANKE: So your point is correct, that if Treasury wants to undo the effects of QE it can do that by — the Fed is taking duration out of the system and if Treasury can just put duration back in the system. Whether you need a formal accord I don't know.

Just to tell you what my experience has been, in my case when we were doing it, I had conversations with the Treasury and they said that they would stay on the path, on the committed path that they had announced before the crisis, and they would not respond opportunistically to the change in interest rates induced by the Fed.

In the case of Powell, I think that I don't have the inside information. I suspect that Janet Yellen would be sympathetic to the situation. So I'm not aware that the Treasury has played that game int eh more recent episode, although it's an interesting discussion why they did this. The QE in this episode has been not just long-term securities, but actually been across the curve. So the effects and duration have been a little bit different. But in any case, you could have a formal agreement, but I think what's happened so far is that the Treasury has supported the Fed's policies and informal agreements have been sufficient to keep the Treasury from undoing the effects of QE.

MR. WESSEL: Thanks.

QUESTIONER: Yeah, Ben, how would you define success for the Fed over the next two or three years in the following sense — so two years ago we were worried that inflation and inflation expectations were too low. So one could argue that today the Fed has been successful in raising inflation expectations up to a better level. Then looking forward, what would be success to consolidate that? Stabilizing core inflation in the 2.5 percent range or does it need to bring it down to 2, or none of the above? How do you see success?

MR. BERNANKE: So a question that I don't know the answer to is exactly how quickly inflation will come back down to target, but it will depend on circumstances partly out of the Fed's control and party out of decisions that make as policy makers. But I have not seen any indication that they want to change the target. I think that 2 percent is the ultimate goal. In fact, whatever the arguments for raising the inflation target, doing it when inflation is very high is not a good idea. It makes it look like you're capitulating.

So I think they'll keep the target and over time they'll come back down to it and then they will try to –– you know, if they're able to do that I think inflation expectations will come pretty close.

Right now, for example, I think that five by five inflation ––you know, in looking at the break evens in the TIPS market, if you look at the five-year speculative inflation rate five years ahead, which I something the Fed often looks at, and you adjust for the difference between CPI and PCE inflation, inflation expectations by that metric at least are already 2 percent.

So there's not a lot of signs so far –– I mean people obviously recognize that we're currently in high inflation and you see that in one-year expectations, et cetera. But if you look at medium to long-term expectations, they are consistent with bringing inflation back into the broad vicinity of the target.

MR. WESSEL: And so would the ideal policy –– you talked about the inflation side of the ideal policy –– would it be a mistake if unemployment rose a little bit? Is that inevitable if they're going to tighten policy?

MR. BERNANKE: Well, I –– you know, I think some of that might happen, but what Powell argues, and we'll see if he's right, is that the labor market is in disequilibrium now. That for every unemployed worker, there are two job openings. So his argument would be that before we find a situation where people are unable to find work, we need to eliminate some of this excess demand and then that would take some of the pressure off of wages and prices without necessarily having a big effect on unemployment.

So I'm inclined to think that there will be some increase in unemployment, but I'm quite confident barring some incredibly large new shock, that we're not anywhere near a Volcker '81-'82 type situation coming up.

MR. WESSEL: Annette? Reminder to introduce yourself.

MS. VISSING-JORGENSEN: Annette — sorry (inaudible). That's better, thank you. Annette Vissing-Jorgensen of the Federal Reserve Board.

So you laid out factors that could explain why the Fed has been –– you know, as many think, a bit late in its policy response to the increased inflation. There was one factor which you didn't mention that I thought might be very important, which is that the whole telegraphing of balance sheet policy months and months and months ahead of time might have become a constraint on lift off in the sense that by the time — you know, I would say in November, December everyone realized that the Fed really needed to tighten. There was still a whole bunch of tapering to be done.

So to what extent do you see this having been a constraint? And do you think that there is a need at the time when policy needs to be tightened, which is usually sort of in the good times, to treat financial markets as sort of so unstable that you cannot just taper when you really need to tighten.

MR. BERNANKE: Mm-hmm. Yeah, it's a good point. I think you're right. Jay Powell was on my board in 2013 when we had the taper tantrum. And so there was a desire to provide warning. There was also guidance which said we had to have substantial progress, if you recall. And, again, in June, arguably we had not had that substantial progress. So I think I –– I guess I agree with you that that was some constraint. The Fed would argue that as they began to realize the situation — and I think the key month was October, frankly, when the CPI numbers came in surprisingly high and suddenly the mood really kind of flipped at that point, that they moved pretty quickly from there in recognizing that it's not just the actual action but the expectation of action that is important for policy.

But I think you're right that there is kind of a — and this is related to David's earlier question — that there are times when you have very unanticipated circumstances, and forward guidance, which had a good purpose perhaps when it was made, can create some rigidity in the response. So I think your point is basically right, although, again, I would respond also by saying that the Fed did move up the tapering pace and ended it earlier than it initially said. And its subsequent actions have brought forward a lot of the tightening.

So I don't think that you could just say well we're six months behind forever because of the tapering process. But I think it is true that it was a little harder to get started because of the forward guidance that had been given on asset purchases.

MR. WESSEL: Nick Timiraos.

MR. TIMIRAOS: Thanks. Nick Timiraos of the *Wall Street Journal*.

Following on that question, Dr. Bernanke, given that the Fed was animated not to make the same mistakes from 2008 in 2020, how much do you think that not wanting to make the mistakes from 2021 could constrain or should constrain a future committee in the next downturn? Specifically around the use of forward guidance and QE, do you think there are lessons that are going to be taken that make those tools less powerful in the next downturn?

MR. BERNANKE: Well, I think that the — again, the guidance — not the framework, but the guidance specified that no rate increases until full employment was reached. And we know it's difficult. We know it's difficult to estimate the natural rate of unemployment so that that makes preemptive strikes, you know, very problematic. But what was not anticipated was that even when you are arguably at full employment, it was much harder to identify that than it was in the past.

So I think that what you will see on the margin is more — you know, is an attempt to be more flexible and perhaps not to tie one's hands quite as much. I mean I think that's one of the themes that's emerging here is that sometimes forward guidance can be restrictive. But, again, you know, the Fed was able to respond and to catch up pretty quickly. But if the world looks very different from where it was when you gave forward guidance, then it can cause problems.

MR. WESSEL: Brian Sack.

MR. SACK: Brian Sack, D.E. Shaw. I want to ask a broader question about QE — I mean broader than Annette's — which is do you think enough has been done to define what the right reaction function is with QE? Like with the funds rate, you know, we all have our reference rules, and we know if inflation goes up this much, we think the Fed should tighten this much. And I think with QE we don't really have anything like that that says well this inflation surprise should make them back off this much more quickly or reduce the flow or something. The funds rates in the SEP, the balance sheet isn't. So there's all sorts of ways where we sort of have less information about the balance sheet. And if it is a major tool that's in the toolkit that's going to be used in every downturn, I mean do we just need more work on what that reaction function actually looks like or should look like?

Thank you.

MR. BERNANKE: Well, the problem is we have a sense — you know, I've written on this myself, about what the impact of QE is. But there's a lot of uncertainty around that and it may depend on circumstances and what's happening in the market. So there's been a lot of research, and as you well know, there's been a lot of research on reaction functions for QE, a lot of research on the effects of QE in terms of the impact effect and the like, and papers that include reaction functions. Besides your work that — Michael Kiley has a paper with a fairly complex set of reaction functions and so on. And that's of course — you need a rule in order to simulate different policy approaches. And so there has been work that tries to do that.

But we don't have that many experiments to draw on. I mean I think the Powell QE is actually kind of a mixed experiment because it was initiated not necessarily for macroeconomic reasons, but for market stability reasons. And that led to an asset purchase program, as I mentioned before, that was across the curve and not just long-term interest rates trying to draw a duration.

So I don't think we have a lot of historical examples that will — to guide us.

But in principle I agree that you would like to have as much information as possible about how that policy tool will be deployed. But the reason — of course, the reason that the Fed is currently opportunistically moving the short-term interest rate while letting — just starting June 1 letting the balance sheet to a client passively is precisely because they feel they have much better understanding of what changes in the funds rate do to the economy and their understanding of what changes in the balance sheet do is simply not as good.

So, again, going back to the theme of this discussion, I'm not sure they want to pre-commit to a firm reaction function without being able to assess the effects of asset purchase and then make adjustments as needed.

MR. WESSEL: Neil, do you want to have the final question — a short one?

MR. IRWIN: Sure. Thank you for having us. Neil Irwin from Axios.

You talked about all the changes in communication over the last generation and all the ways that Chair Powell is out there and projections and press conferences. Has something been lost? Like as a journalist I love having all that communication and transparency, but are there downsides to the sheer amount of communication out there?

MR. BERNANKE: Well, first, I mean communication is not — that is not always constructive. We've talked about times when forward guidance can be limiting or restrictive, et cetera. But the other issue, which I think you're getting at, is the fact that there are 19 people around the FOMC table, and that's a lot of speeches, a lot to follow. And some people complain about cacophony, et cetera. I think that if you've got FOMC participants who are following the spirit of the FOMC rules, which say basically that you should always try to characterize the committee consensus and then be clear that if you disagree with that consensus, it's your own personal view, that that — number one, that reduces the risk of misunderstanding. So I think that's important to try to enforce and key for FOMC participants to understand.

The other thing to say is that Reserve big presidents, for example, have many things that they need to do other than talk about monetary policy. They need to go out and talk to their local communities about what's happening in the economy, what's happening to inflation, what's happening to payment systems, and the like. And so it would be pretty hard to forbid them from speaking frequently.

And I think the upside of it is that one of the things that I always faced in congressional testimony was that the senator would say there were no dissents at your last meeting, clearly the Fed has group think and the Fed is not really looking at different points of view. And I would say well, it's a consensus-oriented organization. But in fact here is quite a wide range of views and people going out and explaining how they disagree with the committee consensus, having firs stated that consensus I think is a way to show Congress and the public that in fact different views are being considered and that this is a collegial but nevertheless serious decisionmaking body.

MR. WESSEL: So thank you, Ben.

I'm going to ask you one final question. The Washington Nationals win-loss, 14-28. Any hope?

MR. BERNANKE: There's always hope. (Laughter) I don't know. Maybe Brookings would like to acquire the team. I understand it's kind of cheap at this point.

MR. WESSEL: Oh, if you'll help finance it, I think we could certainly do it. (Laughter)

I want to thank everybody in the room and watching online. I ask the people in the room just to stay in your seats for a minute until we're sure that the Webcast is off.

As I said, the answers to all the question that Ben posed are in this book and I encourage you to get a copy and read it –– not only get a copy, but also read it.

So thank you very much, Ben, for your time today.

MR. BERNANKE: Thank you, David. I appreciate it. (Applause)

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