



# IV

## Quality of Information, Supervisory Reporting, and Public Disclosure

This chapter first discusses issues relating to the quality of financial data and difficulties in valuing bank assets. It then examines the types of information required by the various users of data describing the financial condition of banks. The adoption of internationally accepted accounting standards,<sup>30</sup> including the principles of accrual and consolidation, would facilitate the production of high-quality data. In addition, detailed rules governing the valuation of bank assets and the treatment of income and expenditure are often desirable. A by-product of good-quality banking data is a more reliable input to the determination of macroeconomic policy, but that subject is beyond the ambit of this paper. However, to the extent possible, coordination with compilers of monetary statistics will help reduce the burden on reporting entities. The focus here will be on the information needs of two types of recipients with an interest in bank soundness, supervisors, and the public.

### Quality of Banking Data

Reliable and comprehensive information on banks' financial condition is fundamental to effective corporate management, market discipline, and official oversight, and thus should be a very high priority. If such information is not available, management decisions may not be conducive to sound banking. Managers and owners (especially in cases where ownership is widely dispersed) may not be aware of the true financial condition of the institution or, if they are, they may wish to conceal it; the public may thus be misled and this may prevent market discipline from working. Moreover, lender-of-last-resort assistance may be misdirected in support of banks whose solvency is exaggerated. In addition, the absence of clear and unambiguous data may make it more difficult for supervisors to resist pressure to bend the application of prudential rules and delay corrective action, in the hope that such banks may recover. Supervisors and courts are then liable to become more susceptible to political interference.

<sup>30</sup>Such as those based on the recommendations of the International Accounting Standards Committee.

### Accounting and Valuation Rules

Reliable estimates of the financial condition of a bank require well-designed accounting principles. Such principles encompass the practices of accrual and consolidation. Particular attention needs to be paid to the use of valuation rules, for example, historic cost, market prices, and estimated realizable values.<sup>31</sup> Accounting rules tend to vary from country to country, but most countries require their banks to value their principal assets—investments and loans to businesses, households and the government—in nominal terms (or according to some index); the value of performing assets can therefore be calculated relatively easily. However, once the capacity of the borrower to honor its debt is in doubt, or the loan contract has been breached and the loan has become nonperforming, the value of the asset becomes impaired.

One way to produce a reliable valuation for bank assets would be to make an estimate of their market price. However, reliable market pricing mechanisms exist only in markets that are sufficiently deep, active, and liquid; such markets exist only for certain types of assets and only in a limited number of countries. Even when loans are legally negotiable, they are seldom traded and it is difficult to identify a clear market value. Thus, objective market-based criteria for valuation of bank assets are frequently lacking, regardless of whether or not sound accounting techniques are used.

Consequently, there is always a degree of uncertainty in the valuation of bank assets and that uncertainty increases sharply during periods of economic distress or crisis. Asset valuation problems are often compounded by macroeconomic volatility or shocks, including high inflation or sharp disinflation, and large changes in exchange and interest rates. Valuation of bank loans or investments in equity or debt instruments can be complicated by poor quality, or lack of, financial data on the bank's borrowers, doubts about the viability of their businesses, and the prospects for the sector in which the borrower operates. Banking information tends to deteriorate further when borrowers and bank managements have a mutual interest in

<sup>31</sup>For an additional discussion, see Lindgren, Garcia, and Saal (1996), Appendix I.

masking the poor quality of loans in order to keep loans current, and thus avoid revealing losses and possibly losing control over their enterprises and the bank, respectively.

### Problems with Bank Asset Valuation and Income Recognition<sup>32</sup>

A realistic valuation of assets and the prudent recognition of income and expense are critical factors in evaluating the financial condition and performance of banks. Since most banking assets are loans and advances, the process of assessing the quality of bank credit and its impact on the bank's financial condition is critical. Otherwise balance sheets may not reflect the true financial condition of the bank and the income statements may overstate profits upon which taxes and dividends are paid. Such an overstatement of profit is primarily due to the failure to establish realistic provisions for potential or actual losses, or to suspend interest on nonperforming assets, which is often prompted by managers' or proprietors' desire to enhance the bank's standing and their own income from it. When timely action is not taken to address problem assets, losses accumulate as opportunities to strengthen or collect these assets are lost and marketable collateral may dissipate. The losses may grow rapidly as bankers attempt to carry problem borrowers rather than recognize the losses and sever the relationship. If left unattended, such losses may threaten the solvency of the institution and, if widespread, the banking system as a whole.

### Loan Portfolio Review and Classification

The starting point for any systematic assessment of banks' asset quality is a loan portfolio review conducted by the bank. Under normal circumstances, such a review covers all major customer relationships, including off-balance sheet commitments.<sup>33</sup> In addition, the review includes all nonperforming loans, including those where there are concerns about the ability of the borrower to repay, as well as those that are past due. All loans to connected parties are also reviewed. A sample of the remaining portfolio is selected as it is important to check that loans classed as performing are in fact in order. Credit files and collateral documentation are reviewed on a case-by-case basis to permit an assessment of the borrower's repayment prospects, which depend mainly on cash flow and the business asset conversion or turnover. Collateral is normally viewed as a secondary source of repayment.

After a bank's asset portfolio has been reviewed, it is normally graded according to established criteria. A typical grading scheme used in many countries contains four grades of asset quality: standard or current, substandard, doubtful, and loss. The first category includes assets that are not considered problems. Assets falling into the latter three categories possess various degrees of well-defined credit weaknesses and are typically referred to as *classified* assets. In some countries, the criteria for classification are left to the judgment of individual banks, subject to an overall assessment by the supervisor. However, owing to the weakness of the assessment process in many countries, the application of various rule-based criteria by the supervisory authorities themselves has been found useful. The evaluation of certain classes of high-volume smaller loans such as mortgages, installment loans, credit card receivables, and hire purchase agreements may be based strictly on performance rules derived from historical experience, which can indicate the proportion of substandard assets that are likely to deteriorate into loss.

In the case of large borrowers, sound policy dictates that if a loan of such a borrower is classified in a bank, all other loans of the borrower in that bank should be similarly classified. This could be extended by the supervisor to apply to all other credits to that borrower from all other banks in the system, possibly through the presence of a central risk bureau.

### Treatment of Collateral

Credit decisions need to be based primarily on a detailed analysis of a borrower's ability to repay. In the absence of reliable financial information on customers, bankers in many countries typically rely on the collateral provided by the borrower. Overreliance on collateral is problematic because the collateral is often illiquid, difficult to value during periods of financial distress, and costly (in terms of both time and money) to realize through foreclosure or other legal means. While collateral is a valuable protection against loss, it does not replace a careful assessment of the borrower's ability to repay. Collateral and other guarantees need to be appraised periodically, taking into account the financial position of the guarantor, legal documentation, and other factors.

### Loan Loss Provisioning

Asset classification<sup>34</sup> of the type described above, together with a general reserve for the remainder of the portfolio (where specific risks have not been iden-

<sup>32</sup>This and subsequent sections draw heavily on Bank Supervision Guideline No. 6 in World Bank (1992).

<sup>33</sup>Valuation of some types of contingent financial instruments may be difficult since they are often subject to complex pricing mechanisms.

<sup>34</sup>The process of asset classification is designed to encourage timely action by a bank's management to strengthen or collect its problem assets.

tified), provides a basis for determining an adequate level of reserves for possible loan losses. But other factors must also be considered, including the quality of banks' credit procedures, prior loss experience, loan growth, the quality and depth of management in the lending area, loan collection and recovery practices, and general trends in the economy.<sup>35</sup> There is considerable merit in estimating loss potential on a case-by-case basis, particularly for large borrowers, using provisioning rates based on observed loan loss experiences modified by judgmental estimates.<sup>36</sup>

Tax authorities normally accept that provisioning is a method for recognizing the loss in the value of a bank's assets. Specific provisions constitute a normal operating expense for a bank and should be fully deductible from income for tax purposes, provided that banks consistently apply justifiable loan classification and provisioning rules. Not applying tax deductibility of provisions representing accrued losses amounts to taxation of a loss and therefore, by reducing after-tax retained earnings, would contribute to the decapitalization of a bank. However, when a bank chooses to apply an excessive provisioning percentage, it is not inappropriate for the tax authorities to decline to accept the higher provision as a charge against taxable income (see Alexander et al., 1997, Chapter IV).

### *Interest Suspension*

Another important aspect in evaluating asset quality is a bank's policy on the treatment of interest on problem assets. Inappropriate income recognition policies can rapidly distort banks' financial statements, especially when nominal interest rates are high. Failure to pay interest, or even a delay in doing so, can seriously affect the value of the loan to the bank. Under accrual accounting, interest on performing assets is included in income for the period during which it is earned. However, it would be inappropriate to count as income uncollected interest on loans that are seriously delinquent or where repayment of loan principal is in serious doubt, since the interest is not likely to be received. Where uncollected interest on nonperforming assets is included in income, the bank's profits will be overstated. The problem is compounded in cases where a bank is incurring economic losses but its management is not only reporting inflated accounting profits but also paying taxes and dividends based on those fictitious profits (to conceal the bank's true condition), thus causing a progressive decapitalization of the bank.

<sup>35</sup>When observed loan loss experiences in a country deviate from those underlying suggested percentages from developed countries, such as the United States, required loss reserves may need to be appropriately adjusted.

<sup>36</sup>For additional information on loan loss accounting and provisioning in 14 OECD countries, and other more sophisticated approaches, see Beattie et al. (1995).

It is standard practice in such cases to suspend the accrual of interest to avoid overstatement of bank income and assets. When loans are classified, any future recognition of interest income will only occur as and when interest is actually received in cash. Any interest that has previously been capitalized by an increase in the claim on a borrower, but not received, is regarded as doubtful and is provided for, initially by a charge against current period income. Any previously accrued income that has not been received or capitalized is reversed out of income to ensure that net income for the current period is not overstated. However, a bank needs to continue to record the interest indebtedness of the borrower to substantiate the total level of its claim in the event of liquidation of the borrower or in the event that improved circumstances of the borrower permit full or partial recovery. For this reason, bank accounting systems may continue to record interest due but not received on nonaccrual loans in one account, with a counterpart entry going to an offsetting *interest suspense* account. These accounts enable banks to track, and where required disclose, interest income forgone, as well as to avoid overstatement of assets. In the absence of such accounting controls, supervisory monitoring can be difficult. Bank managers would have increased scope to roll over loans. A typical approach is to require the suspension of interest on those assets that are, say, 90 days or more in arrears or are classified as "doubtful" or "loss."<sup>37</sup>

### *Implementation Issues*

Because valuations of bank assets are prone to manipulation, especially when banks are in financial difficulties, most countries have introduced prudential rules for the classification of impaired assets and provisioning percentages on the lines described above. By applying consistent definitions, criteria, and practices, owners, market agents, and supervisors alike can then analyze the financial condition of a bank. Needless to say, individual loan analysis may still be needed, especially for large credits.

It should be stressed that loan classification and provisioning are principally the responsibility of bank management, which must have in place appropriate accounting, reporting, and control procedures for the appropriate monitoring and classification of all loans and collateral and the follow-up of problem loans. Where minimum requirements for loan classification and provisioning are mandated by regulation, internal and external auditors verify that procedures are in place for compliance and, if necessary, can call for additional provisioning.

Banks' loan loss provisioning and income recognition can be tested and reconfirmed by banking super-

<sup>37</sup>For details, see Guideline No. 6 of World Bank (1992).

visors. An essential element in any system is the ability of the supervisors to overrule any provisioning made by banks. As discussed in Chapter VII, this requires that supervisors have the professional capacity to conduct such assessments and have the legal power and institutional authority to call for additional provisions or reversal of income. Such action by supervisors could, of course, force a bank to disclose losses or even admit insolvency.

### International Aspects

For international accounting standards to result in transparency of banking operations internationally, some standardization of loan loss provisioning and interest suspension rules is desirable. This is, however, an extraordinarily complicated area in which the international supervisory community, and even the European Union, has failed to agree on common rules or guidelines for years. One regional group of banking supervisors, the Association of Banking Supervisory Organizations in Latin America and the Caribbean, agreed on a minimum set of such guidelines in 1991 (see CEMLA, 1992), but these guidelines have not won wide acceptance in individual countries because of their lack of specificity and the absence of widespread international consensus. The development of internationally accepted rules in these areas, possibly drawing on the World Bank's experience (see, e.g., World Bank, 1992), could make a valuable contribution to strengthening the quality of banking data globally. This, in turn, would directly affect the quality of monetary and other macroeconomic statistics.

## Information for Supervisors

The key ingredient in effective bank supervision is accurate and timely information about the financial status and operations of banks within their jurisdiction. This section discusses the types of information a bank supervisor might be expected to request and how they are best measured and collected. Not all countries will be able to meet all of these requirements, at least in the early stages, but they indicate what supervisors need if they are to assess the risks facing the banking systems they supervise. Moreover, in some cases the burden of providing information on relatively low-risk activities may outweigh the benefit to the supervisor and distract valuable management time. But the supervisor needs at least to know where the significant risks are and to have adequate information about them.

Bank supervisors should request information that enables them to (1) assess the decision-making structures and competence of bank management; (2) assess the risks undertaken by the bank; (3) assess current and fu-

ture profitability and earnings; (4) determine the adequacy of capital and (5) monitor banks' liquidity.<sup>38</sup>

### Information to Evaluate Decision-Making Structures and Management

While the effects of concentration of ownership of banks on the stability of banking systems are not well established, detailed information on ownership structure, including any cross holdings in related institutions, helps the supervisory authority discern whether the bank is maintaining an arm's-length relationship with its owners.<sup>39</sup>An excessively close relationship has often weakened incentives for sound credit policies. In addition, if the bank is affiliated with other organizations, for example, within a holding company or conglomerate structure, these affiliations are then transparent to the bank supervisor. Information is also provided on the foreign operations of domestically licensed banks and the local operations of foreign-owned or controlled banks.<sup>40</sup>

One of the most important duties of bank supervisors is to obtain information about banks' management, directors, and major shareholders to assess whether they are "fit and proper" to carry out their respective functions,<sup>41</sup> to help redress the asymmetry of information in these areas between the bank and other market participants. The "fit and proper" test generally requires information about the identity, professional qualifications and experience, competence, honesty and integrity, and personal financial status of the individuals. Such information must be verified by law enforcement agencies, court records, credit agencies, interviews with previous business associates, et cetera. Information detailing business or personal relationships among directors, large shareholders, and counterparties of the bank is also collected to ensure both their suitability and that any financial services provided to them or related counterparties are on a purely commercial basis.

<sup>38</sup> This is the basis of the framework known as the CAMELS rating system, developed in the United States, and used in more or less modified form by supervisors worldwide. CAMELS refers to the evaluation of Capital, Assets, Management, Earnings, Liquidity, and Sensitivity to market risk.

<sup>39</sup>For example, the European Union's 1989 "Directive on coordination of laws, regulations and administrative provisions related to the taking up and pursuit of the business of credit institutions and amending Directive 77/780/EEC" requires that information about large shareholders be collected on shareholders who hold 10 percent or more of capital or voting rights or who can exert comparable influence over the management.

<sup>40</sup>Cross-border supervision issues are discussed in more detail in Chapter VIII.

<sup>41</sup>For more details see Chapter VI. The "fit and proper" test is normally a licensing requirement but is also applied on a continuing basis—hence the need for supervisors to keep this information up to date.

Supervisors need to ensure that there is adequate documentation of the bank's decision-making structures, business strategy, and operations. This generally includes the terms of reference of senior managers, their relation to each other, and their respective authorities to commit the bank. Policies and procedures covering the decision-making processes need to be in writing and provided to the supervisory authority.

Well-managed banks also maintain a fully documented business strategy and operations policy manuals, detailing the business objectives and procedures. Such documents are used by the internal and external auditors as well as the supervisory authority to measure compliance with the bank's own strategies and procedures. The supervisor should also have access to full information about the internal control and internal audit systems, and all written audit reports, as well as all reports of the external auditors, including those provided to management but not to shareholders.<sup>42</sup>

The supervisor generally also seeks to ensure that the bank maintains an adequate management information system, which permits accurate assessment and management of the risk position of the bank and accounts for all its claims and obligations. The reporting and recording should be consistent across various types of transactions, and consistent accounting rules should be used for similar types of financial transactions.

### Information to Evaluate Risks

The analysis of a bank's risk profile should include both on- and off-balance sheet items and their sensitivities to future events. Quantitative data for this analysis are usually submitted to the supervisory authority quarterly, but information on key areas where changes in risk exposure can take place rapidly, such as foreign exchange positions or interbank funding, may be required on a more frequent basis.<sup>43</sup> On the other hand, most qualitative information is obtained annually or when there is a material change in its content. But it is important that bank supervisors be able at any time to obtain information that they consider important for their risk assessment of the bank. With the increase in various types of risk management techniques, it is becoming increasingly important that supervisors understand the general risk management environment of a bank and not depend exclusively on numerical ratios.

Supervisors place high priority on accurate and timely information on the asset portfolio, paying particular attention to the procedures for valuing assets, classifying nonperforming loans, and provisioning. For most banks, credit risk is the most important risk, requiring the most careful analysis. Here, the supervisory

authority's primary role is to ensure that banks are properly and adequately assessing *their own* credit exposures. Evaluating credit risk requires an understanding of the entire credit process. Hence, an essential element is the written internal credit policy manual describing credit conditions, authorization limits, credit diversification policies, procedures for approval, resolution of problem credits, and credit administration.

Besides loans, other forms of credit exposure are becoming more common. For example, many banks have significant off-balance sheet commitments arising from such items as guarantees and other contingent lending agreements, where there is no claim currently on the balance sheet but where the bank is committed to lend if certain circumstances materialize; very often the bank does so only when the borrower's ability to repay has diminished. These types of commitments are particularly susceptible to poor record-keeping practices, as indeed are derivative contracts. Prudential reports need to indicate the likelihood of conversion into actual credit risk, as well as their collateralization. The credit risk in over-the-counter derivative contracts such as interest rate and foreign exchange swaps can be measured by the cost of replacing the contract should the counterparty fail.<sup>44</sup> In addition, other risks need to be reported, such as the risk in the settlement of some foreign exchange operations that, due to time-zone differences, the bank will pay out in one currency while the counterparty may default before payment to the bank is made.<sup>45</sup> Thus, an analysis of a bank's overall credit risk exposure will typically extend well beyond the repayment risk inherent in the loan book, and will require increasingly sophisticated data-processing techniques and systems.

Supervisors pay particular attention to risk concentration, connected lending, and directed lending as these are the areas where most banking problems originate. An evaluation of risk concentration requires information on the counterparties with the largest exposures, on- and off-balance sheet, and on claims on various economic sectors, industry groups, or geographic areas.<sup>46</sup> Information on loans made to entities related through ownership, family ties, or other links, as well as to large shareholders, nonexecutive direc-

<sup>42</sup>The roles of internal controls, internal audits, and external audits are discussed in Chapter VI.

<sup>43</sup>Similarly, monetary data are normally reported at monthly intervals, if not more frequently.

<sup>44</sup>Since credit losses are only incurred by the bank when it is worthwhile for the counterparty to default, only contracts that have positive replacement values to the bank need be recognized as a credit exposure.

<sup>45</sup>The settlement risk associated with differential timing of settlement of the two legs of a foreign currency transaction is called "Herstatt risk," after the 1974 failure of Bankhaus Herstatt, which was closed by its supervisors before delivery of U.S. dollars to counterparties could take place. See also Committee on Payment and Settlement Systems (1996).

<sup>46</sup>To promote international comparability, it is helpful to classify loans by sector and country in accordance with national accounts standards, such as those used in the *System of National Accounts* (IMF, 1993).

tors, and senior management and their families are also reported in detail, specifying loan amounts, terms, and approval procedures. Information on credits granted under government directed lending programs is usually reported separately if they are significant.

Information on loan quality is a key supervisory requirement. The supervisor is typically provided with an analysis of past-due loans by type of borrower, the payment capacity of selected borrowers, collateral, et cetera. As discussed above, this requires that the bank maintain a loan review procedure and a loan classification and provisioning system, incorporating provision for the supervision of interest.<sup>47</sup>

While credit risk remains the most important risk, bank supervisors need to be cognizant of the market risks undertaken by the banks and the sophistication with which these activities are managed, so that they may tailor reporting requirements to ensure that both they and bank management can detect problem situations. The most important types of market risks are specified below. These risks have been separately identified for purposes of discussion, but in practice they are, to some extent at least, interdependent. In fact, one of the features of the value-at-risk (VAR) approach (see Box 1) is that this interdependency is explicitly incorporated.

Virtually every bank operating in an environment of fluctuating interest rates is subject to interest rate risk, which arises as a result of the mismatch (or gap) between its interest-sensitive assets and liabilities. To measure this risk, banks and supervisors need reports on the maturity structure of the interest sensitive assets and liabilities, broken down into several daily, weekly, monthly, or quarterly maturity “buckets.” If off-balance sheet items are used to hedge the interest rate gap, a second report showing the position including the hedging instruments is necessary. Furthermore, since interest rate risk can be assumed in currencies other than the domestic currency, reports need to be provided for each currency in which the bank has a substantive position.

Interest rate risk may also affect the value of a bank’s portfolio of interest-bearing securities, where these are held in liquid marketable form. The bank supervisor requires information about the types of securities held, as well as a maturity breakdown for each type. Securities in the trading book are always reported at market values, as normally are securities intended to be held to maturity.<sup>48</sup>

<sup>47</sup>Any loan that is not current or deemed to have a distinct possibility of loss is referred to as nonperforming.

<sup>48</sup>The Basle Committee’s Core Principles for Effective Banking Supervision do not advocate any particular accounting treatment. In the United States, there is a move toward treating many liquid assets, even if intended to be held to maturity, as valued at market prices as suggested above. Moreover, International Accounting Standard 30 recommends that a bank disclose the market value of dealing securities and marketable investment securities if these values are different from the carrying amounts in the financial statements.

A sensitivity analysis showing the gain or loss, by instrument, from a given percentage change in interest rate on the values of interest-sensitive items would also be extremely helpful. More sophisticated reports could show the effects of a change in slope of a yield curve, or other possible interest rate configurations. Regardless of the ability of the bank to perform sophisticated scenario analyses, management should always establish limits on the various instrument exposures incurred by the bank. Supervisors should assure themselves that such limits exist, are reasonable, and are enforced.<sup>49</sup>

Bank supervisors need to obtain information about open positions in foreign currency in order to assess the foreign exchange risk.<sup>50</sup> As noted, a maturity profile of the outstanding exchange rate contracts is also necessary since much foreign exchange risk may be undertaken or hedged through forwards, futures, options, or swap contracts.

Where banks are permitted to hold equity positions in corporate entities whose stock is quoted on major liquid markets, any significant equity risk is reported to the bank supervisor. At a minimum, the report normally provides a measure of total equity risk (the standard deviation in the equity returns over some previous period) or measure of the potential returns due to movements in the overall equity market of which the security is a part. Commodity risks based on changing commodity prices may also be present. If so, a report analyzing the impact of possible changes in value of commodity-based instruments, based on price changes in the underlying commodity, can also be provided to bank supervisors. Equity- and commodity-based risks depend to a considerable extent on the phase of the business cycle and on whether asset prices are at historically high levels.

Derivatives are an increasingly common method of taking or laying off risks, at least by more sophisticated money center banks. It is essential that bank supervisors understand how derivatives can be used for both hedging and position taking and that they collect information on their use by banks.<sup>51</sup> Notional principal, or the principal amount on which various payments associated with the derivative are based, is the most commonly reported attribute of a derivatives

<sup>49</sup>These best practices are drawn from those recently proposed for discussion by the Basle Committee in its *Principles for the Management of Interest Rate Risk* (1997a).

<sup>50</sup>Even when the bank itself has no net position, it may be exposed to risk if it has foreign currency claims on borrowers that do not have foreign currency earnings or if foreign currency assets meant to offset similarly denominated liabilities are in the domestic non-tradable sector.

<sup>51</sup>Some countries prohibit banks from using derivatives to speculate, but it is often difficult to distinguish between the risk-enhancing and risk-reducing characteristics of the contracts used in specific circumstances.

### Box 1. Market Risk-Measurement Systems

Risk-measurement techniques used by commercial banks have evolved rapidly in many industrial countries, and the Basle Committee on Banking Supervision has agreed that banks, in certain defined circumstances, can use these techniques to calculate regulatory capital charges for market risk. In January 1996, the Committee recommended that national supervisory authorities permit banks to use their internal models for calculating a capital charge, provided that a set of qualitative conditions are met.<sup>1</sup> While the number of banks initially expected to be able to use the internal models option for regulatory market risk capital will be small, a growing number of banks are implementing sophisticated risk-measurement techniques.

Most of the sophisticated models are variants of a value-at-risk (VAR) model, which attempts to measure the amount that would be lost with a specified probability over a predetermined holding period. So, for example, for only 1 percent of the time, for investments held over a 10-day horizon, could the bank expect losses greater than “x” million dollars. When the VAR model covers a number of market risks, the risk-reducing qualities of portfolio diversification can be exploited to reduce capital requirements. Although VAR models may measure

market risk more sensitively, they are costly: they are computer-intensive and require large, well-maintained databases of price and position information. The output from such models does, however, depend on the assumptions made and on the validity of the historical data used. A VAR model should not be viewed as a “black box.”

In addition to VAR models, banks use stress testing to obtain a richer set of information about the risks in their portfolio of unusual events. A stress test may, for example, assume that some set of interest rates or exchange rates changes by, say, 5 percent and calculate the potential gains or losses on the bank’s portfolio. Within a stress-testing environment, the bank can choose the scenarios it views as most likely and obtain quantitative outcomes based on the specifics of their own portfolio. The market risk capital requirements of the Basle Committee recommend that banks have in place a “routine and rigorous” program of stress testing.<sup>2</sup>

The Basle proposals also permit banks the use of so-called Tier III capital. This form of capital, hitherto used by some U.S. securities firms, includes short-term subordinated debt subject to a “lock-in” clause, which provides for it to be converted into equity if the firm falls short of its regulatory capital requirement.

<sup>1</sup>Basle Committee on Banking Supervision (1996a), p. 39.

<sup>2</sup>Ibid., p. 40.

contract. However, this quantity may be deceptive because it may be hedging other items on- or off-balance sheet. Both positive and negative replacement costs—that is, the actual cost of replacing the contract at current market prices—are better measures of the derivatives position’s exposure to market risks. Exposures can be netted against other instruments to the same counterparty where netting is legally enforceable.<sup>52</sup>

The collection of notional principal amounts and replacement costs is no substitute for supervisors’ overall understanding of the accounting rules in place in individual banks (as many banks adopt their own rules when there is a void in the traditional accounting treatment), as well as of valuation techniques, effects of leverage, and risk management techniques applied to derivatives.

Because derivatives can be based on many underlying instruments (some financial, some not), their reporting needs to be broken down by the type of underlying market risk as well as the type of derivative instrument, in relatively broad categories, such as those

suggested by the Euro-currency Standing Committee for reporting requirements for dealer banks, for example, interest rate, foreign exchange, equity, and commodities-linked contracts.<sup>53</sup> The major derivative instrument classes consist of futures, forwards, swaps, and options. Since options have limited losses when purchased but unlimited potential losses when sold, the risks are particularly great.

Information on a bank’s liquidity risk, as well as holdings of so-called liquid assets, typically includes details of the bank’s liquidity management methodology, indicating expected future cash flows and the liquidity gaps for specified future periods. An analysis of the liability side will also include information on the distribution, concentration, and types of funding sources, including interbank and central bank sources. On the asset side, banks report information about firm loan commitments, foreign exchange transactions, commitments to purchase securities, and expected shortfalls in cash flow as a result of nonperforming assets. Banks are often encouraged to undertake sensitivity analyses demon-

<sup>52</sup>Examples of disclosures meeting these recommendations are presented in Euro-currency Standing Committee (1994), Appendix B, also known as the “Fisher Report.”

<sup>53</sup>See Euro-currency Standing Committee (1996)—the “Yoshikuni Report”—Annex 2, for the tabular form of the reporting framework used in the April 1995 survey of derivatives market activity.

strating the effects of changes in their future cash flows.<sup>54</sup>

Some supervisory authorities collect information on a bank's ability to manage operational risk, that is, the risk that business operations, from origination through execution and delivery, will fail to function properly. Such risks arise largely from failures of internal controls, although administrative and technical problems can also be responsible. Some of the most recent published bank problems, such as those of Barings and Daiwa, have been due in part to operational failures. As yet, there are no broadly accepted best practices in this area, but it is clear that the supervisor needs to ensure that the bank has well-documented policies to avoid fraud, including procedures for the taking of disciplinary actions, and that its computer systems are adequately safeguarded against fraud, breakdown, and natural disaster.

### Information to Evaluate Profitability

To assess the quantity and quality of earnings and gain insights on the ongoing viability of the bank, income statements provide information on the main sources of income and expenditure, including detailed information on the treatment of loan losses. While supervision is often focused on bank risks, it is equally important to evaluate the strength of banks' profits as this provides the basis for future capital generation, protection against short-term problems, and insight into banks' competitive position within the financial sector. Interest income and expenses are generally the most important categories in the income statement. However, noninterest income from service fees, investments, and trading often augments basic interest income. Details on noninterest income need to be identified, and the volatility of such income assessed. Supervisors also watch for a dependence on volatile or inflation-related sources of income, as this can signal a higher risk profile and potential weakness. Any unusual or nonrecurring income or expenses should also be noted. Information on operating expenses is also important, particularly in relation to a bank's peers.

### Information to Assess Capital and Capital Adequacy

One of the most-used indicators of bank soundness is capital. For the purposes of calculating capital adequacy ratios, capital is often divided into several components based on their respective availability to cover

losses. Core capital, or shareholders' funds, represents funds that are free and unencumbered by any specific claim by creditors. Secondary, or supplementary, capital may include other items, including subordinated debt. The Basle Committee on Banking Supervision has formulated specific definitions of primary and secondary capital, referred to as Tier I and Tier II capital, for use in its recommended minimum capital adequacy ratio.<sup>55</sup> Supervisors need to ensure that all components of capital are properly defined and accurately and separately reported. When data quality is poor or the condition of the bank is deteriorating, the capital adequacy ratio will typically be a lagging indicator of the bank's condition. Even in good times capital cannot prevent a bank from experiencing problems. But the more capital a bank has, the more scope it will have to deal with its problems.

### Information for Public Disclosure

The public disclosure of information about individual banks and the environment in which they operate is one of the most important methods of imposing market discipline. But the value of disclosure depends crucially on the reliability and accuracy of the available information. Without such information, it is difficult or impossible for the stakeholders to appropriately penalize bad management decision making, for instance, by withdrawing funds or selling the bank's securities, or to reward good decision making.<sup>56</sup> In many cases, market discipline can be most effectively exercised in financial markets by other intermediaries. For example, liquidity problems are likely to first become apparent when a bank is seen bidding aggressively for funds from its competitors. Public disclosure of its problems usually follows with a considerable lag.

In principle, the market, depositors, and the general public have no less a need for information than does the regulator. Indeed, some countries such as New Zealand are introducing systems that rely to a much greater extent on the public disclosure of information previously only available to the supervisor. Many others are now requiring greater disclosure in line with the general tendency for transparency in the business of all public companies.<sup>57</sup> For example, the once common practice of banks holding hidden reserves has now largely disappeared. Nonetheless, in practice

<sup>54</sup>While the Basle Committee's Core Principles for Effective Bank Supervision do not explicitly require supervisors to collect the specific information recommended here, they state that supervisors should expect banks to manage their assets, liabilities, and off-balance sheet contracts so as to maintain adequate liquidity. See Chapter VI for supervisory recommendations.

<sup>55</sup>See Box 6 for definitions of Tier I and Tier II capital and a discussion of the Basle capital adequacy ratio.

<sup>56</sup>However, for market discipline to operate, market participants need to have sufficient alternative investment opportunities. If the banking sector or nonbank financial service sector is insufficiently large and offers no reasonable alternatives, little reliance can be placed on market reactions to force management changes in banks.

<sup>57</sup>In Norway, for example, information on connected lending is routinely published.



there are in most countries significant differences between the information provided to supervisory authorities and that available to the general public. This is because much of the information provided to the supervisors is market sensitive or contains details about relationships with individual customers, and is provided by the banks on a confidential basis. In addition, supervisors have available much qualitative information arising from bank examinations and regular and informal discussions with bank management.

Public disclosure is generally centered on the publication of quantitative and qualitative information in annual financial reports, supplemented by biannual or quarterly financial statements. However, banks may release other information, such as proxy statements, quarterly earnings and dividend announcements, and press releases on recent or prospective developments. In addition, when banks issue debt or equity instruments, they need to prepare and publish a prospectus that satisfies the needs of potential investors. However, in many countries public disclosure is often “too little, too late,” considerably reducing its value.

The information intended for public disclosure should meet the needs of all market participants, including the bank’s current and prospective shareholders and bondholders, other banks, depositors, borrowers, other creditors, other counterparties, and the general public. Financial market professionals, who are able to process highly sophisticated information and directly influence or correct bank behavior, may play a useful role in applying market discipline.<sup>58</sup>

Given the sensitivity of banks’ liquidity to negative public perception, banks are always reluctant to provide information on poor results. The informational asymmetry between market participants and bank management is thus most acute when information is not positive. Such information, which has the strongest potential to trigger market reactions, is generally disclosed at the last moment, in the least reliable way. When such sensitive information is disclosed involuntarily, the markets’ reaction can be very harsh.

Improved disclosure can be brought about directly by law or regulation or indirectly through peer pressure from powerful market parties. In some cases, the supervisor may have direct input into the rules governing public disclosure and, in many cases, there are special accounting principles applied to banks for the

<sup>58</sup>This group includes rating agencies who often have access to additional information, in cases where they are permitted direct access to the banks they rate.

Ideally, the information would be tailored to meet the specific needs of the various users, from the least sophisticated depositor to the most sophisticated investor. To satisfy this criterion, there need to be mechanisms that can process the raw information for the benefit of the various user categories. Institutional fund managers, rating agencies, and the financial press perform this function in sophisticated markets, but elsewhere there is often a sizable gap.

purposes of regulatory reporting. It is desirable for the same accounting principles to be used for public disclosure if at all possible. The direct approach involves mandating minimum disclosure requirements, such as requiring banks to publish specified portions of their prudential reports that do not reveal information that could be used by competitors to the banks’ disadvantage. On the other hand, in normal times peer pressure might work by showing banks that disclosure is to their advantage in raising funds, for example, if disclosure makes potential investors and depositors more likely to provide capital and deposits.<sup>59</sup>

Market discipline cannot be expected to take over the task of guiding banks’ management immediately and fully, but its effect can be enhanced by careful, progressive disclosure once the infrastructure is suitably developed. It is justifiably argued that sudden disclosure of negative information can disproportionately and unnecessarily damage the bank in question or the entire banking system. Thus, any new system of disclosure can best be carefully phased in during a period when banks are sound, and then become a routine matter, thereby reducing the impact of negative information. Moreover, when accounting standards or disclosure methodologies do not yet provide readily accessible information and users are not yet sufficiently sophisticated to interpret the disclosed information, gradual introduction allows time to develop these aspects. This may thus prevent large quantities of sometimes poor-quality information from inundating inexperienced users.

The best practices for information disclosure outlined below contain the minimum information needed for a reasonable assessment of the risks and risk rewards for a bank.<sup>60</sup> Some of the practices suggest additional information to that which is generally available on the basis of statutory requirements. In fact, some argue that banks should disclose all nonproprietary information in their prudential returns. However, of primary importance is the disclosure of information permitting an accurate evaluation of the bank’s risk profile, its profitability, and the capital available to support it.

<sup>59</sup>In this regard, a mixed approach would be to require that banks issue a specified amount of subordinated debt. Since the price of this debt would implicitly provide the market’s assessment of the bank’s credit rating, sound banks could benefit by increasing the amount and quality of information they disclose, while unsound banks would be punished if they chose not to do so. However, this approach is only potentially useful if the country has relatively deep and liquid markets for such debt.

<sup>60</sup>The Basle Committee’s Core Principles for Effective Banking Supervision do not elaborate the elements of public disclosure, as they are not often technically within the purview of banking supervision. However, as a precondition for effective banking supervision, they state that “effective market discipline depends on an adequate flow of information to market participants” and that such information should be “accurate, meaningful, transparent and timely.”

This can fit within the current structure of annual and quarterly financial reporting, with possible additional information provided contingent on certain events, for instance, an increase in reserves, anticipation of large expected losses, or an increase in nonperforming loans.

Generally the centerpiece of public disclosure is the annual report, prepared on a consolidated basis and available to all market participants.<sup>61</sup> The format, typically laid down in statute, contains, in addition to a complete, audited set of financial statements, qualitative information, including for instance a discussion of management issues and the general strategy. It provides the names, other interests, and affiliations of the large shareholders and nonexecutive board members, and information on the corporate structure.<sup>62</sup> It makes clear what parts of the financial statements have been audited and what parts, particularly supplementary disclosures, have not. The financial statements also include information about off-balance sheet items, including some quantitative estimates of exposures to interest rate or exchange rate changes.<sup>63</sup>

#### Information on the Condition of the Bank<sup>64</sup>

Although financial disclosures of banks are the focus of this section, it is important to recognize that most existing rules for disclosure apply to other financial institutions as well. The European Union's Bank Accounts directive (see European Union Council, 1986), for example, covers other financial institutions and most national laws or rules covering disclosure do so for all publicly traded corporations. Thus, except for the attention to some specific items on a bank's balance sheet, the information needed to assess the risks and profitability of other financial institutions is the same.

The financial statements allow users to discern the general risk profile and risk tolerance of the bank,

highlighting the areas in which the bank is taking on exposures, particularly credit risk. To allow a better understanding of the bank's risk tolerance, the report presents quantitative information on the risks and risk provisions, such as the maturity structure for interest-sensitive assets and liabilities, domestic and foreign and currency liquid assets and liabilities, as well as a qualitative discussion of risk-management and risk-control practices.

Banks are normally also required to disclose information on credit risk, including risk concentrations by various broad categories, connected lending, and loans made under directed-lending programs. The user is able to obtain quantitative information on the relation between loans and total assets, nonperforming loans, and loan loss reserves. Definitions for loan categorization, criteria for classifying loans as nonperforming, and criteria for allocating reserves or provisions should be explained. The provision of information on write-downs and recoveries of loan assets is also needed to obtain a full picture of the loan book. Other credit information includes securities and off-balance sheet items broken down by industry type and by credit rating (if rated), including a distinction between domestic and foreign entities. Information on traded instruments (including derivatives) normally includes the gross current losses that would be incurred if counterparties failed.

Disclosure of liquidity risk may be done through the balance sheet and associated notes on maturity structure of assets and liabilities, which enables users to distinguish between the amounts of more stable core deposits and the less stable purchased funds. This information also indicates which assets can be readily liquidated, as well as the level of off-balance sheet lending commitments.

As noted, best practices for disclosing market risks are still being developed. However, the intention is for a bank to report risks from a portfolio perspective whereby all the financial instruments related to the major categories of risk (exchange rate, interest rate, equity, and commodity) are examined together, and financial derivatives should not be looked at in isolation from the rest of the balance sheet.<sup>65</sup> As with credit

<sup>61</sup>The accounts of subsidiaries and other affiliates should, ideally, be prepared with the same year end and be audited by the same firm as the parent.

<sup>62</sup>This description, while not represented in the Basle Committee's Core Principles for Effective Banking Supervision, is reproduced in several International Accounting Standards, notably IAS24, Related Party Disclosures; IAS27, Consolidated Financial Statements and Accounting for Investments in Subsidiaries; IAS28, Accounting for Investments in Associates; and IAS31, Financial Reporting of Interests in Joint Ventures.

<sup>63</sup>In the European Union, member states have been required to introduce a harmonized annual accounts format for banks, on the basis of the Council Directive of December 8, 1986, on the annual accounts and consolidated accounts of banks and other financial institutions (European Union Council, 1986). See also IAS30, the accounting standard for banks, and IAS32, dealing with the disclosure and presentation of financial instruments, produced by the International Accounting Standards Committee, which have been adopted in a number of countries.

<sup>64</sup>The recommendations outlined in this section and the next, closely follow those recommended by the International Accounting Standards Committee in IAS30 and IAS32 and those of the Eurocurrency Standing Committee (1994 and 1996).

<sup>65</sup>Recommendations for further improvements in public disclosure for financial derivatives activities can be found in Basle Committee on Banking Supervision (1995b), issued in conjunction with the Technical Committee of IOSCO. These recommendations encourage institutions to utilize the common minimum framework presented in Basle Committee on Banking Supervision (1995a), also issued jointly with the Technical Committee of IOSCO, as this could improve the consistency and comparability of basic annual report disclosures. More recently, the Basle Committee and IOSCO's Technical Committee provided a survey of disclosures about trading and derivatives activities of banks and securities firms (1996b) to follow up the previous survey and update firms about the advances made since the issuance of the November 1995 report.

risk, a discussion of the methods of measurement and the philosophy undertaken in the bank to manage market risk should also be disclosed.

A bank ideally discloses all material areas of market risk. At a minimum, this should include a report on its interest rate-sensitive assets, liabilities, and off-balance sheet items by maturity. Depending on the risks in the bank's portfolio, the bank would also disclose foreign exchange exposure, broken down by major currency; equity or commodity risks, broken down by major category; and risks associated with its investments or its trading book, at a minimum disclosing the fair value (or market value), the carrying value, if different, and any unrealized profit or loss by security category.

If derivatives (or other instruments) are used for hedging, the bank also needs to explain the hedging techniques that it uses. Regardless of the techniques used, the bank should provide enough qualitative information that the users can interpret the information disclosed. Such a description might specify the types of risks analyzed, the instruments covered and their use within the bank, and a brief description of the methodology.

### **Information on Earnings**

Information on earnings can provide important insights about the longer-term prospects of a bank, enabling the user to determine the main sources of income and expenses and to calculate key indicators, such as earnings per share, return on average assets, and efficiency ratios. A breakdown of total income into interest and noninterest income and a further breakdown of noninterest income may give insights into the "quality" of the bank's sources of income and highlight volatile sources of revenue.

Similarly, expenses are generally broken down into interest expense (permitting users to calculate net interest income) and noninterest expense. To calculate net interest margins, the bank provides the amount of earning assets. Within the noninterest expenses, banks normally report employee compensation, incentives, and benefits, as this is usually the largest category of expense, and any other material categories (for example, operations services, equipment, and occupancy). Specific reserves and provisions also need to be disclosed in the income statement.