Brazil's announcement in February 1987 that it was suspending interest payments on debt owed to commercial banks highlighted the persistence of the international debt problem. This moratorium led to renewed concerns about the economic health both of certain lesser developed country (LDC) borrowers and of the banks that have heavy loan exposures to those countries. As a result of these concerns, a number of U.S. banks added in the aggregate over $17 billion to loan loss reserves in mid-1987 and another $2 billion at the end of the year. Bank regulators, likewise, have been concerned about U.S. banks' exposure. For example, U.S. bank regulators have endorsed proposals that would require banks with large exposures to troubled LDCs to hold higher amounts of capital relative to assets than would other banks.

In this Letter, we examine the background of the current debt problem and its effect on new and outstanding bank loan exposure to developing countries. We find three important trends have emerged since the onset of the crisis in 1982. First, banks have curtailed net new lending dramatically. Second, exposure to troubled LDCs has fallen, but not as much as exposure to other foreign borrowers. Finally, concentration of exposure to troubled borrowers is shifting increasingly towards the largest banks.

Changing roles
Prior to the 1970s, longer-term lending to developing countries occurred primarily through official sources. The bulk of private capital flows, to the extent they occurred, took the form of foreign direct investment. Bond financing was very limited and private lenders like commercial banks tended to provide funds primarily to finance trade. Yet even before the first oil crisis in 1973-74, the role of private lenders began to change dramatically. Increasingly, banks took on the role of financiers of longer-term capital investment projects. As borrowing by LDCs mushroomed in the 1970s, so did banks' role in supplying credit.

Trouble signs
In the early 1980s, LDC debtors' real debt burdens increased dramatically, making it harder for them to continue to meet their debt service obligations as originally contracted. The dramatic rise in real and nominal interest rates through 1982 was translated immediately to LDCs' borrowing costs since most of this indebtedness was at floating rates. Also, the sudden decline in worldwide inflation reduced LDCs' export earnings without simultaneously reducing LDCs' debt service obligations. And the recession in industrial countries exacerbated the problem by reducing the demand for exports from LDCs.

These developments led in August 1982 to Mexico's imposition of a moratorium on the payment of interest on its debt obligations. Other LDCs followed Mexico's example. At this point, the potential for difficulties in the international financial system became a real concern. Lenders, investors, regulators, and policymakers were forced to reassess the risks involved in international lending generally, and in LDC lending particularly.

Changing risk perceptions
The abrupt change in perceptions of default risk on LDC loans is evident in the dramatic changes in the bond and bank loan markets, as well as in the behavior of bank equity prices and secondary market prices for LDC loans. Studies of international bond and bank loan pricing following Mexico's announcement found that borrowing rates for LDCs rose significantly relative to the rate for other international borrowers, and that this reflected an increase in the risk premium on LDC debt.

Additional evidence for the change in perceived default risk is available from the secondary market for bank loans to LDCs. For example, the financial press noted the emergence of secondary market discounts of ten to twenty-five percent relative to the face value of LDC loans in 1983. By 1985, this market was well estab-
lished, and today secondary market discounts of fifty percent or more are not uncommon for loans to certain LDCs.

Other studies have found that the stock market’s reaction to the debt crisis also reflected a concern for increased default risk. Specifically, these studies concluded that investors tended to discount the market values of banks that had large exposures to developing country debt.

**Fewer loans for riskier borrowers**

Given the strong evidence of an increase in perceived default risk following Mexico’s actions, one would expect to have seen a sharp decrease in the supply of loans to LDCs. Of course it may be difficult to attribute patterns in LDC lending exclusively to changes in loan supply when changes in demand for loans on the part of LDCs also may have occurred. But the decline in gross lending to LDCs from an average of $39.2 billion per year in the five years prior to the crisis to $24.1 billion per year after the crisis (according to data reported by the Organization for Economic Cooperation and Development) is at least consistent with the view that lenders became less willing to extend credit after the debt crisis.

Moreover, only a relatively small proportion of the “new” lending to LDCs after the crisis actually represents a net increase in the amount of borrowed funds available to these countries. Instead, most of the new lending involves rollovers of maturing obligations and/or reschedulings. Lenders typically have provided net new funds only to enable the borrower to meet a portion of interest payments coming due on outstanding obligations. Without such continued lending (on both a gross and a net basis), these borrowers would not have been able to meet their interest obligations.

In this sense, then, most bank lending since the onset of the debt crisis has been considered “involuntary.” To avoid losses, lenders have rescheduled loans at below market-clearing rates. Moreover, lending syndicates have had to invoke “fair-share” rules to induce their members to continue lending. In situations where only a few lenders have held the bulk of the total exposure to a country, fair share rules largely have been unenforceable. In these cases, it is only a few lenders that have had real incentives to continue lending; lenders with small exposures — and therefore little to lose — simply have refused to provide additional funds, even though they also stood to benefit from continued lending and a resolution of the immediate repayments crisis.

**U.S. bank portfolios**

As a result of the decline in the value of LDC loans outstanding, U.S. banks suffered market value capital losses even though they generally did not record these losses on their books, nor increase their loan loss reserves significantly until the spring of 1987.

However, U.S. banks did take other steps to counter the effects of the decline in the market values of their portfolios. For example, they raised additional capital through increased retained earnings, asset sales, and sales of new equity and subordinated debt. They also curtailed asset growth overall and LDC loan growth particularly. Outstanding loans to LDCs (including OPEC and non-OPEC) fell from a total of $152.6 billion in 1981 to $133.6 billion at the end of 1986. As a result, LDC loan exposure relative to book capital (for banks with foreign loan exposure) fell from a peak of 243 percent in 1982 to 115 percent in 1986. (See chart.)

**A closer examination**

Despite this encouraging decline in exposure, closer examination of the patterns of exposure among LDCs and other international borrowers, as well as of exposures by size of bank, yields some interesting and possibly disturbing observations. First, exposure to all nations excluding LDCs declined more rapidly than total LDC exposure. For example, U.S. banks’ exposure (relative to capital) to the major industrial nations declined 54.5 percent from 1982 to 1986. By contrast, LDC loan exposure declined by only 50.5 percent, by far the smallest decline for any country group.

Second, even within the category of LDC borrowers, the decline in U.S. bank exposure has varied, with more dramatic declines reported for the LDCs that are not experiencing debt problems. For example, exposure to the troubled “Baker Fifteen” (that is, the fifteen principal LDC debtors, including Argentina, Brazil, Mexico, and Venezuela, identified in Treasury Secretary Baker’s 1985 plan) declined, but less than the
A third observation is that exposure by size of bank also has varied, with the nine largest U.S. banks now holding a larger percentage of troubled LDC loans than was the case in 1982. The nine major money center banks now hold 63 percent of total loans outstanding to troubled borrowers, compared to a low of 56 percent in 1982. In contrast, the other two groups of banks — the next 14 largest and all other U.S. banks involved in international lending — both reduced their shares of total U.S. bank exposure to troubled LDCs.

In terms of absolute changes in exposure, the nine money center banks reduced their troubled LDC loans outstanding by only $1 billion, while the next 14 largest banks and all other banks reduced theirs by $4 billion and $6 billion, respectively, over this period. These latter two groups have sold loans in the secondary markets to a much greater extent than have the largest banks. Also, the non-money center banks have been able to limit their participation in new money packages associated with debt reschedulings, while the money center banks, with their larger exposures, have had stronger incentives to continue lending. Still, because of large increases in book capital, even the largest banks' exposure relative to capital has declined significantly.

A role for loan loss reserves

U.S. banks' exposure to international borrowers, especially troubled LDC nations, has fallen in absolute terms, and relative to capital. Yet that decline is not as dramatic as the decline in exposure to more creditworthy borrowers. Since the problems of highly indebted countries are likely to continue into the future, the recent moves many U.S. banks have made to strengthen their loan loss reserves take on greater importance.

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The table entitled, "Selected Assets and Liabilities of Large Commercial Banks in the Twelfth Federal Reserve District," will no longer be published in conjunction with the Weekly Letter. For those in need of these data, a more timely publication entitled, "Weekly Consolidated Condition Report of Large Commercial Banks and Domestic Subsidiaries" (F.R. 2416x), is available from the Statistical and Data Services Department of this Bank.