Basel II: Risk Management and Implications for Banking in Emerging Market Countries

Stanley Fischer[1]
Citigroup

It is a great privilege to deliver the William Taylor Memorial Lecture at this conference. Unfortunately I did not know Bill Taylor, but I have talked about him with many of his former colleagues and friends. They paint a picture of a man of outstanding ability and integrity – a man who was everything a banking supervisor should be. His promotion from the Resolution Trust Corporation to become Chairman of the Federal Deposit Insurance Corporation in 1991 was a just reward for his dedication and skills, and a source of comfort to the financial community at a time of major pressure on the United States banking system. Sadly, he died less than a year after taking office and still at the peak of his powers. But he left wonderful memories, of "a marvelous person, with a terrific sense of humor, who worried about his responsibilities but did not take himself too seriously. He was the thinking person's tough supervisor, an economist supervisor [I regard this as a compliment], but never an ivory tower supervisor". He was also the author of the warning that "when a bank builds a new building, it's time to worry about its bottom line".

There is another reason I am delighted to be speaking here today. When Bill McDonough first asked me to deliver this lecture, I had a general interest in risk management as a new member of Citigroup management, but no particular responsibilities in the area. A few months later I was assigned the task of country risk management within Citigroup International, which consists of the Citigroup franchises outside North America. So my general interest in risk management as a critical part of the management of our company has been transformed into a direct professional interest and responsibility.

The last and only time I addressed this distinguished group was at your Stockholm conference in June 1996. Since then, a great deal has happened to drive home the importance of the quality of banking systems in general and the quality of bank supervision in particular. The financial crises that began in Thailand in the summer of 1997 were an unfortunate reminder of how financial sector weaknesses can multiply the

---

[1] Vice Chairman, Citigroup, and President, Citigroup International. This paper was prepared for presentation as the William Taylor Memorial Lecture at the International Conference of Banking Supervisors, Cape Town, September 19, 2002. I am grateful to Stephanie Flanders, Darryll Hendricks, Bill McDonough, Roger Ferguson, Gill Marcus, Ted Truman (particularly for personal reminiscences about Bill Taylor), Hamid Biglari, Rudi DeKoker, Nora Omarova, Evan Picoult, Jay Newberry, and other Citigroup colleagues for assistance and advice. Views expressed are personal, not necessarily those of Citigroup, and the responsibility for any errors is mine.

adverse effects of economic shocks – with sometimes massive costs of financial sector restructuring, over 50 percent of GDP in the Indonesian case. In the more recent crisis in Argentina, we have relearned another lesson: that even a strong banking system can quickly be brought to its knees by adverse policies and a very weak economy. At the beginning of 2000, Argentina had one of the strongest banking systems in the developing world; less than two years later its banking system was barely functioning.

In today's lecture I will discuss the potential consequences of the new Basel Accord (Basel II) for emerging market countries, from the standpoints both of domestic banks and supervisors, and of large international banks operating in these economies. My perspective is that of someone relatively new to the risk management business, but with a background in modern finance theory, and some public sector experience of dealing with banking crises and their consequences. In a nutshell, I will argue that Basel II has the potential significantly to improve risk management practices in banking systems around the world, and that in so doing it should also increase the efficiency of the financial system. That is, Basel II reflects the direction in which bank supervision should evolve in a more integrated global financial system. But there are some caveats. First, certain elements of Basel II will pose difficulties for banks and supervisors in the emerging market economies, which the BCBS and the official community as a whole will need to take into account in encouraging countries to make the move to the new regime. And second, the new Accord will likely affect the banks operating in emerging market countries – the local banks and the internationally active banks – differentially. That is, instead of leveling the playing field, it could in some respects make it more uneven. However, there remains time and opportunity to try to offset these effects.

Before discussing these issues in detail I want to offer some observations about the broader context for this discussion: the evolution of risk management in modern banks, global experience with the Basel Capital Accord since 1988, and how these have informed the design of Basel II.

I. Modern Risk Management: Complexity and Supervision

The Comptroller of the Currency lists nine risks that banks need to take into account: credit risk, interest rate risk, liquidity risk, price risk, foreign currency risk, transaction risk, compliance risk, strategic risk and reputation risk. To this list we should add operational risk. For internationally active banks, country risk – which itself comprises several elements, from the quality of a country's macro-economic policies to the popularity of the ruling government – also needs to be added. This sets of risks is an impressive reminder of the complexity of risk management, even though we should recognize that these risks are far from independent, and that listing risks is only the first step in dealing with them.

For dealing with those risks, and balancing the tradeoffs between risk and return, is the essence of modern banking. Risks can be arranged along a spectrum, depending on how quantifiable they appear. At one extreme lie the market risks arising from changes in the value of highly liquid, more or less continuously traded, assets; here data on past history are plentiful and risk, however defined, appears fully quantifiable. At the other extreme lie the risks arising from infrequent events with potentially massive consequences for the bank, such as the recent Argentine crisis. Here the risks are very difficult to quantify, and judgment, based on a careful analysis of a particular situation, is essential in appraising risks and making decisions. But even this contrast is too simplistic, for as we have seen time and again, in financial markets and elsewhere, it is itself an act of judgment to assume that the past is a good guide to the future. Hence stress testing and scenario analysis is also essential to risk management, and the scenarios and the stresses may well need to go even beyond the worst that history has had to offer.

In allocating its capital efficiently, a bank needs to be sure that its returns reflect the risks that it is taking. Accordingly, more risky borrowers should pay more than less risky borrowers, with the risk premium accurately reflecting the underlying risks. In doing this, the bank contributes to the efficient allocation of the economy's resources, for in a well-functioning economy, rates of interest paid by borrowers and received by savers should reflect the risks they bear. As is well known, risk in this context should be measured not by the variability of the returns on a particular asset, but rather by the covariance of its returns with the market portfolio. This simple point bears on one of the key concerns that internationally active banks have had about Basle II, to which I will return later in the lecture.

What is the role of bank regulators in this process? Their primary concern must be with the stability of the banking system. Given that primary concern, they should also seek to ensure that the financial system operates efficiently.

In doing that, they have to worry about incentives, about how the banks that they regulate will respond to regulations. This has at least two important consequences. First, regulators cannot be concerned solely with the safety of the banking system, for if they were, they would impose a narrow banking system, in which checkable deposits are fully backed by absolutely safe assets – in the extreme, currency. With regard to narrow banking, let me make only two points: that the historic account of how banks began – the goldsmith story – is one in which narrow banks became broader banks; and that narrow banking regulations would have little chance of being effective. And once one has gone beyond the tempting notion that banks and the banking system can be made absolutely risk-free, it is necessary to accept that banks will take risks, and in extreme conditions may fail. As Alan Greenspan has noted, "providing institutions with the flexibility that may lead to failure is as important as permitting them the opportunity to succeed." Indeed, that prospect provides an important incentive for efficient bank management, and is also the basis for the modern theory of economic capital as applied to financial institutions.

Second, regulatory arbitrage is an important factor that will tend to drive regulations to the point where rates of return on assets reflect risks – for if capital requirements do not reflect relative risks, banks will find ways of arbitraging the regulations. So there is more than one good reason for regulators to try to make capital requirements reflect relative risks.

One very important question, which I want to flag but not pursue today, is whether the two supervisory goals – stability and efficiency of the financial system – should be traded off. For if capital requirements accurately reflect risk at all times, they will be pro-cyclical – which is one of the concerns some critics have about Basel II – and could help accentuate cyclical fluctuations, relative to less discriminating and sensitive risk weights. The issue then is whether to stay strictly with the principle that capital requirements should closely reflect risks or whether they should be tempered over the cycle to try to make the overall economy more stable – or whether that task should be left to other regulatory tools or other tools of economic policy, particularly monetary policy.

Whatever the answer to that important question, regulators have to be in the business of laying down basic criteria for the management of risk. With the introduction of Basel I, the Basel Core Principles of Banking Supervision, and Basel II we have seen the gradual extension of this approach to a world of cross-border banking and complex global financial intermediation.

II. Basel I: The Record

Basel I had two basic goals. First, to establish a more level playing field for international competition among banks; and second, to reduce the probability that such competition would lead to a bidding down of capital ratios to excessively low levels. By any reckoning, the 1988 Accord made important progress toward these objectives, establishing a more equitable basis for competition and greatly strengthening capital standards both within and beyond the G-10. Relative to what had come before, it was a major breakthrough – not least in the general acceptance and implementation of its capital requirements well beyond the membership of the Basel Committee.

But as most now recognize, it had significant shortcomings. By far the most important problem has been the Accord's very limited sensitivity to risk. Categorizing debtors into a few risk "buckets" was certainly an advance in 1988. But it also gave rise to a significant gap between the regulatory measurement of the risk of a given transaction and its actual economic risk. This led to some counter-intuitive results. It is something of an indoor sport to come up with the most egregious example: suffice it to say that a system that requires more regulatory capital for a one year loan to GE than for a ten year loan to a non-investment grade Mexican bank is less discriminating than it might be.

The most troubling side-effect of the gap between regulatory and actual economic risk has been the distortion of financial decision-making, including large amounts of regulatory arbitrage, or investments made on the basis of regulatory constraints rather than genuine economic opportunities. At best, this suggests a significant deadweight cost of regulation relative to an efficient market. At worst, it suggests that the purpose of the standards is itself being undermined, since the risk weighting that is formally assigned may bear little relation to the riskiness of the underlying transfer.

In defense of Basel I, it must be said that any strictly rule-based approach to regulation is bound to run the risk of distorting activity in unexpected ways and encouraging regulatory arbitrage. In this context to be able to say that a system is much better than what went before is no small achievement. But as modern economic and financial transactions have become ever more complex, the scope for such distortions has grown. This seems to have brought a shift in the debate in favor of principle- rather than rule-based approaches, with regard not only to banking supervision but also to financial regulation more broadly – as the reaction to the Enron case and other recent accounting scandals illustrates.

III. Basel II: Objectives and Current Design

Many of these considerations have been brought to bear in the new Accord, which has been designed with a view to encouraging more effective and comprehensive global risk management practices, and to providing supervisors and the marketplace with more accurate measures of capital adequacy and risk. In practice this has led to an emphasis on increasing risk-sensitivity, especially for sovereign and corporate credit risk, and on using banks' own internal credit risk ratings, where possible, in the assessment of relative risk. There has also been greater recognition of the need for more extensive and explicit requirements for regulatory supervision and public disclosure.

As is well known, certainly to this audience, Basel II's regulatory approach is based on three pillars: minimum capital requirements; strengthened supervision, particularly of internal bank assessments of capital relative to risk; and more effective use of market discipline as a result of increased disclosure of risk and capital information.

While the Basel Committee has emphasized that the three pillars are a package, it is the design of the first pillar that has generated the greatest attention. The innovations that have been made in the approach to calculating regulatory capital will also substantially affect the implementation of the second and third pillars. Let me therefore start with the first pillar.

By far the most distinctive elements of the minimum capital requirements laid down in Basel II are the approach to credit risk and the inclusion of new capital requirements for operational risk. With respect to credit risk, it envisages three alternative approaches, the "standardized" approach, and two (IRB) approaches based on internal ratings – "foundation" and "advanced".

The standardized approach is intended to be a more risk-sensitive version of the 1988 Accord. The main change is that risk weights are to be allocated as far as possible according to ratings by the major external ratings agencies or approved domestic agencies (eligible external credit assessment institutions, or ECAIs) rather than simply the previous three categories of borrower. For corporate lending, for example, instead of a single possible risk weight of 100% there would be four possible risk weights ranging from 20% to 150%.[2] If no external rating exists, a bank will effectively use a default rating, which will be higher than the lowest external rating.

Under the IRB approaches, there will be progressively greater scope for banks to apply their own estimates of credit risk, *subject to extensive supervisory review and disclosure requirements*. In principle, this is intended to enable banks to differentiate risk more systematically across different classes of lending. Thus, there would be separate frameworks for retail lending, project finance and equity exposures in addition to corporate, bank and sovereign risk. Most internationally active banks are expected to adopt one of the IRB approaches.

With the *foundation* IRB approach, banks would use their own estimates of a borrower's probability of default, and supervisors would supply the other inputs needed to calculate an appropriate risk weighting. The *advanced* IRB approach would allow banks with sufficiently sophisticated internal capital allocation practices to supply other inputs to the calculation as well. Under both approaches, the range of potential risk weights will be substantially greater than under the existing system – indeed, the weights will rise non-linearly in the case of non-investment grade borrowers, perhaps to as high as 300-500% (or a capital requirement of $24-$40 per $100 lent).

With greater risk-sensitivity for credit risk comes the need to capitalize other risks that under Basel I were either ignored or thought to be covered implicitly by the excess calibration of the capital charge for credit risk. Most prominent, and a cause for considerable concern among banks in the early stages of Basel II, was the inclusion of operational risk in Pillar I of the new Accord. Banks will be able to capitalize this type of risk using a similar range of alternative approaches: the Basic Indicator approach, the Standardized Approach, and the Advanced Measurement Approach (AMA). In theory, at least, each of these will offer a higher degree of risk sensitivity, though banks wishing to move to the AMA approach will need to invest heavily in an operational risk framework that allows them to identify and assess their operational risk and collect data on historical operational losses. I understand that some banks in the larger developed markets are undertaking efforts to pool their operational loss data to enable them to qualify for AMA. In practice, this suggests that the approach may only be worthwhile for the largest internationally active banks.

The three pillars of Basel II should be mutually supporting. Notably, the effectiveness of the first pillar will be highly dependent on supervisors' capacity to regulate and monitor the application of the three approaches – especially the IRB approaches. And greater public disclosure and market discipline will certainly reinforce the incentives for accurate risk management – and this is something I have seen very clearly already in my short time in the private sector.

---

[2] These risk weights are applied to a capital requirement of 8 percent; for instance, a 20% risk weight would require $1.60 in retained capital per $100 lent, and a 150% weight would require $12.

In the welcome and extensive consultation process surrounding the new Accord, supervisors and others have raised numerous concerns, for example: first, with respect to the treatment of smaller banks and SMEs in OECD countries; second, by contrast, the concerns expressed by larger banks that the IRB approaches will place them at a competitive disadvantage relative to the standardized approach; and third, the costs of compliance for both banks and supervisors. Some have also worried that in the initial stages regulators may find it difficult adequately to assess banks' internal ratings and capital allocation practices, with resulting confusion and non-uniformity of treatment across different banks and jurisdictions.

A number of these issues have already been addressed by the Committee or may be ironed out in the course of implementing the new system. But as we reflect on these difficulties, and the many complications that may lie ahead in implementing Basel II, we should also recognize that the new approach it introduces – seeking to align capital adequacy requirements with banks' internal risk management procedures – is not only an impressive conceptual breakthrough, it is probably the only logically consistent framework that aligns the goals of the regulator with the incentives of those being regulated. And thus, although it is bound to be continuously revised, it is likely to provide the basic framework of bank regulation for many years to come.

In the remainder of my remarks I would like to focus on the issues that have been raised with respect to Basel II's impact on banking in emerging market economies.

IV. The Potential Implications of Basel II for Banking in Emerging Markets

In this section I will consider first the potential impact of Basel II on domestic banking systems in emerging market and other developing economies, and second, its potential impact on internationally active banks such as Citigroup that are presently responsible for a large share of cross-border flows to and from these economies.

Impact on emerging market financial systems

The evidence of the havoc that weak domestic financial systems can cause has led to a number of international initiatives to encourage governments and supervisors to strengthen their financial infrastructures. By far the most important has been the Basel Committee's Core Principles for Banking Supervision. Financial Sector Assessments led by the IMF and the World Bank reinforce this international effort.

In principle, the three-pillar structure of the new Accord will provide even stronger incentives to strengthen domestic supervision and for banks themselves to become more sophisticated in their management of risk, to "hardwire the credit culture", as Andrew Crockett has put it. But the supervisory authorities in several emerging market and many developing economies are understandably concerned that Basel II sets a standard that they cannot reasonably hope to meet.

Probably their greatest concerns relate to the reliance on external rating agencies in the standardized approach to calculating minimum capital requirements. Domestic rating agencies are not well developed in many non-OECD countries. This suggests that in the short term, at least, most domestic credit risks will tend to end up in the unrated, 100%, category. This could reduce the risk-sensitivity of the new system relative to Basel I, although there would be other new elements of risk-sensitivity, such as the higher capital requirement on past-due credits and new capital charge on all unconditionally cancelable loan commitments (which have themselves caused some complaint among banks in these economies).

Another result of putting most domestic credit risks in the unrated category would be that better-rated borrowers in those countries could borrow at lower cost from internationally rated than from local banks – leaving domestic banks at a competitive disadvantage in lending to high quality borrowers in their own countries.[3]

These and related issues have led to calls for an interim standard between Basel I and Basel II that would afford domestic banks in emerging market economies some of the benefits of Basel II but fewer of the costs. This raises two points. First, no non-BCBS country is required to adopt the new standards, and those that prefer to use Basel I rather than the standardized approach of Basel II are free to continue to do so. Nor should emerging market economies be unfairly penalized in the short term for failing to adopt Basel II. Thus, for instance, it would not be appropriate for the World Bank or IMF in assessing financial systems to expect countries to adopt Basel II overnight. But there has been no indication that they will. Rather, the FSAPs are likely to continue to appraise supervisory systems on the basis of their conformity with the Basel Core Principles and the quality of supervision.

The second point is about the incentives for regulatory improvement posed by the new system. If the goal of the new Accord is to improve on the status quo, then it would make more sense to stick with the higher standard. This would give countries a stronger incentive to develop their own domestic rating industry and to improve their financial systems more generally. But to say that is not to say that the present version of the proposed new Accord is perfect, and there remains time to try to accommodate some of the concerns of non-OECD supervisory authorities. The quantitative impact survey scheduled for the last quarter of 2002 should provide an opportunity for further fine-tuning of the standardized approach.

Impact on internationally active large banks

Under Basel II the largest internationally active banks in the developed economies will adopt one of the IRB approaches to credit risk – most often the advanced version. This would allow them the greatest risk sensitivity and flexibility and would also

[3] A related concern that has sometimes been expressed is that the basis for the ratings provided by Export Credit Agencies – the proposed alternative to ratings by commercial rating agencies – lacks transparency. In the context in which this concern is stated, it is not clear whether the concern is mainly over the basis for the ECA ratings or over the ratings themselves.

probably be closest to their current practice. But it will also mean that in their operations in emerging market economies, these banks can expect to be operating under a different system than the domestic competition. This has led to a number of concerns on their part relating to competitive equity.[4]

Specifically, the proposed models for foundational and advanced IRB impose higher capital requirements for low-grade risks than does the standardized approach. Since international banks will likely use the advanced IRB approach, but local banks will likely not, this suggests that in lending to lower grade local credits, local banks will have less stringent capital requirements than their more sophisticated international competitors.[5]

This problem could be exacerbated if local banks use local rating agencies as outlined under the standardized approach, because local rating agencies tend to rate the corporate obligors in their countries on a country-specific relative basis. For example, a local corporate may be one of the strongest companies in the country and thus receive an AA local rating – but measured against a universal yardstick it might only merit a BBB. Local banks using the standardized approach might then be underestimating the riskiness of domestic corporate lending relative to the international bank's internal assessment of the risk. Whether this turns out to be a significant problem will depend on the nature of the domestic supervisory regime, and on supervisors' capacity to apply and live up to the strict formal requirements for approving domestic ratings agencies that have been incorporated in the new Accord.

A related question has been how emerging market operations of banks such as Citigroup are going to be supervised under Basel II. In the ideal scenario, home and host supervisors will work well together and their respective regimes will rarely come into conflict. In reality, it is difficult to foresee things running quite so smoothly. More generally, there must also be a worry that Pillars 2 and 3 will impose higher burdens on internationally active banks than on local competitors given significant differences in compliance and regulatory capacity between the home and host countries.

Many of these problems might be considered inevitable consequences of moving to a more differentiated international regulatory regime, and could be hoped to be transitional rather than permanent features of the Basel II landscape. In the short term, large international banks that are active in emerging market economies would probably consider Basel II well worth the price of admission *if the new Accord took account of the benefits of global diversification* in increasing these banks' risk capacity.

But unfortunately, it does not – and this is a key point. Specifically, in its current form, Basel II requires capital requirements in each country to be calculated on a

---

[4] Just as the difference in regulatory systems under which local and internationally active banks would operate has led to concerns by developing supervisors about areas in which their banks would be placed at a competitive disadvantage.

[5] This is the flip side of the previously noted concern by developing country supervisors that local banks will be at a competitive disadvantage in lending to high-grade credits in their own markets.

standalone basis. This could significantly increase the capital requirements for operating in these markets. For example, in the case of Citigroup, the current version of the new Accord would result in almost a doubling of the risk weighting on retail credits in the emerging markets, relative to what we currently hold, even if the probability of default (PD) and loss given default (LGD) were calculated at the regional level. If Citigroup has to calculate these inputs at the country level, as has been suggested, then the increase in the required amount of risk weighted assets for retail credit would be even greater.

That is, in not taking into account the risk mitigation effects of international diversification, Basel II in its current form runs the risk of materially reducing the incentive for large internationally active banks to maintain and expand their operations in emerging market economies. Given the economic and other benefits of such operations, not just for the host economies and for the international financial system more generally, this must be considered a significant shortcoming. I hope that this issue will be revisited in the course of the Basel Committee's ongoing consultations on the new Accord, including in the quantitative impact survey.

Possible effects of the shift to Basel II

It is clear that the differences in regulatory regimes implied by the possibility of some countries using the standardized approach of Basel II while others use one of the IRB methods, could be significant. As already noted, internationally active banks are likely to have a favored position in lending to high-grade local borrowers, while local banks may be favored in lending to more risky local firms.

In these respects Basel II does not create a level playing field, but rather an uneven one. That is an inevitable result of allowing different regulatory standards to be applied to different banks. It is hard to know how important the implied distortions will be in practice, but the possibility needs to be seriously considered and if possible mitigated.

We need also to ask what will happen when international banks start applying the IRB approach to emerging market debt. Nearly one third of the 63 non-OECD sovereign borrowers rated by Moody's currently are investment-grade. These countries will almost certainly benefit from Basel II because borrowers would face significantly lower risk weights for such lending under any of the three approaches. But for speculative-grade sovereign borrowers, capital *requirements* could rise significantly, notably under the foundation and advanced IRB approaches.

This has led some to predict a sharp increase in the actual cost of capital for emerging market borrowers as a result of the new Accord. However, it bears emphasis that the relevant comparison in this context is not between Basel II and Basel I, but between Basel II and the internal risk ratings that international lenders already employ. With respect to the vast majority of their lending, Basel I is not a binding constraint. To the extent that Basel II moves the regulatory regime further in the direction of the banks' own, risk-sensitive, approaches, there should be no material change in international lending decisions as a result of the Accord.

V. Concluding Remarks

After raising these specific concerns – and they are real concerns, that need to be considered and dealt with – let me return to the positive verdict with which I began. Basel II represents a logical and appropriate successor to Basel I. Its basic message is that all parts of the international financial system – banks, supervisors and other market participants – can and must become more discriminating in their approaches to risk, and better equipped to anticipate problems before they turn into crises. The events of the past few years in industrialized as well as developing economies have forcefully driven this lesson home to banks and supervisors alike. Basel II thus reflects both the lessons of the recent past and the direction in which the private and the official sectors should continue to move.

It is a major, ambitious, and difficult effort, very much a work in progress. And it is in all our interests to continue improving it and help make it succeed.

Thank you.