Central Banking in a Changing World

Summary of the 2018 BOJ-IMES Conference Organized by the Institute for Monetary and Economic Studies of the Bank of Japan

by Shigenori Shiratsuka

I. Introduction

The Institute for Monetary and Economic Studies (IMES) of the Bank of Japan (BOJ) held the 2018 BOJ-IMES Conference, entitled "Central Banking in a Changing World," on May 30–31, 2018, at the BOJ head office in Tokyo.[1] The conference attracted about one hundred participants from academia, central banks, and international organizations. The participants discussed central bank policies and operations in the light of global structural changes in recent years.

The conference began with the opening remarks delivered by Haruhiko Kuroda, Governor of the BOJ. Raghuram G. Rajan (University of Chicago), the former Governor of the Reserve Bank of India, presented the Mayekawa Lecture. Athanasios Orphanides (Massachusetts Institute of Technology), honorary adviser to the IMES, gave the keynote speech. In the paper presentation sessions, four papers were presented by Hélène Rey (London Business School), Andrew T. Levin (Dartmouth College), Klaus Adam (University of Mannheim), and Ichiro Muto (BOJ), and discussed by the participants. The policy panel discussion moderated by Kazuo Ueda (Kyoritsu Women's University and University of Tokyo), the IMES chief councilor, was comprised of two panelists: James Bullard (Federal Reserve Bank of St. Louis) and David Ramsden (Bank of England).

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The conference organizers would like to express their sincere gratitude to the IMES honorary adviser, Athanasios Orphanides, the IMES chief councilor Kazuo Ueda, and all other conference participants for 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 author's responsibility.

1. See Appendix 1 for the program. See Appendix 2 for a list of participants; their affiliations are as of May 30–31, 2018.

II. Opening Remarks

Kuroda highlighted that global structural changes in recent years influenced not only central bank policies, but also central bank operations, and raised three important issues for central banks.[2]

First, **Kuroda** focused on the challenges in conducting monetary policy. He pointed out that prices and wages remained sluggish despite recent substantial improvements in the real economy. He then noted the importance of exploring the mechanism behind the phenomenon recently labeled as "missing inflation" and "missing wage inflation." Second, he mentioned challenges to financial stability. He stated that developments in the so-called shadow banking sector, which is not sufficiently covered by conventional supervision and regulations, and the low profitability of financial institutions, especially in advanced economies, posed new challenges to global financial stability. Third, he mentioned the effects of innovations in information and communication technology on central bank operations. He pointed out that "FinTech" brought about drastic changes in the payment practices in many countries, inducing some central banks to explore the possibility of issuing digital currency. He argued that an era of major transformation might lie ahead in central banks' role as "bank of banks" and "issuer of banknotes."

Kuroda then expressed his hope that this year's conference would facilitate active discussions from a variety of perspectives and also deepen our understanding of the issues faced by central banks.

III. The Mayekawa Lecture: Whither Bank Regulation; Current Debates and Challenges

Rajan reviewed recent development in banking sector regulation and discussed desirable features of future regulations for the financial system.[3]

Rajan began by explaining the rationale for regulating banks and elaborating on theoretical background issues such as the structure of banks' balance sheets, the negative externalities of bank failures, banking-specific aberrations, and regulatory interventions. He then reviewed micro-prudential measures implemented after the global financial crisis (GFC) such as the heightened capital requirements, the introduction of liquidity requirements, and the widespread use of stress tests. He also explained regulators' incentives for pro-cyclical regulations and highlighted the difficulty in resisting the temptation to deregulate banks during financial booms. As areas of ongoing controversy, he examined three specific topics: (i) the role of monetary policy in financial stability; (ii) macro-prudential regulations; and (iii) regulatory harmonization across borders. He closed his lecture by emphasizing the importance of systemic regulation and the need for broad, robust, and timely regulations across the financial system.

From the floor, a number of comments on macro-prudential policy were raised. **Oldřich Dědek** (Czech National Bank) commented on the difficulty in pursuing price stability and financial stability simultaneously. For instance, policy rate hikes to com-

2. For details, see Kuroda (2018).
3. For details, see Rajan (2018).

bat asset price bubbles might damage the real economy. **Rajan** agreed that this posed a dilemma for central banks, and noted that changing the pattern of liquidity would be more important than the size of interest rate hikes. **Masahiro Kawai** (University of Tokyo) added that policy coordination among a broad set of relevant authorities would be desirable to deal with bubbles. **Kosuke Aoki** (University of Tokyo) asked whether the optimal policy mix of monetary policy and macro-prudential policy depended on the degree of financial openness. **Rajan** argued that certain policy actions are needed to preserve monetary policy effectiveness, considering the large impacts of external factors, especially in a relatively small open economy with shallow financial markets.

Regarding issues other than macro-prudential policy, **Nestor A. Espenilla, Jr.** (Bangko Sentral ng Pilipinas) asked how central banks should address the trade-off between competition among banks and financial stability. **Rajan** mentioned India's experience of excessive bank loans to low income households as a result of banking deregulation and argued that increased competitions should be accompanied by improved risk management as well as supervision. **Kenichi Ueda** (University of Tokyo) asked if central banks should help with the cleanup of private sector debt after crises or in the middle of crises by causing high inflation so as to reduce debt burdens in real terms. Referring to the Great Depression in the 1930s, **Rajan** argued that such a strategy would be permissible only in exceptional cases where there was a tremendous debt overhang. **Tsutomu Watanabe** (University of Tokyo) expressed his concern regarding the uncertainty around the appropriate timing for regulating FinTech. **Rajan** stressed the importance of having discussions before intervening so as not to hinder technological progress.

IV. Keynote Speech: The Boundaries of Central Bank Independence; Lessons from Unconventional Times

Orphanides reviewed the recent history of the BOJ's monetary policy since the mid-1990s and discussed the practical implications for central bank independence.[4]

Orphanides argued that the zero lower bound (ZLB) complicates policy design because unconventional monetary policy has more pronounced fiscal implications and distributional effects than merely adjusting interest rates. He then mentioned that at the ZLB, effective monetary policy making by an independent central bank needs (i) a clear definition of price stability, and (ii) the legitimacy for the bank to assume significant risks on its balance sheet, which may be required with large scale asset purchases. He indicated that the BOJ's monetary policy was restrictive in the 2000s and attributed such policy stance to the lack of clarity on the two points [(i) and (ii)], which was not addressed in the revised BOJ Act published in 1997. In a sense, he argued that the timing of the Act was unfortunate as the BOJ had to establish its reputation as an independent central bank right at the time when the ZLB was encountered and unconventional policies became necessary. He then argued that by providing a precise definition of price stability—a symmetric 2% inflation goal—the "Joint Statement of the Government and the Bank of Japan" in January 2013 facilitated "Quantitative and

4. For details, see Orphanides (2018).

Qualitative Monetary Easing." Finally, he highlighted the potential benefits from the coordination of monetary and fiscal policy when the central bank is independent.

From the floor, several comments on the BOJ's experience in the 2000s were made by former BOJ Policy Board members. **Kazuo Ueda** and **Kiyohiko G. Nishimura** (National Graduate Institute for Policy Studies) recalled their experience during their time at the BOJ regarding the difficulty of forming a consensus on the definition of price stability. **Orphanides** stressed that numerical definition of price stability contributes to anchoring inflation expectations and facilitates the transmission of monetary policy actions. As for the BOJ's unconventional measures, **Kazuo Ueda** remembered that, during his term in office, Policy Board members were reluctant to purchase long-term government bonds, since they thought that an independent central bank should not underwrite the fiscal deficit. **Orphanides** replied that the lack of institutional arrangements regarding the recapitalization of the BOJ if it were to suffer huge losses due to unconventional policy measures was a valid concern for BOJ Policy Board members. He also argued that without clarity on such recapitalization, such losses might compromise the reputation and future policy decisions of the BOJ.

Regarding issues other than Japan's monetary policy in the past, **Doddy Zulverdi** (Bank Indonesia) asked whether asset purchases by central banks had potentially negative effects on income inequality. **Orphanides** argued that, even though monetary policy was associated with distributional issues, the central bank should focus on price stability. **Lukasz Rawdanowicz** (Organisation for Economic Co-operation and Development) and **Nishimura** expressed concern over fiscal discipline under a low interest rate environment and sovereign bond purchases by central banks. **Orphanides** replied that, an independent central bank first needed to deliver price stability and fiscal discipline is not the central bank's mandate. He also noted that to the extent delivering price stability required policies that kept interest rates on government debt low, this would also contribute to simultaneously reducing the debt-to-GDP ratio due to long-term bond yields being lower than nominal GDP growth rates.

V. Paper Presentation Sessions

A. Global Real Rates: A Secular Approach

Rey presented empirical research on the determinants of real short-term interest rates using long-run historical data for the U.S., U.K., Germany, and France.[5] She showed that the consumption-to-wealth ratio could be decomposed into three factors: risk free rates, risk premiums, and consumption growth. She empirically showed that most of the movements in the consumption-to-wealth ratio were explained by the movements in future risk-free rates. She then argued that this suggested in historical data, consumption-to-wealth ratios were associated with the global financial cycle and that low real short-term interest rates were associated with the aftermath of important boom bust cycles such as the Great Depression and the GFC. She concluded that global real short-term interest rates have remained low or negative for an extended period of time since the GFC reflecting increased savings and demand for safe assets.

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5. For details, see Gourinchas and Rey (2018).

As the discussant, **Marianne Nessén** (Sveriges Riksbank) began by praising the paper for the analysis of the economic background of low real short-term interest rates, which attracted great interest among central bankers. She argued that regarding the financial cycle as the primary contributor to the observed dynamics may be problematic due to unexpected correlations among components. She then suggested carrying out sensitivity analyses by varying the parameter values and observation periods. She also remarked that the predicted prolonged low risk-free rates implied that unconventional monetary policy measures would likely be kept in the central bank toolkit.

From the floor, in line with Nessén's comments, **Orphanides** expressed his concern that the asset purchase programs of central banks may have a large effect on risk premiums and may have influenced the results. **Rey** answered that such programs were unlikely to affect the time series evidence she was considering (since the beginning of the 20th century). **Kazuhiko Ohashi** (Hitotsubashi University) pointed out that the relationship among the components might be time-varying. **Rey** agreed that the importance of some of the economic mechanisms may have changed over time but also argued that her analysis built on an accounting identity that is always verified and let the data speak as much as possible. She also noted that the data have seemed pretty clear on the importance of the link between consumption-to-wealth ratio and real short-term interest rates. **Adam** and **Óscar Arce** (Banco de España) suggested taking out private and public debt instruments from the net wealth measure. **Rey** agreed that decomposition of the wealth information could be interesting and noted that her ongoing research dealt with housing wealth. **Kenichi Ueda** commented that human wealth would be estimated in a more precise manner by considering levels of education and life expectancy.

B. Central Bank Digital Currency and the Future of Monetary Policy

Levin investigated the advantages of a central bank digital currency (CBDC) and provided an overview of what kind of future currency system would be desirable.[6] He began by arguing that an account-based CBDC enabled households and firms to directly access accounts at a central bank, thereby serving as a practically costless medium of exchange. He then pointed out that an interest-bearing CBDC could provide a secure store of value with a rate of return in line with other risk-free assets. He also argued that eliminating the effective lower bound (ELB) of nominal interest rates enabled central banks to pursue and achieve true price stability, i.e., zero inflation. Finally, he encouraged central banks to actively engage in discussions about CBDCs.

As the discussant, **Hiroshi Fujiki** (Chuo University), praised the theoretical analysis in the paper, and then, from a practical point of view, raised two issues that could make the introduction of CBDCs in Japan difficult. He argued that, for the sake of anonymity, the Japanese holds huge amounts of cash "under their mattress" rather than depositing it at a bank. He also stressed that if the BOJ pursued another round of negative interest rate policy after the introduction of CBDCs, it would face difficulty in gaining public support for the policy. **Levin** agreed with the importance of such communication and added that, in introduction of CBDCs, central banks needed to

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6. For details, see Bordo and Levin (2017).

carefully consider the impact of changes in the currency system on vulnerable people, referring to the case of Sweden.

From the floor, in line with Fujiki's comments, **John McDermott** (Reserve Bank of New Zealand) and **Ramsden** expressed their view that people regarded paper currencies as a robust and trusted technology and that paper currencies might not become obsolete as a result of the introduction of CBDCs. **Bullard** explained the Federal Reserve's ongoing initiative on future payment systems and mentioned the Federal Reserve's white papers on the implications of CBDC for monetary policy. **Nessén** and **Ohashi** observed that central banks might lose control over money due to international currency substitution, especially if central banks imposed a negative interest rate on their CBDCs. **Yin Sze Liew** (Monetary Authority of Singapore) pointed out the possibility that people might prefer to use privately issued digital currencies rather than CBDCs. Focusing on the aspect of financial stability, **Andréa M. Maechler** (Swiss National Bank) remarked that the implementation of an account-based CBDC might drastically change the business model of commercial banks.

C. Optimal Trend Inflation

Adam presented his theoretical and empirical analysis on the optimal trend inflation rate by incorporating firm heterogeneity and systematic firm-level productivity trends in a sticky price model.[7] He showed that, when these two features were incorporated, the optimal trend inflation rate became different from zero. Based on these findings, he argued that the predictions of standard sticky price models with homogeneous firms were not robust. Next, applying the heterogeneous firm model to U.S. Census Bureau establishment-level data on the number of employees as (the extensive margin of) labor input, he showed that estimated optimal trend inflation path for the U.S. economy stood at 1.5 percent in 1977 but subsequently declined to around 1.0 percent in 2015. Finally, he stressed the robustness of the analysis by showing the estimates of the optimal trend inflation path under alternative settings.

As the discussant, **Jan Marc Berk** (De Nederlandsche Bank) first praised the paper for bridging the gap between the previous literature suggesting zero or negative optimal trend inflation rates and current central bank practice pursuing significantly positive inflation targets. He then made three comments on the calibration of the model to data. First, he suggested extending the model by including the extensive margin of labor input in order to make the model fully consistent with the data employed. Second, he encouraged the authors to confirm that the estimation results were not sensitive to the unit of analysis, i.e., changing data from establish-level to firm-level. Third, he recommended employing data on the price-change distribution of products as an alternative. **Adam** replied that even if the model were extended in the suggested manner, the main results of the paper would remain intact.

Several questions regarding various topics were raised from the floor. **Rey** mentioned that the data employed in the analysis might reflect heterogeneities not only in productivity but also in monopoly power. **Adam** replied that monopoly power did not affect the results on the optimal trend inflation rate when an optimal output subsidy

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7. For details, see Adam and Weber (2018).

was considered, although it might distort the measurement of firm-level productivity trends. **Marc P. Giannoni** (Federal Reserve Bank of Dallas) and **Etsuro Shioji** (Hitotsubashi University) asked how relaxing the assumption on equal birth and death rates would affect the main results of the paper by pointing out the observations that the birth and death rates of firms were not equal and the difference between them fluctuated cyclically. **Adam** replied that relaxing the assumption would be non-trivial and sacrifice the tractability of the model. **Tsutomu Watanabe** commented that this model could be applied to product-turnover, making more consistent with price-index theory relevant to the inflation rate. **Adam** agreed with the comment and mentioned the preliminary results of his ongoing research about the optimal trend inflation rate for the U.K. employing item-level consumer price data.

D. Missing Wage Inflation? Estimating the Natural Rate of Unemployment in a Nonlinear DSGE Model

Muto discussed whether downward wage rigidity (DWR) was the source of the recent missing wage inflation in major advanced economies, focusing on Japan, the euro area, the U.K., and the U.S.[8] He stressed that the novelty of the study was joint estimation of the natural rate of unemployment and the degree of DWR within a nonlinear dynamic stochastic general equilibrium model. He then showed theoretically that the presence of DWR produced a nonlinear wage Phillips curve, thus making wage inflation less responsive to the unemployment gap at lower rates of wage inflation. He also presented empirical results based on Markov chain Monte Carlo methods with a particle filter, showing that the degree of DWR was large in Japan, the euro area, and the U.K., but not in the U.S. He concluded that DWR played an important role in the behind of the widely observed missing wage inflation after GFC at least in Japan, the euro area, and the U.K.

As the discussant, **Arce** first pointed out that the precautionary motive, which gave rise to upward wage rigidity, might not be fully captured in the analysis. He also suggested taking into account labor market duality, i.e., the fact that workers are divided into regular and non-regular workers. He finally pointed out that estimated unemployment gaps might be sensitive to steady-state wage inflation. As his rejoinder, **Muto** admitted that their second order approximation approach did not fully quantify the precautionary motive, although it is incorporated in their theoretical model. He noted that DWR might be much stronger than estimated in the paper, if the analysis focused solely on regular workers. He highlighted that since changes in a steady-state level of wage inflation would not necessarily shift the wage adjustment cost function in a parallel manner, the estimated unemployment gaps would not be greatly affected.

From the floor, **Levin** noted that he agreed with the view that labor supply shocks played an important role in the U.S. and suggested the authors endogenizing labor force participation as in Erceg and Levin (2014). In addition, he argued that Japan may have experienced a structural change in the labor market in the late 1990s, citing Kuroda and Yamamoto (2014). **Fujiki** pointed out that the results may be driven by the data for the 1970s. **Mototsugu Shintani** (University of Tokyo), one of the coauthors of

8. For details, see Iwasaki, Muto, and Shintani (2018).

the paper, replied that it was necessary to include that period in order to properly estimate DWR. **Giannoni** expressed his concern about the apparent non-stationarity in the data of unemployment gap for Japan and suggested extending the model to introduce time-varying trend wage inflation. **Yuzo Honda** (Osaka Gakuin University) and **Kenji Wada** (Keio University) suggested to explicitly incorporate unconventional monetary policy in the model.

VI. The Policy Panel Discussion

In the policy panel discussion moderated by Kazuo Ueda, Bullard and Ramsden expressed their views on two issues: the causes and consequences of "missing inflation" and central banking under the FinTech revolution.

A. The Causes and Consequences of "Missing Inflation"

Bullard first theoretically showed that effective monetary policy making under the inflation targeting era from the early 1990s had led to a flattening of the empirical Phillips curves in advanced economies. He added that the recent experience of unconventional policies in advanced economies showed that policymakers had put more weight on inflation deviations in the conduct of monetary policy than before. He concluded his remarks by pointing out that the estimated slope for empirical Phillips curve would unlikely provide policy makers in advanced economies with a reliable indicator for monetary policy.

Ramsden discussed the causes and consequences of missing wage inflation in the U.K. He pointed out four possible explanations: (i) weak productivity growth, (ii) the decline in the structural unemployment rate, (iii) lags between unemployment falling and wage growth picking up, and (iv) weakened workers' bargaining power due to technological developments. He then highlighted that a policymaker should consider the consequences of missing wage inflation for future developments in the inflation rate. He also added that the stance of monetary policy would be judged based on not just labor market indicators, such as wage growth and unit labor costs, but a wider range of indicators on demand and supply conditions.

Kazuo Ueda began general discussion by asking the two panelists regarding the implications of their analyses on Japanese long lasting deflation. **Bullard** replied that the model presented in his remarks had two steady-state equilibria: one with a high inflation rate and the other with a low inflation rate. He then argued that the Japanese economy might be stuck in a self-fulfilling low inflation equilibrium. **Ramsden** highlighted that it was important for policymakers to look at a range of structural and empirical models for the key relationships in the economy, given that those models inevitably had strengths and shortcomings. He thus argued that policymakers' judgment also played an important role in making policy decisions.

After the replies from the panelists, the discussion was opened to conference participants. Regarding Bullard's presentation, **Masazumi Wakatabe** (Bank of Japan) asked what kind of information policymakers should rely on other than the empirical Phillips curve. **Bullard** replied that market-based inflation expectation measures would be a

good candidate, since they reflected market participants' judgments on a daily basis. He added that policymakers could use inflation expectation measures as a way to obtain feedback for monetary policy.

Regarding Ramsden's presentation, **Rey** posed two questions: (i) impact of recent volatile movements in the exchange rate on the U.K. inflation, and (ii) effect of large fluctuations in immigrants to the U.K. on slack in the labor market. With regard to the exchange rate, **Ramsden** replied that even when the fall of the pound exerted upward pressure on the headline inflation rate, measures of domestically-generated inflation and inflation expectations remained well-anchored. On the immigration issue, **Ramsden** argued that the net inflow of immigrants from the EU to the U.K. after Brexit would depend on the end-state agreement. He also commented that the complexities related to Brexit made it difficult for policymakers to chart the course of monetary policy.

Honda and **Pym Manopimoke** (Bank of Thailand) asked about the effects of globalization, in particular the emergence of Asian economies, on inflation and the conduct of monetary policy. **Bullard** replied that even if the model were extended to a multi-country setting, the presented result would remain unchanged regarding monetary policy as a dominant factor in determining the slope of empirical Phillips curve. **Ramsden** commented that globalization in terms of immigration had little impact on wage bargaining in the U.K. labor market except that for unskilled workers.

B. Central Banking under the FinTech Revolution

Ramsden explained the Bank of England's approach to the FinTech revolution by using one word, "open," as in "open to changes," "open minded," and "open door policies." He then introduced ongoing research on CBDCs as an example reflecting the approach. Moreover, he highlighted that the FinTech revolution had impacted on the financial landscape in the U.K. in many ways and at different speeds, and hence financial authorities should not respond to the FinTech revolution in a uniform manner. He added the need to think about broader consumer and societal preferences, i.e., trends toward greater individual autonomy, which might raise questions about the role of the central bank.

Bullard argued that the recent cryptocurrency wave entailed the risk of changing a locally uniform currency system in individual countries toward something that is more like a non-uniform international currency system with various drawbacks, including excessive volatility. He also reviewed the history of "private money" and pointed out that it is not surprising that many private currencies are issued. He concluded that the value of cryptocurrencies would inevitably be volatile without credible promises regarding limits to future issuance, resulting in the declined efficiency in market transactions.

Following the presentations from the panelists, the discussion was opened to conference participants. Regarding Bullard's presentation, **Levin** commented that CBDCs with instantaneous real-time settlement could greatly facilitate global trade and capital movements, thus encouraging central bankers to cooperate and collaborate on the issue. **Bullard** agreed with Levin on the point that CBDCs might make a positive contribution to the global economy through enhancing payment and settlement efficiency. **Maechler** posed a question for the two panelists, asking how people could trust in

cryptocurrencies. **Bullard** highlighted the importance of credible limits on the future issuance of cryptocurrencies for people to trust them. He added that people's trust in currencies historically depended on the credibility of central banks backing the currencies. **Ramsden** replied that robust technology would be key for the development of trust in cryptocurrencies, in a similar manner as in the case of paper currencies.

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APPENDIX 1: PROGRAM

Wednesday, May 30, 2018

Morning

Opening Session

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

Mayekawa Lecture

Chairperson: **Masazumi Wakatabe**, Bank of Japan
Lecturer: **Raghuram G. Rajan**, University of Chicago

Session 1: Global Real Rates: A Secular Approach

Chairperson: **Nestor A. Espenilla, Jr.**, Bangko Sentral ng Pilipinas
Paper Presenter: **Hélène Rey**, London Business School
Discussant: **Marianne Nessén**, Sveriges Riksbank

Afternoon

Keynote Speech

Chairperson: **Shigenori Shiratsuka**, Bank of Japan
Speaker: **Athanasios Orphanides**, Massachusetts Institute of Technology

Session 2: Central Bank Digital Currency and the Future of Monetary Policy

Chairperson: **John McDermott**, Reserve Bank of New Zealand
Paper Presenter: **Andrew T. Levin**, Dartmouth College
Discussant: **Hiroshi Fujiki**, Chuo University

Session 3: Optimal Trend Inflation

Chairperson: **Andréa M. Maechler**, Swiss National Bank
Paper Presenter: **Klaus Adam**, University of Mannheim
Discussant: **Jan Marc Berk**, De Nederlandsche Bank

Thursday, May 31, 2018

Morning

Session 4: Missing Wage Inflation? Estimating the Natural Rate of Unemployment in a Nonlinear DSGE Model

Chairperson:	**Oldřich Dědek**, Czech National Bank
Paper Presenter:	**Ichiro Muto**, Bank of Japan
Discussant:	**Óscar Arce**, Banco de España

Policy Panel Discussion

Moderator:	**Kazuo Ueda**, Kyoritsu Women's University and University of Tokyo
Panelists:	**James Bullard**, Federal Reserve Bank of St. Louis **David Ramsden**, Bank of England

APPENDIX 2: LIST OF PARTICIPANTS

Klaus Adam	University of Mannheim
Moayad H. Al Rasasi	Saudi Arabian Monetary Authority
Masayoshi Amamiya	Bank of Japan
Kosuke Aoki	University of Tokyo
Óscar Arce	Banco de España
Ivailo I. Arsov	Reserve Bank of Australia
Veronica B. Bayangos	Bangko Sentral ng Pilipinas
Jan Marc Berk	De Nederlandsche Bank
Odd Per Brekk	International Monetary Fund
James Bullard	Federal Reserve Bank of St. Louis
Oldřich Dědek	Czech National Bank
Nestor A. Espenilla, Jr.	Bangko Sentral ng Pilipinas
Hiroshi Fujiki	Chuo University
Shin-ichi Fukuda	University of Tokyo
Yukitoshi Funo	Bank of Japan
Marc P. Giannoni	Federal Reserve Bank of Dallas
Yutaka Harada	Bank of Japan
Hisashi Harui	Japan Society of Monetary Economics
Hideo Hayakawa	Fujitsu Research Institute
Yuzo Honda	Osaka Gakuin University
Nobuo Inaba	Ricoh Company, Ltd.
Yuto Iwasaki	Bank of Japan
Goushi Kataoka	Bank of Japan
Takeshi Kato	Bank of Japan
Masahiro Kawai	University of Tokyo
Yukinobu Kitamura	Hitotsubashi University
Keiichiro Kobayashi	Keio University
Hirohide Koguchi	Bank of Japan
Haruhiko Kuroda	Bank of Japan
Shigehiro Kuwabara	Bank of Japan
Hwanseok Lee	The Bank of Korea
Andrew T. Levin	Dartmouth College
Yin Sze Liew	Monetary Authority of Singapore
Per Espen Lilleås	Norges Bank
Andrey S. Lipin	Bank of Russia
Andréa M. Maechler	Swiss National Bank
Eiji Maeda	Bank of Japan
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Hiroshi Nakaso	
Yoshinori Nakata	Bank of Japan
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Yoji Onozawa	Bank of Japan
Athanasios Orphanides	Massachusetts Institute of Technology
Raghuram G. Rajan	University of Chicago
David Ramsden	Bank of England
Lukasz Rawdanowicz	Organisation for Economic Co-operation and Development
Hélène Rey	London Business School
Jessica Roldán Peña	Banco de México
Tetsuya Sakamoto	Bank of Japan
Makoto Sakurai	Bank of Japan
Toshitaka Sekine	Bank of Japan
Seiichi Shimizu	Bank of Japan
Mototsugu Shintani	University of Tokyo
Etsuro Shioji	Hitotsubashi University
Shigenori Shiratsuka	Bank of Japan
Wee Haw Sim	Bank Negara Malaysia
Tiziana Sodano	Banca d'Italia
Hitoshi Suzuki	Bank of Japan
Wataru Takahashi	Osaka University of Economics
Yosuke Takeda	Sophia University
Taro Teruuchi	Bank of Japan
Tomohiro Tsuruga	Bank of Japan
Shinichi Uchida	Bank of Japan
Kazuo Ueda	Kyoritsu Women's University and University of Tokyo

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Nobuyasu Yoshioka	Bank of Japan
Doddy Zulverdi	Bank Indonesia