Provisions and Enhancements Brought by Basel II Agreement

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Abstract

The article aims to present the comparison between the core approaches of Basel I and Basel II Agreements, focusing on the impact of regulations upon the management of financial assets portfolio held by banks in a globally diversified environment. It takes into account three methods (standardized, internal ratings and advanced) to estimate the minimum requirements for capitalization, in order to better respond to global financial risks exposures. The coefficients that are used to mitigate risks in balance sheets of banks need to reflect the realities of the risks in financial markets and this implies that banks will adjust to tighter prudential supervision..

Key words: Basel II Regulation, Capitalization Requirements, Internal Ratings Model, Operational Risk, Standardized Method
J.E.L. Classification: E58, F33, G21, G32, G38

1. Introduction

Following the publication of the first agreement (Basel I) in June 1999 recommending a centralized package of measures first issued in 2002 and 2004, some gaps were found in effective adaptation to the risks to which banks were exposed. As a result, on June 26, 2004 central bank governors of the G10 countries met and adopted the "Agreement for international convergence of standards and supervision for banking capitalization", known as Basel II. This agreement underpins the European legislation in the field. In the European Union, the three rules of 1988 were subsequently synthesized in the Capital Adequacy Directive (1993) and the Directive on strengthening bank capital (2000), both directives have been amended in the Directive on requirements for capitalization.

In 2003, the Governor of FED spoke about risk management as a requirement for any central banking authority and policy makers, taking into consideration that only partially, data and assessments upon financial risks are available and trustworthy :

"Indeed, given our inevitably incomplete knowledge about key structural aspects of our ever-changing economy and the sometimes asymmetric costs or benefits of particular outcomes, a central bank seeking to maximize its probability of achieving its goals is driven, I believe, to a risk-management approach to policy. By this I mean that policymakers need to consider not only the most likely future path for the economy but also the distribution of possible outcomes about that path. They then need to reach a judgment about the probabilities, costs, and benefits of the various possible outcomes under alternative choices for policy. […] In implementing a risk-management approach to policy, we must confront the fact that only a limited number of risks can be quantified with any confidence. And even these risks are generally quantifiable only if we accept the assumption that the future will replicate the past." (Greenspan, 2003, p.2, 3)

After the onset of the financial crisis and during the transitional phase from Basel I to Basel II, the Governor of FED delivered the following statements about supervision and risk management in public monetary policy. Credibility is achieved by a strong collaboration among central authorities and in a wider frame, uner the Bank for International Settlements' Basel Committee on Banking Supervision:

"Given the central role of effective, firm wide risk management in maintaining strong financial institutions, it is clear that supervisors must redouble their efforts to help organizations improve their risk-management practices. Accordingly, we have increased supervisory attention to this issue. We have focused on the institutions in most need of improvement, but we will continue to remind the stronger institutions of the need to remain vigilant, particularly in light of the ongoing fragility of market conditions.

We are also considering the need for additional or revised supervisory guidance regarding various aspects of risk management, including further emphasis on the need for an enterprise-wide perspective when assessing risk. Much of our work is being conducted in close consultation with supervisors in other countries. For example, we are working through the Basel Committee on Banking Supervision to develop enhanced guidance on the management of liquidity risks. We are also seeking to promote better disclosures by banking institutions with the goal of increasing transparency, thereby strengthening market discipline." (Bernanke, 2008, p.3)

Basel II introduced a broader approach to the estimate of capitalization in direct correspondence with the credit risk by banks. It also reduced the involvement of the central body of supervision, allowing the use by banks of techniques that were more efficient in regards of dispersion of risk. The agreement introduced a parameter about the capitalization for operational risk and brought improvements in terms of data releases and general-purpose disclosure of financial results. Basel II is a regulatory framework structured around three pillars (BCBS, 2004, p.14, 18): minimum capitalization requirements (Pillar I); the process of supervision (Pillar II) and financial market discipline (Pillar III).

In addition to the inclusion of a new category of risk, operational risk, in defining the categories of risk assets, Basel II allowed banks to use their own risk assessment to estimate the need for capitalization. For this purpose, banks may use two methods, the standardized method, based on the standardized ratings set by the supervisory authority in accordance with the gradation of risk and the Basel II, and the internal ratings method that has two approaches: the basic and advanced (BCBS, 2004, p.18, 60).

2. The "standardized method"

Standardized Method (predefined ratings) is based on the current risk weights associated to each category of balance sheet bank assets (BCBS, 2004, p.12, 44-46, 59-119). However, unlike Basel I, the new weighting scheme is more refined. Banks with better ratings will benefit from easing pressure on capitalization, while financial institutions have a new coefficient associated for investment below the recommended rating (BB-) 150% (BCBS, 2004, p.27-37, 240-243). It also allows a variation interval of + 20% (BCBS, 2004, p.73) for short-term assets, differentiated by local or foreign currency.

In "standardized method" there are provided special weighting categories: more favorable weighting of 75% for non-mortgage retail loans; 35% for mortgages on residential (down from 50% previously for loss given default indicator), although they will be weighted at 100% once they get arrears over 90 days; commercial mortgages remain at 100% weighting (150% for delays +90), but with the approval of the central bank they may apply 50%; loans of up to 1 mil. EUR to small and medium enterprises are treated as retail loans; overdue loans over 90 days will be weighted at 150% when the provisions do not exceed 20% of the amount of amortized 100% if provisions are between 20-50% and 50% with the approval of the central authority; securities holdings in the banking capital of other financial companies, holdings explicitly not excluded by the agreement, are weighted by 100%, provided they do not represent more than 10% of capitalization; minority investments in other financial or commercial entities are excluded from equity and holdings of these assets are weighted at 100%; portfolio investments in financial assets are weighted at 100%; Off-balance sheet assets are converted into equivalent exposure through credit conversion factors script. These values have the following conversion factors: commitments under 1 year 20%, commitments over 1 year 50%, pledging own shares or 100% guarantee, letters of guarantee in the short term 20%. (BCBS, 2004, p.191-251 and also American Banking Association, 2009, p.1-2)..

3. The "internal ratings method"

Internal ratings method allowed banks to quantify certain key elements needed to calculate the minimum capitalization needed. As a result, the minimum capital is determined by a combination of specific quantitative data provided by banks and / or central banking authorities. To apply this method, banks must meet certain compliance requirements of IT systems, publishing data and determining ratings. By this method, the minimum capitalization requirements are based on the distribution of losses due to non-payment at maturity of loans or similar instruments (BCBS, 2004, p.48-112).

The time horizon for assessing the risk of default is set at 1 year, with a margin of error of 0.10% and covers only unexpected losses not covered by provisions (BCBS, 2004, p.197). By this method, the calculation of minimum capitalization required to cover the risk of insolvency bank is considering six elements: probability of default is the estimate of the default risk associated with assets held for a time, 1 year; loss-given default, i.e. the percentage of actual loss refers to the percentage of the total losses from the default risk exposures; exposure to default risk is anticipated exposure to the possibility of default at maturity of the payment obligations; The average term to maturity of loans; correlation coefficient with systemic risk (beta) is estimating the probability that two individual claims are not settled at maturity due to common occurrence; determination of the relationship between capitalization and weighted assets (BCBS, 2006, p.52).

The method of internal ratings takes into account the probability of default as a factor only for domestic banks, while the advanced method takes into account the internal factors and the percentage of actual loss with exposure to risk of default. Thus, depending on the specific method, domestic banks can obtain different results in capital structure, although overall they comply with the 8% (BCBS, 2004, p.24-25). To determine exposure to risk weighted assets using the advanced internal ratings method and the balance sheet approach, both market comparison approach and the ratio potential net loss / exposure to default risk (in which the Bank uses its own econometric models) can be considered. Basel II also states the application of a factor of 300% for publicly traded assets and of 400% for assets traded.

A study examined the impact of applying the method of the internal ratings by 365 international banks from 43 countries, divided into two categories: above and below $ 3 billion in equity. The study revealed that capitalization requirements remained basically unchanged for major international banks. For smaller banks, locally oriented, minimum capitalization levels could decrease, but this aspect depends on the structure of financial asset portfolio. For European countries, minimum capitalization decreases by 5%. Depending on the method of weighting, the level of capitalization may be (Basel II compared with Basel I) with 11% higher in the standardized method, 3% higher by the basic method of internal ratings and 2% lower by the advanced method internal ratings (BCBS, 2003, p.1-33).

4. The "operational risk"

Operational risk is a new category of risk, and bank capitalization requirements are calculated three ways. First, indexing: taking into account 15% of average annual gross income over the last 3 years. Second, standardizing: taking in account the average gross income for the last three years decomposed by 8 business lines and each of the eight segments is multiplied by a risk factor. Third, advanced approach: depending on operational risk management system specific to that bank, considering data on losses, the scenario analyzes and internal and external factors that influence the current banking activity**.**

5. The criticism in review

The impact of Basel II can be regarded on the following lines: the impact on the level of capitalization, the impact on the bond market and the impact on country risk. The impact on the level of capitalization of banks is difficult to estimate, given that banks hold mixes of financial portfolios and the majority applies based on systems data collection, measurement and internal risk models according to the method of advanced internal ratings, even if basic formulas are the same.

The criticism of Basel II refers to the methods used for calculating bank capital under Basel II, which is based on a bank's individual internal assessment of risk, was not able to capture the differences between individual private risks and systemic risks. The internal quantitative modelling techniques used by banks are also very complex and opaque so that the use of internal models may lead to conflicts of interest. Credit ratings agencies have also come under heavy criticism as a result of the subprime mortgage crisis, for the time of response in downgrading many of these structured securities. In addition, the focus of the framework lies on credit origination. Most of the problems in the financial crisis, however, have been related to the trading books of banks and derivative instruments or structured products. Despite the disclosure provisions of Pillar 3 in the Basel II framework, the sub-prime crisis was augmented by lack of information. While the disclosure requirements offered information to investors and regulators relating to a bank's capital base, these regulations were not able to highlight the systemic effects of the crisis (JP Morgan, 2009, p.3).

The implementation of Basel II no later than 2009 coincided with massive losses reported by some of the world's largest banks, requiring large-scale recapitalizations. The risk models that anchor Basel II are basically the same as the ones many of these banks have been using in recent years. Sheila Bair, at that time chairman of the Federal Deposit Insurance Corporation in the US, noted that these models had important weaknesses which, in the light of the financial markets turmoil, signaled for prudence (Financial Times, 2008, p.1).

6. Conclusions

The main components of Basel II are based on capitalization and risk weighted asset portfolios depending on the structure. Due to the complexity, international banks have adopted the advanced internal ratings method of risk weighting of exposures by coefficients. These coefficients are determined by each bank through econometric modeling techniques and risk dispersion. Although the formulas are identical calculation results differ from these reasons from bank to bank, and reach different capitalization requirements for the same asset class.

Equity retains 8% (same level as in Basel I) but it changes its internal structure (under Basel II). The expectation for long-term portfolios of banks with A-class rating is to apply techniques of active management and risk dispersion to benefit from lower capitalization requirements to manage diversified financial assets portfolios.

According to Basel Committee on Banking Supervision, minimum capital requirements for the banking system should not change by comparison to Basel I (Nomura, 2005, p.11). Rather, the main purpose of Basel II is to ensure better alignment of capital requirements with the underlying risk of their portfolios. Under Basel II rules, banks are therefore, expected to redistribute capital according to risk profiles and business activities.

The International Monetary Fund involved actively to strengthen the financial sector infrastructure, the core supervisory functions in line with the BCP and risk-based supervision, as well as to determine conditions allowing for the exercise of market discipline. These are essential prerequisites for countries seeking to adopt the Basel II framework. In addition, it provided assistance to host countries wishing to strengthen their supervision. It took a neutral position with regard to the question of whether host supervisors should permit foreign banks in their countries to operate under Basel II (particularly the advanced approaches), while domestic banks remain under Basel I. Host supervisors, however, should retain responsibility for the supervision of all banks operating under their jurisdiction. Finally, it allocated resources to continue to upgrade staff knowledge of all aspects of Basel II, through job assignments to supervisory agencies, through internal and external training of existing staff and through hiring staff familiar with Basel II (IMF, 2005, p.9).

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