
FRBSF WEEKLY LETTER

Number 94-33, September 30, 1994

Measuring the Cost of "Financial Repression"

Real GNP growth in South Korea (Korea, hereafter) averaged close to 9 percent a year over the past 25 years. This rapid growth puzzles some economists, however, because it was achieved under a financial system that many would describe as "repressed." Until recently, interest rates in Korea have been tightly regulated, and most investable funds have been channeled through a government-owned banking sector that extended loans at below-market interest rates to government-picked priority sectors.

Was financial repression indeed costless? This *Weekly Letter* provides an indirect measure of the cost of financial repression by focusing on the bad loan problem in the banking sector. As a benchmark for comparison, we use our estimates of the bad loan problem in Japan (*Weekly Letter* 94-32). Both Japan and Korea have relied extensively on the banking sector to finance growth. Yet we find that the bad loan problem has been more severe in Korea than in Japan. We interpret this result as reflecting the relatively lower discretion Korean banks have had, in comparison to Japanese banks, to allocate funds as well as their lower incentive to control bankruptcy risks through screening and monitoring corporate borrowers.

Overview of institutional differences

Japanese banks are relatively free of government control; in addition, a large number of studies now suggest that Japan's banking system, in particular the so-called main banking system, has been highly effective in mitigating informational and other imperfections in capital markets such as those in the U.S. (see, for example, Kim 1993). Although the main bank identified with a particular firm is not its sole lender, it is usually the only bank that undertakes the task of monitoring. Two additional features of the system suggest that powerful incentives were present for the main

bank to be diligent in carrying out this task. First, if a firm monitored by a given main bank gets into financial distress, that main bank also is expected to assume the bulk of the burden in restructuring it or bailing it out. If bankruptcy occurs, the main bank usually absorbs a proportion of losses larger than its loan share. Second, the main bank also faces positive incentives to monitor actively due to the claims structure it holds: The main bank typically is not only the largest lender, it is also an important shareholder, usually the largest among the lending banks.

In Korea, as in Japan, banks have played a dominant role in financing the country's economic growth. This came about largely as a result of conscious policy design. The Korean authorities sought to use banks as a conduit of preferential credit to sectors deemed strategic to growth. The use of preferential access to credit at subsidized interest rates (known as "policy loans") intensified in the 1970s when the government made a major push to establish a heavy and chemical industries (HCI) sector. The HCI share of policy loans in all banks' loans is estimated to be as high as 65 percent, on average, in 1973-1981. The actual share of government-directed loans would be even higher if one included loans that were not extended through explicitly earmarked programs.

Compared to Japan, the Korean government appears to have wielded tighter and much more direct control over the banking sector. Most notably, unlike Japan, the government until recently has been the major shareholder in all major commercial banks. Tight government control gave rise to two types of moral hazard problems in credit markets. On the supply side, banks had little discretion or incentive to control risk by screening projects and monitoring corporate

PACIFIC BASIN NOTES

Pacific Basin Notes appears on an occasional basis. It is prepared under the auspices of the Center for Pacific Basin Monetary and Economic Studies within the FRBSF's Economic Research Department.

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performance. Declaring any sizable industrial enterprise bankrupt or writing off bad loans on bank balance sheets required the explicit consent of the government. In practice, the government averted the bankruptcy of large enterprises by directing banks to provide relief loans or to reschedule debt. In turn, commercial banks received compensating measures such as interest payments on reserve deposits banks held at the Bank of Korea and special loans at low interest rates.

Extreme control and guidance of banking institutions had adverse incentive effects on the demand side of the loan market as well. The socialization of bankruptcy risk, combined with the strict low interest rate ceilings, made the cost of debt financing very cheap for firms in the targeted sectors. This encouraged firms to take on excessively high levels of debt, which, in turn, made them vulnerable to external shocks and economic fluctuations. This excessive debt problem took on especially alarming proportions by the end of the 1970s, and the government responded by becoming more involved in banks' credit allocations to bail out troubled firms and industries. As a consequence, banks were saddled with ever growing amounts of de facto nonperforming loans.

Measuring the bad loan ratio

According to a study that estimates the bad loan problem (Chung 1991), as much as 25 percent of outstanding loans fell into this category in 1988. This estimate is based on a broad definition of nonperforming loans, which includes loans to companies whose credit conditions have deteriorated so markedly as to warrant explicit loan principal recovery measures, along with loans whose probability of repayment is virtually nil. Obviously, this is quite large. Our worst case estimate for Japan in 1992 was about 10 percent in comparison.

It would be interesting to obtain some consistent measure of the bad loan estimate in Korea to see whether the 1988 figure is an exception or not. However, direct and precise measurement of bad loans based on banks' various accounting statements is not feasible. First, consistently measured data are not available. Second, existing data are likely to understate the scope of the problem, since banks customarily carry substantial amounts of nonperforming loans on their books.

Thus, in estimating the bad loan ratio, we employ a method that uses loan demand data

obtainable from corporate balance sheets. The same method was used in our earlier *Weekly Letter* to estimate the bad loan problem in Japan. The severity of the bad loan problem was gauged by looking at the default rate on notes payable in the corporate sector. We adopted this method because of institutional similarities between the two countries. As in Japan, firms in Korea rely heavily on notes as a means to raise short-term liquidity. The commercial paper market, for example, has been instituted only recently and typically handles longer-term paper. Notes are frequently discounted by banks and default is promptly reported. Note default is a good barometer of the financial health of the corporate sector and, thus, the extent of the bad loan problem in Korea.

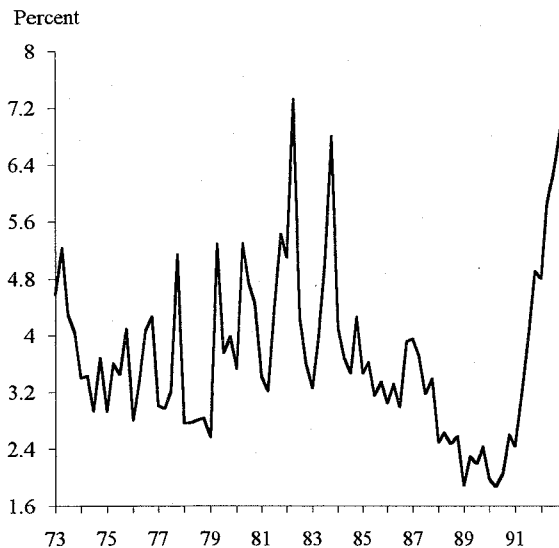
However, unlike Japan, the data related to bank transaction suspensions are not available in Korea. Thus, we used just the note default amount and the outstanding amount of notes payable in each period. The bad loan ratio (BLR) equals the note defaults divided by the outstanding notes payable plus the note defaults. It is important to note that this BLR is a measure of the *new* bad loan problem that is expected in each period.

Historical pattern of the estimated bad loan ratio

Figure 1 shows the estimated bad loan ratio for Korea during the past 20 years. Several episodes are noteworthy. The first oil shock did not cause much of a noticeable increase in the estimated ratio. Indeed, Korea's economy continued to expand at about 8 percent throughout 1973 and subsequent years. However, the bad loan problem appears to have been most severe in the early 1980s. The ratio exceeds 7 percent at its peak in 1981–1982, the period immediately following the drive to build up the HCI sector. This surge in bad loans can be reconciled with several adverse shocks to the Korean economy around that time. Korea's GNP shrank by almost 5 percent as a result of the drought-induced recession of 1980. Weak domestic economic conditions were compounded by the world recession after the second oil shock, pushing many highly leveraged firms into insolvency.

The bad loan ratio trended downward in the second half of the 1980s, though the decline was punctuated by a minor surge in 1987. This surge coincided with the well-known episode in 1987 when many construction companies went bankrupt as a result of cancellations of large overseas

Figure 1
Bad Loan Ratio Estimate for Korea



contracts. Some large shipping companies also slipped into financial distress. Finally, Korea's bad loan ratio increased sharply in 1990, reaching a level comparable to that observed in the early 1980s. Part of the increase may be attributed to the cyclical downturn in the Korean economy in 1992.

Plausibility of the estimate

Our estimated series may significantly understate the actual extent of the bad loan problem since, under government directives, banks usually have carried large amounts of nonperforming loans on their books over long periods. It is widely believed that banks on average have been writing off, in any given year, only about 5 percent of the total bad loans; that is, 95 percent of bad loans have been carried over from one year to the next. Korean commercial banks still need to obtain permission from their regulatory agency for any substantive amount of write-off.

In light of these considerations, we also calculated the cumulative bad loan ratio under two alternative scenarios. First, we derived an upper bound estimate using an average annual write-off rate of 5 percent; that is, we cumulated 95 percent of new bad loans each year over the entire sample period 1973–1992. According to this upper bound estimate, some 36.7 percent of the

total outstanding loans were nonperforming as of 1992.Q4. Carrying out the same exercise using the annual write-off rate of 10 percent yielded 27.1 percent in 1992.Q4. By either measure, the bad loan problem in Korea appears quite significant both in absolute terms and relative to Japan.

Are these high bad loan ratios indeed plausible? One way to check is to compare our estimates with the 1988 estimates of Chung's study. This affords us at least a partial check for the benchmark year of 1988. His estimate of 25 percent compares to our estimate of the cumulative bad loan ratio in 1988 of 17.9 percent using the 10 percent write-off rate and 30.2 percent using the 5 percent write-off rate. It would appear, therefore, that for 1988 at least, the actual bad loan ratio falls between the lower and upper bounds of our cumulative estimate.

Conclusion

While the banking sector potentially can make a significant contribution to economic growth, financial intermediaries themselves need to face an incentive structure that encourages them to screen and monitor corporations diligently. The Korean experience suggests that heavy government intervention can seriously mute such incentives, which resulted in exposing the banking sector to unduly high risk compared with expected mean return. The higher bad loan ratio may be but one manifestation of the associated costs of "unduly" repressing the banking system. Korea's case indeed shows that concentrating financial resources can engender economic growth, but at a substantial cost.

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San Francisco, CA 94120

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with soybean inks. 

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