Adapting to the New Normal: Perspectives and Policy Challenges after the COVID-19 Pandemic

Summary of the 2021 BOJ-IMES Conference

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I. Introduction

The Institute for Monetary and Economic Studies (IMES) of the Bank of Japan (BOJ) held the 2021 BOJ-IMES Conference, entitled "Adapting to the New Normal: Perspectives and Policy Challenges after the COVID-19 Pandemic," on May 24–25, 2021.[1] The conference was held online for the first time since its inauguration in 1983. It covered a wide range of issues regarding economic perspectives and policy challenges in the post-pandemic economy.

The conference began with the opening remarks delivered by Haruhiko Kuroda, Governor of the BOJ. The Mayekawa Lecture, presented by Olivier J. Blanchard (Massachusetts Institute of Technology), followed. The keynote speech was given by Athanasios Orphanides (Massachusetts Institute of Technology), honorary adviser to the IMES. The presentation sessions had three presenters: Atif R. Mian (Princeton University), Markus K. Brunnermeier (Princeton University), and David Autor (Massachusetts Institute of Technology). The policy panel discussion, moderated by Kazuo

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The conference organizers wish to express their sincere gratitude to the two IMES honorary advisers, Athanasios Orphanides and Carl E. Walsh, the IMES chief councillor Kazuo Ueda, and all other conference participants for the thought-provoking presentations and discussions. The views expressed throughout this summary are those of the attendants and do not necessarily reflect those of their respective institutions. All remaining errors are the authors' responsibility.

1. See Appendix 1 for the program. See Appendix 2 for a list of participants; their affiliations are as of May 24–25, 2021.

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Ueda (Kyoritsu Women's University and University of Tokyo), the IMES chief councillor, was comprised of six panelists: Gita Gopinath (International Monetary Fund), Charles L. Evans (Federal Reserve Bank of Chicago), Tiff Macklem (Bank of Canada), Philip R. Lane (European Central Bank), Stefan Ingves (Sveriges Riksbank), and Masazumi Wakatabe (BOJ). The concluding remarks were delivered by Carl E. Walsh (University of California, Santa Cruz), honorary adviser to the IMES.

II. Opening Remarks

In his opening remarks, **Kuroda** posed two questions as the central theme of the conference: what the so-called new normal that emerges after the pandemic will look like, and how we are going to adapt to this new normal.[2] He then presented three issues to provide some common ground for developing discussions at the conference.

First, **Kuroda** discussed economic perspectives after the COVID-19 pandemic. He pointed out that unevenness was the most important feature of the recession and recovery phases caused by the pandemic and suggested that it could reinforce the increasing trends in saving, inequality, and debt. He highlighted structural changes that had taken place during the pandemic, especially the wide and rapid spread of digitalization, and emphasized that whether such changes would lead to economy-wide productivity growth was another important point. Second, he reviewed policy challenges facing central banks. He noted that policy challenges would likely change through the recovery phases and raised a broader range of issues, including economic inequality, that had become even more apparent during the pandemic. He added that central banks were seeing a widening in the scope of issues that they should take into account. Third, he argued that, although the precise nature of the post-pandemic world remained to be seen, the world had certainly undergone irreversible change as it had adapted to the pandemic by expanding and accelerating digitalization. He stressed that by building on the discoveries and experiences during this health crisis, people should forge ahead and shape the new society and economy—the new normal.

Kuroda mentioned that academic disciplines, including economics, had made a significant contribution in the current crisis and that cross-discipline approaches were providing timely policy suggestions, as, for example, through joint research in epidemiology and economics, or the use of digital technology to analyze mobility data. He then concluded his remarks by looking forward, also during this conference, to a broad spectrum of views of and insights into the post-pandemic economy and policies.

III. The Mayekawa Lecture: Fiscal Policy under Low Rates: Taking Stock

Blanchard began his lecture by discussing interest rates now and in the future.[3] He pointed out that a decline in interest rates had been a long-term historical trend, which appeared mainly driven by an increase in saving due to increases in income and life

2. For details, see Kuroda (2021).
3. For details, see Blanchard (2021).

expectancy and an increase in the liquidity of safe assets. He stated that, based on the historical trend and the implied probabilities of interest rates calculated from option prices, the low interest environment would likely continue. He then argued that the safe neutral interest rate, which was consistent with potential output, would be very likely less than the growth rate. He also mentioned that the zero lower bound (ZLB) would continue to limit the policy space of central banks for some time to come.

Blanchard then discussed how government debt sustainability could be assessed in the low interest rate environment. He suggested that debt sustainability could be assessed by the probability of the country being able to generate a primary surplus sufficient to cover interest payments over the next 5–10 years. He argued that it would depend not only on the level of debt but on many factors such as the maturity structure of debts and the distribution of differences between the safe neutral interest rate and the growth rate. In addition, he mentioned the role played by central banks in eliminating multiple equilibria regarding debt sustainability. He stated that central banks could prevent self-fulfilling non-fundamental investors' runs on government debt by using their deep pockets as a large stable investor. However, he mentioned that more consideration would be needed about what should be done if investors' concerns partly reflected some negative changes in sovereign fundamentals.

Blanchard then turned to the question of the optimal level of debt in the current low interest rate environment. To address this question, he explored the possibility of capital over-accumulation in the economy ("dynamic inefficiency"). He suggested that the rate we should look at in assessing dynamic inefficiency was a weighted average of the safe interest rate and the average marginal product of capital. He then argued that the advanced economies were probably not in the dynamic inefficiency region, but close to it. He stated that the bottom line was that, however, the government could issue debt in the current environment if there were good uses for it, as the cost of crowding out capital by issuing debt would be small, because private capital was just not highly productive.

Finally, **Blanchard** gave some practical advice to policy makers. He argued that in the case of no ZLB, the government should reduce its outstanding debt slowly and the central bank would set an appropriate interest rate such that potential growth could be achieved. He added that this was not the current world and that the ZLB was relevant. He then claimed that in this case, the government would need to continue to have an expansionary fiscal policy. In addition, he stressed that fiscal spending was required to boost aggregate demand against the COVID-19-related downturn. He then stated that we could maintain output at potential without having to increase debt largely if we conducted public investment projects which stimulated private investment, with respect to both public health and global warming issues.

From the floor, **Kazumasa Iwata** (Japan Center for Economic Research) asked about the optimal size of consolidated government debt. **Blanchard** argued that it would depend among other things on how governments weighted the welfare of various generations. **Andrea Gerali** (Banca d'Italia) asked for views on radical policies that would blur the traditional distinction between the government and the central bank. **Blanchard** replied that a clear separation between the tasks of the central bank and those of the fiscal authority was preferred. He expressed concern about the increas-

ing influence of central banks in recent years on more political issues such as climate change. Finally, **Orphanides** asked about the impact of quantitative easing (QE) on the sustainability of sovereign debt. **Blanchard** agreed that central banks should employ QE to compress interest rate spreads when the ZLB binds. He noted that QE worked in practice, but, because it was a swap of liabilities of the consolidated government, there was no clear theoretical answer as to why it worked.

IV. Keynote Speech: The Power of Central Bank Balance Sheets

Orphanides gave a positive assessment of the monetary policies implemented during the COVID-19 pandemic of 2020 and the activation of central bank balance sheets, and discussed the guidelines for monetary policies in the post-pandemic new normal.[4]

Orphanides pointed to the fact that the central banks of Japan and other developed countries expanded their balance sheets in the wake of the COVID-19 pandemic at an unprecedented scale and speed, both in terms of level and as a ratio of GDP. He credited balance sheet policies with (i) mitigating the damage to the economy caused by the pandemic, (ii) preventing a meltdown of financial markets and institutions, and (iii) improving government debt dynamics by facilitating fiscal expansion. He also said that the experience of operating monetary policies under the ZLB constraint on nominal interest rates, which was faced during the financial crisis in Japan in the late 1990s and the Lehman collapse in 2008, contributed to the success of the balance sheet policies. He then pointed out two policy implications. First, given the relationship between central bank policy and market trends in March 2020, expanding the eligibility of assets for purchase in balance sheet policies would have had the most important effect on market stabilization. Second, the coordination between monetary and fiscal policies should be effective in situations where government debt needs to be expanded, because QE by central banks lowers the cost of fiscal refinancing through pushing down the term premium on government bonds. In addition, regarding the second point, he stated that excessively debt-averse fiscal policies could be self-defeating. He concluded his speech by saying that the active use of balance sheet policies has fiscal and distributional consequences, but even in such cases, central banks should avoid engaging in other mandates and maintain their independence by staying true to delivering on price stability in accordance with basic principles.

From the floor, **Gerali** noted that a recent study showed a disconnect between money aggregates and inflation over the past 50 years and asked for views on the significance of using balance sheet policies in normal times rather than in times of crisis, and on the move to an average inflation targeting framework in the United States. In response, **Orphanides** made the following three observations. First, the velocity of money was unstable under the ZLB, and money aggregates did not correspond to the size of the central bank's balance sheet. Second, the use of balance sheet policies was the most effective and important in situations where the equilibrium real interest rate is close to zero, as recently in developed countries. Third, in order to achieve price stability in the long run, it is important that the guide of monetary policies should be

4. For details, see Orphanides (2021).

simple, in other words, a systematic response, such as setting a 2 percent inflation rate as the benchmark for price stability and then reducing the balance sheet if the actual inflation rate exceeds 2 percent.

V. Presentation Sessions

A. A Goldilocks Theory of Fiscal Policy

Mian addressed the trade-off facing governments when the economy was close to the ZLB on nominal interest rates. On the one hand, the government needs to run fiscal deficits to generate enough demand to avoid the ZLB. On the other hand, the government has to ensure fiscal sustainability. To this end, he proposed a tractable model of fiscal policy. He showed analytically that there existed a "Goldilocks zone" for fiscal policy, arguing that this zone represented a region of appropriate debt and deficit space in which (i) the government could boost fiscal deficits and aggregate demand to avert the ZLB, allowing the economy to be at its maximum potential, (ii) the interest rate on government debt was lower than the growth rate, and (iii) the government could ensure fiscal sustainability. He calibrated the model to the U.S. economy to assess whether the current choice of government debt and deficit in the U.S. sat in the Goldilocks zone. He found that the primary deficits in the U.S. were far above the Goldilocks zone, which implied that some sort of fiscal consolidation might be needed at some point in the future. He claimed that fiscal consolidation had to be implemented through progressive taxation rather than regressive taxation. This was because regressive taxation would have a greater negative effect on low-income households whose marginal propensity to consume is relatively high, and this in turn would reduce aggregate demand and potentially push the economy into the ZLB.

From the floor, **Kosuke Aoki** (University of Tokyo) asked whether it was optimal to increase debt until the marginal benefit of adding debt services became zero. **Mian** replied that it was necessary to take the potential cost of raising debt into account when analyzing welfare consequences in the model. From a practical perspective, it was going to be harder for governments to raise the level of government debt in order to satiate too much demand for debt, because large adjustments of deficits were required to ensure fiscal sustainability. **Etsuro Shioji** (Hitotsubashi University) stated that, while government bonds for individual investors tend to be held by the rich, much of government debt is held by the banking sector, and that bank deposits (as well as cash) account for a large share of wealth held by the less well off. He asked whether this fact was taken into account in the analysis. **Mian** agreed with the statement. He argued that he was not ignoring the fact and had already analyzed the case of multiple financial assets in another paper.[5] **Ueda** asked whether Japan was in the Goldilocks zone. **Mian** replied that it depended on whether long-run inflation expectations were anchored at 2 percent in Japan. This was because the Goldilocks zone would be fragile depending on how deep into the ZLB Japan currently was.

5. For details, see Mian, Straub, and Sufi (2021).

B. Debt as Safe Asset: Mining the Bubble - FTPL with a Bubble & MMT

Brunnermeier presented a theoretical framework for explaining whether governments could run permanent primary budget deficits without devaluating government debt through inflation, and whether a bubble could emerge in government bonds as safe assets.[6] First, as a starting point for discussion, he showed that the Fiscal Theory of the Price Level (FTPL) was not consistent with observed facts. In particular, he pointed out that Japan had not experienced inflation despite having primary budget deficits in most years since the 1960s, which indicated the existence of a bubble where the value of government debt was significantly higher than its theoretical value based on the FTPL. In order to explain this phenomenon, he introduced a novel perspective of safe assets in an incomplete market setting. Specifically, in addition to the traditional value of expected discounted future cash flows, government debt had the value of expected discounted future service flows as partial insurance against idiosyncratic shocks, i.e., the convenience yield. Then, employing an asset pricing model with government debt as a safe asset, he showed that when idiosyncratic shocks increased in recessions, the government bond became more valuable since the value of service flows appreciated. He noted that one implication for fiscal debt sustainability derived from the model was that safe assets could lose their status because a bubble could burst. Using the model calibrated to the U.S. economy, he showed the "Debt Laffer Curve." If a government increased the pace of bond issuance to a certain level, it could increase the value of government debt and achieve a primary balance deficit in the steady state, while if it increased the pace of bond issuance above that level, the value of government debt would decrease by diluting the value of existing bonds and the primary balance deficit in the steady state would be reduced. Based on this result, he concluded that, contrary to the Modern Monetary Theory (MMT), it would be impossible for a government to expand its budget deficit limitlessly without depreciating its government debt by inflation.

From the floor, **Toshitaka Sekine** (Hitotsubashi University) asked whether demand for hedging against longevity risk might also generate the service flows of government debt. **Brunnermeier** agreed with him and replied that demand for hedging longevity risk might be higher especially in countries with inadequate pension systems since longevity risk as an idiosyncratic shock would have a significant impact. **Andrea Raffo** (Federal Reserve Board) first noted that, given that the model involves idiosyncratic risk and not inequality, financial developments over the past decades should have reduced the insurance value of public debt as safe asset, which is not the case. That said, he added that probably the implications of the model were almost the same if we reinterpreted households' risk as country-specific risks, suggesting that the international role of U.S. treasuries may explain the sizable insurance value of this safe asset. **Brunnermeier** agreed with the points. **Aoki** asked how a deterioration in market functioning and liquidity would affect the size of bubbles and the price level. **Brunnermeier** replied that in a closed economy the consequences of the analysis did not change significantly, but in an open economy the government debt of one country would be more likely to lose its status as a safe asset since other countries' government debt would substitute

6. For details, see Brunnermeier, Merkel, and Sannikov (2021).

it. **Orphanides** argued that massive interventions by central banks played an important role in maintaining the safe asset status of government debt during the market turmoil in March 2020, and stated that according to the model it was important for central banks to act extremely carefully to protect the status of government debt as a safe asset. **Brunnermeier** replied that it was true as long as there were no solvency or debt sustainability issues.

C. The Nature of Work After the COVID Crisis: Too Few Low-Wage Jobs

Autor presented his views on the nature of work after the COVID-19 pandemic.[7] He argued that there would be too few low-wage jobs after the pandemic due to two changes that occurred during the pandemic: telepresence and automation forcing. First, he explained telepresence as a form of automation that enables virtual participation in the work environment without physical presence, and he pointed out that the most obvious change during the health crisis was the spread of telepresence. He argued that the benefits of telepresence would be distributed unequally: telepresence would benefit high-wage workers by adding flexibility, such as work-from-home, while disproportionately reducing demand for low-paid in-person services, especially in urban areas. He added that this was problematic because such low-wage jobs had increased until this crisis. Second, he pointed to automation forcing during the pandemic and a resulting sharp increase in new patent applications that support work-from-home technologies, and argued that such innovations might work against low-wage workers. He noted that innovations shaped what occupations grew by showing that the majority of jobs that had been created in the past few decades were new title jobs. Since automation technologies would likely continue increasing, more high-skilled jobs would be created while there would be less demand for low-skilled jobs. In conclusion, he argued that reallocation out of low-wage jobs was not good news in disguise because a decline in low-wage work would not raise demand for middle-wage jobs. Generating good middle-wage jobs in a post-pandemic setting would be a challenge facing policymakers.

From the floor, **Kiyohiko G. Nishimura** (National Graduate Institute for Policy Studies) asked how the decline in employment in low-wage jobs would affect inflation and the capacity of central banks to achieve the goal of maximum employment. **Autor** replied that the effect on inflation was limited since demand for the low-paid in-person services was fairly elastic and such services were not a central driver of inflation. He added that the recovery was uneven, and some labor markets could become very tight while others related to in-person services could remain slack and that this would be a potential complexity for monetary policy. **Aoki** asked about the effect of the decline in employment in low-wage jobs on human capital accumulation. **Autor** replied that it potentially increased the need for people to make human capital investments that move them toward the middle or upper end of education. This was because wages were unlikely to rise under the current labor market slack, reducing a less-educated worker's incentive for sticking to their low-paid jobs and choosing not to go for higher education.

7. For details, see Autor and Reynolds (2020).

VI. Policy Panel Discussion

In the policy panel discussion, moderated by Ueda, six panelists, Gopinath, Evans, Macklem, Lane, Ingves, and Wakatabe, expressed their views on the new normal induced by the pandemic and the related policy challenges and prescriptions.

A. Remarks by Panelists

Gopinath presented the issues of diverging recoveries in the world. She stressed that there was a significant risk of diverging recoveries among countries. Specifically, the projection for an annual loss in per capita income relative to the growth path in the absence of the pandemic between 2020 and 2024 was around 2 percent for advanced economies, but 6 percent for emerging and developing economies, excluding China. She noted that this situation was opposite to the post-global-financial-crisis periods, in which the recovery was slow in advanced economies while rapid in emerging and developing economies. She argued that the on-going diverging recoveries were an important factor in considering the post-pandemic new normal, and raised three future policy challenges: (i) a sharp rise in interest rates, which could potentially cause financial turmoil in emerging and developing economies, (ii) the loss of human capital due to lengthy school closures and the resulting decrease in medium-term output, and (iii) diverging recovery within a country, caused by the pandemic and resulting automation forcing. Finally, she added that climate risk was another big and important challenge in the world and that debt forgiveness and debt restructuring would be needed for some developing countries so that they can address the climate transition as well as the digital transition.

Evans discussed the role that resource pressures and inflation expectations might play in the path of inflation over the next few years. He observed that core inflation increased to 1.8 percent in March 2021 and would likely increase further in April. To address concerns some commentators had that the U.S. economy was on a path to high inflation, he discussed recent work by Bianchi, Fisher, and Melosi (2021), who consider a number of scenarios for the potential inflationary consequences of the American Rescue Plan Act (ARP) through the lens of different versions of the workhorse inflation-expectations-augmented Phillips curve. In explaining the models' simulation results, he noted that the coefficient of resource utilization in the Phillips curve was small, so that the resource pressures on their own would have a limited impact on inflation in most scenarios. To generate larger and persistently higher inflation rates, higher inflation expectations were needed. He then added that the measures of inflation expectations, albeit imperfect, were just back to where they were in 2013 and did not indicate inflation was spiraling out of control. Accordingly, he thought that the risk of unacceptably high and persistent inflation in the coming years was low and stressed that the recent rise in inflation did not appear to be the precursor of a persistent movement to undesirably high levels of inflation.

Macklem discussed divergent post-pandemic recoveries in Canada. He noted that the economy was recovering as it had shown more resilience to the pandemic than expected, underpinned by the combination of overwhelming fiscal and monetary policy measures. He stressed, however, that the recovery had been uneven. The recovery

had been slow especially in the hardest-hit sectors such as retail trade, entertainment, and air transportation. Low-wage jobs had been severely affected and remained significantly below their pre-pandemic level. The number of long-term unemployed reached its highest level in almost 30 years. He added that the impact of the pandemic on the ability to work had also been uneven due partly to the digital divide. He noted that in spite of the recent upward revision in economic growth in Canada, a complete recovery was still far away, and he stressed the continuing need for extraordinary fiscal and monetary support. He added that a complete recovery meant a healthy job market with good opportunities for all, including low-wage workers, women, and young people, and it meant that businesses had the confidence they needed to invest and increase capacity. He concluded that under such a complete recovery both households and businesses would be able to count on inflation being sustainable at the 2 percent target.

Lane discussed the challenges facing central banks. He first classified the next few years into three phases: (i) a rebound, which would be for the rest of this year, (ii) a recovery, which would be for the next year at least, and (iii) a transition to the new steady state with fiscal support phasing out, which would be two years from now. He pointed out that this three-phase sequence would make it difficult for central banks to differentiate short-term from medium-term dynamics, posing a challenge for central banks that were focused on medium-term developments. He added that extracting macro signals from the data would become even more difficult because of the array of asymmetries generated by the pandemic, such as manufacturing versus services, old versus young, and public sector versus private sector. Specifically, there would be substantial relative price movements and reallocations across firms and industries due to such asymmetries. He stressed that the new steady state would involve a lot of uncertainties because there were big structural changes underway, such as in the way we work and the way businesses were operated. The impact and consequence of digitalization and the structural changes were also highly uncertain. He noted that there were not enough historical examples to guide central banks in this situation. He pointed out that it was important for central banks to have a broader range and greater volume of information about the economy, including private agents' inflation expectations.

Ingves discussed challenges in the aftermath of the pandemic from the perspective of a small open economy. He first emphasized the importance of international trade for Sweden. He noted that world trade had recovered rapidly, underpinned by expansionary monetary and fiscal policies, and had driven the recovery in Sweden. He added that expansionary monetary policy in Sweden worked well in the sense that this health crisis had not morphed into a financial crisis and that the Swedish economy was getting back to its pre-pandemic growth path. However, he expressed concern that there was a massive difference in recovery between in-person-contact intensive sectors and others and that many low-income jobs had been lost, resulting in an increase in long-term unemployment. He added that the Swedish labor market had a structural problem of high unemployment among young workers and immigrants, which could not be fixed by monetary policy. Moreover, he pointed out that unemployment rates had been low for middle- and high-income workers, even during the pandemic, and housing prices had increased dramatically, which would be an issue for some years to come. He closed his remarks by stating the importance of structural change once the economy was back

to the original growth path: the only way to raise the standard of living in a small open economy was persistent and timely structural change.

Wakatabe discussed the differences in the impact of the pandemic and the subsequent recovery as well as the challenges and opportunities looking ahead, from the Japanese perspective. He first pointed out that, despite less stringent public health measures in Japan compared with the U.S. and Europe, real GDP had declined sharply in Japan, as in the U.S. and Europe. He argued that this was related to voluntary restrictions of mobility, possibly due to Japan's aging population. After reviewing policy responses under the health crisis, he turned to differences in the impact of the pandemic, which had shown up acutely in the labor market. He explained that employment for non-regular workers had declined sharply in Japan after April 2020 and stressed that the negative effects of the pandemic had been tilted toward low-income earners, which was a common policy challenge across countries. Another challenge he raised was the issue of productivity, given the wide and rapid expansion of telework and working from home. He mentioned a study showing that productivity when working from home was lower than that at the workplace in Japan, the opposite of what was reported in the U.S. He closed his remarks by arguing that the Japanese economy would be able to improve productivity if it took on-going changes as an opportunity and adapted to digitalization by undertaking business transformation, investing more on information and communication technology, and changing rules and regulations.

B. Discussion among the Moderator and Panelists

Following the panelists' remarks, **Ueda** asked them two questions. First, he asked whether central banks had a strategy to overcome a dynamic inconsistency problem whereby central banks might have the incentive to deviate from forward guidance, e.g., by allowing inflation to overshoot the 2 percent target. **Evans** replied that inflation could overshoot the 2 percent target for some time under the average inflation targeting framework, but the extent of the overshoot would not be unacceptably high, so he was not concerned about inflation getting out of hand. **Lane** raised a point about central banks' communication regarding large-scale asset purchases and noted that one challenge would be how to communicate the course of asset purchases as the economy was recovering. **Macklem** referred to the differences between flexible inflation targeting and average inflation targeting, remarking that it would be interesting to see how these different targeting strategies would play out in coming years. **Ingves** reflected that QE and negative interest rate policy posed communication challenges, which were completely different from what had been thought when the interest rate had not yet hit the ZLB. In considering communication, he emphasized that monetary policy was not a mathematical formula but a decision reached by a group of several voting members.

Ueda next asked the panelists to what extent central banks should be concerned about distributional issues, such as polarization of employment and income inequality. **Gopinath** brought up two challenges facing central banks: (i) monetary policy, which aimed at maximum and inclusive employment, would have important consequences for asset markets and the financial sector, and (ii) monetary policy would face the structural change of divergent job recovery in the economy. **Wakatabe** pointed out that, at a basic level, central banks had to focus on macroeconomic stabilization, but at the same time

they needed to pay attention to the consequences of their policy on other important issues such as inequality and climate change, and in this regard, central banks' analyses of these effects were warranted. **Macklem** commented that monetary policies could not target specific groups, but central banks should be alive to distributional issues and would have to look at more disaggregated effects of monetary policies. He added that the effects of monetary policies, be they traditional or unconventional policies, on income and wealth inequalities could move in the opposite direction. **Lane** raised the point that the income distribution effect was different from the wealth effect by mentioning the European monetary union countries as an example. He then added that taking the distributional effects of monetary policy into account would not make policymaking worse. **Evans** reflected that monetary policy could not by itself solve the issue of income inequality, but he added that the most recent adjustments in the Federal Open Market Committee's monetary policy framework were aimed at providing broad-based and inclusive benefits for those in the labor market.

After these two questions, **Ueda** asked the panelists to raise any further questions. Regarding the issues presented by Gopinath, **Ingves** asked for her views about the risk that a number of developing countries would not get back to their original growth path due to the scarcity of vaccines. **Gopinath** replied that the scarcity of vaccines was a solvable problem, although the current situation was that some countries had vaccine doses in excess of what they would need and other countries, especially developing countries, were short of vaccine doses. She noted that there was international momentum to solve the problem. She added that the challenge was how quickly enough vaccine doses would become available to the countries that needed them, and how promptly these countries ramped up preparations for vaccinations.

VII. Concluding Remarks

In the concluding remarks, **Walsh** summarized the presentations and discussions at the conference. He noted that this conference covered a broad range of issues caused or exacerbated by the pandemic, including fiscal policy sustainability, changes in the nature of work, and distributional consequences. First of all, he argued that the lecture and presentations by Blanchard, Mian, and Brunnermeier all focused on fiscal policy, touching on debt sustainability in a low interest rate environment, factors that affect the value of government debt, such as convenience yield, and the role of government debt as a safe asset. He pointed out that the argument of debt as a safe asset was paralleled with the traditional money-in-the-utility function approach to explaining the demand for money. Based on this interpretation, he raised the issue of institutional reform of fiscal authorities as an analogy for the establishment of central bank independence after the experience of hyperinflation. In terms of labor market conditions, he pointed to the importance of understanding how the pandemic and pre-existing underlying trends had changed the distribution of economic activity, affected technological developments such as automation, and altered the nature of work, as Autor presented. As for monetary policy, he argued that the central bank balance sheet policies during the pandemic provided indirect easing by facilitating fiscal expansion,

as pointed out by Orphanides. He then noted that this facilitating role of monetary policy would remain important, and it highlighted the need for policy coordination. As for the policy panel discussion, he touched upon the issues raised by the panelists on perspectives and policy challenges after the COVID-19 pandemic, such as inflation expectations, the measurement of economic slack, and the unevenness of economic recovery. He stated that, although the distributional issues raised by some presenters and panelists were indeed important, it was less clear whether central banks had the tools necessary to combat inequality. Finally, he concluded that the presentations and discussions in the conference had offered insights into the new normal of the post COVID-19 economy, and the conference had been very informative and enjoyable.

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APPENDIX 1: PROGRAM

Monday, May 24, 2021

Chairperson:	**Kazuo Ueda**, Kyoritsu Women's University and University of Tokyo

Opening Remarks

Speaker:	**Haruhiko Kuroda**, Bank of Japan

Mayekawa Lecture: Fiscal Policy under Low Rates: Taking Stock

Lecturer:	**Olivier J. Blanchard**, Massachusetts Institute of Technology

Session 1: A Goldilocks Theory of Fiscal Policy

Presenter:	**Atif R. Mian**, Princeton University

Session 2: Debt as Safe Asset: Mining the Bubble - FTPL with a Bubble & MMT

Presenter:	**Markus K. Brunnermeier**, Princeton University

Tuesday, May 25, 2021

Chairperson:	**Masaaki Kaizuka**, Bank of Japan

Keynote Speech: The Power of Central Bank Balance Sheets

Speaker:	**Athanasios Orphanides**, Massachusetts Institute of Technology

Session 3: The Nature of Work After the COVID Crisis: Too Few Low-Wage Jobs

Presenter:	**David Autor**, Massachusetts Institute of Technology

Policy Panel Discussion

Moderator:	**Kazuo Ueda**, Kyoritsu Women's University and University of Tokyo
Panelists:	**Gita Gopinath**, International Monetary Fund
	Charles L. Evans, Federal Reserve Bank of Chicago
	Tiff Macklem, Bank of Canada
	Philip R. Lane, European Central Bank
	Stefan Ingves, Sveriges Riksbank
	Masazumi Wakatabe, Bank of Japan

Concluding Remarks

Speaker:	**Carl E. Walsh**, University of California, Santa Cruz

APPENDIX 2: LIST OF PARTICIPANTS

Seiji Adachi	Bank of Japan
Masayoshi Amamiya	Bank of Japan
Kosuke Aoki	University of Tokyo
Óscar Arce	Banco de España
David Autor	Massachusetts Institute of Technology
Paul Beaudry	Bank of Canada
Jan Marc Berk	De Nederlandsche Bank
Olivier J. Blanchard	Massachusetts Institute of Technology
Markus K. Brunnermeier	Princeton University
Chayawadee Chai-anant	Bank of Thailand
Julian di Giovanni	Federal Reserve Bank of New York
Luci Ellis	Reserve Bank of Australia
Charles L. Evans	Federal Reserve Bank of Chicago
Takuji Fueki	Bank of Japan
Hiroshi Fujiki	Chuo University
Shin-ichi Fukuda	University of Tokyo
Carlos Garriga	Federal Reserve Bank of St. Louis
Andrea Gerali	Banca d'Italia
Petra Gerlach	Swiss National Bank
Gita Gopinath	International Monetary Fund
François Haas	Banque de France

Hideo Hayakawa	Tokyo Foundation for Policy Research
Sui-Jade Ho	Bank Negara Malaysia
Johannes Hoffmann	Deutsche Bundesbank
Daisuke Ikeda	Bank of Japan
Nobuo Inaba	Ricoh CO., LTD.
Stefan Ingves	Sveriges Riksbank
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Keiichiro Kobayashi	Keio University
Hirohide Kouguchi	Bank of Japan
Haruhiko Kuroda	Bank of Japan
Philip R. Lane	European Central Bank
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Benoit Mojon	Bank for International Settlements
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Gael Price	Reserve Bank of New Zealand
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Lathaporn Ratanavararak	Bank of Thailand
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Krislert Samphantharak	Bank of Thailand
Çağrı Sarıkaya	Central Bank of the Republic of Turkey
Yasuyuki Sawada	Asian Development Bank
Jochen Schmittmann	International Monetary Fund
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Tokiko Shimizu	Bank of Japan
Woon Shin	Bank of Korea
Mototsugu Shintani	University of Tokyo
Etsuro Shioji	Hitotsubashi University
Ludwig Straub	Harvard University
Chantavarn Sucharitakul	Bank of Thailand
Amir Sufi	University of Chicago
Hitoshi Suzuki	Bank of Japan
Karim Triki	Embassy of France and Banque de France
Suh Ping Tu	Monetary Authority of Singapore
Shinichi Uchida	Bank of Japan
Kazuo Ueda	Kyoritsu Women's University and University of Tokyo
Tuomas Välimäki	Bank of Finland
Kenji Wada	Bank of Japan
Masazumi Wakatabe	Bank of Japan
Carl E. Walsh	University of California, Santa Cruz
Toshiaki Watanabe	Hitotsubashi University
Tsutomu Watanabe	University of Tokyo
Mark Wynne	Federal Reserve Bank of Dallas
Shunichi Yoneyama	Bank of Japan