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Bank Supervision Principles and Practice

Andrew Sheng

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Andrew Sheng

This paper is a revised version of a lecture given at the Seventeenth SEANZA Central Banking Course in Sidney, Australia in November 1988.

World Bank Institute

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Bank Supervision: Principles and Practice

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Foreword

The focus of EDI's program on the financial sector is on the improvement of decision-making in seven important areas dealing with the *structure, reform and development of financial systems* in developing countries. The areas covered are:

- reforms of the structure of financial systems;
- policies and regulations to deal with insolvency and illiquidity of financial intermediaries;
- the development of markets for short- and long-term financial instruments;
- the role of institutional elements in the development of financial systems;
- the links between the financial sector and the real sectors, particularly in the case of restructuring financial and industrial institutions or enterprises;
- the dynamics of financial systems management in terms of stabilization and adjustment; and
- access to international financial markets.

The program is articulated around cycles of regional and worldwide roundtables and seminars. Policymakers and professionals are brought together to discuss agendas of specific issues and problems, often identified beforehand by the participants themselves. The papers circulated at these seminars are published in the EDI Working Papers series, to make them available to a broader audience than is possible within the framework of the seminars themselves.

This paper, initially presented at the Seventeenth SEANZA Central Banking Course given in Sydney, Australia in November 1988, was also circulated at the Senior Policy Seminar on Financial Systems and Development in Africa, held in Nairobi, Kenya from January 29 to February 1, 1990. The author is currently an economist in the Financial Policy and Systems Division of The World Bank. The views presented in this paper, however, are entirely those of the author and do not necessarily reflect those of The World Bank.

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Bank Supervision: Principles and Practice

A. Financial Intermediation and Supervision

1. Introduction

Nobel laureate Sir John Hicks once said that "Money is not a mechanism, it is an institution, one of the most remarkable of human institutions." Central banks have a central role in managing the institution of money, since their functions include the issue of currency, managing the money supply and the regulation of banks. This paper surveys the *what, why and how* of bank supervision.

Money is not just a unit of account, medium of exchange, or store of value; it is also the *financial liability* of the monetary institutions, namely, the central bank and the commercial banks. The relationship between money as a *liability* and the real economy can be seen from the following illustration:

Assume that the central bank issues currency and its sole assets are holdings of government securities (lending to the public sector) and foreign exchange (lending to the external sector). The balance sheet of the central bank may be expressed as follows:

<i>Liabilities</i>	=	<i>Assets</i>
Currency + Capital		Government securities + Foreign exchange reserves

Assume also that the commercial banks issue only demand deposits and their assets are only loans to the private sector and holdings of Government securities. The balance sheet of the commercial banks may be expressed as follows:

Demand deposits + Capital	=	Loans + Government securities
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Combining the two balance sheets of the central bank and the commercial banks together, we arrive at the classic money supply equation for narrow money M1:

$$\begin{aligned}
 \text{M1 (Currency + Demand deposits)} &= \text{Loans (lending to private sector)} \\
 &+ \text{Government securities} \\
 &\quad \text{(lending to public sector)} \\
 &+ \text{Forex reserves} \\
 &\quad \text{(lending to external sector)} \\
 &- \text{Capital of monetary institutions}
 \end{aligned}$$

In other words, money supply is increased either by net lending to the private sector (loans or investment in shares), net lending to the public sector, and increase in external claims (through a surplus in the balance of payments) *but* is reduced by an increase in capital and reserves of the banking system. Bank lending to finance consumption or investment by either the public or private sectors is expansionary on money supply.

Because money is essentially a liability or promise to pay, backed by the security of a real asset or another promissory note, it is subject to the problems of *valuation* and *confidence*. At the simplest level, money should be created only in a stable direct relationship with the growth in real assets, so as to ensure a stable value of money. However, since money can also be created easily against other financial assets, such as government securities, stocks and shares or even futures, there is an inherent instability in the monetary equation. An increase in money supply, without a corresponding increase in real assets, results in inflation or a debasement in the value of money.

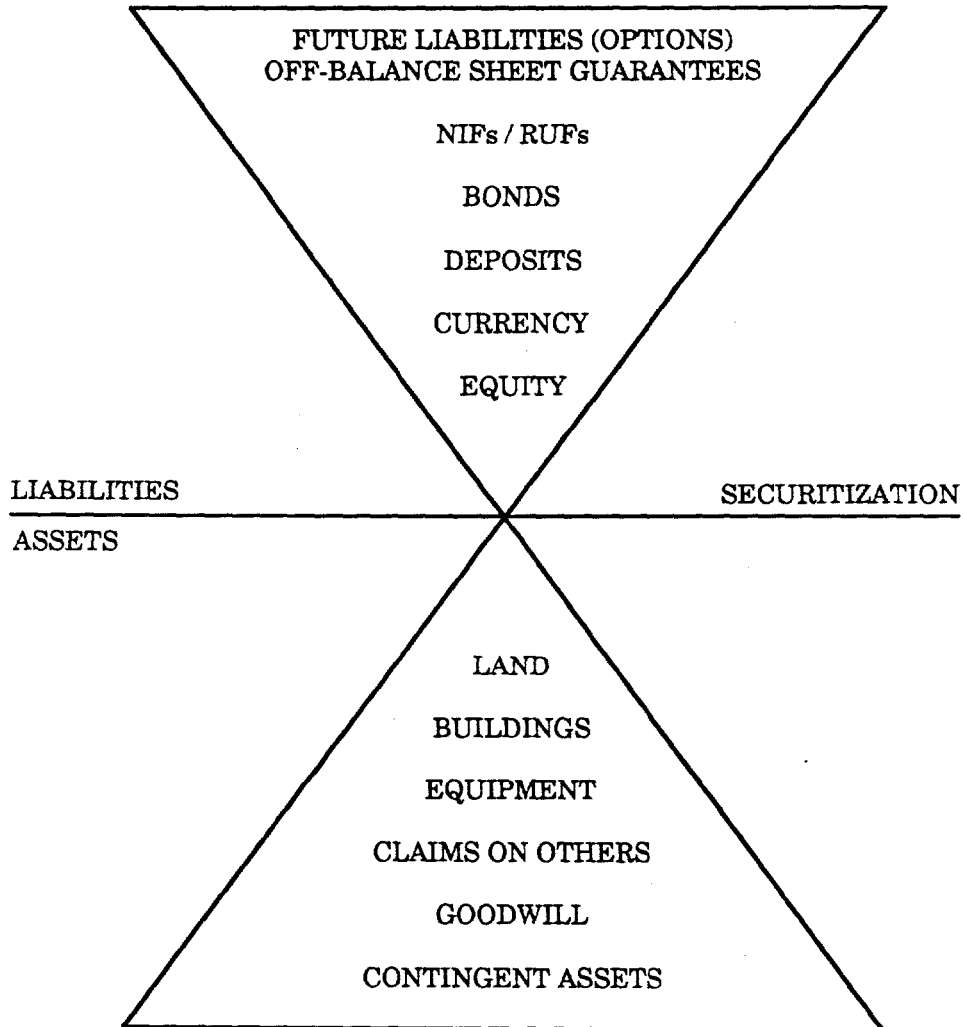
Alternatively, failure to honor by one party to the transaction or the claim (by either the private sector, public sector or external sector) can result in the loss of value of monetary holdings, leading to a crisis of confidence. Monetary institutions, or more broadly all financial intermediaries, are subject to the stresses and strains of fluctuations in their *valuation* and *confidence*. The more tenuous the link between real assets and financial claims (which are representations of real assets), the greater the problems of valuation and the more fragile the public confidence in the financial intermediation process.

II. *Theory of Financial Intermediation*

Financial intermediation helps the process of savings and investment in the economy because financial institutions reduce the risk of capital loss by savers, reduce transactions costs and provide the investor/entrepreneur/consumer with funding in quantities and repayment schedules convenient to them. The financial institutions help to mobilize savings by issuing liabilities (financial instruments) which are tailored to the savings and transactions needs of the saver and using these funds, provide loans or financial assets tailored to the needs of the borrowers (consumers or investors).

Figure 1

The Inverted Pyramid



By reducing the *savings loss risk* and *timing of payments (liquidity) risk* of the savers, the financial intermediaries are exposed to the following risks on both sides of their balance sheet:

Asset management	Liability management
Credit risk	Maturity mismatch
Country risk	Funding risks
Forex risk	Solvency/capital adequacy
Interest rate risk	
Counter-party failure risk	
Transfer risk	

Banks absorb all these risks and attempt to make a profit through a *spread*--the difference between their lending rate and their cost of funds and overheads. In general, the spread is very thin relative to the risks involved. A bank would be lucky over the long term to make 2 percent per annum on gross assets, and yet it can be subject to wide fluctuations in loan losses. A 10 percent loan loss would take a bank 5 years in profits to recover. Banks therefore try to cushion their losses from abnormal risks through their *capital base*. However, since banks are usually highly geared, even the margin of capital (usually 5-8 percent of total assets) may not be sufficient to withstand a large shock. On the contrary, since the returns to shareholders are higher with higher gearing, there has been a tendency in recent years for banks to expand their asset base without corresponding increases in capital. The issue of capital adequacy will be dealt with in a later section.

III. Financial Deepening and Instability

The pioneering work of Shaw and McKinnon in the early 1970s has suggested that financial development is important in economic growth, since an improved financial system fosters the efficient mobilization of domestic savings and allocates resources to their optimum usage. Monetary authorities can therefore help the savings process by removing barriers to "compartmentalization" and segmentation of financial markets and promote the process of financial "deepening," that is, the creation of more financial instruments, institutions and markets. A cornerstone of this approach is the maintenance of positive real interest rates. While the process of financial deepening is commendable, it carries with it the risks of greater instability.

The irony of financial deepening is that while it pays to diversify into as many different types of assets as possible, this is not necessarily true for liabilities. Conventional portfolio theory suggests that assets diversification into assets with little correlation with each other reduces risks. However, diversification into a wide array of liabilities tend to increase the risks in-

volved. Brignoli and Siegel has demonstrated mathematically that the "interaction growth" of assets diversification with rebalancing is always positive, but when liabilities alone are involved, the interaction growth is always negative. Intuitively, this must be correct because the safest liability for an institution is its own capital. The minute an institution borrows from a new source, it increases risks that the lender may impose on the borrower, such as higher interest rates, changes in repayment schedule, and foreign exchange risks.

Financial deepening, therefore, involves a process of inverted pyramid building (Figure 1). As financial institutions build their asset base by expanding their liabilities, the spreading of assets would reduce risks through diversification, but the corresponding risk of liabilities diversification increases, unless the liabilities are solely internally generated funds or capital. Periodically in history, the financial pyramid has collapsed through excessive speculation or monetary creation, particularly at times when there were major cyclical changes in the real economy. The most spectacular example was the Great Crash of 1929, followed by the Great Depression in the 1930s. To protect or shore up the inverted pyramid, therefore, society has established the central bank to regulate and prevent the toppling of an inherently wobbly financial superstructure.

IV. Payments System

There is another reason why financial institutions, especially banks, are heavily regulated: *they operate the payments mechanism in the economy*. Through their deposit liabilities and their branch network, commercial banks are not only the major depository of private sector savings, the primary channel of credit and investments in the economy, but also the operators of the main payments mechanism. In the distributed network of the payments mechanism, which affects the timing of payments transactions in almost every facet of the economy, the banking system is not unlike a *public utility* with a network or grid. The stability and efficient operation of the grid is so important to the public that its failure in part or in substance would have a high social cost.

For this reason alone, the banking system is highly regulated, and in some centrally planned economies, even nationalized. Generally speaking, payments systems should be designed to be secure, cost efficient, responsive to market forces and interconnectible to other subsystems. Because of their broad consumer base, some element of regulation is also necessary to protect the consumers from oligopolistic tendencies.

B. Principles of Bank Supervision

I. Why Banks Should Be Regulated

Ian Giddy has ascribed four major reasons why banks should be regulated:

- . Monetary policy - the power to create money.
- . Credit allocation - channel of credit/investments.
- . Competition and innovation - to prevent cartels.
- . Prudential regulation - depository of private savings
 - operators of payments mechanism
 - vulnerability to collapse

As can be seen from the money supply equation, the ability of banks to create money through credit creation requires their supervision and control, if only to prevent excessive monetary creation and inflation. Central banks often manipulate money supply through market operations via the commercial banks and their supervisory powers over the banks reinforce the efficacy of monetary policy.

Because the commercial banks are also the major source of consumer and enterprise credit in the economy, central banks in developing countries often issue credit allocation guidelines to the banks, in the form of credit rationing, directives to channel funds to priority or socially important sectors, with or without interest rate caps or ceilings.

In addition, because of the limited entry into the banking market (restricted by licensing) and the high cost of operating and maintaining the payments mechanism through large branch networks and automation costs, banks are only efficient if they achieve a certain minimum size and enjoy economies of scale. However, in most economies where large banks emerge, they have tendencies to operate as cartels and can retard competitiveness and innovation. Central banks have to regulate them to protect the consumer, and to ensure that the banks remain innovative and efficient, providing low-spread intermediation costs.

Finally, as depository of public savings and operators of the payments mechanism, the commercial banks must maintain public confidence in the *total convertibility of deposits with them without capital loss* and the *certainty* that receipts and payments will be made for and on behalf of customers with no loss and at low cost. In other words, as Giddy puts it, the central bank has to preserve "continuity in the stock of money, or to preserve continuity in the flow of credit".

As indicated earlier, public confidence in banks can be fragile because the banks are particularly vulnerable to collapse. The vulnerability of banks to sudden collapse can be attributed to the following characteristics:

- High gearing/leverage
- Mismatch of maturities between assets and liabilities
- Lack of transparency
- Subject to settlement risk
- Contagion and systemic failure

Because of their broad deposit base, commercial banks are inherently highly geared, so that the degree of capital available to absorb risks are relatively low. Commercial banks also make profits fundamentally by *riding the yield curve*, mobilizing short-term deposits at lower rates of interest, and lending or investing such funds in longer-term assets at higher rates. This inherent liquidity mismatch is potentially dangerous, and banks have to maintain a relatively high proportion of liquid assets (between 20-25 percent of total assets) to meet the normal liquidity needs of their customers. To preserve the liquidity of the banking system, central banks also provide *lender of last resort* facilities to commercial banks to meet their cash needs, provided that insolvency is not involved. Without such facilities, *liquidity problems of banks can quickly deteriorate into a solvency problem*, since immediate liquidation of long-term assets inevitably involve large capital loss.

A peculiar feature of banks is that they suffer from a *lack of transparency*, in that the true value of their assets and thus solvency is not readily apparent to either the public or the bank regulators. The transparency problem arises firstly from a lack of information disclosure, and secondly from the fact that valuation of long-term assets can fluctuate significantly depending on the urgency of the disposal, the quality of security and sudden changes in the cash flow/earnings of the asset, as well as fluctuations in market conditions. For example, large holdings of apparently secure government securities could suffer large losses due to sharp rises in interest rates. Apparently secure loans could be worthless if there are defects in legal documentation. The quality and valuation of bank assets would therefore depend very much upon honest and competent bank management, who are continually subject to checks by either external auditors or government

bank examiners. However, without good information disclosure, problems are more often than not discovered *ex post*, when the damage is already done.

Lack of transparency also occurs because the assets of a bank can become more and more tenuous in relation to real assets. In sophisticated markets, banks increasingly hold financial assets that almost bear no relation to real assets, being claims upon claims, so that failure in one part of the chain can cause a rapid collapse of claims in the whole chain. One reason for the Great Crash of 1929 was the pyramiding of shares. Shares would be floated on the New York Stock Exchange by companies which had assets comprising solely of quoted shares backed by other shares. The failure of one company in the chain triggered off a series of failures. The depositors or customers of the bank can only assume that the assets as stated in the disclosed balance sheet are worth what they are reported. The minute there is doubt that this is not so, usually through market rumors or failure to honor deposit withdrawals, the lack of transparency changes into a stampede, leading to a run on deposits, which no bank can withstand without strong lender of last resort facilities.

The fourth category of risk faced by banks as operators of the payments mechanism is the danger of *settlement risk*, where failure of the counterparties to honor their obligations in time can cause the payments mechanism to seize up and threaten the banks' liquidity (through no fault of their own) and the chain reaction in delays or failures of settlement down the line results in *contagion*. This happens when the lack of transparency triggers the domino effect--the failure of one bank is associated in the public's mind with the failure of all banks, and the whole process, if not promptly stopped, results in a *systemic failure*. In such circumstances, the payments system collapses, and its failure causes also the failure of the enterprises and possibly the total collapse of the economic system.

II. Approaches to Bank Supervision

There are four basic approaches towards bank supervision:

- Information disclosure
- Self regulation through
 - internal audit and controls
 - external auditors
 - Board audit committees
- Government bank examination (implicit guarantee of deposits)
- Deposit guarantee scheme (explicit guarantee of deposits)

Richard Dale distinguishes between *preventive* regulation and *protective* regulation. In the former category, he includes measures taken by the authorities to restrict entry into banking business by licensing; the restriction

of types of businesses in which banks can engage in; capital adequacy requirement; controls of liquidity and statutory reserves; limits in which banks can lend or invest in; and finally bank examination. Under the category of protective regulation are included deposit insurance schemes and central bank assumption of control of banks, both of which aim to protect depositors from the failure of banks.

Information disclosure requirements involve two basic types--disclosure to the public through regular audited financial statements or announcement of operating results; and detailed disclosure to bank supervisors in which public disclosure may not be appropriate because client secrecy is involved. Although public information disclosure has improved over the years, the quantity and quality of disclosure are highly inadequate due to lags in the information released, the non-homogeneity of accounting standards and treatment, especially international comparisons, and the obsession of most banks with secrecy (to add to the mystique of banking). Even if the bank regulators can demand better quality information from the banks, the integrity of that information can be suspect either because of fraud or deliberate suppression of information, or the bank management itself is not aware of the implications of certain types of business operations. It is almost a dictum in bank supervision that bank management are more often than not blind to large losses, not only because these are detrimental to their ego, but also because of the fear of sparking off bank runs, or affecting their access and costs in borrowing in the inter-bank market.

If one believes solely in market discipline and competition, then *self-regulation* by banks would be deemed sufficient. This could take the form of elaborate internal controls and checks and balances, such as double custodians for assets, double signatories for payments, regular internal audit checks, self-imposed limits on lending to particular sectors and authority limits, and controls over management through an independent Board Audit Committee.

Self-regulation appears to work well in mature, advanced financial markets, where strong market discipline is imposed by the market leaders, built up through long traditions of integrity and professionalism. In such markets, the weaker institutions would have been weeded out by competition, or forced out if their value systems are considered inappropriate by the market leaders. However, self-regulation fails during times of great change, either when the market leaders themselves are weak or when new competition and innovation change the rules of the game. At the point that the market discipline breaks down, "rogue banks" with weak, incompetent or aggressive/fraudulent management can play havoc with markets, and self-regulation becomes paralyzed through indecision and self-interest considerations.

A large part of self-regulation today relies on the use of external auditors, who satisfy the corporate law requirements by expressing an opinion on the financial condition of the bank audited. Unfortunately, the quality of professional firms varies greatly between auditors and their scope of work can be markedly different from that conducted by national bank examiners. This is particularly true in the area of bank fraud and adequacy of provisions. Traditionally, auditors see themselves not as "bloodhounds" whose duty it is to expose fraud, but only to express an opinion that, based on a review of the internal controls and the quality of records kept, the accounts reflect a true and fair view of the state of affairs of the firm audited. This may be wholly inadequate in this modern age of rising computer fraud and fluctuating markets in which changes in assets conditions can have material impact on the solvency of a bank.

Moreover, the fact that audit fees are paid by the bank, and that fees size limit the scope of work done, place the audit firms very much under the influence of bank management. Further, smaller firms of auditors are not professionally equipped to inspect large complex financial institutions; neither are they always free from pressure from bank management. Depending on the national circumstances, bank supervisors can either rely exclusively on audit opinions of external auditors or supplement them extensively with regular inspections by teams of highly trained bank examiners.

Typically, the scope of *bank examinations* is the on-site verification of a bank's financial condition, to ensure that the reporting of the bank's performance to the central bank is accurate, and that it is operating in a sound manner in compliance with the laws and regulations. When a bank examination reveals deficiencies, remedial steps would have to be taken depending on the seriousness of the deficiencies. At its most extreme, this could involve assumption of control of the bank by the supervisory authorities to prevent further deterioration of financial condition and to protect the depositors.

It has often been confused that a deposit insurance scheme protects the depositors and is a substitute for further bank supervision. This is a fallacy. Deposit insurance schemes enhance public confidence in the banking system, by assuring the small depositor that his savings are intact, irrespective of the quality of the bank concerned. In most deposit guarantee schemes in existence, only small deposits are insured, since the large depositors are assumed to be aware of the risks involved in banking with small or weak banks. In the United States, for example, deposits of not more than US\$100,000 each are insured by the Federal Deposit Insurance Corporation. In practice, this has meant that most large deposits are broken down into parcels of less than US\$100,000 each so that they also can be covered under deposit insurance.

However, by removing the danger of bank runs in triggering off into banking contagion and systemic failure, the problem of *moral hazard* is enhanced with the existence of deposit insurance schemes. Bank management can take higher risks with bank assets, and supervisory authorities usually have to step up monitoring systems and increase punitive measures against abuses in the system.

A key issue with *deposit insurance schemes* is the quantum of the premium and how it should be funded (levied *ex ante* or levied *ex post*). Most deposit insurance schemes use a flat uniform premium--this avoids assigning "risk quality" to any particular bank and is easy to levy and collect. Unfortunately, this method punishes the prudent and well-managed banks, and rewards the weak banks. A risk-based premium scheme has the disadvantage of ascribing a bank that pays higher premium as "weak" and such an announcement has the effect of informing the public that they should avoid risking their deposits with this particular bank. Most existing deposit insurance schemes are funded *ex ante* or on a 'pay as you go' basis. However, some schemes, such as the British 'Lifeboat' scheme which operated in the mid-1970s for the secondary banking crisis, was assessed successfully on the large clearing banks after the fact.

III. The Coverage of Bank Supervision

One major issue in bank supervision is the scope of coverage--how far should the central bank's supervision of the banking system and its lender of last resort facilities cover? There are two extreme views to this. At one end of the spectrum, the supervisory authority should confine itself only to the clearing banks, protecting specifically the money-creation process and the clearing/payments mechanism only. Since the clearing banks are at the core of the financial markets, problems at the periphery are often relegated to be resolved by the banks (who are the primary financiers of these markets). The supervisory authority only extends moral guidance plus liquidity assistance to the banks so that system-wide liquidity is not affected.

At the other extreme, the supervisory authority is directly responsible for almost all aspects of the financial system, covering not only the banking system, but also foreign exchange markets, capital markets and the securities industry, including in some cases the insurance industry. The Monetary Authority of Singapore, for example, has wide-ranging powers to regulate the whole financial system, and was instrumental in developing the securities industry and the off-shore banking center, including the futures and commodity markets. This approach calls for wide powers of supervision and inspection, monitoring and forward planning capabilities.

Whether countries should adopt one or the other approach would depend largely on the philosophy of bank supervision in that country--to rely on the

market or on central planning and supervision. Dr. Goh Keng Swee, the Deputy Chairman of MAS and a prime architect of Singapore's economic growth, was known to have remarked that the regulation of banks should be "like frying small fish--it must not be overdone". There is always a *cost to bank supervision*--not simply the logistics costs of maintaining teams of bank examiners, but also the indirect costs of mounting rules and regulations that cost time and money for the banks to follow, as well as the immeasurable costs of retarding innovation and efficiency through over-regulation. Historically, the monetary authorities hover between excessive prudential regulations usually imposed after a financial crisis, on the one hand, and excessive deregulation on the other, which could sometimes precede a financial crisis. The art of maintaining the middle way is not easy to achieve.

IV. Should Central Banks Supervise the Securities Industry?

Related to the problem of coverage is the traditional separation of the banking industry from the securities industry. One lesson drawn from the banking failures of the Great Depression of the United States in the 1930s was that the banks failed because of their excessive lending or investments in shares. The Great Crash caused substantial losses in investments and failed loans, thus triggering off the chain of failure of small rural banks which did not have the capital reserves to sustain such losses. The Glass-Steagall Act of 1933 was enacted to separate the American commercial banks from investment banking. However, it should be pointed out that universal banks in Switzerland and Germany had for many years successfully operated, loaned and invested in the securities industry with little apparent harmful effects.

It is recognized generally that the securities market is much more volatile than traditional banking business. Since banks usually finance securities trading, and the two areas of business are linked directly by the clearing and settlement mechanism operated by the banks, repercussions in one area are bound to be felt in the other market. The key issue is therefore whether the banks are capable or equipped to withstand such shocks and whether it is legally possible or practical to build safety trigger points or firewalls to insulate one market from the other.

With the present mood for deregulation in financial markets world-wide, and pressure from the commercial banks, there is now greater acceptance of the view that perhaps commercial banks should be allowed to enter the securities market, with appropriate safeguards. If this is so, there will be greater reasons why one central supervisory authority should oversee the developments in both markets. Although there are some supervisory authorities which already oversee both markets, whether this would be the wave of the future remains to be seen.

To summarize, bank supervision has the following primary objectives:

- (a) to promote and develop a sound and wide range of financial services to meet the needs of the economy;
- (b) to ensure that the banks are efficient, secure and responsive to consumer needs and complaints;
- (c) to ensure compliance with laws and regulations conducive to fostering high standards of banking and professional conduct; and
- (d) to ensure that the behavior of the banking system complies with monetary policy and credit allocation policies, bearing in mind that prudential regulations sometimes conflict with monetary policy/credit allocation objectives.

C. The Practice of Bank Supervision

The process of bank supervision takes two forms. One is the *regulatory* or off-site monitoring process, while the other is on-site inspection or *bank examination* process. Bank regulation usually deals with the formulation and implementation of specific rules and regulations for the conduct of banking business, including the monitoring of the compliance with such rules. Bank examination, on the other hand, ensures compliance with the rules and regulations and assesses the soundness of individual institutions. Sometimes, the function of bank regulation and examination are centered in one department, while in some central banks, such as Bank Negara Malaysia, they are separated into different departments as a matter of policy.

I. The Bank Regulation Process

The regulatory process can begin even before a bank or deposit-taker commences business. The licensing process (called sometimes anti-competitive regulations to limit entry into banking) usually involves the following:

- (a) *Minimum capital requirements* --this could be set at relatively high levels to deter entry, or as a matter of policy, the number of licenses issued are limited.
- (b) *"Fit and proper persons"* --the management and board of directors or promoters of the bank are security or financially vetted to ensure that no bankrupts or persons with criminal records are allowed to own or manage banks. The experience and integrity of the chief operating

officer are often examined to ensure that only competent professionals are allowed to manage banks.

- (c) *Ownership limits* --in many countries, the ownership of banks are either wholly or majority restricted to nationals, or are widely held. Some countries limit individual ownership to not more than 5 percent of total paid-up capital of a bank, and would require that any concerted effort by a group to control a bank is reported to and approval sought from the authorities if they owned more than, say, 15 percent-20 percent of the capital of the bank.

After a bank satisfies the pre-operating requirements, the regulatory process then involves the monitoring and control over the activities of the bank according to laid-down rules and regulations. These may be divided into the following categories:

(a) Information Disclosure

The banks are required normally to submit a whole host of statistics for monitoring by the central bank, from daily foreign exchange positions, overnight clearing, weekly and monthly deposits/loans growth, to quarterly and annual balance sheet and profit and loss statements. From these, the regulatory authorities monitor the banks' performance, and compliance with the rules. Usually peer group statistics are developed and the performance of each bank is matched against that of the peer group, and early warning systems and ratios are developed.

Some central banks also approve annual accounts, and use the leverage of delaying such approval to ensure that banks comply with public disclosure requirements or provide adequately for asset losses. An important area of information disclosure to overcome the problem of lack of transparency is to develop uniform accounting standards and disclosure requirements and also an efficient computerized data submission, collection and analysis system. This provides the industry with recent data on its performance and for the public to be alerted to changes in the industry.

A common mistake in the area of banking "secrecy" is for the supervisors to concur in not disclosing the extent of damage in an ailing institution. This places great onus on the supervisor to bear some responsibility for the failure when it is finally announced. For example, when a bank runs into deposit withdrawal problems, there is pressure on the bank supervisor to state there and then that "the bank is sound" in order to calm depositors. Such a statement without adequate assessment of the extent of insolvency places a moral responsibility on the supervisor to "implicitly guarantee" that bank's deposits.

(b) Restrictions of Business Activities

Another preventive measure is to restrict not only the entry into banking to highly competent or capitalized enterprises, but also the types of business activities in which banks are allowed to engage in. To protect against conflict of interest situations, for example, banks are often prohibited to enter into non-bank business, that is, commerce, industry, or agriculture, in direct competition against their customers and where their financial muscle would give them the added advantage. Sometimes, banks would only be allowed to invest in these fields to assist in the recovery of their loans and are required to divest their shares as soon as expedient. The most dangerous field of lending is *connected lending*, that is, credit to enterprises which are directly or indirectly connected to the shareholders, directors or staff of the bank, where objectivity in credit assessment is thrown out of the window, and abuses of authority are common.

(c) Controls Over Changes in Operations

To prevent sudden changes in bank management and their policies from disrupting bank operations, some supervisors require prior notification or approval for changes in control, ownership or management of banks, including changes in the appointment of directors, chief operating officers or auditors. An early warning sign of problems in banks is abrupt changes in such key personnel, either indicating serious disagreements over policy, "rats deserting a sinking ship," or intention to influence management to finance connected lending. In many developing countries, large business conglomerates often seek to acquire stakes in banks for the sake of giving an impression of financial strength, or to finance the group ventures. If this is prohibited by law, then the groups may engage in "scratch my back" activities, whereby "your bank lends to my enterprise, while my bank will lend to your enterprise," to circumvent the rules.

There is also a need to shield banks from giving politically-motivated loans, where funds are used for political purposes with no means of repayment. Some authorities do this by preventing active politicians from serving on the boards of banks. Another control over operations is the control over bank-branching, which limits their access to deposits. The supervisor would only allow a new branch to be opened if he is satisfied that the bank has the capital base and qualified management to operate additional branches.

It is also important to supervise and control the branching of banks overseas, to prevent outflow of funds and opportunities to evade exchange control regulations. Some banks use branches overseas to borrow inter-bank to fund domestic activities in a situation of tight liquidity to avoid monetary restrictions, or engage in "round-tripping" by taking foreign de-

posits which do not require statutory reserves. Control over the banks' ability to open branches is a powerful tool to restrict weak banks from over-extending themselves, to control their growth, and to limit the damage that an ailing bank can do before the supervisor assumes control to prevent failure.

(d) Risk Control Limits

These controls typically limit the extent of risk a bank is allowed to assume, such as:

(i) Credit risks:

- limits on how much a bank can lend to a particular economic sector, such as real estate or shares;

single customer credit limits, restricting loans to one customer or group of customers not exceeding say, 15-20 percent of capital of the bank--this encourages diversification of portfolio;

limits on or prohibition of connected lending--to prevent connected lending.

(ii) Foreign exchange risks:

- normally the central bank determines the maximum net open foreign exchange limits that a commercial bank is allowed to hold, so as to discourage excessive speculation or exposure to exchange rate risks;

(iii) Interest rate/maturity risks:

- controlled by requiring minimum liquid assets ratios and disclosure of maturity mismatch.

(e) Liquidity Requirements

To meet the day to day cash and deposit withdrawal needs of their customers, banks have to maintain minimum liquidity assets--these usually comprise 5 to 10 percent of total deposit liabilities held in cash, deposits with central bank and other banks, and another line of 10 to 15 percent in first-class bills of exchange, Treasury bills or short-term government securities which can be readily sold without capital loss.

(f) Capital Adequacy Requirements

Capital is maintained by banks to support their fixed assets, to ensure the financial commitment of the shareholders, and to cushion depositors against unexpected losses faced by the bank. In the drive for profits, the capital base of the banks have tended to erode over time. There are many ways of

calculating the *capital adequacy ratio*, from a simple capital to total assets or deposits ratio, the "free" capital ratio and the risk-based capital ratio. The free capital ratio assumes that all investments in fixed assets and long-term assets should be funded by capital, and the free component is the one that is used to cushion the bank against unexpected risks. The risk-based capital ratio is more finely tuned to the risk profile of the bank, but is more difficult to calculate. This approach, recently adopted by the Basle Committee of Bank Supervisors, gives risk weights to different categories of assets, and requires that a bank should have a minimum standard of 8 percent capital base by 1992. This approach also takes into consideration off-balance sheet risks.

One difficulty that is associated with the Basle approach is the controversy of whether revaluation reserves and hidden reserves should be counted as part of capital. The Basle Committee resolved this by having a two-tier capital--a core capital comprising paid-up capital and earned reserves; and a second tier capital (limited to not more than 100 percent of core capital), which comprises preferred stock, general provisions, subordinated loans and up to 45 percent of hidden and revaluation reserves.

The most difficult part of assessing capital adequacy and solvency is the assessment of adequacy of assets loss provisions, particularly bad debts. Here, the supervisors have to be very clear and firm in introducing standard accounting treatment on interest-in-suspense and loan provisioning (including valuation of security) procedures to be followed by the commercial banks. The greatest controversy between supervisors and bank management is the size of provisions required, which can be subjective and open to question.

(g) Information Pooling and Coordination

Because of the banks' penchant for secrecy, and reluctance to exchange or reveal information to their competitors, especially on exposure to large borrowers, there is considerable economies of scale and advantage in the supervisors developing a central credit information bureau to monitor large loans or poor loans, to assess the adequacy of provisions, detect problem areas in the economy, and to improve the banks' credit evaluation information base. Other pools of information, such as methodology of fraud, black-list of dishonest staff, training methodology, and systems procedures and manuals, can be centrally stored with the bank supervisor to be shared by the industry to great advantage.

(h) Moral Suasion

Many central bank governors feel that the moral leadership and guidance of the central bank are the right approach to set the right tone for correct

bank conduct. Mature central banks tend to rule the industry through "lifting the Governor's eyebrow" or a regular chat and exchange of views with the bankers' association or market leaders. However, in less disciplined markets, moral suasion has to be accompanied by tough laws and measures, where guidance is seen as an iron hand in a velvet glove.

(i) Preventive Measures

Moral suasion works well with highly principled and professional bankers, but is unlikely to work with "rogue" banks and fraudulent managers. The bank supervisor must therefore have a sufficiently good early warning system to detect such behavior, and to have sufficient legal clout or "teeth" in the form of punitive measures to jail fraudulent bank staff and deter them from straying from the straight and narrow. The strict enforcement of rules and regulations has often been neglected in regulation work.

(j) Policy and Legal Development

Finally, a major duty of the bank regulator is to regularly review the performance of banks, the developments in the market, complaints of the public and update regulations and legislation to effect reforms, and to change these with the times. More often than not, outdated policies and regulations have been major causes of banking inefficiencies and retarded development of financial deepening.

II. The Bank Examination Process

In general, the examination process involves frequent on-site examination of bank operations to ascertain that the bank is operating in a sound manner; to determine the accuracy of financial reports to the regulator and the public and to ascertain compliance with the law and regulations. Bank examinations are usually conducted on a surprise basis (without prior notice to the bank concerned) and at random, on either selected branches or aspects of the operations of a bank. The examination could either be a routine inspection or a special in-depth investigation to uncover fraud or risk exposure.

Most bank examination activities would cover the following:

(a) Determine financial position of bank and quality of operations

This includes assets and cash counts, verification of internal control procedures, their documentation and compliance.

(b) Assessment of management quality

- covers integrity, training and experience level of bank staff.

- monitors how tightly management is supervised by the Board.
- examines the degree of discretionary powers given to management staff and the nature how powers are exercised.
- adequacy of staff and staff training.
- management succession and dual controls.

(c) *Ascertain compliance with laws and regulations*

Includes tests of documentation and compliance with laid down laws and procedures.

(d) *Testing accuracy of books, accounts and records*

Verifies that transactions are properly and accurately documented and that audit trails and authorizations are properly maintained.

(e) *Verification of asset quality*

This includes a complete review of *credit policy* laid down by the Board to cover areas such as

- proportion of loans to sectors and individuals
- types of securities acceptable to the bank
- procedures to be followed in valuation
- margin of advance
- credit appraisal methodology
- credit monitoring and recovery
- aging of loans, suspension of interest and loans provisioning.

Also included should be risk exposure reviews on other assets such as land and buildings, holdings of long-term bonds, foreign exchange positions, investment in unquoted shares and other assets. Depending on materiality, large and unusual assets should be examined and verified, if needs be, through independent sources such as professional valuers.

(f) *Assessing solvency of bank*

After all provisions have been made, the *solvency* of the bank would be assessed, and the truth and fairness of the financial statements of the bank commented on. This usually involves detailed discussions with the banks' top management and auditors.

Increasingly, bank examiners assess bank performance according to the U.S. Federal Reserve's "CAMEL Test": C for capital adequacy, A for asset quality, M for management depth and competence, E for earnings levels and L for liquidity. In the assessment of earnings levels, many examiners have

adopted an efficiency performance criteria, including, the examination of spreads, productivity of bank staff, return on assets and overall profitability.

Other areas of bank examination include the detection of the existence of bank fraud, either perpetrated by bank management or shareholders on depositors, and illegal activities such as the laundering of illegal funds.

Because of international links in this type of activities, especially when the bank fraud perpetrators tend to siphon funds abroad, there is greater cooperation between banking supervisors in exchanging information on the modus operandi of such fraud and illegal activities, and the persons or institutions involved.

III. Remedial Measures on What to Do When Banks Fail

For one reason or other, banks fail. They can fail because of illiquidity, insolvency, mismanagement, sudden shocks to the system, such as violent fluctuations in interest rates or exchange rates, or fraud. Although macroeconomic conditions can be ascribed as the broad reasons why some banks fail, in general, mismanagement plays a large role. De Juan has characterized bank mismanagement into four phases : technical mismanagement, cosmetic mismanagement, desperate management and outright fraud. The mismanagement leading to bank failures can be caused by any or a combination of the following factors:

- (1) Inappropriate macroeconomic problems leading to large-scale enterprise failures.
- (2) Sudden changes in market conditions--such as a devaluation, natural disaster or stock market crash.
- (3) Errors in judgement or market strategy by bank management.
- (4) Internal management, disputes or labor problems.
- (5) Inexperienced staff operating in new fields.
- (6) Violation of regulations.
- (7) Connected lending to interested shareholders, managers or bank staff.
- (8) Imprudent lending and asset acquisition.
- (9) Poor internal accounting records.

(10) Poor bank supervision.

Depending on the severity of the problem of the failing bank, the remedial measures open to a central bank are limited to one or a combination of the following:

- (1) Directing that the problem be remedied, with follow-up inspections.
- (2) Fine the bank or person responsible.
- (3) Moral suasion by publicizing the misdemeanor.
- (4) Restrictions on branching, or loans growth, or investments.
- (5) Change of bank management.
- (6) Call for capital increase.
- (7) Assume control of bank.
- (8) Merge or consolidate institution with stronger institutions.
- (9) Liquidate the bank.

A first point to remember is that bank restructuring or rescue is quite a different specialization from normal bank supervision. This is where an ailing bank is moved from the outpatient casualty ward to the intensive care unit, and the consultant specialist has to diagnose the problem, determine whether it is chronic or terminal and recommend the appropriate dose of medicine.

Two aspects in bank restructuring are vital : solvency and management.

Solvency: Because of lender of last resort facilities, banks seldom fail because of illiquidity. They can show signs of illiquidity due to ailing assets (large non-performing loans greater than the capital base) and can easily replace this lost liquidity from the market by borrowing in the inter-bank market, or raising deposit rates and increasing branches. Because of lack of transparency, they can easily hide their non-performing loan losses or other failures through rolling over credits, lending more loans to bloat the balance sheet and undertaking high risk ventures. The detection of this phase of desperate management is usually not easy.

The examiners have to undertake an extensive evaluation of the extent of losses, value of assets, internal controls and accounting records in place,

and come up with an estimate whether the bank is solvent or insolvent (negative shareholders' fund).

The dictum is that when a bank is insolvent, the depositors lose money to the extent of the shortfall.

Normally there follows a period of great hiatus as the regulators and the bank shareholders/management argue back and forth the quantum of provisions required. The common argument by management is the need to buy time, not to show losses and that profits are just around the corner. It is never a convenient time to raise capital to meet the shortfall : either because of poor results, or the prospects of poor results. A lesson from experience is that staggering of loan losses provisions is usually a "cop-out," it rarely solves the problem and delays recognition of the true extent of losses. If not properly re-capitalized, banks become "zombies"--the living dead--not bleeding enough to die immediately, but not strong enough to live. The more effective way is to reduce capital by the full extent of the losses, inject new capital by existing shareholders, new shareholders through invitation, or merger/acquisition or new capital from a deposit insurance scheme or government trust fund. Without adequate new capital, even the best of management cannot turn around an ailing bank.

Management: Management is the key to bank turnarounds, and mismanagement is one of the key causes of bank failure. A difficult area is the assessment of the integrity and competence of management. It is always a mistake to retain old management in place either because of the need "to recover old loans" or because "they know the business". New brooms sweep cleaner because they can be more objective in assessing the extent of the damage and may be able to address the need to:

- (a) recognize the extent of the losses;
- (b) secure new lines of bank credit because of improved confidence;
- (c) stem old losses;
- (d) reduce overheads and staff, with retrenchment if necessary;
- (e) put in improved controls and accounting systems;
- (f) introduce new profit opportunities.

A temptation to resist is the assumption that supervisors make the best bankers. More often than not, it takes an experienced market-oriented banker to inject new profit sources to turn around the bank. Regulators are

good conservators of existing assets, not necessarily creators of new profit sources. Both aspects are vital in a bank turnaround.

IV. "Rogue" Banks and Early Warning System

A condition that most bank regulator must learn to watch out for is the "rogue" bank, where a bank runs wild, and behaves completely contrary to sound banking principles.

This usually occurs when the bank is close to insolvency, and the bank management or owners deliberately or recklessly decide by fraud or otherwise to "double-up or nothing" in order to recover losses, and enrich themselves through fraud since they realize that a return to solvency is futile.

It has sometimes been argued that distressed banks occur because of macroeconomic mal-adjustments. Large doses of inflation, recession or deflation, and devaluation all create the environmental conditions which can lead banks to lose money. But "rogue" banks can occur often in conditions of great prosperity and are *only detected* in conditions of recession. Bad macroeconomic conditions are necessary but not sufficient conditions for failing banks.

The theory of sound bank risk management calls for an expansion of credit at the bottom of a recession and in its recovery phase, and a restraint of credit at the height of the boom and the downside of the trade cycle. Profits are always made at the recovery stage and should prudently be set aside to make additional provisions for loan/asset losses during the recession.

The mirror image of this is the desire for liquidity by enterprises. At the recovery stage, internal funds and profits of enterprise are adequate and funds are required only during a downswing, when debtors slow down in payment and working capital/cash flow shrinks. Deteriorating enterprises begin to borrow heavily in a recession to shore up their own liquidity.

Banking is sometimes likened to playing musical chairs. The weakest bank with the most bad loans drops out when the music stops. Banks fail usually because a large portion of their loans fail. When borrowers or their financiers get into situations of insolvency, their behavior changes from "rational" to "irrational for market, but rational for self". That is, the "rogue" enterprise or bank will do anything to buy time and involve everyone in a "safety net" to protect itself from failure.

Two aspects of bank and borrower behavior need some elaboration. The first is the "black hole" effect of borrowers in distress. Distress borrowing

is strictly suicide i.e., borrowing at higher rates than the real earnings the enterprise can afford. The borrower or bank is decapitalizing fast, but a small insolvency has the same effect as a large insolvency, and when it reaches a "too big to fail" situation, the inverse psychology works. The insolvent enterprise or bank has to be bailed out by its creditors or the public because of the high social costs involved. Reasons for the bail-out then include the rationale of "strategic industry" or "to protect employment".

The "black hole" effect is that the "rogue" bank "diversifies its liabilities" by borrowing heavily and widely, attracting deposits at high rates of interest. If necessary, the "rogue" bank will drag in the social consequences of its failure, including pulling in political influence to ward off supervisors. Pressure is then put on the regulators to bail out the bank. The "black hole" effect accounts for the situation where many enterprises in developing countries try to buy banks, and use connected lending to bail themselves out of the problems. The insolvency of the bank is spread to society and sucks the rest of society into the "black hole of insolvency".

The second effect is "Gresham's Law" applied to banking. Gresham's law states that "bad money drives out good". In an economic downturn, good bankers inevitably consolidate by squeezing their poorer credits for repayment thus driving out their "bad money". On the other hand, weak or less agile bankers welcome such credits. Desperate borrowers also seek out desperate bankers. The insolvent banker willing to pay high deposits rates can always grant his loans to distressed borrowers who are willing to pay high rates with no intention to repay. In due course almost all bad credits end up with the weakest or most corrupt bank. It is the duty of the vigilant bank regulator to detect and catch the "rogue" bank before it runs amuck.

A senior American bank supervisor has said that in his 35 years of bank supervision, banks were observed to fail under three conditions:

- 1) When they grow too fast.
- 2) When they engage in collateral lending.
- 3) When they hire consultants to tell them how to run their business.

The phenomenon of *fast asset growth* is a sure formula for bank failure. This is because evaluation of credit depends on the good experience of the market and tight credit evaluation, monitoring and documentation procedures. New or inexperienced banks with poor or weak staff and desire for fast profits inevitably fall into the trap of lending to poor credits, which will only surface 1-2 years later. In most countries' experience of bank failures, the incidences have fallen heavily on new entrants. In Malaysia, many of the smaller finance companies in the ailing list were new licensees which did not have enough resources to build up experienced staff nor had enough capital to withstand recession. A tentative conclusion drawn from this is

that deregulation of banking without adequate supervision is to result in failed banks, especially when new bankers ride their "learning curve".

Collateral lending is lending against pure security, with no visible cash flow to support the loan servicing and repayment schedule. Collateral lending is against sound banking judgement and is normally given by good banks only to the best customers.

Unfortunately, collateral lending is deceptively easy to understand and appears to have an infallible logic--the loan is adequately secured, so why worry? This "infallible logic" results in lending to finance speculation or non-tradeables, which is poor credit allocation. Distressed enterprises in dire need of cash flow would offer assets (often at inflated values) to banks as collateral. If the banking system as a whole engages in massive collateral lending to finance speculation in land and shares, it can build a speculative bubble, which will bring down many lenders when the land or share boom goes bust. This is because the borrower is speculating on future cash flow from the future sale (at high prices) of the security to service the loan. In a down-turn, forced selling of shares or land by banks almost always triggers large borrower failures. The "black hole" effect works here. When banks have lent collectively too much to finance shares and land, they cannot sell without depressing their own collateral and affecting their own profits and solvency. They therefore become part of the conspiracy to keep afloat the problem borrowers.

The third observation relates to inexperienced bank management who are not clear about their own corporate objectives. Banks are natural bureaucracies and have a tendency to bloat the number of staff and spend on prestigious buildings and benefits on staff. The prestigious buildings are symbols of stability and confidence. They are unfortunately also a drain on earning assets. Since the lending and borrowing rates of banks are usually determined by the market place, or by central bank fiat under strict credit allocation and monetary policies, the most profitable banks are usually those banks *who can minimize their bad loans and have the lowest overheads*. Most ailing banks have overheads disproportionate to their size of operations.

The regulators therefore have to build early warning systems to detect the surfacing of "rogue" banks. These include:

- a) Corporate rating agencies to monitor bank performance.
- b) Central credit information bureaus to detect ailing borrowers.
- c) Computerized bank performance indicators on:
 - Capital adequacy ratios
 - Liquidity ratios
 - Risk profiles

- Profitability indicators
 - Staff productivity indicators
- d) Market information sources, such as:
- Market talk
 - Consumer complaints
 - Industry dialogue

Summary

As creators of money, custodians of public savings and operators of the payments mechanism, banks have to be regulated in the public interest. The objective of bank regulation is to have a sound, secure, efficient and innovative system that is responsive to consumer needs and market forces and free from oligopolistic tendencies. The bank supervisors' job is to monitor the performance of banks and to verify such performance in order to detect the emergence of ailing banks which can threaten to disrupt the whole banking system. Banks can fail in good times as well as bad and tight supervision in itself cannot wholly prevent the occasional "rogue" bank, but can effectively manage damage control and help resurrect or cut out insolvent banks. Because the banking system is so important to macroeconomic management, sound supervision is a vital component of overall central bank management of the financial system and the economy.

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