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Japan's Financial Crisis and Economic Stagnation

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The recent Japanese economic experience has been dismal. Growth has collapsed, deflation has taken hold and the financial system is in shambles. We begin our story by documenting the macroeconomic troubles that appear to have triggered the collapse of Japan's financial sector. We argue, however, that the macroeconomic factors alone are not likely to explain the full extent of the problems in the Japanese financial system. We then turn to the sector-specific factors that are facing the Japanese banks, insurance companies and government financial institutions, which together constitute roughly three-quarters of the financial system. Finally, we provide estimates of the size of the losses that have been accumulated and review the steps necessary to resolve the problems promptly so that the losses stop growing.

The estimated losses from Japan's financial system problems, which presumably will be borne by taxpayers eventually, are huge. Even our fairly conservative estimate suggests the full cost to the taxpayers is at least 20 percent of Japan's GDP. The sheer size of the cost, along with the interaction among the related economic problems, has made a decisive resolution of the problems politically difficult.

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Macroeconomic Background

There is no doubt that the poor macroeconomic conditions have contributed to the deterioration in the condition of the Japanese financial sector. The conventional wisdom, concisely stated in the annual report of the Bank for International Settlements (2002, p. 135), is this: "The Japanese situation highlights the powerful two-way links between the real economy and the financial system: the depressed state of the economy is hurting the banking system, and the poor health of the banking system is impeding the economic recovery." We agree with this assessment, and therefore to start our analysis, we review the macroeconomic conditions and explain how we see the two-way links operating. We then explain why the Japanese financial sector problems seem too big to be explained by *purely* cyclical factors.

Output and Price Developments

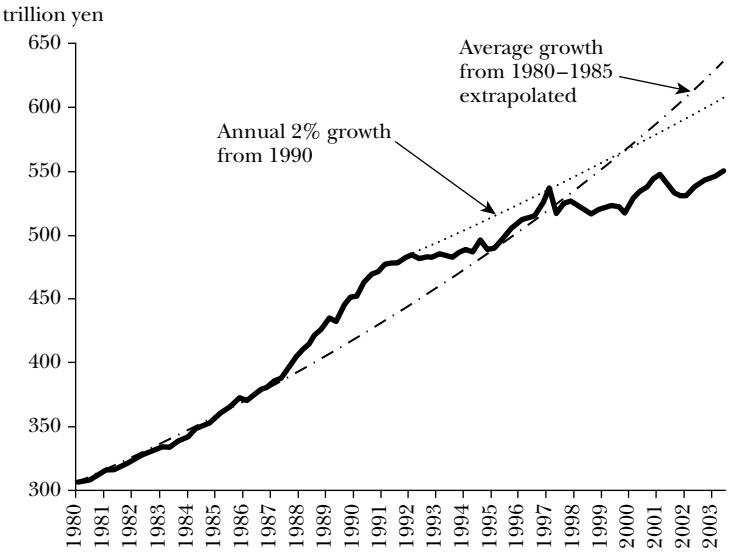
Over the last decade, the Japanese economy has underperformed dramatically. Figure 1 shows the evolution of real GDP from the first quarter of 1980 to the second quarter of 2003. The apparent decline of trend growth rate around the early 1990s is clear. The dotted line shows the level that GDP would have attained if starting in 1990 the economy had subsequently grown by 2 percent a year. The line that mixes dashes and dots shows GDP under the assumption that starting in 1985 the economy had continued to grow at the average pace of 1980–1985. Compared with either of these benchmarks, Japan's actual GDP growth has been disappointing. If we use the 2 percent growth as the benchmark case, the economy started to underperform in 1992 and now stands 10 percent below trend.

Kuttner and Posen (2001) refer to this period as the Japanese "great recession." This seems a fair description given the substantial gap between actual GDP and the trend, although Japan's growth experience is more one of stagnation and slow growth rather than depression.[1] For instance, the worst annual growth (so far) has been –2 percent, whereas U.S. GDP shrank by more than 6 percent in each of years between 1930 and 1932.

Figure 2 shows inflation data based on the GDP deflator and Consumer Price Index. Measured by the change in the GDP deflator from one year ago, the Japanese economy has been in deflation every quarter since the third quarter of 1994 (except for four quarters starting with the second quarter of 1997, when the consumption tax increase of 2 percentage points led to a mild increase in the GDP deflator). Even with the well-known upward bias of CPI, the CPI inflation rate has been negative consistently since late 1999. The two indicators give conflicting readings as to whether deflation has accelerated with the widening output gap, which is a key prediction of some macroeconomic theories, but based on either measure the annual rate of deflation has been relatively mild.

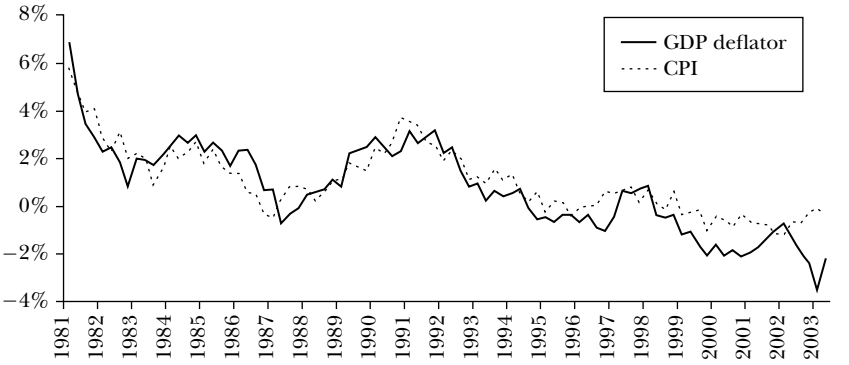
[1] As Kuttner and Posen (2001) emphasize, the construction of potential output in these circumstances is difficult, and this is why we use a simple extrapolation as a benchmark.

Figure 1
Real GDP: 1980–2002



Source: Japanese SNA (System of National Accounting); ⟨http://www.esri.cao.go.jp/en/sna/menu.html⟩.

Figure 2
Inflation Rate



Sources: GDP deflator is from Japanese SNA (⟨http://www.esri.cao.jp/en/sna/menu.html⟩). CPI (consumer price index) is the series modified by Arai and Hoshi (2003) to remove the effects of consumption tax changes in 1989 and 1997. The original series for CPI is available at ⟨http://www.stat.go.jp/data/cpi⟩.

In contrast to the relative stability of aggregate prices, the movements in Japanese asset prices have been extraordinary. Japan's Nikkei 225 stock average rose from 6,000 in 1980 to peak at almost 40,000 at the end of 1989. In the first nine months of 1990, the Nikkei average lost nearly 50 percent of its value. Stock prices continued to stagnate during most of the 1990s, and by spring 2003, the

Nikkei 225 had dipped almost back to 8,000. Japanese land prices followed a similar qualitative pattern. According to the land price indices compiled by the Japan Real Estate Institute, land prices for all uses roughly doubled from 1980 to their peak in 1991, but by 2003 land prices had fallen back almost to their 1980 levels. As of 2003, land prices were still falling and on average were about 45 percent below their peak value. Commercial real estate price declines have been larger, dropping 60 percent from their peak value, and these declines are even larger when one concentrates on the price drops in the major cities.

Given the low rates of economic growth and the important role of land as a source of collateral for loans, some financial sector problems were likely. Most recent banking crises have occurred in the context of poor macroeconomic performance (IMF, 2003a). But one indication that the Japanese case is unusual is that financial problems (that we describe in detail below) seem disproportionately large relative to the macro stagnation. For instance, although the output losses have been milder in Japan than in the United States during the Great Depression, the current Japanese banking system losses already appear to exceed the U.S banking system losses during the Great Depression. Between 1929 and 1935 in the United States, the losses from bank failures borne by depositors are estimated to be 2.2 percent of average GDP of 1933–1935 (or roughly 38 percent less if compared to 1929 peak of GDP). In contrast, forecasts of Japanese taxpayers' cost of the Japanese banking crisis that we review below are about 4 percent of GDP. The U.S. government used the Reconstruction Finance Corporation to recapitalize banks during 1933 to 1935 and injected about 1.5 percent of the average level of GDP during these years (Kroszner, 1994). The Japanese government has already injected more than 2 percent of GDP (¥10 trillion) of the capital in the banking sector.

Feedback from the Financial System to the Real Economy

There is less agreement about how the financial system problems might have contributed to the stagnation of real economy. The extreme position, advocated for instance by Hayashi and Prescott (2002), is that the financial sector developments are not necessarily even relevant. They argue that "the problem is not a breakdown of the financial system as corporations large and small were able to find financing for investment" and that "growth theory, treating TFP [total factor productivity] as exogenous, accounts well for the Japanese lost decade of growth." As we point out below, however, the breakdown of the financial system can lead to a collapse of total factor productivity. Moreover, the growth model they propose would have difficulty explaining the deflation.

The textbook view, advocated by Ogawa (2003a, b), Motonoshi and Yoshikawa (1999) and others, is that the banking problems led to a credit crunch that depressed employment and investment. While we find this evidence compelling for some time periods, particularly 1998 and 1999, when several major financial institutions failed, this explanation for the full period of stagnation also runs into several problems. First, as Hayashi and Prescott (2002) point out, it seems doubtful that credit availability was impaired over the whole great recession. Second, foreign banks that had not been operating in the early 1990s and newly chartered banks

should not have been crippled by the decline in asset prices and the large stock of nonperforming loans. In a credit crunch, these healthy banks should have been able to cherry pick the creditworthy borrowers that were cut off by the impaired lenders and make extraordinary profits. Yet this does not appear to have happened: healthy banks did not ramp up their lending.

Our preferred explanation for the feedback focuses on the fallout from conscious policy of Japanese banks to keep extending credit to firms even when the prospects for being repaid are limited. Below we describe the evidence suggesting that this phenomenon has become pervasive and explain why the regulatory environment gives banks an incentive to do it. This phenomenon helps to explain the ongoing profit problems of the banks and also helps to explain slow growth, because it implies that many firms that would otherwise be exiting are essentially receiving a subsidy that allows them to continue to operate. Caballero, Hoshi and Kashyap (2003) explore the consequences of these subsidies for macro performance in Japan. They find that subsidies have not only kept many money-losing "zombie" firms in business, but also have depressed the creation of new businesses in the sectors where the subsidized firms are most prevalent. For instance, they show that in the construction industry, job creation has dropped sharply, while job destruction has remained relatively low. Thus, because of a lack of restructuring, the mix of firms in the economy has been distorted with inefficient firms crowding out new, more productive firms. Not only does the rise of the zombies help explain the overall slowdown in productivity, Caballero, Hoshi and Kashyap show that zombie-infested sectors have seen sharper declines in productivity growth than the sectors with fewer zombies.

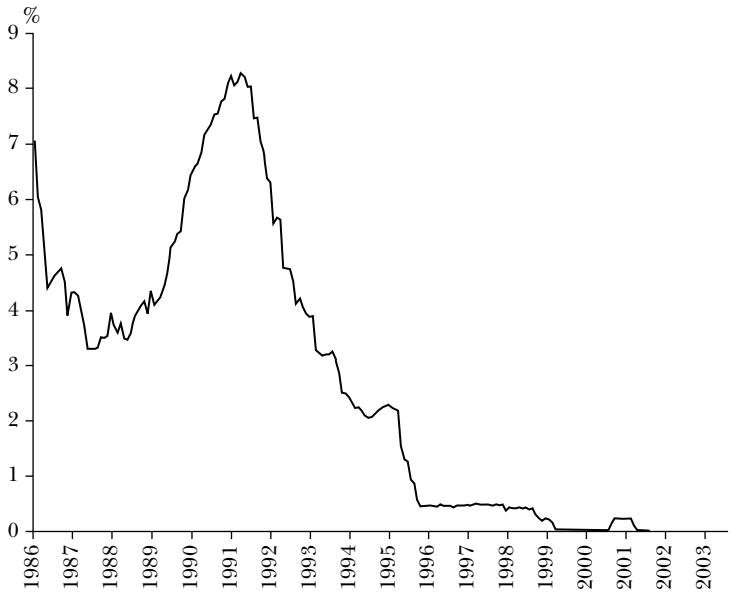
We find this mechanism compelling because it simultaneously accounts for the productivity collapse without generating the counterfactual predictions associated with the simple credit crunch explanation. For instance, the lack of lending by the healthy banks makes sense because these banks see no point in lending to firms that will have to compete against the zombies that are kept on life support by the sick banks. This story also offers an interesting perspective on the effectiveness of the macroeconomic policies.

Japan's Policy Reaction to the Great Recession

One of the puzzles about Japan is why the government's monetary and fiscal policies have failed to counter the "great recession." For instance, the Bank of Japan expanded monetary policy and lowered the interest rates quite aggressively (Okina, 1999). Figure 3 shows the time series of the (uncollateralized) overnight call rate—akin to the federal funds interest rate in the United States—which was the target of the Bank of Japan's monetary policy for most of the period that we are studying.[2] The interest rate was lowered as the macroeconomic problem became

[2] When the Bank of Japan reverted to the zero interest rate policy in March 2001, it abandoned the call rate as the target and started targeting the amount of bank deposits held at the Bank of Japan. See Arai and Hoshi (2003) for chronology of monetary policy during this period.

Figure 3
Call Rate
(overnight uncollateralized)



Source: Bank of Japan (⟨http://www.boj.or.jp/en/stat/stat_f.htm⟩).

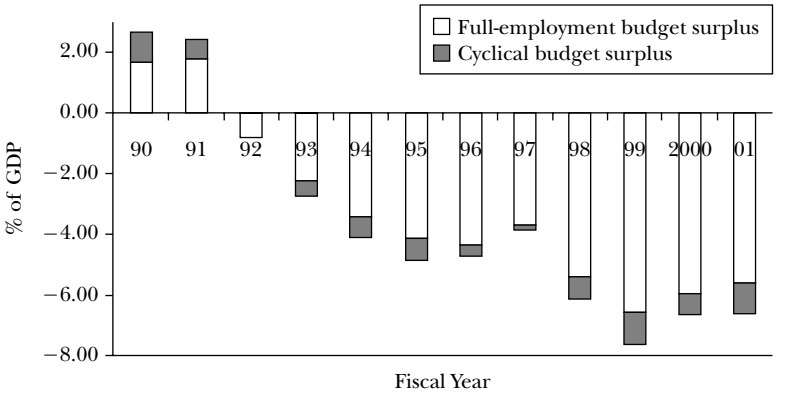
obvious in the early 1990s and was already as low as 0.5 percent in 1995. The rate fell further and eventually reached virtually zero in February 1999. Since then, the call rate has been zero except for a brief period between August 2000 and March 2001. Of course, in the presence of deflation, the real interest rate was higher than zero. One can criticize the Bank of Japan for having been reluctant to try non-standard monetary expansion such as money-financed fiscal transfers or targeted exchange rate depreciation, but by any conventional measure, Japanese monetary policy has been quite expansionary.

Fiscal policy has also been expansionary. Figure 4, taken from the *Annual Economic and Fiscal Report for Fiscal 2003* prepared by the Cabinet Office (Figure 1-3-7), shows the full-employment budget surplus for fiscal years 1990–2001.[3] The average deficit from 1995 to 2001 was about 5.1 percent of GDP. One can reasonably criticize the fiscal policy in the 1990s Japan for not being consistently expansionary, as in the tightening of 1997 (Posen, 1998). But again, by conventional measures, Japanese fiscal policy has been highly expansionary.

We agree with various critics that Japan's macroeconomic policy could have

[3] The Japanese fiscal year starts on April 1 and ends on March 31 of the following year. Thus, for example, fiscal 2000 starts on April 1, 2000, and ends on March 31, 2001.

Figure 4
Budget Surplus: 1990–2001



Source: Cabinet Office (Japan) (2003), *Heisei 15-nendo Nenji Keizai Zaisei Hokoku* (Annual Economic and Fiscal Report for Fiscal 2003) Figure 1-3-7.

been more aggressive and more consistent.[4] However, no other modern industrial country has consistently run deficits of roughly 6 percent of GDP and held short-term interest rates at close to zero for several years, either. The zombie firm explanation emphasized by Caballero, Hoshi and Kashyap (2003) at least partially explains why the combination of extremely low interest rates and big budget deficits has not rehabilitated the economy. The low interest rates have partially helped keep the banks alive, and the deficit spending has partially propped up aggregate demand, but neither of these policies has focused on closing down the insolvent banks and their zombie borrowers that are strangling the economy.

Indeed, other policy actions undertaken by the government have worked to thwart restructuring. For instance, by repeatedly delaying the reform of the deposit insurance to limit its coverage, the government allowed even the worst banks to continue to attract financing and support their insolvent borrowers. As described below, the regulators have also chosen not to enforce strictly the capital adequacy rules that should have forced the closure of weak banks. Likewise, a sequence of government agencies has been created to help banks with the disposal of nonperforming loans, but none has done very much to restructure the troubled firms and remobilize the resources at the bankrupt firms.[5] In April 2003, another agency, the Industrial Revitalization Corporation of Japan (IRCJ), was established with an explicit mandate to restructure troubled borrowers. Whether the new agency can indeed accelerate restructuring remains to be seen.

We therefore are in agreement with the many observers who argue that a

[4] For a brief overview of the standard suggestions for alternative policies, see Saxonhouse and Stern (2003, especially section 4).
[5] Packer (2000) examines the operation of one such agency, the Credit Cooperative Purchasing Company (CCPC).

restructuring of the financial system is necessary for a sustained economic recovery (for example, IMF, 2003b). But this approach raises a number of questions. How much will this restructuring cost? What types of reforms are necessary? We address these questions in the remainder of the paper.

Financial System Overview

Japan remains a bank-centered financial system (despite the fact that the equity market is the second largest in the world based on its total value). Table 1 reproduces some basic information from the September 2003 report of the International Monetary Fund's Financial Sector Assessment Program, which offers a detailed and comprehensive introduction to Japan's financial system.[6]

Japan's financial system is commonly analyzed in three sectors: banks, life insurance and government financial institutions. In the banking sector, the mergers and failures of the last few years have left Japan with seven major banks (Tokyo-Mitsubishi, Mizuho, Mizuho Corporate, UFJ, Mitsui-Sumitomo, Resona and Saitama-Resona), as opposed to eleven in the early 1990s. The major banks account for roughly half of all private loans and deposits, which is why so many analyses of the banking industry focus only on these banks. The life insurance sector is a second major part of the financial system, accounting for just under 20 percent of the total system assets. Finally, the government plays a very prominent role in Japan's banking markets. According to the IMF (2003b, p. 12), "the public sector in Japan plays a much larger role in financial intermediation than in any other major OECD country, with Germany a distant second."

As Kuwayama (2000) points out, most other industrial countries used to offer banking services at post offices (to provide safe, reliable banking options for rural and poorer households), but most countries have either closed down these services or privatized them; the United States closed its version in 1966.[7] Japan is a laggard in this respect, and Japan Post, the newly reorganized post office, is the largest deposit-taking institution in the world, with roughly nine times as many branches as the city banks combined. Government financial institutions are also important in lending markets, accounting for just under 20 percent of all loans. The IMF reports that these government financial institutions account for 30 to 40 percent of home loans, 19 percent of large corporate loans and about 20 percent of all loans to small and medium enterprises.

Collectively, the banks, life insurance and government sectors account for

[6] For Americans reading the table, it may be useful to remember that the exchange rate between the yen and the U.S. dollar has been around 120 yen to $1 U.S. in recent years. Thus, to get a rough sense of magnitudes, it is reasonable to drop two zeros and to read 410 trillion yen as $4 trillion. Of course, those with more facility in arithmetic may prefer to convert to U.S. dollars by dividing all yen values by 120.

[7] See Kuwayama (2000) for a comparison of the Japanese postal system and the one that existed in the United States from 1910 to 1966.

Table 1
An Overview of the Japanese Financial System

	Number of			*Total assets*		*Deposits outstanding*	*Loans and discounts outstanding*
	Institutions	*Branches*[f]	*Employees*[f]	*Trillion ¥ (%-total)*	*% of GDP*	*Trillion ¥ (%-total)*	*Trillion ¥ (%-total)*[g]
Banks							
City banks (consolidated)[a]	7	2,853	104,847	410 (20.9)	81.9	260 (23.5)	238 (27.6)
Others[b]	227	12,221	238,760	436 (22.3)	87.2	289 (26.2)	259 (30.1)
Cooperative financial institutions[c]	2,444	11,197	173,709	394 (20.1)	78.8	317 (28.7)	154 (17.9)
Non-depository financial institutions							
Life insurance	43	15,807	380,864	184 (9.4)	36.7	— (—)	47 (5.5)
Other insurance	59	4,869	87,501	33 (1.7)	6.6	— (—)	4 (0.5)
Remaining[d]	293	2,256	94,898	95 (4.8)	19.0	— (—)	— (—)
Public financial institutions							
Postal savings	1	24,773	62,422	242 (12.3)	48.3	239 (21.6)	0.7 (0.1)
Government financial institutions[e]	8	311	11,250	166 (8.5)	33.2	— (—)	159 (18.5)
Total financial system (excluding the Bank of Japan)	3,082	74,287	1,154,251	1,960 (100)	391.7	1,105 (100)	861.7 (100)

Source: International Monetary Fund (2003b).
[a] The city bank figures include their 141 foreign branches that have 21.4 percent of their assets, 12.3 percent of their deposits and 11.4 percent of their loans.
[b] Includes three long-term credit banks, 39 trust banks, 64 regional banks, 53 regional II banks, 73 foreign banks and 5 other bridge and Internet banks.
[c] Includes 349 Shinkin banks and the Shinkin Central Bank, 204 credit cooperatives and the National Federation of Credit cooperatives, 21 labor credit associations and the Rokinren bank, 1227 agricultural cooperatives and credit federations, 638 fishery cooperatives and credit federations, the Shoko Chukin Bank and the Norinchukin Bank.
[d] Includes 290 Securities companies and three money market dealers.
[e] Includes the development bank of Japan, Japan Bank for International Cooperation, and six financial corporations.
[f] The data on branches and employment are not available for the agricultural and credit cooperative, and the fishery and credit cooperatives.
[g] Column total does not sum to 100 because of rounding.

about 75 percent of the total assets in the financial system. The next three sections take up these sectors one at a time. In each case, we first assess the basic financial condition of the sector, then discuss the underlying causes for problems and conclude with suggestions of potential reforms.

Banking Sector Problems

Japanese banks have had low profitability for more than 10 years. The best discussion and documentation of this available in English is Fukao (2003a), with updated figures in Fukao (2003b, c). As he stresses, Japan's banking industry has not had a *net operating* profit since fiscal year 1993. Until late in the 1990s, the banks offset these losses by realizing capital gains on long-held stocks (through cross-shareholdings) and land. But at this point, little more can be squeezed from these sources. Since 1995, the banks have recorded net losses in more years than not. Fukao shows that the cumulative loan losses incurred and recognized by the banks since 1990 is ¥91.5 trillion (18 percent of current Japanese GDP). There is no indication that the losses will stop any time soon.

These losses are too large and persistent to be blamed solely on the sudden decline in asset prices in the 1990s. Indeed, as the Bank of Japan (2002) has pointed out, these loan losses amount to 80 percent of the increase in loans between 1986 and 1990! Thus, it is implausible to suggest that the continued losses can be attributed to misguided lending decisions during the late 1980s. Rather, they are indicative of deeper underlying problems facing the banking industry.

Causes of the Profitability Problem

A comparison with the U.S. banking system helps to quantify the low profitability at the Japanese banks and to focus attention on two chronic problems. One problem is the lack of profitability of their lending operations. Kashyap (2002, Table 1) shows that Japanese banks' interest margin has hovered around 1.2 percent of assets. His roughly analogous figures for U.S. banks (which include both fees associated with the loans and interest revenue) are about three times as high, at about 3.3 to 3.5 percent for the time period from 1990 to 2002. The second recurring problem is that Japanese banks depend more heavily on revenue from lending. In the accounting year ending in 2003, the catch-all category of "other revenue" (that counts all nonlending revenue) for Japanese banks was 38 percent of the revenue from lending operations, while the U.S. banks earned "other revenue" equal to 73 percent of the lending revenue.[8]

In turn, these profitability problems of Japanese banks reflect other issues: Japan's banking industry is too large in size; it has a poor record in offering new high-margin financial services; it cannot compete profitably with money-losing government lenders; and many of its customers are insolvent. We will discuss these factors in turn.

Japan's banking sector needs to shrink in size. Bank assets per person and bank assets relative to GDP are each roughly twice as high in Japan as in the United States. The size of the Japanese banking sector is a legacy from the 1960s and 1970s

[8] We thank Robert DeYoung for help calculating the U.S. figure that updates Kashyap (2002, Table 1). The Japanese number is from Fukao (2003c). The Japanese percentage prior to last year was consistently below 33 percent.

when the choices of corporate borrowers were constrained by capital controls that hindered overseas options and other regulations that limited domestic nonbank financing options. The savings options for the households were also limited by various regulations. While the savings options have steadily expanded, and as of 2001 been fully liberalized, Japanese consumers have not yet substantially rebalanced their portfolios.

Meanwhile, Japan's banks have struggled to find profitable uses for the funds that they have retained. Many of their largest borrowers left the banks in the 1980s when the financing choices of corporate borrowers were greatly enhanced so that they could shift from bank financing to bonds, commercial paper and other nonbank financing both domestically and abroad. Japan's movement away from bank financing is likely to continue in the near future, as more and more firms migrate to capital market financing (Hoshi and Kashyap, 1999, 2001). Indeed, Hoshi and Kashyap (1999) calculate that if Japanese corporate borrowing patterns move toward U.S. patterns, Japanese bank assets would be predicted to shrink by 25 to 50 percent. In the four years since those calculations were done, the quantity of bank loans in Japan has dropped by only 10 percent. It seems likely that much more adjustment is needed.

In theory, Japan's banks could seek out alternative high-margin products and avoid the shrinkage, but in practice, this option has not worked well. For Japanese banks in aggregate, fee and commission income as a percentage of total income was essentially identical in 1976 and 1996; U.S. banks during this period increased their percentage of fee and commission income by two-and-a-half times (Hoshi and Kashyap, 2001, Tables 8.3 and 8.4). This disparity partially was attributable to regulation that handicapped the Japanese banks. For instance, until 1998, the banks were simply barred from many activities, such as provision of loan commitments, over-the-counter derivatives transactions, brokerage activities and underwriting of corporate bonds and equities. Some of the gap is also attributable to the slow development of the syndicated lending market in Japan, since loan syndications move revenue from the form of interest payments to fees. But even after Japan's bank deregulation that was completed along with the larger financial "Big Bang" on April 1, 2001, Japanese banks remain overly reliant on lending revenue.

Since nontraditional products and the associated revenue streams are central to the business strategies of most global banks, this deficiency is a huge problem for the Japanese banks. There are few product lines, if any, for which the Japanese banks are world leaders. We know of no examples where Japanese banks and their global rivals have competed for business on a level playing field and the Japanese banks have emerged as market leaders. Instead, the recurring pattern is that Japanese banks are late to enter markets or offer new products, and, consequently, their profitability lags.

Japan's banks also face a difficult competitive situation as they attempt to boost returns on their loans, because of the competition they face from government financial institutions. Japan's government-sponsored postal savings system (described in detail below) has much greater convenience with 40 times the number

of offices of the largest banking group, pays roughly the same rate on deposits as the banks, has an explicit government guarantee on deposits and charges no maintenance fees. Japan's Government Housing Loan Corporation (GHLC) makes about 40 percent of all home mortgage loans. With the assistance of large government subsidies, the GHLC lends at rates substantially below those of private banks (Fukao, 2003a, Table 1.8), despite having longer maturities, with no prepayment penalties (unlike typical Japanese bank mortgages).

These kinds of government-sponsored financial institutions will have to be reined in if Japanese banks are to regain profitability. Yet Japan's Prime Minister Junichiro Koizumi has encountered strong resistance to his government's efforts to address this problem. The public has not been convinced that the postal savings system and the government home lending program are contributing to the banking troubles. Nor does the public realize that the government financial institutions and other government agencies have made losses despite receiving explicit government subsidies (which will be discussed later). Without some adjustments to these government programs, the banks cannot solve their long-term problems, even if they were somehow to regain solvency in the short term.

A final problem that depresses lending profits is the low profitability of many of the banks' customers. To the extent these problems are transitory and the customers will recover, it may be efficient (and profitable) for the banks to provide temporary support to these customers to see them through the storm. The puzzling thing about the Japanese situation is that the banks are consciously continuing to extend credit to insolvent borrowers where the prospects for being repaid are extremely doubtful. Tett (2003) offers numerous examples of this phenomenon that has come to be called "ever-greening." The most clear-cut cases relate to companies that actually went bankrupt and therefore had their books opened for inspection. For instance, a coalition of 73 banks repeatedly refinanced the large retailer Sogo despite the fact that "by 1999 it was clear the retailer could never repay its debts" (Tett, p. 209). When Sogo failed in 2000, it owed ¥1.9 trillion.

Because the ever-greening is central to our story for how problems in the financial system feed back to the real economy, we take a brief detour to describe it more fully. Sekine, Kobayashi and Saita (2003) survey the three types of studies that seek to determine the prevalence of ever-greening. One type of analysis finds that bank loans increased disproportionately to underperforming sectors, such as real estate and construction (Hoshi, 2000; Fukao, 2000; Sakuragawa, 2002; Hosono and Sakuragawa, 2003). A related second approach studies firm-level data and finds that firms with low profit rates and poor stock market returns have tended to get additional loans (Peek and Rosengren, 2003). A third piece of evidence is that the number of firms receiving loans with below-market interest rates has grown recently (Smith, 2003; Caballero, Hoshi and Kashyap, 2003). While each of these findings is subject to alternative interpretations, collectively they make a strong case that ever-greening has become pervasive in the late 1990s and early 2000s.

What explains the ever-greening? One explanation is implicit or explicit pressure from the government not to force their customers into bankruptcy, where

significant job losses are expected. Tett (2003, chapter 17) describes the pressure that Shinsei Bank received from its regulators to support a number of distressed companies. Additionally, banks themselves may want to hide the troubles from their customers because otherwise the serious capital shortage on the banks' balance sheets would be revealed.[9] Indeed, Peek and Rosengren (2003) show the tendency to increase loans at failing firms is more pronounced for banks with low capital levels. These observations suggest that to stop ever-greening, the banks need to acquire sufficient insulation from political pressure and enough financial capital. By stopping the practice of ever-greening, banks could not only raise the return on loans but also could shrink their overall size.

The Immediate Capital Shortage Problem

Even if Japan's banks could figure out how to resume making profits, they would face the short-run problem of replenishing their capital. The officially published figures suggest that only a handful of banks lack capital. But two serious biases cause the published capital to overstate true capital. The corrected figures suggest that the banking system is severely undercapitalized.

The first factor that causes the published capital figures to be biased upward lies in how Japan's banks treat bad loans. Banks in Japan are known for their propensity to underreserve against *recognized* bad loans. For instance, they have set aside reserves sufficient to cover between 40 percent and 60 percent of bad loans over the last few years, whereas U.S. banks tend to hold closer to 160 percent in reserves (Fukao, 2003a). Fukao (2003c) estimates that Japan's banks are currently short at least ¥5 trillion in loan loss provisions. As we discuss below, a bigger problem is that Japan's banks have more bad loans than the banks have revealed—although considerable disagreement exists over the size of the underreporting (Kashyap, 2002).

The second reason why the reported capital figures are biased upward is because of the accounting treatment of "deferred tax assets," which are tax credits from past losses that the banks expect to claim in the future. U.S. bank regulators limit deferred tax assets; specifically, they can be no more than one year's profits or to 10 percent of "Tier 1 capital," which is common equity, qualifying noncumulative perpetual preferred stock and minority interests, less goodwill. In Japan, there is no explicit cap. But deferred tax assets in Japan expire five years after the losses are incurred, and so they are only usable if the banks can regain profitability quickly—since otherwise the banks won't be paying taxes. Given the fact that operating losses are likely to continue for the next few years, it is highly doubtful that most of the tax credits will ever be usable by Japan's banks. More generally, since capital is supposed to serve as a buffer for unexpected losses, the tax-deferred assets should not really be counted as a part of the capital, because they become useless exactly when the buffer is needed.

[9] This rationale presumes that the regulators do not see through this strategy or silently allow the banks to pursue the strategy. As we explain below, this seems to be the case.

Table 2, taken from Fukao (2003c), quantifies the importance of these problems. The first two rows of the table show the hidden capital gains in the banks' portfolios. As of March 1989, a little before the peak of the stock market, the market value of the shares held by banks far exceeded the book value at which the shares were purchased. However, by 2001, this gap has disappeared. The bank's equity holdings in other firms are still about equal to their own book value of capital, which leaves the banks very exposed to changes in the stock market.

The remainder of the table shows how the official bank capital figure reported in the third row should be adjusted for the hidden capital gains and other factors to get an estimate that better reflects the true capital position. The fourth row shows that the deferred tax assets now account for roughly 40 percent of the book value of capital. The banks were not counting them in the capital prior to 1999 (which makes sense given that they serve no buffering role). The next row shows Fukao's (probably conservative) estimates of underreserving against bad loans, which represents about one-fifth of book capital.

The sixth row shows the adjusted level of capital that accounts for the unrealized capital gains (net of the taxes owed), the underreserving for nonperforming loans and the sham deferred tax credits. By March 2003, the adjusted capital figure was just under 9 trillion yen and therefore far below a prudent level of equity.[10]

In fact, even the adjusted level paints an overly optimistic picture of the banks' financial condition. One consideration shown by row 7 in the table is that most of this capital represents funds from past government transfers. In other words, almost no private capital remains in the banking sector. A second consideration is that even our adjusted figure exaggerates the true private capital, because of the extensive "double gearing" between banks and life insurance companies. Banks hold a significant amount of insurance company debt (usually in the form of subordinated loans or surplus notes), and the life insurance companies also tend to hold large amounts of subordinated bank debt and stock, as we discuss below. Indeed, banks raise money by selling their securities to the life insurance companies, but use the proceeds to buy the securities issued by the life insurance companies, so that the life insurance companies can buy the banks' securities in the first place. The net effect is that reported capital may increase without any new real money. Many of the life insurance companies are also in a very precarious financial position. The double gearing makes both the banks and the insurance companies appear better capitalized than is in fact the case.

Yet another problem with the adjusted capital figures is that it ignores the additional bad loans that many independent observers believe are present but yet to be acknowledged. Estimates of the size of these impending losses obviously depend on the macroeconomic conditions (and corresponding profits for the

[10] The Basel capital standards that Japan and other countries use to assess capital adequacy include a requirement that the Tier 1 capital exceed 4 percent of a risk adjusted definition of assets. As of March 2003, total risk adjusted assets for all banks in Japan were ¥435 trillion (Bank of Japan, 2003). Thus, the adjusted capital is only 2 percent of the risk adjusted assets.

Table 2
Book Value and Adjusted Capital in the Japanese Banking Sector
(in trillions of yen, except for last row)

	Mar-89	*Mar-91*	*Mar-93*	*Mar-95*	*Mar-97*	*Mar-99*	*Mar-01*	*Mar-03*
Market value of shares (A)	97.1	77.7	56.4	52.0	54.1	47.1	44.5	23.2
Book value of shares (B)	23.2	33.1	34.5	39.8	42.9	42.7	44.3	23.2
Reported book value of bank capital (C)	22.5	30.2	31.8	32.3	28.5	33.7	36.7	24.8
Deferred tax assets (D)	0.0	0.0	0.0	0.0	0.0	8.4	7.3	10.6
Estimated under-reserving (E)	NA	NA	NA	NA	15.0	4.6	7.6	5.4
Adjusted capital C + {(A − B) × 0.6} − D − E	66.8	57.0	44.9	39.6	20.2	23.4	21.9	8.8
Equity capital held by the government	0.0	0.0	0.0	0.0	0.0	6.3	7.1	7.3
Nikkei 225 stock price average	32839	26292	18591	15140	18003	15837	13000	7873

Source: Fukao (2003a, c), based on Federation of Bankers Associations of Japan, "Analysis of Bank Financial Statements," various issues; securities reports for individual banks. Both market and book values represent listed shares only. The table pertains to banking accounts of all banks in Japan.
Notes: The market value of stock portfolios was not published prior to March 1990, so Fukao imputed it using the Nikkei 225 share price index. A 40 percent corporate tax rate is assumed in the adjusted capital calculation.

banks), and differences of opinion over the likely path of the economy over the near term contribute to the dispersion of estimates.

Kashyap (2002, Table 2) surveyed a number of leading economists and bank analysts about their estimates of the difference in the market value of assets and liabilities of the Japanese banks. This gap is the relevant figure for determining how much more taxpayer money would be needed just to make the banking sector barely solvent (but still below the regulatory guidelines). One problem with this survey is that the experts typically do not have to forecast this number as part of their standard analyses of the banking industry, because they have little to gain from irritating regulators and other government officials by trumpeting the insolvency in the sector. Thus, many experts prefer to report indirect estimates that must be transformed into the relevant figures. With these caveats in mind, Kashyap concludes that as of fall 2002 a consensus estimate for the level of insolvency for the entire banking sector was roughly ¥40 trillion. By fall 2003 most of the experts in his survey had revised up their assessments of the economy and hence lowered their estimates slightly; the ones that we were able to update all suggested that the major banks alone had negative net worth of ¥15 trillion to ¥20 trillion. It would seem therefore reasonable to conclude that a minimum of ¥20 trillion would be needed for the whole banking sector. If we take into account our belief that the current

macroeconomic recovery is unlikely to be sustained, a more realistic estimate would be closer to ¥40 trillion.

Even the most conservative estimate would therefore imply a future taxpayer burden of roughly 4 percent of GDP. For comparison, the cost to the U.S. taxpayers of the U.S. savings and loan crisis in the early 1990s turned out to be well less than 1 percent of (then current) GDP, which would translate to about ¥5 trillion in the current Japanese economy. Thus, the private sector analysts are unanimously of the view that the banks are bankrupt and that the losses for the taxpayers will be substantial. Barring a miraculous economic recovery, Japan's banks will eventually be forced either to close or to raise more capital.

Implications for Banking Reform

Besides showing that additional capital will be needed, the foregoing analysis also hints at why past injections of public funds into the banking sector have not been successful. A recapitalization of Japan's banking must be consistent with focusing on shedding assets and more profitable activities, not with supporting the industry with its current size and business focus. Past recapitalizations in Japan featured across-the-board rescues, whereby some of the money was wasted on banks that should have gone out of business—and the continuation of these dying banks made it impossible for other banks to return to health. Moreover, the cost of keeping zombie banks multiplies if we include the cost of the zombie firms supported by the practice of ever-greening nonperforming loans.

A successful recapitalization of Japan's banks should use market signals to decide which banks merit funding. Banks that can attract arms-length financing at reasonable terms as part of their recapitalization might be given high priority. Banks that can raise funds only from their customers or insurance companies in the same industrial groups (as many Japanese banks have been doing) would get lower priority. Similarly, banks that can attract funds only at extremely favorable terms to the investors, as was the case in several new share issues by Japanese banks in early 2003, would be given lower priority. This type of selective rehabilitation would be more efficient at directing funds to deserving borrowers.

The Life Insurance Sector

In March 2003, Japan's ten major private insurance companies had assets of roughly ¥152 trillion, which is roughly 30 percent of GDP, or 85 percent of industry assets. Most insurers are mutual companies so that their shares are not traded on exchanges, but their financial linkages with the rest of the financial system are substantial. For instance, about 10 percent of the equity of each of the four largest financial holding companies in Japan (Tokyo-Mitsubishi, Mizuho, UFJ and Sumitomo-Mitsui) is owned by life insurance companies. As of March 2003, ten major life insurance companies owned ¥6.3 trillion of bank equity and subordinated bank debt (Fukao, 2003b). At the same time, banks provide ¥1.9 trillion of

surplus notes (the equivalent of equity for mutual companies) and subordinated loans to ten major life insurance companies. (These numbers were ¥10.5 trillion and ¥2.0 trillion, respectively, as of March 2001.)

The double gearing described above serves to inflate artificially the reported capital position of both the insurers and the banks. Japanese regulators follow the international norms in prohibiting double gearing between pairs of banks or pairs of insurers, but deviate from international standards in allowing this practice between insurers and banks. This deviation has been heavily criticized by the international community as creating systemic risks to the financial system (for example, Bank for International Settlements, 2002, p. 135). The magnitude of double gearing between banks and insurers has been declining recently, but the practice will presumably continue because the regulators show no sign of changing the policy.

The Profitability Problem

Like the banks, Japanese life insurance firms are exposed to the stock market and face competition from the government. With regard to the stock market, Fitch Ratings (2003, Table 1) produces company-by-company estimates for Japan's life insurance industry of the levels of the stock market at which unrealized gains on securities disappear. Fitch estimates that as of March 31, 2003, when the Nikkei was at 7,972, the aggregate unrealized gain on stocks was approximately ¥0.93 trillion and that seven out of ten major insurers had unrealized stock losses.

With regard to competition from government institutions, the same Japanese postal system that offers bank deposits also sells life insurance and holds about one-sixth of the market (IMF, 2003b, p. 69). This share has grown markedly over the past decade (no doubt in part because the guarantee provided by the government has become more valuable as many of the private firms failed). The postal program is exempt from taxes. However, the pricing of postal system life insurance does not seem dramatically different from other market prices, and the convenience advantage (relative to banking) is smaller with life insurance, since easy access to a bank is more important than easy access to a life insurance office.

But the biggest profitability problem for Japan's private insurers is unique and largely self-induced. They have been crippled by their overly optimistic assessment of anticipated investment returns. In 1992, Japan's life insurance companies were all selling lifelong annuities that promised to pay a return of 5.5 percent. As interest rates and rates of return fell, a gap opened between what the insurers had promised to pay and what they could expect to earn. This difference is referred to in the insurance industry as the "negative carry" (or "negative spread"). By March 2003, the largest ten Japanese life insurers had a disclosed negative carry of ¥1.17 trillion, which can be compared with the profits of roughly ¥3.17 trillion from the other parts of their business.

Until recently, life insurers were prohibited from reducing the promised yields without filing for bankruptcy. The revised Insurance Act enacted in August 2003

allows the life insurers to renegotiate contracts with policyholders, although thus far no insurance companies had announced plans to use this mechanism.

The Capital Shortage Problem

The insurance companies also have made bad loans, but on a much smaller scale than the banks. As of March 2003, the ten majors had disclosed ¥422 billion in loans to distressed firms, which amounts to just 1.1 percent of their total loans (Fukao, 2003b). Even assuming substantial underreporting of the problem loans, the bottom line of the insurers is much less likely to be affected.

The capital buffer that the insurers hold is often measured by the "solvency margin." The formula for calculating the margin is complicated and involves estimating the risks from insurance underwriting, interest rates, asset management and business administration and then comparing the risk with the insurer's ability to pay, based on the quality of its assets.[11] Insurance companies around the world are measured by this yardstick, and since 1999, Japanese insurers have been subject to prompt corrective action whenever their solvency margin fell below 200 percent. The ten major insurers all reported solvency margins in excess of 300 percent as of March 2002.

However, the officially reported solvency margins dramatically exceed more realistic estimates. Fukao (2003a) highlights three problems with the standards used in calculating Japanese solvency margins, compared with practices in the United States: 1) Japanese supervisors use lower risk weights; 2) the ability to pay is inflated by including assets that have no liquidation value; 3) the ability to pay ignores unrealized capital gains and losses. Fukao finds that making these corrections has a dramatic effect. Using March 2003 data, Fukao (2003b) reports that four companies' ratings (Mitsui Life, Asahi Life, Yasuda Life and Sumitomo Life) were all below the critical level of 200. In all the previous cases where a company's adjusted rating was below 200, the company eventually failed.

Implications for Reform

Seven major life insurance companies failed between April 1997 and April 2003. These failures were resolved using a formal bankruptcy procedure (supervised by either the regulator or the court). The major part of losses at failed insurers was born by the policyholders in the form of reductions in promised yields. No public money has been used for the insurance sector. The aforementioned revision of the Insurance Act in August 2003 has made it possible for troubled insurers to cut promised yields without going through the formal bankruptcy process. Thus,

[11] The exact definition is 200 × (net assets/risk), where net assets are defined as the sum of capital, risk reserves, general loan loss reserves, excess reserves over the surrender value of policies, future profits, subordinated debt (and loans) and a correction for deferred taxes. The risk is the sum of business management risk and the square root of squared insurance risk plus squared interest rate risk plus asset management risk.

any further problems for the remaining insurance companies are not likely to impose direct costs on taxpayers.

Any subsequent reorganizations for the insurers, however, will involve losses for the banks (which could involve a cost to the taxpayers). If the recent decline in double gearing continues, then this indirect risk will continue to fall. In the meantime, any assessments of the banks' solvency should take account of this indirect risk.

Government Financial Institutions

A substantial share of the deposits collected through the postal savings program go into the Fiscal Investment and Loan Program (FILP), which in turn lends to government financial institutions and agencies, local government and the central government itself. The FILP agencies engage in a host of activities, with major ones being the Government Housing Loan Corporation (with ¥66 trillion outstanding FILP liabilities as of March 2003), which provides long-term mortgage loans at subsidized rates to households; the Development Bank of Japan (¥15 trillion), which makes long-term loans to the industry; the Japan Highway Public Corporation (¥22 trillion), which builds and maintains the national highway system; the Japan Finance Corporation for Municipal Enterprises (¥18 trillion), which provides long-term loans to local government and public enterprises; and the Urban Development Corporation (¥15 trillion), which develops and maintains residential communities.

The Fiscal Investment and Loan Program is not integrated with the central government's budget, so that the obligations for these programs are not part of the government's gross debt. The outstanding amount of the FILP funds totaled ¥391 trillion, or 72 percent of GDP, at the end of March 2003. Many of the FILP agencies are losing money despite explicit subsidies from the government and will ultimately require a taxpayer bailout. Moreover, as described above, the existence and practices of the government financial institutions often handicaps the competing private sector firms.

Gauging the size of taxpayer exposure is very complicated, since financial disclosure is poor and some of the assets of these institutions are obligations (like bonds) of other government institutions. Thus, determining the full taxpayer exposure will involve looking at the financial condition of several types of organizations. To do this systematically, we rely on the recent work of Doi and Hoshi (2003), which examines the health of all current recipients of the Fiscal Investment and Loan Program funds. In parsing the figures, it will prove instructive to separate the condition of the financial institutions and other government agencies that we collectively refer to as the FILP agencies from those of the local governments. The two differ both in the level of confidence in the accounting information that is available and also in the public policy implications of any shortfalls.

Hidden Losses at the FILP Recipients

Many Fiscal Investment and Loan Program agencies are making ongoing losses that will need to be covered eventually by taxpayers. Since fiscal year 1999, the agencies have been required to make a discounted present value calculation of the gap between their expected future revenues and costs. Of the 28 agencies that reported in March 2003, 22 expected costs to exceed revenues. The March 2003 estimates suggest that net losses will total ¥5.5 trillion. This estimate should be treated as a lower bound, since these agencies have been extremely optimistic in their revenue forecasts for estimates published earlier (Kikkawa, Sakai and Miyagawa, 2000).

Doi and Hoshi (2003) point to three reasons that suggest the financial condition of the Fiscal Investment and Loan Program agencies is much worse than has been publicly disclosed. First, there are some cases (most notably the Government Housing Loan Corporation) where past losses are being recognized only slowly over time. By counting such losses immediately, Doi and Hoshi write down the capital of these agencies by a little more than ¥0.5 trillion as of March 2001. A second problem is that loan loss reserves are too small compared with the amount of the nonperforming loans that the agencies report. Doi and Hoshi argue that ¥8.2 trillion in recognized bad loans have yet to be provisioned for as of March 2001.

A third pervasive problem is the overvaluation of physical assets. For example, the Public Highway Corporation and several other agencies only record depreciation when operational revenues are high enough to count the depreciation and still show small "profits" on the financial statements. Since the value of long-term assets is generally based on the historical acquisition costs, land purchased in the 1980s is counted at far above its current market value. Doi and Hoshi (2003) attempt to correct for market value changes and depreciation of the 12 Fiscal Investment and Loan Program agencies that are involved in urban development or infrastructure provision and thus have a high proportion of physical assets. Making these corrections reveals additional losses of about ¥11.4 trillion.

Doi and Hoshi (2003) also do an agency-by-agency calculation of how all of the undisclosed problems and operating losses will affect taxpayers. They arrive at an (intentionally conservative) cumulative estimate of ¥35.8 trillion, 7 percent of GDP, for the taxpayer exposure from the operations of the FILP agencies.

As of March 2001, about ¥87 trillion of Fiscal Investment and Loan Program funding was steered to local governments and local public enterprises. Assessing the quality of these loans is difficult, since local governments are not required to produce balance sheets or other financial statements. However, many local governments have substantial debts and are running very small surpluses (or outright deficits), so default on some of this debt is possible. Doi and Hoshi run a variety of simulations to assess the local governments' ability to pay versus their debt levels, using different assumptions about the growth rates of future deficits and tax revenues. The locals had FILP obligations of ¥55 trillion as of March 2001. The

resulting estimates of the size of the losses borne by taxpayers cluster between ¥30 trillion and ¥40 trillion.

Combining all the estimated Fiscal Investment and Loan Program losses, Doi and Hoshi's (2003) preferred estimate of likely FILP losses that will be borne by taxpayers eventually is ¥78.3 trillion, which is just over 15 percent of GDP.

Implications for FILP reform

The losses in the Fiscal Investment and Loan Program are already substantial. To stem further taxpayer losses, it is important to enact reforms so that the flow of FILP money to insolvent borrowers is discouraged. The FILP reform enacted in April 2001 tries to achieve this goal. As a part of the reform, FILP agencies are supposed to increase their funding through public bond issuance, so that they are accountable to their financiers. However, the reform also provided a generous transition period during which money could continue to flow as it had in the past and did not contain any clear provisions for shutting down money-losing public corporations. So far, the flow of funds through the FILP has not changed very much (Doi and Hoshi, 2003).

To contain the losses to the taxpayers, it is also important to limit the distortions for the private sector associated with the continued operation of the money-losing government-sponsored financial institutions. For instance, the pricing of loans by government financial institutions could be set to match the rates charged by the private firms. Charging for deposit insurance on postal savings accounts would be a useful move in this direction. The general principle should be that if these government agencies are to continue to provide the services that the private sector can also provide, they should do so on a level playing field.

Conclusion

We see the Japanese financial system as being in very dire condition. Our *lower* bound estimates suggest that the taxpayers will ultimately end up spending at least another ¥20 trillion to clean up the banks—and quite possibly as much as ¥40 trillion. Several more major insurance companies appear to be poised to default on their promised payments to policyholders. The government sponsored Fiscal Investment Loan Program is hemorrhaging cash and is probably going to leave the taxpayers owing at least another ¥78 trillion. Thus, Japanese taxpayers are likely on the hook for at least ¥100 trillion, which would be 20 percent of GDP!

In the second half of 2003, GDP growth in Japan accelerated. Some will argue that a macroeconomic recovery will go most of the way toward ending the financial problems in Japan. We are quite doubtful that this will be the case. Our analysis suggests instead that the financial system problems are due to many factors besides the long macroeconomic stagnation.

Indeed, our diagnosis of the feedback between the financial system and the economy suggests that the recovery of late 2003 will falter unless there is a

significant change in the policy toward the financial sector. We believe that the depressed restructuring that has accompanied the financial crisis has left Japan with a dysfunctional banking system that misallocates funds and a perverted industrial structure in which subsidized inefficient firms are crowding out potentially profitable ones. For the recovery to continue, this cycle must be broken and serious restructuring must occur.

The recent bailout of Resona Bank shows many of the roadblocks that must be removed. The merger of two weak banks (Asahi and Daiwa) on March 1, 2003, created Resona Bank, the fifth-largest bank in Japan. Despite the fact that the government had injected total of about ¥1.1 trillion of public funds into the two banks in 1998 and 1999, the financial condition of Resona was shaky from the start. In the first accounting year (that ended on March 31, 2003), losses from writing off capital losses on stocks and nonperforming loans turned out to be so large that the bank would be insolvent.

The bank initially planned to follow recent industry practices and declare deferred tax assets equal to the past five years' losses. This would have given the bank sufficient capital not only to make it solvent, but also to satisfy the minimum regulatory level of capital. Their auditors would not accept this because of doubts over how soon the bank would become profitable and be able to use the tax credits. The auditor instead was willing to allow three years worth of credits, which was enough to make Resona solvent but not enough to comply with the regulatory minimum.[12]

Despite protests by many observers that Resona was insolvent, the bank asked for and was granted an injection of ¥1.96 trillion of public funds. The public funds were approved (once again) without any serious evaluation of the future viability of Resona Bank. The recapitalization occurred with Resona issuing new shares that were bought by the government; remarkably, the existing shareholders were not wiped out.

A new management team was installed, and they reexamined the books. Upon completing the reexamination, Resona decided to record a loss of ¥1.76 trillion for the period between March and September 2003; thus, over 90 percent of the capital provided by the government disappeared. The bank claimed that the write-offs allowed it to stabilize the balance sheet and that going forward it will become profitable. The newly realized losses, however, included a ¥266 billion reduction in the deferred tax assets (counting only one year worth of credit rather than three years), which was larger than the amount of the bank's Tier I capital (¥246 billion). Thus, the management's reexamination seems to have confirmed the outsider observers' suspicions that Resona was indeed insolvent when it applied for the capital injection.

[12] In fact, Asahi & Co., the auditor of the former Asahi Bank, refused to allow Resona to count any deferred tax assets, which would have made Resona insolvent. Resona found a more lenient opinion by Shin-Nihon & Co., the auditor of the former Daiwa Bank, and adopted that opinion. It was reported that the regulators pressured (unsuccessfully) Asahi & Co. to allow Resona to carry enough deferred tax assets to make it solvent.

This episode shows a number of problems with the current restructuring policy. First, bank recapitalization decisions are myopic, with the principal aim being to avoid the failure of large banks. The regulators seem to pay little attention to the future viability of recapitalized banks. Second, the government continues to protect not only the depositors but also major creditors and even shareholders of failed banks. This practice dulls the bank management's incentives to restructure and improve profitability. Finally, and most importantly, the bailouts continue to be piecemeal and uncoordinated in several critical respects. When Resona reexamined its books and reappraised various loans and policies regarding tax credits, there was virtually no spillover from these decisions to other related parties.

Thus, the regulators did not systematically force other banks to reassess their customer risk ratings for shared clients or to justify seemingly optimistic levels of deferred tax assets. Nor did the regulators force Resona to work closely with the Industrial Revitalization Corporation of Japan or any other government agencies to make sure that the plan to deal with impaired customers was reasonable. This coordination would have been possible since the regulators had a management monitoring team in place at Resona. Unfortunately, it appears that the monitoring team had little to do with the design of the restructuring plan. The policies continue to be reactive, with changes coming only when they are absolutely necessary. This pattern will have to change if Japan's economic and financial crisis is to end.

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