



**UNIVERSIDADE FEDERAL DO PARANÁ
CENTRO DE CIÊNCIAS SOCIAIS APLICADAS
DEPARTAMENTO DE ECONOMIA**

**PROGRAMA DE SEMINÁRIOS EM DESENVOLVIMENTO
ECONÔMICO**

“BASEL II: A CRITICAL ASSESSMENT”

Fernando José Cardim de Carvalho

Data: 17/03/2005

BASEL II: A CRITICAL ASSESSMENT

Fernando J. Cardim de Carvalho
Institute of Economics/Federal University of Rio de Janeiro
1st Draft, Feb 2005

1. Introduction

After a protracted discussion process, that ended up taking much longer than expected, the Basel Committee on BS has finally approved a new version for the 1988 Agreement (known as the Basel Agreement) to serve as a common international set of rules for banking regulation and supervision. Despite all the effort that was invested in the preparation of the new agreement, the reception was lukewarm at best. Many critics, including even some financial regulators, raised reservations about the new rules, related in particular to its complexity and the costs for compliance that could raise the cost of capital for borrowers beyond what could be considered reasonable.

Official documents of the BCBS, and other institutions, such as the IMF, present the New Agreement as an evolution over the 1988 version. The relation between the two documents, however, is much more complex. In fact, even the scope of each agreement was different: the 1988 agreement was directed at *leveling the playing field* for the competition between internationally active banks in terms of costs of regulatory compliance. It was an attempt to regulate competition among banks subject to different regulation regimes trying to eliminate the cost advantages of banks constituted in countries with more lenient regulations. Financial stability was a secondary consideration in the 1988 text. In contrast, stability is the core of the new agreement. To some extent, the change in focus is just the ex post acceptance of the fact that an unexpectedly large of countries adopted the 1988 text as a guide to prudential regulation, even if this was not the original intention of its authors. But to define rules for prudential regulation that could be imposed on all banks of practically any country in the world is a completely different task than setting rules to equalize competitive conditions for a restricted set of largely similar banks. It is one of the contentions of this paper that it is precisely this change in focus that may be the root of the

most important difficulties created by the new text. The main criticism raised here is precisely that the simplicity of Basel I was not a mistake, but, quite the opposite, its main strength. It is the attempt to transform it into a detailed road map for prudential regulation that may be an impossible task, if not in theory, at least in practice.

No claim to originality is made for any of the arguments presented in this paper. Many, if not most, of the points raised here are already familiar of those who work with, or are interested at, problems of banking regulation and supervision. This is not a survey, however, of the already vast literature on Basel II, and for that reason, I had no preoccupation in checking and acknowledging precedence in any of the arguments advanced in the paper. The author's intention is to intervene in an ongoing policy debate. To do it, in section II we try to address what was identified above as the main point of the paper, the fact that Basel II does not spring out of Basel I, but, on the contrary, represents a major change in scope for the proposed rules. To discuss the question, a brief summary is offered both of Basel I and II, ending the section with a comparison between the two documents. Section III is devoted to Basel II itself and its limitations. Section IV concludes the paper.

2. Basel I and Basel II: Evolution or Aboutface?

After a long and difficult period of preparation, the document *International Convergence of Capital Measurement and Capital Standards – A Revised Framework* (hereafter referred to as *Basel II*) was made public by the Basel Committee of Banking Supervision in June 2004. The subtitle itself, *A Revised Framework*, suggests that the proposed new rules should be seen mostly as an improvement over the original 1988 Agreement (hereafter referred to as Basel I). In the introduction to the new text it is stated that:

“The fundamental objective of the Committee's work to revise the 1988 Accord has been to develop a framework that would further strengthen the soundness and stability of the international banking system while maintaining sufficient consistency that capital adequacy regulation will not be a significant source of competitive inequality among internationally

active banks. The Committee believes that the revised Framework will promote the adoption of stronger risk management practices by the banking industry, and views this as one of its major benefits.” (#4)

The continuity between the two agreements is illustrated not only by the formal reaffirmation of the two basic goals of Basel I, to promote financial stability and to level the playing field between competing international banks, but also by the emphasis given to the main regulatory instrument proposed in Basel I, the capital adequacy requirements.

There are, however, some not so subtle differences between the two documents that suggest that the relation between them is not so much in the nature of a technical improvement as of a major reorientation in the work of the Committee, and, as a consequence, in regulatory strategies. A most visible sign of this suggested change in scope is the *size* of the two documents. The 1988 Agreement could be presented, with its annexes, in 28 pages. The revised Framework has 239 pages, not including a 7-page Table of Contents. Of course, one has to remember that Basel I should also include the 56-page 1996 Market Risk Amendment. Even then, the new text is three times as long as the past two documents put together. Have banks become so much more complex between the early 1990s and the mid 2000s as to require such a lengthy rule book?

The central thesis of this paper is that, despite the suggestion of continuity there have been some major changes in scope between Basel I and Basel II. These changes respond for most of the shortcomings that have been identified in Basel II, not the least of which is its amazing complexity. In part, this change of direction was *not* the initiative of the Committee. Rather, the Committee *adapted* itself to developments that took place after 1988 independently of its original intentions. Nevertheless, once admitted the new scope, the Committee seemed to have embraced it enthusiastically, producing a document that may potentially become itself the source of future regulatory problems. To clarify this point, central to this paper, we should begin by presenting, in the most concise possible way, the main features of Basel I and Basel II.

i. The 1988 Capital Accord

One can summarize the scope of the 1988 agreement with one expression: *level the playing field*. Basel I was *not* a result of a general dissatisfaction with the then-current methods and instruments of prudential regulation. In fact, although Basel I does mention that the two fundamental objectives “at the heart of the Committee’s work” were, firstly, financial stability and, second, to reduce the role of regulation as a source of competitive disadvantage between international banks, it is the latter that clearly rules the game.

The heart of Basel I is the establishment of similar capital requirements for *international banks*. There is no provision or even passing reference in the whole text to prudential regulation of banks that restrict their operation to domestic markets. In fact, it is well known that the document was prepared at the initiative of American regulators for whom the low capital coefficients of Japanese banks, which were aggressively expanding in the 1970s and 1980s – while US banks were actually suffering several simultaneous adverse shocks – represented an unfair competitive advantage over American banks. Many countries were actually overhauling their regulatory systems in those years, including the US itself, but the debate on these changes involved domestic participants. The Basle Committee seemed to acknowledge and respect the limits to its advice (since there never was any authority actually vested into the Committee, which remains as a merely advisory body).

Basel I, therefore, was designed mainly to equalize competitive conditions between international banks headquartered in different countries and, thus, subject to different regulatory rules. The establishment of similar capital adequacy requirements was demanded less as a way to reduce systemic risk in the international financial system but as a way to eliminate unfair advantages of banks headquartered in countries where minimum capital coefficients were not required. *The imposition of capital requirements was a way to create similar regulatory costs to competing banks, not as an instrument of protection.*

The restricted focus to the work of the Committee allowed the final text to be very simple. Basel I is not about risk, it is about costs, in fact, a particular class of cost, the one associated to compliance to regulations. What matters is that regulatory costs should be roughly the same among banks operating in the same (international) markets. Thus, what the Committee had to do was to identify what are the areas where international banks actually compete to make sure that the playing field was leveled.

This argument goes a long way to explain the differences between Basel I and Basel II, beginning with the length of the two texts. Basel I is about what is common to a very particular class of banking institutions, those actively involved in international competition. Basel II, as it will be argued, is about bank risks in general. But risks are in fact idiosyncratic, particular to each bank. If what is wanted is that banks are safe, one has to look for the peculiar combination of risks to which each bank is vulnerable. Basel I was light-years away from this concern with risk as such. Basel I was about costs. In its simplest terms, it was about making regulatory costs in Japan, and in the other countries where internationally active banks were headquartered, to be as high as they were in the United States.

Basel I's structure was very simple: it sets a floor for the capital coefficient (and, thus, for leverage) of banks according to a given measure of credit risk exposure. Thus, the several classes of loans made by banks were to be attributed a given risk coefficient to serve as weights to obtain a risk-adjusted value of credit. Once obtained this value, the bank would have to maintain a net worth equal to at least 8% of it. Capital could be held in two tiers: tier 1, which had to be at least 50% of total regulatory capital, constituted by paid-up share capital and disclosed reserves; tier 2 by items such as undisclosed reserves, subordinated debt, hybrid instruments, etc.

The main question posed to the Committee was how to establish similar regulatory costs to international banks? The answer was: take the markets where these banks actually compete and impose capital requirements that are actually related to some rough measure of riskiness. Why give such a role to risks? One reason, of course, may be the one given in the

document itself: the concern that competition could destabilize the international banking markets. The riskier an investment, in principle, the higher should be its gross profitability. Prudential regulation, however, subtracts from this gross profitability, since regulators enforce tougher demands on riskier banks. If what is wanted is precise to equalize regulatory costs, making them proportional to risk could be an efficient way of promoting more equal competitive conditions while contributing to keep some modicum of financial stability.

Basel I defined classes of risk associated to groups of assets to serve as the basis for the calculation of capital coefficients. Almost universally – and immediately -, the criticism was raised that the table didn't make justice to the complexity of risks to which banks were actually subject. But this criticism was largely beside the point.¹ Again, what mattered was to have every segment of the banking market where international banks could compete subject to the same regulatory cost. For this purpose, the table was arguably quite satisfactory.

Even considered in the light proposed here, however, Basel I exhibited one fundamental weakness: it relied on a concept of bank that was becoming quickly obsolete. The bank envisaged in Basel I was the Glass/Steagal type of commercial bank that defined the banking sector for the better part of the XXth Century in the US. Its balance sheet had demand deposits as its main liability and commercial loans as its essential asset. The most relevant risks to which such a bank was subject was liquidity risk and credit risk.

This approach to banks not only ignored the other bank model, dominant in Western Europe, the universal bank but it ignored that in the US itself banks had been gradually abandoning the specialized model, moving towards the universal bank for years. This change would in fact accelerate in the 1990s until the final demise of the segmented bank when the Glass/Steagal Act was replaced by new legislation in December 1999. The Committee's focus on traditional commercial bank activities was a mistake that reduced the

¹ A different criticism was related to the possibility of risk arbitrage within the classes of risk defined by the Committee. This is an important point and its relevance is not diminished by what is being argued here.

efficacy of the Agreement favoring banks, especially European banks, that acted in the securities markets, besides the loan markets. In fact, Basel I stimulated banks to shift their activities towards securities markets to reduce the burden of compliance with regulation. The Committee had to resume work to fill this gap, from which resulted the 1996 Amendment to the Accord establishing capital requirements to cover market risks as well.

ii. The 2004 Revised Framework

Basel I established capital requirements to equalize *costs between internationally active US banks*, which were already required to maintain capital proportional to their activities, *and internationally active banks from other countries*, which were not subject to similar demands. Systemic stability was clearly a by-product of the Accord at best.

The 1988 Accord, however, evolved in an unexpected way. Capital adequacy became a prudential rule to be followed by *all* banks in the countries that signed it. Even more unexpectedly, perhaps, it was also adopted by a large number of countries, developed and developing. *From a device to equalize competitive conditions among a restricted number of international banks, capital coefficients became the center of a new regulatory strategy relying on the solvency of banks instead of the traditional focus on the liquidity of banks.*

The notion of capital coefficients seemed to be the answer to a different dilemma that had been discussed for some time among those interested in prudential regulation.² Traditionally, liquidity risk had been a greater concern for prudential regulators than credit risk. Liquidity risk was the risk of having depositors trying to cash deposits in a volume superior to banks' cash reserves. This was the object of prudential regulation because the inability to cash deposits could start a confidence crisis which could lead to bank runs with all its catastrophic consequences. The quality of loans was usually monitored, but bank supervisors directed most of their attention to the behavior of liquid reserves policies of banks.

² This theme was developed in Carvalho (2005), in Portuguese.

Carrying the burden of regulatory charges, one should expect that banks would try to reduce the importance of demand deposits among their liabilities. If successful in doing that, banks would in fact reduce the reach and efficacy of prudential regulation. Asset and liability management tended, thus, to reduce the efficiency of the preventive role of financial regulators and supervisors with respect to systemic crises.

Capital coefficients seemed to be a superior strategy to reduce systemic risk because it would create the incentives for the banks themselves to control risks. Putting their own resources in line, instead of working only with third parties' money, it was expected, banks would think twice before running excessively high risks.

Of course, according to this reasoning, capital requirements should be required of *all* banks, since even a small bank of domestic reach could be the source of a confidence crisis and of a bank run. The 1988 Accord seemed to answer two completely different problems (the competition and the systemic stability problems) with the same instrument. It should not be too surprising that countries that had nothing to do with the inception of the 1988 Accord ended up subscribing to its principles.³

The virtues of simplicity of Basel I as an equalizer of competitive conditions were its vices as a piece of prudential regulation. Enhancing the systemic safety of the banking sector requires a much subtler instrument of risk discrimination and management. As most of the world embraced Basel I as the basis of the new thinking in prudential regulation, its shortcomings became more and more visible forcing the Committee to proceed to a deep revision of the original work.

Basel II, in contrast to Basel I, is mostly an instrument of prudential regulation. Its efficacy in terms of leveling competitive playing fields is much more doubtful. Also in contrast to Basel I, Basel II does not reach for what is common in banks but for what is specific to

³ One must acknowledge that the acceptance of Basel I was not always or necessarily the result of persuasion. In the case of some developing countries, it became harder and harder to avoid joining the caravan, specially after the IMF and the World Bank made accepting the Core Principles listed by the Committee a central criteria for their Assessment of Financial Stability Project, in the late 1990s.

each institution. Each bank, in particular the complex universal banks we find everywhere in the 2000s, is a particular combination of investment opportunities and risks. Basel II tries to define instruments to deal with this diversity and idiosyncrasy. However, this is a much harder task than equalizing costs.

Basel II has three pillars. Pillar 1 is the definition of capital requirements according to measures of risk proposed in the Framework. Pillar 2 defines powers and duties attributed to the financial supervisor. Finally, Pillar 3 addresses ways in which market themselves could share the responsibility for the safety and stability of the banking sector. The three pillars define procedures to deal with three types of risk: credit, market and operational. As to market risks, nothing is added to the 1996 Amendment. The treatment of credit risks, on the other hand, changes dramatically in comparison with Basel I. Operational risk, on the other hand, was not even an issue in Basel I.

Three methods are proposed in Pillar 1 to calculate capital requirements according to the credit risk effectively accepted by a bank. The standard method is an improvement over the 1988 table of credit risk. Instead of pre-assigning arbitrary risk weights to classes of assets, weights shall be defined according to evaluations of risk made by rating companies or other institutions empowered to do this kind of assessment. The other two methods involve risk evaluations prepared by the bank itself. The foundation IRB method allows banks to use as inputs in the calculation of capital requirements the probabilities of default for each class of assets. The other inputs in the case of the foundation approach are supplied by the supervisor. The advanced IRB approach, in contrast, allows the bank to use its estimates of losses and exposure given default as inputs in the calculation of capital coefficients.

Operational risk is an omnibus concept, including any and all factors that may be responsible for an interruption in the operation of banks. Frauds, incompetence, interruption of energy supply, fires, collapse of communications, all of these are sources of operational risk. Banks can calculate the relevant capital coefficients by three approaches. The basic indicator method sets capital requirements as a proportion of the bank's gross income. The standardized approach allows the bank to classify their activities in 8 business lines and

calculate capital requirements as a proportion of gross incomes of each line. The advanced measurement approach relies on the bank's internal operational risk measurement to set the corresponding capital requirement.

Pillar 2, called supervisory review, defines the powers of the supervisor in evaluating the models used by banks for the calculation of risks and capital requirements, and the adequacy of their risk management methods. Pillar 2 increases dramatically the scope of judgment on the part of the supervisors, increasing in equally dramatic ways their responsibilities.

Pillar 3 is market discipline. The new Framework in fact just lists relevant information that, depending on each country laws, should be made available to the public so the market itself could exert pressure on banks to remain safe.

iii. The contrasting intentions of Basel I and Basel II

It was argued in the two preceding sections that Basel I and Basel II are in fact very different documents, the first one directed at equalizing competitive conditions among international banks and the latter at establishing new rules of prudential regulation. Basel II, thus, is not really an improvement over Basel. Rather, it crystallizes a change of direction that actually took place in the early 1990s when Basel I was almost universally adopted as the foundation of a new strategy of prudential regulation and, not surprisingly, as argued before, was found wanting.

For Basel I, conceptual questions are not as important as for Basel II. It is not really central to Basel I the precise definition of each class of risks since what really matters is to make them more or less equally costly to banks that may be very similar in structure and field of operation.⁴ For the same reason, Basel I was not conceived to be market-friendly as Basel II

⁴ This is why the failure of the writers of Basel I to contemplate the changes that were already going on the *structure* of banks, moving from the traditional commercial bank form to the universal bank, was so important. The Committee failed to see that universal banks had an advantage over specialized banks that

is. Basel is openly prescriptive because its goal is to set restrictions on activities of banks curbing those activities that are due mostly to cost advantages created by differences in regulation. Basel II, instead, intends to nudge banks into improving their methods of risk management. It is a change of behavior that is sought and market friendly methods may be more efficient to reach such a goal than compulsion.

Basel I was inspired by cost considerations; Basel II by vulnerability to risks. These are deeply different goals and the “success” of Basel I in the 1990s (in the sense of being adopted by a large number of countries) does not really augur anything definite for Basel II.

3. Weaknesses and Strengths of Basel II

As stated above, Basel II relies on three lines of attack, identified as “pillars”.

i. Pillar 1 Minimum Capital Requirements

Building capital to reduce the risks and the costs of insolvency is the central feature of Basel II. Capital requirements are calculated in proportion to the credit, market and operational risks run by each bank.

Dealing with credit risk is the core of Pillar 1, given the still incipient reflection on operational risk and the fact that the treatment of market risk is maintained as it was proposed in the 1996 Amendment. Banks are offered three possibilities of calculating capital requirements associated with credit risk. The standardized method is the approach closer to the one employed in Basel I, and is directed at the medium and small banks that may not be prepared to adopt more sophisticated methods of risk measurement and management. It is, therefore, the method that is expected to be adopted by the majority of banks in the countries that come to implement Basel II.

was, in fact, sharpened by Basel I. Thus, it should not be surprising that Basel I itself became a force to stimulate the transformation of commercial into universal banks.

In the standardized approach, the bank will rely on external evaluations of the riskiness of its loans. The calculation of capital requirements is straightforward in this case. Differently from Basel I, however, risk weights were not set *a priori* by the Committee itself. This task was left to what is called *external credit assessment institutions (ECAI)*, such as rating firms. Risk evaluations prepared by ECAIs are mapped into risk weights according to tables contained in the Framework. Different tables were constructed for short-term and for longer-term loans.

There is no doubt the standardized approach does represent an improvement over Basel I if risk weights are to reflect the vulnerabilities of each bank to credit risk since capital requirements will possibly reflect actual risks run by banks in their operation in actual markets. It is an adaptation that is entirely consistent with the change in goal from Basel I to Basel II. Risk table now must be flexible enough *to distinguish* banks according to their investment policies instead of establishing what is similar among them. It is likely, however, to emerge problems of implementation, especially in countries where there are not ECAIs in sufficient number or with sufficient coverage of the market to supply the necessary inputs for capital requirements calculation. These institutions will have to be created in many cases, even if one considers the developed countries of Western Europe where such institutions are present in much lower number than in the US or the UK. This may force some banks to go up one step in sophistication, adopting the foundation IRB method, where the bank can use its own estimates of probability of default to measure credit risk or in fact go down one step forcing the supervisor to actually replace ECAIs by determining itself the relevant risks.

The internal-risk based approaches (IRB) allows more sophisticated banks to use their own credit practices to serve as inputs in the calculation of capital requirements. The Framework defines the formula for their calculation, for which four inputs are necessary: the probability of default (PD) associated to each class of loans in percentage; the loss given default (LGD) resulting from a default, also in percentage; the exposure to the default loss (EAD) in values; and, when necessary the residual maturity of the loan (M). Banks adopting the foundation IRB approach calculate PD, being the responsibility of the

supervisor to set the other inputs. Advanced IRB approaches allow the banks using them to supply one or more of the other inputs. A given bank can be demanded by the supervisor to use one or another method or can apply for permission to use its preferred one. In any case, the final word about the method each bank will be allowed to use will be the supervisor's.

The methods to calculate capital requirements for credit risk are complemented by rules to deal with risk mitigation techniques, and in particular with securitization. The Committee tried to avoid stimulating banks to promote “fake” securitizations just to reduce capital requirements. For that end, complex methods were advanced to differentiate between modes of securitization and their impact on the risks run by each bank. The failure to deal properly with securitization had long been a criticism raised against Basel I.

All three methods are much more sophisticated than that of Basel I. In fact, they may be *too* sophisticated. A common criticism that has been insistently raised against Basel II is precisely the degree of complexity that characterizes its provisions. The head of the OCC, for instance, described the Revised Framework as “mind-numbing”. In his view, the formulas to deal with securitization, for instance, are “so complex that the mere visual depiction of them has been cause for ridicule, which serves only to undermine public regard for the committee.”⁵ The excessive complexity is not just a problem for banks that have to comply with the new rules. It is also a problem for the supervisor that has to validate the banks' methods of compliance.

The most serious problem in dealing with credit risk, however, is *conceptual*, rather than merely technical. Credit risk refers to the probability of occurrence of default. Default, however, is, by its very nature, an *unobservable* event, contrary to what one would think at first sight. When can one say that a loan has been defaulted? The easy answer would be when payments are past due. But of course this cannot be right. At any time banks certainly have a number of loans that are non-performing without necessarily considering defaulted. Laws and regulations define *conventions* for tax or regulatory purposes defining, for

⁵ Cf. News Release NR 2003-99, of December 15, 2003, available at www.occ.treas.gov/scripts/newsrelease.aspx?Doc=DVWLJZB1.xml.

instance, when a bank should make provisions for loan losses, or write off loans for tax purposes. These are conventions that do not necessarily reflect the reality of the bank's relationship with clients and therefore do not correspond necessarily to their appraisal of risks. Banks can roll over loans when a borrower is unable to fulfill payments commitments. A roll over can be decided because the bank wants to avoid showing losses in its balance sheet, as seems to have been largely the case of Japanese banks in the 1990s. It should be possible to identify cases of distress rollovers, although it is certainly not easy to conceive of instruments that would stimulate the bank to inform their true views. This is so because, conceptually, default is in fact a *subjective* concept. For a bank a default really takes place when it does not expect that the borrower will recover its ability to pay the loan outstanding, preventing new deals to be realized in the future. In other words, for a bank it is worthwhile to consider a loan payment past due a default, with its attending consequences, including ultimately demanding the bankruptcy of the borrower, only when it expects that the borrower will be unable to recover its payment capacity in the future. If, on the contrary, the bank expects the difficulties to be temporary, such as to allow new profitable deals to be made in the future, it will not only have an incentive to avoid declaring a default, but it will actually not consider it a default. Thus, a default is a reality only in the cases in which the borrower is as good as dead economically, so that the bank has no hope of recovery and, therefore, of making new loans in the future. This is obviously what occurs, for instance, during cyclical downturns where banks clearly see increasing non-performing loans as a temporary difficulty avoiding to pursue bankruptcy procedures against borrowers except when they are convinced that a given borrower will not survive the downturn.

It is very telling that Basel II never defines a default, leaving to national regulators to do it. The latter, on their turn, are likely to do it along the traditional lines of answering to tax and regulatory needs, unable to reflect actual banks' practices and risks. It is probable that the facility with which market risks could be measured have created unjustifiable optimism among regulators and in the Committee that the same could be done with credit risk.⁶

⁶ Market risk is observable, at least for those securities for which secondary markets exist. Market risk refers to the probability of securities prices changing. When there are active secondary markets one has just to look at market quotes to ascertain whether prices have changed or not, and to use time series to calculate

If defaults cannot be properly defined, their occurrence cannot be properly measured.. Some critics of Basel II observed that defaults are too rare events as to allow time series to be constructed from which meaningful probabilities could be extracted. The point being raised here is more fundamental: defaults are rare events precisely because for a bank it is not an isolated difficulty in honoring payments that matter to determine whether a default should be declared, but the total expected value of future businesses with that particular borrower. It is a subjective concept, dependent on the evaluation by the bank of a borrower's future possibilities of success.

Having in mind the indeterminacies of the concept of default, the key notion on the basis of which credit risk should be calculated, the complexity itself of Pillar I calculations proposed in the Framework shows it to be even more unsatisfactory than most of its critics are pointing out. David Llewellyn has very appropriately described it as “accuracy without precision”, in the sense that very accurate formulas are advanced to deal with an imprecisely defined event.

In fact, this inconsistency between proposed formulas and the underlying phenomenon is repeated in an even worse way with respect to operational risk. The events to which risk measurement should be established are even less well defined here. Operational risk is an omnibus concept encompassing totally heterogeneous possibilities such as deliberate fraud and deception (as in the case of the Barings Bank that seemed to have imparted on regulators and the Committee the need to do something about it), or plain incompetence, or even events external to the bank as power supply failures. Being such a heterogeneous phenomenon, how can one develop statistical methods for dealing with operational risk?

The Committee all but recognizes the problem, advancing proposals that have only a distant relationship, if any, with the phenomenon one is trying to control. Of the three methods that are proposed, two have absolutely no relation with the problem at hand. The basic indicator

probabilities of future changes. When there are no secondary markets, the situation is much more difficult even for calculation of market risks.

and the standardized approach calculate capital requirements as a proportion of gross revenues. The difference between them is that the standardized approach allows the bank to distinguish its lines of business while the basic indicator approach calculates capital requirements in terms of total gross income. It needs hardly any effort of argument to show that the relation between actual operational risk and capital requirement derived by these two methods is distant at best. There is absolutely no reason to assume that operational risk is positively associated to size. Moreover, the rule proposed, contrary to the announced intentions of the Committee does not create any stimulus for banks to improve their operational risk management systems since capital requirements are calculated according to their income.

It could be argued that there is an incentive for banks to upgrade their risk management systems to take advantage of the Advanced Measurement approach (AMA). Again, the Committee's provisions as to the advanced approach is little more than hand-waving. Nothing is actually said about AMA in the Revised Framework, all is left to the national regulators to decide.

As in the case of credit risk, operational risk is also left fundamentally undefined. As a result, we have again Llewellyn's "accuracy without precision" situation. Since precision may be conceptually impossible to reach, pragmatism is likely to take its place. Regulators will define when a non-performing loan should be considered in default and when it can be considered that operational risk is being adequately addressed. If this is how things get settled, Basel II's announced intention to promote the adoption of better risk management systems will be purely rhetorical. If risky events cannot be properly defined, the connection between these events and the precautionary measures that are adopted will be loose at best. Not only no one can be certain that the best protection is actually being provided but also there will be no incentive for banks to build better risk management systems. The net result of moving towards Basel II may end up being just the increase in costs of compliance to more complex and demanding regulation.

ii. Pillar 2 Supervisory Review Process

With so many loose ends in Pillar 1, it should not be surprising that Pillar 2 increases dramatically the responsibilities of the financial supervisor. As a principle, the more demanding and less precise regulation is, the heavier is the burden on the supervisor. In the case of Basel II, room for supervisors' judgment would increase in any circumstance since it puts the bank risk management *strategy* in the center stage. Strategies cannot be evaluated mechanically. Besides, supervisors have also to be satisfied that the bank is capable of implementing the given strategy. This involves examining the bank's methods of monitoring, recording and processing the relevant information. It also involves evaluating how this information is actually inputted in the decision-making processes of the bank and how decisions taken at the top management levels related to risk management are actually transmitted to the lower levels of the institution, that is actually in contact with the clients. For all of these problems, there is in fact no more precise orientation to be given to the supervisors than general statements of Basel II's expectation that they will fulfill their duties satisfactorily.

There is clearly a potential conflict between the Committee's desire to be more market-friendly and the power given to the supervisor to accept or reject the banks' initiatives on the basis of their judgment, for which no concrete parameters are given. At the same time that banks are given freedom to choose their strategies, it is also given to the supervisor the power to refuse them. It might appear that all the formulae contained in Pillar 1 would make the supervisors' work more limited. In fact, it is precisely the opposite. Again, Basel II proposes very complex formulae about phenomena it is unable to define with precision. At the end of the day, the formulae takes back seat to the power of the supervisor to determine what is appropriate for the bank in question.

Besides the potential conflict between banks and supervisors, pillar 2 involves other dangers. The demands it places on supervisors in terms of qualification are huge. Supervisors have to be able to judge strategies based largely on their own judgment. The professional qualification required for supervisors to exert these duties properly may be

very heavy. In fact, given the present ability of banks to generate introduce financial innovations constantly, supervisors will have to be permanently updating and upgrading their skills. Moreover, risk management includes some highly paid functions in banks. Can supervisors be expected to pay competitive salaries to highly qualified supervisors? Certainly the risk here is that supervisory institutions may end up subsidizing private banks by developing labor skills that may end up being absorbed by the private sector. This is obviously a risk for developing countries, but one cannot exclude the possibility that developed countries may face a similar problem.

Finally, giving as much power to supervisors as Basel II does creates the risk of the relation between the supervisor and the bank shifting to one of two extremes, both very inefficient and dangerous. Supervisors may become little tyrants imposing unjustifiable burdens on the banking industry, since Basel II itself places no clear boundaries on the power of the supervisor, emphasizing in contrast the extent in which his or her judgment is to be used. The other extreme is to have supervisors that are simply intimidated by the responsibilities that are attributed to them, simply rubber-stamping whatever banks present to them. This is particularly probable in the case of large banks that may easily use their rocket-scientist risk managers to intimidate less prepared supervisors.

iii. Pillar 3 Market Discipline

Market discipline is hardly a *real* pillar in Basel II. Not very much thought seemed to have been dedicated to the role and potential efficiency of market participants' monitoring the behavior of banks related to the sources of risk identified in the Framework.

Could it be given a greater role in the overall strategies, particularly if one considers the difficulties just discussed of Pillar 2?

It seems that the answer is still an unqualified "maybe". On the one hand, in today's highly professional financial markets, fund and asset managers may be very effective in limiting the risks run by a bank simply by accepting or not to buy its shares or debt securities. In the

opposite direction, however, there is the Joan Robinson dilemma that risk evaluation is unavoidably influenced heavily by subjective assessments that are, on their turn, also heavily influenced by the *market sentiment*. In other words, the same overall market sentiment that may lead banks to underestimate risks in a, for instance, cyclical prosperity period, would be shared by asset and fund managers. Even if all those involved are perfectly conscious that prosperity may be temporary, the chance of making money while it lasts may overrule the inclination to adopt more prudent behaviors. In other words, market discipline can be a force to strengthen the action of regulators but it could hardly replace it. Cases such as the LTCM in 1998, where large banks compromised relatively large values financing the fund without inquiring about its investment strategies, recommend some restraint in transferring too much responsibility to the market at this point.

4. Conclusion

Basel I seemed to have been successful in its restricted goal. In fact, one can argue that it was *too* successful and ended up being adopted by more countries than it was intended and extended to more banks than it should. The evidence is that as a result of Basel I banking sectors all over the world did strengthen their capital bases and the system should be safer for that. However, one can also argue that the wrong lessons were extracted from the experience of Basel I. One did not need more sophistication in the calculation or at least one did not the kind of sophistication provided by Basel II. It could be said, alternatively, that a more advanced system of rules could be desired but it was not really achievable, since finer methods would require more precise definitions of credit risk than is possible in reality. The Basle Committee seemed to think that measuring credit risk was a technical problem, when it was argued in this paper that it is a conceptual problem that does not have any solution that can be used in the real world of financial regulation and supervision. The central difficulty is that default is in fact a subjective, forward-looking phenomenon, impossible to translate into objective definitions usable by regulators.

The existence of the Basle Committee, although one can argue that its membership is too narrow to deal with a problem of such a general concern, is a step in the right direction. In a world of global finance one should think of global regulatory strategies and coordination, even though actual regulation and supervision should remain in the hands of national institutions. Basel II, however, seems to be the wrong strategy. Compliance will be too complex and costly, supervision is unlikely to be really efficient. What is worst, at the end of the day, banking systems may not become stronger and safer by applying its provisions, but loans may become more expensive.

Some of the leading banking regulators are approaching Basel II with prudence. In the US, it was already announced that advanced methods will be allowed only to a very small number of large banks, leaving the rest of the sector to comply with the currently existing rules. In the UK and France too only a small number of banks are expected to qualify for the advanced methods, even though the European Commission has already decided to accept and to implement Basel II. It is only wise to proceed with care with such a flawed battle plan as Basel II.