FRBSF Weekly Letter

August 3, 1990

Bank Failures, Danish Style

The problems with the U.S. deposit insurance system have spawned numerous proposals for reform. Some favor abandonment of deposit insurance altogether, in the hope of enlisting depositors as a source of discipline on banks and thrifts. Others propose narrowing sharply the powers of banks and thrifts to create inherently "safe" banks that would pose no risks of insolvency.

Another alternative would impose stringent, market-value capital standards on banks and thrifts, and close or reorganize any institution failing to meet those standards. Interestingly, this approach has been in use for some years in the Danish banking system, thus providing an opportunity to study its actual performance. This *Letter* reviews the Danish experience, and finds that it functions well, even when banks have broad powers in a highly competitive, cyclical economic environment.

The Danish banking system

There are about 74 commercial banks and 131 savings banks in Denmark. (Commercial banks and savings banks have similar powers and similar portfolios; they differ in their ownership form.) Competition appears quite vigorous; on a per capita basis, for example, Denmark has about three times the number of banks California has. Moreover, foreign banks have had difficulty competing, and have garnered only one percent of total bank assets in Denmark.

Danish banks have fairly broad investment powers. In addition to commercial and consumer loans, Danish banks may invest in corporate debt and equity, subject to generous limits on aggregate and individual positions. They also may make direct real estate investments to a maximum of 20 percent of capital.

Danish banks are regulated by the Danish Inspectorate of Commercial and Savings Banks, under the authority of the Minister for Industry, which has the power to issue and revoke bank charters. Under the Commercial Banks and Savings Banks Consolidated Act of 1974 (CBSBCA), all commercial banks, savings banks, and credit cooperatives face the same regulation.

Reliance on market valuation

Until 1988, there was no deposit insurance in Denmark. Instead, the government has relied upon an aggressive bank soundness policy to limit depositor and public liability. The distinguishing features of that policy are its reliance on market valuation of bank portfolios and prompt closure of any institution with impaired capital, even when that institution still might have positive, market value capital.

Most components of Danish bank portfolios must be shown on the balance sheet at actual, "commercial" value. For example, the CBSBCA stipulates that traded stocks and bonds must be marked to the prices quoted by the Copenhagen Stock Exchange on the last day of the relevant reporting period. This "marking-to-market" requirement is not trivial for Danish banks which, at times, have held as much as 30 percent of their assets in stocks and bonds. In addition, for the purpose of meeting capital standards, the price volatility of the security portfolio must be calculated, and an adjustment made in the capital requirement for this risk.

Real estate and other fixed assets also must be accounted for at commercial value. They must be written down if declines in their market value occurs, while the recorded value of real estate held may be written up only if the higher value is supported by a public land assessment.

Other assets also must be recorded at values no greater than their "commercial value." The recorded value of individual loans, therefore, must reflect all losses, whether actually realized or only foreseen based on changes in default risk or the level of interest rates. (In contrast, in the U.S., losses on individual loans generally are not recognized on the balance sheet until the loan is written off.) For non-traded bonds and fixed-rate loans, banks must adjust the recorded value to reflect changes in the general pattern of interest rates. Changes in foreign exchange rates also must be incorporated into the valuation of all foreign-currency-denominated assets.

Capital requirements and closure policy
At present, Danish banks must hold capital or "own funds" equal to eight percent of total assets and guarantees. Long-term subordinated debt can be used to meet 40 percent of this requirement. To determine whether banks are in compliance, Danish banking regulators rely primarily on reports filed by the banks themselves, and not on inspections, which occur only at three-year intervals.

Stiff sanctions encourage the provision of reliable information on banks' condition. Any time a director, manager, or auditor of a bank believes that the bank has lost part of its equity, he or she must report this to the Inspectorate. Failure to do so carries the risk of fine or imprisonment.

An institution that fails to meet Danish capital standards is subject to rapid sanctions. For losses which cause an institution's capital-to-asset ratio to fall below six percent, the bank must immediately seek additional capital in the marketplace. At most, the bank has until its next shareholders' meeting to raise at least 75 percent of the capital shortfall.

If the necessary capital is not provided, closure is virtually immediate. The CBSBCA states simply that "[i]f the necessary capital is not provided, the Minister for Industry shall withdraw the authorization of the bank." The Minister for Industry then convenes a liquidation committee. Depositors have priority of claim in the liquidation process, and they have representation on the liquidation committee.

Important benefits
A policy relying on marked-to-market valuation of bank portfolios and prompt closure of capital deficient institutions has two important advantages. First, it gives incentives to bank owners and managers to manage the risk of their institutions, since mismanagement can result in abrupt loss of the bank charter. And since institutions may be closed when owner equity still is positive, the liquidation process can lead to additional losses to bank owners and managers.

Second, prompt closure at positive "market value" net worth provides a way of ensuring that losses will be borne primarily by equity holders, and not by depositors. Unforeseen losses may occur during liquidation because of errors in valuation and closure, of course, and the Danish legislature has tended to step in to cover depositor losses. The closure policy, however, ensures that any such public burdens will be minimized. The result is that depositors have confidence in the banking system without the need for a large deposit insurance fund. (The Danes recently have instituted one, however, in compliance with anticipated European Community regulations.)

Portfolio behavior
The behavior of the Danish banking system suggests that Danish regulatory policy has been effective. Danish bank portfolios reflect a heightened sensitivity to risk on the part of the managements of individual banks. First, virtually all Danish banks hold more than the required eight percent capital, and are quick to go to equity markets when their equity approaches that ratio (two of the largest banks, *Den Danske Bank* and *Handelsbank* raised new equity last year). In December 1988, the average capital-to-asset ratio at all banks was 9.5 percent. Savings banks, with depositor-run management, tend to have capital ratios two to three percentage points above the minimum.

Second, the portfolios of Danish banks tend to be highly diversified, both across and within asset categories. Even smaller banks tend to have portfolios that are diversified across industries and instruments. Although regulation permits banks to lend up to 35 percent of total capital (three percent of assets) to a single credit, loan concentrations of this magnitude are rare. For the medium and large banks, such as *Privatbanken,* for example, the 25 largest credits tend to make up less than 15 percent of total loans.

Third, portfolios contain only small proportions of the kinds of assets that fluctuate significantly in value and therefore pose a potential threat to bank capital positions. Long-term, fixed-rate mortgage loans, for example, are a small fraction of total assets. Similarly, even though regulations permit as much as 75 percent of net capital to be held in corporate stocks, actual holdings tend to be smaller. Moreover, corporate bond holdings are unrestricted, but account for only about four or five percent of total assets.

The market-value orientation of regulation and the credibility of the closure process also help to mobilize market discipline in the stock market. The prices for Danish bank stocks quickly drop when risk exposure is excessive.

Reactions in times of stress

Equally revealing is the behavior of the Danish banking system in times of stress. The Danish economy in the last decade has been exposed to a number of stresses, including volatile interest and exchange rates and weakness first in its agriculture and subsequently in other export sectors. In this environment, bank portfolios have suffered losses, and some banks have failed.

Bank failures have occurred without burden to depositors and usually without a formal bankruptcy process occurring. As the bank's position has deteriorated, its shareholders have had an incentive to seek a merger partner, since a breach of capital standards would trigger rapid closure and possible total loss of shareholder investment. The acquisition of the small *Aarhus Discontobank* by *Aktivbanken* in 1988 and the acquisition of *DK Sparekassen* (the fifth largest savings bank, with assets of about $2 billion) by *Bikuben* in 1989 are both examples of privately-arranged mergers of distressed institutions.

Formal bankruptcy does occur as well, however. Recent examples include *6'Juli Banken* in 1987 and *C&G Banken* in 1988. Both banks had "atypical portfolios" which made them unattractive as whole acquisitions to other banks. As a result, both banks were closed within about six months of capital inadequacy first becoming evident. In the case of *C&G Banken,* however, prompt closure did not preserve sufficient net worth to protect all depositors. A decision by the Danish Parliament to protect depositors against loss resulted in a government cost (via the central bank) of about $52 million, which may be reduced as liquidation progresses.

Lessons for the U.S.?

Because the Danish bank regulators require banks to use something akin to a market-value accounting system, it is relatively easy to detect deterioration in a bank's financial condition. Danish regulations permit the bank a short time to raise capital and, thereby, test whether the marking-to-market of the portfolio fairly reflects the bank's true market value. But the regulators try to close promptly institutions that fail this market test of capital adequacy. This appears to have minimized the public costs of bank rescues by ensuring that asset liquidation provides sufficient funds to redeem most obligations to depositors.

In the U.S., in contrast, banks and thrifts are required to report assets only at book value; asset values thus do not incorporate any impairment caused by changes in interest rates or the creditworthiness of borrowers. The true financial condition of U.S. banks and thrifts is obscured as a result, and can lead to delays in regulatory action. In addition, closure has been neither prompt, nor based on market value. This policy creates perverse incentives for weak banks and thrifts to pursue highly risky, "go-for-broke" investment strategies and to structure their portfolios in ways that conceal deteriorated net worth.

Although the Danes themselves have been critical of the Inspectorate for not catching the problems in 1988 and 1989 even sooner, the Danish approach to bank regulation is widely regarded as effective, and the Danish banking system has earned the distinction of being "one of the strongest in the world," according to *Banker Magazine*. Salomon Brothers estimated, for example, that the big *Den Danske Bank* in 1989 had capital 50 percent higher than the standard set by the Bank for International Settlements (BIS).

In summary, despite a competitive environment and powers greater than those of U.S. banks, the Danish system has been able to operate essentially without deposit insurance, without runs, and with orderly failures of banks large and small. Such an approach deserves closer scrutiny to determine its applicability in the U.S. context.

Randall J. Pozdena
Vice President

Research Department

Federal Reserve
Bank of
San Francisco

P.O. Box 7702
San Francisco, CA 94120

Address Correction Requested