

# Global supervision, financial stability and risk control: a banker's view

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## Introductory: on globalization, financial crises and banks

The intensifying international flows of goods, services and capital, the proliferation of multinational corporations with offices in different countries, and the reduction of tariff and regulatory barriers to trade are some of the aspects of market globalization. In the past two decades we have seen a significant increase in the volume of international capital flows between industrial countries and, since the turn of the '90s, an appreciable rise in exchanges with the emerging economies as well. Financial integration between the industrial and developing economies has led on the one hand to more efficient allocation of resources (savings and investment), and hence to greater aggregate welfare but on the other to heightened financial instability in connection with abrupt, massive shifts of capital, often in response to marginal variations in the macroeconomic situation of a country or, worse, simply to alarming news. In this context, financial crisis in one country can spread swiftly, touching off worldwide contagion. A critical link in the spread of crises appears to be the banking system, which is often involved directly as the vehicle of speculative, high-risk capital movements (Table 1). From the standpoint of crisis prevention, then, it is natural to examine the role of internal controls, i.e. the governability of the banks, together with the supervisory and oversight role of the central banks and supranational organizations.

The vulnerability of the world banking system is illustrated in a study released in 1997 by the International Monetary Fund showing

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□ Banca Nazionale del Lavoro, Roma (Italy).

INTERNATIONAL SUPPORT PACKAGES: EARLY 1980S AND 1990S  
(billions of dollars and percentages)

	1982-83		1995-98						
	Argentina	Brazil	Mexico	Mexico	Thailand	Indonesia	South Korea	Russia	Brazil
International Monetary Fund	2.2	5.9	3.9	18.0	3.9	10.1	21.0	11.2	18.0
Other multilateral	0.5	1.2	0.9	10.0	2.7	8.0	14.0	3.8	9.0
Bilateral	0.0	1.9	4.9	22.0	10.5	16.2	22.0	1.4	14.5
Subtotal, official	2.7	9.0	9.7	50.0	17.1	34.3	57.0	16.4	41.5
Percent	27.8	49.2	28.4	100.0	100.0	32.9	72.2	100.0	100.0
Private banks									
Rescheduling	5.5	4.9	19.5 <sup>a</sup>	0.0	0.0	70.0 <sup>b</sup>	0.0	0.0	0.0
New money	1.5	4.4	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Voluntary extension	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0	0.0
Subtotal, banks	7.0	9.3	24.5	0.0	0.0	70.0 <sup>b</sup>	22.0	0.0	0.0
Percent	72.2	50.8	71.6	0.0	0.0	67.1	27.8	0.0	0.0
Other private	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	9.7	18.3	34.2	50.0	17.1	104.3	79.0	16.4	41.5
Export base	7.6	20.2	21.2	60.9	54.7	50.2	128.3	62.5	52.6
Support/export (%)	127.6	90.6	161.3	82.1	31.3	207.8	61.6	26.2	78.9

<sup>a</sup> Excludes \$ 15 billion private debtors.

<sup>b</sup> Potential scope of debt rescheduling framework agreement.

Source: Institute of International Finance, Working Group on the Liberalization of Capital Movements. Preliminary Report, 3 August 1998, IIF, Inc., Washington.

that in the recent past 130 of 181 member countries have had severe banking problems.<sup>1</sup> The Latin American debt crisis of the early '90s was the first in a string of financial catastrophes involving the Scandinavian banking system, the US thrift institutions and, more recently, Japanese banks; 1995 is often remembered as a year of spectacular crises of major banks: the Barings failure, the enormous losses of Crédit Lyonnais (\$ 4.2 billion), Daiwa (\$ 1.2 billion) and others. The unexpected failure of Barings, which threatened to touch of a chain reaction, was due to speculation in financial derivatives. The troubles of Daiwa and Crédit Lyonnais stemmed from enormous uncollectable debts run up by major borrowers, partly as a result of the rise in interest rates in 1989.

The recent events in Asia, Russia<sup>2</sup> and Brazil show that in our globalized age, financial crises come too frequently and spread too fast, triggering processes of contagion that can do severe damage to the productive economies affected, be they industrialized, emerging, or in transition. The severe systemic repercussions of these crises have refocused attention on the need for concerted international action (regulation and supervision) to develop a common system for the measurement and control of risk. The prime objective must be crisis prevention.

In response to growing market integration, the loftiest ambition of the international banking system would be an adequate system of oversight internal to the individual credit institutions capable of monitoring assets and borrowers. It was the lack of such controls that caused the collapse of Barings and the huge losses of other top banks in 1995.

New supervisory models are now emerging that stress the reporting and inspection phases and assign regulators to define minimum capital ratios<sup>3</sup> and qualitative requirements. These regulations

<sup>1</sup> Lindgren, Garcia and Saal (1996).

<sup>2</sup> The Institute of International Finance estimates the losses sustained by banks and other financial institutions as a consequence of the crises in just three Asian countries plus Russia at \$ 350 billion.

<sup>3</sup> The Basle Capital Adequacy Accords of 1988 were an instrument for reducing systemic risk. The regulations were intended to make sure that in case of failure shareholders would suffer substantial losses, thus prompting banks to sounder and more prudent conduct. Aside from the intensifying criticism of the perverse effects of the regulation, its strictly microeconomic approach can hardly be expected to deal with systemic risk. And as we shall see, other measures to attenuate the risk of systemic crisis may be designed. The Basle Accords set the minimum capital adequacy

acknowledge the viability, and perhaps even the superiority, of control systems developed internally by the banks, which assign heavy responsibilities throughout the ranks of management to establish and pursue objectives of oversight and to help instill a culture of control within the bank. The 1998 Report of the Basle Committee describes internal control as "a process effected by the board of directors, senior management and all levels of personnel. It is not solely a procedure or policy that is performed at a certain point in time, but rather it is continually operating at all levels within the bank. The board of directors and senior management are responsible for establishing the appropriate culture to facilitate an effective internal control process and for continuously monitoring its effectiveness; however each individual within an organisation must participate in the process".<sup>4</sup>

The spread of global banking is a major challenge for central banks and supervisory authorities, be they national or supranational. Interestingly, in 1998 commercial banks alone held nearly 50 percent of the foreign debt of the main emerging economies (Table 2). The expansion of banking business both geographically and in terms of products and services makes it increasingly difficult for outside control bodies to truly grasp the relations between the various activities of a given bank and thus to devise suitable regulations. On the plane of supranational controls, rules should be enacted that reflect the revolution under way in world financial systems, encouraging harmonization and procedural standardization.

Three levels of defense against systemic risk have been identified:<sup>5</sup> 1) creation of a lender of last resort – a central bank or international institution – to guarantee liquidity in case of financial crisis; 2) deposit insurance, to reduce the likelihood of a run on banks suspected of being short of liquidity; 3) stronger banking regulation and supervision. This third defense is necessitated by the danger of moral hazard that could be engendered by the safety net constituted by the first two: aware that they are safe, in fact, some banks might have an incentive to make rash moves in terms of the risk-return trade-off.

The effort to create a common platform to promote the soundness of national financial systems has embraced an intensifying activ-

ratio for banks at 8 percent of risk-weighted assets; banks must also have "core capital" of at least 4 percent of risk-weighted assets.

<sup>4</sup> Basle Committee (1998, p. 8).

<sup>5</sup> Group of Thirty (1997).

ity on the part of international forums. The result has been an increasingly clear market orientation in setting the rules to bridge the disparities between national laws and to permit a variety of implementation techniques. A global supervisory authority would appear to be inconceivable, but at the same time no other regulatory apparatus is sufficient to guarantee world financial stability unless individual banks conduct themselves correctly. The emerging orientation in supervision as regards market risk and credit risk follows this line; namely, the tendency is towards greater interaction between internal risk management and prudential supervision. The banker has a central role in implementing the model of stability that the institutions call for.<sup>6</sup>

TABLE 2

COMPOSITION OF EXTERNAL DEBT FOR MAJOR  
EMERGING MARKET ECONOMIES  
(percentages)

	1998	1997
By creditor: <sup>a</sup>		
International financial institutions	14.7	12.6
Official bilateral creditors	27.5	21.2
Commercial banks	45.3	34.3
Other private creditors	12.5	31.9
By borrower: <sup>b</sup>		
Public sector	75.5	49.5
Deposit money banks	11.2	23.7
Other private sector	13.2	26.8

<sup>a</sup> For 29 emerging economies: China, India, Indonesia, Malaysia, Philippines, South Korea, Thailand; Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay, Venezuela; Bulgaria, Czech Republic, Hungary, Poland, Romania, Russia Federation, Slovakia, Turkey; Algeria, Egypt, Morocco, South Africa, Tunisia.

<sup>b</sup> For 18 emerging market economies with total debt of approximately \$ 1,4 trillion in 1997. It includes some estimates for 1996 and 1997.

Source: Institute of International Finance, *Working Group on the Liberalization of Capital Movements. Preliminary Report*, 3 August 1998, IIF, Inc., Washington.

<sup>6</sup> See Heimann (1998).

The foregoing considerations suggest that: *i*) at the macroeconomic level, we need to reinforce the role of crisis prevention and crisis management by all concerned, designing a 'new architecture' for the international financial system hinging on standards of transparency and prudential supervision, the development of 'safety nets' to minimize the risk of contagion, and the consolidation of the capital markets in the emerging countries; *ii*) at the microeconomic level, it is necessary and perhaps a top priority, in view of the recent collapse of some large banks, to strengthen risk management systems and develop internal models for assessment of the many specific risks that banks assume in their day-to-day business.

### 1. The top-down approach to stability: global banking and international institutions

Overseeing stability requires concerted action, the harmonization of international supervisory and regulatory standards, support to the weak economies, attention to the early warning signs of crisis. This necessarily means stepping up cooperation among international institutions, such as the IMF, the World Bank, the Bank for International Settlements, the Basle Committee, national central banks, the World Trade Organization and the OECD, with a redefinition of their respective roles and powers. At present, each institution is responsible for a definite area; but crises cut across the entire financial apparatus and require concerted intervention. Of late, international financial institutions have responded to the problem of global crisis with a series of initiatives involving all the leading organizations (IMF, BIS, World Bank). The Basle Committee on Banking Supervision has published the fundamental principles for proper supervision, laying down the minimum requirements that constitute the preconditions for effective supervision, with indications concerning banking activity, prudential regulations, methods of supervision over ongoing activities, reporting requirements, the formal powers of the authorities, and banks' international business activities.

However, reliable machinery of supervision and regulation is but one of the necessary pillars of a stable and efficient financial system. The others comprise a macroeconomic and institutional environment that fosters a healthy credit culture, the effective working of the market, and control over the sound governance of banks by their shareholders. In conformity with the principles of the Basle Committee, the IMF and World Bank should operate in concert: the former intensifying the dialogue with its member countries to identify possible areas of vulnerability within the financial system, the latter supplying the economic resources and technical assistance to restructure the banking and financial sector of troubled countries. The supranational financial institutions have two priority areas for intervention: first, greater transparency through continuous and complete information and second, the establishment of a set of incentives that reward proper financial conduct, not distorted by conflicts of interest, ill-conceived safety mechanisms or limits on competition.

#### 1.1. *The International Monetary Fund and surveillance of economic stability*

Sound money, prudent fiscal policies and open markets are the *sine qua non* for economic growth in every country and are the primary objectives of the International Monetary Fund. The changes that have transformed the market and the rise of powerful geographical interdependency now necessitate an extension of the IMF's tasks to ensure the stability of banking and financial systems at the world level. The recent crises have heightened the need to adapt the IMF's mandate to the effects of globalization on the world financial system. The Fund's present procedures for banking and financial oversight are not in scale with the dimensions of the global market or the risk of the new instruments traded. Banking is now truly global, and as we have seen on more than one occasion of late it is highly exposed to economic and financial crises, the domino effect always lurking. Table 3 shows the external exposure of the main banking systems; in 1998 the euro area was the most highly exposed to third countries, with 41 percent of total lending; far behind were Japan (14 percent), the United States (11 percent) and the United Kingdom (9 percent). The area receiving the largest amount of international bank lending was

Asia, with 32 percent of the total. The figures show that the Economic and Monetary Union of Europe has greater need than the rest of the world not only for efficient internal controls but also for adequate protection against systemic risk.

The consensus view among economic operators is that the main impediment to the exercise of oversight by the Fund is its lack of instruments to enforce the rules. To this end, the first need is for closer cooperation of the Fund with member countries and with the other leading international institutions. From the operational standpoint, this means jointly defining the rules and incentives to foster prompt corrective action by the member countries at risk and the harmonization, in the field of banking supervision, of national intervention procedures and instruments.

TABLE 3

THE GLOBAL BANKING MARKET:  
THE EXTERNAL EXPOSURE OF THE MAIN BANKING SYSTEMS  
(percentages, 1998)

Debtor country \ Creditor country	Euro area	United States	Japan	United Kingdom	Others	Total
Composition by creditor country						
Latin America	45	23	4	9	19	100
Eastern Europe	73	8	2	2	15	100
Asia	33	10	32	7	18	100
Others	44	9	9	9	29	100
Total	41	11	14	9	25	100
Composition by debtor country						
Latin America	24	52	8	25	23	25
Eastern Europe	21	8	2	5	10	12
Asia	25	24	73	35	30	32
Others	30	16	17	35	37	31
Total	100	100	100	100	100	100

Sources: Based on data from Institute of International Finance, *Working Group on the Liberalization of Capital Movements. Preliminary Report*, 3 August 1998, IIF Inc., Washington, and BIS, *Annual Report 1997 and Annual Report 1998*, Basle.

As for oversight strictly speaking, one must distinguish banking supervision in a single country from multilateral surveillance. As to the former, the IMF can affect a country's macroeconomic policy

through periodic consultation, seeking to identify weak points in the financial system and suggesting corrective measures compatible with international standards. Multilateral surveillance, by contrast, is effected via recommendations based on the analysis produced in the IMF's *World Economic Outlook* and *International Capital Markets*. The recommendations are intended to act on elements of financial vulnerability and systemic risk that may trigger international *spillovers*. The Fund thus seeks to detect weak points, such as banking sectors of systemic importance, financial supervision and regulation, the design and operation of the financial infrastructures underlying the main international markets. It is worth noting that the Fund's recommendations are at present no more than rules implicit in the existing Articles of Agreement, as the institution has no mandate for surveillance over national or international banking systems. This limitation should be removed or at least relaxed with the reform of the Articles.

### 1.2. The coordination of banking and financial surveillance

The effort to devise an efficient international system of oversight and control is the focus of the debate on IMF reform. The discussion involves other international organizations as well, such as the World Bank, the OECD, the World Trade Organization, the Bank for International Settlements – with its Committee on Payment and Settlement Systems and Committee on the Global Financial System –, the Basle Committee for Banking Supervision, the securities market association IOSCO, the committee for insurance market supervision IAIS, and the Joint Forum on financial conglomerates.

This vast array of supranational organizations is discussed in the Tietmeyer Report, drafted under an IMF mandate to design a proposal for coordination among international organizations in the sphere of banking and financial supervision.<sup>7</sup> While judging that the present institutional arrangements for supervision can be considered adequate, the Report stresses that the instruments available must be coordinated differently and used more effectively. Endorsing the need for the IMF to continue to act as central coordinator of international

<sup>7</sup> Tietmeyer (1999).

supervision, the Report notes that other institutions – advisory bodies, select groups – must play a greater part in the oversight process. Specifically, it highlights the disparity between the fragmentation of global supervision and the integration of international markets.<sup>8</sup>

The Report notes three problem areas: 1) the distinction between micro- and macro-prudential supervision; 2) the coordination between national authorities and international financial institutions; 3) the involvement of the emerging countries in the prevention and monitoring of international financial crises. Success in these three areas should enhance the efficient functioning of international markets with full utilization of resources and a fairer distribution between countries of the benefits from the free global movement of capital.

The Report also indicates three areas for action. First is identifying the weak points in today's financial systems, at both national and international level, in order to locate the sources of systemic risk and design regulations and supervisory policies that can reduce vulnerability. The second is creating new procedures for the development of effective international supervisory rules and standards. The third is ensuring effective application of these rules and standards within member countries.

### 1.3. Loans and lending of last resort

Article 1(5) of the IMF Articles of Agreement defines the institution's purpose as "making the Fund's resources temporarily available to [members] under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity". The IMF's resources, contributed by the member countries, are lent to the members for relatively short-term coverage of balance-of-payments deficits. 'Fundamental' imbalances may result in adjustments to exchange rate parities. All members that draw on Fund resources pledge to adopt the necessary measures to correct the imbalance and repay the loan as soon as possible, and in any case within three to at most five years. In addition to its traditional

<sup>8</sup> It cites, as a first step towards overcoming this dichotomy, the formation within the BIS of the Forum on Financial Conglomerates (Tietmeyer 1999).

facilities, which still represent the main instrument of intervention, the Fund offers a number of new credit facilities created in recent years.

Table 4 compares the value of IMF lending, world exports and the external debt of the developing countries over the years. Whereas in 1970 IMF credits were equal to 17 percent of the less developed countries' external debt, in 1998 the figure was 12.2 percent. The same year, the Fund's lending amounted to 5.1 percent of world merchandise exports.

TABLE 4

IMF QUOTAS, WORLD EXPORTS AND DEVELOPING COUNTRY DEBT  
(billions of dollars and percentages)

	1970	1980	1990	1997	1997
IMF quotas	12.6	77.6	123.6	195.3	288.0
World exports	298.4	1,921.8	3,377.6	5,463.5	5,665.6
Developing country external debt	74.0 <sup>a</sup>	615.7	1,480.2	2,237.9	2,359.9
Quotas/World exports	4.2	4.0	3.7	3.6	5.1
Quotas/LDC debt	17.0	12.6	8.4	8.7	12.2

<sup>a</sup> 1970 estimate assumes short-term = 25% of long-term.

Source: Institute of International Finance, *Working Group on the Liberalization of Capital Movements. Preliminary Report*, 3 August 1998, IIF, Inc., Washington.

Policies on the exercise of members' drawing rights have evolved constantly since Bretton Woods. Rights are clearly related to the financial resources at the Fund's disposal, which depends in turn on subscription quotas. The quotas are thus an essential part of the structure of the Fund, determining both the decision-making powers and the obligations of the members. In particular: *a*) each member's voting rights consist of a fixed portion, equal for all, and a variable portion that is proportional to its subscription quota; *b*) the quota assigned to each member is in proportion to its economic importance; *c*) each member's drawing rights are a function of its quota. Quotas have been repeatedly increased: as the table shows, IMF reserves rose nearly 23-fold from \$ 12.6 billion in 1970 to \$ 288 billion in 1998. Recently the Fund has also revised and extended its General Arrange-

ments to Borrow, instituted in 1962. At the beginning of 1997 the funds for special credit facilities amounted to \$ 24 billion. The central banks of IMF member countries have also extended their swap arrangements to over \$ 54 billion and stand-by arrangements to \$ 32 billion.

The terms of access to Fund credit have been progressively relaxed, and over the years new services have been offered permitting an increase in the maximum amount of credit at the disposal of each member. The original provisions (Article 5[3]) were fairly vague in this regard. The role of the Fund as lender of last resort is now at the centre of the debate on reform of the Articles of Agreement, and it will be essential to insist on the need to standardize Fund intervention, ensure transparency and prevent moral hazard. In the light of globalization, last-resort lending by national central banks no longer appears sufficient to ensure the stability of the world financial system, so it is only natural to assign this role to the International Monetary Fund, as part of a system that recognizes that countries must receive funds in advance, in time to head off crisis.

Interest rates on emergency lending of this sort would be set on the basis of the economic and financial policies of the borrower government, with less stiff terms for those adhering to the new standards of conduct. In any event, in view of the serious risk of contagion (as highlighted by the recent Asian and Latin American crises), countries in difficulty would not be denied credit, but those violating the new code of conduct could be penalized with higher interest rates and requests for social reforms. However, due account must also be taken of the negative repercussions of higher interest rates.

It is evident that the world economy needs a lender of last resort that can provide capital in emergencies, as a national central bank provides liquidity to private banks in trouble. From this standpoint, the Fund should formulate new policies to strengthen that role: for instance, pre-qualification of countries for emergency finance. By this criterion, the Fund could intervene in accord with national central banks whenever failure to provide assistance entailed the risk of a domino-style systemic contagion, a chain reaction of banking system failures linked with markets in difficulty jeopardizing the orderly operation of significant parts of the global financial system.

This is the backdrop to the IMF's decision (April 1999) to institute a special "Contingent Credit Line" (CCL) for members threatened by serious payments deficits.<sup>9</sup> The provision remains in effect for two years and will supply the resources to prevent the contagion of countries that have pursued correct economic policies, in line with IMF recommendations and international supervisory standards.<sup>10</sup>

## 2. The bottom-up approach to system stability: banks and their internal risk management systems

The integration of markets, and the ease with which financial crises are transmitted and can be self-fueling, require rules governing intervention machinery and the institution of a technical and regulatory apparatus that can prevent potential dangers to global financial stability. If, as noted above, the institutional response is founded upon the rethinking and the redefinition of the roles of the main supranational bodies assigned to safeguard stability, what is needed at the level of the financial system and individual banks is a common regulatory base and harmonized rules of conduct.

The ever more complex, intricate financial panorama and growing information needs have resulted in a decade of major innovation in banking and financial regulation. The central role of the banking system and the importance attached by international institutions to the soundness of the banks as the cornerstone of world financial stability have established as the main objective of regulation the introduction of a set of rules for the efficient government of relations between supervisory authorities and the intermediaries being overseen. The crux of the innovations is a radical change in the *modus operandi* of the banks and the new role of the banker, who now at last has a broader range of instruments and scope for banking activity at his disposal.

<sup>9</sup> IMF (1999).

<sup>10</sup> The CCL flanks the Supplemental Reserve Facility, instituted in December 1997, which can only be used after a financial crisis has become manifest. The amount of credit available under CCL is a function of the Fund's liquidity; it may be between 300 and 500 percent of the member's subscription quota.

### 2.1. *From the Basle Capital Accord to internal risk management models*

Until quite recently the approach to banking regulation in the leading industrial countries assigned risk containment to such instruments as bans on particular types of transaction or limits on the set of financial activities that could be engaged in jointly. However, the experience of the banking crises of recent decades teaches that if the safeguards that the market itself installs against excessive risk-taking by banks are often inadequate, banking supervisory methods also display significant inefficiencies. The old model of banking supervision involved interference in the intermediaries' business decisions, setting constraints on the banker's role and failing to take due account of the potential role of capital in curbing risk.

A first step towards new supervisory arrangements was the Basle Capital Accord of 1988, born of the idea of establishing a relationship between a bank's capital and the permissible level of risks it could take. This approach was designed to restore the banker's power to take independent decisions on the investment of resources and to freely determine the degree of risk of assets, assuming the maintenance of an adequate level of capitalization capable of absorbing unexpected losses and encouraging sound and prudent management at the top.

The minimum capital requirement should be considered, from the depositors' standpoint, i.e. in case of failure, as the capacity to withstand unexpected losses. Given that the cost of equity is higher than that of debt, and given the emphasis on return on equity stemming from heightened market exposure, it is in the banks' interest not to overcapitalize, i.e. not to go much above the minimum; and that is what one finds in the best performing systems. It follows that in the event of major unexpected losses and the need for prompt measures to get back in compliance with the capital adequacy ratios, the bank's ability to absorb the loss without adverse effects on the system lies not so much in the requirement *per se* as in the quality of its shareholders. The latter must be ready, and must have the resources, to recapitalize. It is no accident that some rating agencies take into account the quality of shareholders thus defined. The prudential effect of the rule should stem from the shareholders' interest in limiting their potential losses. Its efficacy depends significantly on the mechanisms of

corporate governance that determine relations between shareholders and management.

Capital adequacy having been assigned the key role in supervisory controls, the problem arose of determining the standards by which such adequacy, in the face of the risks taken, could be judged. The first criterion defined was the solvency ratio, requiring banks to maintain supervisory capital equal to at least 8 percent of their risk-weighted assets. The method of minimum capital ratios was subsequently extended to market risk, with the introduction of a standard measurement of the risk of loss in balance-sheet and off-balance-sheet positions due to adverse changes in market prices.<sup>11</sup>

With the capital ratios, the authorities aim to determine the bank's capital adequacy relative to the losses that could be generated by sources of risk. However, recent events in connection with international crisis and the bank insolvencies of the last decade raise questions as to the effective capacity of the ratio requirements to prevent bank failures, the possibility of improving the present regulatory regime, the role of the banker in safeguarding financial stability and preventing systemic crisis. On the first point, just recall that between 1991 and 1993 the banking systems of several Northern European countries were on the brink of collapse, with total losses ranging from 2 percent of GDP in Sweden to nearly 11 percent in Finland. And in Italy in 1994-95 Banco di Napoli became technically insolvent, even though it was in compliance with the solvency ratio. In 1992 the average ratio of the Swedish banks was 9.3 percent, and that of Banco di Napoli stood at 9.98 percent in 1993, just before its collapse. Compliance with the solvency ratio is thus not sufficient to ensure a bank's capacity to meet its obligations.

The question remains of what adjustments to make to the rules on credit risk and the role of the banker in safeguarding global financial stability.

### 2.2. *Credit risk regulation versus efficient management*

The need to perfect the technical aspects of prudential regulation prompted international bankers, supervisory authorities and risk

<sup>11</sup> Basle Committee (1996).



managers to test and propose increasingly sophisticated methods of risk management. In years past attention focused mainly on market risks, and not until very recently has the need been felt for innovation to adapt the tools for the management of credit risk to the new business environment. Supervisory authorities had been relying on the solvency ratio, whose lack of precision as an indicator of a bank's soundness has been quite widely discussed. While on the one hand the Basle standards have the capacity to gauge the order of magnitude of possible loan losses, on the other there are a series of weaknesses that could jeopardize the efficient allocation of bank resources.

First of all, let us note that the aggregate 'capital' used as the numerator in the ratios may not truly represent a bank's capacity to handle expected and unexpected losses: the provisions for expected loan losses often overestimate effective losses in good times and underestimate them in bad. Secondly, the risk coefficients for the assets in the denominator do not truly reflect effective risk: the weights cannot observe differences between banks in terms of hedging, portfolio diversification and internal risk management systems.

Among the possible objections to the present Basle regulations, let us mention: the lack of a comprehensive vision of credit risk and the inadequacy of the categories used to reflect real overall risk; the arbitrary and static nature of the minimum solvency ratio; the lack of attention to the term structure of credit risk; the marginal role assigned to guarantees protecting risk positions; the greater cost, in terms of capital requirements, of hedging through credit derivative products; the inadequate treatment of counterparty risk on off-balance-sheet positions; the scant consideration of the possible benefits of portfolio diversification.

Specifically, the subdivision of credit risk into loan portfolio risk, trading portfolio risk and counterparty risk conflicts, operationally, with the use of a summary risk measure stemming from transactions with one counterparty but set in distinct categories; it thus impedes adequate coverage. Moreover, the minimum solvency ratio of 8 percent fails to capture relevant factors such as efficient management and the economic fundamentals, which significantly affect corporations' likelihood of default. The risk of insolvency, in fact, increases during recessions and decreases during expansions. As to the term structure of credit risk, it has been observed that the present rules do not pay due attention to the fact that as maturity lengthens, the bor-

rower's ability to repay may diminish: a one-month loan is subject to the same capital requirement as a one-year loan. Furthermore, no distinction is made between spot and forward exposure, resulting both in incorrect assessment of the loans and inaccurate measurement of the residual risk inherent in a hedging position consisting of a long and a short position at different maturities.

In addition, the rules recognize the use of guarantees for risk positions only very marginally. For example, if the holder of a call option also holds the underlying shares, the rules do not consider this cover, even though the position is fully protected against counterparty risk. For offsetting, the rules allow credit risk offsets only if the exposures are of opposite sign, equal maturity, and in an identical instrument. For hedging by means of credit derivatives, the rules impose more burdensome capital requirements, not acknowledging the efficacy of such hedges.

As for counterparty risk on off-balance-sheet positions, notwithstanding the Committee's revisions there remain serious questions concerning the calculation of the effective risk of the potential future exposure. The technique is a segmentation of categories that, despite a broadening in 1995, still does not permit risk assessment as accurate as that offered by the more common internal risk management practices. No distinctions are made within any given category ('commodities', for instance), ignoring the differences in price volatility according to sector. A final weakness is lack of consideration of the potential benefits of portfolio diversification. In fact, the capital requirements for all the individual positions are simply summed, which precludes the distinction between the higher risk of a single \$ 100 million loan and the lower risk of a hundred \$ 1 million loans.

These regulatory shortcomings carry serious implications for banking activity. In some cases the capital requirements are not a constraint on the bank's business, which is based on internal risk assessment and management, but the degree of capital adequacy significantly influences the perceptions of market analysts, rating agencies, financial analysts, and hence the bank's image. Although from the management perspective, the allocation of a bank's capital is determined by internal risk assessments, the capital requirements influence the evaluation of individual banking products, hence an institution's business strategy, by favouring investment in assets subject to less onerous capital ratios. An example is the powerful growth of home

mortgage lending, whose lower risk weighting compared with business loans gives banks an immediate savings on capital provisioning.

As for the market's perception of a bank, the distortions of the present rules may convey a false image of real risk exposure. Two banks with the same capital requirement could be exposed to significantly differing degrees of risk as a consequence, for instance, of different portfolio diversification. This distortion can weigh seriously on the costs of securing capital, on credit rating and on the market performance of a bank's shares. The present supervisory rules' relative lack of consideration to the benefits of hedging, moreover, constitutes a disincentive to using that technique to reduce excessive risk concentration *vis-à-vis* a single counterparty. In some cases of maturity mismatching or imperfect correspondence between instruments, national regulations require banks to observe distinct capital requirements for the underlying position and the hedge; this produces extra cost for positions that are in reality partially or wholly risk-covered. Despite the lack of incentives from the rules, the aim of minimizing risk for a given return has spurred the search for techniques whereby banks can use the portfolio approach in managing lending activity as well. To force them to employ standardized, crude methods in addition to their more sophisticated internal risk management systems not only wastes resources but also obliges the authorities to check for compliance with outdated criteria instead of verifying the strength and viability of the new risk management practices adopted by the banking system and the quality of the data to which they are applied.

## Conclusion

Not even the most appropriate and correct national and international supervisory and regulatory activity can prevent all possible adverse events or avoid the risks connected with banking business. It is nevertheless the first line of defense of the stability of the global financial system. The external activities of the authorities must necessarily be complemented by a well-designed system of internal controls by the banks themselves. It is unreasonable to expect the authorities to provide total protection for credit institutions against

every possible risk. Outside bodies could never monitor the business of every single operator, the intra-day risk of every position, the creditworthiness of every borrower. Nor can the banks be asked to maintain an amount of capital such as to safeguard them completely against extremely rare systemic events, since the management of that risk is the primary task of central banks, which by their very nature must provide a kind of insurance policy against disaster while avoiding the creation of a 'safety net' so secure as to encourage moral hazard on the part of the banks supervised.

The experience with internal systems for market risk management has seen the transition from a single model of risk measurement, the same for all banks, to a diversified set of models tailored to the particular characteristics of the business done by each and better suited to gauging the actual risks run. The Basle Committee's amendment to the capital accord<sup>12</sup> gives the bank the possibility of following its own model for assessing market risk in alternative to the standard models, provided that the capital adequacy ratios are complied with. Internal models must in any case be approved by the authorities and must meet stringent minimum quantitative and qualitative requirements in order to ensure uniform risk measurement for the system as a whole and prevent banks with similar risk profiles from being subjected to different capital requirements. The quantitative requirements focus on methods of calculation; satisfaction of the qualitative ones is the necessary condition for the authorities' applying a zero increment for capital adequacy purposes when they approve the model.

A system of supervisory controls based on the validation of the intermediaries' own internal risk measurements solves the contradiction between the objectives of banking supervision and the 'natural' incentives of the banking enterprise. Such a system assigns the banker a twofold role of active engagement not only as a manager but also as the linchpin of bottom-up financial stability. Poor risk management models, in fact, have underlain a good many banking failures. It thus becomes a key objective of regulators to institute a system of corporate governance in banking that can maintain the right mix of internal flexibility, needed to meet international competition, with sufficient soundness and stability. If the system of internal controls is the re-

<sup>12</sup> Basle Committee (1996).

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