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SYMPOSIUM ON BUILDING THE FINANCIAL SYSTEM OF THE 21ST CENTURY: AN AGENDA FOR JAPAN AND THE UNITED STATES

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FINAL REPORT

2023 Symposium on Building the Financial System of the 21st Century: An Agenda for Japan and the United States

The twenty-sixth Japan-U.S. Symposium on Building the Financial System of the 21st Century was held in Karuizawa, Japan from November 16-18, 2023. Sessions addressed the spring 2023 banking crisis, the respective roles of private and public markets in Japan and the U.S., the future of digital assets, and the divergent policies of Japanese and U.S. monetary authorities in combatting deflation and inflation.

Topic 1: Banking Crisis of Spring 2023

In topic 1, participants discussed the lessons of several regional banks in the U.S. in the spring of 2023. They reflected on shortcomings by management and supervisors, as well as the role of changing financial conditions including interest rate environment and depositor behavior. There was considerable discussion of whether similar failures were possible or likely in Japan. Finally, they addressed whether financial authorities should change their approaches to supervision, deposit insurance, and the lender of last resort function.

Causes of SVB Failure

Participants identified a variety of issues that had led to the failures of several regional banks in 2023, focusing in particular on the failure of Silicon Valley Bank. In terms of bank management and business model, they noted poor risk management, severe maturity mismatches, and an extreme reliance on uninsured deposits. There was also extensive discussion of the failures of bank supervision. As the failures occurred, many participants agreed that neither the Fed nor the resolution system was well-prepared to manage the specific conditions or the rapidity with which events unfolded. Most glaringly, the failures of Silicon Valley Bank and Signature Bank demonstrated the failure of the Fed to act as lender of last resort and thereby prevent bank liquidity crises from becoming full-blown bank failures.

The proximate cause of SVB's failure was a run by uninsured depositors that driven by concerns over substantial unrealized losses in its Treasury bond holdings due to the rapid rise in interest rates. The run began the day after SVB announced the sale of its available-for-sale securities at a loss and Moody's downgraded its credit rating. The Fed's failure to provide SVB with timely access to the discount window accelerated the speed of withdrawals as the bank was unable to come up with enough liquidity to manage the situation. In the face of unmanageable withdrawals, the FDIC then took over the bank. Within two more days, Signature Bank was closed by New York regulators; in both cases, the FDIC declared that it would cover uninsured depositors in the two banks using the systemic risk exception. Due to Dodd-Frank, deposits in unclosed banks could no longer be covered.

Several attributes of SVB had made it particularly vulnerable to failure. One of these was its depositor base. An extremely high level (96%) of deposits were uninsured; thus, once they either had concerns about the solvency of the bank or saw other depositors start to make withdrawals, they had an incentive to join the exodus in order not to lose their money. Moreover, the depositor base was highly concentrated, with the top 10 depositors accounting for 8% of deposits and the top 60 accounting for 40%. This too allowed for more rapid withdrawals. It was also noted that SVB's deposit base and lending profile were heavily concentrated in the Silicon Valley tech world, rather than being diversified across businesses. Many of the depositors were connected in other ways as well, and their communications over withdrawals led it to be termed the first bank run of the social media era.

Participants also argued that risk management was poor. Despite rising interest rates, SVB's Treasuries holdings were mostly unhedged, and in fact hedging had even decreased during the period of rising rates, perhaps because of the expense. Several noted that the company had been

without a permanent chief risk officer for crucial months in 2023. They argued that top executives had been focused on revenue growth rather than risk management, and indeed the bank's assets had grown 270% from 2018 through 2021 (nearly 10 times the rate of the banking system as a whole), becoming the 6th largest U.S. bank by assets.

Participants also pointed to the failure of supervisors to require responsible behavior on the part of SVB. Although supervisory reports from 2019 to 2022 highlighted a number of issues, including weaknesses in risk management and its exposure to interest rate risk, participants faulted the reports for lack of urgency and for following a “checkbox” approach. By noting a combination of minor and major issues without making a clear prioritization of those factors that created the greatest hazard to the bank, the reports did not give useful guidance on what was most needed to keep the bank, its depositors, and its shareholders safe. It was noted that the lack of urgency was also related to bureaucratic procedures. While SVB's rapid growth should have made it subject to enhanced supervision, supervisors had followed a transition plan in which it would phase in higher standards over several years. As it turned out, the bank did not survive long enough to be properly scrutinized by its inspectors.

Other outside observers were also faulted by some participants. Not only had ratings agencies misjudged the condition of the banks, several participants asked pointedly how the auditors for SVB and the other failed banks could have certified their health and posted no red flags almost immediately prior to their failures. While some postulated that the auditors had focused only on loan quality and thus missed the problems of maturity mismatch and unstable depositor bases, others suggested that auditors' incentives were misaligned (for example, several top executives at Silicon Valley Bank were formerly at KPMG). Similarly, several participants suggested that SVB had had an excessively chummy relationship with the San Francisco Fed, which was in charge of its prudential supervision.

While few participants were sympathetic to the management of SVB, some questioned whether it was appropriate to blame the failure of the bank just on the errors of management. Several argued that if withdrawals had not occurred so quickly, SVB may have been able to remain in business, because it would have had more time to negotiate alternative financing from other financial institutions or from the Fed. In this interpretation, any bank could potentially be vulnerable given the speed with which depositors could withdraw their funds both during and after business hours. Moreover, while SVB and Sovereign had particularly high levels of uninsured deposits, it was noted that the overall share of uninsured deposits in the U.S. banking system had risen from around 20% in 1990s to over 50% in 2022, suggesting that the problem could be much larger than just a few errant banks. Some also raised the question of whether accounting for hold-to-maturity assets at face value was appropriate, given that rapid withdrawals could force them to be sold despite the intention to hold them to maturity.

Lessons for Crisis Management

Participants discussed at length the responses of authorities to the problems at SVB. Many felt that the responses had exacerbated the situation, perhaps even tipping it into failure when it could have been saved. Moreover, a number of participants argued that the failures of the responses pointed to broader problems in the financial stability regime. Thus, they sought to draw lessons for bank crisis management, both in general and more particularly in the U.S.

For many participants, one of the most glaring failures had been the Fed's inability to act quickly and effectively as lender of last resort. It was argued that the Fed could have provided sufficient liquidity on the basis of SVB's collateral, including its hold-to-maturity securities, to have reestablished the credibility of the bank to meet the needs of depositors, and thus stanching the outflow of deposits. However, operational failures and lack of adequate sense of urgency meant that liquidity support from the San Francisco Fed was delayed—and in the fast-moving deposit run, even overnight was too late. Two particular operational problems were identified. One was the limited hours of Fed Wire, closing at 4pm Pacific Time (7pm Eastern Time), which some participants found astonishing in a world of 24/7 electronic banking. Second, because SVB did not already have in place the necessary collateral and operational arrangements, the San Francisco Fed had insisted on doing a test run before providing funds, losing valuable hours. While BNY Mellon offered to extend working hours to accommodate an after-hours transfer of some of SVB's funds as collateral, the San Francisco Fed had decided to defer to the next day, at which point it was too late.

Following the takeover of SVB and Signature Bank by the FDIC, the Fed had chosen to lend to the bridge banks under their guarantee authority, which had never been used before to cover Fed lending. While bridge banks are usually considered to be super-solvent, and therefore not a risky borrower, the SVB and Signature bridge banks retained all deposits, now all insured, which meant they were at minimum only borderline solvent.

In the weekend following the insolvency of SVB, two additional major policies were undertaken. First, pursuant to its lender of last resort function, the Fed had created the new Bank Term Funding Facility under Section 13(3) rather than lending through the discount window. This was the first time that 13(3) had been used exclusively for banks, which would normally be the function of the discount window. The new facility allowed collateral to be priced at par, borrowing for up to a year, and a lower interest rate than the discount window, which could be attractive to banks, but its establishment also required approval of the Treasury Secretary. Participants expressed concern that this episode showed that the Fed was hesitant to use its own powers decisively to act as lender of last resort. Moreover, the resort to 13(3), which required Treasury approval, raised questions about what would happen if the Fed and Treasury were not in agreement about how to address a potential banking crisis.

The second major decision was to offer unlimited deposit insurance to depositors at the bridge banks. While the FDIC had previously offered unlimited deposit insurance on a temporary basis during the Global Financial Crisis as a way of reassuring depositors and stabilizing the U.S. banking system, its ability to do so subsequently had been curtailed by the Dodd-Frank Act. Thus, it could only now insure previously uninsured deposits at bridge banks. This risked not being enough to calm depositors at other banks who would rather withdraw deposits before their banks got caught up in insolvency procedures, although contagion did not extend to the banking system in general in this case.

Implications for Japanese Banks

Participants discussed at length whether a similar banking crisis was likely or even possible in the Japanese banking system. They discussed issues ranging from the deposit bases of Japanese

banks to supervision practices to the potential weaknesses of Japan's regional banks, particularly in the face of a possible rise in interest rates.

Participants identified several challenges facing Japanese regional banks. (There was little concern expressed about major banks, which were seen as well capitalized and subject to Basel III capital and liquidity requirements as well as stress testing and enhanced supervision.) One was that the weakening of regional economies due to demographic contraction and aging, had reduced the ability of regional banks to make profits through lending. Second, demographic contraction and aging was also reducing their deposit base. Third, the lack of local lending options had led regional banks to reduce their loan portfolios in favor of holding JGBs. Moreover, a number of participants observed that regional banks' assets were of relatively long duration. With rates on long-term bonds starting to rise and likely to rise further, the value of those JGBs would decline, eating into bank capital and the value of shares. Bank loans also tended to be of longer duration. Fourth, both depositors and borrowers were local, leading to geographic concentration as well as considerable variation in the health of banks across the country. Finally, as in the U.S. and elsewhere, technological developments would enable rapid withdrawals if depositors chose to do so.

Nonetheless, participants agreed that a run on regional banks of the sort that SVB and Signature experienced was unlikely. They pointed to several characteristics of deposits at Japanese banks that looked very different from the U.S. banks that had failed in the spring of 2023. Most importantly, Japan provided unlimited deposit insurance to transaction accounts held by businesses, which carried no interest rate and were used for managing payments to employees and suppliers. This meant that almost all large deposits were insured, in stark contrast to the 96% of SVB deposits that were uninsured. Thus, there would be no incentive for depositors to withdraw funds in the face of a possible bank failure. Moreover, Japanese regional banks deposits were diversified among a variety of depositors, unlike SVB's highly concentrated deposits.

Thus, although participants saw a number of long-term challenges to Japan's regional banks, including interest rate risk and the effect of aging society on both depositors and borrowers, they agreed that rapid bank runs were unlikely. However, they did not minimize those long-term challenges and some predicted that some regional banks would not continue to survive. This was seen as likely to be in the form of a slow bleed, however, giving regulators the ability to manage any possible contagion.

Participants also pointed to differences in Japan's bank supervision and in the powers of the BOJ and Deposit Insurance Corporation (DIC). Several argued that Japanese bank supervisors would have acted more aggressively if they had seen the types of risk management failures and maturity mismatches that caused the failures of U.S. banks in Spring 2023. While U.S. supervisors had issued only recommendations, several participants argued that if Japanese bank supervisors had observed problems of that severity in a Japanese bank, they would not hesitate to issue PCA letters and business improvement orders. Moreover, the FSA was able to fire management if they were not responsive.

Participants also noted the crisis management capabilities of Japanese authorities. For example, they expressed confidence in the operational capability of the BOJ to act as lender of last resort,

as well as the clear legal authorization for it to do so. Moreover, under the Deposit Insurance Act, an emergency council including the BOJ governor, finance minister, and prime minister could authorize extraordinary crisis management measures to ensure sufficient liquidity and information sharing. Japan's system of parliamentary government and strong coordination among agencies including the BOJ, FSA, and DIC also was seen as likely to promote cooperative actions in times of crisis.

Lessons from the U.S. and Japan

Participants drew several lessons from the U.S. experiences. One was the realization that banking crises could unfold with unprecedented speed due to technological shifts and rapid communication via social media. Participants cautioned that this required supervisors and central banks to be able to act quickly and decisively. Many participants felt that the U.S. system had failed in this respect. At the least, they called for making the Fed discount window available around the clock, rather than adhering to business hours that were appropriate to previous centuries. Moreover, they called on the Fed to develop the capability to assess bank needs and collateral quickly and to have in place the procedures to do so with banks. Some participants also expressed concern over the approvals process for emergency lending, as well as the politics of emergency liquidity provision. While the Fed could have made funds available to troubled banks under its own powers through the discount window, they argued that it had sought political cover through the use of 13(3) authorities, which both slowed the process and created uncertainties about the willingness of political authorities to agree to extend emergency liquidity. Participants also agreed that supervision had not lived up to expectations, even though it had identified many of the weaknesses that had brought down SVB and other banks. They advocated clearer prioritization of problems to be remediated, as well as explicit consideration of interest rate risk for banks. Moreover, a number of participants suggested that U.S. supervisors should have some of the powers of Japanese supervisors to issue PCA letters and business improvement orders and to impose penalties to ensure they were carried out.

Finally, there was a substantial discussion of the role of deposit insurance. A number of participants noted that the U.S. deposit insurance system had created the worst of all possible worlds for SVB and Signature Bank. The large mass of uninsured deposits had made for severe run risk, despite theoretical assumptions that large depositors would impose market discipline. Then, when fears of contagion arose, the U.S. authorities had felt compelled to make those depositors whole anyway. To these participants, the spring 2023 bank runs had shown that the U.S. deposit insurance system contributed to both run risk and moral hazard.

Many participants felt that the Japanese system of deposit insurance offered a better model. Run risk was minimized by offering unlimited deposit insurance to business transaction accounts (while holding the limit at ¥10 million for regular accounts). Meanwhile, the potential moral hazard created by unlimited insurance was mitigated by the requirements that those deposits pay no interest rate and that banks pay a higher rate to ensure them. That said, the prevailing rates for all deposits in Japan was 0%, so one question that was raised was whether such a system would work in a world of higher interest rates.

Finally, participants asked whether there were new risks that were underestimated. One was whether banks in Japan were adequately hedged for interest rate rises. Also, a number of

participants noted that increasing numbers of savers in both countries were shifting their holdings from bank deposits to other instruments like money market funds. Some worried that making the banking system safer would be insufficient to prevent contagion through the financial system from various non-bank financial institutions.

Topic 2: The Role of Private and Public Markets in Japan and the U.S.

In Topic 2, participants discussed the roles of private and public markets in Japan and the U.S. Participants saw public and private markets as complementary, offering different benefits and risks. Many argued that there was considerable scope for further growth of private markets. There was also discussion about the prospects for greater retail investor access to private markets and whether that would be a good idea.

Public vs. Private Markets

Participants saw public and private markets as alternative means of raising capital for firms and seeking to align the interests of investors and management. Depending on the particular needs of firms and investors at any given point in time, there might be significant advantages to investing through one type of market or the other.

Public and private markets were seen as complementary in several respects. Participants agreed that public and private markets offered different mixes of benefits and risks. Moreover, several participants argued that for investors seeking diversification, returns between private and public markets showed low correlation, making it attractive to hold their investments in a mix of the two.

Public markets offered a variety of important benefits. Public trading of securities allowed for market-based price discovery, enabling investors to easily monitor their holdings without having to do in-depth due diligence. Trading also meant the ability to enter and exit positions based on the investor's preferences and analysis at low cost. The more liquid the trading platform, the lower the cost of entry and exit and the better price discovery would be. Moreover, regulation of public markets offered considerable investor protection against fraud and market manipulation, while also ensuring adequate transparency and disclosure. These attributes were to the benefit of both retail and institutional investors. Retail investors would benefit particularly from the legal protections and ease of managing their investments, while institutional investors could rely on consistent information as well as the liquidity and variety of instruments needed to execute sophisticated trading strategies. For all investors, public markets made it possible to calculate net positions and profits and losses in real time and provided reassurance that they would be able to sell holdings quickly and with low transaction costs.

At the same time, participants recognized that public markets came with considerable costs as well. The legal and regulatory apparatus of investor protection and disclosure inevitably created costs of compliance for listed companies, exchanges, and broker-dealers that reduced profitability and investor returns. A number of participants cited compliance costs as a major disadvantage of public markets, and argued that in many cases the improved access to capital (for firms) or investment opportunities (for investors) may be outweighed by those costs. In addition, the dispersed ownership model of public markets was seen by many participants as increasing agency problems and therefore contributing to lower returns on public markets than on private markets. The rise of passive investing had the potential to compound that challenge. In addition, some participants argued that public markets might contribute to short-termism on the

part of management if they paid too much attention to stock prices, which could fluctuate rapidly.

The benefits and risks of private markets contrasted with those of public markets. Unlike in public markets, where investors' ability to affect corporate management was mostly limited to creating price signals by buying and selling securities, private markets allowed investors greater ability to shape the behavior of firms by directly overseeing management. Private equity and venture capital funds were seen to add value by growing the businesses they invested in, providing leadership, and using their expertise to improve functions ranging from risk management to compliance to government relations. Venture capital was essential for providing funding for start-ups that did not yet have track records or profitability, which would make it difficult to raise capital on public markets, while private equity could often create value by restructuring companies. Many participants argued that investors in private markets could achieve higher returns than in public markets due to better alignment between the interests of owners and management, lower agency costs, lower compliance costs and regulatory scrutiny, and an inherently long-term perspective on value and profitability. Moreover, these returns could be achieved with lower volatility.

At the same time, private markets came with their own costs and risks. Multi-year lock-in periods reduced investors' flexibility and ability to quickly reallocate portfolios. Moreover, the lack of publicly available information as well as lack of trading meant that private markets lacked the benefit of price determination. Rather, each investment in private markets needed extensive due diligence and negotiation to come to an agreed price and set of terms.

Thus, participants agreed that public and private markets were complementary and should co-exist. For venture capital and private equity, IPOs were often the most effective way to exit a position. Public markets also provided a benchmark of prices against which to compare even private deals. For retail investors, public markets offered greater ease, assurance, liquidity, and opportunities for diversification. For some private equity investors, public markets also offered opportunities to find companies that were underperforming and to take them private. Also, for small and medium-sized enterprises, the costs of listing in public markets were often higher than the likely benefits of visibility and access to more investors, making private financing more attractive.

Public and Private Markets in the U.S.

While the U.S. still had the world's largest public markets, private markets were accounting for a substantial and increasing share of corporate equity and fundraising. Moreover, a number of participants argued that public markets were actually in decline. They noted a decline in the number of listed companies, as well as rising concentration of ownership among a handful of institutional investors, many of them exercising passive management. A variety of listed companies had gone private or been taken over by private equity funds, shifting the balance between public and private markets significantly.

To a considerable extent, participants explained this shift by focusing on what they saw as increasing costs of public markets. A variety of regulations and rules was seen to be increasing costs of compliance. These included rules on disclosure, trade reporting, investor protection,

trade execution, data integrity and security, and many more. Moreover, as rules had gotten stricter and more extensive, fines for non-compliance had risen as well. Several participants also noted that costs associated with the threat of securities class-action suits, which were particularly prevalent and costly in the U.S. relative to other countries. Some participants also noted that the increasing prevalence of ESG investing was making it more difficult for firms in polluting or carbon-intensive industries to raise money in public markets, creating incentives for them to go private (or for private equity funds to take advantage of depressed share prices to mount takeovers).

The shift to private markets was not seen to be entirely driven by rising costs in public markets. The primary reason suggested by participants was that investors could achieve higher returns with less volatility than in public markets. Several participants also noted the development of private market alternatives to IPOs for venture capitalists.

Despite the rise of private markets in the U.S., participants recognized that they had become quite controversial. Many progressive politicians had leveled critiques of private markets. A common critique was that private markets were a form of regulatory arbitrage. The lower levels of disclosure and market regulation clashed with notions of the importance of regulations to ensure investor protection and market integrity. Perhaps the most politically powerful critiques of private markets had to do with the perception that they exploited labor or customers. These were fueled by examples of leveraged buyouts that had stripped assets and laid off workers. Several participants mentioned examples in which private equity funds took over U.S. hospitals and then sought to maximize profits by raising prices rapidly for out-of-network patients as the type of activity that made private markets look like a threat. Other participants noted that without private equity takeovers, firms might have failed, with even a more severe impact on employment. They also argued that it was necessary to look at how private equity may actually increase employment along with business growth over a longer time horizon. Yet, a number of participants warned that there might soon be substantially more regulation of private markets as a result.

Public and Private Markets in Japan

Participants noted that private markets were growing rapidly, but from a low base. It was estimated that private markets accounted for around 20% of total capitalization. They described a variety of conflicting incentives for companies and investors.

Participants agreed that most firms in Japan saw listing in public markets as an important goal. Public listing offered prestige, which was seen as valuable to firms in recruiting employees, building business connections, and gaining access to credit. However, costs of compliance with various listing requirements were considered to be high. Moreover, corporate governance rules and the Stewardship Code pressured firms to organize their boards and upper management in ways that may or may not comport with their own preferences.

However, participants did not see the main reasons for the growth of private markets in Japan to be costs of compliance. Rather, other forces were at play. One was that JPX listing standards were quite stringent, and the exchange was requiring firms to de-list if they did not meet them. Another pathway to private markets was decisions by publicly-listed firms such as Hitachi and Olympus to spin off subsidiaries in order to concentrate on their core businesses (in some cases,

under pressure from shareholders). These subsidiaries were often attractively priced and could be expanded with the injection of new capital, ideas, and networks. In some cases, management of listed firms had found themselves under pressure from activist investors and preferred to go private than to deal with them.

The largest pool of firms seeking investment from private markets was family firms facing generational succession. These included SMEs where there was no heir to take over leadership, as well as firms that needed capital injections but preferred to stay private in order to maintain family control.

Overall, participants saw a growing private markets ecosystem in Japan, ranging from private equity buyouts to an increasing venture capital investment for start-ups to the preservation of family interests family-held firms. They also noted increasing public support for private markets, with the government calling for the sector to grow by a factor of 10 over the next 5 years. The government was also getting directly involved, including through the Japan Investment Corporation, a public-private partnership that was created to invest in venture capital and private equity. Still, a number of participants felt that the environment for private investment was still problematic in some ways, including high taxes and the difficulty of obtaining bank loans.

Retail Access to Private Markets

Finally, participants discussed prospects for expanding retail access to private markets. There were mixed feelings as to whether this was a good idea. Supporters argued that retail investors should have access to private markets because of their higher returns and low correlation with public markets. They suggested that it was unfair to keep the best investments in the hands of only wealthy investors. In particular, they made the point that retail investors had few opportunities to invest in early-stage companies, which potentially offered high growth prospects. Other participants were skeptical. They argued that retail investors often needed higher liquidity, whereas most limited partnerships required long lock-in periods. Moreover, risk and pricing were often opaque, and early-stage companies carried very high risk along with the potential for higher returns. Thus, they emphasized investor protection, whereas supporters emphasized investor opportunity.

Currently, there are obstacles to retail access to private markets in both the U.S. and Japan. In the U.S., accredited investors in a private equity company must have at least \$300,000 in income and a minimum net worth of \$1 million, whereas in Japan individual investors must have at least ¥300 million in assets (about \$2.1 million at current exchange rates) to be qualified as professional investors. But higher requirements apply to investments in private equity funds. In the U.S., investors in any private equity fund of more than 100 investors (almost always the case) must have at least \$5 million in investments. In Japan, private funds normally have a maximum of 49 qualified individual investors to be exempt from stricter disclosure requirements, although an individual with ¥1 billion (about \$7 million) in securities balances can be exempted from that limitation. As of December 1, 2023, only 169 individuals were recognized by the FSA as being so exempted. Overall, participation in private funds was much lower in Japan than in the U.S. Participants noted that lower levels of wealth inequality in Japan reduced the potential pool of investors; several also argued that unfamiliarity with private markets as well as aversion to risk further reduced that investor base.

Potential retail investors in private markets faced obstacles beyond legal requirements. Many funds would have high investment minimums and would not market themselves to retail investors. In Japan, participants also noted the wariness of investors, including inexperience with start-ups. It was noted that most Japanese households still hold the bulk of their financial assets in bank deposits and life insurance policies and had been slow even to invest even in public markets; for such inexperienced investors, it would be a very big step to invest in private markets. Several participants noted that Japanese regulators were mirroring the risk aversion of investors, and therefore emphasizing the importance of investor protection and cautious liberalization of rules. One point on which there was considerable agreement, however, was the need to improve financial literacy and understanding of markets.

Participants offered several suggestions for how retail investors might be allowed to access private markets. Some argued that they actually could already, at least to some extent. Publicly traded companies like Blackstone and Berkshire-Hathaway offered retail investors exposure to private equity with a high level of disclosure and transparency. It was also suggested that retail investors should be able to invest in public closed-end investment companies that could invest in private funds alongside institutional investors and on the same terms. Like investing in Blackstone, this would require less sophistication and research than direct participation in a limited partnership. Further, the public fund would trade on the market, offering investors liquidity. Some suggested further developing secondary markets for private investments, either through open-ended secondary funds or platform-based trading. Perhaps one easy and safe way would be for public and corporate pension funds to increase their allocation of investments into private markets—this would give households exposure to the benefits of private markets, but with the benefits of long time horizons and significant diversification. However, this would not provide opportunities for retirees in defined contribution plans, as opposed to defined benefit plans of pension funds.

Topic 3: Future of Digital Assets: Public and Private

In Topic 3, participants discussed the future of digital assets. They addressed use cases for central bank digital currencies (CBDC) and stablecoins, as well as potential regulatory issues raised by tokenization, cross-border digital payments, and trading of crypto assets. An important theme was the need to balance the benefits of innovation, speed, and frictionless settlement with concerns about financial and monetary stability, user protection, and prevention of money laundering and terrorist financing.

Future of CBDC

Participants noted that virtually all central banks were considering or moving forward with CBDC. The announcement of Facebook's proposed Libra coin was seen to have accelerated discussion of retail CBDC in particular. However, while some central banks had already introduced CBDC either fully or on a pilot basis, neither the Fed or the BOJ had yet formally committed to CBDC or made final decisions about how digital dollars or yen would be configured. While the People's Bank of China and some other central banks had begun experimenting with retail CBDC—i.e., digital currency that could be held by accounts outside the banking system and used even for small-scale payments, U.S. and Japanese efforts had primarily focused on wholesale CBDC, wherein the digital currency was held by banks and approved payment providers as part of a two-tiered system.

The BOJ, which had spent two years on proof of concept, launched a pilot project earlier in 2023. While participants agreed that full-scale introduction would require further years of development, several principles for a digital yen had been determined. In particular, participants stated that, at least initially, the digital yen would be a “wholesale” CBDC, that would support a 2-tiered system with the digital yen operating only as central bank money. Wholesale CBDC could differ in two ways from existing central bank money. One is that it could be made available to non-bank financial institutions particularly those involved with payments or settlement of transactions (or even a broader set of non-financial firms). Second, payment systems could be built on top of the CBDC that would allow direct settlement of payments among users of CBDC, bypassing commercial banks and reserve accounts, offering faster and more efficient transfers. With CBDC seen as likely to become a part of the infrastructure for digital payments around the world, the BOJ's objective in considering a digital yen was to improve payments and facilitate asset tokenization. rather than to displace retail bank accounts. Indeed, one of the promises of a digital yen would be to promote private-sector innovation in financial intermediation, for which cooperation with the private sector would be essential.

Japanese monetary authorities recognized that there were several potential criticisms of CBDC that would have to be addressed before its full-scale introduction. One major concern was that the speed and efficiency of blockchain settlement could have negative effects on financial and monetary stability. This could occur even in a wholesale CBDC system if large non-banks were to withdraw their funds from commercial banks in favor of holding CBDC directly. One way that the BOJ was considering reducing that possibility was through holding or transaction limits that would facilitate the use of CBDC among authorized users, but not at a high enough level to constitute a large-scale alternative to commercial banks at times of stress. Finally, given Japan's

long history with deflation and use of non-traditional monetary policy tools, participants stressed that it would be essential not to set up a digital yen as a means of directly imposing negative interest rates, so as to gain the trust of potential users.

In the U.S., the Fed had also been studying CBDC for a number of years. While studies did include options for retail CBDC, most participants anticipated that a digital dollar would be wholesale, and that the Fed would not introduce a retail CBDC without express direction from Congress. Access to a wholesale digital dollar would likely include not only banks but potentially other payment intermediaries as well, such as wallet providers or shared ledgers. The purpose would be to facilitate faster payment systems, including cross-border payments and to ensure that the U.S. financial system would continue to be the world's most efficient and secure system.

Given the global importance of the U.S. dollar, the Fed had decided to proceed very carefully, out of concerns that any glitches could reverberate through the global financial system, as well as damage confidence in the dollar. Participants noted several concerns that would need to be addressed before introducing a digital dollar. In the U.S., the issue of privacy had become particularly politically salient. Although a 2022 Fed white paper had offered assurances of privacy protections and private intermediation of wholesale CBDC would provide an additional layer of security for privacy, a number of participants expressed skepticism that the Fed could do enough to convince Congressional opponents, and perhaps the public, that a Fed-issued digital dollar would not be a means of surveillance. While participants felt that privacy protection could also be adequately addressed through technological and legal measures, other concerns were raised as well, including the ways in which criminal activity could be managed in a system with instantaneous (“atomic”) transactions.

Perhaps the biggest concern raised about CBDC in any jurisdiction was the potential effects on monetary and financial stability. The ability to move large sums rapidly, with immediate settlement, was seen as creating real challenges for central banks and financial supervisors. The expected development of cross-border platforms similarly raised concerns about increased risk of currency crises. The development of cross-border platforms for CBDC would also raise other thorny challenges. One was the need for consistent global regulations. In addition, central banks would need to decide whether cross-border trading platforms for CBDC would also incorporate private-sector payments services, or whether instead those should be confined to dealing with national central bank payment systems.

While a number of participants were worried about the monetary and financial effects of CBDC, others suggested that it was less novel than often imagined. They argued that a form of CBDC had already been in existence for decades in the form of central bank reserves, and that CBDC as currently understood was just the same concept using different technologies (decentralized ledgers or permissioned blockchains). Similarly, real-time gross settlement systems like BOJ Net or Fed Wire were functionally similar. As one participant put it, if tokenization of assets is progressing, maybe central bank money also needs to be tokenization.

Some participants noted that new cross-border platforms like mBridge (a joint venture among the central banks/monetary authorities of China, Hong Kong, Thailand, and United Arab Emirates) could be used to facilitate direct cross-border payments. While there were questions about

liquidity, it was suggested that in principle it could be scaled quickly as a way for countries to avoid the U.S. dollar out of concerns over the aggressive use of financial sanctions by the U.S.

Regulating Stablecoins

Stablecoins were another topic for extensive discussion. Stablecoins played a key role in digital finance as the conduit between the regulated financial system and crypto assets. In principle, they could also be used extensively in the real economy for both domestic and cross-border transactions, as well as offering a tokenized means of managing financial accounts. While some participants questioned whether demand for stablecoins would persist if central banks were to issue CBDC, most agreed that they could coexist, as they would likely have different uses.

Stablecoins had also attracted attention from regulators and others who worried that they might not be able to hold their value under stress. While stablecoins like Tether and Circle's USDC were in principle fully backed by currency and short-term government securities, other stablecoins were seen as less transparent and therefore less reliable. Even for fully-backed stablecoins, some participants expressed concern that there could be run risks similar to those of money market funds and that regulation had not fully caught up with the growing markets. This was particularly true in the U.S., which—unlike Japan and the EU—still had no regulatory framework for stablecoins.

Several principles were put forward for regulation of stablecoins. Primary among these were the need for reserves to be equal to issuance and to be in the form of high-quality, liquid assets. It was also argued that stablecoin issuers should be subject to capital and liquidity requirements that would ensure that holders would not lose the value of their holdings. It was argued that such requirements would also reduce run risks. One regulatory question was what responsibility stablecoin issuers would have for the blockchains on which they run. The security and resilience of decentralized blockchains, as well as the consensus methods of validators, could have a decisive effect on the stability of stablecoins as well as the rights and recourse of holders. One suggestion was that stablecoin issuers should publicly disclose their justification for use of particular blockchains, while another possibility was that issuers themselves should be made responsible for their stability and resilience. A potential alternative was for issuers themselves to operate the platforms on which their stablecoins traded. However, this was seen as raising conflicts of interest and other problems.

It was also noted that it was easy to move assets across unhosted wallets, creating significant challenges for anti-money laundering and counter-terrorist financing regulation. Japanese regulators addressed this challenge by requiring that stablecoin issuers (which are required to be licensed banks, trust banks, or money transfer agents) be able to suspend or freeze coins to an unhosted wallet. Some further stated that the UK was signaling that trading of stablecoins on decentralized blockchains not be allowed. Decentralized digital identity systems, with credentials verified and on-chain, could be an alternative way of addressing money laundering and terrorist financing concerns, as stablecoin providers could verify the identity of accounts for legal purposes even as account holders could maintain anonymity relative to the counterparties of their transactions.

Participants agreed that the U.S. was well behind the curve in regulation of stablecoins and expressed concern that serious problems could emerge for holders and financial institutions in the absence of such regulation; however, they were pessimistic about the near-term prospects for such regulation, given lack of political consensus and the approach of the 2024 elections. Without regulations over U.S. dollar-based stablecoins, key questions remained unanswered. One was who should be allowed to issue stablecoins. While finance and commerce were traditionally separated by regulation, Facebook's withdrawn proposal for Libra had raised the possibility that a retail platform or consortium of businesses could offer stablecoins for their customers, blurring the line between financial and retail functions. A second concern was that network effects and first mover advantages could lead to monopoly, creating new regulatory challenges.

Crypto and Tokenization

While much of the discussion on Topic 3 focused on CBDC and stablecoins, participants also addressed crypto assets and tokenization. They noted that, despite the failure of FTX and regulatory actions against Binance and other exchanges, the popularity of crypto assets and tokenization was unabated, with Bitcoin again on the rise and BlackRock and other established financial institutions moving to create cash ETFs for crypto assets.

Several participants discussed potential use cases for tokenization of assets and blockchain technology. Tokenization was promoted as a way to facilitate disintermediation and give more control to investors. In contrast to the current system of settlement, which involved multiple layers of institutions, all of which required posting of collateral, a single self-executing smart contract could reduce both costs and risks. Others argued that tokenization could significantly improve liquidity even in previously illiquid assets such as real estate, private equity, and art.

However, a number of participants cautioned that the potential promise of tokenization was unlikely to materialize without adequate regulation to ensure investor protection, market integrity, and anti-money laundering. Thus, they expressed frustration that, while legislators and regulators in Japan, Singapore, the EU, the UK and other jurisdictions, the U.S. had yet to create a regulatory framework for crypto asset issuers and exchanges. As a result, U.S.-based investors were in many cases having to invest offshore on unregulated exchanges and blockchains. Similarly, the lack of U.S. stablecoin regulation meant that dollar stablecoins were being issued and operated outside of the U.S. regulatory perimeter, increasing risks to investors.

A number of participants noted that the problems of crypto exchanges had not ended with the demise of FTX. While some argued that FTX was a criminal matter that did not reflect the potential of crypto assets, others noted that substantial blurring of lines in "exchanges" that combined trading, custody, issuance, and asset management under one roof. The lack of independent custody requirements for crypto had allowed FTX to misuse customer funds.

This raised the question of why the U.S. still lacked a clear regulatory framework. Beyond the frustrations about the challenging politics of new financial legislation, several asked whether it would be feasible for regulatory agencies to act. It was noted that within the fragmented U.S. financial regulatory system, coverage was incomplete, with the CFTC not able to regulate cash markets and SEC empowered only to regulate securities. While gaps would remain even if the two were to cooperate, one of the central challenges for regulation of digital finance was turf

battles between the SEC and CFTC. At least, it was argued, the two agencies could work together to improve rules for trading, if not necessarily issuance, and create a common framework to address the core values of safety, stability, market integrity, and investor protection.

Topic 4: The Battle against (De) (In) flation in Japan and U.S.—Consequences of Divergent Policies across Countries

In Topic 4, participants discussed the diverging inflationary performance and monetary policies between Japan and the U.S. While many were cautiously optimistic about a soft landing in the U.S. and manageable inflation in Japan, several participants expressed concern about fiscal sustainability in both countries, as well as the prospects for the current weak yen.

U.S. Inflation and Monetary Policy

Participants began by discussing inflation and monetary policy in the U.S. They noted that inflation had been declining and the most recent measurements were below previous expectations. With 12-month core PCE at 3.5% in October (down from 5.6% peak), inflation was seen to be moving back toward the 2% target. Continued strong growth was attributed to tight labor markets and strong balance sheets, whereas the contribution of fiscal policy was much smaller than in 2021 and 2022. Given the continuing strength of the economy, many participants had become cautiously optimistic about the prospect of a soft landing.

However, three concerns were also raised about the U.S. economy as it moved out of its inflationary spike. First, some participants argued that it could be a significant challenge to make the last steps back toward 2%. In particular, services inflation had remained sticky even after the effects of supply shocks had subsided. It was noted that services are very labor intensive and that the labor market was quite tight. Continued wage increases had supported both ongoing consumption and ongoing inflation. Wage increases would need to moderate in order to hold down services inflation. If high wage conditions were to persist, then the difference between a recession and a soft landing would be determined by whether lower wage growth in services would lead to an overall decline in consumption (recession) or a substitution from services to goods (soft landing). Thus, the “last mile” of inflation reduction still looked uncertain.

A second concern was over the non-inflation consequences of rapid tightening of monetary policy. Some participants argued that such rapid tightening should not have been necessary and that inflation had not been a consequence of just supply shocks, but also of Fed mistakes. In this reading, the Fed had fallen behind the curve due to fears of repeating past mistakes, over-adherence to its own forward guidance, and political considerations ranging from the renomination of Chairman Powell to a conscious choice to prioritize growth over price stability. The result had been not only a painful bout of inflation, but also significant market disruptions and the failure of several banks in the spring of 2023. The Fed itself lost money on its large balance sheet as well—approximately \$117 billion since Sept 2022—raising the possibility that the Fed may be technically insolvent and decreasing its funding of the government through seignorage remittance.

The third concern was over fiscal sustainability. Some participants argued that easy money policy by the Fed had enabled the federal government to afford large deficits. While large-scale deficit spending had propped up the economy in the short term, they argued that it had also contributed to the rapid rise of inflation in 2021 and 2022. More importantly, rising deficits and

debt also threatened to disrupt markets and raise financing costs for the government; in the long term, they argued that significant fiscal consolidation would likely be necessary.

Looking in the near to medium-term future, participants agreed that the Fed's monetary policy stance was appropriate. With the real Federal Funds rate at a moderately restrictive 2%, inflationary pressures were seen as likely to continue to dampen. Going forward, further decisions regarding interest rates and quantitative tightening would depend on inflation and growth data. There was less consensus on long-term interest rates, with some expecting little change over the next year and others anticipating higher rates.

Internationally, it was noted that the dollar had been cyclically strong since 2022, due to the Fed's monetary tightening, which had been more aggressive than that of many other central banks. With the leveling off of U.S. interest rates, it was expected that the dollar's value would moderate. If the economy were to experience a recession instead of a soft landing, it would depreciate more.

Japanese Monetary Policy in Wake of Deflation

In Japan, inflation in 2022 and 2023 had exceeded the BOJ's 2% target for the first time since the consumption tax hike of 2014. This was primarily driven by two factors: global supply shocks and the weak yen. While imported inflation was neither likely to continue to drive prices upward nor beneficial to Japan, many participants pointed to tight labor markets and rising wages as a hopeful sign that Japan may finally be escaping its long-term deflationary dynamic. Participants addressed both structural and cyclical factors in Japanese growth and inflation, as well as the likely policy response of the BOJ.

Participants noted that Japanese workers had experienced the worst long-term wage stagnation among developed economies. This reflected three long-term trends. One was the slow growth of total factor productivity (TFP), which was associated with slow absorption of new technologies, the persistence of "zombie" companies, and low domestic investment. Second, low domestic demand growth in an era of declining population and societal aging had led companies to focus their efforts on cost-cutting rather than business expansion, putting downward pressure on wages. Third, the rising share of part-time workers in the economy meant that even when wage growth for regular employees rose, the effect on overall wages was lower.

However, participants noted that the Shunto wage negotiations in 2022 and 2023 had led to significantly higher wages than in previous years, with the 3.8% rise in 2023 the highest since 1993. With corporate profits still strong, it was anticipated that wage increases would be strong again in 2024, potentially breaking the long trend of wage-price stagnation. Several participants argued that inflationary expectations were finally rising as well, which should improve consumption and a more sustainable path to moderate inflation. With real wages on the rise, several participants expressed optimism that higher consumption would drive economic growth in 2024. Taken all together, a number of participants argued that Japan was finally facing an inflection point on inflation dynamics.

Thus, the cyclical story for the Japanese economy was seen by participants as a positive one. However, structural concerns remained, especially the long-term effects of aging society. Much

of Japan's low GDP growth could be explained by the declining labor force, as more and more workers reached retirement age. Although declines in labor force had been somewhat buffered by increasing employment of women and, to a lesser extent, seniors, the overall effect was clearly to depress growth. Moreover, much of the expanded employment of women and seniors was in the form of non-regular employment, with lower productivity and pay than regular workers. Aging society also led to higher government spending in the form of pensions and medical care, in addition to lower income tax receipts. Aging society and declining population had also been associated with lower long-term rates of investment, making growth primarily dependent on improvements in TFP. It was argued that, in order to address these challenges of aging society, it would be important for seniors to work beyond the current retirement age as well as to increase the share of women in the workforce. In addition, some argued for greater labor market flexibility to overcome the wage and investment gap between regular and non-regular employment. They made the case that mid-career entry barriers to regular employment, combined with the lower wages, benefits, and career advancement opportunities for non-regular employees reduced the attractiveness to women and seniors of reentering the labor force.

Participants discussed at length how the BOJ should, or would, respond to the changed economic circumstances. Based on the Taylor Rule, some participants argued that positive wage growth might be seen as a signal to shift to a neutral stance, which could imply short-term interest rates of around 2%. However, others argued that despite a period of elevated inflation, it was still not evident that 2% stable inflation had been achieved, and that the risks of recession were worse than the risks of elevated inflation. Thus, participants did not anticipate that the BOJ would tighten quickly, and most predicted that short-term interest rates would remain around zero well into the future. However, many did anticipate that the BOJ would move in the direction of tightening by further adjusting yield curve control (YCC) to allow long-term interest rates to rise (dubbed "Conducting YCC with Greater Flexibility") and by shifting from quantitative easing toward quantitative tightening. These actions would pave the way for the move toward the BOJ's desired interest rate normalization, but the course of monetary policy would be very data dependent. While some participants were confident that this could be managed smoothly, others cautioned that monetary policy was traversing a tight rope, where tightening too quickly could crash the economy but doing so too slowly could threaten a rapid depreciation of the yen. Some participants warned that further weakening of the yen could even eventuate in a currency crisis if the BOJ felt that it could not defend the yen by rapidly raising interest rates because of the constraints posed by the government's need to service its massive fiscal debt.

A number of participants also expressed concern about the weakness of the yen. One perspective was that Japanese monetary policy was being shaped by foreign exchange markets. Several participants noted that the easing of YCC had coincided with market pressures on the yen. They argued that it was the combination of yen weakness and the resulting cost-push inflation that had forced the BOJ to act to tighten policy, rather than confidence about the vitality of the Japanese economy. They predicted that if Fed were to go "higher for longer," further weakening of yen would prompt an earlier exit from YCC and negative interest rate policy. Not all participants agreed, although they recognized that the value of the yen was one of the indicators that the BOJ considered in forecasting inflation and economic activity. They pointed out that currency depreciation would affect relatively small portions of the economy, whereas higher interest rates would affect everyone; therefore, they argued, it would be irrational for the BOJ to sacrifice domestic economic objectives in order to manage the exchange rate, especially since so little of

Japan's debt was held by foreigners. Thus, they thought it was unlikely that short-term interest rates would rise very much, although most participants expected that the upper bound would continue to rise slowly to accommodate improving inflationary expectations.

Finally, participants discussed the effects of monetary policy on fiscal policy. Several noted that the Japanese economy had become highly dependent on continued high deficits, which had been enabled by BOJ policies of low interest rates and JGB purchases under the policy of quantitative and qualitative easing. The result had been the world's highest levels of government debt. With interest rates likely to rise and debt purchases likely to fall, some worried that the Japanese government faced an eventual fiscal crisis in which it would either be unable to finance its deficit or would have to severely cut services or raise taxes. A number of participants argued that the Japanese government needed to become more serious about fiscal consolidation now, rather than putting it off indefinitely and potentially having to act much more drastically. Some further argued that the BOJ should pressure the government to do so by acting more quickly on reversing quantitative easing, and that rising wages offered a golden opportunity to do so. Others disagreed, arguing that it would be inappropriate for the BOJ to take a direct role in influencing fiscal policy, although they expressed support for quantitative tightening if it was responsive to inflationary conditions.

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