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***“The Macprudential Implications of the
1990s Japanese Financial Crisis”***

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The views expressed today are my own, not necessarily those of my colleagues on the Federal Reserve Board of Governors or the Federal Open Market Committee.

Good Morning. I am very happy to be here with you and to be able to offer comments on the paper by Professor Mitsuhiro Fukao. I commend the conference organizers for convening these important discussions of macroprudential issues.

Many would agree that the Japanese financial crisis was perhaps the most significant financial event of the 1990s. Indeed, banking problems that brought about dramatic macroeconomic effects had already been occurring in emerging markets, but the Japanese crisis demonstrated that developed countries with large financial institutions could experience problems that affected not only their domestic economy, but also global markets and other countries' economies.

In many ways, the Japanese banking crisis had a long aftermath and many residual effects. Indeed, I would suggest that many of the fiscal and monetary policy issues that emerged in the Japanese crisis are still being grappled with today.

The paper by Professor Fukao provides rich details of what led to the financial crisis in Japan.¹ He emphasizes many of the macroeconomic dynamics that contributed to financial institutions' problems, particularly the asset price bubbles that had emerged in both real estate prices and stock prices. These problems were compounded, of course, by institutional features that allowed banks to rapidly increase their real estate lending – both directly, and through related *Jusen*,² which grew as real estate prices rose. The situation was exacerbated by the cross-holdings of shares between banks and their customers, which increased exposure even as the stock market rose. In addition, many Japanese banks did not have stable funding models. The long-term credit banks were particularly exposed to “runnable” sources of funding through their

use of easily-redeemed bank debentures, which ran as emerging problems became more apparent.³ These initial problems were compounded by other factors that hobbled financial intermediation and ultimately lengthened the time to recovery in Japan – in particular, the slow supervisory and regulatory response. (Banks were not forced to address problems, transparency related to those problems was discouraged, and accounting strategies were adopted that postponed their recognition.)

I agree with Professor Fakao that these elements are the primary source of the pre-crisis build-up, as well as important contributors to the length of the crisis. My remarks today, however, will focus on two aspects of the crisis which receive less attention in the paper.

The first aspect I will cover has to do with the significant macroeconomic repercussions of the Japanese financial crisis of the late 1990s. These repercussions, I will argue, highlight the importance of avoiding replication of these problems, and why conferences like this one that focus on macroprudential supervision and regulation are so important. Indeed, this is the second aspect of the crisis on which I will spend some time today. I believe it is important to consider how macroprudential regulations – including appropriate stress testing and tools such as the Countercyclical Capital Buffer, or CCyB – could have mitigated the Japanese banking problems.⁴ I will conclude my remarks with some observations about the current Japanese banking landscape.

Macroeconomic Spillovers from Banking Problems

At the time of the Japanese banking crisis, much of the focus among economists and policymakers was on avoiding the *fiscal* problems generated by bank bailouts. This focus

resulted in significant work on incentives⁵ created by deposit insurance and bank bailouts, and the implications for taxpayers when these problems occurred. There was much less focus, however, on the macroeconomic consequences of banking problems.

Once Japanese real estate prices and stock prices began to decline, the banking problems spilled over to the real economy. With non-performing loans rising, and capital eroding, Japanese banks tightened lending conditions.⁶ (Loans, of course, are assets for banks so in times of diminished capital banks pull back on lending to maintain capital-to-asset ratios.) At the same time, and somewhat to the contrary, some Japanese banks lent to weakened firms, temporarily propping them up so as to avoid (or at least postpone) realization of losses, to avoid further depleting bank capital. This resulted in the allocation of the already-reduced supply of loanable funds towards “zombie” firms,⁷ a significant misallocation of credit.⁸ This misallocation of credit even included firms focused on exports, as well as firms operating within the domestic economy.⁹

However, the problems did not only affect the Japanese economy. Because Japanese banks were actively involved in global markets, capital-constrained banks that needed to reduce assets often reduced their global lending before restricting domestic lending.¹⁰ This constituted an additional misallocation, as they often reduced lending to well-performing, collateralized borrowers in other countries that were not experiencing the sorts of difficulties that were being experienced in Japan.¹¹

The extent of the problems revealed by the Japanese banking crisis should have been sufficient to lead many countries to enhance their suite of macroprudential tools. Unfortunately, it took an even bigger and more global problem – the financial crisis that began in 2008 – before countries turned to the job of improving macroprudential policies. Given the policies that have

been implemented subsequent to the global financial crisis, I think it is fair to ask whether such policies would have helped in the Japanese situation. While clearly speculative, my own view is that with effective implementation of macroprudential policies, many of the issues would have been substantially mitigated.

Macroprudential Tools

Perhaps one of the most important policy innovations that grew out of the global financial crisis of 2008 was the development and implementation of bank stress tests. These tests address both prudential and macroprudential goals. An effective stress test assesses whether, in the presence of a large negative shock, banks will be able to remain well capitalized and continue to provide intermediation services so vital to economic activity.

As **Figures 1** and **2** show, real estate prices and stock prices in Japan both began a particularly sharp rise in the middle of the 1980s. Capital gains on banks' holdings of stocks and low losses on their real estate portfolios led banks to put more money into real estate, amplifying the cycle.

Had the Japanese authorities put in place bank stress tests – and rigorously applied the results – the banking crisis may have been less severe. Consider the fact that the “severely adverse” scenario in this year’s U.S. stress test envisions a peak to trough decline in stock prices of 50 percent and declines in residential and commercial real estate prices of 25 percent and 35 percent, respectively. Had Japanese supervisors applied a similar stress test to Japanese banks, the banking institutions would have been encouraged to retain much more capital, giving them significantly more capital as a buffer when asset prices did decline. It would have also

highlighted the exposure to *Jusen* and to stock holdings, potentially forcing banks to reduce these exposures, since these areas would carry higher capital charges. Since stress tests are normally released publicly, some of the potential systemic concerns could have been publicly recognized earlier, potentially making it less feasible to hide losses. This greater transparency might also have led to a more vigorous recapitalization of banks.

A second tool that would have been helpful is the CCyB. As asset prices rose abruptly, supervisors could have increased the CCyB, building a much bigger bank capital cushion during the period when asset prices rose. Complementing the stress test, this capital cushion would have further insulated banks from the capital-eroding effects of falling asset prices, and likely would have discouraged aggressive lending into increasingly risky sectors. Importantly, once asset prices began to fall, the CCyB could have been reduced – easing binding capital requirements, and therein reducing the pressure on banks to shrink domestic and global lending. While buffers induced by stress tests or the CCyB would have been unlikely to completely eliminate the “credit crunch” caused by binding capital requirements, they would certainly have helped.

Japanese Banking Problems Today

Today, one must acknowledge that the state of the Japanese macroeconomy poses significant challenges for Japanese banks. The country’s aging population and very low birth rates reduce the available lending opportunities for banks. In addition, because these demographic features imply a lower real growth rate for the economy, they have contributed to very low term premia, and this makes less profitable the traditional role that financial

intermediaries play in transforming short-term deposits into long-term loans. With monetary policy keeping both short- and long-term rates very close to zero, the spread of long over short rates that is normally an important source of profits for banks is almost nonexistent.

As **Figure 3** shows, the average return on assets for the largest banks in Japan is quite low, and significantly lags that of the largest banks in the U.S. and Europe. As shown in **Figure 4**, the difficult lending environment has also resulted in an average price to tangible book ratio – a measure of the market value of the bank – which lags international peers.

Naturally, a prolonged period of depressed returns may encourage bank management to reach for yield. One example of this reach-for-yield behavior might be seen in Japanese banks' investments in tranches of collateralized loan obligations, or CLOs. Although the AAA tranches of CLOs receive high assessments from rating agencies, they also pay substantial premiums relative to U.S. Treasuries or the AAA tranches of other securitized products, reflecting the market's assessment of their riskiness. This raises questions not only about the comparability of ratings across asset classes, but also, more importantly, about how such positions will fare in the next downturn.

Figure 5 shows the CLO holdings of one large Japanese bank that publicly reports them. The data are drawn from the bank's publicly available annual report. Over the past three years, the bank's CLO exposure has risen – as reported in the financial press – and is now larger than the bank's Tier 1 common equity. While CLO structures have improved since the financial crisis, the riskiness their large premiums reflect, as well as the lack of liquidity, could become problematic in a depressed global economy, should such a scenario emerge.¹² Even if the tranches in question did not default, their ratings, along with their market valuations, would likely migrate lower.

The combination of low returns and seeming reach-for-yield behavior raises important questions about whether Japanese banks will remain resilient in a possible future global recession, should one occur. How critical are more vibrant and profitable banks for dynamism in the economy? And how will Japan's banks fare in an economic downturn given their current performance?

Concluding Observations

In summary and conclusion, I would observe that the Japanese financial crisis of the late 1990s bore significant implications for the entire Japanese economy. The banking problems were costly to taxpayers, as significant government resources were employed to recapitalize the banks. However, much more importantly, Japan's domestic economy was severely impacted, with lasting effects. In addition, because of the global reach of the largest Japanese banks, the problems were essentially exported, as Japanese banks pulled back on foreign lending in order to bring assets better in line with their shrunken capital. Essentially, Japanese banks reduced their global footprint.

Had macroprudential policies been in place and exercised, some of these problems might have been mitigated. Rigorous stress tests would have revealed emerging problems, required retention of more bank capital, and discouraged aggressive lending. A CCyB would similarly have brought about a larger capital cushion to absorb shocks, which would have reduced the need for such dramatic shrinkage of lending when asset prices declined.

Despite the passage of time and adoption of better policies, one could argue that the Japanese banking system is now, once again, being threatened by adverse economic conditions.

A shrinking population, aging demographics, and very low interest rates provide very little room for Japanese banks to operate profitably. This of course provides an incentive to reach for yield, potentially implying additional risk-taking.

All this raises questions about how resilient the banking system is, or could be, in the face of some future global downturn. All in all, my view is that Japan, like the United States, might benefit from considering an expanded set of macroprudential tools to enhance the financial system's resilience in the face of potential global economic scenarios.

Thank you again for the opportunity to discuss Professor Fukao's paper and to offer these comments on the macroprudential implications of the 1990s Japanese financial crisis.

¹ See *Causes of Japanese Financial Crisis in the late 1990s*, Mitsuhiro Fukao.

² *Jusen* are non-bank financial institutions in Japan, created in the 1970s as subsidiaries of banks.

³ A Bank debenture is an unsecured loan certificate issued by a company, backed by general credit rather than by specified assets.

⁴ For additional discussion of the CCyB and other financial stability policy tools, see March 23, 2018 remarks at the Tenth Conference of the International Research Forum on Monetary Policy by Eric S. Rosengren, [Monetary, Fiscal, and Financial Stability Policy Tools: Are We Equipped for the Next Recession?](#)

⁵ e.g., moral hazard.

⁶ See *Impacts of the Basle Capital Standard on Japanese Banks' Behavior*, Takatoshi Ito and Yuri Nagatake Sasaki: <https://www.nber.org/papers/w6730>

⁷ See *Zombie Lending and Depressed Restructuring in Japan*, Ricardo J. Caballero, Takeo Hoshi, and Anil K Kashyap: <http://economics.mit.edu/files/3770>

⁸ See *Unnatural Selection: Perverse Incentives and the Misallocation of Credit in Japan*, Joe Peek and Eric S. Rosengren: <https://www.aeaweb.org/articles?id=10.1257/0002828054825691>

⁹ For more about the effects on Japanese exporting firms, see *Exports and Financial Shocks*, Mary Amity and David Weinstein: http://blogs.cuit.columbia.edu/dew35/files/2016/08/Exports_and_Financial_Shocks.pdf

¹⁰ See *The International Transmission of Financial Shocks: The Case of Japan*, Joe Peek and Eric S. Rosengren: https://www.jstor.org/stable/2951360?seq=1#metadata_info_tab_contents. Also see *Troubled Banks, Impaired*

Foreign Direct Investment: The Role of Relative Access to Credit, Michael Klein, Joe Peek, and Eric S. Rosengren: <https://www.aeaweb.org/articles?id=10.1257/00028280260136309>.

¹¹ See *Collateral Damage: Effects of the Japanese Bank Crisis on Real Activity in the United States*, Joe Peek and Eric S. Rosengren: <https://www.aeaweb.org/articles?id=10.1257/aer.90.1.30>

¹² It is worth noting that on March 15, 2019, the Japanese Financial Services Agency (JFSA) published final rules applying to Japanese securitization investors.