Monetary policy responses to post pandemic inflation

Centre for Social and Economic Progress (CSEP) CSEP Research Foundation

6, Dr Jose P Rizal Marg, Chanakyapuri,

New Delhi 110021, India

Ph: 011 2415 7600

Speaker: William B English

Introduction / moderator: Janak Raj

Janak Raj:

Good morning, everyone. Including those who have joined online. We are absolutely delighted to have with us today, Professor William B English. He is Eugene F Williams, Jr Professor of practice, Yale school of management. Professor English joined the faculty of Yale university in 2017 after 25 years at the board of governors of the federal reserve system. Bill teaches and conducts research on monetary policy and central banking issues with students in both the school of management and economics department. His work has been published in the American economic review, the journal of monetary economics, the economic journal and the IMF economic review. Of course, he has published his articles in many other journals. Before coming to Yale, Bill was the senior special advisor to the board of monetary policy and prior to that he held a range of positions at the Board of governors including from 2010 to 2015, director of that division of monetary affairs and secretary to the federal open market committee FOMC. While at the federal reserve, Bill visited white house council of economic advisors and the bank for international settlements. Prior to joining the federal reserve, Bill taught at the University of Pennsylvania and the University of Chicago. He received a PhD in economics from the Massachusetts institute of technology in 1986 and a BA in economics and mathematics from Yale university in 1982. He has recently published a book titled "Monetary policy responses to the post pandemic inflation". The book focuses on how swift and aggressive actions by most central banks after the covid pandemic helped contain inflationary pressures with much less pain for the real economy than expected. He draws some lessons from the experience of the past few years emphasizing that central banks cannot ignore inflation risks especially in an environment where inflationary pressures can rapidly fluctuate due to unforeseeable global shocks. By the way today bank of Japan has raised the policy rate. After many years. After 17 years and they have also done with the negative interest rate policy. And also, the yield control management. But the US fed is in news again. As you know the US fed has raised the policy rate by more than 500 basis points. Despite this massive tightening many observers feel that the US economy will be able to make a soft landing. That is, it will not face the recession. As inflation in the US has declined sharply from the peak of 9.1% in June 2022 to about 3.2% now. Financial markets also believe that the US would start cutting interest rates soon. There is no better person than Professor Bill English to speak to us on US monetary policy. The topic of his talk is US monetary policy at an uncertain moment. Professor this is a hybrid event. Some people have joined online including Dr Mohan. He spoke to me in the morning. He is also attending this event virtually. So, we have 90 minute session. So, you will have about 25 to 30 minutes to make your presentation. After that you will have some conversations. Then we will open the floor for discussion. Over to you professor.

William B English:

Thanks so much. Thanks for all of you for coming. And for those who are online. What I would like to do with my half hour or so is cover four things. First, how do we get here, how did we get to the current situation. That will draw somewhat on the book that Janak mentioned. Which looked at across many economies. But I will focus on the US case. That seems most timely among other things as you probably know the federal open market committee is meeting today and tomorrow. So, we will get an update from them tomorrow. Then I want to talk about the economic situation in the outlook. Talk about some implications for monetary policy and end with a few complications. The situation is one that is I think more complicated than it may seem. It seems complicated already. So, I will end with some thoughts on that. So how did we get here. The pandemic hit in the spring of 2020 and policy makers around the world, again my emphasis will be on the United States, were very worried that the outcome could be something like what happened after the financial crisis. That is the economy could be weak for years. After the financial crisis the economy didn't really get back to potential for something like 7 years. The unemployment rate was high. Growth was relatively weak and they were afraid they were in for another very long weak halting recovery. They were worried about what that would mean for the labor market. That some workers would just become detached from the labor market. Their skills would deteriorate and they will never get back into the labor market. There would be a permanent effect on potential output. They were worried about a range of structural changes that the pandemic was raising, the issues around the globalization and supply chains, issues around cities and work from home and what does that mean for office space in particular in large cities. And issues about kind of goods versus services and would there ever be a shift back to the service economy that we had before the pandemic. So, the response was an extremely powerful, fiscal and monetary response. So, on the monetary side on the left I am showing the Fed's securities holdings. They just skyrocketed, I remember when I was FOMC secretary, debates around very small seeming changes in the Fed securities holdings. Boy, they really went out and bought a lot of securities in 2020 in particular. So, very easy, monetary policy, very aggressive fiscal policy. The right hand side shows the government surplus in the US, you can see the surplus plummeted huge deficits for a couple of years as the government spent a lot of money to try to get the economy going again. And there was a lot of very firm guidance issued not only was policy easy, it was going to stay easy for a long time. So, they said they are not going to raise rates until labor market conditions have basically attained maximum employment, the mandate that the Fed has. Inflation has reached two, their assessment of their inflation target. And is expected to be above two for a while. So, a commitment to… at least a soft commitment… not to raise rates for a long time. Asset purchases similarly, a soft commitment to continue purchases for quite a long time at a very rapid pace. They did put in an out. So, there was some words that the committee would be prepared to respond if risks emerged, but of course, they never actually took that out. So, a very aggressive monetary policy response, out of concern that things would move very slowly. But what happened was, inflation picked up very sharply in the spring of 2021. Basically, continued to surprise on the high side for quite a while through 2021, through 2022 and even into 2023. The charts here show forecasts of inflation and actual inflation from the IMFs world economic outlook, various linkages. And what you see is for a year and half or more forecasts were too low. Inflation just continually came in higher than was expected. That inflation reflected a range of things. There wasn't a simple story behind the inflation. There was an unexpectedly strong rebound in activity. We hadn't ever seen a pandemic of this sort and so part of what happened I think was just that economies rebound faster than you might have thought after a pandemic. You can put the pieces back together again more quickly. The second was supply chain disruptions. There were just breakdowns particularly of international supply chains in the US, the prototypical example is autos. So, US auto companies had huge demand for autos. People got checks from the government. They wanted to go buy cars because they didn't want to ride mass transportation and be exposed to the virus. So, they went out to buy cars. The car manufacturers could make cars, they couldn't make chips. And chips are required in the cars. So, there was a big constraint on the supply of cars. As a result, auto prices went up about 25% over the course of the pandemic. So, those supply chain disruptions contributed a lot to the inflation. There were commodity price shocks in particular after Russia's invasion of Ukraine.

there were big energy price shocks or big food price shocks. And there were big labor market dislocations. There was as a result of the pandemic a need to reallocate labor. They needed to move labor from service sector jobs to goods producing jobs. Because there has been a shift in demand from services to goods. People didn't want to go to the movie theatre, they wanted to buy a TV. People didn't want to go to the gym, they wanted to buy a bicycle. So, there was a shift across sectors. And there also is a geographical shift. In big cities people weren't going to work because they work from home. They were staying home in the suburbs. But that meant a lot of the services provided to office workers which used to be provided near where they worked in cities now had to be provided out in the suburbs. So, there was a geographical shift in employment. And those labor market dislocations took a while to get sorted out and, in the meanwhile, there were constraints on supply and again that contributed to the high inflation. So, very high inflation, one important point to recognize and as emphasized in the book that Janak mentioned is this was a global shock. There was high inflation everywhere. In this chart, the details aren't important, but the idea is kind of how correlated is inflation across countries. There is always some correlation, there are always some global shocks. So, the light blue bars are pre-pandemic and if what is the correlation across countries for inflation, the dark blue bars are after the pandemic. And you can see there is just much more correlation in, the inflation went up almost everywhere. So, we ended up with a global inflation shock. So, the Feds initially said, well, this inflation, these are the shocks, sure inflation has gone up absolutely. But it will come back down, the shocks are transitory, inflation will unwind. We needn't move really quickly to combat this inflation. So, they did what they referred to as looking through the inflation. The inflation shocks will take the inflation up, they will pass and inflation will come back down. Look at the far side, what will inflation be coming out the far side. And they thought inflation would come back down relatively quickly. So long as inflation expectations remained will anchored, the high inflation didn't get kind of built into wage and price setting. They thought they would not have to respond with monetary policy. That desire to look through the inflation was also reinforced by that forward guidance that I mentioned a minute ago. The guidance that they provided was they are going to keep rates low for a long time. They were going to keep an accommodated policy for a long time. So, they wanted to do that. The stories were pretty similar in other advanced economies. In Europe in the bank of England most notably maybe at the reserve bank of Australia, where they made very strong commitments and then they really did have to back out of them. Because they couldn't sustain that. But ultimately across all of these economies, the inflation was high enough for long enough. Just the sequence of shocks was big enough that they had to respond. They couldn't just let the inflation remain high, not take action. They would have lost control over inflation expectations, the inflation would have gotten built into wage and price setting. And then they have a big problem, they you have to try to respond in a belated way we saw in the 1970s in the US. That's very damaging, very high cost. So, over time countries turned to raise rates. The chart here shows the timing of the increases in rates and what was inflation at the time of the increase in rates and what you see on an average across the countries is the emerging market economies raised rates earlier, they had less confidence in their credibility. They kind of had to respond. Also, in some cases exchange rates depreciated a lot. The advanced economies generally somewhat later and they raised rates when inflation was higher. India is an interesting case. Its over to the right. Raised rates somewhat late. I think the answer to that somewhat surprising result is the effects of the pandemic were worse here. The real side effects were more damaging. And so, the RBI waited somewhat longer before they responded to the high inflation. I think there were also risk management arguments. In the initial period after the pandemic as inflation was going up, the initial thought from the Fed was, we really don't want to end up as we did say in 2010, 2011 and 2012 with inflation, low output, weak, that was really damaging outcome for the economy and so they wanted to respond more aggressively. And as I showed earlier, they did respond aggressively. But then as the inflation built in, got higher, got even higher, they saw the risks pointing the other way. The risk was you lose track of inflation expectations and you end up with a high inflation economy and then you really got to respond and that could be very costly. So, I have a quote here from chair Powell in May2022. ‘We can't allow a wage price spiral to happen and we can't allow inflation expectations to become unanchored. It’s just something we can't allow to happen’. So, they responded with risk management and they raised rates even faster and even further than perhaps they would have otherwise. So, they raised rates more than 5 percentage points in about a year, the fastest rate hike cycle since the Paul Volcker era in the early 1980s which I remember but many of you probably won't. By last summer, rates were high, the Fed said they were sufficiently restrictive. They stopped raising rates. But they have left them high. This is the same pattern that we have seen in a number of advanced economies. Rates went up quickly and then they just keeping them high. Huw Pill at bank of England has called it the Table Mountain approach. You raise rates and then… then the issue is how long do you wait before you start cutting rates. And that’s the big issue before the committee right now. So, they thought that the economy would grow slowly. They thought the unemployment rate would move up to about 4.5%. these are forecasts from last summer, from the FOMC. And inflation would gradually return to target over two or three years. But things haven't played out in exactly the way that they expected. So, let me turn to the economic situation, the current economic situation and the outlook. So, the incoming data since last summer have been surprising. The left hand panel here is GDP growth. The Fed expected GDP growth to run around 1%. Potential growth kind of trend growth in the US is around 2%. So, they thought it would be a bit below potential. It’s been a bit above potential. It’s run about 3 instead of 2. And on the right hand side the unemployment rate has stayed below 4, they expected it to rise to around 4.5. And payroll growth just the additions to employment each month have run around 200000 or something like that per month. Neutral just keeping up with the demography, growth in the population is about 100,000. So, the economy has been pretty strong over the past year or so. The labor market dislocations have improved. The left hand side here shows quits and job openings which reached extraordinarily high levels historically in 2022, they have come back down. And labor force participation is on the right hand side, that’s recovered more or less to trend, as you would have expected. Because it does trend down a little bit because of aging of the population in the US. Inflation has come down despite the stronger growth, the lack of slack. Inflation has come down but not all the way to target. Not back to 2. It is kind of around 3 or something like that. The right hand chart here shows wage inflation in the US. There are couple of measures we can talk later if there is interest about the differences, but the basic punchline is the same. Wage inflation is running around a percentage point faster than it was pre-pandemic. So, wage inflation hasn’t come down yet to levels consistent with the Fed’s inflation target and inflation hasn’t come down yet to levels consistent with the inflation target. The outlook for real activity, I have got these simple measures of purchasing manager’s views of the situation and the outlook, the manufacturing sector is a little bit below 50 means that is shrinking just a little bit. The service sector is growing above 50. They are kind of… because in the US the service sector is much bigger than the manufacturing sector. They are consistent with growth in the economy. So, the economy continues to grow, a bit faster than potential as near as one can make out. Nonetheless inflation has come down as the inflation shocks have passed. The question for the Fed is more or less what's next. Will the inflation continue to come down, will the economy slow further and it’s hard to say? These are expectations for inflation. On the left market based expectations. They have come up a little bit from before the pandemic but that actually is probably good in the sense that they were too low before the pandemic. After a decade of low inflation after the financial crisis expectations have been pulled down some. So, I think the Fed is okay with long run inflation expectations having moved up. The right hand panel is a survey of households that is very noisy, it has come down, its probably still on average in recent months, a bit high. That’s consistent with the thought that there’s a little too much inflation, a little too much wage inflation in the economy still. So, what are the implications of all this for monetary policy. I think they are not clear. If the economy stays on track that is, output kind of stays near potential and inflation continues to move down towards target say over the next year. Then pretty soon it will be time to start easing monetary policy. Why is that? Well, as inflation comes down, real interest rates are higher, nominal interest rates adjusted for inflation and so in some sense there is an automatic, perhaps unintentional tightening of monetary policy as inflation falls. I think the Fed will want to avoid that in all likelihood and so at some stage they will say everything is on track, everything is going the way we want and its time just as almost as a technical matter to reduce nominal interest rates to avoid an undesirable tightening of financial conditions and an economy this slow is too much. There are risk management arguments that policy makers are discussing a lot. On the one hand you could do too much, that is you could leave rates high for too long, you could slow the economy too much. That way you could end up in recession. In a recession that you don't need to bring inflation back to target. Maybe it will come back to target gradually over time and we don't actually need to have a recession to get there. This is particularly complicated because there are lags in how monetary policy works. There are range of estimates. But monetary policy probably has effects on output that take a year or two to be fully felt, effects on inflation that take a bit longer. So monetary policy was tightened very aggressively in 2022. We are still feeling some of that now. The economy will be slowing in 2024 because of that series of very significant rate hikes in 2022. So, there is still a little bit of tightening at least in the pipeline and they will want to worry about that. The other is I refer here to the Sahm rule, my former colleague Claudia Sahm at the board came up with a historical regularity. If the unemployment rate smooths the bit goes up by half a percentage point over six months or so, the economy basically always falls into recession. So, if the economy slows too much, I think what happens is households and businesses say Oh, Oh. We could end up in a recession. Better hold back. Bad time to buy a car. Bad time to invest in new equipment. But if everybody holds back then the economy falls into recession. But there is that sort of nonlinearity and you have to worry something about that. So, there is a risk you end up slowing the economy more than you want to, on the other hand there is another risk that you don't do enough. If you don't slow down the economy enough, inflation stays high. You end up say later this year with the economy kind of that potential, the unemployment rate at its longer run normal level around 4% and inflation around 3 instead of around 2. That’s a pretty bad outcome as well. Then you have to decide, do you slow the economy more, do you tighten monetary policy and that would be a very hard decision. I think at the moment probably these risks are roughly balanced. For a while they were much more worried about high inflation outcome doing too little. But I think now probably these two things are roughly balanced. Let me end with a few complications that the monetary policy makers face. One is what is going on with inflation. So, inflation has come down quite a lot. But if you slice it into pieces, so, here I have taken a chart from the most recent monetary policy report that the Fed published a couple of weeks ago. One piece is basically goods. That is the dark line that went up a lot and then has come back down a lot as I said, goods prices are now actually falling on average. So, there's been a big decline in goods price inflation. Part of that though maybe temporary. The price of cars went up a lot during the pandemic period because it was really hard to make cars without chips. Now prices of cars are actually falling. They are down over the last year or so. Not a lot but some. But that decline is supply is catching up with demand. Supply is now roughly probably caught up to demand. It isn't clear you are going to continue to see declines in auto prices. Auto prices probably will stabilize at some stage. So that negative effect on inflation coming from goods prices may not last. Inflation on goods may pick up a little bit. Inflation in services which is the middle line has come down from around 5 to around 3, but its still pretty high actually. That's consistent with the relatively elevated wage inflation I showed you earlier. Services. A lot of services are just labor, right? It's just workers and if workers are getting raises that are too high to be consistent with the 2% inflation target. Then that will show up in the services piece and that's what you are seeing there. The kind of wild card in this is housing. Housing is measured in a somewhat strange way in US. I am not going to get into that unless somebody asks me to. But housing prices, the key thing is that housing inflation lags what's going on with new rents… is measured using rents. So, we know that the rent inflation has come down a lot. It hasn't shown through yet to the housing piece of consumer prices. It's come down some but it is still pretty high. That's the top line on the right hand edge of this chart. And there is a real uncertainty about what's going to happen over the next six months or the next year. A lot of people think that will come down a lot further given what we know has happened to new rents. But it hasn't the pass through from new rents to the housing piece of consumer prices. Hasn't been as clear as people had thought. So, there is a real question of what will happen to inflation. So, there is uncertainty about inflation, there is also uncertainty about real activity. Is the economy really as strong as it seems? There are a number of indicators that suggest maybe not. The left hand graph shows real GDP. That's the blue line, I pointed out earlier that's grown very strongly over the last year or so. The red line is gross domestic income. National income accounting says these two should be the same. The difference is the statistical discrepancy. Ordinarily they kind of move together. They have not moved together over the last year or so. Gross domestic income has grown much slower than gross domestic product. On average what do you want to do, you kind of want to average these things. That may suggest growth is actually slower than the 3% GDP growth that we have seen and that people focus on. The GDI, the numbers are a little bit of a signal that things may not be as strong as you think. The right hand side is hours, aggregate hours worked. That's basically trend like. Maybe consistent with growth around trend around 2%. Again, it doesn't suggest growth around 3% which is what the GDP numbers show. The US labor market data is drawn from two things. There is a survey of businesses and a survey of households. The survey of businesses is bigger, it tends to have smaller errors, it's a great survey. The survey of households is noisier, it's a smaller survey. That survey of households shows total number of workers growing much more slowly than the survey of businesses. That could just be statistical error or sampling error. But it also again might be a signal that the economy isn't as strong as the headline payroll numbers that you see in the employment report. So, I think there is some reason to believe the economy is a little weaker than you might have thought. And that's a real issue if you are a policy maker. And you don't want to do too much, you don't want to drive the economy into recession. So, it seems right to wait. See more data before acting. But you don't want to wait too long, right? If you keep rates high for a long time you run the risk that the economy will really slow. So, I have two quotes for you. One is from the last FOMC statement. They said the committee doesn't expect it will be appropriate to reduce the target range until it has gained greater confidence that inflation is moving sustainably towards 2%. So, that's saying, it's going to take a while, right? We have to get more confidence. However, in his monetary policy testimony a couple of weeks ago, when asked about this, what Chair Powell said was – when we get that confidence and we are not far from it, it will be appropriate to dial back etc. And so that and we are not far from it. That wasn't said lightly and so he really was suggesting it could happen reasonably soon. They have said in effect not this month. Probably not May. But June seems in play and we will just have to see how did the data turn out and where do we end up. One final complication. Just for those who are aficionados is what is the Fed going to do with its balance sheet. So, it's shrinking its balance sheet now, allowing securities to mature and run off the balance sheet. Its actually shrunk a fair amount. That's the top line on the left. The Fed is going to normalize the size of its balance sheet. That too is tightening monetary policy as the Fed's balance sheet shrinks, that puts them upward pressure on longer term interest rates. Exactly how much is subject to considerable debate. But this is a form of tightening too. And they have to decide when are they going to stop shrinking the balance sheet or slow the shrinking of the balance sheet. They said in advance of the meeting that's going on today and tomorrow. This is the main topic for discussion. I expect they had a briefing at the meeting talking about their balance sheet and different possible strategies for shrinking the balance sheet. It will be very interesting to see what they say after the meeting. That's all I have. Thanks so much.

Janak Raj:

Thank you very much, professor. This is very lucid presentation. Let me go back to the observation you made about that Fed was believing that inflation was transitory. But when the Fed was insisting that inflation was transitory, many observers including Muhammad Ali, they were regularly pointing out that inflation was not transitory. So, the issue is that what really went wrong in reading the inflation number by the US Fed. Was it that it underestimated the true nature of the supply shock? Or was it lulled into complacency because inflation after the global financial crisis most of the time it was below the target of 2% and Ben Bernanke of course, has indicated that the Fed was didn't want to shock the market. He was referring to the September 2013 'taper tantrum' when he talked about how they will be gradually tightening monetary policy and the financial markets were in turmoil. So, what really went wrong? What was the main reason for which the US felt that the inflation was transitory when it was not and then of course, later on it admitted and then they had to take very aggressive monetary policy action?

William B English:

Let me challenge a little bit your question. Because there was a fundamental decision policy makers had to make in 2021, 22, 23. Which was how much of this inflation was supply related and would pass, this is supply conditions improved. And how much was simply excess demand and overheating. So, there were those Larry Summers prominently among them who said it basically a lot of this is excessive aggregate demand, inflation is too high, it is going to stay too high. And he argued when he spoke at Yale in the fall of 2022 that the unemployment rate would have to go to 7.5% for two years to bring inflation back down to target. That was wrong.

Inflation is coming down a lot since then, without the unemployment rate rising very much. Its still below 4. So, I think the policy makers at the Fed had to make a fundamental judgement about how much of this is supply related and how much of this is just excess demand overheating, something that they really had to address with very tight monetary policy. Their judgement was even after they stopped using the word transitory, they still thought that a lot of this was supply related and would pass. I think their judgement on that was pretty good. There a very nice chapter in the book that you mentioned by Ben Bernanke and Olivier Blanchard where they decompose inflation into pieces. Across 10 countries, 10 advanced economies. And the upshot of that analysis is, the inflation was high largely because of supply problems, supply disruptions, oil prices, food prices and so on. That has come out. There is a remaining piece, right? There is a slice in the US I think they estimated at roughly 1% point that has to do with overheating, tight labor markets and may require some slack to bring it down. So, this I think is the argument that someone made that the last mile is the hardest. Inflation has come down to around 3 and the question is will it continue to move down at low cost to something like 2 or do they actually need to have some slack. That's the judgement the Fed is trying to make now, but I think the initial thought that this was supply related, likely to be transitory wasn't crazy, but the shocks just kept on coming. So, the inflation just ended up higher for longer and at that point your credibility as a central bank is called into question. You have to respond.

Janak Raj:

So, my next question is about this only. Inflation touched 9.2% in June 2022 which was 40 years high. After great moderation in 80s, this was the only period when inflation reached this high. So, did it dent the credibility of the US Fed and that was the reason why they did take very aggressive actions?

William B English:

They certainly were worried that it would call into question their credibility. If you look at the data on inflation expectation, the longer term expectations stayed pretty well anchored near target. People still believed the Fed would bring inflation back to 2. But the kind of short and medium kind of expectations moved up a lot. The reason for the very aggressive action taken in 2022 is that they were worried. They were afraid that expectations would come more unanchored, go up much higher and make getting inflation down much harder.

Janak Raj:

Now, let me come to… this was of course, question of credibility of the US Fed. But now most observers feel that the US is going to make a soft landing. If we see the track record of the US, most of the time when it did so much aggressive tightening, the US had to face recession. But this time it looks that the US could avoid recession and there would be soft landing. So, my question is how far this time it is different from the earlier periods when the US had to face recession. So could you please indicate some of the major factors which are different this time than on the earlier occasions.

William B English:

So, go back to the 1970s, there were supply shocks and inflation went up. But the Fed's response was incomplete, I guess. They raised rates enough to cause recessions. But not to return inflation to some really low level. Inflation went up, then it came down, but it was higher than it had been before and then it went up and came down. So, that kind of stop-start policy really did cost them in terms of credibility. I think that this time they moved with sufficient speed that their credibility was not seriously undermined. And that's helped a lot as the inflation shocks passed, inflation has come down. But we will see whether they need to have an economy that's weak. The most recent projections we will get a new set tomorrow. But the December projections had the unemployment rate basically coming up to its neutral level. Around 4 a little bit above 4. They thought that if they could normalize conditions in labor markets that would be enough. The rest would gradually taper off over a couple of years. That's a judgement and that's a question and over the next few quarters we will see does inflation kind of hang up, as I said is a concern. In which case they may need to leave rates higher for longer than may need an unemployment rate goes up to 4.5% or something like that to bring inflation down. But the hope is that with inflation expectations well anchored which they seem to be, inflation will simply wane over time and we will get inflation down to target without at least a significant recession. Maybe a period of slower growth and so somewhat higher unemployment rate, maybe it goes above 4 for a while. But not very far and that given this the scope of the shocks that hit and how bad conditions were, that seems like a great outcome to me.

Janak Raj:

Professor you showed a very interesting chart on liquidity of the US Fed. Like a balance sheet as expanded. The balance sheet size of the US Fed was like less than 1000 billion, less than one trillion in 2008-09 before the north Atlantic financial crisis which Dr Mohan calls it, its global financial crisis 2008. So, after the global financial crisis that expanded rapidly, balance sheet of the US started expanding rapidly, it went up to almost $4 trillion US dollars. Then of course, it started shrinking its balance sheet. But before it could do much on that, you faced another shock of covid pandemic and then balance sheet had to expand again. Now the balance sheet is almost 7 trillion US dollar. So, as percentage of GDP it is now almost 26% of GDP as against only 7% of GDP at the time of global financial crisis. So, my question is, is it really… I know, you have divorced monetary management from liquidity management by paying interest rate on excess reserve. So, its not interfering with your monetary management. I understand that. But is it not causing you concern because it has serious implications for financial markets and it of course, must also be hurting your balance sheet of your profitability because you must be facing some loses when interest rates had risen sharply, so the security which you are holding in your portfolio, the valuation must have come down? So, I have two questions. One, do you have any plans to shrink the balance sheet? Its already shrunk like from June 22. You started shrinking but the pace is very slow. Do you have any plans that it would shrink to much normal size than the size which we used to see during before the global financial crisis? I am not talking in absolute terms but I am talking in relation to the size of the economy, GDP. That's number one. Number two, does the US Fed really fear that if it shrinks the balance sheet rapidly, then there could be turmoil in financial markets?

William B English:

So, in terms of plans I think we will know more tomorrow. Because they are going to announce at least roughly what they intend. An important point is that they did decide back in early 2019 that they would stick with a balance sheet that was large and use payment of interest on reserves as the way they would set interest rates. So, as you say, but in 2007 the Fed's balance sheet was small. The supply of reserves was tiny. There was no interest paid on reserves. Banks didn't want to hold them. They did other things to obtain liquidity. And so, the balance sheet was very small. But they decided, you know as a result of the financial crisis, they purchased a huge number of securities, the reserves of the banking system went up a lot. They paid interest on reserves to implement monetary policy. They decided there were tractions to that system operating with a lot of reserves that it provided a financial stability benefit, that banks had a lot of liquidity and so, in event of a shock they had big liquidity buffers that they could fall back on and so on. So, they decided at that time they were going to stay with a pretty big balance sheet. Now, I forget how small it got. I think it was 8 or 9% or something of GDP. Just before the pandemic hit. And that was about as small as it could comfortably have gotten given that there were strains in some money markets as it got down to that level roughly. But in think they are hoping to get back to something similar to that. Maybe a little bit bigger because over time banks and supervisors have gotten used to the idea of abundant reserves. But a lot smaller than now, I think. But they are worried that they will… they will shrink the size of the balance sheet, they will shrink reserves of the banking system and they will set off some dysfunction in the money markets. As has happened in September 2019. So, they would like to avoid that if they can. That means they are going to slow down the pace at which they are running off securities and over time they will try to see what's going on in money markets and the strains emerge maybe they slow down further. They do want to get the balance sheet down to as a percentage of GDP to something much smaller than it was certainly at its peak. Because they don't want it to be the case that there is a ratchet effect. The balance sheet just goes up. Because at that point you start to worry that you are going run out of space. You want to be able to use quantitative easing again in the future. But if you are going to use it in the future, you can't have a balance sheet that continues rising without bound. So, they will want to shrink the balance sheet and exactly how far they can go, they don't really know. But as I say, we’ll find out a little more at least tomorrow.

Janak Raj:

My other question is about the impact it has on your income in earnings.

William B English:

The income question is a great one. So, as a result of the Fed’s purchases, its locking in interest rates on its assets that are pretty low because its buying securities when the economy was in bad shape and interest rates were low. And then it had to raise rates very quickly, so it's paying high interest on its liabilities and it’s earning pretty low interest on its assets. So, the Fed had had losses for the last year or so. And the cumulative losses, I forget last time I checked were 150 billion or something like that, I think. But I would have to look it up. So, there is a question of how big a problem is this. I wrote a paper couple of years ago with Donald Kohn, my former boss, who is at Brookings and we argued it, it's not that big a problem that the Fed can't default in some sense, it can print money. It’s a central bank. So, there isn’t the capital adequacy problem for the Fed. And the Fed will continue to implement monetary policy appropriately. So, there isn’t an economic problem in that sense that monetary policy somehow goes haywire. In terms of accounting the way the Fed’s accounting works is when it has a loss, it writes down that, when it returns to profitability it will retain earnings to offset the loss before it starts paying its earnings to the treasury again. Normally it just pays its earnings to the treasury. So, it will be not paying earnings to the treasury for a while in order to offset the loss that it had. But that’s the system that seems like it works and the Fed will be able to do that. We also argued in that piece that its very important to not view the Fed's losses as kind of the full assessment of the costs of QE for example. QE has a bunch of benefits, a bunch of possible costs. It puts more people to work faster, it pushes down longer term interest rates, allows the treasury to finance itself at lower rates. So, it has a range of benefits, a range of potential costs. Back in the period around 2010, 11, 12, we did a lot of work at the federal reserve that's been published. Its on the board website on kind of cumulatively how do you think about the benefits or costs and our bottom line was think about something like the debt to GDP ratio. That may end up higher or lower if the effects of the QE on the economy are pretty big. Even if the central bank has a loss, the society as a whole may have a gain. And you need to think about that. You also need to think about uncertainty. If you are in a situation where you are making a judgement that you want to provide additional accommodation and you understand that providing that additional accommodation means there is some probability that you will have a loss, if the outcome is that the economy rebound faster than you thought and inflation rises faster than you thought. You have to raise rates. That maybe a risk that you are willing to take in order to get the benefits of the QE and I still think that's the right way to think about it.

Janak Raj:

Professor, my next question is concerning the impact of US monetary policy on emerging market economies. If you recall Taper Tantrum in September 2013, when Ben Bernanke mentioned about rolling back, just slowing the pace of purchases. So, the emerging market financial… that financial markets in emerging market economies, they were in turmoil as I mentioned earlier. But this time US has done massive monetary tightening, more than 500 basis points. But still, it didn't… there were capital outflows but financial market in general they stayed calm. So, what do you feel was different this time? Was it to do with the communication by the US Fed. And my second question is whether the US Fed is conscious of its spillover impact on other emerging market economies of its policy?

William B English:

So, on the Taper Tantrum, it really surprised me. So, I am sure I have a great explanation. I remember at the time we talked about the event and what the Fed chair said at the press conference was that, he thought that as the economy continued to strengthen it would be appropriate to wind down the purchases, but he didn't say it was going to happen really soon. Yet there was a really big reaction, not just in emerging market economies, but in the US economy. Longer term rates in the US went up by more than 100 basis points in just a few days. So, it was a big surprise. I think one way to think about why we didn't see that this time is, we did see it before… so, people in some sense got used to thinking about monetary policy and communication and balance sheet policy and so on. It was all new then. Nobody had done that sort of communication before. So, it came as a big surprise. I still think, I don't understand exactly why it came as a big surprise. What he said was aligned more or less with what surveys seemed to think market participants thought, but it did. In think this time the communication was clearer and market participants were more receptive to that communication. They understood better kind of how the Fed was thinking about things. Things were so new then. It was just hard to get the communication right. On the spillover issue, this comes up regularly. I can only give the answer the Fed always gives. Which is not entirely satisfactory, if you are sitting in Delhi. But, the FOMC's policy objectives are objectives for the US economy. And so, it doesn't really have authority to take steps that are not aimed at its objectives for the US economy, maximum employment and low and stable inflation. And the Fed is certainly aware of the implications of US monetary policy for other economies and it tries to take into account if you like the spill backs from those economies to the US economy. But unless there were a very big risk of spillbacks that would harm the US economy, FOMC is inclined to just continue to do the policy they see as an appropriate for the US and trust to foreign economies to use their own policy tools to adjust and take account of how policy is moving in the US. I think one striking thing again in the pandemic period is that, emerging market economies have done a pretty good job. One of the points of the book that you mentioned earlier is a lot of emerging market economies managed pretty well, they had their tools, they used them appropriately, they had learned some lessons for sure. But I think the sorts of spillovers that people were worried about didn't really materialize this time, partly again because communication was easier the second time around. I think partly it was that the policy in other economies was better.

Janak Raj:

Professor my last question is about, before we open the floor for discussion, about the unconventional tools of monetary policy which the US Fed applied. Of course, after you hit the lower bound, effective lower bound, you introduced bond purchases and basically quantitative easing and also gave forward guidance. But many other central banks including ECB and some other banks in Europe they introduced negative interest rate policy. And in 2016, bank of Japan also introduced negative interest rate policy. As I mentioned in my introductory remarks, that now today they have done with the negative interest rate policy. My question is whether this issue came up in FOMC meetings about using negative interest rate policy? Was it ever considered?

William B English:

Yeah. It was. I think it was in the summer or fall of 2010. The FOMC had implemented the first the really big asset purchase program in… depending on how you measure late 2008, early 2009… that program had ended. The interest rates were at what we thought of as a lower bound. And the question was how could you do more? There is a desire to provide more accommodation and so the committee had to think about how they wanted to do that. Did they want to do more QE or did they want to take rates negative and so that there was stuff, work done, it's been published, it's on the board website. When we looked into that and I think the analysis basically was two pieces. One piece was how low as a technical matter could you go. So, if you try to push rates too negative, you are paying negative rates on reserves of banks for example. The banks can hold cash in a vault. So, the question was kind of how far negative could you go. I forget now what we concluded. I think we looked at insurance costs and shipping costs and vault costs and so on. And thought something like minus 35 basis points or something was where they could go. So maybe a couple of 25 basis point easing. Then the question was how disruptive would that be. There is this discussion I am sure you are aware of the reversal rate and if you cut rates negative, you push them too negative and banks in particular are hesitant to have negative rates on retail deposits in particular because they think their customers will hate them forever, probably rightly. So, they don't want to take deposit rates that negative. Then you are squeezing your banks, you are squeezing their profitability, their return on their assets goes down, liability costs stay the same. So, the banking system is less profitable, probably has less capital over time, so you have to worry 'is this actually a productive thing to do'. In the US there was concern also about money market mutual funds which aren't really set up to have negative interest rates. You buy a share, the price of a share is supposed to be maintained at a dollar, the money is invested, you get your share of the income. If the income is negative, it isn't quite clear how that works. I think we were concerned about that. In the end what the committee decided was, given the uncertainties and risks around negative rates, they were inclined to do QE instead. They did a second round of QE starting in the fall of 2010.

Janak Raj:

Thank you very much, professor. We are actually in time. So, we now open the floor for questions.

Audience (Laveesh Bhandari):

As an outsider it seemed to me that the real sector is far more responsive to the monetary policy now than it was in the past. Is there some work on that? Is that the case? If so, how does one explain the factory construction boom. It's is just some… seems to be a counter information which seems to be…

William B English:

There is certainly a lot of work that's been done on what are the lags, with which policy works, what are the sizes of the effects of policy on the economy. I guess I am not aware of works showing a really big increase in the effects of policy on the economy. There is some work that suggests lags are shorter than they used to be. That would make sense that businesses and households are a bit more aware of financial conditions, respond a little more quickly. Businesses management of inventories is tighter than it used to be. So, there is probably a response of this. That's a little faster but I am not really aware of a lot of work suggesting differences in the size of the effect. One point I would make is that there is a lot of uncertainty about the size of the effect. If you look across models, macro models, different models have rather different sizes of the effect of monetary policy. So, we know that it works, we know it has some effect. But exactly how big the effects are, there is just uncertainty there, the data are not that clear on that point. On your second question about spending on factories and such, I think there a mix of fiscal and monetary policy going on. So, fiscal policy has encouraged corporate investment and monetary policy is discouraging corporate investment. But which of those things wins isn't entirely clear? Tight monetary policy historically the research shows the effects of it on investment spending are actually not all that large. And they take some time to accumulate. So, it may be that in the near term the fiscal policy effects are bigger than monetary policy effects.

Audience (Rajesh Chadha):

Thank you very much for an excellent exposition of the monetary policy responses post pandemic. I would like to take the real side question forward because you mentioned at one point that the prices of cars increased because of the chip's prices. So, that is a lot to do with the real economy number one. Number two, is there a difference between the monetary policy response in the kind of world that we are now living. Its not just post pandemic, but this is trade disrupted world completely. We all know the basics of efficient allocation of resources. And trade gives much more leeway to being within the inflation limits because you get… actually it is to do with the US – China trade war starting pre-pandemic and then IRA coming into picture and the other countries also taking some similar domestic industrial policy steps. So, that also has to do with the kind of inflation discussion that we are doing. So, monetary policy in a trade disciplined world versus monetary policy in a trade disrupted world. Any views on that.

William B English:

My career has mostly been on the domestic side. So, here I am speaking from a lack of real expertise. I think what I would expect is that if trade is disrupted, then effects of monetary policy on inflation could be larger. Because you are going to run up against domestic supply constraints whereas in the past maybe with more open trade you would instead import and avoid running into a constraint. There is work done by my co-editor Kristin Forbes on global inflation effects and she finds that kind of measures of global aggregate supply and demand mattered for inflation over the last generation or so, more than before. As globalization happened the supply questions are more about global supply and not as much about domestic supply. It seems like we may be unwinding some of that. Domestic supply will matter more and global supply will matter less as we enter into period of less globalization. Now trade hasn't actually gone down yet. So, I am not sure how big that effect will be, that's still to be seen. But certainly, there's a possibility that the inflation dynamics will change and will depend less on global factors and more on domestic factors.

Audience (Rajat Verma):

What I understand from the discussion is that experiences play an important role in how any policy relevant decisions are made. Especially in the case of monetary policy. So, is this the lack of experience which was there and the difference really striking from there between the post pandemic versus the other global issues which erupted earlier. So, can one infer that still our understanding about the complexity of the economy and how monetary policy can be effective in those complications is still not very comprehensive? Is that how we should infer?

William B English:

I am not quite sure I understood the question.

Audience (Rajat Verma):

My question is that one of the drivers which you also mentioned in your talks was in post pandemic era, we were not very sure that how things will react. How things will come back and this was strikingly different than what we faced earlier as other global issues. So, there was clearly lack of experience in the way we would have thought these events to play. Does this mean and this may happen also in future… there could be some uncertainties which are beyond our imagination and the way they would come back? So, is this the lack of experience coupled with the idea of complications of the economy and then therefore the response from the monetary policy side, is there something which we still don't understand very clearly?

William B English:

I think there are many things you don't understand very clearly. But you are right that in the post pandemic period the policy makers had to make policy without a lot of information about how does a global pandemic affect a complicated interdependent global economy. They just didn't know. So, they had to make a bunch of judgements. And they made those judgements on the basis of a very incomplete information. In the future what are the implications for the future. I think that one is that we may face shocks, we just haven't seen before. And understanding how they play out, and what they call for in terms of policy will be hard. And that is just a challenge that we face. Sometimes you get shocks that are kind of familiar. They may not be the same as ones in the past. But they rhyme. And so, you can kind of use the past as a judge… as a way to judge the policy response. But really kind of new kinds of shocks raise a more complicated problem. And that's just the situation we found ourselves in. No good solutions. The other lesson from this experience for policy makers, this is kind of what I think you were hinting at maybe before, is that we went through a decade when inflation was too low. And we were frustrated by inflation being too low. Policy makers wanted to get inflation up. I think when the post pandemic inflation hit, the initial response was weak in response to the higher inflation in part because people thought well, this is going to come back down. Our underlying problem is inflation is weak. The economy is going to be slow and it took a while to understand that inflation shocks can be big and positive. We just hadn't seen something like that in a while. But we got big positive inflation shocks and ultimately, they had to respond to that. So, if you are a policy maker you have to look at the possibility of big inflation shocks in either direction and how you want to respond to them. And we argue in the book that this calls for a bit more symmetry in terms of the views about inflation, inflation risks and monetary policy in response to inflation risks.

Audience (Renu Kohli):

Thank you for the most stimulating talk and I have more than one question. If that's all right. One is, can there be a soft landing, are there any examples in US monetary history. The second one is to do with the structural shift and the possibilities that the US potential output may have raised. I think the chairman Powell referred to that in a previous meeting few months back. And in relation to that some of the charts that you showed, showed a trend shift and we don't know of course, if it would last. But certainly, the price level is a lot higher. Its significantly above. And the third one is about the credibility of the central bankers but related to that is the framework of monetary policy that is in use or in operation. If that accommodates tail events like the pandemic, how does that relate to the persistence and the series of supply shocks and if that is adequate to cope up with that?

William B English:

All three very great questions. On soft landing, there is one example. At least people point to which is the 94-95-96 period in the US. So, the economy was recovering very rapidly, the federal reserve tight monetary policy, not quite as sharply as in the most recent case, but pretty fast in 1994 and into early 95. Then eased a couple of times and then kind of left rates at a somewhat high level. And the economy performed really well. So, that's an example. There is a very nice piece by Alan Blinder, I think it was early last year. Going through several business cycles in the US since 1960 or so, and saying in a few cases either there was a soft landing as in 94-95-96 or it was close and then was derailed by some other event, completely different event. A financial problem or whatever. But he concluded from that exercise that while soft landings aren't easy, on the other hand they are feasible in the sense that the policy makers produced either one or pretty close to one on a few occasions over the last 50 years or so. So, I think it can be done. I was at the Fed early in my career in 94-95-96, the thing that struck me at that time was, it wasn't clear whether you succeeded or not until you could look back about a year and say ok, a year ago we were there. But you weren't confident you were there, until you were sure that the lags in monetary policy did not cause a problem subsequently. So, we don't know I think if we have a safe or soft landing for a couple of years probably. On the structural shifts effects on potential output. That's a really good question. And I would add to that question about what is the neutral rate of interest. The neutral rate of interest we thought pre-pandemic was probably under 1% is a real rate. Half a percent something like that. There is some evidence now that its higher, but how much higher isn't entirely clear. The old story why was it so low, had to do with demography slowing, population growth, aging of the population, shifting savings behavior, slower productivity growth and a global savings glut. The global savings glut seems like maybe there is less of that now. Fewer countries say, China comes to mind, may want to hold a lot of reserves in the US in the form of treasury securities for example. So, that effect maybe smaller. But we will again find out the other potential issue there I think is US fiscal position is much worse that to GDP is over 100% now and the deficit kind of what are basically good times is around 5% of GDP. Those are big deficits, that's big debt and that should also push rates up. So, probably the neutral real interest rates a bit higher than it was before, but how much higher, it's just very hard to tell. On central bank frameworks and the credibility of frameworks. The Fed announced a new framework in August of 2020 that basically was somewhat asymmetrical, tilted in the direction of providing a bit more accommodation, allowing a bit more inflation. I guess I don't think in the end that had a whole lot of to do with the subsequent inflation, we talked about the reasons for the subsequent inflation. But on the other hand, it may have made communicating about policy and communicating about inflation concerns a little harder. It will be very interesting to see what they say. They are just beginning now a new framework review, they promised a framework review every five years. So, they will do a framework review this year sometime next year, they will announce it. The question in my mind is, do they back away some from that asymmetry, having now seen both a period of very low inflation post financial crisis and then a period of very high inflation post pandemic. Maybe you want to be a bit more symmetrical in the framework. That wouldn't surprise me but on the other hand, frameworks aren't supposed to be knocked around a whole lot by recent events. And so, they may be hesitant to make significant changes in the framework. But there is a lot of work to be done by the staff. I am just glad I am not there now.

Janak Raj:

I think we can take up some questions we have received online. Dr Rakesh Mohan has sent some question. I will put it to you. His first question is, what have been the lessons of this whole experience for inflation targeting framework. That's the first question. And the second question would it be correct to say that almost everyone got it wrong regarding expectations, regarding inflation, regarding GDP growth. If so, does that imply that there is a problem with macro and monetary policy theory? I think you can take up these two questions. Then I will come to other questions later.

William B English:

So, on the first one lessons for inflation targeting. I think I view this as something of an advertisement for inflation targeting actually. So, inflation expectations stayed pretty well anchored in advanced economies. If you had put in place an inflation targets and you had pursued that inflation target in a clear credible way for 20 years, I think you got a credibility out of that, that was really helpful. When the inflation hit, you could wait and see, is it going to be transitory or not, do we need to respond or not and you didn't get inflation expectations running up and end up with a bigger inflation problem. So, to my mind inflation targeting looks like it was pretty helpful in this experience because it helped to anchor inflation expectations. On everybody getting it wrong, there is some truth to that. Monetary policy is hard forecasting is really hard. Really hard especially when it's about the future as the old saying goes. And so, you have to do monetary policy in a world where monetary policy works with lags and so, you are in the forecasting game whether you like it or not. But forecasting is hard. But I think there is wrong and there is wronger. And as I said earlier, I think the policy makers in the US made a fundamental judgement that the inflation was mostly about supply that they didn't need to react with really tight monetary policy. They didn't need to drive the economy into recession. I think they got that judgement mostly right. They did think that they had raised rates by enough that the economy would be pretty slow over the last year. That turned out to not be right. But nonetheless their critical judgement I think was reasonable and has been very helpful for them.

Janak Raj:

His next question is, if getting to 2% inflation implies much higher unemployment, would the Fed consider increasing the inflation target to 3%? Actually, this has been going on for quite some time. What is your take on this?

William B English:

My take on is no. they wouldn't do that. Powell has been very clear that the inflation target is 2, they don't have a real interest in raising that. Would it be good policy to raise it? I think it would be very dangerous right after a big inflationary shock to say, given that we had a bad inflationary shock we choose not to go back to our target of 2. We are going to stop at 3. Because then presumably market participants will think, well if there is another inflation shock maybe they will go to four. But not to three. So, you really could undermine your credibility for getting inflation back to the target. So, I think both as a matter of policy that would be a very risky thing to do. And they have been very clear they are not interested in that. Among other things the Fed's mandate from congress is maximum employment and stable prices. They wrote down inflation of 2 as the inflation target that would help to achieve maximum employment in part because it's not zero, right? There is measurement error but even that aside they are above that. Two is already kind of high. And I think they would be uncomfortable going higher than that. Congress could do it but I doubt congress will want to do it.

Janak Raj:

Dr Mohan question is about with regard to its implications one, for unemployment. But if you go back in after the global financial crisis there was an issue when the inflation was very low. Whether the US should raise the inflation target just to ensure that it has enough room to maneuver if inflation falls… that discussion has almost died down. But he is raising this question from a very different angle. So, he has two other question which I will just read out. Why have US bank deposit interest rates not moved from near zero despite the huge increases in policy rates? In India's case there has been very significant monetary policy transmission to bank deposit rates. He is basically talking about monetary transmission which he says that it's very slow and inadequate. Or incomplete in the case of US whereas in India we have almost a complete monetary… not complete, but quite large monetary transmission.

William B English:

Through bank deposit rates? So, in the US traditionally retail deposit rates, I mean, deposit rates of households are very sluggish. They just move very sluggishly with market rates. They are generally well below market rates. That spread is kind of what banks use to pay some of their bills after all, to pay for their costs. So, a fairly sluggish response of bank deposit rates, isn't that surprising. Actually, don't know if in response to the most recent rate hikes the movement in bank deposit rates is even more sluggish than you would have expected based on history. But that may be the case. Banks got squeezed by deposit rates when rates were really, really low. They would like to have had deposit rates that were negative to maintain the spread between their return of their assets and their deposit rates. But they didn't dare. So, they didn't do that. So, partly I think rates went up and deposit rates which banks wanted to be negative, the notional deposit rates moved up. But it still didn't move up very much above zero. Post the mid-size banking problems of a year ago, I know the banks have become much more willing to pay higher rates on deposits. So, it maybe the deposit rates are finally beginning to adjust more. But I simply don't know the fact of whether deposit rates are even more sluggish now than they have been in the past. They are always kind of sluggish.

Janak Raj:

Dr Mohan's last question is with the large interest rate increase, one would have expected house prices to fall. Why has that not happened?

William B English:

I think it's a very good question. As I said, when I talked about inflation, the housing piece is hard to understand. Mortgage rates went up a lot. and home sales fell. So, you got some of that transmission. But the supply of houses remained small. Remained low. So, house prices they kind of moved around, they stabilized some after a big runup earlier in the post pandemic period. So, it is surprising they haven't come back down. Some of that big increase. I guess my thought is there is supply issues in the housing sector that there is constraining supply. So, imposing some limit and so prices have stayed high. But exactly what those problems are on the housing supply side, I don't know. One argument people have made which I am not sure I buy, is that, there are people who bought houses right after the pandemic when mortgage rates were really low. So, you got a mortgage at 3% and now you have a house and you have a mortgage of 3% and you are thinking maybe you would like to move, but boy, a mortgage of 3% is lot better than a mortgage of 7% which is roughly what you pay now. So, some people maybe frozen in place. What I don't understand about that is yes, you are not selling that house that you bought with the great mortgage. You are also not buying. So, I am not sure that there is any effect on the kind of net supply demand balance. You'd be supplying more. But you have also be demanding more. So, I am not sure that that's a good explanation. I think it has to be something a bit deeper about the construction industry and home building and so on. But I don't have a good answer. It is a puzzle.

Janak Raj:

We can take some questions from here.

Audience (Aashi Gupta):

I have a question. You talked about high deficits and high debt to GDP ratio. Given that and also with the increase recognition of risks posed by climate change, how can the US Fed and for that matter central banks around the world, how can they incorporate environmental considerations into their monetary policy framework?

William B English:

I guess I would divide central bank's response to climate issue and climate risks into two pieces. We were talking about this a little bit earlier. The Fed has a monetary policy hat, they have bank supervision and regulation hat. On the supervision and regulation side, it's really important that you ensure that banks are measuring and managing climate risk appropriately. You don't want banks to make a huge number of residential mortgages. In south Florida where a hurricane could come through and impose massive losses on the banks unless the bank is really taking seriously how do you model those risks. How do you lay those risks off? So, that seems very important as a first order thing. On monetary policy I am not sure there is a big implication. It's possible that climate risks will pose risks to the things that the Fed is supposed to care about, maximum employment and stable prices. To the extent it sees those risks, it can react to them as it would to any risks. But it is not a particular thing for climate risk. The Fed just doesn't have a role, doesn't have a mandate for example, for trying to help with financing a green transition. If the congress wants the Fed to do that, congress has to tell the Fed to do that. It just doesn't have a mandate to do that. There is nothing, it has no tools to do that. So, congress could say to the Fed, you need to help with the green transition, you need to buy green bonds in some amount or something like that, at some low interest rate. Congress could also just do that itself, right, it could have the treasury do it. But I think congress has to speak. I don't think the Fed at the moment has a mandate or a role here.

Janak Raj:

One last question from the floor. We are running short of time.

Audience (Divya Srinivasan):

So, during covid we saw federal borrowing increase substantially. And it's almost about 18 to 20% higher than it was pre covid. So, given this how do you foresee the relation between monetary policy and fiscal outlook evolving? A second small question is when you are saying that US would have a soft landing, what GDP growth do you see? Is it going to be the average 2% lower than that? The last part is on the soft landing. So, when you say that US might have a soft landing what GDP growth for the US are we expecting? Is it going to be the long term average of around 2% lower than what it is right now? Or is it going to be much lower than that?

William B English:

On your first question about government debt and monetary policy, I think, the Fed is an independent central bank. At some level it should be indifferent. Congress is setting fiscal policy, its setting debts and deficits. The Fed's objectives are maximum employment and stable prices. And that's what it should aim for. Chair Powell has done a very good job of saying when asked during congressional testimony about fiscal policy matters, 'that's your problem, not the Fed's job. We will stay in our lane, we are going to do monetary policy'. I think that is the right answer. On the soft landing there may be a period of slower growth than trend. But I would hope that a year from now or so, we'd be looking at growth around trend. An unemployment rate around the longer term normal level unemployment. And inflation around 2. That's kind of what you mean by a soft landing. That you get back to stably to an economy that is operating more or less at potential with inflation at target.

Janak Raj:

We have received two more questions on line. One is, could the post pandemic inflation, this is by **Dr Anurag Bavaria**, could the post pandemic inflation be attributed to the lack of sufficient coordination between fiscal and monetary policy? Another question is from **Sandeep Hasurka** his question is what are the long term implications of quantitative easing and monetary policy followed over the last few years on the status of US dollar as a global reserve currency.

William B English:

On the first one, I am not sure there was a lack of sufficient monetary fiscal cooperation. There isn't in the US a lot of monetary fiscal cooperation. But the monetary policy makers in effect take as given what the fiscal policy makers do, and so I think the monetary policy makers could see the fiscal action. And they took what they thought were the appropriate policy actions subsequent to that. So, I guess I wouldn't blame the post pandemic inflation in the US on monetary fiscal cooperation because I just don't think that that cooperation the way that works is fiscal policy makers are the first movers. And the monetary policy makers act second. On the long term consequences of QE, I guess I don't see strong implications of that for the international role of the dollar. The argument that I would make is that QE was important to provide accommodation so that the US economy would recover strongly and grow well and having an economy that's persistently weak with low growth, with low inflation, with low employment, doesn't make it an attractive place to invest, doesn't make it an attractive place to put your reserves. I think a robust US economy is helpful for the world and it is helpful in terms of the international role of the dollar. So, QE is part of that. If monetary policy is done badly, that's bad for the international role of the dollar, but done appropriately QE is part of the monetary policy toolkit at this point. And using monetary policy appropriately seems good.

Janak Raj:

Thank you very much. Let's give a big round of applause.

Renu Kohli:

Thank you very much for the most interesting and stimulating talk. And generating so much of discussion. And we are very fortunate to have you here and the more so because its at an inflection. The timing couldn't have been better. The world I think as a whole is looking at the inflection point from the federal reserve. Which still drives the global economic cycle. And tomorrow is the meeting and there are intense expectations whether is there going to be a Fed pivot or not. There were a lot of additional insights that we obtained from you and your talk on US monetary policy and I recommend everybody to, strongly so, to read the book on lessons from monetary policy responses across the world. It's a great compilation. And including the lessons from the pandemic. I am quite sure that there will be further lessons, it's early days yet and we hope then to welcome you again to update us all on that. With that I thank everyone in this room and all the present listeners online. It's been a great attendance. Thank you, professor English, once again.

William B English:

Thanks so much.