Economic Policy Lessons from Covid-19: The Big Picture

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This Occasional Paper is a lightly edited transcript of a panel discussion hosted by the Yale Program on Financial Stability (YPFS), featuring Ben Bernanke, Agustín Carstens, Tharman Shanmugaratnam, and Masaaki Shirakawa and moderated by Timothy Geithner, Chairman of the YPFS. The panel discussion took place on August 12, 2021, during the Financial Crisis Forum.

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1. Introduction

Timothy Geithner: Let me just start with a few expressions of appreciation. I want to start by complimenting Andrew Metrick and his team for putting together such a really excellent and thoughtful series of panels.

Obviously, this has been a period of stunningly dramatic change and creativity in economic policy. Much more extensive experimentation even than the last crisis, across many more dimensions of policy, extending well beyond the Keynesian arsenal, and beyond even the most expansive definition of the role of the central bank as lender of last resort or market maker of last resort.

The program that Andrew has helped build is dedicated to the proposition of bringing exacting analysis and objective assessments of economic policy making in crisis while the memory of the crisis is still fresh and while the architects of the policies are still around and with us. It's a really important cause. I think it's one of the most important things you can do in terms of advancing the state of knowledge and learning across the policy community. Again, my compliments and thanks to those of you who are part of this.

We have a terrific set of presenters on this next panel. You know them all. They are all legends, people of great experience and credibility. I have great respect for them and it's a privilege to have them here together. They're each going to speak in alphabetical order for five to seven minutes about things they think we should take from the experience in this crisis. Then we're going to have a conversation with the rest of you.

2. Opening Statements

Ben Bernanke: Everyone here is familiar with the classic Bagehot lender of last resort doctrine. Lending freely at the penalty rate to solvent financial institutions. And I just want to pick up on what Tim was saying, which is that 2008 and especially 2020, have led to a remarkable updating and expansion of the lender of last resort concept at the Fed and other major central banks. I will emphasize the Fed.

Let me illustrate by talking about the March 2020 panic, the brief episode, but endogenously brief. This was of course a dash for cash as people heard about the pandemic and the risks that it presented to the global economy. There was a widespread attempt to convert, first treasuries, and then other securities into cash. Treasury yields fell as low as 54 basis points. Volatility was very high. Market dept was very low. So, it was a highly stressed situation. Many people in the markets compared it to some of the worse days of 2008.

The sellers in that episode were variable. Many were from the shadow banking system, as in 2008. For example, relative value hedge funds who bet on alignment of futures and spot prices in the treasury market were forced to deleverage. So, they sold lots of treasuries. We had bond funds, money market mutual funds who promised daily liquidity. In order to meet the demands of investors, they had to sell off, again, first treasuries and then other types of securities.

Banks were actually pretty liquid, but they found themselves having to meet pre-committed credit lines where many firms were just drawing down their credit lines to the full extent possible, so that required cash for the banks. Then, importantly, foreign governments were selling treasuries, trying to provide dollars for their own domestic financial systems, and to support their own currencies. So, there was an enormous wave of sales of treasuries and then as treasuries ran out, other types of securities.

On the buyer side, the main buyers are dealers, and they found themselves overwhelmed. They were dealing, first of all, with fiscal deficits that led to large issuance of treasury securities. But then between their own internal risk limits and capital constraints, they were simply unable to manage the huge flow of treasuries and other securities that was coming from the market. So, we had, again, a dash for cash, a financial panic.

Now, how did the Fed, in particular, respond to that? What I want to argue is that instead of simply the classic Bagehot response, there was a tripartite response. An expanded response, which I think will define lender of last resort doctrine going forward.

First, there was the classic lender of last resort Bagehot-style lending to financial institutions, the discount window. They continued to term repos which they had begun in September because of the problems in the repo market. The reopened the primary dealer credit facility. Very importantly, they reinstated the 14 currency swap arrangements with foreign central banks which basically allowed foreign central banks to be lender of last resorts in dollars to their own institutions, in their own countries. They supplemented that with a new repo facility which allowed official institutions from essentially any country to borrow against treasuries from the Fed. So, the Fed did do traditional Bagehot-style lender of last resort activity, expanding it, as in 2008, in two ways. One, to go beyond banks, which of course are only part of U.S. financial system, and secondly, to become the global lender of last resort through swaps, through the international repo facility. So that was the first leg.

The second leg was to become, as Tim mentioned, buyer of last resort. There wasn't enough demand for the treasuries and mortgage-backed securities (MBS) that were coming onto market. The Fed stood ready to buy, as we did in 2008 when we bought MBS to buy large quantities of treasuries and MBS. They bought a lot more than they initially thought they would have to. But that buyer of last resort activity helped stabilize that market.

Then third and perhaps the most radical step was that, as credit markets froze up, the Fed became a lender of last resort to nonfinancial firms. Again, we did that in 2008 through the commercial paper facility, through the Term Asset-Backed Securities Loan Facility (TALF). But this time with the assistance of Congress and the Coronavirus Aid, Relief, and Economic Security (CARES) Act, the Fed actually, of course, opened these facilities to buy corporate and municipal bonds, and even to lend through the banking system in the Main Street facility to medium-sized, ordinary, nonfinancial firms.

The bond interventions were highly successful. I was reminded of Mario Draghi's do what it takes speech and the subsequent Outright Monetary Transactions (OMT) policy which was never used because the simple announcement of the policy calmed the markets. The same thing happened with the Fed, that the simple announcement that the Fed stood ready to buy corporate and municipal bonds calmed those markets, brought back private investors, made those markets function again. The Main Street facility worked much less well for many complicated technical reasons. I think next time, the Fed ought to consider doing what the European Central Bank (ECB) did and subsidize lending broadly through something like the targeted long-term refinancing operations (LTROs) that the ECB is doing.

So, I would add on top of all of these, there were regulatory interventions including the easing of the supplementary leverage ratio that allowed banks to hold treasuries and reserves without holding capital behind them. So, it was a remarkable, again, display of crisis-fighting ammunition. I think Alan Greenspan or Paul Volcker would have been fairly shocked of what was happening in March of 2020, and I can see why. Because these are two-edged swords, these programs. On the one hand, of course, it is a good thing that given a financial crisis that occurs, that the central bank has a broader and much more up-to-date arsenal of tools that it can deploy.

On the other hand, of course, there are the issues of moral hazard that come with massive interventions by the central bank. I've already exceeded my time. I won't talk about dealing with that moral hazard, but just make one comment, which is that there's sort of two broad ways to think about it. One is to try to fix each of the individual problems that March 2020 revealed such as, for example, bond funds promising daily liquidity that they couldn't deliver. But the second thing is to think much more broadly about what's wrong with our macroprudential system. Can we strengthen our broader oversight? Can we do things to make oversight of the shadow banking system, in particular, more effective? I think those are the real challenges going forward.

Let me just end by saying that the Fed announced at its last meeting that it's going to maintain permanently these domestic and foreign repo facilities that will essentially provide lender of last resort support very broadly. It would help among other things with any potential taper of their quantitative easing (QE) program.

Agustín Carstens: Let me start by recognising the uniqueness of the Covid-19 crisis: it represents an exogenous shock, leading to a "global sudden stop", with the steepest contraction in economic activity in living memory. It called for massive responses of at least three policies: fiscal, monetary, and prudential. These three have been at the forefront, sharing the common objectives of stabilising the macro-economy, including by channelling resources to the real economy, and shoring up the financial system. The results have been favourable, with many economies now expanding fast and financial systems remaining sound.

Nevertheless, while the recovery is underway, there are still large differences across countries and significant uncertainties as to where the global economy is heading in the near term.

One risk is inflation surprises. In the short term, uncomfortably high inflation can catch markets wrong-footed. A key challenge here is for authorities to distinguish between transitory relative price changes and generalized price increases, and to find a credible way to communicate this to society so as to keep inflation expectations well anchored. By and large this risk has been handled well by central banks.

Another risk is the potential for insolvencies, notably in the corporate sector including small and medium enterprises (SMEs). Policy support, such as furlough schemes, debt moratoriums, government guarantees and low interest rates, were important to help firms to weather the storm. However, they have also entailed a rise in corporate leverage and indebtedness. This means risks that firms cannot repay their loans when interest rates go up and policy support is withdrawn. To avoid unnecessary insolvencies, it is crucial that banks are willing to roll over their loans to viable firms as government guarantees are withdrawn. But we also need to be sure that countries' institutional frameworks allow for quick and efficient resolution of those businesses that are not viable in the new normal.

A third risk is that the global recovery is proceeding at different speeds among countries. While the recovery has been faster than expected in the United States and China, as well as in some advanced economies, many emerging and developing countries are falling behind. Not only do they have far more limited fiscal and monetary policy space, but they also have more limited access to vaccinations.

Having this as a background, some early lessons can be drawn from the Covid-19 policy response. One major lesson is that in crises there can be large synergies between policies. Let me give two examples here: first, between monetary and fiscal policies: Accommodative monetary policy has lowered governments' borrowing costs, while fiscal policy has supported the transmission of monetary policy through the provision of loan guarantees. This has greatly benefitted the overall economy over the past 18 months.

Second, between prudential and monetary policies: To help central banks deploy their large-scale asset purchases, national supervisors provided much flexibility, including by temporarily adjusting leverage ratio requirements to exempt central bank reserves. At the same time, central banks' lending and refinancing schemes contributed much to banks' ability to productively channel resources, while maintaining resilience and stability.

A related major lesson is the importance of a resilient financial system. Thanks to the Basel III reforms, the banking system entered the pandemic on a much more resilient footing than during the Great Financial Crisis (GFC). This is the main reason why banks have been able to maintain the provision of credit and other key services to households and businesses.

Now, looking further out, there are a number of policy challenges. One is the eventual need to normalize fiscal and monetary policies. But normalizing policies over the longer term will not be easy. Public debt is at a post-World War II peak. Likewise, central bank balance sheets have only rarely reached similar heights, and then only during wars.

Another challenge will be to avoid counter-productive interactions among policies. This may be trickier than over the past year, as policy objectives may depart and synergies could be less clear. Let me illustrate this by using the two previous examples.

First, between monetary and fiscal policies. Too fast fiscal consolidation in the near term could act as a drag on economic activity, hindering prospects for monetary policy normalisation. Conversely, given increased debt burdens, higher interest rates could force governments to withdraw their policy support too early. The balance thus has to be right.

Second, between prudential and monetary policies. If unconventional central bank policies were to continue for much longer, this could lead to more risk-taking and higher leverage, even as supervisors come under pressure to prolong exemptions for banking systems. This would delay the normalisation of prudential policies, and could undermine the resilience of the banking sector.

One element that would help reconcile all of this, is to restore higher sustainable economic growth. This is the main way to tackle the various challenges and limit the scope for policy tensions. Macrostabilisation policies cannot generate this higher growth. Structural reforms, which have been flagging for some years, are now needed to deliver a vibrant, flexible, and competitive economy. Growth-friendly fiscal policies could also play a useful role.

We also have to draw lessons from the events for financial regulation, and adapt the toolkit to address the new risks that have come to the fore. Let me first give two examples on where we should adjust regulations.

Existing macroprudential countercyclical buffers are designed to be built up during booms. However, in many countries, these buffers were low, in part as a credit boom did not precede the crisis. As these banking systems entered the crisis without having accumulated capital buffers, macro-prudential authorities had little room to respond. We can certainly do better here.

Even in jurisdictions where regulatory and management buffers had been built up, banks often have been reluctant to use the buffers to help mitigate the effects of the crisis on credit availability. This limited "buffer usability" likely reflects various reasons other than regulation, such as the fear of market stigma or the uncertainty surrounding the macroeconomic outlook. Nonetheless, policymakers have to work on this too.

In addition, the Covid-19 crisis revealed some gaps in the overall regulatory net, some already known before the crisis. A notable example comes from the March 2020 turmoil, which underscored the need to enhance the resilience and regulation of non-bank financial institutions (NBFIs). Some money market funds saw large redemptions, putting the short-term funding market under stress. This was the second time in little over a decade when central banks had to intervene. We said last time that this should not happen again, but it did. Second time around, we should really mean it when we say that this is a situation we should avoid finding ourselves in again. The Bank for International Settlements is doing its part on this score by co-leading a Financial Stability Board (FSB) group on money market funds.

More generally, we need to remedy the vulnerabilities in the fast-growing part of the non-bank financial system. Regulation strengthened banks after the GFC; now policymakers need to ensure that the non-bank financial sector is a lasting source of strength for the real economy. The structures underlying money market funds are being reviewed. However, more is needed to correct those mechanisms in other non-bank parts that expose the overall financial system to large strains.

Let me close by underlining that vaccinations are crucial to achieve a broad based, even recovery of the global economy. Efforts to speed up the production and fairer distribution of vaccines must be continued and accelerated. But I fear that it isn't enough to rely solely on vaccination campaigns. Better treatment and diagnostics are of the essence. International cooperation plays a major role here. If we successfully vaccinate and treat together, the global benefits could be much greater than if countries rely solely on their own resources.

Tharman Shanmugaratnam: If I have to think of the largest economic and financial risks and challenges we face, they would have to do with the global commons. I mean that not only in the sense of the slow burn, slow onset challenges we face. But what is already becoming evident, that we are seeing on a recurring basis—the rapid onset challenges coming out of the weaknesses of the global commons. We see it both in pandemics and in extreme weather events. The science is getting better understood—how the gradual deterioration in the commons leads to sudden crises. But we know from the events of the last two years what it's about.

The weather crises will keep coming. The viruses are coming. And we have to recognize that we are in an era where these are not just exogenous shocks, and these aren't unpredictable shocks. There is a pattern of events. And it will have major economic, financial, social order, and political consequences.

I would say there are three key commons challenges. The first has to do with pandemic security—We think too much about Covid-19 as a huge, terrible one-off, when it's really part of a pattern of events. We've had pandemics every four to five years and Covid-19 will not be the last major global pandemic. The next major pandemic could happen anytime. It could happen in 20 years or 10 years, or it could happen next year.

Second, climate. There is better recognition now of both the end game we are heading towards, and how the deterioration shows up in the meantime in shocks. Devastating floods, fires, a set of extreme weather events that affect people around the world.

The third, related to the first two, is what is now a very real risk of a rollback in the process of convergence between the developing world and the advanced world. The convergence occurred especially in the last 20 years. China began earlier, but in the last 20 years, we saw a fairly significant catch up in South Asia, Sub-Saharan Africa, and Latin America. We are now at very real risk of a rollback. Not just the immediate shock, but a change in the trajectory. We're expecting about 180 million more people moving into extreme poverty by the end of this year. The long-term consequences of a lost year of schooling. The consequences of climate shocks for crop productivity, for livestock farming, for vector and water borne diseases.

Less tangible but more pernicious is the loss of trust that we are seeing, both within societies and very dangerously, the growing loss of trust between a large part of the developing world and the advanced world, which is going to make it very hard to address the challenges of the global commons.

These are interrelated challenges. And they are now making a perfect long storm. It's not one-offs, but part of the landscape. And we need to rethink how we address it both nationally and internationally. Exogenous to macroeconomic cycles, exogenous to the sort of cycles of excess in financial sectors, but with growing economic and financial consequences, and political.

I think it requires a rethinking and reorientation in how we go about international cooperation. I do not mean a grand reconstruction. We don't have the luxury of a grand reconstruction, nor do I think it is necessary. We can repurpose existing international institutions. And we can bind together national and international actions in a way that meets the core of the challenges we face. It requires first acknowledging that this is fundamentally not an issue of global equity, or moral obligation, although that's important as well. It's fundamentally a question of how we invest in global public goods. In other words, what forms of collective investment should we make and how do we go about it, not just out of the goodness of our hearts, not just because it is morally unacceptable that parts of the world are being devastated, but because this is ultimately in every country's interest. The current pandemic, and the coming pandemics, are the ultimate case for investing in national self-interest and international solidarity at the same time.

Recognizing that this is about global public goods requires that we not fund these international investments out of bilateral official development assistance (ODA) pockets. Global healthcare security today is dangerously underfunded. And the funding that does go into it comes out of bilateral ODA pockets, and from the Gates Foundation and a few other philanthropic contributors. It is also dangerous because it is reactive. It's about individual institutions going around to bilateral donors to raise money once every two years. There's very little pre-funding, and it is not predictable. We can only fix that if we have a strong layer of multilateral funding, based on pre-agreed contributions—not necessarily based on a strict assessment-based formula, but it's got to be fair and pre-agreed. We've all got to put in money in advance, in our own interests and in the global interest. Strengthening multilateralism in the financing of global public goods is fundamental.

In the case of pandemic security, it's not even very expensive. A report that Ngozi Okonjo-Iweala, Lawrence Summers, and I just co-chaired for the G20 assessed that what is minimally required for international financing of pandemic security was an additional $15 billion per year.[1] We were being conservative. That's about a doubling of current amounts of international financing for the purpose, but fifteen billion dollars spread out over a large number of countries is roughly 0.1 percent of national budgets. It's doable.

Second, we've got to repurpose the international financial institutions (IFIs) for an era where the biggest challenges facing countries, including in the developing world, will come out of the deterioration of the global commons. It's quite different from when the Bretton Woods institutions were set up, where there was a challenge of economic development, there was a challenge of dealing with balance of payments shocks, but they were essentially country problems. We now have problems that all countries will face coming out of the global commons. It means that the World Bank and the other multilateral development banks (MDBs), and the International Monetary Fund (IMF), have to put helping countries and regions with the reforms and investments needed to tackle the global commons at the core of their mandates.

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1 G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response (2021). A Global Deal for Our Pandemic Age. G20. https://pandemic-financing.org/report/.

Again, it's not a grand reconstruction. This can be done. Some of it is being done in this crisis. But to be candid, it was slow, and not on the scale that we needed. If we were starting again, the IMF and the World Bank would have been front and center of the international response last year. The parallel is in how central banks—at least in the advanced countries—and fiscal authorities became very large-scale spenders, lenders and investors in their own economies, not using studious cost benefit analyses but recognising that the bottom could fall out, and we had to arrest the fall rather than risk getting there. We need to use these unique international institutions—in the case of the MDBs, with the ability to leverage resources as well—we've got to repurpose them to tackle the global commons.

Importantly, the MDBs also have the role of incentivizing national governments to do their part, because inherent in global public goods, is that there is not a very strong incentive for low- and middle-income countries to invest in the necessary facilities for preparedness and prevention, because they don't get all the benefits themselves. I mean, they will get some benefits, but the rest of the world also benefits. Particularly in credit constrained economies, even if they do not think of it in precisely those terms, it's very much part of the equation. Apart from the fact that no one knows when the next shock is coming, and incumbent governments typically don't have a strong incentive to invest ahead of time to avert and arrest the next shock. So the IFIs play a critical role in being able to incentivize putting money from national budgets into preparedness for these shocks, by providing governments the grants or concessional finance to go together with it.

Thirdly, we've got to mainstream prevention and preparedness the same way that we've done in the financial sector. It's now the norm every decent regulator knows that prevention and preparedness is the order of the day. That's how we avoid or at least reduce the scale of financial crises. It's not the case when it comes to international health crises. We have to mainstream that now. Because the cost of responding to even a modest scale pandemic is several hundreds of times larger than the cost of investing in prevention and preparedness.

It is enormously expensive, quite apart from being ethically unacceptable. So we've got to invest in advance. We've got to re-gear both national and international policymaking to put the necessary funding into prevention and preparedness, and to be able to collaborate, because it's not a zero-sum game, and in particular, it's not a zero-sum game between the U.S. and China.

We have a common interest in being able to avert the next global pandemic, and address the climate crisis. And we have a common interest in making sure that the lower income developing world, particularly Sub-Saharan Africa, does not start diverging once again. Because that will be not only a very serious issue within nations but a serious global security issue.

Masaaki Shirakawa: The global recession due to the pandemic was deep but ended sooner than expected. And it was less severe than was initially forecasted by policymakers and economists, although the recovery is markedly uneven across countries and sectors. In order to draw the right policy lessons in preparation for future crisis, it is quite important to understand why quicker and less severe recovery was made possible.

The recovery is often attributed to ample policy support by government and central banks. All these measures were, of course important, but we should not forget that what contributed most to the recovery was a successful rollout of vaccination. When we were fighting the battle against the first wave of pandemic in the spring of 2020, I suspect nobody anticipated effective vaccination would be developed in less than a year. If they had not been still available at this moment, the global economy would have been in a really catastrophic situation, regardless of how aggressive the economic policy would have been.

If I add another factor preventing pessimistic scenario from materializing, I will point to the fact that a serious retreat of globalization, which was feared by many was avoided at least so far. What is then the right assessment of the effectiveness of various policy measures taken by central banks and government? Many measures were meaningful and effective. I particularly value the following four measures.

First, the U.S. dollar supply between the Fed and major central banks. Second, Fed's measure to prevent the functioning of U.S. treasury market from deteriorating. Third, government and central bank's guarantee program to support bank lending to companies, especially SMEs. These are essentially the modern version of Bagehot principle of a lender of last resort. And fourth, fiscal policy measures aimed at income compensation of suffering people and firms.

What is debatable is monetary policy easing aimed at macroeconomic stability, such as interest rate reduction, strengthening of forward guidance, asset purchase, etc. To me, the rationale for such monetary easing in the event of Covid-19 pandemic was not so clear. What was urgently needed at that time was reducing new cases, which naturally called for reducing movement of people. Stimulating expenditure, especially consumption expenditure by monetary easing was conflicting with this basic goal. To cite the existence of output gap in order to vindicate the need for macro stimulus was also somewhat misleading. It is uncertain in what direction the other gap itself changed because we are faced with both reduction in demand, especially in-person services, and temporary severe shortage of supply capacity due to lockdown.

What is concerning is that central banks are now increasingly perceived to act in response to any bad news regardless of the nature of shocks hitting the economy. Every time crisis happens, monetary easing is implemented and not reversed even after acute phase of crisis is over. Central bank balance sheet ratchets up. The same is true for government bond outstanding. Now, a room for a decline in both short term and long-term interest rate is non-existent at least in Europe and Japan. Fiscal space is also limited. Ratio of government bond outstanding to gross domestic product is as high as that recorded in World War II. This situation is odd, since one of the fundamental roles of central bank and government is to maintain resiliency of the economy and society. Can we deploy monetary and fiscal policy to the same extent as what we did when we were hit by another new virus pandemic or a new financial crisis? This question is particularly relevant considering crisis is no longer a rare event. In the case of Japan, for example, we experienced its own financial crisis in the 1990s. Then we suffered from the severe impact of the global financial crisis and European debt crisis. On top of that, the Great East Japan earthquake devastated the Japanese economy. And this time around, Covid-19 pandemic affected the economy.

We have to think what we should cope with another crisis. And, also, we have to think whether our policy action itself increased the probability of a future crisis. And in this respect, we have to be attentive to the risks of undermining sustainability of the economy and society in the long run. Sustainability could be undermined in various manners. Inflation risks is now hotly debated after it has long been dormant. Sustainability could be undermined by build-up of financial imbalances such as elevated asset prices and increased debt as well. Furthermore, it could be undermined by social instability due to inequality of distribution of the members of society.

As for inflation risks, I basically agree with central banks' assessment stressing the transitory nature of the current rise. Having said that, I feel some unease when they say that they know what to do even in case inflation turned out to be not transitory. Of course, central banks are technically equipped with tools. The difficulty lies in the fact that if central banks tighten monetary policies significantly in a response to a sign of inflation pressure, it could affect financial institutions and the government finance, and for that matter, financial stability. Price stability and financial stability are just two faces of the same coin.

As for growing inequality of distribution, which is threatening sustainability of society, I know standard reaction from central banks who argue expansionary monetary policy prevents worsening of distribution issue rather than the other way around. I agree with that. Emergency measures adopted at the height of crisis was surely effective in not widening inequality by maintaining stability of financial system and keeping credit flow. But I suspect that once the acute phase of crisis is over, the impact of prolonged monetary easing on distribution through asset price is non-negligible.

In addition to risk, which I have just discussed, I want to draw your particular attention to the risk of gradual decline in productivity growth. The logic is very simple, since the effectiveness of monetary easing derives from frontloading future demand to the present, demand that could be frontloaded will inevitably decline if monetary easing is prolonged. Since investment is undertaken according to the expectation of profitability, the proportion of productive investment will inevitably decline over time. Furthermore, suppression of credit spread by aggressive monetary easing could lead to reducing allocative efficiency of credit market.

Finally, so-called zombie firms will be kept alive. I don't argue this kind of mechanism will always prevail everywhere. Its significance differs across time and country. I'm not arguing monetary policy should be used as a tool for solving multiple problems such as financial stability, income and wealth distribution, and declining productive growth. That is not my intention. What I'm trying to convey is central banks are now in a difficult trap, which is produced by complex dynamics of the economy, society, and politics. To get out of this trap is not easy. But at least it is important for central banks to compare benefits with possible side effect carefully. In this respect, I feel some sympathy with the ECB when they emphasize the importance of proportionality assessment in their recent review of monetary policy strategy.

Monetary policy strategy is always evolving. Of course, if we wish, we could translate various factors which I mentioned into price development and inflation targeting framework. But that does call for much longer time horizon than is commonly understood. Covid-19 pandemic seems to urge us to rethink monetary policy and its strategy in this light.

3. Discussion

Timothy Geithner: Thanks to each of you. You each took a slightly different take on the big issues ahead of us. I thought we should spend a little time on one dimension of the lessons from this. You talked about things that worked and you talked about the risks ahead. But I wonder if I could ask you each to comment on some things that we got wrong, or that didn't work, or didn't meet their promise, or on reflection, if faced with the same shock again, governments should choose not to employ.

So why don't we just go around quickly and ask you each to spend a little more time on things that were part of the arsenal deployed by countries that, on reflection with knowledge of experience, should be reconsidered, altered, redesigned, done in a different scale. And I think we should come back to monetary policy. But let's start without talking about monetary policy first.

So, Ben, you give a pretty complimentary view of what the U.S. experience has been. What aspects of the things the U.S. did do you think were a little more messy and should deserve some rethinking?

Ben Bernanke: Well, the most important policy by far was public health policy and we didn't do a terribly good job on that. We shut down some monitoring committees that would have, maybe, gotten us a little bit earlier warning. We did a poor job of organizing the response in the early months. We never really got contact tracing and some of the other devices working properly. And now, of course, as you know, we've succeeded in politicizing vaccinations to the point that a large fraction of the population will pay $400 for a fake vaccine card rather than pay zero for a vaccine that would actually save their lives.

So clearly the public health response, while brilliant in terms of the technological innovation, and the U.S. it was not the only country but certainly it was a big contributor to the development of an effective vaccine, we did not do a terrific job of responding to the health emergency. And that, of course, determined essentially everything in terms of the shape of the recovery and the human toll.

Timothy Geithner: What about on the things that are more in the domain of economic policy in either the broader market maker of last resort functions or in terms of business lending, moratoria and standstills, and other aspects of the U.S. response?

Ben Bernanke: Well, so there were really two kinds of approaches. One, which was more—I think others can comment—one strategy was, let's freeze the economy. Let's provide resources to keep worker firm connections where they are. Let's prevent bankruptcies. And when the pandemic passes, we'll just reopen. That was a strategy taken by some European countries.

The U.S. did that to some extent with the Paycheck Protection Program for small businesses, for example. But we also did a lot of payments direct to individual households with the implicit philosophy that the pandemic was going to cause a reallocation of resources, a reshuffling, and that this was the most effective way to support that. I think, in retrospect, that this mixed strategy was probably a better strategy because we are seeing significant changes in terms of the mix of companies and working arrangements emerging from the pandemic.

Timothy Geithner: Agustín, do you want to take a view on things that maybe less charitably you think that governments and central banks should rethink in terms of the design of particular programs in the broader economic policy or financial policy arena?

Agustín Carstens: Well, you know, Tim, I think sometimes you have to be, probably, not so humble, and always think about what didn't work. In this case, what is really very significant for me is that so far a very daring strategy seems to be working with a lot of issues here and there, things that could be improved in the margins. But I mean, let's just put what we have been experiencing in perspective.

It's a coordinated freezing of economic activity for a non-economic goal. We entered into a period of animated suspension of the global economy. It was pretty much a man-made sudden stop. And I think we had the courage, the common wisdom, and the decisiveness to go ahead and do this. It wouldn't have worked if we didn't have the key fundamentals in place. And I think what monetary policy to start with, and fiscal policy, tried to do was precisely, given that man-made response to a pandemic, to put a suspension on economic activity. A massive suspension of economic activity was to try to overcome those circumstances to get to a better state of affairs once the vaccination came or some other form of solution. And in that sense, I agree with Masaaki, that has been the key issue. But in a way, we put bets in favor of that. And I think the bet so far has paid off relatively well.

From a monetary policy point of view, a key immediate objective is to prevent a real shock from being transformed into a financial crisis. And I think, by and large, that was certainly accomplished. I mean, obviously, the first thing was to stabilize, to get the market functioning again in the most critical market in the world, which is the U.S. dollar liquidity market. I mean, that was number one. That was done very well. And then through different instruments with regulation, with prudential policies, supervisory policy, we managed to save as many firms as possible.

The other shoe hasn't dropped yet there. And that is still something pending, because there's still a lot of uncertainty about what will happen with all these firms that have been supported in very difficult circumstances. But that has helped the recovery.

Another thing that worked really well is starting in the GFC in many places there was a cry for adequate fiscal and monetary policy coordination and working together. Well, that's what we managed to do in most of the cases here too. So I think that we are facing a major shock where the immediate response has been tremendously successful.

The issues that we face now, among them inflation, I think even the problems we're facing now, they seem to be manageable. But, also, I don't think they are so large compared to what we did in trying to stabilize the economy. Once you sort of turn down markets and, suddenly, you open them up, well, of course, that will generate a lot of dislocations. And there will be a lot of relative price changes. And I think so far we have gotten it right. I mean, obviously, we can nit-pick here and there. And, certainly, I subscribe to what Tharman said, that we need to be better prepared in the future. And, hopefully, we won't need to again put the global economy into suspended animation. But given that we needed to do that, I would have a more positive view. Not that we're out of the woods, not that huge challenges are not ahead of us, but that would be my reaction.

Timothy Geithner: Tharman, before we talk about your broad proposals for how we change the financing of global public goods and the multilateral institutions to support that, could I just ask you to talk a little bit about your perspective on the broader economic policy debate in the crisis? How do you feel about Singapore's experience with the mix of policies you adopted in the economic policy frame? You went beyond the approach taken by many countries in some areas. How should we look at that experience? What lessons positive and less positive should we take from that?

Tharman Shanmugaratnam: Well, there's not much that is unique in what Singapore did, but if I look across the countries that have done a little better than others, I would highlight two features.

First, a certain boldness and conviction in what's called non-pharmaceutical interventions—not just the lockdowns but mask wearing, social distancing, quarantine rules. A whole range of non-pharmaceutical interventions were really key. But you could only do that if you had a substantial fiscal and monetary policy response. You can lock down the economy for a few weeks, but you can't sustain that if you don't have a forceful macroeconomic policy response. So we needed both.

Some countries did the latter because they had the resources or the borrowing power. But not all were patient enough, or instilled in their populations the collective conviction that we need to go through this for some time in order to defeat the virus. They relaxed too quickly, and the consequence of relaxing too quickly on non-pharmaceutical interventions is that you prolong the crisis, because you open yourself to new waves of the virus.

So it's not just the fiscal and monetary policy response. It's really explaining to the population that there is a way out of this, it's going to be inconvenient in the meantime, but we're providing you substantial support to help you bear with that.

Many of us did unconventional things in fiscal support. We didn't have the time to calibrate very precisely, on some means-tested basis, exactly how much each firm or each household needed. But we knew roughly how to be fair. And we knew it was better to overdo it than to realize six months later that we were underdoing it. Better to have found some time later that we have overdone it than underdone it.

Timothy Geithner: Thank you. Masaaki, you gave a sympathetic but very critical view of the monetary policy framework in many ways. Not excessively critical, but thoughtfully critical about the risks and consequences. Do you want to say a bit more about how you would alter the monetary policy framework today, going forward, in response to those risks?

Masaaki Shirakawa: Frankly, speaking, I do not have a concrete answer to your difficult question. Listening to your question, I was thinking of 50 years ago. This year is the 50th anniversary of the breakdown of the Bretton Woods System. And I wonder whether policymakers at that time had a clear idea about how monetary policies should be conducted. Some years after the collapse of the Bretton Woods System, monetary targeting started, which initially seemed to work but then failed. Several years later, the inflation targeting framework started, which seemed to work perfectly in delivering on macroeconomic stability, but then the global financial crisis erupted.

Reflecting on these developments, I think that a new monetary policy strategy or regime could not be invented all of a sudden. People gradually come to feel "this system is not working well". That kind of recognition makes people to think seriously of how monetary policy regime should be changed. What is important is to clearly understand is what is merit and what is a weakness of the current system. In retrospect, inflation targeting was successful, but just because this regime was so successful, now we are faced with the situation in which a sign of instability doesn't take the form of inflation. I mentioned about three possible sources of instability in my opening remarks. This is not an exhaustive list, but at least what is needed is to clearly understand what kind of problem we have now.

Timothy Geithner: In response to a thoughtful question from the audience, how we should think about the next frontier of reforms of the financial system? In particular, in terms of strategies to deal with the vulnerability of the non-bank financial system, which of course was the key source of fragility this time around.

Agustín, how do you feel about the quality of the reform ideas and about the strength of the consensus or political will that exists in the major financial systems, not just the U.S. but including the U.S., to advance reforms that will reduce the vulnerability in the non-bank financial system.

Agustín Carstens: Yes, of course, Tim. Well, I mean without any doubt, this is a subject matter that has gathered the most attention in the last year or so. There are many work streams going on as we move forward. There is a perception that we stopped probably too early in the reform effort after the GFC. I think that some elements of fragilities had been identified there, and probably more needs to be done. Well, not probably, certainly more needs to be done.

There are areas where it is clear that we're still defying gravity in a way. I mean, we won particular issues, money market funds where from an investor point of view, they're perceived as cash-like instruments. But to make it work, the management of those resources is done with maturity and credit transformation. And then, at some point, under some likely scenarios, pressures will arise. Of course, there are good reasons to think that those services, for example commercial paper and the different types of funding that they are providing, are extremely necessary. But we need to see how that intermediation can be done in a much safer way.

And that really raises very fundamental questions that we need to address in a thoughtful way. Those are services that are needed, are demanded, and therefore, we need to think about how can they continue to be provided to society without the recurrent necessity for central banks to come to the rescue.

Then I think that the issue of what I would call hidden leverage is, from my point of view, probably what worries me the most. There are many, many, different ways of financial intermediation, position-taking that takes place today through hedge funds and through other forms of intermediation that are certainly not transparent, let's say at least to the authorities. And therefore it's very difficult to assess the vulnerabilities of markets.

I mean, we all have been operating under the assumption that the treasury bill market and so on is liquid. It's the most perfect market available. But we see that once in a while there are hiccups there that really are critical. And partly that's because for some strange reason, that could be a Covid crisis, some positions need to be unwinded very, very rapidly. They need to be settled. And the liquidity demand that those transactions imply is far bigger than what we all had in mind.

So I think that we need to understand those processes much more. I think the papers that you chaired in the G30 were very good at hinting at some issues.[2] The paper that Andrew Metrick produced with Daniel Tarullo was also a good start.[3] And I think that those are issues that we need to continue working on—how to make centralized clearing perfect, or more perfect. I think what we achieved in Basel III, one of the things we have learned with this crisis, is that the banking sector was not a source of vulnerability. As a matter of fact, it was part of the solution.

We need to achieve that situation for a subsequent crisis where we can say that the non-bank financial intermediation is also solid, is reliable, and is not part of the weaknesses. And that it will not imply that central banks act in a very creative way as a fixer of last resort. In this case, I think that what Ben said in his initial intervention was very good, that new creative ways of intervening were imposed on central banks, in particular, on the Fed. But I don't think that we need to be in a situation where we central banks need to improvise to save the day.

Timothy Geithner: And Ben, do you want to speak to this broader challenge too and how it looks in the context of the U.S. debate? To what extent is this an engineering problem, as in a problem of ideas and solutions, and how much of it is just a political problem or a problem of will?

Ben Bernanke: I think it's only a slight exaggeration to say that all our problems with the non-bank sector are a historical accident. The Securities and Exchange Commission (SEC) was created in 1934. The scandals and the shocks of the day led Congress to focus the SEC on investor protection, market integrity, disclosures. That whole list of

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2 Group of Thirty Working Group on Treasury Market Liquidity. (2021). U.S. Treasury Markets: Steps Toward Increased Resilience. Group of Thirty. https://group30.org/publications/detail/4950.

3 Metrick, Andrew and Tarullo, Daniel K., Congruent Financial Regulation (April 1, 2021). https://ssrn.com/abstract=3817621.

issues. But without any particular mandate to look at safety and soundness, macro financial stability or these broader issues of soundness. Even today, the SEC does not have a safety and soundness mandate. It does not have a financial stability mandate. And the Financial Stability Oversight Council you helped create does not have the ability to order the SEC to take actions with the money market mutual funds, for example.

I'm not blaming the SEC. They're doing their job as Congress told them to do it. But I think a very important first step would be to give the SEC and other major agencies a financial stability mandate along with their other responsibilities. And to create a more ongoing and cooperative discussion of macro-prudential matters among the regulatory community that would not leave to each individual regulator essentially full discretion on matters bearing on financial stability.

So I think there's a structural problem which you're fully familiar with, which is a big source of the problem. And I would also like to commend Andrew Metrick, in his work with Dan Tarullo, for advocating the very basic proposition that two institutions that do basically the same thing in the financial market should be regulated in a comparable way. It seems almost too simple to underline. But in fact that is not the way things work. And if we moved in that direction that alone would be a big help. Over and above the many individual issues that we know are raised by the structure of money market funds, bond funds, hedge funds, et cetera, et cetera.

Timothy Geithner: Related to this, and several of you touched on this, we have these proposals to formalize a role for the central bank as market maker of last resort in a broad range of securities, well beyond Treasuries. How do you feel about that debate, Ben? And I'd be interested in Agustín or Masaaki's views as well. Do you think this would be a desirable evolution as part of the standing arsenal of central banks, in part because the expectations and clarity it would create about the terms of intervention? Or do you think that central bank purchases beyond the sovereign assets are something that should be reserved for the extreme crisis, and left unlikely, discretionary, and uncertain?

Ben Bernanke: I'd keep it only as a last resort. I note that there's a big difference in legal authorities. The Fed can buy treasuries in MBS, the ECB, and others. The Bank of Japan can buy pretty much whatever they want. And clearly there's the temptation to intervene very broadly.

I think in general you would want to have a system that can operate without central bank intervention except under extreme circumstances.

Timothy Geithner: Masaaki?

Masaaki Shirakawa: As Ben said, the Bank of Japan law is quite flexible in terms of deployment of central bank's banking ability. So in that sense, essentially, the Bank of Japan can do whatever they want to do if they persuade the government that this is needed for stability of the financial system. So, in that sense, no legal constraint, I would say.

And then as for desirability, I'm slightly in favor of having such a permanent facility. If I'm asked whether I support the creation of a permanent facility, at this moment in Japan, I do not feel urgency. But if the situation changes, the Bank of Japan should improvise such a facility.

Timothy Geithner: Tharman and maybe Agustín too, turning to the broader question about the financing of global public goods and the design of the framework for multilateral cooperation in these areas.

By the way, Tharman, I was very struck by your phrase, "A perfect long storm." You emphasized the importance of people understanding that the enduring part of the landscape will be the likelihood, the probability, of frequent, severe, traumatic shocks. It's a nice way to frame the challenge. But I was curious about two things in how you framed this. One is the modesty of the financial requirements you outlined. And I was also struck by your pragmatism in recognizing that we have a set of institutions that can be repurposed. You don't need to rebuild them from scratch.

What has been the reception from governments? Are you seeing any openness to these ideas? Or should we infer from your call to arms a deep concern and skepticism about the amount of political will there is, at least in the major economies, to move in that direction?

Tharman Shanmugaratnam: Tim, to be candid, the modesty of the sizing of what we considered necessary was in good part because we did not have immodest expectations of what governments were willing to contemplate. It's hard to have a big ask for the future, in the middle of a crisis today. We are having to think about getting past Covid which we are very far away from doing, but also about preparing for the next pandemic. And that's a very unusual challenge. It's very unusual to have to prepare for what's coming at some point in the future in the midst of what's already here and is still raging.

We used very conservative assumptions of the investments required for the future, and we were open about it. We explained why the true costs would probably be much higher. And I'll have to say despite our modest sizing, there hasn't been a great deal of willingness on the part of governments, who in fact can afford this. It's not the funding that's the barrier; it's governance. It's the idea of collective engagement, and investing ahead of a crisis. But it's not over yet. I would say there's still a better chance than not that, precisely because of the crisis, we're going to get some agreement to move ahead. You don't need to raise a huge amount of funds immediately, but you've got to put the framework into place.

The second point I'll make is that we have learnt a great deal in this crisis about what it will take to prevent the next. In particular, we've learnt about a central challenge that has never been addressed before, which is how we use public policy to ensure we have, ahead of time, the manufacturing capacity for multiple vaccine candidates? Ahead of time meaning before a pandemic, and even during a pandemic but before regulatory approvals for new vaccines. Speed and scale of rollout of vaccines has been critical, and we haven't had speed and scale. That's why we have large reservoirs of the virus around the world and new mutations.

It must be the public policy agenda—the idea that the public sector has to co-invest or share the risk with the private sector for a future event. And it does mean possible overcapacity in normal times. It means having to invest in multiple candidates, knowing that most candidates don't succeed. We were lucky with mRNA this time, but we shouldn't assume that with each new pathogen we are going to be able to have a successful vaccine as quickly as we did this time. So it requires being willing to think about overcapacity, willing to think about investing in multiple candidates even if most will fail, and to still recognise that as an investment with very high social returns.

It's precisely because the social returns vastly exceed the private returns that you need public sector investment. There is no commercial case for whoever it is—the Pfizers, the Modernas of the world—to invest ahead of time in substantial capacity. It requires public sector participation.

And it's too late, by the way, to just do it through public procurements during a pandemic. You've got to do it through what's called push financing or push incentives. Michael Kremer and others have done extremely useful work on it, and he was in fact part of the G20 panel that I spoke about.

There is a framework that we now understand better. It requires both national public investments and international investments to have in place facilities on a globally distributed basis. There's ample use for such facilities in peacetime. We've got endemic diseases. And the advantage of some of the new technologies, mRNA in particular, is that there's a better chance of us being able to use facilities that were intended for a particular virus and vaccine, to be able to repurpose such facilities in peacetime for other diseases.

But we should still accept in our minds this new public policy challenge—that we must be willing to invest in capacity that may not be fully utilized in normal times, because the social returns of speed and scale in a pandemic still make it an unusually good investment.

Timothy Geithner: Agustín, on the question of international financial cooperation in the crisis. You gave a very complimentary, appropriately complimentary, evaluation of the policy response this time across countries. How do you feel about the state of the collective will for cooperation on the global financial reform agenda, relative to both the needs we face and relative to previous periods?

Agustín Carstens: Well, I mean, I think that there is a lot of support to move forward with the agenda on the FSB on different fronts. On the broader macro aspect in macro financial stabilization efforts, I think what really saved the day this time around was that, using Ben's concept, the Fed acted as the global lender of last resort. I think that it has facilitated dramatically the stabilization efforts.

I think from a macro point of view, something that we should watch in the months and years ahead is the situation of many emerging markets. Some of them have increased their debt a lot in a very low-interest rate environment. They don't have much fiscal space. They don't have much monetary policy space. And global interest rates at some point will increase. And that might generate some issues.

In that sense, I certainly welcome the increase in Special Drawing Rights. What the IMF needs to do is also to have ways to react quickly to different scenarios as we move forward. So I'm not so worried from the point of view, I mean, given what the Fed has been doing, given the degree of dialogue among central banks. Financial authorities are, I feel, quite confident that we're moving in the right direction.

As I said in my introductory remarks, I see a big vacuum in the international debate. It's how can we engineer higher global growth. And I think since the GFC, we're trapped in our discussions on macro stabilization policies and on other instruments like international cooperation to complement stabilization efforts. But you know, what worries me is that even before Covid-19, global growth was not stellar. Global growth was relatively low. We haven't really dealt particularly well with all the different aspects of globalization, to a point where there is now some backtracking. I think that we still are not able to deal adequately with the huge challenge that technological change will impose and the digitalization. Obviously, climate change is an issue. On top of that, needless to say, there will be the legacies of Covid-19. Covid-19 will be additional debt for some firms. And additional debt for governments. More limited space as we move forward.

So how are we going to engineer growth in this scenario? I don't see much debate about this. You know, what Tharman is saying about the IFIs, I think it's a good call in this direction. But we need to rethink how globally we can create better conditions for enhanced global growth. And I don't see much debate about that. And that worries me because at the end of the day, there will be a point where central banks will not be able to do much more. Fiscal policy will not be able to do much more. Financial regulation, at some point, will be at least neutral towards growth. But then how are we going to deal with challenges as we move forward? For me, I think that's a key agenda issue that is sort of missing in the international debate.

Timothy Geithner: Excellent. That's a good way to finish. I'm really grateful to each of you for joining us. You're very thoughtful and compelling. Thanks to all of you for participating. And thanks again to Andrew and his team for bringing us all together for this.

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