

The Key Challenges of the New Bank Regulations

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Abstract—The New Basel Capital Accord (Basel II) influences how financial institutions around the world, and especially European Union institutions, determine the amount of capital to reserve. However, as the recent global crisis has shown, the revision of Basel II is needed to reflect current trends, such as increased volatility and correlation, in the world financial markets. The overall objective of Basel II is to increase the safety and soundness of the international financial system. Basel II builds on three main pillars: Pillar I deals with the minimum capital requirements for credit, market and operational risk, Pillar II focuses on the supervisory review process and finally Pillar III promotes market discipline through enhanced disclosure requirements for banks. The aim of this paper is to provide the historical background, key features and impact of Basel II on financial markets. Moreover, we discuss new proposals for international bank regulation (sometimes referred to as Basel III) which include requirements for higher quality, constituency and transparency of banks' capital and risk management, regulation of OTC markets and introduction of new liquidity standards for internationally active banks.

Keywords—Basel II, Basel III, risk management, bank regulation

I. A HISTORICAL BACKGROUND OF BASEL II

A bank (or a financial institution in general) is a highly leveraged company, i.e. capital represents only a small portion of bank's liabilities (usually far below 10%). In other words, most banks' sources come from the bank's creditors such as retail and corporate depositors, government agencies and other financial institutions rather than by the bank's shareholders. Since the bank's clients usually cannot monitor the bank's behaviour properly, thus such a challenging task is to be performed by someone else – a regulator ([16]).

There are several reasons why financial markets should be regulated:

- I. protection of the investor,
- II. different quality of services offered by different financial firms,

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- III. illegal activities such as money-laundering, and

- IV. problems related to externalities (i.e. a failure of one bank can influence the whole banking sector such as the negative consequences of failures of small banks in the Czech Republic in 1990's).

The banking industry closely relies on the confidence of the depositors and hence is relatively fragile. A loss of confidence in a bank can provoke a bank run (big depositor's withdrawals of their cash from a bank - such as runs on IPB bank in the Czech Republic during spring 2000) to other banks in the economy. Such a spread of bank problems from one bank to the banking system is sometimes called contagion [9]. In addition, the presence of contagion contributes to systematic risk (risk that problems in one bank will negatively affect the entire sector). Last but not least, bank failures bring private costs for bank's shareholders, but there are also social costs – for example many Czech people have lost their savings in credit unions that failed in 1990's [1], [13].

For the above-mentioned reasons the national banking system are singled out for special regulation, known as prudential regulation, that is more comprehensive and stricter than the other sectors of the economy. The main task of the prudential regulation is to minimize social costs resulting from bank's failures [9].

As the world and banking industry as well has become more and more global in the last decades, the international coordination of prudential regulation is needed. In 1988, the Basel Committee on Banking Supervision (BCBS) of central banks and banking regulators from the Group of Ten (G10) countries took the first significant step towards international regulation: it introduced global standards for regulating the capital adequacy of internationally active banks. This document is known as Basel I and its guiding principle was the idea that banks should have an adequate "capital cushion" to cover unexpected losses. The deadline for the implementation of Basel I rules were scheduled until the end of 1992. Furthermore, Basel I set out an 8 % minimum requirement of capital to risk-weighted assets (RWA) for banks (known as capital adequacy (CAD) or Cook ratio).

$$RWA = \sum w_i * asset_i \quad (1)$$

$$CAD = \frac{Capital}{RWA} \geq 8\% \quad (2)$$

where w_i is i -th risk weight.

However, Basel I did reflect only credit risk (risk that an asset or a loan becomes irrecoverable in the case of outright

default [9]). As time elapsed, further risks have been reflected in Basel I, as with market risk in 1996 (the uncertainty of earnings arising from changes of market conditions associated with asset prices, interest rates, volatility, and market liquidity). Finally, operational risk (the risk of direct or indirect loss resulting from inadequate or failed internal processes, people, and systems, or from external events) is explicitly considered in Basel II (for more details see below). The following picture (Fig. 1) depicts the risks involved in both Basel Accords.

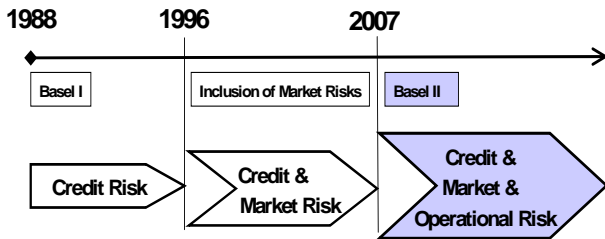


Fig. 1 The Risks Involved in the Basel I and Basel II Accords
Source: Author based on www.bis.org

II. STATUS QUO OF BASEL II

The Basel I standards have achieved a wide degree of acceptance, extending beyond the member countries of the Basel Committee, and have thus acquired a scope that extends beyond internationally active banks. At present, they are implemented in both domestic and international institutions in over 100 countries.

However, despite its many achievements, in recent years it became clear that Basel I requires a radical update due to accelerating market innovations and the development of new risk management techniques. In response to criticism of Basel I, a number of changes were made, culminating in the final document of the new capital accord (Basel II) being released in June 2006.

The overall objective of Basel II is to increase the safety and soundness of the international financial system by

- making capital requirements for banks more risk sensitive while
- maintaining the same level of overall average regulatory capital in the banking system.

Furthermore, Basel II seeks to achieve the following objectives [9]:

- It moves away from the "one size fits all" approach characteristic of Basel I. On the other hand, banks may choose from various options to calculate its capital requirements for market, credit and operational risk (see Table I).

TABLE I
SUMMARY OF APPROACHES FOR CALCULATION OF CAPITAL REQUIREMENTS

CREDIT RISK	OPERATIONAL RISK	MARKET RISK
(1) Standardised approach (STA)	(1) Basic indicator approach (BIA)	(1) Standardised approach (SA)
(2) Foundation IRB approach (FIRB)	(2) Standardized approach (STA)	(2) Internal model
(3) Advanced IRB approach (AIRB)	(3) Advanced measurement approaches (AMA)	

Source: Author based on www.bis.org

- Consideration that lending to banks or corporations may be more or less risky than to OECD sovereigns (in terms of credit risk) results in different risk-weights for these subjects. For instance, under Basel I all corporates have a 100% risk-weight, while under Basel II a risk weight of corporates will vary from 0% to 150% (based on the corporates' rating).

- Implementation of operational risk into regulatory capital (capital requirements), respectively into calculation of capital adequacy.

$$\frac{\text{Regulatory Capital (Capital requirements)}}{\text{Risk weighted assets}} = 8\% \quad (3)$$

Basel I: Credit Risk + Market Risk

Basel II: Credit Risk + Market Risk + **Operational Risk**

Source: Author based on www.bis.org

- A bank can use their own internal rating models for the measurement of credit, market and operational risk (if a regulator approves an internal model used by the bank). Otherwise, banks will have to adopt standardized approaches set by the BCBS.

- Basel II closely links the regulatory capital requirements with the bank's risk profile.
- In addition to the new "risk" pillar, two new pillars "Supervisory Review Process" and "Transparency and Market Discipline" have been introduced (see Fig. 2).

III. THREE PILLARS OF BASEL II

A key feature of Basel II is that it is structured on the basis of three pillars:

1. Minimum capital requirements for credit, market and operational risk (Pillar I)
2. Supervisory review process (Pillar II)
3. Market discipline (Pillar III).

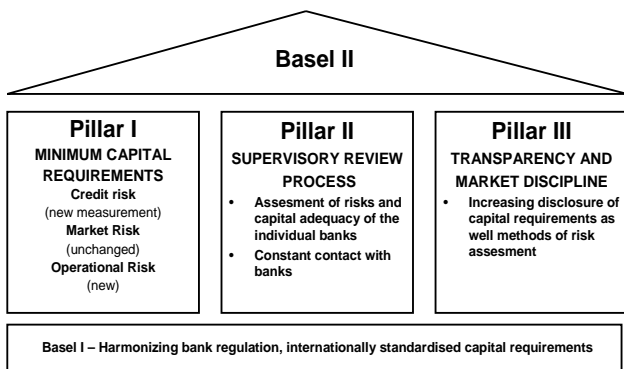


Fig. 2 Three Pillars of Basel II

Source: Author based on www.bis.org

A. Pillar I - Minimum Capital Requirements

Under the proposed Basel II Accord, the definition of regulatory capital as well as the minimum required ratio of 8% of risk-weighted assets remains substantially unchanged from the Basel I Accord. However, changes have been made of which the main modifications are related to the methodology for calculating risk-weighted assets categories (e.g. a higher role a company's rating), credit risk (e.g. new approaches for the capital adequacy calculation) and operational risk (newly introduced).

B. Pillar II - Supervisory Review Process

The second pillar of Basel II provides for the supervisory review of a banks' capital adequacy and their internal assessment processes. National supervisors will be responsible for evaluating and ensuring that banks have sound internal processes in place to assess the adequacy of their capital and to evaluate their risks and can impose additional capital requirements. Through Pillar II, regulators are seeking to reinforce the requirements of Pillar I by ensuring that the totality of risks that are faced by a bank are appropriately covered and, more importantly, to encourage banks to establish robust capital management processes.

C. Pillar III - Market Discipline

Pillar III is intended "to complement the minimum capital requirements (Pillar 1) and the supervisory process (Pillar II) ... [and] to encourage market discipline by developing a set of disclosure requirements which will allow market participants to assess ... the capital adequacy of the institution" [2]. In other words, Pillar III promotes market discipline through enhanced disclosure requirements for banks, e.g. regarding the risk measurement methods used. This increased transparency should give market participants a better idea of a bank's risk profile and its capital cushion.

IV. THE QUANTITATIVE IMPACTS OF BASEL II ON BANKS

In the past the BCBS has conducted four quantitative impact studies (known as QISes) to assess whether the BCBS has met its goals with regard to the revised capital framework. According to the results of the last study published in June

2006 (QIS 5), which included data from 350 banks in some 30 countries late last year, an aggregate drop of 6.8 % in minimum required capital for participating banks compared with existing capital requirements is expected.

V. A CRITIQUE OF BASEL II

There were numerous criticisms of Basel II, but some were addressed during the consultative process and solutions were implemented to the final version from June 2006. The first problem incurred in Basel II is procyclicality (it moves with the economic cycle, i.e. is pro-cyclical). As the creditworthiness of financial and non-financial firms moves with the cycle, a bank will need less capital for covering risks during an economic boom and conversely more capital during a downturn. Therefore a bank will likely reduce its lending activities and hence intensify an economic downturn.

The second critical point is connected with an excessive use of external ratings. As mentioned, Pillar I focuses on minimum capital requirements and for their calculation ratings are necessary. Banks can use either external or internal ratings system for computation of capital requirements for credit risk (depending on the applied approach). However, not all financial companies had in-house credit risk departments and therefore heavily relied on rating agencies. As a result, the role of rating agencies became more important than before, which could be viewed as a negative since rating agencies mispriced the risk of securities such as with structured credit products and especially collateralized debt obligations (Teply, 2010). Moreover, since the rating agencies were paid by the banks for said ratings, a conflict of interest occurred. To eliminate this conflict, a new business model of funding ratings and rating agencies should be discussed.

An excessive prescription is another problem (see [8] or [15]). The final document from June 2006 has 347 pages and includes instructions for the implementation of Basel II. For example, [8] claims "... the complexity that we have generated goes far beyond what is reasonably needed to deal with sensible capital regulation, It reflects, rather, a desire to close every loophole, top dictate every detail, as well as exclude to the maximum extent possible opportunities for the exercise of judgment or discretion by those applying and overseeing the application of new rules." (pp. 48-49).

VI. PROPOSED REVISION OF BASEL II

As the global crisis has shown, a revision of Basel II is needed to reflect the current trends in the world financial markets. In this part we discuss new proposals from 2009 by the BCBS for international bank regulation (sometimes called Basel III) which includes requirements for higher quality, constituency and transparency of banks' capital and risk management, regulation of OTC markets and an introduction of new liquidity standards for internationally active banks.

As a result of the on-going global upheaval, banks have reported massive write downs of over USD 2.8 trillion as of January 2010. However, not all losses have been recognized on banks' balance sheets yet. As [7] estimates that US banks

have reported only 63% of actual losses, and hence 37% of the losses incurred (USD 300 billion) have yet to be acknowledged. The situation with UK banks seems even worse since they recognized only 29% of their respective losses and therefore have yet to cover 71% of losses (about USD 1.3 trillion). In other words, the future presages further bank losses and writedowns around the world which implies that higher capital reserves are needed now in order to absorb these losses. Basel III will therefore focus on both the quantitative and quality measures of bank capital. Better risk management procedures should also be applied, because risks have been underestimated in the past causing the crises to be prolonged and exacerbated.

The size of the world over-the-counter (OTC) market is enormous; the notional amount of OTC derivatives outstanding amounted to USD 605 trillion as of June 2009 and the net credit exposure reached \$3.7 trillion, which represent a real risk to the market. Despite the fact that the credit exposures on OTC derivatives represent less than 1% of the notional amounts, this risk is still unlikely to be adequately covered by banks in their economic capital allocations ([7]). To limit counterparty credit risk, the strengthened counterparty capital requirements would increase incentives of market players to move OTC derivative exposures to central counterparties and exchanges.

Finally, compared to Basel II, Basel III should improve bank liquidity risk management. Liquidity risk is the probability of a situation occurring when a bank cannot meet its proper obligations as they become due ([10]). Liquidity risk materialized during market crises, when some financial institutions were not able to fund their assets (e.g. Bear Stearns or Lehman Brothers). According to Basel III proposals, a new global minimum liquidity standard for internationally active banks will be introduced. This ratio will include a 30-day liquidity coverage ratio requirement underpinned by a longer-term structural liquidity ratio.

VII. CONCLUSION

To conclude, Basel II provides for a more risk-sensitive determination for capital underlying credit risk and, for the first time, requires capital for operational risk, yet still neglects liquidity risk. Furthermore, economic risks in Basel II are better implemented than in Basel I. Last but not least, it also establishes supervisory review and calls for new disclosure rules, intended to increase market discipline through higher levels of informational transparency. We welcome new proposals for international bank regulation (sometimes referred to as Basel III) which could include requirements for higher quality, constituency and transparency of banks' capital and risk management, regulation of OTC markets and introduction of new liquidity standards internationally active banks. These new measures and requirements should help diminish the negative impact of future potential crises.

REFERENCES

- [1] R. Barfield (2004, August). *Basel II promises cheaper banking*. PricewaterhouseCoopers [Online]. Available: <http://www.pwcglobal.com/images/gx/eng/fs/1004barfield.pdf>
- [2] Basel Committee on Banking Supervision. (2006, September). *International Convergence of Capital Measurement and Capital Standards, A Revised Framework, Comprehensive Version* [Online]. Available: www.bis.org/publ/bcbs107.htm
- [3] A. Crockett, (2005, August). *Basel II: General Remarks*. [Online]. Available: <http://www.amf.org.ae/vEnglish/storage/other/DG%20ADVISOR%20FFICE/BANKS%20AUDITING%20PUBLICATIONS/Basel%20II%20General%20Remarks.pdf#search=%22Basel%20II%3A%20General%20Remarks%22>
- [4] J. Černohorský, "Transformace bankovního sektoru," in *Proc. 3rd Annu. Conf. Economic policy in transition economies*, Ostrava, 2002. pp. 23-26.
- [5] Credit Suisse. (2004, January). *Basel II Implications for Banks and Banking Markets* [Online]. Available: <http://www.imf.org/external/np/pp/eng/2005/072205.htm>
- [6] Czech National Bank. *Banking Supervision 2005*. Praha: Česká národní banka, 2006.
- [7] H. Hannoun, (2010, February) TOWARDS A GLOBAL FINANCIAL STABILITY FRAMEWORK, guest speech, 45th SEACEN Governors' Conference Siem Reap province, Cambodia, 2010
- [8] P. Hawk, (2006 September). *Basel II Issues* [Online]. Available: www.bis.org/press/p031011.htm
- [9] S. Heffernan, *Modern Banking*, 5th edition, Wiley, 2005.
- [10] M. Mejstrik, M. Pecena, P. Teplý. *Basic Principles of Banking*. Czech Republic : Karolinum press, 2008.
- [11] D. Opiokello, (2006, September). *Basel II and its Impact on Financial Services* [Online]. Available: <http://www.bis.org/review/r060901f.pdf#search=%22%20Basel%20II%20and%20its%20Impact%20on%20Financial%20Services%22>
- [12] PricewaterhouseCoopers. (2004, August). *Study on the financial and macroeconomic consequences of the draft proposed new capital requirements for banks and investment firms in the EU* [Online]. Available: http://ec.europa.eu/internal_market/bank/regcapital/impact_en.htm
- [13] L. Tepla, "Regulatorní rámec a očekávané trendy bankovního sektoru ČR," in *Proc. 1st Annu. Conf. Currency, banking, financial markets*, Bratislava, 2003, p.111.
- [14] P. Teplý, "Regulatory Risk and Issues of Basel II in Central European Economies," presented at Massey University, Palmerston North, New Zealand, June 23, 2006.
- [15] P. Teplý, *The Truth About The 2008-2009 Crisis: A Hard Lesson for The Global Markets*. VDM Verlag, Germany, 2010
- [16] P. Teplý, K. Divis, L. Černohorská, "Implications of the New Basel Capital Accord for European Banks", *E+M Journal*, Czech Republic, 1/2007