

ESSAYS IN INTERNATIONAL FINANCE

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ACCOUNTING FOR LOSSES
ON SOVEREIGN DEBT:
IMPLICATIONS FOR NEW LENDING

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AND

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INTERNATIONAL FINANCE SECTION

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Both authors of this Essay are Professors of Finance at the Wharton School of the University of Pennsylvania. Jack Guttentag is Jacob Safra Professor of International Banking, and Richard Herring is Director of the International Banking Center. This Essay, part of a major study they are undertaking of prudential aspects of international banking, is their fourth contribution to this series.

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ACCOUNTING FOR LOSSES ON SOVEREIGN DEBT: IMPLICATIONS FOR NEW LENDING

1 Introduction

This essay had its genesis in two observations about the behavior of banks since the Mexican debt crisis in mid-August 1982. First, some banks have accumulated substantial reserves and taken large charge-offs against claims on developing countries (see Table 1). Although often these actions have been taken voluntarily, sometimes they have been responses to mandatory provisioning requirements imposed by regulatory authorities (see Table 2 for a summary of provisioning policies in several key banking centers). Second, most banks have substantially increased accounting measures of their capital-to-assets ratios—in many cases at least partly in response to pressure from regulators (see Table 3). As we show later, market-based measures of capital strength have also improved.

In this essay, we examine the implications of these developments for future bank lending to developing countries. More specifically, we focus on how decisions about provisioning and charge-offs are made and how these decisions (along with the balance-sheet consequences of past accounting decisions) affect new lending decisions.

Since the Mexican debt crisis in 1982, the volume of new lending to developing countries has dropped sharply, as shown in Figure 1. Indeed, in several years the change in claims on *all* non-OPEC developing countries has been less than the flow of concerted lending arranged for countries that adopted adjustment programs supported by the International Monetary Fund (Watson et al., 1988, p. 76). We term such concerted loans "bailout" loans because they are made to countries that are unable to borrow from any lenders to whom they are not already indebted. While the change in the stock of outstanding loans understates the volume of new loans to some extent, the volume of other "spontaneous" loans appears to have been negligible.¹

The authors are grateful to Santanu Sarkar for research assistance; to Mark Tousey for data; to Andrew Crockett, David Folkerts-Landau, Arminio Fraga, William Hood, Donald Mathieson, and Maxwell Watson for helpful comments on an earlier draft; and to the Ford foundation for financial support.

¹ The change in the stock of outstanding loans is a downwardly biased measure of new lending because it does not account for loan charge-offs, sales to nonbank investors, the exercise of official guarantees, and repayments of principal, including reductions of interest-rate arrearages.

TABLE 1
 PROVISIONS, RESERVES, AND CHARGE-OFFS AGAINST LDC DEBT, 1987
(in millions of dollars)

Selected U.S. Banks	Date Announced	LDC Provisions during		LDC Charge-Offs during 1987	Total Reported LDC Reserves as a % of Total LDC Claims
		1987II	1987IV		
Citicorp	5/19	\$3,000	\$ 0	\$214	25%
Chase Manhattan	5/27	1,600	0	78	25
Bank of Boston	6/3	300	200	200	55 ^a
BankAmerica	6/8	1,100	0	234	20
Chemical NY	6/11	1,100	0	21	25
First Chicago	6/15	780	240	91	39
First Interstate	6/11	500	180	150	54 ^a
Manufacturers Hanover	6/16	1,700	0	63	22
Bankers Trust NY	6/18	700	0	55	25
J. P. Morgan	7/8	850	0	149	25

Estimated Average LDC Reserves as a % of Total LDC Claims
 for Major Banks outside the United States

Canada	35% to 40%
Germany	40% or more
Japan	5%
Switzerland	30% or more
United Kingdom	30%

^a Total reserves are reported as a percentage of all nontrade related claims rather than all claims.

SOURCE: Compiled from data in Hanley et al. (1988a) and McDermott (1987).

The decline in lending is primarily a reflection of fundamental economic forces—slow growth in the world economy, high real interest rates, and domestic, economic, and political problems in the major borrowing countries—factors we treat as exogenous. Any independent influence of provisioning and charge-offs has been secondary. But since public policy can have some influence on provisions and charge-offs, it is useful to ask how these factors affect new lending, given the fundamental economic forces.

TABLE 2
 MINIMUM LOAN-LOSS RESERVES AGAINST LDC EXPOSURES
 ESTABLISHED BY REGULATORY AUTHORITIES IN SELECTED
 INDUSTRIAL COUNTRIES, YEAR-END 1987

France	No formal rules, but the banking commission has encouraged banks to establish reserves of at least 30% of developing-country exposure.
Germany	No formal rules, but leading banks have up to 100% coverage.
Japan	The Ministry of Finance requires a 5% reserve, which is also the maximum.
Spain	The Bank of Spain requires a minimum 35% reserve against rescheduling countries.
United Kingdom	In mid-1987, the Bank of England proposed a series of guidelines based on a scoring system for individual countries. The application of this system would require the establishment of reserves of 25 to 30%
United States	The three federal bank-regulatory authorities have imposed Allocated Transfer Risk Reserves against several of the smaller rescheduling countries after judging claims on them to be "value impaired."

SOURCE: For all countries except the United States, Hanley et al. (1988a, p. 37); for the United States, GAO (1988, p. 26). See text for further discussion of U.S. Allocated Transfer Risk Reserve.

To anticipate our conclusions, on the one hand, both the increased provisions and charge-offs on outstanding claims on debtor countries and the increased capital strength of the banks have diminished the willingness of banks to participate in future "bailout" loans. On the other hand, increased capital strength will ultimately facilitate a resumption of spontaneous lending to countries that have demonstrated an ability to resume servicing their debt.

Section 2 reviews the basic accounting principles that guide decisions to set aside provisions and make charge-offs and contrasts these principles with bank practice. Section 3 examines accounting and economic measures of a bank's capacity to bear loss and considers the conditions under which one or the other is relevant to the bank's lending decision. Sections 4 and 5 examine the bank decision process with regard to bailout loans and considers how it may be influenced by past provisions and charge-offs and by changes in the capacity to bear loss. This analysis, which is based on the formal model developed in the Appendix, assumes first that only economic values matter to the bank in its lending decisions. It then considers the case where accounting consequences also matter. Section 6 broadens the analysis by showing how provisioning and charge-offs can make it more difficult to achieve collective

TABLE 3
TRENDS IN CAPITAL-ASSET RATIOS OF BANKS IN
SELECTED INDUSTRIAL COUNTRIES
(in percent)

	1982	1983	1984	1985	1986
Canada	3.7	4.1	4.4	4.6	5.0
France	2.1	2.0	1.9	2.2	2.6
Germany	3.3	3.3	3.4	3.5	3.6
Japan	5.0	5.2	5.2	4.8	4.8
Luxembourg	3.5	3.6	3.8	4.0	4.1
Netherlands	4.6	4.7	4.8	5.0	5.2
Switzerland:					
Largest 5 banks	7.3	7.1	7.1	7.8	7.8
All banks	7.5	7.3	7.4	7.9	7.9
United Kingdom:					
Largest 4 banks	7.5	7.3	7.4	7.8	7.9
All banks	4.1	4.4	4.5	5.5	5.4
United States:					
9 money center banks	4.9	5.4	6.2	6.8	7.3
Next 15 banks	5.3	5.7	6.6	7.2	7.5
All country reporting banks	5.6	5.9	6.5	6.9	7.2

SOURCE: Watson et al. (1988, p. 39). Because countries differ markedly in accounting conventions and definitions of capital, these ratios cannot be meaningfully compared across countries, but they do reflect trends within each country.

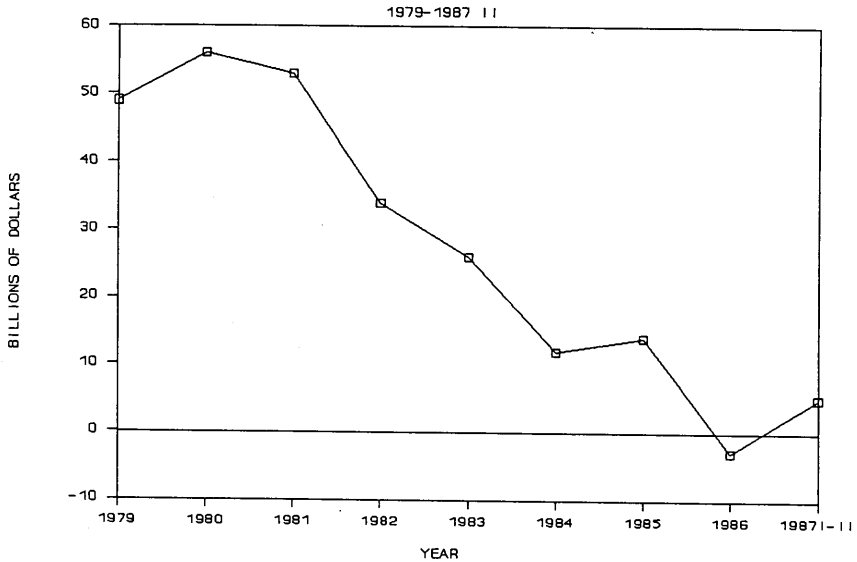
action on bailout loans that are to be parceled out among the many banks that share claims against country borrowers. Section 7 shows how provisioning can reduce the willingness of banks to resume spontaneous lending to countries in good standing. Section 8 considers Citicorp's dramatic decision in mid-1987 to make a special \$3 billion provision against its claims on troubled debtor countries and asks what this might presage for the future of both bailout and spontaneous lending.

2 Provisions, Reserves, and Charge-Offs: Theory and Practice

Balance-Sheet Mechanics

Banks in the United States are expected to recognize and anticipate credit losses through a quarterly charge against earnings known as the "provision for loan loss"—or, for short, "provisions." (The process of deducting a pro-

FIGURE 1
BANK LENDING TO DEVELOPING COUNTRIES, 1979-87II



vision from earnings in the current period is termed “provisioning.”) This charge is credited to a “loan-loss reserve,” which is a contra-asset item on the balance sheet.² When a particular asset is deemed to be uncollectable, the amount of the loss is deducted from the loan-loss reserve and thus does not affect current income. The deduction is termed a “charge-off.”

Tables 4 and 5 show standard formats for reporting bank income and balance-sheet data. The provision for loan losses (item 3 in Table 4) is an addition to the loan-loss reserve (items 2 and 15 in Table 5). The reserve is reduced by the amount of any charge-offs during the current period (item 13 in Table 5) and increased by the amount of any recoveries in connection with credits that were charged off in prior periods (item 12 in Table 5).

If provisions exceed net income during the period, the remaining deficiency is charged to retained earnings. This is what happened when Citibank added \$3 billion to its loan-loss reserve in the second quarter of 1987. When added to the \$403 million provision for possible credit losses in the rest of the bank’s portfolio, the total provision amounted to \$3.403 billion, exceed-

² The federal regulatory agencies include the provision for loan losses and the loan-loss reserve in the Consolidated Reports of Condition and Income (Call Reports) that all federally insured banks are required to file quarterly. The SEC imposes similar requirements on bank holding companies.

TABLE 4
STANDARD INCOME-STATEMENT FORMAT

1. Interest Income
2. Less: Interest Expense
3. Less: Provision for Loan Losses
5. Plus: Noninterest Income
6. Plus: Gains (Losses) on Securities Not Held in Trading Accounts
7. Less: Noninterest Expense
8. Less: Applicable Income Taxes
9. Plus: Extraordinary Items and Other Adjustments Net of Income Taxes
10. Equals: Net Income (Loss)
11. Less: Dividends Declared
12. Equals: Addition to (Subtraction from) Retained Earnings

ing income during the quarter by \$2.585 billion (see Table 6). This was the largest loss ever reported by a commercial bank during any quarter and, when added to the \$117 million dividend that Citibank declared, resulted in a \$2.702 billion reduction in retained earnings (Citicorp, 1987).³ We discuss the reasons for this dramatic accounting event, as well as its potential consequences, in section 7.

In some countries, provisions may be identified with specific assets or categories of assets. The resulting reserve (which may be a liability or a contra-asset account) is termed a "specific" or "allocated" reserve. The distinction between a specific provision and a general provision (or between allocated and unallocated reserves) is of importance chiefly because some regulatory authorities (including the U.S. authorities) regard unallocated reserves, but not allocated reserves, as capital for purposes of meeting capital requirements.

Accounting Principles

In principle, the unallocated loan-loss reserve is the value of anticipated future charge-offs on the existing loan portfolio that cannot yet be identified with any particular asset. As soon as a loss can be identified with a particular asset, a reserve is supposed to be allocated to that asset or the asset is supposed to be charged off, leaving the remainder of the reserve as a buffer against *potential* future losses.

³ A positive adjustment for foreign-currency translation reduced the impact of the deficit on net income on retained earnings by \$6 million.

TABLE 5
STANDARD BALANCE-SHEET FORMAT

Assets

1. Assets
2. Less: Loan-Loss Reserve
3. Equals: Net Assets

Liabilities

4. Deposits
5. Plus: Other Liabilities
6. Equals: Total Liabilities

Equity Capital

7. Common and Perpetual Preferred stock
 8. Plus: Capital Surplus
 9. Plus: Retained Earnings
 10. Equals: Total Equity Capital
- Net Assets (3) - Total Liabilities (6) = Total Equity Capital (10)

Memorandum item: Loan-Loss Reserve

11. Loan-Loss Reserve Balance at End of Previous Reporting Period
12. Plus: Recoveries
13. Less: Charge-Offs
14. Plus: Provision for loan losses (item 3 in Table 4)
15. Equals: Loan-Loss Reserve (2)

Memorandum item: Retained Earnings

16. Retained Earnings at End of Previous Reporting Period
17. Plus: Net Income (item 10 from Table 4)
18. Less: Cash Dividends Declared (item 11 from Table 4)
19. Plus: Foreign-Currency Translation
20. Equals: Retained Earnings (9)

TABLE 6
IMPACT OF PROVISIONING ON CITICORP'S INCOME STATEMENT
(in billions of dollars)

Net Income before Provision for Loan Losses	\$0.818
Less: Provisions for Loan Losses [3]	3.403
Equals: Net Income (Loss) [10]	(2.585)
Less: Dividends Declared [11]	(0.117)
Equals: Addition to (Subtraction from) Retained Earnings [12]	(2.702)

NOTE: Numbers in brackets refer to items in Table 4.

It is analytically convenient to view the provision for loan losses as having two components. The first component is a default premium that is established when each loan is extended and is collected as part of the interest payment in each period. The second component is an adjustment for any positive or negative change in economic conditions that affects the prospects for loss on the loan portfolio.

In principle, the bank determines provisions in each period by evaluating the adequacy of the existing loan-loss reserve for each major category of loan. Such judgments take into account any changes in the reserve that may have occurred over the reporting period, reflected in recoveries net of charge-offs (item 12 less item 13 in Table 5). Given the existing reserve, the relevant question is how much larger the reserve should be to absorb additional anticipated losses due to changes in the size or composition of the loan portfolio during the period, as well as to changes in the economic outlook that will affect future losses. The gap between the loan-loss reserve that management now considers appropriate and the existing reserve is the provision that should be allocated from current income.

Since the adequacy of the loss reserve can be drastically affected by perceived changes in the economic outlook, the gap between the existing reserve and the reserve considered adequate may occasionally become very large—far larger than could be covered by an allocation from income during the period. But an exceptionally large provision need not imply that management's view of the economic outlook has deteriorated sharply. Accounting practice often diverges markedly from accounting principles.

Accounting Practice

Bank managers can exercise substantial discretion regarding the timing of provisions because judgments regarding potential future losses are inherently subjective. This is particularly true in the case of sovereign debt, where repayment depends heavily on political will in addition to financial capacity. Furthermore, a definitive loss on loans to (or guaranteed by) sovereign governments occurs only when a loan is repudiated, restructured on a concessionary basis, or sold below book value. Barring such a definitive event, there is always a chance, however slight, that the claim will be collected. Although charge-offs often have a more objective basis—for example, when a borrower terminates operations and is liquidated—even seemingly hopeless situations are sometimes favorably resolved. (That is why one component of the loan-loss reserve, item 12 in Table 5, is “recoveries” of amounts previously charged off.)

So long as investors and regulators rely heavily on financial statements to evaluate a bank, the bank's managers will have an understandable aversion to reporting a decline in net income and equity capital. Larger provisions

reduce net income (and compensation tied to net income) and may cause the regulatory authorities to curtail the bank's discretion to pay dividends.⁴ Moreover, charge-offs that exceed provisions reduce the stated (though not necessarily the real) capacity of the bank to bear future losses. Indeed, the bank's solvency may be in question if the amounts involved are large enough. Thus it is not surprising that managers often exercise their discretion to take smaller provisions and charge-offs than might seem warranted to outsiders.

Constraints on Bank Discretion

Although bank provisioning and charge-off decisions are, in the first instance, the prerogative of a bank's management, they are subject to review by several external groups that are likely to take a less optimistic view of the bank's loan portfolio. The first such group is the bank's own external auditors. If the auditors believe the bank's provisions or charge-offs are insufficient, they can insist that the bank increase them or can insert a qualification in their certification of the accuracy and completeness of the bank's financial statements. In taking this stance, the auditors risk being fired. But if they defer to the optimistic view of the bank's managers and it is not borne out by subsequent events, the bank's shareholders may sue the auditors for misrepresenting the financial condition of the bank. Moreover, if the bank's condition deteriorates to the point that it requires an injection of funds from the Federal Deposit Insurance Corporation, the auditors may be sued for having failed to warn the bank's managers about the deterioration of the bank's condition.⁵

Provisions and loan-loss reserves by major banks are also carefully monitored by bank security analysts, who advise investors regarding the relative attractiveness of bank stocks and the relative safety of uninsured claims on banks. The loan-loss provision divided by net charge-offs is considered a key indicator of credit quality. Since a bank's loan portfolio normally grows, the presumption is that this ratio will exceed 1. If it does not, the bank will usually be obliged to explain why its net charge-offs were abnormally large in the current period or why it believes that its exposure to credit risk has diminished. Similarly, a bank with a relatively low ratio of loan-loss reserves to total loans may be obliged to explain why its reserves are not deficient. (The bank usually attempts to make a case that its lending standards are more

⁴ Continental Illinois National Bank is a striking example of a bank that avoided making adequate provisions in order to continue paying its customary dividend. A bank supervisor in another Western country told us that when he asked a major bank to defend its current provisions, the bank presented an algorithm that, on close examination, made provisions a residual after payment of the *customary* dividend.

⁵ In the wake of the collapse of Continental Illinois National Bank, the FDIC unsuccessfully sued Ernst & Whinney, the auditors of Continental Illinois, for having failed to warn senior bank officers about the shaky condition of loans purchased from Penn Square (Bailey, 1987, p. 6).

conservative than those of its peers or that it charges off weak loans more aggressively.)

The provisioning decision is subject to further review by the regulatory authorities. In the United States, the Securities and Exchange Commission monitors provisions for loan-loss reserves to make sure that income is reported accurately to investors. If the SEC finds the provision to be inadequate, it may force the bank to publish revised financial statements, amend its procedures for determining provisions, or face a penalty.⁶

The bank supervisory authorities in the United States also monitor the adequacy of a bank's loan-loss reserves and charge-offs as part of their evaluation of a bank's capital adequacy and the enforcement of capital requirements. Indeed, the classification of bank loans is a fundamental part of the examination process. Bank examiners classify loans of questionable quality as "substandard," "doubtful," or "loss." Loans classified as "loss" are deducted from capital, while partial deductions may be made for loans falling into the other classifications.⁷ In addition, as a routine part of every examination, bank examiners discuss with a bank's managers the need for additional charge-offs and review the record of charge-offs since the last examination (GAO, 1988, p. 64).

Since February 1984, U.S. banks have been required to maintain a specific loan-loss reserve against claims on the most seriously troubled sovereign debtors. A provision of the International Lending Supervision Act (*Federal Register*, 49, Feb. 13, 1984, p. 5591) requires that banks establish an Allocated Transfer Risk Reserve (ATRR) when the Interagency Country Exposure Review Committee (ICERC), representing the three federal banking agencies, determines that claims on a particular country are "value impaired." The ATRR is an addition to and separate from the unallocated loan-loss reserve and is not counted as primary capital in evaluating the bank's capital adequacy.⁸

The ICERC is obliged to classify claims on a country as value impaired when a country has not made full interest payments for more than six months, or has not met the terms of its restructuring agreement for over one

⁶ In June 1987, First Chicago Corporation, in an agreement with the SEC, restated its 1983 and 1984 financial results and agreed to revise its loan-loss reserve procedures without admitting or denying charges that it had violated the corporate-reporting and internal-control provision of the securities law. First Chicago insisted in 1984 that "a huge batch of loans had all gone sour at once. The SEC contended that the loans went bad over a period of time and that loss provisions should have been taken earlier" (Ingersoll and Bailey, 1987, p. 7).

⁷ One approach has been to deduct 50 percent of loans classified "doubtful" and 20 percent of those classified "substandard." An additional category, "other," is used to classify loans that have some deficiency in documentation that the bank is obliged to remedy.

⁸ See Guttentag and Herring (1985a, pp. 22-25) for an extended discussion of the ATRR and the context in which it was adopted.

year, or has not complied with its IMF stabilization program and shows no immediate prospect for compliance, or appears unlikely to resume an orderly restoration of debt-service payments in the near future. For countries classified as value impaired, banks are obliged to set aside an ATRR equal to a specified percentage (usually 10 percent) of the face value of the loan or to charge off an equivalent amount of the loan. The ATRR increases each year (usually by an additional 15 percent) so long as the country is classified as value impaired.

The classification criteria provide the agencies with substantial discretion, which they have used to avoid requiring an ATRR against claims on any of the largest debtor countries.⁹ Claims on eight of the smaller debtor countries, representing collectively less than 2 percent of U.S. bank claims on developing countries, have been classified as value impaired. Few, if any, banks have established ATRRs, however. This is partly because the prospects for repayment of the relevant claims have been so poor, and the amounts involved so small, that the banks voluntarily charged them off before the ATRR was imposed. Moreover, banks find it less costly to charge off a loan than to establish an ATRR, because a loan is subject to a capital requirement so long as it remains on the balance sheet.

Although the supervisory authorities have generally encouraged banks to increase their loan-loss reserves, IRS regulations have steadily reduced incentives for banks to make loan-loss provisions. Until the mid-1970s, U.S. banks could deduct provisions from taxable income until they had accumulated a tax-deductible loan-loss reserve equal to 2.4 percent of eligible loans (a total that excludes government-guaranteed loans). Beginning in the mid-1970s, this permissible reserve was gradually reduced until it reached six-tenths of 1 percent of eligible loans in the mid-1980s. Under the tax law that became effective in 1987, banks are no longer permitted to deduct provisions from taxable income, only losses as evidenced by charge-offs, sales, or other dispositions of loans. Because the new law increased the U.S. tax liabilities of most major banks, however, they may now obtain larger tax savings from charge-offs than they formerly did from provisions.¹⁰

In summary, practice often departs from principle in determining provi-

⁹ For example, even though Brazil's interest moratorium during 1987 lasted more than six months, the three agencies did not require an ATRR against bank claims on Brazil.

¹⁰ Although the marginal tax rate has declined from 46 or 48 percent to 34 percent, the base on which banks are taxed has expanded substantially. Indeed, under the previous tax law several leading banks paid negligible federal income taxes. Moreover, the new tax law requires that banks repay the Treasury for provisions that were permissible deductions in earlier years. The recapture will take place over four years—10 percent of the tax-deductible loan-loss reserve will be taxable in the first year; 20 percent in the second; 30 percent in the third; and 40 percent in the fourth. The recaptured amount will be taxed at the new lower rate, however, whereas past deductions were taken at higher rates.