

Some Imperative Issues and Challenges in Implementing Basel II for Developing Economies with Special Reference to Bangladesh

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Abstract - In June 2006, Basel Committee on Banking Supervision issued a comprehensive document on New Capital Adequacy Framework to replace the 1988 Basel Accord and to foster a strong emphasis on risk management and to encourage ongoing improvements in banks' risk assessment capabilities. This paper attempts to explore some significant issues and challenges in Basel II implementation for the developing economies like Bangladesh. There are many possible negative impacts of an unchecked implementation of Basel II. The paper also tries to find out what Basel II norms should be applied - and to what extent - to ensure the survival and growth for the developing economies. The norms of Basel II intend to strengthen the banking systems globally and this objective should not be lost. Developing Economies - like Bangladesh Economy - need to be prepared and adapted according to the changing global conditions and according to the norms for matching the economies with the capabilities of developed ones. The impact of implementation of Basel II on the banks, the industry and the society should be carefully evaluated.

Keywords: *Basel I, Basel II, Capital Requirements, Developing Economies*

1. Introduction

Capital is the fuel and financial information the necessary inputs which help to keep the engine of an economy in the right track. Banking is a business based on the confidence and trust of people enabling

the mobilization of the funds from the surplus units to the deficit units thereby ensuring floatation of the company businesses. In this case, Basel Accords ensure this confidence and trust by providing some important guidelines to the banks with regard to fulfilling their minimum capital requirements, addressing risks properly, ensuring supervisory review, maintaining market discipline and so on.

In 1988 the 'Basel Committee on Banking Regulations and Supervisory Practices', for the first time, released a capital adequacy framework, now known as Basel I. This initiative was set out to maintain an internationally accepted framework for measuring capital adequacy and ensuring sustenance of necessary ratios in terms of the availability of assets of various types. This norm was widely adopted in over 100 countries including Bangladesh, which was implemented by 1990s. Over the years, the Basel I framework was found to have several limitations such as its simplified approach to credit risk, its narrow coverage being confined to only credit and market risks, and non-recognition to other credit risk elements. Moreover, the rapid advances in risk management, information technology, banking markets and products, and banks' internal processes, during the last decade, had already outpaced by far the simple approach of Basel I. Therefore, a need was felt for replacing this Accord with a more risk-sensitive framework, which could address these shortcomings better.

On June 26, 2004, the Basel Committee on Banking Supervision (BCBS) released in the second

round the document under the nomenclature 'International Convergence of Capital Measurement and Capital Standards: A Revised Framework', which was again supplemented in November 2005 by an updating with the Market Risk Amendment. This document, popularly known as "Basel II Framework", offers a new set of international standards for establishing minimum capital requirements for the banking organizations. It emphasizes on the modern risk management techniques and seeks to establish a more risk-responsive linkage between the banks' operations and their capital requirements. It also provides a strong incentive to banks for improving their risk management systems.

2. Scope and objectives

The paper focuses on the most important issues and challenges associated with Basel II implementation in the developing economies. The study has been conducted in accordance with the following objectives:

- a) To identify the issues and challenges that banks face in implementing the Basel II in a developing country as it is the case of Bangladesh.
- b) To examine the justification of adopting Basel II for the aligning domestic banking system with that of the global banking system.
- c) To explore the extent to which the existing norms of the Basel II should be applied and adapted for the growth of developing economies.

3. Literature Review

Several strands of theoretical literature have emerged on the topic. A first strand uses the portfolio approach of Pyle (1971) and Hart and Jaffee (1974), where banks are treated as utility maximizing units. In a mean-variance analysis that allows banks' portfolio choice to be compared with and without a capital regulation, Koehn and Santomero (1980) showed that the introduction of higher leverage ratios will lead banks to shift their portfolio to riskier assets. As a solution to such a situation, Kim and Santomero (1988) suggested that this problem can be overcome if the regulators use correct measures of risk in the computation of the solvency ratio. Subsequently, Rochet (1992) extended the work of Koehn and Santomero and found that effectiveness of capital regulations depended on whether the banks were value-maximizing or utility-maximizing. In the former case, capital regulations could not prevent

risk-taking actions by banks. In the latter case, capital regulations could only be effective if the weights used in the computations of the ratio are equal to the systematic risk of the assets. A further theoretical ground argued that banks choose portfolios with maximal risk and minimum diversification.

The second strand of literature on the topic utilizes option models. Furlong and Keeley (1989) and Keeley (1990) developed several models under this framework and showed that higher capital requirements reduce the incentives for a value-maximizing bank to increase asset risk, which is opposite to the conclusions of the first generation studies discussed above. They criticized the utility maximizing framework, which comes to opposite conclusions, as inappropriate because it mischaracterizes the bank's investment opportunity set by omitting the option value of deposit insurance and the possibility of bank failure. However, this evidence of the option model was weakened by the findings of Gennotte and Pyle (1991). They relaxed the assumption that banks invest in zero net present value assets and found that there are now plausible situations in which an increase in capital requirements results in an increase of asset risk.

Using a dynamic framework (multiple periods), as opposed to the static framework used in the studies above, Blum (1999) found that capital regulation may increase banks' riskiness due to an inter temporal effect. Using a two-period model, he showed that banks find it too costly to raise additional equity to meet new capital requirements tomorrow or are unable to do so, they will increase risk today. He also pointed out that this second effect will reinforce the well-known risk-shifting incentives due to the reduction in profits. Subsequently, Marshal and Prescott (2000) showed that capital requirements directly reduce the probability of default and portfolio risk and suggested that optimal bank capital regulations could be made by incorporating state-contingent penalties based on banks' performance. At the same time, Vlaar (2000) found that capital requirements acted as a burden for inefficient banks when assets of banks are assumed to be fixed. However, such regulations increased the profitability of efficient banks. In short, whether imposing harsher capital requirements leads banks to increase or decrease the risk structure of their asset portfolio is still a debated question and, at least for now, it seems, there is no simple answer to this question.

4. Causes for the Emergence of Basel II

Basel I (First Accord) adopted in 1988 suggesting norms for capital requirements and addressing credit risks has been outmoded owing to many reasons, which include, among others, simplified approach to credit risk measurement, narrower coverage being confined to only credit and market risks, non-recognition to other credit risk elements, the increased complicity in risk management, advent of information technologies, intricacy in banking markets and product diversity, and the banks' internal processes themselves. Basel II (International Convergence of Capital Measurement and Capital Standards - A Revised Framework) is the updated version of the previous one and embodies some recommendations for revisions of the international standards for measuring capital adequacy. It was created to promote greater consistency in the way banks and banking regulators approach risk management across national borders with a primary focus on internationally active banks in order for enabling them to be responsive to more risk sensitive culture, which is expected to emerge throughout the world.

Basel II uses a 'three pillars' concept -- minimum capital requirements; supervisory review; and market discipline -- to promote greater stability in the financial system.

4.1 Pillar-1 (Minimum Capital Requirement)

The first pillar contributes for the improved risk sensitivity measurement in the way that capital requirements are calculated based on all the three components of the risk that a bank faces such as credit risk, operational risk and market risk. In turn, each of these components can be calculated in two or three ways depending on degree of risk intensity. Other risks are also there, but cannot be fully quantified in some cases. The technical terms used to denote the most sophisticated measures for credit risk include EL (Expected Loss) which components are PD (Probability of Default), LGD (Loss Given Default), and EAD (Exposure at Default). Calculation of these components requires advanced data collection and developed risk management techniques.

The Basel I accord only dealt with parts of each of these pillars. For example, from the key pillar one, credit risk was dealt with in a simple manner and market risk was an afterthought. Operational risk was not dealt with at all in Basel I. An instance of not assessing operational risk has been the recent

pilferage of valuables from safe lockers at a branch of commercial bank in Dhaka.

4.2 Pillar-2 (Supervisory Review)

The second pillar deals with the regulatory aspects relating to the first pillar, giving regulators much improved 'tools' over those available to them under Basel I. It also provides a framework for dealing with effectively all the other risks that a bank faces, such as risks associated with bank company reputation, liquidity, and legal, which are grouped together under the title of residual risk. 'Supervisory Review Process', is the element, which makes the revised framework very comprehensive attempts to address the entire risk domain of the banks. It requires the banks to develop an Internal Capital Adequacy Assessment Process (ICAAP), which should encompass their whole risk universe - by addressing all those risks which are either not fully captured or not at all captured under the other two Pillars, and assign an appropriate amount of capital, internally, for all such risks, commensurate with their risk profile and control environment. Under the Supervisory Review, the supervisors would conduct a detailed examination of the ICAAP (Internal Capital Adequacy Assessment Process) of the banks, and if warranted, could prescribe a higher capital requirement, over and above the minimum capital ratio envisaged in Pillar 1.

4.3 Pillar-3 (Market Discipline)

The Pillar-3 of the framework, Market Discipline, focuses on the effective public disclosures to be made by the banks, and is a critical complement to the other two Pillars. It recognizes the fact that apart from the regulators, the markets also monitor the banks and that the discipline exerted by the markets (information relating to market) can be as powerful as the sanctions imposed by the regulator. It is premised on the basic principle that the markets would be quite responsive to the disclosures made and the banks would be duly rewarded or penalized, in tune with the nature of disclosures, by the market forces which was absent in the Basel I.

5. Issues and Challenges Associated with Implementing Basel II in Bangladesh

The proposed implementation of the Basel II accord for Bangladesh banks with the objective of promoting stronger risk management practices presents a serious challenge in terms of managerial capabilities. The development of such capabilities in the local industry requires both intensive training as well as behavioral and attitudinal changes. Some of

the major issues and challenges that might arise in respect of Bangladeshi banking system because of the adoption of the Basel II framework are outlined below.

5.1 Pre-Implementation Considerations - Timing of Implementation

Although there is a widespread recognition that Basel II is more sophisticated than Basel I, there has been considerable debate with regard to the appropriate timing of Basel II even among developed countries. While most European Union (EU) countries have followed a '2007 parallel - 2008 live' timeline, the US regulators have deferred implementation to a '2008 parallel - 2009 live' timeline.

Premature adoption of Basel II in countries with limited capacity could inappropriately divert resources from the more urgent priorities, ultimately weakening rather than strengthening the supervision. The International Monetary Fund (IMF) agreed, in one of its publications, that countries should give priority first to strengthening their financial systems comprising institutions, markets and infrastructure and focus on achieving greater level of compliance with the Basel Core Principles.

With that view in mind, the Bangladesh Bank needs to decide whether the timeline that it is contemplating in this respect is an appropriate one for Basel II implementation. At a minimum, the following may be recommended for implementation before Bangladesh moves into Basel II:

1. Implementation of 'Market Risk Capital' as an addition to Basel I first;
2. Automation of regulatory return submission - developing IT infrastructure for the local banks;
3. Capacity building for Central bank; and
4. Developing robust External Credit Rating Agencies (ECAIs).

5.2 Selection of approaches

As Basel II offers a range of approaches, it is important to understand the difference between them for selecting the right approach so that their initial introduction in the Bangladesh market can be made possible better. Bangladesh Bank has already announced that it intends to implement simpler approaches of Basel II (i.e. Standardized for Credit Risk, Basic/Standardized for Operational Risk and Simplified approach for Market Risk), which is

probably the right choice. However it is important to recognize the limitations of simpler approaches.

Standardized Credit Risk approach is heavily dependent on credit ratings from external rating agencies. Simpler approaches of operational and market risk does not effectively attempt to quantify the risk of the bank - they are more ballpark addition to the capital based on Bank's size of operation. Implementation of these simpler approaches can only generate the true benefit of Basel II if the quantitative capital assessment is coupled with qualitative measures of containing risk through better risk management practices. To ensure this, regulatory supervision needs to be strengthened. Wherever banks would be found deficient in their risk management practices, there is provision in Basel II for supervisors to call for an additional capital as a part of Pillar 2. This supervisory role needs to be executed prudently.

The advanced approaches have their limitations and involve wider range of issues as well, and they may be more problematic for Bangladesh. When most of the international banks with the state-of-the-art banking practices are struggling to comply with the requirements of advanced approaches, and the supervisors even in developed countries are struggling with the task of reviewing and approving advanced models, the Bangladesh Bank has appropriately decided not to venture that route in the immediate future.

5.3 Implementation Consideration - The Industry -- External Credit Rating Agencies (ECAIs)

The Standardized Approach for credit risk leans heavily on the external credit ratings. While there are a few rating agencies operating in Bangladesh, the rating penetration in Bangladesh is rather low. It is doubtful without a solid base of ECAIs operating in country how effective the implementation will be.

There is also a consideration whether the ratings of International Credit Rating Agencies would be accepted in capital calculations. International ECAIs like Moody's, S&P, etc usually rate the head-office of the multinational corporations. Whether that rating would be acceptable for their Bangladesh subsidiaries is a point to ponder. Furthermore, there would always be a wide gap between the rating of an International agency and a local agency. In general, International agencies have much stricter rating practices, which, if accepted as a norm, would generally result in a capital requirement significantly higher than Basel I for the Bangladeshi banks. This creates an incentive

for some of the bank clients to remain unrated since such entities receive a lower risk weight of 100 per cent vis-à-vis 150 per cent risk weight for a lower rated client. This might specially be the case if the unrated client expects a poor rating.

5.4 Market Readiness

The disclosure requirements under the Pillar-3 of Basel II are quite extensive in nature. They are probably designed to suit to advanced markets where there are numerous analysts to analyze and understand the disclosures and take investment decisions based on that. It is doubtful whether the market of Bangladesh is at all ready to take benefit of such extensive disclosures. If not, then requiring banks to adhere to such disclosure requirements would overburden the banks without any practical benefit.

5.5 Banking vs. Non-Banking Financial Institutions (NBFIs)

Since only banking institutions are subject to Basel II requirements, banks may find themselves in competitive disadvantage against specialized financial institutions, especially, leasing companies, microfinance institutions, foreign exchange remittance facilitating institutions and mutual funds. More specifically, where banks provide services similar to these organizations, they may find it difficult to compete due to additional capital requirement which NBFIs would not have. This may create an asymmetry in the industry.

5.6 Implementation Consideration - For the Regulator

Considering resources adequacy, implementing even the simpler approaches of Basel II requires significant involvement of the regulators, to ensure that the banks are not misusing the new rules. Several activities may require considerable involvement of the central bank:

1. Issuing detailed Basel II Guidance, including all national discretions carefully evaluating their impact on the industry.
2. Evaluating and continuously monitoring approved ECAIs.
3. Educating banks.
4. Monitoring and taking decisions on Home-Host issues for international banks through continuous dialogue with supervisors in other countries.

5. Human Resource and IT Infrastructure to review and evaluate banks' capital calculations.
6. Supervising banks under Pillar- 2 of Basel II.
7. Deciding Pillar -3 disclosure requirements and monitoring practices.

Without adequate capacity building of the central bank to perform all these tasks in a timely fashion, Basel II Implementation would definitely be hampered.

5.7 Implementation Consideration - for the Banks

Possible higher capital requirement, under the new accord, might, in some cases, lead to an increase in the overall regulatory capital requirements for the banks, particularly under the simpler approaches if adopted in Bangladesh. If the additional capital required for the operational risk is not offset by the capital relief available for the credit risk. This would, of course, depend upon the risk profile of the banks' portfolios and also provide an incentive for better risk management. But the banks in such cases would need to be prepared to augment their capital through strategic capital planning.

5.8 Increased Competition for Better Rated Clients

The new framework could also intensify the competition for the best clients with high credit ratings, which attract lower capital charge. This could put pressure on the margins of the banks. The banks would, therefore, need to streamline and reorient their client acquisition and retention strategies.

5.9 Changes in Banking Practices

The use-test requirement of Basel II dictates that banks must use the capital calculations in their management decisions like selection of clients, pricing banking products etc. This would require changes in banking practices often resulting in over-dependence on the external ratings of the clients. The larger local banks including the nationalized banks may have a very difficult time in implementing changes.

5.10 Increased Competition in the Labor Market

Most countries implementing Basel II have experienced shortages of skilled people for their industries who can understand and implement the sophisticated Basel II requirements. Likewise, banks

in Bangladesh are also likely to face similar constraints. A good number of trainings and development programs along with seminars and symposiums, etc can help overcome this problem.

5.11 Expensive Software

Software solutions for Basel II calculations available in the international market are quite expensive. While international banks can probably take advantage of software solutions procured by their head office, the local banks may find it burdensome financially in procuring and developing such software.

5.12 Competitive Disadvantage for Smaller Banks

Smaller banks with a concentration on higher risk client group may find it to their further competitive disadvantage in implementing Basel II as this may require them to maintain relatively higher capital level than the bigger banks do with less risky client base. While this is a strong incentive to improving bank's risk management practices, some of the smaller banks in the Bangladesh industry are already finding their operations challenging, and they may be further tailored as per Basel II requirements.

5.13 Implementation Consideration - For the Society

The possible increased capital requirement and the significant cost of implementation may ultimately result in higher cost of banking services for the society. This may be especially true for corporate clients with weaker risk profile. Since the capital requirement of such clients will be several times higher than that of a larger, less risky client, banks will be inclined to charge them a significantly higher price for loan-type products.

5.14 Unique Market Practices

Basel II accord may not be adequate to cover some special type of banking practices seen in Bangladesh. In Bangladesh market, banks are encouraged to provide credit to agrarian industries and agricultural farms as well as export oriented firms.

The regulators should be careful that these firms don't get at a disadvantageous position due to the new accord. If necessary, special "regulatory-segment" should be defined to allow preferential risk weights to these industries.

Another unique practice is Islamic Banking. While Basel Accord is silent about this important banking product, some regulators (e.g. the Malaysian Regulator-BNM) have already defined Basel II rules for Islamic Banking. The Bangladesh Bank can follow this precedence.

6. Conclusion

It is obviously important for any economy to keep attuned with the pace of development processes of the developed countries where banking sector can play an important role in the process. The contexts in which the developed economies have to set out the new accord of Basel II in their economies, a similar context must be considered for the economy of Bangladesh, what requires a certain development in order to reap up the full benefit from the implementation of Basel II. By the time the Basel I is being implemented, steps should be taken extensively to make Bangladesh people concerned familiar with Basel II, to develop the economy in a suitable way for its implementation. The slow implementation policy in respect of Basel II would give a leeway to Bangladesh industries concerned to grow further to accommodate the Accord. Especially it should be given a top priority to the development of local ECAs (External Credit Rating Agencies) before abruptly adopting the Standardized approach of Credit Risk - which is fully dependent on external rating. At the time of the implementation of Basel Accord II, the impact on the banks, the industry and the society should be carefully evaluated. The financial policy makers should be more careful about Bangladesh economic standards and about the competency of the national financial institutions while implementing Basel Accord II. Developing economies like Bangladesh's one need to be prepared and to be adapted to the changing global conditions and to the norms of the Basel II for Bangladesh own advantage.

References

- [1] Aggarwal, R. and Jacques, K.. (1998), Assessing the impact of prompt corrective action on bank capital and risk. *Economic Policy Review*, Federal Reserve Bank of New York, issue October: 23-32.
- [2] Aggarwal, R. and Jacques, K.. (2001), The impact of FDICIA and Prompt Corrective Action on bank capital and risk: estimates using a simultaneous equations model. *Journal of Banking and Finance* 25: 1139-1160.

- [3] Blum, J. (1999), Do Capital Adequacy Requirements Reduce Risks in Banking? *Journal of Banking and Finance* 23: 755-71.
- [4] Bangladesh Bank, 2010, "Basel II Road Map", December 30, 2010.
- [5] Basel Committee on Banking Supervision (2006), "International Convergence of Capital Measurement and Capital Standards, A Revised Framework Comprehensive Version", Bank for International Settlements.
- [6] Ediz, T., Michael, I. M. and Peraudin, W. R. M., (1998), *Bank Capital Dynamics and Regulatory Policy*, Bank of England mimeo.
- [7] Feri, G. and Kang, T. S. (1999), The Credit Channel at Work: Lessons from the Financial Crisis in Korea. *Economic Notes* 28(2): 195-221.
- [8] Furlong, F. T. and Keely, M. C. (1989), Capital regulation and bank risk-taking: A note. *Journal of Banking and Finance* 13: 883-891.
- [9] Gennotte, G. and Pyle, D. (1991), Capital Controls and Bank Risk. *Journal of Banking and Finance* 15: 805-41.
- [10] Hart, O. D. and Jafe, D. M. (1974), On the application of portfolio theory to depository financial intermediaries. *Review of Economic Studies* 41: 129-147.
- [11] Jacques, K. T. and Nigro P. (1997), Risk-Based Capital, Portfolio Risk, and Bank Capital: A Simultaneous Equations Approach. *Journal of Economic and Business*, 533-47.
- [12] Keeley, C. M. (1990), Deposit insurance, risk, and market power in banking, *The American Economic Review* 80 (5):1183-1200.
- [13] Kim, D., and Santomero, A. M.. (1988), Risk in Banking and Capital Regulation. *Journal of Finance* 43: 1219-33.
- [14] Koehn, M. and Santomero, A. M. (1980), Regulation of Bank Capital and Portfolio Risk. *Journal of Finance* 35: 1235-44.
- [15] Marshal, D. A., and Prescott, E. S. (2000), Bank Capital Regulation with and Without State-Contingent Penalties. Federal Reserve Bank of Chicago: Working Paper No. 10.
- [16] Pyle, H. D. (1971), On the theory of Financial Intermediation. *Journal of Finance* 26: 737-747.
- [17] Furlong, F. T. and Keely, M. C. (1989), Capital regulation and bank risk-taking: A note. *Journal of Banking and Finance* 13: 883-891.
- [18] Rime, B. (2001), Capital Requirements and Bank Behavior: Empirical Evidence for Switzerland. *Journal of Banking and Finance* 25: 798-805.
- [19] Rochet, J. C. (1992) Capital Requirements and the Behavior of Commercial Banks. *European Economic Review* 36: 1137-78.
- [20] Sheldon, G. (1996), Capital Adequacy Rules and the Risk-Seeking Behavior of Banks: A Firm-Level Analysis. *Swiss Journal of Economics and Statistics* 132: 709-734.
- [21] Shrieves, R. E. and Dhal, D. (1992) The Relationship between Risk and Capital in Commercial Banks. *Journal of Banking and Finance* 16: 439-57.
- [22] Van Roy, P. (2003), Impact of the 1988 Basel Accord on banks' capital ratios and credit risk taking: an international study. European Center for Advanced Research in Economics and Statistics, University Libre de Bruxeles: Working Paper.
- [23] Vlaar, P. J. (2000), Capital Requirements and Competition in the Banking Industry. Federal Reserve Bank of Chicago, Working Paper: 18.
- [24] Ward, J. (2002) The New Basel Accord and Developing Countries: Problems and Alternatives. Cambridge Endowment of Research Finance, Working Paper No. 4, 14.