# Implementation of Basel II:
# Issues, Challenges and Implications for Developing Countries


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## ABSTRACT

This paper investigates the issues, challenges and implication of Basel II implementation for developing countries with a focus on Pakistan. The main objective of this paper is to identify the problems confronted by the regulators in their journey to Basel II implementation. The paper shows that the right balance between regulation, supervision and market discipline requires the mutual cooperation and assistance amongst the central Banks. The paper also emphasizes the role of educational institutions, banks training institution in developing the human resources in this regard. Our findings highlight the need for home and host supervisors of internationally active banking organization to develop and enhance the pragmatic communication and cooperation with regard to banks' Basel II implementation plans. This is necessary to reduce the burden on the banking industry and making it more efficient.

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The implementation of Basel II is a subject, which has gained a lot of interest both internationally and within Pakistan. The effective adoption of this new international and supervisory architecture is confronted by many challenges and issues. With globalization, expansion of the financial sectors and introduction of new financial products, the financial institutions have progressively become more exposed to diversified structure of risk. The complexity of multifaceted nature of this risk structure is aggravating with each passing day as the changes are rapidly taking place on the financial landscape of different countries. These countries are better linked today; however, the nature of linkages is so complex, that it has led to the further bifurcation of the world's economies. In this so called integrated but yet disaggregated world in many respects, there has emerged a global financial system, which is full of opportunities, but not free of risk. The regulators and supervisors of the banking system are increasingly challenged worldwide by the development of the risk-sensitive financial markets. Financial institutions, especially the banks, are in the business of risk management and reallocation, and they have developed sophisticated risk management models to encounter it. Their efforts cover many components of risk viz-a-viz, identification and definition of risk the firm is exposed to, assessment and measurement of their magnitude, development and implementation of effective risk mitigation techniques, and setting aside sufficient capital for potential losses. Regardless of the sophistication of measure, the banks often distinguish between expected and unexpected losses. Expected loses are known by the banks with reasonable certainty (e.g., the expected default rate of corporate loan portfolio or credit card portfolio), whereas the unexpected losses are the adverse impact on the profitability of banks emerging from unforeseen events (e.g., losses from external events, losses due to sudden downturn in the economy, falling interest rates). Banks rely on their capital as buffers to absorb such losses.

Whether there are the expected losses or unexpected losses, their outcome is the same; they generate risk of different types.

It is believed that generally the banks face credit, market, liquidity, foreign currency, strategic, compliance, reputation, country, legal, regulatory and operational risks. The failures to identify and quantify the different sorts of risk entail a very high cost not only for the whole banking industry, but for the entire economy as well. We know that banking crises can threaten macroeconomic stability through their potential effects on confidence, savings, financial flows, monetary control and the budgetary impact of bank, rescue packages, (Caruana, 2006). Therefore, achieving an inclusive, efficient, sound, and stable financial system is an important, complex and a multidimensional task.

In this scenario, globalization and the increased integration of the financial markets across countries prompted the regulators and supervisors of the banking systems, to form standardized, cross-jurisdictional banking regulations. The major event that led to the formation of the Basel Committee on banking supervision by the group of ten nations in 1974, under the auspices of Bank of International Settlement (BIS), was the liquidation of the German Harstatt Bank. The Basel committee published a set of universal capital requirements for banks in 1988 which is known as Basel Accord or Capital Accord. It emphasized the importance of adequate capital by categorizing it into two Tiers: Tier 1, or core capital (the sum of common stack, retained earnings, capital surplus and capital reserves); Tier 2 or supplementary Capital consisted of loan loss allowances, preferred stock with maturity greater than 20 years, subordinated debt, unclosed capital reserves and hybrid capital instruments.) The Accord requires banks to hold capital equivalent to 80% of Risk weighted value of Assets. Basel I was adopted by many countries.

**Why Basel II?**

The Basel I had a number of flaws. For instance it was risk insensitive, it did not differentiate between credit risk and other types of risk, and it can easily be circumvented by regulatory arbitrage. The "capital economizing efforts" the banks were resulted in holding the lower quality assets on their balance sheet and off-loading their high quality (less risky) assets. (Chami, Khan, Sharma, 2006)

On the other hand during the same period financial innovations in the form of derivatives and securitization played an important role in the decline of traditional banking. This had important implications for the future of banking industry and created new challenges for regulators. It was recognized that Basel I has outlived its usefulness for the complex financial innovations driven by new technologies. (Fakhar, 2005)

To address these limitations, the Basel Committee on banking supervision (BCBS) formalized Basel II in June 1999, in consultative paper and put forward a three pillar approach to regulating banks. The purpose of the agreement is to improve on the earlier rules by making the risk measurement more accurate and comprehensive. Later on, two more consultation papers CP2 in January 2001 and CP3 in April 2003, were published after incorporating the comments and suggestions of end users and supervisors.

The final version of New Capital Adequacy framework (Basel II) was released in June 2004.

**Important features of Basel II:**

(1) The Basel II Capital Accord is not a treaty. It is based on consensus building approach to enhance the interaction between supervisors and the end users.

(2) Basel II Accord aims to align bank's capital with their basic risk profiles. (Shamshad, 2006)

(3) It aims to give impetus to development of a sound risk management system. And in this way, it leads to more efficient, equitable and prudent allocation of financial resources.

(4) The new capital framework is built on three naturally reinforcing pillars; the first pillar Regulations – aligns the minimum capital requirements more closely with bank's actual underlying risk (Caruana, 2006)

It develops the capital allocation methodology by covering three major components of risk that bank faces; credit risk; market risk and operational risk.[1]

As such the first pillar is similar to the existing Basel I capital adequacy requirement with the changes made in the calculation method for risk weighted averages. These are two approaches to measuring credit risk – a Standardized Approach and Internal Rating Based Approach (IRB).

The first approach is more likely to be used by the banks who are engaged in less complex form of credit operations and deals with less sophisticated financial transactions. This option is more suitable to small banks that cannot develop their own technical models to evaluate credit risk. External Rating Agency provides this evaluation using six risk weights set by the committee.

On the other hand, under the IRB approach, the amount of capital that a bank will have to hold against a given exposure will be function of the estimated credit risk of that exposure.

Four parameters are used to predetermine the estimated credit risk. They are probability of default (PD), loss given default, (LGD); exposure at default (EAD), and maturity (M). With the application of this approach, the banks would be able to absorb the unexpected credit loss at 99.90% confidence level statistically.

Banks operating under the "Advanced" variant of the IRB approach will be responsible for providing all four of this parameter themselves based on their own internal models. Banks operating under "Foundation" variant of the IRB Approach will be responsible only for providing the PD parameter, with the other three parameters to be set externally by the Basel committee (Kashyap and Stein, 2004).

The risk which are not captured in Pillar I, are covered in Pillar II. The second pillar – Supervision – addresses the need of "effective supervisory review" by allowing the supervisors to evaluate a bank's assessment of its own risk and determine whether that assessment seems reasonable. (Caruana, 2006). Pillar II provide implicit incentives to the banks to develop their own internal models for risk

[1] As reported by BCBS (September 2001), operational risk can be defined as the risk of monetary losses resulting from inadequate or failed internal processes, people, and systems or from external events

evaluation. The role of supervisors in this complex Basel II regulatory framework is to verify that Banks hold enough capital to cover their actual risk profiles.

Pillar III – Market Discipline – ensure that effective market discipline provides an extra set of eyes besides the supervisor. The aim of this pillar is to enhance market discipline through greater disclosure by banks. The market also requires instruments (e.g., equity or subordinated debt.) which serve as a means of disseminating the market's evaluation of financial institutions, and as a vehicle for rewarding well- run entities. (Chami, Khan, Sharma, 2003)

(5) A special feature of new regulation is that retail credit and loans to SMEs will receive a different treatment than corporate loans and will require less regulatory capital for given default probabilities. (Jacobson, Linde', Roszbach, 2004).

(6) It is designed in such a way as to provide options for banks and banking system worldwide.

(7) Basel II addresses the issue emerging from the divergence between regulatory capital requirements and accurate economic capital calculations.

(8) Compared to Basel I, the Basel II is considered to be highly complex, more risk sensitive and comprehensive. Therefore, its effective implementation requires complete understanding by the supervisor and end users on the issues, challenges and impact on their respective countries.

(9) The New Capital Accord is not mandatory for the member countries of the BCBS. However, there is consensus among member countries to adopt Basel II standardized approach by the end of 2006 and advance approaches by 2007. Among Non Member countries, it is expected to be adopted in 2008 or later on.

## Where the World is heading?

There are a number of factors, which determine the "Basel II implementation plans" in different countries of the world. They include the size, structure and the state of development of financial sector, existing level of economic development, depth and efficiency of financial. Intermediation, sustainability of banking sector reforms, other economic reforms, existing regulatory and supervisory framework, state of technology, political stability etc.

Taken together these factors determine the extent of adherence to the existing regulatory framework. There are differences regarding the pace and sequencing of smooth migration to Basel II in different countries. As far as Asia Pacific is concerned, there are varying implementation plans. Australia, Korea, Singapore, New Zeland are among those countries where both the simplest and the most advanced approaches are available initially. In Hong Kong, Japan, Indonesia, Thailand, the simplest approaches are available at the beginning of the implementation plan at least one of the most advanced approaches is available within a year or two thereafter. Malaysia and Philipines are broadly implementing initially the simple approaches whereas the adoption of the most advance approaches will take more than two or three years.

Transition towards Basel II in China has been slow but steady – with respect to India; all commercial banks are expected to start implementing Basel II with effect from March 31, 2007. The Reserve Bank of India has chalked out a "Three-Track Approach for the transition of the banking system to this new capital regime.

It is observed that those countries where foreign bank share in the banking assets is not significant (China, India) will take longer periods of time in adopting the advanced approaches as compared to the "foreign – banks dominating economies".

Across the EU the Basel II agreement is given legal "life" by the Capital Requirement Directives – CRD – covering 27 EU member states.

In contrast to the rest of the world, United States has proposed to offer only one option under Basel II. The Advanced Approach. All U.S. home country banks and U.S. subsidiaries of foreign banks, after meeting certain size or foreign exposure criteria, will be expected to adopt the advanced approach, whereas the other domiciled banks would have the option to adopt the other versions of Basel II. All other banks operating in U.S. will remain under the Basel I.

## Implementation in Pakistan:

The State Bank of Pakistan has chalked out a roadmap for the transition of the banking system towards Basel II.

Banks would be required to adopt Basel II as under:[2]

1) Standardized Approach for credit risk and Basic Indicator / Standardized Approach for operational risk from 1st January 2008
2) Internal Ratings Based Approach from 1st January 2010. (Banks interested in adopting Internal Ratings Based Approach for capital requirement against credit risk before 1st January 2010 may approach SBP for the purpose. Their request will be considered on case-to-case basis).

To ensure smooth transition to Basel II there would be a parallel run of one and half year for Standardized Approach and two years for IRB Approach starting from 1st July 2006 and 1st January 2008 respectively.

[2] Roadmap for the implementation of Basel II in Pakistan. (SBP)

Banks' internal plans for Basel II implementation shall be reviewed and continuously monitored by the State Bank during the pre-implementation period as well as during parallel run.

## Issues, Challenges and Implications:

Shamshad Akhtar describes Basel II as a revolution led by the innovation in the risk management field. However, in contrast to Basel I, the revised framework is highly complex and makes its understanding and implementation a great challenge to not only the regulatory community but also to the regulated community. (Leeladhar, 2006)

First of all, the success of Basel II requires strong and developed financial system. The views of the International Monetary Fund clearly indicates that premature adoption of Basel II in countries with limited capacity could inappropriately divert resources from the more urgent priorities, ultimately widening rather than strengthening supervision. Such premature adoption of Basel II by the world economies poses many problems. There are the risks associated with the "too quickly and too ambitious" approach of moving towards Basel II. What is important in going forward is to be able to strengthen there financial system and focus on achieving greater level of compliance with the Basel Core Principles. Pakistan may follow the Basel II after putting its financial sector in place. The most appropriate strategy is to go slow but steadily on the Accord by first plugging – in the loop holes in their financial system. (Fakhar, 2005)

Second, the success of Basel II depends exclusively on the availability of the reliable, accurate and the timely reporting of data. For this data intensive Capital Accord, the non availability of the good quality data is a challenge to effective Basel II implementation. The uncalculated, overestimated / underestimated risks can nullify the whole efforts in this context. It has to be acknowledged that the existing data is not fully comprehensive to serve the purpose. Moreover, the human minds are needed to interpret the data for decision-making. Just as bias can affect the collection of data, it can also effect its interpretation. Those who are skilled at decision-making will give better results than those whose judgments are poor. The human resources are the "tools" for the gradual implementation of Basel II. Courses should be offered by the business schools, education institutions and banks training institutions to make the human resources more skillful in qualitative studies and quantitative techniques.

In most of the countries, banks are required to adopt standardized Approach for credit risk. It is incumbent upon the Central Banks to accredit the external rating agencies, whose ratings the banks may rely upon for capital adequacy purposes (Leeladhar). In Pakistan there are only two credit rating agencies. The question arises that whatever Pakistan has positioned itself to go forward in even adopting the standardized approach effectively. Moreover, the rating agencies use the "issue specific and not the issuers' specific" rating standards. For the "market supervision" aspect of Basel II, issuers' specific rating becomes more important.

In addition to the credit rating institutions, the developing countries need to exploit more effectively the role of the auditors of the borrowing entity.(Akhtar, 2005)

The third important issue is the asymmetry in regulatory regime amongst the different segments of the financial sector viz, banking, securities firms and insurance sector. In many developing countries only the banks are required to comply with Basel II, and not the other financial services providers. Such a discriminatory treatment may jeopardize whole developmental efforts, as all these financial institutions together determine the financial stability in the economy.

The problem is further aggravated by the asymmetry of supervision – different market participants are regulated by separate supervisors, e.g.; SECP and SBP in Pakistan.

There is dire need to improve communication, coordination and information sharing system among the different regulators within a country.

The Banks with cross-border operations are more concerned with home-host supervisory issues. They stem form regulatory arbitrage in banking operations across jurisdictions. The key home-host considerations ate:

- different implementation time tables
- different approaches to implementation
- different interpretation of Basel II etc.

There are the different aspects of the home-host supervisory issues. For example different questions asked about the Basel II implementation, demanding the different data, applying the rules differently or taking other actions that increase cost or are inconsistent with the principle of consolidated supervision.(Bernanke,2004). This issue needs to be addresses urgently as it is a real problem faced by the home supervisors and host supervisors.

Another issue relates to the “pro-cyclicality” effects of Basel II. It is argued that the operation of the new Capital Accord will lead to more pronounced business cycles. The arguments suggest that in times of recession when a bank’s capital base is likely being eroded by loan losses, its existing (non-defaulted) borrowers will be downgraded by the relevant credit-risk models, forcing the bank to hold more capital against its current loan portfolio. To the extent that it is difficult or costly for the bank to raise fresh external capital in bad times, it will be forced to cut back on its lending activity, thereby contributing to a worsening of the initial downturn. (Kashyap and Stein, 2004)

Kashayap and Stein, emphasize the cyclicality aspect of Basel II capital regulations by using the simulations. Their results suggest that the new Basel II capital requirements have the potential to create an amount of additional cyclicality in capital charges that is, at a minimum, economically significant, and that may be – depending on a bank’s customer mix and the credit risk models that it uses – quite large.

Chiuri, Ferrie and Majnoni (2002) present the empirical evidence with respect to the occurrence of credit crunch. They conclude that capital adequacy ratios may have contributed to a severe reduction in bank credit and aggregate liquidity shortage in developing countries.

The Basel II framework offers the national supervisors, the discretion power in this area. e.g.; it is at the discretion of the supervisor to demand a buffer of additional capital during good times. On the statistical front, historical trend analysis of the business cycle can be used to predict the future. Whatever is the solution to this problem, it raises the question of how one might design a credible, transparent formula that links the capital requirements to some measure of aggregate economic conditions. Kashyap and Stein (2004) suggest the use of aggregate business cycle indicators to reduce the pro-cyclicality effect of Basel II. e.g; required rates of capital to risk weighted assets may be reduced whenever GDP growth falls below some threshold.

The fifth issue in the implementation of Basel II is the existence of imperfect markets. Banks engage in information – intensive activities and their profitability hinges on keeping that information private.(Chami, Mohsin and Sharma,2003). Adverse Selection, Moral Hazards and Agency problems stem from the informational asymmetry between banks and other economic agents such as borrowers, lenders, and regulators.

Asymmetry of information creates price distortions. Market surveillance by regulator could minimize their distortions.

Another serious challenge that arises, and which is widespread, is the operational cost of Basel II. The center for the study of Financial Innovation (CSFI) mentioned in one of its reports that there is a heavy compliance burden of Basel II. The report concluded that the growing burden of domestic and internal regulation is the biggest risk facing the world's banks in the coming years as implementation of new rules entails a very high cost for the banks. In Europe, the cost of Basel II implementation was estimated to exceed US$ 15 million.

The future will see an increasing cost banking industry. Those who can afford will survive. There is needed to strike a right balance in this risk – return trade-off. Moreover, it can be argued that Basel II, unfairly advantage the larger banks that are able to bear the high compliance cost but the smaller banks will be discouraged.

The seventh issue relates to accessibility of finance by the marginalized, under-served, and less privileged segments of the society. It is argued that banks would require higher capital allocation for putting money to the higher credit risk. Efforts should be made to eliminate or control the potential adverse impact of Basel II implementation on small business and poor segments of the society. Risk management, in this field of finance is the best mean available to banks to improve their earnings, (by protecting against losses) and attract capital at lower cost.

One of the most difficult aspects of implementation is the cross-border challenges. With the openness of the economies, capital flows freely among the world economies. The conclusion derived from empirical evidence is that there will be a decline in credit flows from banks of developed countries to the developing countries because of the higher risk perception of their financial system, and lack of appropriate rating and risk-management systems (Akhtar 2006). There is dire need to find a robust and a workable solution to this potential threat to the world economies.

Finally, the last point is about the likely impact of greater reliance on the bark capital on the conduct of monetary policy. Complications will arise as the monetary authorities try to expand liquidity in the market, may be constrained by the level of bank capital. (Cham and Cosimano , 2001) study the effects of Basel II on the conduct of monetary policy.

Their findings suggest that the banks' desire to avoid capital constraints would have the adverse impact on bank lending and market activity.

**Concluding Remarks:**

The paper investigates the issues, challenges and implications of Basel II implementation of the developing economies with focus on Pakistan. It argues that, especially for developing counties, striking a right balance between regulation, supervision and market discipline is a difficult task.. It requires the banks to develop internal risk models and advance risk management system. Taking into account the concerns that may arise during the Basel II implementation, it may be necessary for regulators to adopt a flexible approach for implementation.

For the implementation of this data intensive, technology driven Capital Accord, we must direct our resources to ensure that banking supervision in the 21st century is more dynamic, more preventive, more inclusive and more transparent. (Caruana,2006)

## References


1. Ainley, Michael, 2006, "Basel II/EU Capital Requirements Directive: The UK Approach", Financial Service Authority, available at http:/www.sbp.org.pk/events/2007/bsd/halfdayBII.htm.
2. Akhtar, Shamshad, Governor of the SBP, 2006, "Basel II Implementation: Issues, Challenges and Implications", 56th Annual General Meeting – Institute of Bankers Pakistan.
3. Akhtar, Shamshad, Governor of the State Bank of Pakistan, 2007, "Banking sector reforms: performance and challenges, BIS Review 22/2007.
4. Banking sector reforms: performance and challenges, lecture by Shamshad Akhtar, Governor, SBP.
5. Basel Committee on Banking Supervision, 2003, "Overview of the new Basel Capital Accord," Bank for International Settlements, consultative document.
6. Bernanke S. Ben, Governor of The Federal Reserve Board, 2004, "The Implementation of Basel II: Some Issues for Cross-Border Banking", available at http//www.federalreserve.gov/BoardDocs/Speeches/2004/2004/004/default.htm.
7. Caruana, Jemie, 2006, "The Implementation of Basel II, Central Banks and the challenges for development; Bank International Settlements. ISBN 92-9197-713-6 (online)
8. Chami, Mohsin S. Khan and Sunil Sharma, 2003, "Emerging issues in Banking Regulation", IMF Working Paper 03/101. (International Monetary Fund).
9. Chiuri, Maria, Concetta, Giovanni Ferri and Giovanni Majnoni, 2002, "The Macroeconomic Impact of Bank Capital Requirements in Emerging Economies: Past Evidence to Assess the Future", Journal of Banking and Finance, Vol. 26, pp. 881-904.
10. Fakhar, Fozia, 2005, "Basel II: A Step Forward in Risk Management", Journal of IBP, April-June, pp 15-19.
11. Financial Sector Assessment, 2005, The International Bank for Reconstruction and development / The World Bank / The IMF, ISBN, 10:0-8213-6432-4
12. Guidelines on Risk Management by SBP.
13. Hussaini, Ferozeali, 2005, "Credit Risk Management", Journal of IBP, April-June, pp: 21-29.
14. Jacobson, Tor, Linde, Jasper and Kasper Roszabach, 2004, "Credit risk verses Capital Requirements under Basel II: Are SME loans and Retail Credit Really Different?", Sveriges Rikssbank Working Paper Series No.162.
15. Jones. S. Griffith, Segoriano, Miguel Angel and Stephen Spratt, 2002, "Basel II and Developing Countries: Diversification and Portfolio Effects", Institute of Development Studies, Brighton.
16. Kane, J. Edward, 2006, "Basel II: A Contracting Perspective", FRB of San Francisco.
17. Kashyap and Jeremy C. Stein, 2004, "Cyclical Implications of Basel II Capital Standards", Journal of Economic Perspectives, 1Q/2004, pp.18-31.
18. Kashyap, Anil K, and Jermy C. Stein, 2003, "Cyclical Implications of Basel II Capital Standard", University of Chicago, working paper available at http://gsbwww.uchicago.edu/fal/anil.kashyap/research/baselfinal.pdf

19. Marlier, Christian, 2007, “Basel II: Risk Model Validation: Quiet Revolution in the Supervisory World”, available at http://www.sbp.org.pk/events/2007/bsd/halfdayBII.htm
20. Risk Management, Guidelines for Commercial Banks & DFIs, SBP.
21. Roadmap for the implementation of Basel II in Pakistan, SBP.
22. Segoviano, Miguel, and Philip Lowe, 2002, “Internal Ratings, the business cycle and capital requirements: some evidence from an emerging market economy”, Bank of International Settlements, working paper, No. 117.