FRBSF WEEKLY LETTER

Number 94-32, September 23, 1994

How Bad Is the "Bad Loan Problem" in Japan?

During Japan's recent economic downturn, the most severe since World War II, the financial press has voiced concern about Japanese banks' exposure to nonperforming or "bad" loans. The reason is that a "bad loan problem" can seriously impair banks' ability to lend, thus causing a "credit crunch" that could exacerbate the downturn. From a macroeconomic perspective, the size of the bad loan problem can have important ramifications for credit availability and, in turn, for Japan's economic recovery.

Despite the importance of this question, a systematic estimate of the overall size of the bad loan problem has so far been lacking, because available accounting data on Japanese banks are inadequate. This *Weekly Letter* draws on a study by Huh and Kim (1994) to fill this gap by providing an indirect but consistent method of estimating the extent of the bad loan problem in Japan. The estimates suggest that the problem is substantial—possibly as much as 40 trillion yen, or some 10 percent of the total outstanding loans of all commercial banks in Japan were nonperforming as of 1992. Japanese commercial banks seem to be making a concerted and unprecedented effort to rid bad loans from their balance sheets in recent periods. Consequently, a reduction in credit availability due to the bad loan problem might account for part of the sluggish recovery that Japan is currently experiencing.

Tight credit and economic recovery

Much of the discussion about a "credit crunch" was heard during and after the 1990 recession in the U.S. The main thrust of the argument is that banks' tightening of credit is not only a symptom of a slack economy but also may be a cause of recession—or at least a source of prolonging it. Specifically, some commentators attributed the sluggishness in the early recovery phase to commercial banks' adoption of a tougher stance on lending, which was driven in part by bank regulators' tighter examination standards. This view is controversial, but it does provide an example in which a factor mostly related to bank credit supply conditions plays an important role in affecting the overall credit market and thus macroeconomic conditions.

Likewise, Japanese banks' exposure to a substantial bad loan problem may be an important factor limiting credit availability. In particular, Japanese banks aggressively increased loans related to real estate during the property and stock market booms of the late 1980s, along with commercial and industrial loans. But with the slowdown in the economy and the significant deflation in Japan's stock and property markets since 1989, the banking sector has been saddled with a large amount of nonperforming assets. The problem is compounded because Japanese banks, unlike U.S. banks, can hold stocks. During the stock market boom, Japanese banks had a "hidden reserve," in the form of unrealized capital gains on the stocks they held; during the recession, the hidden reserve evaporated.

While this description of what is going on in Japan is plausible, judging its validity requires good data on loans held by Japanese banks. The following sections offer systematic and consistent estimates of the overall size of the bad loan problem.

Estimation method

The most direct way of measuring the bad loan problem is to rely on banks' accounting data, such as profit and loss statements. However, this method is not feasible for Japan for at least two reasons. First, most Japanese banks are not required by law to report nonperforming loans.

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Second, when patchy data do exist, they may significantly understate the true amount, since banks frequently have kept nonperforming loans on their books instead of writing them off by drawing on loan-loss provisions.

We circumvented such data problems on banks' (that is, the lenders') balance sheets by turning to the corporate sector (that is, the borrowers') balance sheets. Specifically, we gauged the extent of the bad loan problem by looking at the default rate on accounts and notes payable (hereafter, notes) issued in the corporate sector, for which continuous data are available.

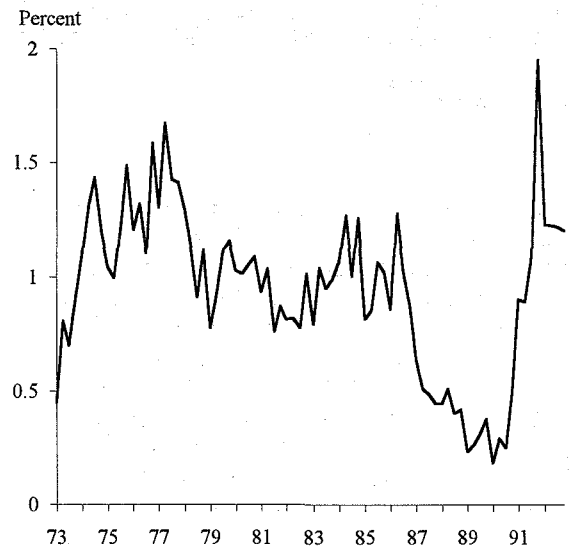
This indirect measure is likely to track the extent of nonperforming loans in Japan for several reasons. First, notes accounted for 30 percent of the total liabilities of the corporate sector in 1990. The importance of notes in the overall liability structure suggests that firms encountering trouble honoring this form of liability are also likely to be having trouble meeting other forms of liabilities, including bank borrowing. Second, although Japanese banks do not tend to report nonperforming loans, they do promptly report a note in default when funds in the firm's account are insufficient to cover the amount submitted for clearance. Given that corporate banking in Japan combines traditional lending activities with discounting and clearing of notes, a suspension of bank transactions triggered by a note default would imply that, from the bank's point of view, the overall creditworthiness of the firm in question has deteriorated significantly. In other words, movements in the aggregate suspension of bank transactions due to note default should be closely tied to the business sector's general financial conditions and hence the extent of the bad loan problem in the banking sector.

On the basis of these observations, the bad loan ratio (BLR) was calculated as the total liabilities of the firm whose transactions with banks were suspended due to note default, divided by the total liabilities of the corporate sector. In other words, we assumed that the amount of bank borrowing by firms with suspended transactions was equivalent to the amount of bad loans. It is important to note that the BLR is not cumulative; instead, it is a measure of *new* bad loans.

Historical pattern of the estimated bad loan ratio

Figure 1 helps put the recent episode into historical perspective by displaying the estimated BLR for all banks over a 20-year period (1973–1992).

Figure 1
Bad Loan Ratio Estimate for Japan



Three patterns in the figure are worth noting. First, the BLR rose sharply in the 1970s. The first peak was in 1974, at about 1.5 percent, in the wake of monetary and fiscal tightening in early 1973 geared to restrain inflation and the oil crisis of October 1973. The ratio rose again to yet higher levels in 1977, reflecting the slump in export-dependent industries triggered by a sharp appreciation of the yen. (The yen/dollar exchange rate appreciated from about 290 at the beginning of 1977 to 170 in October 1978.)

Second, the series does not exhibit any discernible trend from the late 1970s through the mid-1980s. That is, no marked increases in the BLR appear to have been triggered by the second oil shock in 1979, the widespread recession of the early 1980s, or the sharp appreciation of the yen after the Plaza Accord in 1985, where five major industrialized economies agreed to drive down the dollar.

Third, the BLR declined markedly during the bull market (the so-called bubble economy) of the second half of the 1980s, reaching a low of 0.24 percent at the end of 1989. The ratio then sharply reversed trend, soaring to an all-time high of nearly 2 percent in 1991. This surge coincides with the steep decline in asset prices since late 1989 and the onset of Japan's current recession that many now consider to be the most severe since World War II. The estimate of the bad loan problem provided here corroborates this view in

a striking way. The severity of problem loans appears to have subsided somewhat in 1992, but no definitive statement can be made without more up-to-date data.

How big is the current stock of bad loans?
As mentioned earlier, the estimates presented here are *new* bad loan ratios for each quarter. However, banks may carry some or even a substantial part of the previous period's bad loans over time. Indeed, according to Japanese practices, loans are not considered delinquent until six months without payment, and even then a bank may accept a token payment so the troubled debt may ride another six months.

The widespread practice of carrying bad loans over from one period to the next suggests that the true severity of the current bad loan problem may be better measured by a cumulative ratio. To explore this possibility, we cumulated the bad loan estimate from 1990 to 1992, the latest period for which data are available. The implicit assumption here is that before 1990, Japanese banks were able to write off bad loans. The situation changed after asset prices plummeted, wiping out a significant portion of banks' hidden reserves which otherwise could have been used to write off bad loans.

According to the worst possible scenario, namely, that Japanese banks have not been able to write off any portion of nonperforming loans since 1990, bad loans in Japan would have totaled some 44 trillion yen, or 10.4 percent of total loans outstanding (both short- and long-term) at the end of 1992. If we allow for the possibility that banks have been able to write off *some* bad loans, this number could be lowered by 5 to 10 trillion yen, which would bring our estimate remarkably close to some recent private sector estimates of about 30 trillion yen, or about 7 percent of total loans outstanding reported in the financial press.

Our estimate may understate the extent of the bad loan problem in the most recent recession in one important respect. Our sample consists of nonfinancial firms and hence does not include large commercial real estate development firms, which are considered financing companies. Some evidence suggests that these firms, having borrowed heavily from major banks during the bubble economy period, have encountered serious financial trouble since the property market collapse. Some firms are reported to have received special consideration by lenders so as to prevent a chain of financial distress from getting started. Their inclusion undoubtedly would raise the estimated bad loan ratio noticeably.

Conclusion
To help determine how bad Japan's bad loan problem is, we used a measure that is based on indirect data. The estimated measure appears to be a reasonable approximation on several grounds. First, there is a general conformity between the overall pattern of our measure and the past business cycle patterns of the Japanese economy. Second, our estimate matches existing estimates closely.

Our findings indicate that the bad loan problem in Japan in the early 1990s is quite serious. An unprecedented effort by Japanese banks to clear bad loans from their balance sheets may be an important factor in explaining the slow credit growth seen in Japan recently. This, in turn, might explain in part why its economy currently is experiencing a sluggish recovery.

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Reference
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