

**OMFIF virtual panel with James Bullard, president and chief executive officer of the Federal Reserve Bank of St. Louis, and David Marsh, chairman on OMFIF, 12 May 2020**

**David Marsh:** This is your 30th anniversary year, I believe, since you have been a St Louis man and boy. You took over as the president of the Federal Reserve Bank of St Louis and a member of the Federal Open Market Committee in April 2008, making you the second person with the longest tenure on the FOMC. Do you think the Fed, based on all the experience that you had there over the last 12 years, was well prepared for this pandemic? I did read again former Fed Chair Janet Yellen's speech from October 2017, when she very carefully laid out more or less what you've done now. Clearly you've done it more extravagantly. Were you well prepared?

**James Bullard:** I do think it prepared us well having gone through the 2007-09 financial crisis, when it took a long time to get the same steps made during that period, because it was all brand new. Here, I think there was a lot of agreement that this was a major shock. There was a lot of agreement that you definitely wanted to handle the pandemic, but handle it in a way that did not create a financial crisis. The relatively quick response was to go to the 13(3)-type programmes and provide liquidity to financial markets. So far, I think that has worked quite well. There were problems with market functioning in March and maybe into April, but most of those have corrected. You could argue about it. As far as the initial way, the response has been much faster than it was in the previous crisis. That has served us very well in terms of market liquidity preventing this from morphing into a financial crisis, at least so far. The initial response has been quite good.

**DM:** We'll come on to the macro questions in a moment. But if you just look at the way that the different desks were set up in March, and you said you reacted better or more quickly than maybe in 2007-09. Did the New York Fed have all the operational equipment, so to speak? These extraordinary measures that they've taken in areas, all the commercial credit, all the commercial paper, was that laid down in advance, or did they more or less make that up on the night? Clearly the Treasury function of the mortgage securities and so on, you might have that already in your playbook? Did this innovative approach get dreamt up very quickly, or was there some sort of rehearsal sheet for all that?

**JB:** Most of this is about making sure that markets are functioning, making sure you have price discovery, making sure that you have active trading in various markets. And if you don't, we know that the freezing up of markets, the sense that you can't train an asset at any price under any circumstances, that's what causes a crisis atmosphere and makes people really panic. So to the extent we've been able to be a backstop in a lot of markets, I think that's what has really helped us in the initial phases of this pandemic crisis. It's so far so good, and interestingly from an economics point of view, some of the effects occurred without the programme actually being set up. It was the announcement that the programme would be set up that calmed markets, and some of those are just coming online today or in the near future here.

**DM:** The Fed didn't have to buy a single security. You just announced that. I think only overnight as it started.

**JB:** From a market point of view, it showed that the central bank was concerned about market functioning, concerned about these issues, and wanted to make sure that we had price discovery and active trading in markets that might otherwise be threatened.

**DM:** We've seen a lot of international coordination as well from the central banks. Less so regarding politics in general, but central banking co-operation seems to be functioning pretty well internationally. These extensions of the swap lines, for example, happened relatively quickly. We all know the Fed is the central bank for the US, not for the world, but in some ways you've been very quick to capitalise on and live up to the international expectations that different parts of the world do place in you. Was that also all predetermined, would you say, or was that a sudden burst of blood to the head that made the Fed suddenly much more international?

**JB:** We learned from 2007-09 that the swap lines are quite important. Obviously, it's an international dollar funding issue, but we had standing swap lines with a number of major central banks around the world. The question was always, to what extent do you want to extend these swap line arrangements to other central banks, and we've come upon a good solution to that. We did extend to other central banks, but then in addition to that we created a facility where foreign entities can come directly to the New York Fed and swap out their Treasury securities for dollars. And this is a way to get dollar funding in other parts of the world where it's needed, so that calmed markets quite a bit again.

But I would emphasise, this is a financial crisis, and it's really not centred on Wall Street or London or financial markets around the world. This is definitely a health crisis. From an economics perspective, it's an exogenous type of shock, and the goal here is to make this not morph into a financial crisis and make things much worse than they would otherwise be. And so far, we're doing that, but it's not really emanating from financial markets. In that sense, I think we've got good trading going on. We've got good price discovery going on. That part is working very well, at least so far.

I would say also though, we cannot hit the pause button for very long in major economies around the world, and certainly not in the US. I think there is a 90-day shelf life on this policy, maybe a 120-day shelf life. After that, you can't continue the shutdown policy because too many other things will start to happen. You'll get business failures on a grand scale and you'll be taking risk that you go into depression. I really don't think you can go too long with this policy. The shutdown policy is rational at the beginning where the pandemic catches everybody by surprise, and you really need to get the disease under control. But this is not a risk-based policy. It's a blanket type policy, where all economic entities except those deemed essential are supposed to cease activity, and the economy can't behave like that. You've got all these businesses and non-profit entities that have no revenue stream whatsoever. They might have some cash on hand. They might have some other ways to survive for a while, but that can't go on indefinitely. You'll get too many business failures and you'll really do lasting damage.

We have to get away from the shutdown policy and towards something that is more about risk mitigation. We have lots of mortality risk around the economy and we have lots of ways of handling that mortality risk. A couple that I would like to mention are terrorism risk and traffic mortality risk. Both of those cases can be very dangerous. That doesn't mean we shut the economy down. We take risk mitigating measures in order to control terrorism risk. We take risk mitigation measures to have traffic safety and to try to prevent fatalities there. I think the same thing has to be true for this disease, or any other disease. You have to get more granular about exactly how you want to handle the mortality risk and work toward that type of policy. The shutdown policy is way too much of a blanket policy where we're just going to shut everything down. That isn't working from an economic point of view and can only be done at the earliest phases of the pandemic, but longer term we're going to have to get a lot better at this.

**DM:** Well, that's right. And of course, it's also extraordinarily expensive, isn't it? If you just shift to where we are now, the deficit will clearly rise to 10%-11% of GDP. There's a huge amount of funding that will have to be done. This is just while we're in this present phase, but as you say it cannot last forever. There's clearly a trade-off, isn't there, between knocking everything on the head in this great blanket way, as you say, and the costs in even the world's reserve currency cannot go on forever like this. You say it's a 90-day issue. Are you reasonably confident that with this emergence from lockdown, which we're seeing in very different pace in different parts of the US, we will in, say, another 90 days be in a better place and we'll see some sort of gradual recovery starting to take shape in the third quarter?

**JB:** I do think that most of the damage will be right here in the second quarter. I think the forecasts are for GDP growth at an annual rate to be the most negative of all time. But the third quarter will come behind that with probably the highest GDP growth rate at an annual rate of all time as well. In some sense, you'll have a very negative quarter followed by a group of positive quarters. Wall Street has the second quarter in the US being, you know on the order of a -40% at an annual rate. That's a staggering figure and way beyond anything that was experienced in the post-war era in the US. And then the third quarter will probably be just the opposite, some big 'plus' number.

We do have an example of a country that had exactly this happen, which is China. It makes perfect sense. You're asking these businesses to shut down. You're asking people to stay at home. Of course, you don't get very much output during that period and then you tell people that they can come back to work under certain safety restrictions. You're going to get more output and it's going to look like a high growth rate. I think macroeconomists have had a hard time getting their head around this shock and how different it is from all these past shocks that we've experienced. This is not the same thing and the numbers are way off the scale. We have to think about it a little bit differently than we have in other types of shocks.

**DM:** You've been helpful in some recent interviews by putting this into context of other pandemics, like in 1957 or 1968. Just staying for a while on this idea that it may not work and that the 90-day limit may be breached and we may be back into another scenario of a second wave or even a third wave. What other tools that the Fed have? Are you just going to continue to use your unconventional tools? You're up to a balance sheet of about \$6tn. Could you go into negative rates? I know this is an often-posed question to you, Jim. What other tools do you have in the box in case things do take a turn for the worse?

**JB:** We've talked about negative rates on and off over the years. It's not a good solution in the US. We have different short-term funding markets than either Europe or Japan, and I don't think it's a very good option for the US. I also think that the track record is mixed both in Japan and in Europe as far as the success of negative rates, you'll get an argument on that, but it doesn't look like a panacea, that's for sure. Probably more likely is a quantitative easing programme more explicit than what we have today in an attempt to keep rates low. I don't think that this is really an interest rate story right now. Markets are not really hanging on questions about where rates are going to go. Everyone understands rates are going to stay where they are for quite a while. Maybe when we get into the second half of the year, we'll get more sensitivity to rate policy. But right now, I think everyone just understands that we move the policy rate to zero and it's going to stay there and that's that.

**DM:** A very common question that you've always been asked, the last time between 2008-15. It took about six years for policy to start to be normalised. Throwing on your crystal ball, looking to the future, normalisation: is it just a ridiculous thing even to think about at the moment?

**JB:** I certainly wouldn't worry about it at the moment. I don't think normalisation worked all that well. When we were first talking about normalisation I was an advocate, but as it went on I started to wonder what were we trying to do with normalisation policy, because the entire time, inflation was actually running below target, so we were raising rates with inflation below target and we were having a hard time getting it toward target. It just became less and less clear what we were trying to accomplish and that made me think that it wasn't that good of a policy, so I switched and started to argue against it. Japan and Europe are staying at low rates for the foreseeable future and I think the US will be right alongside them in this circumstance.

**DM:** Do you think that the unemployment numbers will get to a size where this is going to really cause social unrest? We are off the scale in terms of the unemployment rate. I think even in the Great Depression, we had 25% unemployment. Now on some levels it is going to be 30%.

**JB:** There's no question. You're taking a depression risk here in an experiment that is scaled at depression levels. I hope we can execute it properly and I do think it makes sense. My base case is that we can execute it properly but what we're doing is asking people to stay home to get the disease under control, and we're using the unemployment insurance programme in order to compensate people who've been disrupted by this health policy. We think that there are 47m workers at risk of losing their jobs over this, and we want to get them and keep them whole during this period and hopefully keep them in contact with their employers so that as we reopen they can go back to work. We should then get a sharp fall in the unemployment rate in the second half of the year. That could happen and that is my base case, but it could go badly awry.

You're always taking a risk when you're doing a one-time policy like this and that's why I want to come back to the health policy. You can only play this card once, that you're going to shut down the economy. You can only do that when you're totally surprised by some disease that comes along. After that, you have to take a more careful approach, a more granular approach, a more risk-based approach. Show me exactly where the virus is. Show me how the virus is being transmitted. Mitigate those exact areas so that you limit the spread of the disease. It's not feasible to just say, 'every single person around the world has to go home and the world is going to plunge into deep depression'. We take mortality risk every day. We can manage this better and we will have to manage it better going forward. Also, we're spending too much time thinking about vaccine coming to the rescue. There's never been a vaccine for a virus of this type that I'm aware of, and I do not think we can just stay shut down until the vaccine comes along. That might never happen. Even if it does, the vaccine might not be all that effective, and the virus can mutate.

**DM:** Several questions coming in, particularly on the vertical side. I mentioned earlier on the 1957-1968 pandemics. You took the slightly rosy view that all those were worse in some ways in terms of fatalities in the US. But each time, the US economy bounced back. One of the listeners says he or she misses a sense of urgency because the banks are going to be in a very poor state, afterwards there are going to be non-performing loans, there will be financial stability problems plus the lack of a social security network; are you not missing here a sense of urgency about how bad it could all get?

**JB:** Very bad, but that's because of the shutdown policy, not because of the pandemic per se. We've had worse pandemics, in 1957-58 in particular. Let me talk about that one. According to the Centres for Disease Control and Prevention, that's 116,000 fatalities on a population base of about a 175m. That's a fatality rate of .0006. If you do that same calculation for this pandemic based on current projections, you're going to get a lower fatality rate, around .0004. The thing about the 57-58 pandemic is there was there's nothing about that that said the US was going to be in a decade of malaise. The 60s were one of the best decades we ever had. So there isn't anything about the

pandemic per se. It's a human tragedy. It's a health tragedy. But it doesn't have to be an economic tragedy. The economic part is coming from the shutdown policy associated with the pandemic, which was not there in 1958. But it is there today and it is threatening the US economy and the global economy. That's why we have to get better at this and get more risk-based with our health policy. Otherwise, we're going to risk a depression scenario.

**DM:** Throw together the downturns and the debt levels which we have which are very high. We all know the countries that were not in a good place before this crisis struck, plus the fact that there's been an assault on the global liberal trading order for various reasons. This should surely be a more potent cocktail than anything we've seen certainly since the Great Depression.

**JB:** I agree, it's a risky situation. And obviously the second quarter here is going to be very negative. The second half will naturally be a lot more positive and the question will be how fast can we recover and come back to something more normal. And then we have to face the other problems that we were already talking about, including trade issues. One step at a time. We are at the height of the crisis in terms of labour markets and macroeconomic performance, because you've still got major shutdowns of major economies around the world. But if we get to a more risk-based approach to controlling the disease in the second half of the year, you'll see a lot of opening up, you'll see faster growth rates and we'll be able to see where we are. On the question of the banks and so on. So far so good. I actually think they might come out ok through this process despite some credit risks out there because they're also doing a lot to help with the relief packages that have been approved by Congress.

**DM:** Can I just ask you, given the fact you are still painting a relatively sanguine view about the US economy, and I think you've got some good reasons for this, is this a type of emergency situation where only the world's reserve currency country can actually take the kind of action that you're taking? You're basically saying forget about the deficit for a few years, we can finance this. I'm not going to use the word exorbitant privilege, but there is something in this. You are still the world's sought-after currency so you can get away with this. What about the rest of the world?

**JB:** I think on the question of how to pay for this, we definitely have the idea that we're going to borrow a lot and provide pandemic relief through that channel. We're going to come out of this with higher levels of debt-to-GDP than we had before. I've thought of maybe 10% or 15% higher debt-to-GDP ratio than we have before. We'll have low interest rates for probably a long time to come, so it looks like the debt burden won't be as severe because of that. You have other countries, obviously, that don't have as much room on this kind of dimension.

I would say something else though. Part of the way to pay for this is when production is down, consume less. It sounds simple, but your standard of living is lower. You can't consume the same kinds of things that you would have before, and so you're kind of lying low and not consuming very much. And so in that sense, I think you can pay for things directly right away, just by saying 'my lifestyle, but cut in half, therefore I'm just going to have a bad quarter from a standard of living perspective'. So there's some of that going on as well. You see that showing up in high savings rates for instance. People can't go on holiday. They can't do other things. Because of that, they're just not spending the way they used to. That's a little bit of a bullish factor when we come out of this.

**DM:** Is this really something where the US is going to actually come out of this quicker and in a healthier state than everybody else because you've got the dollar behind you, and will this not actually preserve and enshrine the dollar's supreme role in the world economy?

**JB:** I have long argued that the dollar as a reserve currency is probably something that's here to stay for quite a while. The major challengers are not in a position to really take the leading role. It may happen, but I think it is still decades away at this point. Anything from cryptocurrency to China, Japan, Europe, they're not in a position at this point to challenge the dollar.

**DM:** I know you've always said that and you've been proven right so far. Has the gap between you and the also-rans widened in the last six months?

**JB:** I would say that gap has gotten even bigger, because this is obviously a crisis for Europe going back into a deep recession without very much policy space. Japan has been struggling to handle recessions for several years or quite a while, decades or more. And China is now, I think, not going to be as attractive as a place to locate supply chains and so on, so they've also got their own issues.

**DM:** This question has come in about what's going to happen in future in terms of inflation or deflation. Would you say normalisation will actually take six years to produce just like it did last time, or could we get a shock? It could be inflation coming out of this crisis as sometimes it's happened in the past. Could you give your view on that?

**JB:** I'm not seeing inflation risk and I'll certainly be very alert to it. I remain an inflation hawk, but inflation hasn't been a problem in recent years. And if you look at other parts of the world it just hasn't been a problem. I think central banks have, either by accident or good policy, vanquished the inflation dragon at least for now. I'm not really seeing that as a likely concern, even with the additional debt being taken on here. You never know, and we'll certainly be vigilant about it. We do intend to hit our 2% inflation targets but we haven't had any trouble on the high side. It's all been on the low side in recent years.

**DM:** Another question about the future. Where do you think the Federal Reserve balance sheet will actually end up? Some people are talking about it in double figures of trillions. What's your view if you had to put a bet on it? Will we exceed \$10tn in a couple of years?

**JB:** That sounds high to me, but I think these programmes obviously are increasing the size of the balance sheet and we're doing a lot right now. We're kind of at the height of the crisis. I think some of this will unwind as the crisis abates and the size of the balance sheet will come down. But exactly where we're going to end up here, I would not want to hazard a guess right now because there's just too much uncertainty and we're too much in the middle of the crisis at this point.

**DM:** One of the listeners puts the question, are the financial markets not totally ahead of the real economy?

**JB:** I've always felt like stabilisation policy was all about exactly that. You're trying to get the economy to grow at a smooth rate if you can. So you're trying to mitigate the downturns and trim off the excesses on the high side, so that you get a nice smooth growth rate. That's what stabilisation policy is. In markets, that gets interpreted as a put, but to me that's just ordinary stabilisation policy.

**DM:** There's obviously an issue about the future regarding the relationship between, say, the US Treasury and the Fed. You've got this dual mandate, which has always made you more subject to the wishes of politicians; one would hesitate to use the words 'total independence' for any central bank. Would you think there's just necessarily going to be much more coordination now in the future between the Treasury and the executive in Washington and you on the FOMC? Whether you like it or not the ability to operate in an area which is semi-free of politics, that ability is going to get more and more constrained. Would you support such a view?

**JB:** I do think that the co-operation has been very good here between the Treasury and the Fed and I would commend Fed Chair Jerome Powell and Treasury Secretary Steven Mnuchin, they've been excellent on this. But the reason for that is because the pandemic swept into town, and it became apparent that we had to move quickly. You had a great action taken by the Congress in very short time scales and you had widespread agreement that it was the right time to bring out the 13(3) programmes, which under the Dodd–Frank Wall Street Reform and Consumer Protection Act now require the Treasury secretary's approval. Because of the nature of this shock, everyone saw there's a huge problem. Everyone saw that we had to take action very quickly and 'boom' all happened. US politics and other countries' politics often get derided for being dysfunctional, and US politics especially. But here was a case where you had the Senate voting unanimously on the \$2.3tn package. You can't get the Senators to agree on a resolution that says the sky is blue. You're going to get 20 'no' votes on that. So to have everybody on the same page and willing to go ahead and recognising the nature of the crisis, I thought that was excellent and that really bodes well.

**DM:** You're right. It almost feels too good to be true, the fact that President Trump has stopped criticising the Federal Reserve. Is that a good or bad thing? Because surely you have to have a bit of invective coming at you from Washington. But seriously, was there a lot of behind-the-scenes lobbying by people like Janet Yellen, to actually help get the congressmen and congresswomen? There must have been some sort of attempt to make the House of Representatives and the Senate see a certain amount of sense. Otherwise, why would this outbreak of common sense have come all of a sudden in March? It does seem rather strange and almost too good to be true.

**DM:** Well, I think what will happen is as you go forward here that it won't be so obvious that you're facing some big shock or crisis, and you'll devolve into the normal sort of political competition that occurs. Maybe that's already happening over the continuing discussions about additional actions in Congress which seem to be deadlocked right now. But I'm impressed with the ability of our political system to respond to a true crisis that was widely recognised across the political spectrum. I do think that the amounts of support that were talked about and that have been implemented are approximately on the right scale for this kind of crisis. We're trying to provide pandemic relief to disrupted workers and disrupted businesses, keep them all and hopefully get to late summer sometime and things are closer to normal. They won't be perfectly normal, but closer to normal. They'll be able to resume production, we'll have faster growth and hopefully we'll be able to put this crisis behind us.

**DM:** What does the Fed make of the paycheck protection programme? Reported numbers are huge, but you wouldn't know that by looking at the unemployment statistics. That's very much part of the solution, isn't it? But you have a specific point about that programme?

**JB:** It was set up very rapidly. Those are loans, but forgivable under certain circumstances, including keeping a certain percentage of your workers on the payroll. In a way, it's providing pandemic relief through another channel. Instead of sending your workers over to the unemployment insurance line, you keep them on the payroll. They're not doing very much because your business has been shut down by the health authorities. You're providing the same kind of relief through a different channel. For some businesses that might be the better way to go, because you keep your team intact and you're ready to go when the pandemic has weakened in the future.

I think it's been successful. It's been done so quickly that you would expect all kinds of chaos around it, which has been the case. It's going to be unevenly distributed across the businesses in the country. You're going to hear all kinds of stories about this business or that business, or a business that was helped tremendously and another business that maybe wasn't so deserving. We're seeing

lots of stories about that. But I think the spirit of this has been: get the pandemic relief out there right now, right when it's needed, and this was a fast way to do that. I have to commend the Small Business Administration for handling this programme. This is way beyond what they would normally be doing, but they were up to the challenge and have been able to get these checks out to businesses relatively rapidly.

**DM:** What about the strategy review; you seem to have shelved that for the time being. When will the strategy review see the light of day?

**JB:** Obviously, the pandemic put a monkey wrench in that timeline, but I do think we'll come back to this. I'll leave it up to the Fed chair to see how he wants to do the timing on this. We did do a lot of work on this in 2019. We had a lot of outreach in various ways. We got academic input and input from non-policy-maker type feedback. I think it was a good process and there are some good ideas in there. We can go ahead and try to implement those, but as to how that's going to be done, I'm going to leave that up to the chair.

**DM:** And this will be mid-2021 at the earliest, I would've thought.

**JB:** I don't know what that timeline could be on that. We'll see what Jay [Powell] wants to do.

**DM:** You said it's going to be very helpful to have low interest rate because of this extra debt that the US is going to take on. A listener wants know whether we could have yield curve control. This could take us back to the wartime years, when there was legislative pressure on the Fed never to raise interest rates above a certain level. Do you think that's a possibility for the next year or so?

**JB:** We could certainly look at it. My sense though, I just don't think that this is really a situation where there's a lot of interest rate sensitivity in markets because rates are low. Rates are expected to stay low all the way out the yield curve. So whether we have yield curve control or not, it's basically the same thing right now. We'll see how we want to play this forward guidance over the summer and into the fall, but I don't really expect to get back to a situation where markets are really interest rate sensitive very soon. Everyone is expecting rates to stay low. I think that's the right expectation right now. And everything that's driving markets is virus news, much like wartime. In wartime what drives the market is news from the front and here you're kind of at war with this virus and it's news from the front that's driving everything, and that's kind of how you'd expect things to behave during this period. At some point, the virus will fade a little bit and we'll get back more toward interest rate policy. And at that point it will be more important for the Fed to lay out future plans.

**DM:** What will be the role of gold in the future as a result of this crisis and this dislocation that we've had?

**JB:** I'm not seeing a big change due to the crisis. I think gold would be a play against inflation risk, and inflation really hasn't materialised out of the 2007-09 period. The big central bank balance sheets have proven not to be very inflationary, at least for now and certainly over the last decade. I just don't see a lot of inflation pressure, so I think gold is going to continue to play the same role that it has as an inflation hedge, but frankly there hasn't been much inflation.

**DM:** Will there be pressure for change into the social security system to have a greater degree of safety net? Will the lack of a properly functioning social security system in the US automatically put pressure on the banks?

**JB:** I'm not sure I want to describe the social security/Medicare programme as quite as dysfunctional as it seems to be described in that question. It's a big programme and jointly that takes up a lot of tax dollars and the concern has been that that transfer programme is growing over time in a way that might spin out of control. That is still with us as an issue as the population continues to age. Not much has been done about it. So in that sense, I think it's a potential crisis that's still sitting out there in the future. I'm not seeing the pandemic per se as driving that more acutely, but I could be convinced otherwise.

**DM:** You're talking about the economy potentially being onto a winning streak in the second half if everything goes well. You and your colleagues on the FOMC have said that. How is that going to play out in the election? Will that come just in time to help the incumbent?

**JB:** I have no idea. I would just say one thing about this, the pandemic coming and going and all kinds of arguments about it and unprecedented economic numbers. If you look at the polling data, it barely budges. People, for whatever reasons, have their minds made up one way or the other and this doesn't seem to make big swings in the political world as far as I can tell.

**DM:** And the final question is really the future shape of central banking. You've seen a lot since you became the president in 2008; you've seen a lot of upheaval. This is a greater upheaval we've had any time in peacetime certainly in the last century and a half. What have you learned from this? Also you spoke earlier about the coordination function between the US Treasury and the Federal Reserve. Are we going to see a completely new rule book so to speak for the way that the central banks and the governments actively work together? One the heart, the other the lungs of individual countries' economies? Are we going to be going to a new chapter, if you like, of central banking as a result of what we've learned and still will learn from this crisis?

**JB:** I do think that the future of central banking is in flux, because a lot of theories did not really pan out post-2008 financial crisis and that led to a lot of soul-searching. Now, you're going to have even more theories not working correctly or not working according to the way they worked in the lab, and this is going to make people sort of re-examine, 'What are we trying to do in central banking?' And what is the nexus between monetary and fiscal policy, which is a classic question. But I think it's really, you know more soul-searching ahead. I guess that is what I would say for central bankers.