

*The Quaid-i-Azam Memorial Lecture*

## **New Issues in Bank Regulation**

MOHSIN S. KHAN

Deregulation, technology, and financial innovation are transforming banking. Indeed, banking is no longer the business it was even a few decades ago. The way banking services are provided has changed dramatically, and in many countries they are even offered by institutions that are quite different from traditional banks. As the old institutional demarcations become increasingly irrelevant, increased competition from other intermediaries has led to a decline in traditional banking in which banks took deposits and made loans that stayed on their books to maturity. Banks thus have been moving rapidly into new areas of business.

In this evolving financial environment, the international banking community and the Basel Committee on Banking Supervision of the Bank for International Settlements (BIS) are currently wrestling with pinning down an appropriate regulatory framework. The regulatory response to these changes has been a move away from the increasingly ineffective command-and-control regulations to greater reliance on assessing the internal risk-management systems, the supervision of banks, and more effective market discipline. In the language of the New Basel Accord, this represents a shift in emphasis away from capital-adequacy rules toward supervision and market discipline.

This paper provides an overview of the profound and rapid changes brought about by technology and deregulation, and discusses the hurdles that will have to be negotiated for putting in place a suitable regulatory framework. On the one hand, inadequate resolution of these challenges will create the wrong incentives and lead to banking fragility. On the other hand, overregulation carries the danger that it will retard the development of national financial systems, hinder the best use of available domestic savings, prevent countries from accessing international capital, and ultimately lead to slower growth. Developed financial systems are being challenged by the shift in regulatory focus, and the definition and implementation of appropriate regulatory standards is encountering substantial difficulties. Finding the right balance between regulation, supervision, and reliance on market discipline is likely to be even more difficult in developing and transition countries.

### **I. INTRODUCTION**

In the evolving financial environment of increasing deregulation, technology advances, and financial innovation, the international banking community and the Basel

Mohsin S. Khan is based at the IMF Institute, International Monetary Fund, Washington, D. C.

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The next section of the paper analyses the evolving regulatory response of the international banking community to these changes. Section III discusses the challenges confronting bank regulators in developing countries, and Section IV contains the conclusions.

## **II. BANK REGULATION AND ITS EVOLUTION**

Changes in bank regulation in the 1970s and 1980s came about as a response to three factors. First, the deregulation of interest rates and exchange rates occurred at the time when the macroeconomic environment changed. High and variable inflation generated a demand for new hedging products, made savers seek higher yields, and generally intensified banking competition. Second, as argued above, advances in information and communications technology began breaking down what at that time was considered a natural segmentation of the financial industry into banks and nonbanks. Importantly, banks began to look a little less special. Third, the globalisation of banking made domestic banks compete with foreign ones, and initiated a global debate on comparing the efficacy of regulatory frameworks.

The tenuous situation of some money center banks during the debt crisis of the 1980s galvanised the international banking community to search for global best practices and define banking standards. The push for global capital adequacy ratios came from the concern that in the absence of coordination countries would be tempted to relax capital standards or indulge in regulatory forbearance to protect and possibly enhance the competitiveness of their domestic banks. To remove such

temptations and minimise risks to the global payments system the Basel committee of the Bank for International Settlements (BIS) formulated the first Basel Accord.

The original accord, or Basel I, signed in 1988 emphasised the importance of adequate capital.<sup>1</sup> Capital was categorised into two tiers: Tier 1, or core, capital was defined as the sum of common stock, retained earnings, capital surplus, and capital reserves; Tier 2 or supplementary capital consisted of loan loss allowances, preferred stock with maturity greater than 20 years, subordinated debt with original debt of at least 7 years, undisclosed capital reserves, and hybrid capital instruments. Basel I required core capital to be at least 4 percent and total capital (Tier 1 plus Tier 2) to be no less than 8 percent of risk-weighted total assets.

Basel I also strived to be more comprehensive in its risk assessment by extending the capital requirements to Off-Balance-Sheet positions, by translating such exposures to their equivalent On-Balance-Sheet ones. This was done to force banks to recognise exposures that previously went unnoticed or tended to be overlooked for estimating capital requirements. The original accord signed in 1988, however, mostly dealt with credit risk, and as a result, was not well suited to deal with the other types of risks, such as market, interest rate, and operational risk.

Banks reacted to Basel I by finding ways to economise on capital. Since the risk categories used in the calculation of risk-weighted assets were relatively crude, banks found it profitable to load up on the riskiest assets in a particular category. Also, since the Basel capital standards focused on credit risk and did not effectively charge for other risks, banks took on more market and interest rate risk. Further, by using the bank capital to originate loans, they also found it profitable to securitise part of their balance sheet and generate fee income. This resulted in banks keeping the lower quality assets on their balance sheet because through securitisation it was easier to off-load their higher quality (less risky) assets.

The deficiencies of Basel I sent the Basel Committee back to the drawing board to improve on the earlier rules by making the risk assessments more accurate and comprehensive. In 1999, it formalised Basel II in a consultative paper and put forward a three-pillar approach to regulating banks: the first pillar (Regulations) is the rules imposed by the official regulators; the second pillar (Supervision) is the monitoring and enforcement of regulations; and the third pillar (Market Discipline) is enforcement of good behaviour by financial markets and institutions.<sup>2</sup>

Given the changes in the way banks operate, the weight of regulation has shifted from the first pillar to the second and third pillars. Direct regulation of risks is seen as increasingly difficult and regulators are indirectly regulating them by approving the banks' risk-management processes. This shift in emphasis is in part due to the recognition that financial engineering can be used by banks and other intermediaries to escape regulation. It also reflects the realisation that given the

<sup>1</sup>See Santos (2001) for a recent survey on bank capital regulation.

<sup>2</sup>See Basel Committee on Banking Supervision (1999, 1999a).

complexity and rapidity of balance sheet changes, and the limited availability of regulatory resources, continuous surveillance of banks is a formidable undertaking.

**(a) Pillar I: Regulations**

A key aspect of the first pillar is the refinement of the risk weights assigned to different assets to more accurately reflect the risks in the banking and trading book. There are two approaches to measuring credit risk—a Standardised Approach and an Internal Ratings Based Approach (IRB). The first approach is more likely to be used by smaller and less sophisticated banks that lack the expertise to develop their own technical models to evaluate credit risk. Such banks are expected to use external ratings-based risk weights, consisting of separate schedules for sovereigns/central banks, commercial banks, and the corporate sector. In contrast, the IRB lets banks, subject to the approval of supervisors, develop their own credit risk models.

Market risk standards set by Basel II cover the risk in the “trading book,” and put capital charges on foreign exchange and commodity contracts, debt and equity instruments, and related derivative and contingent items. The committee provides some flexibility in terms of measuring risk. Banks can use either an Internal Model or a Standard Model. The internal model of choice is a Value at Risk (VaR) model that estimates how much the value of a portfolio could fall due to an unanticipated change in market prices. Such VaRs can be used, for example, to set exposure limits for traders and to allocate capital to different activities.

With respect to a bank’s exposure to interest rate risk, the Basel principles require that banks hold capital that is proportionate to the risk exposure of the “banking book.” The recommendations also stress the need for banks to disclose the level of interest rate risk and their risk management approach. The role of supervision is important in that supervisors are required to assess the internal models used by banks to measure interest rate risk. Supervisors are encouraged to deal with banks that do not hold the appropriate level of capital, by requiring that these banks either reduce their risks, or hold additional capital, or both.

Operational risk, a “catch all” category, is defined to include transaction risk (e.g., execution errors), control risks (e.g., fraud, money laundering, rogue trading), systems risk (e.g., programming errors, IT failure), and event risk (e.g., legal problems and natural disasters). This risk can be substantial and some estimates indicate that operational risk accounts for about 20 percent of the economic capital held by banks.

**(b) Pillar II: Supervision**

Given the problems in measuring risk embodied in complex balance sheets, this pillar seeks to ensure that banks have sound internal procedures to assess the risk

and calculate the required amount of capital to hold. It provides incentives for banks to develop their own internal models for risk evaluation. The role of the supervisor is seen as making sure the systems in place and the capital held are appropriate for the bank's balance sheet and environment. It also envisages a continuing dialogue between banks and their supervisors, with the latter having the authority to review and intervene when necessary.

**(c) Pillar III: Market Discipline**

The growing reliance on market discipline is driven by the realisation that examiners have a limited time to devote to each institution, whereas effective market discipline keeps a continuous watch. Hence, the aim of this pillar is to enhance market discipline through greater disclosure by banks. To this end, it puts forth a core set of disclosure recommendations for timely information revelation to supervisors and the public. The market also requires instruments (for example, equity or subordinated debt) which serve as a means of disseminating the market's evaluation of financial institutions, and as a vehicle for rewarding well-run entities.

There has been a large and ongoing effort by international bodies and organisations to enhance the quality, frequency, and quantity of information available to increase market discipline. For example, the International Accounting Standards Committee (IASC) has recommended accounting and disclosure standards and the BIS best practices of July 1999 cover loan accounting and credit risk disclosure. These standards recommend that information be disclosed on: revenues, net earnings, and returns on assets; assumptions underlying models, and policies and practices of risk management; exposures by asset type, business line, counterparty, and geographical area; significant risk concentrations; current and future potential exposures; qualitative and quantitative information on derivative and securitisation activities; impaired loans and allowances for impairment by asset type; cash flows that ceased because of deterioration; and a summary of exposures that have been restructured.

**(d) Implications of Basel II**

***Capital Requirements***

Banks were quick to react to the "regulatory tax" imposed by Basel I by engaging in activities that exploited the divergence between the true economic risks and the measure of risks embodied in the regulatory capital ratios. This "regulatory capital arbitrage" allowed banks to minimise the effective capital requirements per dollar of economic risk retained by the bank.<sup>3</sup>

While Basel II is quite flexible and allows banks to choose the risk management methodology appropriate to their level of sophistication, risk measurement raises a number of difficult questions. Even large banks using VaR models have had to face

<sup>3</sup>See Jones (2000).

important challenges, such as model uncertainty, parameter uncertainty, and intraday uncertainty when it comes to dealing with trading positions. Regulators also confront difficult issues when examining bank VaR models.<sup>4</sup> How do they assess the accuracy of a bank's internal risk model? Are the banks' internal ratings sufficiently independent or do they merely mimic external ratings? What standard should be used to compare such models across banks? Can banks manipulate these ratings to lower capital charges? How are regulators to enforce the ratings or impose sanctions based on the ratings produced by such models? These questions highlight the difficulty of relying solely on regulation to control bank behaviour, and underline the importance of bank supervision in the new environment.

Operational risk by its very nature is hard to measure and manage. For example, estimating loss experiences due to operational failure are difficult and usually subjective. Standard insurance contracts meant to cover business interruptions do not provide adequate coverage, due to lack of historical data. The need to deal with such operational risks was a reaction to regulatory capital arbitrage. Banks, having found that activities that involved credit risk and interest rate risk have become less profitable due to the new regulatory tax, allocated more assets to new activities such as, fee-based services and custom-tailored contracts. These activities, because of their general complexity, involve high operational risk.

An important consequence, likely unintended, of the new risk-based capital requirements is the "procyclicality" of bank capital. Several studies have argued that Basel I was partly responsible for the "credit crunch" of the early 90s in the U.S. and in emerging countries.<sup>5</sup> A 1999 study covering G-10 countries by the Basel Committee on Banking Supervision found evidence that bank capital responds to the business cycle. Thus, recessions are likely to depress the value of bank capital, which in turn may choke off bank credit. With over 100 countries adopting the Basel framework, there is now widespread concern that the suspected negative impact of higher levels of risk-based capital may be more pronounced in emerging economies.<sup>6</sup>

Banks are the main intermediaries in virtually all developing economies. Thus, capital adequacy standards, by affecting the performance and behaviour of these banks, will have an important influence on economic activity. In a recent paper Chiuri, Ferri and Majnoni (2002) present empirical evidence that the new capital adequacy ratios may have contributed to a severe reduction in bank credit and an aggregate liquidity shortage in developing countries. It is likely that such effects are

<sup>4</sup>For a critique of the internal model approach, see the proposal on reforming bank capital by the U.S. Shadow Financial Regulatory Committee (2000).

<sup>5</sup>See Bernanke and Lown (1991), Berger and Udell (1994), Peek and Rosengren (1995), and the Basel Committee on Banking Supervision (1999a), among others. Also see Catarineu-Rabell, and others (2002), who argue that the procyclicality of bank capital will depend on whether the loan rating systems used by banks are designed to be "stable over the business cycle" or conditioned on the "point in the cycle" when loans are made.

<sup>6</sup>See, for example, Ferri and Kang (1999).

asymmetric across banks and countries. Banks that are capital-constrained are more likely to constrain credit than those that are not.

It is also possible that greater reliance on bank capital will complicate the conduct of monetary policy. In particular, the monetary authorities' effort to expand liquidity in the market may be constrained by the level of bank capital. For example, suppose the monetary authorities wanted to increase money supply either directly through reserve requirements or indirectly through open market operations. That effort may fail if the banks are capital constrained. Unless banks meet the minimum of 8 percent risk-based capital, or some other regulatory minimum, these banks will not be able to extend loans. Naturally, banks may try to pre-empt such a situation by holding more capital and avoiding being capital constrained. But, capital is costly, and as a result this may affect the level of bank lending and with it, market activity.<sup>7</sup>

Basel II strengthens the link between bank lending and bank capital. A negative shock that hits the balance sheets of borrowers, is also likely to adversely affect bank capital. Thus, the "financial accelerator" effect working through the deterioration in the quality of the borrowers' balance sheets is likely to be augmented by the negative effect on bank equity due to mounting losses. Together these effects will magnify the procyclical nature of capital adequacy requirements. To the extent that emerging countries are bank-based, and are more likely to suffer negative shocks, implies that it may take these economies a lot longer to recover from downturns and more generally amplify the business cycle.<sup>8</sup>

Under Basel II governments will also be affected. While the new Accord maintains the same minimums regarding risk-weighted capital requirements, external credit assessment of borrowers is suggested for banks that do not have their own internal system of assessment. Thus, if credit rating agencies view the state of government finances as precarious, a low sovereign credit rating would imply a higher capital charge. To avoid a higher capital charge or risk lowering their own credit rating, local as well as foreign banks may reduce lending to the government. This may in turn force governments to seek other ways of financing their needs and pressure them to put their fiscal house in order.

### ***Supervision***

Banks engage in information-intensive activities and their profitability also hinges on keeping that information private. This informational asymmetry, however, between banks and other economic agents, such as borrowers, lenders and regulators, can give rise to various problems. For example, informational asymmetry between the bank on one side, and borrowers and lenders, on the other, can result in bank runs and subject banks to contagion type problems. Moreover, the asymmetric information problem between the bank and regulators can also give rise to the well-

<sup>7</sup>See Greenbaum and Thakor (1995), and Chami and Cosimano (2002).

<sup>8</sup>See Chami and Cosimano (2002).

known agency problem, with the regulator as principal and the bank as the agent. The associated moral hazard problem can be quite severe if the new technologies allow banks to circumvent regulations. Moreover, in countries where the regulatory framework is lacking, and where government guarantees exist, regulations alone have proven to be insufficient to control bank behaviour.

The U.S., since 1978, has used an early-warning system called CAMELS to assess the health of banks.<sup>9</sup> This regulatory rating system, in principal, allows supervisors to examine individual banks and take action against bank management in certain circumstances. However, with the increased complexity of products, IT systems, and valuation models, the use of the CAMELS ratings system to categorise banks has posed a severe challenge even to the most highly trained supervisors.

Another serious challenge that arises, and which is widespread, is how to avoid regulatory “forbearance and temporising.” Regulators, under pressure from politicians and the banking industry, and concerned for their reputation and future job prospects in the private sector, may have an incentive to postpone acknowledging and resolving problems in the banking industry. Regulators may be “captured” by the industry they are supposed to oversee.<sup>10</sup> This problem arises because the objectives of the regulator and the taxpayer—the ultimate principal—are not aligned. The regulators, possessing private information regarding the health of the banks, may not use it for the common good.

Given that the aforementioned challenges to effective supervision centre around informational asymmetry problems, various researchers and policy-makers have proposed solutions to reduce the moral hazard and adverse selection issues that can arise. These approaches seek to induce banks to internalise ex ante the costs and benefits of their actions.

A potential solution hinges on recognising that *regulation should facilitate supervision*.

That means there is a need for goals-oriented regulation, or outcomes-based regulation. The focus ought to be on the outcome or goal of regulation, giving banks the flexibility to meet these goals. Of course, this is combined with the understanding that regulators should have the authority to intervene at an early stage to ensure that a bank’s losses do not exceed its capital. Furthermore, the various approaches proposed to solve the problem seek to assess not only the quantitative, but also the qualitative aspects of a bank’s risk management system. In other words, best practice would involve ascertaining the extent to which a bank’s senior management understands the nature of the risks that may be on their bank’s balance sheet.

<sup>9</sup>CAMELS stands for capital adequacy, asset quality, management, earnings, liquidity, and market risk sensitivity.

<sup>10</sup>See, for example, Kane (1989, 1990).



Advocates of the precommitment approach to supervision argue that the outcomes-based regulation should involve banks precommitting to a maximum loss level, where sufficient reserves are set aside to cover the maximum loss. Examiners would then monitor the outcome and assess penalties ex post if the bank exceeds its ex ante estimated losses. In order to avoid any “game playing” by the banks, penalties would be in the form of monetary fines that increase non-linearly with successive violations.<sup>11</sup>

The advantages of such an approach are twofold. First, supervisors do not need to know the details of a bank’s internal risk management system. Second, this simplifies many parts of the examination process, allowing for frequent examinations, and enabling regulators to spend more time and effort on dealing with problem institutions. Critics, however, have pointed out problems with this prescription.<sup>12</sup> For one, it is difficult for supervisors to make the penalties credible ex post. It may not be optimal to punish banks when they are down. These difficulties have led some policy-makers to advocate early intervention with graduated penalties, as a way to allow for outcome-based regulation, but at the same time, avoid the problems with the precommitment approach.

Prompt and corrective action by regulators can be fashioned after the U.S. Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991. By linking supervision to bank capital, FDICIA defined five capital zones ranging from well capitalised (rating of 1) to critically undercapitalised (rating of 5). A bank whose total capital (Tier 1 plus Tier 2) exceeds 10 percent of risk-weighted assets receives the highest rating of 1, and as a result, is subjected to minimum supervision. On the other hand, for a bank that has less than 2 percent capital and receives a rating of 5, regulators are given 90 days to take action, including placing the bank under receivership.

Prompt corrective action is also meant to reduce the problem of regulatory forbearance by inducing regulators to be more proactive early on, and before the problem bank imposes material costs on the deposit insurance fund. In such cases, FDICIA requires ex post review of the problem bank and the regulator’s report is made available to the Comptroller General of the United States, Congress, and the public under the Freedom of Information Act.

These proposed solutions to the supervision problem try to bring market discipline into the picture, by emulating the sanctions the market would impose on problem institutions. The role of market discipline should be explicitly recognised and made part of the regulatory and supervisory process. Regulators and politicians are privy to sensitive information and as a result have influence over the fate of financial institutions. In the absence of a formal process through which the market can be brought in, these officials are susceptible to being captured by the industry,

<sup>11</sup>For more on the pre-commitment approach, see Kupiec and O’Brien (1995) and Bliss (1995).

<sup>12</sup>See, for example, the U.S. Shadow Financial Regulatory Committee (2000).

and are likely to engage in forbearance. As a result, the new proposal by the Basel Committee attempts to shift some weight away from the first two pillars to the third pillar of market discipline.<sup>13</sup>

### ***Market Discipline***

Effective market discipline requires functioning markets for equity and debt. Equity is issued primarily as an ownership and control tool. Stocks represent claims on a firm's cash flows, and they confer voting rights on their holders in choosing management. Thus, the stock price is generally considered a sufficient tool for imposing market discipline.

The U.S. Shadow Financial Regulatory Committee (2000) has pointed out that bank capital, even under the new capital-adequacy framework proposed by the Basel Committee on Banking Supervision, is still measured using the "book value" rather than the "market value" of capital. To reflect market sentiment, capital should be the difference between the market value of assets and senior bank liabilities. This problem is exacerbated by the fact that under limited liability, shareholders have a "call option" on bank cash flows, and the value of this option increases as the bank's capital shrinks, leading shareholders to favour high-risk investments.

Subordinated debt is another market instrument that can be used to reflect market valuation of the bank's profitability and quality of management. Uninsured subordinated debt has been put forth by some as a good substitute to equity in protecting depositors and the deposit insurance fund.<sup>14</sup> First, debt is cheaper than equity. Second, debt provides bank management with the right incentives to avoid excessive risk taking, since lenders do not benefit from the upside and lose on the downside. Moreover, greater risk taking by management will lead to higher required rates of return by debt holders. And, in addition, debt provides a good incentive for banks to disclose information, since bondholders will demand higher returns from opaque borrowers.

Subordinated debt, however, is not pure debt. It is a hybrid instrument that possesses characteristics of both equity and debt. Depending on the value of bank capital, subordinated debt holders can act either as equity holders (in the case of an undercapitalised bank) or as debt holders (in the case of a well-capitalised bank).<sup>15</sup> Moreover, as Levonian (2000) points out, the presence of deposit insurance provides a put option to subordinated debt holders, offsetting the positive discipline imposed by the subordination of their debt. As a result, risk is shifted away from both the equity and subordinated debt holders to the deposit-insurance fund.

Equity and subordinated debt together should be used to induce market discipline. For example, in countries where the equity market is thin and trading is

<sup>13</sup>See also Barth, Caprio, and Levine (2002).

<sup>14</sup>See, for example, the U.S. Shadow Financial Regulatory Committee (2000) and Benink and Wahlborg (2002).

<sup>15</sup>See Merton (1974), Black and Cox (1976), and Chami, Fullenkamp, and Sharma (2002).

light, pricing of subordinate debt can be used as a source of information to correct for noise in the pricing of equity. This assumes that in these countries the two instruments are not highly correlated, and that bond markets are liquid relative to the equity markets.

### III. CHALLENGES FOR DEVELOPING COUNTRIES

The shift in emphasis from imposing capital adequacy requirements (Pillar I) towards increased and more sophisticated supervision (Pillar II) and market discipline (Pillar III) is encountering considerable difficulties in developed countries. This shift, which is necessitated by technology and innovation, is likely to be even more problematic in developing countries.

Greater reliance on supervision that certifies the risk management of banks is, by definition, heavily dependent on the availability of highly trained regulators, who not only understand new instruments and market practices, but also have the expertise to debate the models, assumptions and views of private bankers. The effectiveness of Pillar II requires a continuous dialogue between banks and regulatory agencies. In developing countries, the dearth of sophisticated regulators and trained personnel in commercial banks is likely to be a key hurdle. Problems in such an environment are more likely to arise and less likely to be discovered and adequately resolved.

In the end, standards are meaningless if they are not fully understood and their enforcement is weak. With the development of the private sector and the increased globalisation of the market for talent, many emerging markets have seen a tremendous divergence in remuneration for skilled personnel between the private and public sectors. As deregulation and privatisation has proceeded, it has become increasingly difficult for the government to attract and retain experts in financial markets. And this has happened precisely at a time when expertise is much needed in the regulatory agencies.

The characteristics of the financial system in developing countries is also likely to increase risk in the system while making enforcement more difficult. The weaknesses in the accounting and legal system lead to larger asymmetries in information between lenders and borrowers, and between the financial intermediaries and their regulators. These factors are especially important, since a large proportion of the potential borrowers are small- or medium-scale enterprises. Collateral is an important device for overcoming the lack of information on borrowers and their opportunities. However, in economies where property rights are not well defined and access to collateral is limited by legal and cultural obstacles, collateral is unable to perform its role as a guarantor. This leads to greater risk in the system and the higher volatility of market prices can translate into credit risk very quickly.

Banks frequently have a large volume of loans to state-owned enterprises operating under soft budget constraints. Imposing standards on banks makes little

sense, if economic criteria cannot be applied to a large proportion of their balance sheet. And since restructuring the state-owned enterprises depends on reform of the labour market and possibly the provision of social security, such banks are unlikely to be put on a commercial footing any time soon.

Enforcement can be a problem because of the structure of the banking sector. The ownership of banks by large industrial conglomerates and the prevalence of connected lending can also pose a serious problem, and the political clout of these domestic industrial giants may shield their affiliated banks from regulatory and market discipline. These problems are further magnified when the state itself has a large stake in the banking system.

Under the new proposal, banks need to have the necessary technical and qualitative expertise to understand, measure, and manage counterparty risks, and are encouraged to have their own internal credit risk rating system. An important question is whether this will place smaller banks at a disadvantage *vis-à-vis* their larger, better-capitalised domestic and foreign rivals? This may lead to consolidation of the financial industry and reduce competition in the market.

Market discipline to influence the conduct of banks and other financial intermediaries is also likely to be absent when competition among banks is not keen, and equity and bond markets either do not exist or are highly illiquid. Lack of liquid markets for bank shares and subordinated debt and the concentration of ownership in finance and industry is likely to limit the effectiveness of Pillar III. Market discipline is further compromised by the lack of information production by credit-rating agencies, bank associations, and self-regulatory organisations. And many of the current proposals that depend on transparency and well-functioning markets to provide discipline on corporate governance cannot be implemented.

#### IV. CONCLUDING REMARKS: A FOURTH PILLAR?

Bank regulation is necessary because of financial externalities. The system by design is leveraged; banks are intimately involved with the payment system on whose integrity the functioning of a market economy rests; contagion from the failure of any bank is ever present; and there is a need to protect the deposit insurance fund and, in extreme circumstances, limit the losses to the taxpayer. Basel II is an attempt to design bank regulations for the new banking environment.<sup>16</sup>

As the paper shows, surveillance and supervision of banks is going to require a continuous dialogue between banks and their regulators. Moreover, increasingly the focus will not be on accounting rules, but instead on assessing the methodologies and models used for estimating risks, and the stress tests conducted to judge the adequacy of capital cushions. This will require considerable expertise in banks and regulatory agencies. Further, the development of markets and their help in providing

<sup>16</sup>The case for an international banking standard is made in Goldstein (1997).

discipline on banks is going to require an ingredient that is not emphasised enough, namely, political discipline.

An important lesson from the recent crises in developed and developing economies is that “temporising” a problem has steep costs. It is imperative that once the problem is identified, authorities waste little time in dealing with the problem head on. While the three pillars discussed earlier will go a long way toward preventing crises, they will not eliminate them. Moreover, when a crisis does occur, there will be the usual pressures to abandon the rules and procedures embodied in the three pillars. Such discretion, as past experience in the United States, Scandinavia, Japan, and a host of developing countries has illustrated, tends to be very costly to the taxpayer and can prolong the economic agony for protracted periods. Thus, in addition to the three pillars being created, there is a need for a fourth pillar—the political discipline to keep the other three pillars standing.

Banks dominate most financial systems, and their lobbies carry considerable political weight. Their political and financial power can be used to persuade regulators and legislatures to deny problems exist in the first place or, in case of trouble, to seek a bailout. Even when not captured by such special interests, regulators and legislators may simply prefer to avoid facing up to the situation, hoping either that the situation will improve by itself or that the problems will come to light only after they have left office. Legislators fear that attempts to deal with banking crises by, say, recapitalising banks with taxpayer funds may turn out to be unpopular and adversely affect their chances of being re-elected. Potential voter backlash has played a significant role in delaying action during several crises.

The fourth pillar—political discipline—should formalise the expectation that, when confronted with a problem or crisis, government authorities, bank regulators, and legislators take meaningful action quickly. Rules and regulations are supposed to create the right incentives in a fast-changing financial environment. These rules should respond to the changing needs of markets and institutions rather than the other way around. In many countries, especially developing countries, this fourth pillar is either absent or shaky at best. Only with a strong measure of political discipline will countries be able to handle banking problems and contain the devastation they can bring when regulatory frameworks, which perpetually play catch-up with market and institutional changes, fall too far behind.

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## Comments

### 1.

The two major determinants of functional efficiency of the financial system are the market structure and the regulatory framework, and the challenge for any Central Bank is to strike the right balance between the two. Over-regulation can stifle financial innovation while an imperfect market structure can impair the efficiency of the system and penalise consumer interests.

Market structure consists of the degree of competition, and interlocking control between financial institutions and business enterprises as well as the degree of specialisation within the financial sector. It is influenced by the internal organisation and management of financial intermediation. These, in turn, are affected by the degree of government ownership and control.

The regulatory framework includes regulations imposed both for monetary policy as well as prudential purposes. An adequate framework can help ensure financial stability by reducing the probability of bank failures and the costs of those that do occur. Regulation is about changing the behaviour of regulated institutions because unconstrained market behaviour tends to produce socially sub-optimum outcomes. The regulator, therefore, has the responsibility to move the system towards a socially optimal outcome.

The strategy followed by the State Bank of Pakistan aims at improving the market structure and competition on one hand and optimising the overall regulatory regime on the other.

The steps taken to stimulate completion and improve the market structure consist of lowering entry barriers, abolishing interest rate ceilings, privatising government owned banks, promoting mergers and consolidation of financial institutions, enlarging the economies of scope for banks, liberalising bank branching policy, and removing directed credit regulations.

The so called dichotomy between regulation and market mechanism is in practice a false one. There needs to be appropriate internal incentives for management to behave in appropriate ways and the regulator has a role in ensuring that internal incentives are compatible with the regulatory objectives. Market imperfections and failures, information asymmetries, externalities and moral hazards associated with safety net arrangements make it difficult in developing countries for incentive structures within financial institutions to be aligned with regulatory objectives.

Let us first define as to what the regulatory objectives of the State Bank of Pakistan are. These can be summarised as:



- (a) *Avoiding adverse selection in bank entry by ensuring that individuals likely to misuse banks do not get bank licences.* For this purpose, the owners are required to provide equity capital of some considerable magnitude, cross-ownerships are discouraged and character stipulations for bank ownership are laid down.
- (b) *Aligning the incentives of bank owners with those of depositor by making sure that the bank owners stand to make substantial losses in the event of insolvency.* Capital adequacy requirements and loan loss provisions fulfill this role.
- (c) *Preventing excessive risk-taking more generally.* This means limiting bank holdings of excessively risky assets, preventing lending to related parties, requiring diversification, and making sure that banks have appropriate credit appraisal, evaluation, and monitoring procedures in place.

### **Components of Regulatory Regime**

What are the various components of the regulatory regime which can help achieve these regulatory objectives, and what is the State Bank doing with respect to each of these components? There are at least seven core components which form the basis of the regulatory regime in Pakistan.

First, prudential regulations have been established by the SBP. These are disseminated widely and act as the ground rules and guidelines for the financial industry. Mostly these regulations pertain to capital adequacy, quality of assets, classification and provisioning of loan losses, liquidity requirements, risk concentration and management etc. Basel I capital ratios are enforced strictly and action is taken against those falling short. Although the stock of non-performing loans is being tackled through a variety of measures, the flow of loans does not suffer from this problem. Since 1997, only 5 percent of loans disbursed have become non-performing indicating an overall improvement in the quality of banking assets in Pakistan.

Second, once the regulations have been put in place, the SBP monitors and supervises the banks. This is done through an integrated approach of on-site inspection, off-site surveillance and market information. Supervision techniques have been aligned with the best practices of other Central Banks in the world and the CAMELS rating system is used to assess the health of the banks. A banking desk responsible for monitoring a few banks continuously reviews the available data and flags early warning in cases where prompt corrective actions are required. The Enforcement Unit then moves in and gets the remedial action implemented.

Third, the incentive structures faced by regulatory agencies, consumers, and banks have to be aligned to the maximum extent feasible. Mark-to-market valuation

of assets, forced sale value of collaterals, greater and regular disclosure of financial information, mandatory credit ratings of the banks are some of the tools, which have been used for this purpose. Consultation between regulators and regulated institutions ensures consistency between external regulations and internal risk control procedures. The SBP has developed a regular consultative mechanism whereby the views and comments of Pakistan Banking Association are sought and incorporated in the draft policies, circulars, and regulations.

Fourth, the role of market discipline and monitoring has to be enhanced. Privatisation of nationalised commercial banks (NCBs) is largely motivated by this particular consideration because these banks have an ill-defined incentive structure and are not subject to the normal disciplinary pressures of the market. Their owners—the Government—do not systematically monitor their behaviour and the market cannot exercise the corporate controls, which, through the threat of removing incumbent management, is a discipline on managers to be efficient and not endanger the solvency of their banks. It is quite well-known that management of the NCBs has faced pressures to give loans based on political considerations. Interference by the ministers and bureaucrats in the operations of such banks and unwitting encouragement of bad banking practices can themselves become powerful ingredients in bank distress. After Habib Bank's impending privatisation, 80 percent of the banking assets in Pakistan will be owned and managed by the private sector and thus become subject to market discipline and monitoring. It is for this reason that 20 percent of the shares of National Bank of Pakistan have been off-loaded for flotation at the Karachi Stock Exchange. The feedback from the market in terms of its share prices will act as a powerful disciplining tool to the management and the board.

Fifth, intervention arrangements in the event of compliance failures ought to be credible and biting as they provide a deterrent against errant behaviour by the bank managers, owners and directors. In the last three years, the SBP has cancelled the licence of one of the commercial banks—the first of its kind, has changed the ownership of two banks, allowed mergers and amalgamation of half a dozen banks, forced change in boards of directors and debarred a few directors and managers from banking profession. These punitive measures and weeding out process have helped strengthen the overall health and soundness of financial system in Pakistan.

Sixth, the role of internal corporate governance arrangements within financial institutions has been defined, reinforced and closely monitored. In addition to the code of corporate governance prescribed by the SECP the banks have been provided explicitly defined criteria for the selection of Chief Executives and Directors. Family representation on the Boards has been limited to 25 percent and the remaining directors have to be drawn from non-family members. External audit firms have been screened, categorised and rated for purpose of auditing the financial institutions. Two top firms were blacklisted and this sent a strong message to the

audit community for upgrading the quality of their audit. Conflict of interest rules have been explicitly laid down barring those having any potential conflict from becoming involved in the management and oversight of banks.

Seventh, the accountability arrangements applied to the State Bank of Pakistan have been strengthened to minimise the potential dangers arising from its monopolist regulator position. An independent Board of Directors consisting of seven eminent persons of repute and integrity provide the overall oversight on the affairs of the SBP and its management. Greater disclosure and transparency have been introduced and international accounting standards with a new Audit Charter have been put in place. The financial reports and accounts of the SBP are audited both by the Auditor General of Pakistan and firms of established external auditors. A Monetary and Fiscal Coordination Board headed by the Minister of Finance reviews the monetary and exchange rate policies of the SBP. Quarterly and Annual Reports on the state of economy and the affairs of SBP are regularly submitted to the Parliament which, at times, holds hearings and asks questions on important issues. The IMF has made an assessment of the SBP's corporate governance and Internal Controls under its safeguards clause and found them in consonance with international practices. We also observe various International Codes and standards on Corporate governance, Auditing, and Accounting.

### **Capacity Building within the SBP**

Most importantly, the State Bank has to have a strong capacity and core competencies to implement the above strategy. To this end, a major restructuring and reform programme is under implementation for the last several years. The largest automation project in Pakistan today is the Technology upgradation programme at the SBP. It will cost more than \$24 million at its completion but equip the SBP with automated banking solutions, enterprise resource planning tools, data warehouse and connectivity, and networking among its field offices and the headquarters, SBP will be able to access real on-time information on the banking institutions and not wait for three months to receive the reports. The ability of the SBP to take timely corrective and remedial actions will thus be enhanced.

The most critical asset of a regulating institution is its human resource base. The SBP is undertaking massive retraining of its professional staff in technical skills and recruiting talented young men and women directly from the market through a rigorous merit based competitive process at all levels. For example, 11000 applications were received for entry level Banking Officers' positions. About 2600 qualified at the written exam and 50 were finally selected after interview. Those selected receive a 9 months extensive training at NIBAF and 6 months on-the-job training in commercial banks and various departments of the SBP. Middle level managers have also been recruited through the same competitive process. We have hired more than 20 Chartered and Management Accountants, more than 100 high

level IT professionals including three from Wall Street to fill in our skill gap. Higher educational opportunities are available to staff to improve their academic qualifications or upgrade their professional skills. Foreign training and attachment with Central Banks in England, Australia, Malaysia, Singapore and Federal Reserve keep the staff abreast with the recent developments and techniques of central banking. The SBP provides full scholarships to young Pakistanis who can obtain admission to PhD programme in Economics and Finance at any of the top 20 universities of the world. The Bank has also set up endowed chairs at Economics Departments of five Pakistani universities to upgrade the quality of Economics Education.

Another element of SBP reform programme is business process re-engineering under which the existing procedures, processes and reporting requirement are being streamlined, simplified and redundancies eliminated. With the commissioning of the data warehouse project the banks will no longer need to earmark dozens of their employees to fill in the various forms and reports required by the SBP. Delegation of authority has empowered officials at the various rungs of hierarchy to take decisions and dispose of the cases.

As part of its organisational restructuring, the SBP has set up an independent subsidiary—the Banking Services Corporation (BSC) to handle all retail banking functions. All the 16 filed offices have been transferred to the control of the BSC which is run by Managing Director. This arrangement has allowed the Governor and Senior Management to concentrate their attention and energies on the core central banking functions.

Despite the above achievements, we are fully aware that there is no room for complacency. The world around us is changing rapidly and we have to keep up with these changes and adapt ourselves constantly to the new requirements. A dynamic organisation cannot afford to stand still. We will be faced with unforeseen events. But if the SBP is transformed into a flexible, agile, and competent organisation, the chances of meeting the new challenges successfully will be high. We have still a long and arduous path to travel.

**Ishrat Husain**

State Bank of Pakistan,  
Karachi.

## 2.

It is indeed a privilege to be here discussing Dr Khan's paper, given both his standing as an outstanding scholar and his being a sort of "mentor-at-large" for a lot of economists who have attended this conference.

It is difficult to dispute any of the central propositions in Dr Khan's paper, given that they are eminently reasonable. The paper broadly surveys both current as well as upcoming issues in banking regulation with the purpose of sensitising regulators in developing countries to the dynamic changes taking place, and the likely challenges these will pose for the healthy functioning of financial systems within their jurisdiction.

There are, however, a few minor issues—matters of emphasis rather than outright relevance. But before I take up these, let me begin by reiterating the special characteristics of banks—features that distinguish these institutions from other players in the economy—that influence the debate on the level and nature of bank regulation.

First and foremost, banks are the fulcrum/pivot of economic activity in any country. This special role accrues to them from the fact that banks are by far the largest repository of financial savings in many economies—especially so in developing countries—as well as from their function as the primary mobilisers of capital, even in the presence of well-developed capital markets. In addition, the fact that banks are the backbone of the payments system in any economy gives them special importance.

A second unique feature of banks is that they are opaque, operating with information-asymmetries that are difficult to lessen. They are not easily subjected to intrusive monitoring or effective surveillance from the outside, be it by depositors, lenders, auditors, rating agencies, shareholders or regulators. Because the banking business is information- and transaction-intensive, it is difficult for any stakeholder to effectively monitor its functioning—with capacity, information availability, and cost acting as the key constraints.

However, the very fact that banking is information-intensive, with its presence across a wide spectrum of economic activity, provides banks with a unique ability to assess conditions in different sectors of the economy, and to analyse this information—acting as "information sensors". This feature, together with their distribution reach, allows them to package and distribute risks to different economic agents.

Banks are also highly leveraged—typically, depositor-liabilities and borrowed funds account for a large multiple of the equity capital, while the capital provided by the owners (or sponsors) is but a small fraction of the total.

Because of the diversified nature of their activities in the economy, banks are exposed to a wide range of risks. While *credit risk* may be diversified by exposure to a large number of sectors, it can be argued that *systemic risk* is actually magnified by such a broad exposure to the economy. Also, as documented by Caprio and referred to in Dr Khan's paper, bank failures impose huge costs on an economy—costs which are typically accentuated by the prevalence of contagion effects.

Listing some of the special characteristics of banking systems—be it the developed or developing economies—is meant to illustrate their importance, and also the challenges facing effective banking regulation. It is in this context that after extensive dialogue with stakeholders around the globe, the Basel Committee on Banking Supervision had proposed a new Basel Capital Accord (which I shall refer to as Basel-II).

Since Basel-II has been extensively outlined in Dr Khan's talk, it will suffice to briefly reiterate the need for a new accord. Basel-II is meant to provide a more "risk-sensitive" framework to graduate from Basel-I, which was predominantly a single-risk measure.

However, while the need for a shift in emphasis in banking regulation towards market discipline and self-regulation, which is the bedrock of Basel-II, may be undisputed, the complementarity of this approach with the more familiar "blunt instruments" of traditional regulation and oversight should not be de-emphasised. While regulators will always be "behind the curve" so far as product and technological innovation in the banking industry are concerned, it may be a perfect time to point to the weaknesses in the approaches that rely heavily on self-regulation and market discipline.

After all, in the dramatic unraveling of Corporate America, the actors in the dock are not just corporates themselves, but banks, accountancy and audit firms, securities firms, research houses, and to an extent, regulators. This recent episode underscores the need for greater caution in placing too much emphasis on particular elements of a regulatory framework, rather than looking at the framework in a more holistic sense.

Within the ambit of self-regulation and market discipline, I will now focus on an issue of paramount importance—one on which I can speak with some hands-on experience—relating to the Internal Rating-Based (IRB) approach. Under the IRB approach, a bank estimates each borrower's credit-worthiness, and the results are translated into estimates of a potential future loss amount which form the basis of minimum capital requirements. The framework allows for both a foundation method as well as more advanced methodologies for corporate, bank, and sovereign exposures. Under the foundation methodology, banks use their own loss data and

estimate the probability of default associated with each borrower, with the supervisors supplying the other inputs needed to arrive at the minimum capital requirements. In the advanced methodology, a bank with a sufficiently developed internal capital allocation process will be permitted to “complete the loop”, so to speak, and determine the capital requirements independent of supervisory input.

Available evidence suggests that a vast majority of the large international banks are moving towards adopting the more advanced methodology under the IRB approach. Even though this seismic shift in banking regulation will need to be preceded by a process of *validation* of the internal risk models being evolved by the major banks, the approach itself raises a number of fundamental issues.

- First, as is well-recognised in economic literature and has been adequately highlighted in Dr Khan’s paper, the migration to Basel-II is likely to lead to a capital constraint for developing economies. In addition, this is likely to cause a pro-cyclicality in international bank lending to emerging markets, as international banks pursue capital conservation strategies during recessionary periods, and are more liberal or yield-driven during better times. Needless to mention, this outcome is more than likely to be disruptive for emerging economies, especially those dependent on bank financing.

However, what remains to be sufficiently explored and documented is the fact that the adoption of the IRB approach could accentuate the developing capital constraint. Internal risk models attempting to capture sovereign risk, cross-border risk, or counter-party default risk in the emerging economies are more than likely to have an in-built bias for characteristics predominant in more mature and stable systems, and against the features predominant in the developing world. Two examples will illustrate this bias.

- (1) In the internal risk models of large international banks, a “premium” or higher weight is attached to institutional structures found in developed countries—such as the quality of political and economic governance, level of perceived corruption, and quality of the civil service and judicial systems. These attributes are usually a cause for a lower score for most of the developing world, and a consistently high score for developed economies.
- (2) Secondly, for industry groups—such as automobiles, textiles, oil exploration, cement, etc.—weights are assigned on the basis of whether the particular industry is in a growth or declining phase in the OECD countries. Hence, many industries, which are in the growth stage in developing countries as a result of comparative advantage—textiles being a prime example—and are being phased out in the developed world, attract a lower score.

- Another possible problem associated with the IRB approach is the fact that even where banks have sufficient internal loss data to generate credible estimates of loss probabilities—a moot point certainly in most developing countries—banks will essentially be relying on past trends to predict a dynamic future. Even the most comprehensive “early-warning” models designed to forewarn of impending sovereign payment difficulties, for example, are perforce more “backward” than “forward-looking”, in my view. The failure of the international credit ratings agencies to forewarn the East Asian crisis underscores the relevance of the concern.
- A fundamental issue related to the use of internal risk models to generate each bank’s own minimum capital requirements under Basel-II—and one that has been highlighted in Dr Khan’s paper—concerns the capacity of bank regulators to understand and validate the models being developed. As would be obvious, this risk is manifold higher in developing countries, where regulator capacity issues are greater.
- A weakness within the overall Basel-II framework is the fact that, like its predecessor, it is also weighted towards defining “obligor risk” without appearing to make a headway towards arriving at an evaluation of “facility risk”. Further refinements may be needed to adjudge the underlying risks of different facilities to the same obligor (or borrower), which can vary significantly.

**Sakib Sherani**

ABN Amro Bank,  
Islamabad.