

# Appendices

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## Appendix I

### The Value of a Bank

The value or net worth of a bank is the difference between the values of its assets and its debt liabilities.<sup>125</sup> Most bank liabilities are debt instruments that are fixed in nominal terms,<sup>126</sup> so that their valuation is relatively straightforward in normal times. In addition to securities that a bank holds, the main component of bank assets is loans to businesses, households, and the government, which are also fixed in nominal or indexed terms. As there is a positive probability that these borrowers will default on their loans even in normal times, banks face a challenge in valuing their assets and net worth. As a result, there is always a fair degree of uncertainty in the valuation of bank assets. Lesser problems apply to their liabilities. Valuation uncertainty should be considered to be a normal occurrence—one considered acceptable as long as it results from a fair and consistent application of the accounting norms. While valuation is subject to a number of uncertainties even in normal times, it becomes much more problematic in times of stress.

The economic and accounting concepts of net income require that a bank keep its capital intact so that it can continue to generate income in the future. Thus, net income measures the resources available to the bank after it has covered all of its expenses, including capital replenishment. A nonfinancial firm typically depreciates the value of its buildings and equipment over time and may take funds from its current receipts to build a sinking fund to buy new machinery when the old wears out. Equivalently, a bank should classify its loans and depreciate their value according to the estimated probability and extent of impairment. Similarly, the bank must establish a loan-loss reserve to replenish its financial capital that is depleted by loan defaults.

<sup>125</sup> Valuation and accounting issues are addressed in Chapter 5 of the draft *Manual on Monetary and Financial Statistics* (Washington: International Monetary Fund, forthcoming in mid-1997).

<sup>126</sup> Although they may be indexed to keep up with inflation.

**Table 17. Methods of Valuation Used in Financial Statements**

- a. *Historical cost* or *book value* represents the price the company paid for an asset when it acquired it.
- b. *Current cost* or *market value* represents the price that the company would have to pay today to acquire an asset.
- c. *Realizable value* is the amount that a company would expect to obtain for an asset sold in an orderly disposal.
- d. *Present value* is measured as the present discounted value of the net estimated cash flow associated with an asset.

Sources: American Institute of Certified Public Accountants (AICPA) Professional Standards, AC Sections 9000A and 9030; and the International Accounting Standards Committee, *International Accounting Standards* (1995).

### Valuation Techniques

Banks are dependent on businesses' own valuations of their assets (discussed in the annex to this appendix). While, conceptually, banks and their borrowers have four valuation techniques to choose from (see Table 17), their country's accounting rules will constrain their choice. Moreover, bank supervisors often issue accounting regulations for banks that supplement or even override the conventions that businesses follow.

### Loan Valuation in Normal Times

Some businesses with heavy fixed investment that rarely need to redeploy existing resources and are operating in a noninflationary environment rely heavily on depreciated original cost (book values). This approach is satisfactory as long as the business is profitable and readily able to meet its obligations. Most countries require their banks to value their loans and deposits using historical cost.

Other ongoing financial businesses that trade in volatile markets, such as investment banks and money market mutual funds with investments in financial assets, constantly need data on the current value of their investments. Obtaining current values may be problematic in developing and transitional economies where markets are thin, trading is infrequent, and bid-ask spreads are wide. Thus, mutual funds in developed financial markets can more readily mark to market than those with investments in emerging markets.

It has been proposed that the global financial position of some banking institutions be assessed on the basis of current market conditions. This has been tried, but it has proved impracticable. Market values derived from

deep and actively traded organized markets are available only for a limited number of assets (marketable securities, a small share of banks' assets), and in a limited number of countries. The largest items on banks' balance sheet are loans and deposits. The economic value of the loan portfolio is affected by each change in the level of the interest rates. But interest rates and market valuations can be volatile. Under market valuations, they would need to be permanently revalued accordingly. For the sake of consistency, the same revaluation process would need to apply to all deposits although this is often not the practice.<sup>127</sup>

In practice, historical costs, although economically inexact, continue to be relied upon for loans (adjusted by provisioning, as described below) and deposits, with the approval of the relevant accounting authorities. Market values are used for specific items only, such as traded securities.

### Loan Classification and Provisioning

In an alternative attempt to keep loan valuations contemporary, a bank should employ an approach similar to depreciated historical cost when valuing its loans. A loan's principal value is reduced in a process of loan classification and provisioning that should reflect expected future cash flows as indicated by the likelihood and the expected extent to which the borrower will fail to pay the loan's principal and interest and the bank will be unable to cover its losses by selling any collateral backing the loan.<sup>128</sup> While the details of classification and provisioning vary among countries, the general principles are laid out in Table 18.

Supervisors require banks to make specific provisions against the loans that are impaired. These provisions can be treated in one of two ways. First, as in the German system, the provision directly reduces the value of the loan on the asset side of the balance sheet, so that capital is reduced correspondingly on the liability side.<sup>129</sup> The bank will need to replace that capital if it is to retain its preprovision capital ratio. Second, as in the English and American systems, the loan may be retained at its original value on the balance sheet but is partly written down by an allowance for loan and lease losses that is treated as a contra asset on the balance sheet.

<sup>127</sup> This would be a complex, costly, daily task in a large bank. More important, it would lead banks to post a succession of sometimes large, potentially destabilizing, gains and losses on their deposits and loans, despite the fact that, for most of these items, there is a contractually determined amount and payment date.

<sup>128</sup> Thus provisioning is equivalent to reducing a loan's original cost to its estimated present value. Loans that a bank has had to reschedule because the borrower has been unable to meet his obligations should normally remain classified until the borrower has re-established his creditworthiness through a history of timely servicing.

<sup>129</sup> Using this approach makes it clear that losses are being recognized and that they should, therefore, be tax deductible.

**Table 18. Rules for Loan Classification and Provisioning**

Classification	Criteria <sup>1</sup>	Required Provision
Not classified "unimpaired"	Loan is current and has adequate collateral; original source for repayment is adequate.	Amount based on prior charge-off experience
Classified "substandard"	Inadequately protected by borrower's paying capacity and/or collateral; distinct possibility of loss.	15% to 25%
Classified "doubtful"	As above, but also recovery in full is highly questionable.	50%
Classified "loss"	Extremely high possibility of loss; uncollectible with little value; difficulties in recovery so great that the asset can no longer be considered "bankable."	100% (less the realizable value of collateral)

<sup>1</sup> Some countries base the classification on the period over which the borrower has failed to service the loan. For example, a loan might be classified as nonperforming after interest had not been paid for 90 days. Practices vary enormously, however, over the length of the period required for classification. For example, some supervisors do not classify a loan until interest has been withheld for one or even two years. Best practice appears to be 90 days.

This allowance is not recognized as capital under the Basle capital standards.

Supervisors typically also require banks to make general provisions against their unimpaired loan portfolio. The provision may be set in relation to the historical loss experience relevant to each particular category of loans. The value of the loan portfolio is left unadjusted on the balance sheet and a general reserve is established for possible losses.<sup>130</sup> The Basle standards recognize this item as part of tier 2 capital.

Provisioning will prevent the overstatement of net income and avoid paying taxes on fictitious income. In addition, a bank should not continue to accrue interest on loans that become nonperforming. To do so overstates the bank's income, capital, the tax liability, and ability to pay dividends.

Table 18 sets out a scheme, similar to that which MAE typically recommends in the context of its technical assistance to Fund members, for categorizing loans as "unimpaired" or classifying them into one of three categories of nonperforming loans ("substandard," "doubtful," and "loss") and for making provisions for each category of loans.

<sup>130</sup> This process is similar to that used by a business firm when it builds a sinking fund so that it can ultimately replace a depreciated or obsolete asset.

Ideally, a system of classification and provisioning would replicate the value that a loan would bring on an efficient market. This approximation will only be rough, however, because loan valuation is inexact and subjective, although statistical methods are beginning to be applied to make the process more scientific. Moreover, the loan-loss reserve would keep a bank's financial capital intact.

## Valuation of Securities

In principle, both the securities that a bank issues and those that it holds in its asset portfolio can be valued at market prices. However, even when a clear and undisputable market value is available, as in the case of securities traded on a deep and liquid market, supervisors typically believe that this value should not be relied upon to assess the worth of bank assets or liabilities. They take this position because, while the negotiable value of debts may change with market value, neither the legal obligation to repay creditors nor the claim on debtors has altered.

It is reasonable to record debts at original or book values as long as they will be held to their maturity and the obligors are willing and able to meet their commitments. (As described above, the loan-provisioning process can be interpreted as estimating market values for bank loans.) In other situations, market values, estimated present values, or liquidation values are more relevant to decision making.

### *Securities Issued by a Bank*

On the liability side of its balance sheet, a bank may have issued fixed-rate, long-term bonds that are traded on a deep and liquid market. Following a decline in the level of the interest rates, the economic value of these bonds will increase. A market valuation approach would require the bank to post additional liabilities in its balance sheet and the corresponding loss, which could be large for long-term securities, in its income statement. Conversely, a rise in the level of interest rates would reduce the economic value of the bank's liabilities and lead the bank to post a gain in its income statement, part of which could be paid out in the form of additional taxes and dividends. In both cases, however, the amount to be finally repaid to bondholders has remained unchanged.

As long as the bank continues in business, it is obligated to repay the face value of its securities. Therefore, it is preferable to record the obligations in the bank's books at face value, treating them in the same way as deposits, and continuously valuing them on the basis of the contractual repayment price.

The market value or present value of these securities is additional information to the banks' owners and managers at all times and might useful-

ly be recorded in a footnote to the bank's accounts.<sup>131</sup> If the bank were to be sold or liquidated, market, present, or liquidation values would likely become decisive.

### *Securities Held by a Bank*

Countries with well-developed financial systems allow their banks to select between two valuation methods for securities in their asset portfolios. The choice depends on how long a bank intends to keep these securities.<sup>132</sup> Although the details of the rules diverge slightly from one country to the next, the principle is similar: securities in the trading portfolio must be regularly marked to market, with the adjustment in value having a direct impact on the income statement, while securities in the investment portfolio may continue to be valued at historical cost, the difference between this cost and the final redemption price being amortized over the remaining life of the security.

As a result, two identical securities bought at the same date for the same price by the same bank may appear in its balance sheet at different values, if one was bought for trading and the other for investment. As part of the independence of management, the bank determines freely what it intends to do with each line of its securities portfolio. The accounting authorities' role is only to set rules applicable in each case. Again, as with bank liabilities, estimated current values of all of the bank's assets can usefully be incorporated in footnotes to bank accounts.

While book values are appropriate when the bank is expected to continue in business and to hold the asset to maturity, market values are relevant for securities that the bank intends, or is forced, to sell before maturity. Sale could occur not only if the asset is part of a bank's trading portfolio, but also if the bank is illiquid, is to be sold, or is to be liquidated.

## **Problems in Applying These Techniques**

Banks have a recurring problem in that borrowers know more about their own condition and prospects than do their bankers. Therefore, sound banks carefully evaluate their borrowers' condition and prospects before making a loan and monitor borrowers' progress afterward. To prevent competitors from free riding on that information, banks keep information on their borrowers confidential. But some borrowers are intent on deceiving their bankers.

<sup>131</sup> The footnote might include an estimate of the option value to the bank of redeeming callable bonds early.

<sup>132</sup> Strict rules govern the conditions under which a bank can change its methods of valuation. It is not allowed to switch back and forth between valuation methods and is penalized if it attempts to do so.

## Off-Balance-Sheet Items

Adjusted book values exclude the value of intangible assets, such as goodwill, profit opportunities, and underpriced guarantees, which can produce net income in the future. Banks also earn income or experience losses as a result of their off-balance-sheet activities, which can be very large in relation to their balance sheet items. While the Basle Committee has spent many years in attempting to value off-balance-sheet assets and liabilities in an effort to require banks to keep capital that will buffer them against losses that arise both on and off the balance sheet, it is agreed that they have achieved only a rough approximation of the valuation of off-balance-sheet items.

## Valuation During Inflationary Periods

Valuation of business and bank assets and liabilities becomes more complex in an inflationary environment. For example, the depreciated book values of fixed assets tend to understate the market and present values of existing assets and their replacement cost. For example, an industrial firm's sinking fund may be insufficient to keep its physical capital intact. Similarly, a bank's general reserve may fail to keep up with inflation. The purchasing power of financial assets diminishes so that interest rates will be high if the real value of the principal is to be maintained, unless the principal is indexed to the general price level.<sup>133</sup> Similarly, as the valuation of business assets becomes more complex in an inflationary environment, so does the valuation of bank assets and net worth.

Even when a bank requires collateral to protect itself when making a loan, the marketable value of collateral will change with economic conditions. Inflation gives borrowers incentives to service their loans so that they can benefit from the appreciation in the value of their asset. Even if borrowers default, the bank should be able to recoup its loan loss by selling the collateral. Deflation, that occurs, for example, when an asset bubble bursts, exposes banks to defaults and losses on the sale of collateral. An individual bank, conducting credit evaluation according to its usual criteria, may not be able to perceive a problem of, for example, overbuilding in the real estate sector and the sharp reduction in values that could occur when several banks simultaneously attempt to sell their collateral.

<sup>133</sup> The International Accounting Standards (IAS) Committee (1995) has set accounting standards for high inflation environments (IAS 29). These standards attempt to value assets and liabilities on the balance sheet at current prices by universally applying an appropriate price index. The income statement then reflects gains and losses that arise from the effects of changes in the price level on the net monetary position of the organization, so as to maintain the general purchasing power of the shareholders' equity.

## Valuation in Volatile Economies

Even stable banks and businesses can become volatile when the business environment changes abruptly. Then, established methods of depreciating book values can produce misleading values. Moreover, market values can change suddenly and significantly, or become unavailable (e.g., if there is a halt in trading), and the assumptions underlying realizable and present values need to be sharply revised. As a result, the firm's most recent accounts become less meaningful and there is substantial uncertainty over its values, solvency, and future prospects. In addition, a sharp deterioration in the realized or present value of a firm's assets as compared with their depreciated original cost reduces the firm's ability and incentive to repay its loans.

To the extent that these changes in the valuation of a firm's assets reflect the firm's ability to service its loans, they affect the likelihood of default on, and the value of, the bank's loans. Thus, these changes make it more difficult for the bank to value its portfolio and maintain adequate provisions. Consequently, the value of bank assets may plummet during economic downturns.

## Valuation When the Bank's Future Is in Doubt

Depreciated book or market values (where they exist) are usually adequate for ongoing businesses in a stable economic environment; however, when the future of the business is in doubt, especially if it may need to be wound up, traditional financial statements are no longer relevant. If market values are not at hand, depreciated book values may need to be replaced by estimates of realizable or present value. Accountants are poorly equipped to deal with these substitute measures because the estimation processes are less clearly specified and typically involve business forecasts and other forward-looking analysis. Moreover, the necessary adjustments to the balance sheet and income statement may be significant.

Similarly, it becomes more difficult to value the bank when its viability is in doubt. Assets held in the investment portfolio at original cost may have to be sold. Thus, market, realizable, or present values become more relevant than historical cost.

In case of outright bank distress, the approach should be different. The level of uncertainty regarding the bank's (negative) net worth is very high and cannot be substantially reduced. As a consequence, detailed audits are a wasteful diversion of financial resources and, more important, of precious time. Rough estimates are sufficient to prepare adequate policy decisions. The estimates for losses should be prepared preferably in the form of a range, thus also expressing the degree of uncertainty, rather than in the form of a misleading single figure.

A second consequence is that the resolution plan must deal not only with losses, but also with their degree of uncertainty. In the case of plain liquidation, the burden of uncertainty is shouldered by the creditors, because they have to wait until the end of the process to know how much they will recover. In the case of a resolution scheme avoiding liquidation, one party needs to be allocated this additional burden of uncertainty.

### Valuation When the Bank Hides Its Condition

The several difficulties in valuing bank assets give bank managers opportunities to disguise their deteriorating condition by continuing to book interest due but not received, rolling over both principal and unpaid interest into new and unclassified loans (“evergreening”). They may be encouraged to do so by tax authorities and owners because overstating their income allows banks to pay taxes and dividends from their exaggerated income.

Difficulties in valuing bank assets increase in volatile economies with very thin markets, where values may change abruptly. Loan classification and provisioning need to take such volatility into account, because it implies a higher probability of large losses. High inflation can also be damaging to bank equity because banks typically hold more monetary assets than liabilities, whose value declines as inflation increases. Under inflation, the real value of capital and reserves of all kinds depreciates, unless inflation hedging and accounting are carefully applied.

Moreover, banks operating in inflationary and volatile environments may seek to avoid disciplinary action and closure by incorrectly classifying bad loans and making even lower provisions than are common in more stable economies.

### Necessity of On-Site Inspections

Regular on-site inspections of banks are indispensable. Valuation rules incorporate a material, yet legitimate, degree of flexibility, but this flexibility may be abused by the dishonest. Bank management is expected to prepare “true-and-fair” financial statements, under the oversight of the external auditors. Beyond and above the work of the external auditors, however, is a need for a bank to be inspected by prudential supervisors and for the behavior of its management regarding valuation rules to be assessed. The inspectors should take a qualitative approach to the assessment of the valuation methods and assess the adequacy of the provisions.

Inspectors need to focus on the degree of genuineness of the financial statements and to check if and to what extent management has taken advantage of the flexibility of the valuation rules. Bank managers might

wish to minimize apparent losses, relying on varied techniques that might not raise formal objections from the external auditors. For instance, they may have renewed the evergreened fragile loans and capitalized accrued interest. In some other cases, banks might also want to exaggerate losses, for instance to reduce tax liabilities or following a management shake-up.

### Summary

In short, valuing bank assets and liabilities will always demand experience and honesty; nevertheless, there is room to apply modern statistical techniques (developed initially to facilitate credit scoring) to portfolio valuation.

### Annex: Business Accounting

Even in normal times, bank borrowers themselves confront problems in valuing their assets. In addition, valuation becomes far more difficult under high inflation or when the economic environment deteriorates abruptly. Moreover, valuation is always an estimate, sometimes a range of estimates, and can change over time.

Business managers need information about what resources they command, which uses have proved the most profitable and secure, and who owns them. To meet its informational needs, a business constructs a balance sheet and statements of net income and material changes in the company's condition and performance.<sup>134</sup> These financial statements are made on the assumptions that flows are measured when they accrue, not when cash changes hands, and that the business is a "going concern," that is, it is not expected to be liquidated. In these statements, accountants currently use four different approaches to valuing assets, summarized in Table 19.

Financial statements have several desirable properties that are also listed in Table 19, but two are particularly important for valuing bank assets. In general, honest accountants and their clients prefer an objectively verifiable measure (a market or book value) to a subjective value (realizable or present value), which is only as valid as the assumptions on which it is based. (Others, bent on deception, tend to prefer a manipulable measure,

<sup>134</sup> Financial statements should present a true-and-fair representation of the position of the company, so that they meet the informational needs of external users (investors, employees, lenders, suppliers, trade creditors, customers, governments and their agencies, and the public), to enable them to make informed decisions. Financial statements are the prime source of information for these groups on the company's ability to generate cash and meet its obligations.

Table 19. Reporting and Presentation of Financial Statements

**Components of financial statements**

Statements should report:

- (1) The company's position in a *balance sheet* that values assets from which benefits are expected to flow; *liabilities* that are expected to necessitate, either by law or self-imposed obligation, an outflow of resources; and *equity*, which represents the owners' residual interest in the assets after all liabilities are met;
- (2) The company's performance in a statement of *net income* that reports the difference between income and expenses, where *income* represents both ordinary and extraordinary increases in the value of assets (the latter from both realized and unrealized gains in the value of assets) or reductions in liabilities, while *expenses* are reductions in benefits either from ordinary or extraordinary transactions (the latter include both realized and unrealized losses in the value of assets); and
- (3) Material changes in the company's position and performance.

**Desirable properties of financial statements**

Financial statements should be:

- (1) Understandable to the informed reader, especially when conveying complex material;
- (2) Relevant so that they confirm or contradict impressions derived from other sources, to enable the reader to evaluate past and present events and future obligations;
- (3) Material because important omissions or misstatements could lead to mistaken decisions;
- (4) Reliable so that they can be depended upon to be free from material error or bias;
- (5) Faithful in representing transactions; consequently, items subject to undue uncertainty such as goodwill are omitted;
- (6) More representative of substance than form, so that fictitious transactions that appear to, but do not, convey ownership are represented accurately;
- (7) Neutral and free from bias;
- (8) Prudent; exhibiting a degree of caution when making estimates that avoids both overoptimism and the omission of hidden reserves;
- (9) Complete, so that no material information is omitted;
- (10) Comparable over time and across different companies;
- (11) Timely, so that the information is still useful when it is made available; and
- (12) Cost-effective, so that the benefits of the information to users exceed the costs of obtaining and preparing it.

Sources: AICPA Professional Standards, AC Sections 9000A and 9030; and the International Accounting Standards Committee, *International Accounting Standards* (1995).

often to overstate income and net worth.) In addition, a current value is more useful than an original cost. The four valuation methods emphasize the two desirable characteristics of objectivity and current relevance to different degrees.

Market values derived from deep and actively traded markets are current, objective, and verifiable. Employing such values tends to make financial statements volatile, but such volatility may merely reflect a real-

ity that needs to be recognized. For less frequently traded assets held by firms that are expected to continue in business, accountants favor historical cost for the balance sheet, which is objective and readily verifiable. They attempt to make their valuation current by adopting one of several professionally recognized methods for depreciating the value of an asset over its productive life.

## Appendix II

### Supervisory Instruments

The work of bank supervisors consists of (1) promulgating prudential regulations; (2) licensing new banks; (3) monitoring the activities, performance, and condition of operating banks; (4) acquiring and using (and, in some instances, also disclosing) relevant information to banks and their customers; (5) enforcing bank laws and regulations and correcting banks' deficiencies; and (6) intervening, for example, by revoking bank licenses where necessary.<sup>135</sup> Their objective is to protect the banking system rather than individual banks, but it also encompasses protecting the interest of small depositors who are not able to monitor banks directly.

#### Regulatory Action

Banks intermediate between savers and borrowers by risk, denomination, maturity, and currency. They typically convert small deposits, the claims of risk-averse depositors, into larger riskier loans and take on credit and market risks; turn short-term liabilities into longer-term assets and so incur interest rate and liquidity risks; and borrow in one currency to invest in another, exposing themselves to foreign exchange risk. It is management's responsibility to actively manage banks' risk activities and price them appropriately, but discipline and incentives from the markets and supervisors can help banks to manage these and other risks.

First, supervisors may establish regulations that limit the bank's risk exposure and set minimum standards for capital to enable the bank to survive setbacks. This role is particularly important in economies where corporate governance and market discipline are weak. Second, some activities, such as significant investments in nonfinancial subsidiaries, are subject to limitations. Alternatively, rather than limiting or forbidding certain other activities, regulators may require banks to hold higher levels of capital when they engage in these activities. Third, some regulators

<sup>135</sup> Because supervisors impose sanctions of various kinds in the exercise of their duties, provision should be made for their actions to be subject to administrative or judicial review to discourage them from acting in an arbitrary manner. At the same time, a balance must be struck to avoid unwarranted interference that inappropriately impedes justifiable supervisory actions.

price banks' risk taking, for example, by charging higher fees to riskier banks for on-site inspections and deposit insurance.

A summary of key prudential practices, including those recommended by the Basle Committee on Bank Supervision, those adopted in the EU and the United States, and those recommended by MAE, in its technical assistance to Fund members, are contained in Table 20. It does not describe the practices that these entities have adopted with respect to disciplining and closing deficient banks. No international consensus appears to have been reached on these issues. The Basle Committee has not issued any guidelines, and practices differ within the EU.

### Capital Adequacy

Until 1988, capital requirements traditionally were set as "leverage" or "gearing" ratios, which measured equity (plus loan-loss reserves and subordinated debt) in relation to total, on-balance-sheet assets. The Basle capital standards, established in 1988 for banks in the Group of Ten countries, acknowledged that bank assets have different degrees of exposure to credit risk and that off-balance-sheet items also expose a bank to risk. Nevertheless, the Basle risk-based standards allow banks a substantial degree of choice in their portfolio composition by requiring capital ratios that roughly reflect the risks banks take, both on and off their balance sheets.

As illustrated in Table 21, the Basle Committee has placed bank assets into different risk categories and applied different weights that roughly correspond to banks' perceived credit-risk exposure. The Committee wanted to keep the risk-weighting system simple and was, therefore, prepared to adopt a "broad-brush" approach. The risk weights, chosen after negotiation, although not statistically derived, intend to reflect default probabilities observed over a period of time in the Group of Ten countries. The Basle standards have been criticized, however, for having a small number of risk categories that fail to account for measurable differences in risk, for not adequately distinguishing between differences in risks within risk categories, and for aggregating risk-weighted assets without considering the covariances among assets that may reduce, or in some cases increase, risk exposure.<sup>136</sup>

The Committee focused on total capital, which it divided into two tranches (tier 1 and tier 2). It recommended that banks maintain total capital equal to at least 8 percent of their risk-weighted assets and that at least 4 percent should be tier 1 (principally equity) capital (see Table 22).

<sup>136</sup> See Folkerts-Landau, Ito, and others (1995), p. 138 and Kane (1995).

Table 20. Key Prudential Practices

Practice	Basle Committee	European Union	United States	MAE Advice <sup>1</sup>
<b>Minimum capital for new banks</b>	No guidance.	Minimum capital set at ECU 5 million (\$6 million).	In practice minimum \$2 million.	Minimum \$1 million.
<b>Minimum capital adequacy ratio</b>	Total capital to risk-weighted assets of at least 8%.	Compulsory, at least 8% total capital to risk-weighted assets.	Similar to Basle standards; additionally, a leverage ratio of 4% at a minimum.	At least 8%; more in a high-risk environment.
<b>Loans to one borrower</b>	Guide to best practice; not more than 25% of total capital.	Not more than 25% of total capital to one borrower, and not more than 8 times capital to all large borrowers <sup>2</sup> in total, applied on a consolidated basis.	Federal limits 15% of total capital; state rules from 10% to 25%.	25% of total capital applied to a single borrower or group of related parties.
<b>Lending to related parties</b>	No guidance, but special attention needed.	Less than 20% to related enterprises.	At arm's length, less than 15% of total capital to each and 100% to all related borrowers.	At arm's length, between 15% and 25% of total capital applied to related parties and in total not more than 100%.
<b>Liquidity ratios</b>	Guidelines on measuring and managing liquidity risk.	Country specific.	Guidelines; case-by-case assessment.	Guidelines are necessary and ratios are useful.
<b>Foreign exchange exposure</b>	New capital charges adopted, position limits recommended.	Country specific; normally 10% to 15% for individual currencies and 20% to 40% in total; capital charges required.	Guidelines; case-by-case assessment.	Limits necessary either as a ratio or in absolute amounts.

<sup>1</sup> MAE = Monetary Affairs Department of the IMF<sup>2</sup> Defined as exposures of 10 percent or more of capital.

Table 21. Essential of the Basle Risk-Based Capital Standards

Assets Included	Risk Category	Risk Weight (In percent)
<b>Balance sheet items</b>		
Cash and loans to governments and central banks	1	0
Claims on public sector entities	2	10
Claims on OECD banks	3	20
Loans secured by mortgages on residential property	4	50
All other assets, including commercial loans	5	100
<b>Off-balance-sheet items</b>		
Each off-balance-sheet item is scaled by a conversion factor	6	Applicable weight

The Committee has recently enlarged its capital standards to cover market risks, which are defined as the risk of loss arising from position-taking in debt and equities in the trading portfolio and in foreign exchange (Basle Committee, 1996). The scheme is to be implemented not later than year-end 1997. The Committee offers banks two alternatives for estimating their capital needs. First, a bank may use the traditional "add-on" measurement approach, which requires it to hold an additional amount of capital to cover its exposure to market risk. Alternatively, in some cases, a bank may use its own internal risk-management systems to assess its exposure instead of the traditional measure and thus avoid a possible conflict between the two approaches and the added burden of meeting two capital standards: one internal and one external. Perhaps the best-known internal system for measuring bank exposure to market risks is the "value-at-risk" (VAR) system.<sup>137</sup>

Given the likelihood that it will become increasingly difficult to set meaningful capital standards in the modern, fast-moving world of global finance, supervisors may wish to rely increasingly on banks' own assessment of their capital needs. One way to do this would be to adopt the "pre-commitment approach" to bank supervision. Under this method, each bank would be required at the beginning of each reporting period to

<sup>137</sup> VAR estimates attempt to calculate the maximum loss that a bank might incur from market risk over a given, short time period. The VAR system of estimates has been criticized because it is dependent on a large number of assumptions and historical relationships, which may be invalidated by market events. It also demands sophisticated modeling, extensive computer capacity, and a large amount of data, which may become irrelevant when the environment changes (as it often does when banks become unsound). Thus, VAR is currently usable only by the largest banks—these, however, are the principal dealers in derivatives. Small banks will need to use the add-on approach. Moreover, VAR says nothing about the size of the losses that might be incurred in the tail of the distribution beyond the usual 1 percent cut-off level. These omissions may be important if the distribution is not normally distributed.

**Table 22. Tier 1 and Tier 2 Capital**

Capital Measure	Components	Recommended Ratio
Tier 1	Paid-up capital (common stock) and disclosed reserves.	At least 4%.
Tier 2	Undisclosed, revaluation, and general loan-loss reserves, subordinated debt, and hybrid debt instruments.	Limited to 100% of tier 1 capital.
Total	Tier 1 plus tier 2 (where tier 1 can range between 50% and 100% of the total).	At least 8%, of which at least 4% is tier 1 capital.

evaluate its need for capital (over and above the regulatory minimum) in the ensuing period in relationship to its desired level of risk exposure. It would manage its portfolio to limit its cumulative trading losses during this interval to an amount less than its capital allocation, so that it does not fall below the established capital requirements. While the bank would choose its capital commitment, both the commitment and the adequacy of the risk-management system that generated it would be subject to supervisory evaluation and approval. To provide incentives to maintain adequate capital, penalties would be imposed if a bank's losses exceed its capital allocation.<sup>138</sup>

Many supervisors in countries with more volatile economies have adopted the Basle standards even when conditions do not warrant their use. There are several reasons why they may be inappropriate. First, the default probabilities of Group of Ten countries do not apply, so that supervisors need to require their banks, whose values are volatile because of economic conditions, to hold higher levels of capital in relation to their risk-weighted assets to achieve the same probability of insolvency as faced by banks in the Group of Ten countries.<sup>139</sup> Second, supervisory techniques in general and loan classification and provisioning practices in particular in many countries may be so weak that assets are overvalued and reported measures of capital are, therefore, grossly overstated and infor-

<sup>138</sup> See Kupiec and O'Brien (1995), who suggest a capital surcharge in future periods or fines as incentive-compatible penalties. The Basle Committee adopted elements of the precommitment approach in its scheme for incorporating market risks into the capital accord. A bank is required to hold additional capital in the next period if "backtesting" demonstrates that its capital allotment was insufficient in the previous period. A bank that can demonstrate by backtesting that its capital allotment was adequate escapes the addition.

<sup>139</sup> See Dziobek, Frécaut, and Nieto (1995), Kane (1995), and Hausmann and Gavin (1995).

mation in general is unreliable. Third, the legal infrastructure makes it less likely that banks will succeed in getting their loans serviced. Hence, many observers argue that good practice requires that banks in volatile economies with undeveloped financial and legal infrastructures maintain (possibly much) higher levels of capital.

### Liquidity Standards

There are two supervisory approaches to liquidity risk. The first is to issue guidelines to banks for the measurement and management of this risk. The approach is adequate in industrial countries, where a deep inter-bank market can assist banks in maintaining liquidity.

In many other countries, supervisors adopt a second approach and require banks to meet certain prudential ratios of liquid assets (cash, claims on the central and correspondent banks, and short-term, negotiable, government securities) to deposits or total assets to enable them to satisfy requests to withdraw deposits. The ratios may be of several different types, some of which weight assets and liabilities according to their liquidity. Supervisors may require banks to strike a more complex balance between the maturities of their assets and liabilities.

Because of the difficulty of measuring liquidity (a time- and place-specific concept) the Basle Committee, the EU, and the United States have not established formal liquidity ratios. While many countries still use liquidity ratios, because of the diversity in approaches currently in use, it has not been possible to reach an international consensus on this issue. However, in September 1992, the Basle Committee issued a set of nonbinding guidelines in "A Framework for Measuring and Managing Liquidity." The guidelines set out the main elements of a model system for measuring and managing liquidity. They rely on a maturity ladder and the calculation of a cumulative net excess or deficit of funds.

### Limits on Lending to Single Borrowers and Insider Transactions

Supervisors in most countries impose limits on loans to single borrowers to limit risk concentration and on loans to related parties and insiders to reduce conflicts of interest and possible concentration in the portfolio. As shown in Table 20, banks may not be permitted to lend more than 15 to 25 percent of their capital base to a single borrower or group of related interests—concepts that need to be clearly defined in the regulation. Loans to insiders typically are quantitatively restricted as a percentage of capital and are accompanied by a requirement that they be made "at arm's length" (i.e., not on preferential terms).

## Foreign Exchange Exposure

There are two main supervisory approaches to foreign exchange risk. The first is to issue guidelines to banks for the measurement and management of this risk. The guidelines would typically encompass standards for internal controls; recording, accounting, and reporting of data; establishing risk-management responsibilities and a separation between front- and back-office functions; and allocating other responsibilities. Supervisors would request that these guidelines be followed and incorporated into a written statement of policies and procedures, approved by the bank's board and made available to the supervisors.

The second approach, which can be combined with the guidelines, consists of specifying prudential limits on open positions, expressed as a percentage of the capital base. There are generally limits for open positions in each currency (typically 15 percent of capital) and for aggregate exposure (frequently set at 25 percent of capital). The definition of the aggregate open position used to vary widely from country to country, but recently an international consensus definition, "the shorthand aggregate position," has been adopted by the EU and the Basle Committee.<sup>140</sup> In addition, the Basle and EU capital standards have been extended to require that additional capital be held in relation to foreign exchange positions, which are viewed as a type of market risk.

## Regulations Relating to Internal Controls

Supervisors will encourage banks to introduce good management and strong internal controls through on-site supervision to ensure that management adequately controls risk taking, continues to meet the "fit-and-proper" standards set when they were licensed, follows a "four-eyes" principle of management review, separates trading from back-office operations, and requires an internal audit function that reports directly to the board.<sup>141</sup> Some supervisors issue guidance on the roles and responsibilities of directors.<sup>142</sup>

## Consolidated Supervision

It is important that supervisors oversee the consolidated position of both domestic and foreign subsidiaries, participations, and groups. Failure to do so has led to serious banking problems in many countries.

<sup>140</sup> The shorthand aggregate position is the sum of either the short or long positions in individual currencies, whichever is greater.

<sup>141</sup> Because Barings Bank in Singapore and Daiwa Bank in New York failed to separate these activities, "rogue" traders were able to expose these banks to very large losses.

<sup>142</sup> The U.S. Office of the Comptroller of the Currency (1987) issued a book of guidelines. See also Perú (1995) and De Nederlandsche Bank (1987).

Oversight needs to be consolidated internationally. Particularly in recent years, banks have increased their international activities through the development of regional operations abroad and offshore branch networks or closely related foreign subsidiaries. In such cases, supervisory authorities must insist on consolidated supervision, which includes offshore affiliates, in banks' reporting and analysis. The 1975 Basle Concordat demarcated responsibilities among home and host country supervisory authorities. These guidelines have been strengthened since then, most recently in 1992 (after the BCCI incident), to establish minimum standards for supervision of international banks and banking groups and a principle of consolidated supervision by the home country. All supervisory authorities that have international banks operating in their jurisdictions are expected to implement these guidelines.

### **Licensing Banks**

New banks are needed to provide actual and potential competition to enable the banking system to serve the public interest efficiently. Nevertheless, the licensing process needs to offer some assurance to depositors that the new bank is sound and stable in order to protect small depositors and the banking system from destructive competition from undercapitalized, ill-conceived banks or those operated by unqualified or less reputable owners and managers. Consequently, new banks are required to meet certain standards to enable them to operate successfully.

These requirements, summarized in Table 23, set a corporate framework to ensure good internal governance by "suitable" owners, fit-and-proper boards of directors and managers with strong policies, procedures, and internal controls; a sound business plan to attain profitability as soon as possible; and enough capital of good composition to enable the bank to undertake initial lending activities, cover operating expenses, and provide a sufficient buffer against potential losses that might be experienced in the initial start-up years. During periods of banking distress, licensing laws may allow for a temporary moratorium on new banks; this would permit the formulation and implementation of a strategy for resolving banking problems in an orderly fashion and provide for procedures to relicense banks, or to otherwise facilitate exit of weak and insolvent banks and the enforcement of requirements aimed at strengthening remaining banks.

With the exception of the EU, there are no international agreements on licensing standards (although countries have trade-related bilateral agreements regarding the application of reciprocity in granting licenses to branches and subsidiaries of each other's banks). Nevertheless, a host country should not license a foreign bank branch, subsidiary, or represen-

**Table 23. Basic Elements of a Licensing Process for Banks**

- (1) The licensing process should be made transparent by publishing and uniformly applying the laws, regulations, and requirements for a license, the process for applying for one, the decisions made on license applications, and the register of licensed banks. The law should give the supervisory authorities the right to demand pertinent information, a strong responsibility to maintain its confidentiality, and specify penalties for violating confidentiality.
- (2) The requirements for a license should specify the nature of a joint-stock banking company and the provision of limited liability. They should set the ground rules for corporate governance, "suitability" standards for owners, and fit-and-proper specifications for boards of directors and managers to insure the honesty, trustworthiness, skill, and experience of bank owners, officers, and managers. They should determine whether commercial and industrial firms can own banks and set bounds for the organizational structure and administration of the bank, including its internal controls, internal and external audit functions, and any provisions necessary to prevent conflicts of interest.
- (3) The laws or regulations should set minimum levels for initial capital and the composition of that capital.
- (4) The license application should include a feasibility study and a business plan. An application should not be considered complete until all demanded information has been provided.
- (5) The scope of the license, specifying activities that the bank can undertake—whether and to what extent it can take equity positions in nonbanks, engage in securities and insurance brokering and underwriting, leasing, factoring—should be clearly specified in the applicable laws and regulations.
- (6) The corporate structure should be transparent.
- (7) The bank should be licensed by the country in which it will conduct the major part of its business.<sup>1</sup>

<sup>1</sup> Sometimes a bank will obtain a license in a country that does not conduct consolidated oversight and then operate mainly through branches and subsidiaries in other countries. BCCI and Meridien were able to escape oversight in this way.

tative office without the approval of the home country's supervisory authorities.

### Monitoring Banks

Banking supervisors monitor the condition of banks, so that corrective actions can be taken when banks deteriorate. Prudential supervision is best carried out through a combination of off-site monitoring and on-site inspections, although these techniques receive varying degrees of emphasis by different countries. There is, however, a recent tendency toward recognizing the importance of on-site inspection as the only way to assess the quality of internal controls and management.

## Off-Site Supervision

The purpose of off-site supervision is to monitor compliance with regulations, provide early identification of problems that require prompt correction, set the priorities among banks for on-site inspections, and assess general information, press reports, and market data. Off-site monitoring is typically based on submitted reports containing, *inter alia*, balance sheet data, profit-and-loss statements, cash flows, and supplementary information, especially that on asset quality. The usefulness of the analysis is only as good as the quality of the data, however.

Less-sophisticated supervisory authorities limit themselves to relatively straightforward calculations of prudential ratios, including capital adequacy, liquidity, loan performance, and provisions for loan losses. In other countries, the performance of a bank is compared both over time and against that of similar banks in peer group analysis.<sup>143</sup>

Some supervisory authorities construct computer models to forecast banks' financial condition and analyze sectoral trends. The accuracy of such forecasts can be improved by the inclusion of data from the most recent on-site inspection.

## On-Site Supervision

On-site inspections verify the accuracy and reliability of data included in a bank's financial reports and assess the quality of management and internal controls, and so on. Many countries make a full-scope evaluation of the condition of a bank by constructing a CAMEL rating<sup>144</sup> assessing capital adequacy, the quality of its assets, the adequacy of its management and system of internal controls, earnings, and liquidity. These assessments cannot be made satisfactorily off-site; in particular, the assessment of management capability has to be made on-site. More limited, targeted on-site inspections can focus on compliance with prudential regulations or on specific problems a bank is experiencing.

The frequency of on-site inspection is important, particularly where a bank's condition can change rapidly. A worthy goal is to conduct on-site examinations when they are needed, which is typically at least annually; but problem banks may need more frequent attention; while too-big-to-fail troubled banks that carry systemic risks may need to have inspectors continually in attendance so that they do not use their guarantee to increase their risk exposure (see Chapter 3).

<sup>143</sup> Experience has shown, however, that peer group analysis that identifies outlier banks in need of correction will fail when banks as a group make the same mistakes (Cole, Cornyn, and Gunther, 1995).

<sup>144</sup> A CAMEL rating is a measure of the relative soundness of a bank and is calculated on a 1–5 scale, with 1 being a strong performance. The term stands for capital, asset, management, earnings, and liquidity.

## Early Warning Indicators

Bank supervisors can use experience and statistical modeling to detect threats to solvency and liquidity at an individual bank. They can assess the strength of the banking system as a whole from a distribution of banking assets by probability of insolvency.

## Role of External Auditors

Some countries use external auditors as either substitutes for, or complements to, oversight by a supervisory agency, but some aspects of their use are controversial in some countries.<sup>145</sup> There is an increasing tendency for countries to require external auditors to report the deficiencies they identify not only to the bank's management but also to the supervisory agency. This development is thwarted, however, when a country's commercial law (as in the United Kingdom and the United States) confines external auditors' responsibility to shareholders,<sup>146</sup> so external audits are not a source of information for supervisors.<sup>147</sup>

In this situation, the supervisory agency (as in the United Kingdom) that does not wish to expand its on-site inspection function, may subcontract its supervisory role to external auditing firms, which conduct on-site examinations on its behalf. An audit is not the same as an on-site inspection, however. An audit is, in large part, backward looking, whereas a loan evaluation conducted by supervisors is anticipatory. While external auditors can verify accounting data that banks report, they normally do not have the skills needed to conduct on-site inspections that evaluate the quality of the loan portfolio and adequacy of provisions for losses.<sup>148</sup>

Other countries, such as Australia, Chile, and those in the EU, view external audits as complements to the on-site supervisory process and are increasingly moving to share supervisory responsibilities with external auditors.<sup>149</sup> For example, the EU has recently placed responsibilities on a bank's auditors to notify the supervisors of deficiencies that it identifies.<sup>150</sup> Sharing responsibilities means that letters to the bank from the supervi-

<sup>145</sup> See American Institute of Certified Public Accountants (AICPA, 1989, Section 10,040).

<sup>146</sup> There are a number of instances, however, where auditors have been sued by shareholders for failing to detect damaging deficiencies.

<sup>147</sup> Baring's external auditors notified management of deficiencies in internal controls relating to derivatives activities in writing during the 1992 audit (United Kingdom, House of Commons, 1995, paragraph 10.33). That information might have alerted the Bank of England to the bank's problems if it had been shared with the supervisory agency. The United Kingdom will need to amend its commercial law to reflect the new EU requirement discussed below.

<sup>148</sup> In the United States, responsible external auditors have been sued and found guilty in a number of instances for issuing "clean bills of health" to banks and thrifts that failed soon afterwards.

<sup>149</sup> See AICPA Professional Standards, Section 10,040.

<sup>150</sup> See European Union (1995).

sors are shown to the auditors and conversely. Moreover, auditors are present at supervisory meetings with management and supervisors attend auditors' final conferences with management and directors.

### Role of Banks' Internal Controls

Supervisors' and auditors' traditional reliance on periodic on- and off-site evaluation based on time-specific accounting data is based on a premise that a bank's condition will not change markedly between reporting and inspection periods. (It is not reasonable to expect a bank to report on a continuous basis.) That assumption is less valid today when a bank can change the composition of its portfolio overnight and its risk exposure momentarily through, for example, the use of derivatives. While most banks fail as a result of credit losses, new approaches to their supervision need to be developed.<sup>151</sup> Supervisors in very few countries are trained to evaluate the creditworthiness of derivative portfolios. Consequently, risk restraint is becoming increasingly dependent on the bank's own risk-management systems to ensure the bank's safety, while the supervisor's task is to assess the adequacy of these systems.<sup>152</sup>

One suggestion is to place increasing reliance on banks' own systems of internal control. This reliance is feasible when information about banks and their borrowers is inexpensive, plentiful, frequently updated, and reliable. Then, the supervisors' role is to ensure the adequacy of these controls. The precommitment approach to capital adequacy, discussed earlier, falls in this category.

### Enforcement and Corrective Actions

Supervision intends to monitor compliance with prudential standards and safe and sound banking operations of the bank. In case of noncompliance or unsafe and unsound banking practices, supervisors can first seek improvement through moral suasion, then through "informal" followed by "formal" actions. The relative emphasis placed on these tools varies from country to country. When moral suasion fails, the supervisor may choose to take an informal action (e.g., by issuing a letter of reprimand or obtaining a memorandum of understanding) that is not legally enforceable, but which notifies the institution that its noncompliance has been noted and should be remedied and that it has been recorded to establish a track record. Continued noncompliance would normally be met by legal-

<sup>151</sup> See Folkerts-Landau, Ito, and others (1995).

<sup>152</sup> If the assessment of a bank's risk-management system is that it is inadequate, supervisors can conduct an in-depth analysis of its risk exposures.

ly enforceable formal actions that include cease-and-desist orders, removal of major officers or prohibition orders, and fines.

### Alternative Approaches

Some countries favor a system of prompt corrective actions (PCA) established by law or regulation that specifies actions that the regulators should or must take as the condition of a bank deteriorates. Each step in the graduated process will be triggered by clearly defined deficiencies; most notably when the bank reaches a certain capital level. Such a legal obligation to take action will be particularly necessary where supervisors are prone to forbear or are subject to political interference.

The PCA system in Table 24 describes the system used in the United States. It defines a critical minimum capital ratio below which closure is required; categories of banks according to their capital ratios; and corrective actions that either must or may be applied to banks with capital deficiencies.

Other countries prefer to grant full discretion to their supervisors to take remedial measures as needed. This system can be assisted by an incentive system that rewards supervisors (perhaps financially) for maintaining a sound system and holds them accountable when they fail to do so. To operate a discretionary system successfully requires that supervisors be free from political interference.

### Closing Nonviable Banks

If the institution continues to deteriorate, the supervisor should have the right to take the institution from its owners, place it in conservatorship to be sold, merged, or restructured, or call for its liquidation. Grounds for conservatorship and liquidation are listed in Table 25.

### Data Creation and Disclosure

Bank supervisors can play a role in obtaining and verifying for their own use and supplying accurate data on bank condition to the public and on borrower condition to banks. Very few publish their information at present, however, although banks usually have a legal obligation to publish audited annual financial statements. Where supervisors do not collect and supply the data themselves, they can encourage private suppliers to provide data services. Data from private sources or from supervisors can cover the condition of individual banks, the system as a whole, and bank borrowers, and report market conditions as they affect banks and their customers. Regulations can assist in improving the availability of information

**Table 24. Prompt Corrective Actions in the United States**

1. *The critical minimum capital ratio* is typically defined as either zero or 2 percent for either the unadjusted ratio of equity to assets or the total risk-adjusted capital ratio.

2. *Categories of banks*

Level 1. Banks that maintain capital ratios that are significantly in excess of the minimums established are called "well capitalized."

Level 2. Banks that meet or exceed the minimum ratios established but do not belong to level 1 are referred to as "adequately capitalized."

Level 3. Banks that are not in compliance with minimum capital standards but are not in level 4 or 5 are "undercapitalized."

Level 4. Banks that maintain capital ratios that are above the critical minimum, but significantly below the prescribed ratios are called "significantly undercapitalized."

Level 5. Banks that have one or more capital ratios below the critical minimum are "critically undercapitalized."

3. *Corrective actions for undercapitalized banks*

- All undercapitalized banks shall submit, within a specified time, a capital restoration plan to their supervisor. The plan will specify how the bank will meet applicable capital standards without increasing risk (including credit and interest rate risk, and other types of risk) and the activities in which it will engage. The plan will also provide any other information that the regulators require. The plan must be approved or disapproved in a timely manner by the supervisory agency, which has the right to demand that appropriate changes be made to the plan.
- The supervisory agency shall prohibit any undercapitalized bank from increasing its liabilities. Limited exceptions may be granted.
- For banks in levels 4 and 5, the regulators may (1) require banks to sell shares, (2) prevent them from paying dividends, (3) restrict the interest rates they pay, (4) prohibit the payment of bonuses or excessive compensation to executive officers, (5) require approval for the opening of new branches, (6) prohibit the receipt of deposits from correspondent banks, (7) require the election of new directors, and (8) restrict other activities.
- In addition, banks in level 5 will be prevented from (1) paying interest on subordinated debt, (2) undertaking any material transaction, and (3) changing accounting methods.
- Banks that do not improve and so remain in level 5 will be placed in conservatorship or receivership/liquidation after 120 days.

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Source: The U.S. FDIC Improvement Act of 1991, Section 131.

by establishing requirements regarding what data should be reported and the timing and format of the reports. Nevertheless, supervisors provide a service only when the data they obtain and disseminate are valid—there is a danger of obfuscation to achieve political ends. "Disinformation," which has been a problem in some countries, deters market discipline and weakens the system in the long run.

**Table 25. Grounds for Conservatorship and Liquidation**

Conservatorship	Liquidation
<ul style="list-style-type: none"> <li>• Serious deterioration with regard to capital adequacy; for example, capital falls below 25% of the required minimum</li> <li>• Serious breaches of laws or regulations</li> <li>• Seriously unsafe and unsound banking practices</li> <li>• Willful violation of a cease-and-desist order</li> <li>• Willful and unlawful concealment of data or noncooperation with the supervisor</li> <li>• Criminal activities</li> </ul>	<ul style="list-style-type: none"> <li>• The bank defaults on its obligations</li> <li>• Negative capital (insolvency)</li> <li>• Other reasons for assuming that the bank is not viable</li> </ul>

### Data on Borrowers

Good credit assessment is a decisive factor in banking. When he applies for a loan, a borrower typically knows the condition and prospects of his business better than his bank. Moreover, an existing loan can be impaired if economic conditions worsen or a borrower takes on an excessive amount of debt from another source. Consequently, bank supervisors can help to redress this asymmetry of information by collecting data on bank borrowers and supplying nonconfidential parts of the data to banks.

In France and some other EU countries, for example, each bank is required to report large corporate loans to the central bank.<sup>153</sup> In return, banks are told every month the total indebtedness of all large borrowers to the banking system. To retain confidentiality among banks, the names of other lenders are not revealed. As an alternative, a country can take a decentralized approach by permitting the development of private rating services for borrowers.<sup>154</sup>

Credit evaluation by a bank's loan officers is a complex, data-intensive process that requires good judgment that may take years of training and experience to acquire. Credit bureaus that monitor borrowers' credit history can assist banks in making credit decisions. Supervisors can encourage the provision of such bureaus in countries where they do not exist,

<sup>153</sup> A BIS (Bank for International Settlements) working group is trying to improve the comparability of credit registers in several countries, although neither that working group nor the Basle Committee is directly involved in the international exchange of credit register information.

<sup>154</sup> Agencies, such as TRW and Equifax in the United States, sell information about small business and consumer borrowers and several companies (such as Moody's and Standard & Poor's) rate larger borrowers.

especially as recent advances in credit-evaluation techniques are making the process more systematic. Credit-scoring techniques, derived from estimation of borrowers' default probabilities, applied first to judging applications for consumer credit in the United States, are now being used to evaluate mortgage applicants. Such techniques could assist banks in making initial credit decisions and monitoring the continuing condition of borrowers in other countries. Credit-scoring methods would also assist supervisors in classifying individual loans and setting the appropriate provisions against them, but there is no evidence that the technique has been adopted by any country to date.

### Data on Bank Condition

Public disclosure of information can facilitate reduced reliance on supervision and orient the system toward market discipline and so strengthen banking system soundness. Releasing data is feasible if most banks are sound. Then, the provision of accurate data can enable the public to migrate from unsound banks to stronger ones without precipitating a run to cash or abroad. Such discipline will serve to keep the system strong by rewarding sound actions and penalizing unduly risky activities.

The public has a right to good data on the condition of banks and there is evidence from many countries that the public (which includes the bank's principal creditors) tries to distinguish sound banks from unsound banks to protect its interests by relocating funds to a safe place. Credible, well-publicized information that a bank is sound is likely to prevent a run on it and other sound banks in the system, even when some banks in the same region or in the same location are unsound. In fact, an uninformed public is more likely to run from a sound bank that it considers similar in some way to a failed bank than an informed one. Thus, good information can avert a generalized run. While transfers from weak to strong banks in a flight to quality can be disruptive, they are easier for the authorities to handle than a general flight to cash or abroad, because a flight to quality within the banking system does not reduce bank reserves in the aggregate or cause a decline in the money supply.

Publishing information when there are few if any strong banks and no credible guarantee of deposit repayment is more problematic. While the supervisory agency has an obligation to keep the public well informed about the condition of the banking system, it does not want to initiate a panic, but if it does not inform the public and the public incurs losses, it may be held responsible for these losses. In an unsound system, perhaps the best that can be achieved is to include provisions for the future full disclosure of accounting data and even supervisory ratings after the

banking system, including the legal, regulatory, and supervisory infrastructure in which banks operate, has been successfully restructured. Then, the public could exert constructive, discriminating discipline on banks, and regulators would no longer be allowed to hide behind a cloak of secrecy.

### Data on Market Conditions

The damage to several countries' banking sectors caused by recent bubbles in the real estate and stock markets suggest that countries that do not already do so may want to keep close track and take account of the behavior of asset prices and the condition of real estate and other asset markets. This information is important so that supervisors can anticipate when they will need to pay special attention to banks with portfolio concentrations in these industries.<sup>155</sup> Supervisors can obtain the information themselves, or use private sector data when they exist. For example, as a result of the collapse of the real estate market in the United States, the Federal Deposit Insurance Corporation (FDIC) now publishes a regular survey of the real estate markets in major regions. Supervisory agencies in other countries might find the provision of similar information cost effective in discouraging asset concentration or, at least, encourage private agencies to provide these data services.

### Conclusion

Effective bank supervisors help to keep the banking system sound and protect small depositors. Supervision should, however, complement and not replace good corporate governance and the constructive force of market discipline. As is well known, overregulation can detract from economic efficiency, innovation, and growth. Finding the right balance is an important challenge.

<sup>155</sup> Carse (1995) points out that banks in Hong Kong failed to appreciate the industry risk inherent in property lending in an inflated market. The lending decisions of individual banks that may have appeared prudent in isolation were collectively rash. Consequently, the Hong Kong Monetary Authority required banks with high exposure in real estate to supply a policy statement detailing lending procedures and exposure limits.

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