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Bank of Japan

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**Opening Remarks at the 2017 BOJ-IMES Conference**  
**Hosted by the Institute for Monetary and**  
**Economic Studies, Bank of Japan**

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## **I. Introduction**

Good morning. I am honored to welcome such distinguished guests to the 23rd BOJ-IMES Conference. On behalf of the conference organizers, I thank all the guests in this room, in particular those who travelled a long distance to participate in this one-and-a-half-day conference in Tokyo.

This year's conference is titled "Monetary Policy: Lessons Learned and Challenges Ahead." After my remarks, Mr. Ben Bernanke, former U.S. Fed Chair, will deliver the Mayekawa Lecture based on his experience as an academic researcher and a monetary policy maker. In the afternoon, Professor Mark Gertler, our Honorary Adviser to IMES, will give the keynote speech. Tomorrow, a policy panel session will conclude the program with three panelists, Mr. Charles Evans from the Chicago Fed, Mr. Frank Smets from the European Central Bank, and my colleague at the Bank of Japan, Hiroshi Nakaso. The panel session will be moderated by Professor Marvin Goodfriend, the other Honorary Adviser to IMES. In addition, I am pleased to have three leading economists to present their papers, addressing timely and important issues at the frontier of monetary economics and monetary policy making. I am confident that we will all learn a lot during the conference.

## **II. Three Research Questions at the Top of the Agenda**

In my opening remarks, I would just like to deliver a sneak peek of this year's conference by pointing out three major research topics on our agenda.

### **A. Inflation and Its Expectations Dynamics**

Since the introduction of "Quantitative and Qualitative Monetary Easing (QQE)" in April 2013, raising inflation expectations to anchor them at the price stability target of 2 percent has been a crucial element of the Bank of Japan's monetary policy management. In September 2016, the Bank published a comprehensive assessment of the policy effects of QQE and other policy measures, including the negative interest rate policy. As companion papers of the comprehensive assessment, the Bank of Japan also published several empirical studies exploring the characteristics of inflation expectations in Japan and comparing them

with those in other advanced economies.<sup>1</sup> Those studies included an analytical framework developed by Mr. Jeffrey Fuhrer from the Boston Fed, one of today's paper presenters, to assess inflation dynamics with a special focus on the role of survey-based expectations.<sup>2</sup>

I am sure that we have learned a lot about inflation expectations in the past few years, but there still remain many research questions on this issue yet to be addressed. For example, there seems to be a consensus that inflation expectations exhibit a certain degree of inertia or persistence, which is difficult to be explained in a full information rational expectations (FIRE) framework even with the classic assumption of nominal (price) rigidity. However, little consensus has been formed regarding the micro-foundations for such seemingly persistent inflation expectations dynamics. Against this backdrop, recent studies have increasingly focused on information rigidity, and I would like to encourage researchers to move on further along with this research agenda.

## **B. The Natural Rate of Interest**

The second item on our research agenda is an old and new topic, that is, the natural rate of interest, or, in slightly more technical parlance, the equilibrium real interest rate. The natural rate of interest has long been discussed in macroeconomics and related time series analyses.

If we say "our monetary policy stance remains accommodative," this means that actual real interest rates are kept at a level below the equilibrium real interest rate. This quite naturally gives rise to the question that how we can know the level of the equilibrium real interest rate. This question is more difficult than it appears. The natural rate of interest would have a clear interpretation in a solid dynamic general equilibrium model. Nevertheless, the determinants of the natural rate of interest vary, depending on how the model is specified. It

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<sup>1</sup> Bank of Japan, "Comprehensive Assessment: Developments in Economic Activity and Prices as well as Policy Effects since the Introduction of Quantitative and Qualitative Monetary Easing (QQE)," 2016.

Nishino, Kousuke, Hiroki Yamamoto, Jun Kitahara, and Takashi Nagahata, "Supplementary Paper Series for the 'Comprehensive Assessment' (1): Developments in Inflation Expectations over the Three Years since the Introduction of Quantitative and Qualitative Monetary Easing (QQE)," Bank of Japan Review, No. 2016-E-13, 2016.

<sup>2</sup> Fuhrer, Jeffrey, "The Role of Expectations in Inflation Dynamics," *International Journal of Central Banking*, Vol. 8, No. S1, 2012, pp. 137-165.

is well known that, in some specific cases, the natural rate of interest coincides with the potential growth rate of the economy, but this is not always the case. Further, when trying to estimate the natural rate of interest, econometricians face a long list of technical challenges. For example, data on the risk-free interest rate with a fixed maturity are not readily available, since there is no absolutely "risk-free" asset in actual financial markets. Also, consumers' time preferences are hard to estimate, and, moreover, whose time preference we should estimate still remains an unresolved question.

With the difficulties just mentioned in mind, central bankers have long made careful policy decisions using some kinds of estimates of the natural rate of interest. The stakes have become even higher in recent years when central banks try to estimate the natural rate of interest. As seen in the debate on the Secular Stagnation hypothesis proposed by Professor Lawrence Summers of Harvard University, uncertainty regarding the natural rate of interest makes it much more difficult for central banks to steer a clear course in terms of policy decisions.<sup>3</sup> While I am not going into the details of his hypothesis, many of us can agree that the natural rate of interest has declined in recent years and because of this decline, combined with the effective lower bound on nominal interest rates, many central banks in advanced economies developed new unconventional monetary policy tools and have embarked on carefully crafted but bold actions. In this regard, I would argue that we still face old challenges.

### **C. Heterogeneous Agent Macroeconomics and Distributional Effects of Monetary Policy**

The third issue is related to monetary policy and inequality. The order I picked the topics does not necessarily correspond to their importance; it is simply that the first two topics are closely related to the real interest rate, while the third topic deals with a very different issue.

As a caveat, I would like to clearly state that monetary policy is by no means a policy tool for distributional purposes. With this proviso in mind, let me borrow a phrase delivered by

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<sup>3</sup> Summers, Lawrence H., Remarks at the IMF Fourteenth Annual Research Conference in Honor of Stanley Fischer, Washington, DC, 2013.

Summers, Lawrence H., "Demand Side Secular Stagnation," *American Economic Review*, Vol. 105, No. 5, 2015, pp. 60-65.

U.S. Fed Chair Janet Yellen: She said, "it is important for policymakers to understand and monitor the effects of macroeconomic developments on different groups within society," and I completely agree with her on this point.<sup>4</sup>

In the aftermath of the global financial crisis, a number of pundits argued that macroeconomics and monetary economics are totally useless. One of the misconceptions of such critics is that they believe that modern macroeconomics relies only on representative agent models and ignores important implications arising from various heterogeneities in the economy, such as debtors and creditors, the financial sector and the non-financial sector, importers and exporters, and more controversially, haves and have-nots. Heterogeneous agent models were developed in the 1990s, and have been extended since then.<sup>5</sup> From the viewpoint of policymakers, the true issue is whether to employ heterogeneous agent models, instead of handier representative agent models, to examine the implications of heterogeneity for macroeconomic fluctuations. This is a classic case in which Occam's razor with regard to the choice of the appropriate model applies.

This question remains yet to be explored in full depth. We know that increasing attention is being paid to the distributional effects of economic and other public policies. I would like to reiterate that, under such circumstances, monetary policy is not a tool that is well suited for dealing with inequality or polarization and that central banks should remain focused on the aggregate implications of their own policy decisions. At the same time, however, this does not mean that central banks are allowed to ignore the distributional effects of monetary policy, especially if the distributional effects have an aggregate impact. With this aim, central banks should be, and in fact are, open to learning about heterogeneous agent macroeconomics. These days, much progress has been made on this front in computational economics. Central banks are keenly following the technical progress and will keep abreast with the pioneers on this front as well.

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<sup>4</sup> Yellen, Janet L., "Macroeconomic Research After the Crisis," Speech at the 60th Annual Economic Conference Sponsored by the Federal Reserve Bank of Boston, 2016.

<sup>5</sup> Krusell, Per, and Anthony A. Smith, Jr., "Income and Wealth Heterogeneity in the Macroeconomy," *Journal of Political Economy*, Vol. 106, No. 5, 1998, pp. 867-896.

### **III. The Way Ahead**

We are now about to start the 23rd BOJ-IMES Conference, which has a history of more than a quarter-century. This year's conference is organized so that discussions can revolve around the three major topics that I mentioned in these opening remarks. Nearly ten years ago, Professor Maurice Obstfeld, currently Chief Economist of the IMF and then-Honorary Adviser to IMES, in this room identified the BOJ-IMES Conference as "a venue in which abstract monetary theory and practical policy questions can comfortably be discussed in full depth and side by side." I regard his remark as a great compliment to this conference. I am convinced that this year's conference will produce further insights into more effective central bank policymaking, in a same manner as previous conferences.

Thank you.