Document prepared by
Elona Bollano, SPI Director for Analytics and Policy

Note
On
The European Experience with the Capital Adequacy Framework

Content

Summary

In the international level the Basel Committee on Banking Supervision has a mandate to secure international convergence of supervisory regulations governing the capital adequacy of international banks. The revised framework on Capital Accord Basel II is a more comprehensive and extensive compared to Basel I. This framework describes more exhaustive measures and minimum standards for capital adequacy.

At the European level, the European Commission in 2006 issued two directives on capital requirements for credit institutions.

On credit risk, banks can choose between two broad methodologies for calculating their capital requirements for credit risk, the Standardized Approach and the Internal Ratings-based Approach; and on operational risk banks have a choice among three broad methodologies for calculating their capital requirements for operational risk: (i) the Basic Indicator Approach, (ii) the Standardized Approach and (iii) Advanced Measurement Approaches (AMA). Banks are requested to move along this spectrum ranging from simple to more complex and more risk-sensitive approaches and further develop their models for measuring and controlling operational risks.

SPI Albania Secretariat
Mrs. Anuela Ristani, Director of Operations, anuela.ristani@spi-albania.eu
Ms. Elona Bollano, Director of Analytics and Policy, elona.bollano@spi-albania.eu
Address: Twin Tower I, Kati 6, Apt. A3. Tirana, Albania. Tel. +355 42 280 359; Fax. + 355 42 280 371

European countries have followed different approaches in transposing the capital requirement directive in their banking regulatory framework. In some countries the National Supervision Authority has amended the banking legal framework related to capital requirements to reflect the capital adequacy principles and requirements. As alternative, other countries have included all the changes brought by the new directive on capital adequacy in one single document.

I. International and European Initiatives on Capital Requirements for Credit Institutions

I.1. Initiatives of the Basel Committee on Banking Supervision regarding capital adequacy for credit institutions

Basel Committee on Banking Supervision[1] has been working for a long period of time to secure international convergence of supervisory regulations governing the capital adequacy of international banks.

In the early format of the capital framework, Basel I set out the details of the agreed framework for measuring capital adequacy and the minimum standard to be achieved when the national supervisory authorities represented in the Committee implemented capital requirements in their respective countries.

Anyhow, the framework on capital adequacy has evolved since its conception. The revised framework in the New Capital Accord Basel II is more comprehensive and extensive compared to Basel I. The new framework describes more exhaustive measures and minimum standards for capital adequacy. It seeks to improve on the existing rules by aligning the regulatory capital requirements more closely to the underlying risks that banks are facing. In addition, it intends to promote a more forward-looking approach to capital supervision, one that encourages banks to identify the risks they may face, today and in the future, and to develop or improve their ability to manage those risks. As a result, the capital regulatory framework is more flexible and better able to evolve with advances in markets and risk management practices.

Basel II lays in a three pillar structure:

[1] At the international level the Bank for International Settlement (BIS) has a mandate to foster international monetary and financial cooperation and serves as a bank for central banks. One of the key objectives of BIS is to promote monetary and financial stability. To pursue this objective the Basel Committee on Banking Supervision is established. The Basel Committee on Banking Supervision provides a forum for regular cooperation on banking supervisory matters, with objective to enhance understanding of key supervisory issues and to improve the quality of banking supervision worldwide. It seeks to do so by exchanging information on national supervisory issues, approaches and techniques, with a view to promoting common understanding. At times, the Committee uses this common understanding to develop guidelines and supervisory standards in areas where they are considered desirable.

- The **First Pillar** on the minimum capital requirements provides the methodologies to calculate the minimum capital requirements for credit risk, operation risk and market risk;

- The **Second Pillar** on supervisory review process provides the key principles of supervisory review, risk management guidance and supervisory transparency and accountability produced by the Committee with respect to banking risks, including guidance relating to, among other things, the treatment of interest rate risk in the banking book, credit risk (stress testing, definition of default, residual risk, and credit concentration risk), operational risk, enhanced cross-border communication and cooperation, and securitization;

- The **Third Pillar** on market discipline complements the minimum capital requirements (Pillar 1) and the supervisory review process (Pillar 2). The Committee aims to encourage market discipline by developing a set of disclosure requirements which will allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes, and hence the capital adequacy of the institution. The Committee believes that such disclosures have particular relevance under the Framework, where reliance on internal methodologies gives banks more discretion in assessing capital requirements.

It is critical that the minimum capital requirements of the first pillar be accompanied by a robust implementation of the second, including efforts by banks to assess their capital adequacy and by supervisors to review such assessments. In addition, the disclosures provided under the third pillar of this Framework will be essential in ensuring that market discipline is an effective complement to the other two pillars.

I.2. Initiative of the European Commission regarding capital adequacy for credit institutions

Enhancing the single market in financial services in European Union has been a crucial part of the Lisbon Strategy for Growth and Jobs and essential for the EU's international competitiveness.
The Financial Services Action Plan 1999-2005 (FSAP) aimed at reinforcing the foundations for a strong financial market in the EU by pursuing three strategic objectives:
– ensuring a Single Market for wholesale financial services;
– open and secure retail markets and
– state-of-the-art prudential rules and supervision.

Together with other measures of the plan, a review of the legislation governing the capital framework for credit institutions (banks) and investment firms was undertaken in order to align it with market developments and work of the G-10 Basel Committee on Banking Supervision. Basel II framework was reflected in the EU as a new capital requirements framework that was adopted in June 2006 as the Capital Requirements Directive (CRD) this comprises Directives 2006/48/EC[2] and 2006/49/EC[3].

[2] Directive 2006/48/EC relating to the taking up and pursuit of the business of credit institutions.

The CRD lays out the so-called **three-pillar** structure:

- **Pillar 1** covers the capital required for ***credit risk***, ***operational risk*** and ***market risk***; the minimum capital requirements became much more risk-sensitive and comprehensive than in the past, facilitating better coverage of the real risks run by a credit institution;
- **Pillar 2** covers the review and evaluation of the credit institution's compliance with the requirements of the CRD by the supervisor and any resulting action; new rules include requirements for an 'internal capital assessment' by financial institutions, whereby they would need to assess their capital needs considering all the risks they face. These rules also require supervisors to evaluate institutions' overall risk profile to ensure that they hold adequate capital;
- **Pillar 3** covers the disclosure by institutions and facilitates a better understanding of the soundness and stability of financial institutions.

The new framework also enhanced the role of the 'consolidating supervisor' (the national supervisory authority in the Member State where a group's parent institution is authorized) by assigning it responsibilities and powers in coordinating the supervision of cross-border.

II. Credit and operational risk approaches

II.1. Credit risk approaches

The Committee permits banks a choice between two broad methodologies for calculating their capital requirements for credit risk, the Standardized Approach and the Internal Ratings-based Approach.

In the **Standardized Approach**, credit risk is measured in a standardized manner, supported by external credit assessments. In determining the risk weights in the standardized approach, banks may use assessments by external credit assessment institutions recognized as eligible for capital purposes. It is the responsibility of the national supervisors to determine whether an external credit assessment institution (ECAI) meets the defined requirements / criteria. Exposures should be risk-weighted net of specific provisions.

The alternative methodology is the **Internal Ratings-based Approach.** This methodology is subject to the explicit approval of the bank's supervisor and would allow banks to use their internal rating systems for credit risk.
The risk components include measures of the probability of default (PD), loss given default (LGD), the exposure at default (EAD), and effective maturity (M). In some cases, banks may be required to use a supervisory value as opposed to an internal estimate for one or more of the risk components.

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[3] Directive 2006/49/EC on the capital adequacy of investment firms and credit institutions.

The IRB approach is based on measures of unexpected losses (UL) and expected losses (EL). The risk-weight functions produce capital requirements for the UL portion.

II.2. Operational risk approaches

Basel Committee introduced the operational risk in 2001 and created the ground for taking into account this risk category in the requirements for risk management and capital adequacy.

Definition of the operational risk

Basel Committee defines operational risk as *"…the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk, but excludes strategic and reputational risk."* EU Directive [2006/48/EC] provides the same definition.

Operational risks exist as a company is using employees and/or systems in processes or is subject to external impacts and, therefore, they emerge long before credit or market risks. By its nature, operational risk is characterized:

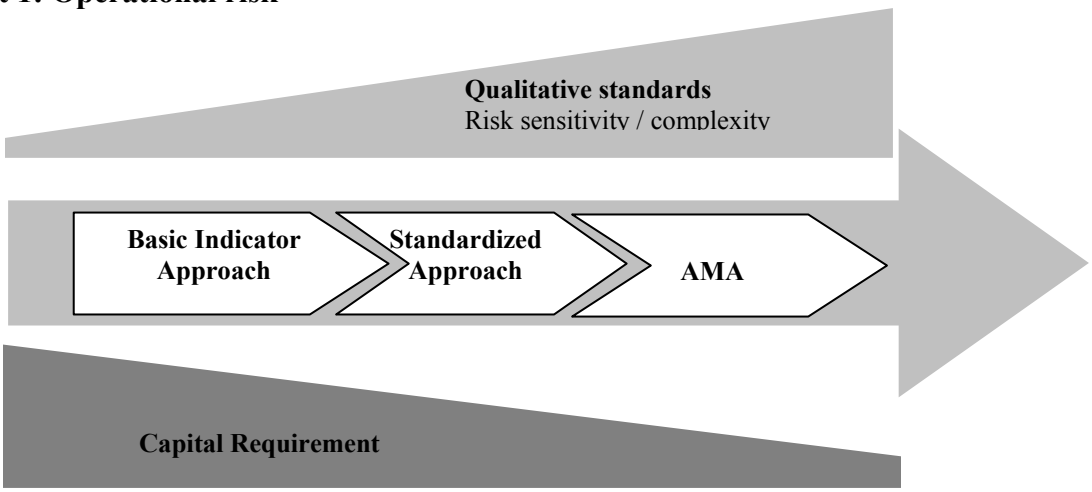
- as inherent to business, i.e. inseparably linked with almost all business activities;
- as specific, i.e. its precise form and, therefore, all measures to control and mitigate it strongly depend on the specific company profile; and
- as a cultural risk, because the handling of so varied and networked risks, summarized under the heading of operational risk, is a question of a company's risk culture, i.e. its approach and practices in treating risks especially in day-to-day business.

There are major conceptual differences to credit and market risks:

- Operational risk does not involve a clear relation between risk and income, i.e. higher operational risks, as a rule, do not lead to better income prospects;
- In contrast to other banking risks, a major part of operational risk is fully located inside financial institutions and it is understandable – for competition reasons alone – that banks take care not to draw attention to their own weaknesses. On one hand, this results in a lack of event data for building an appropriately broad statistical database, which may be further aggravated by a generally bad database for certain loss event types in specific business lines. On the other hand, loss events of one bank are not necessarily transferable to other banks – due to differences in business activities, practices or internal control;
- In the case of credit and market risks, risk factors, i.e. determining circumstances, and risk potentials, i.e. existing exposures, can be better differentiated due to the generally deliberate acceptance of risks. It is relatively easy to measure and, thus, control the latter risks, while it is much more difficult to establish a link between risk factors and the probability/severity of losses for operational risk;
- Very high operational losses potentially threatening the stability of a credit institution are relatively infrequent.

The Basel Committee permits banks a choice between three broad methodologies for calculating their capital requirements for operational risk: (i) the Basic Indicator Approach, (ii) the Standardized Approach and (iii) Advanced Measurement Approaches (AMA).
These methods strongly differ with regard to their complexity and risk sensitivity and form the basis of calculating the capital requirements for operational risks. Banks are requested to move along this spectrum ranging from simple to more complex and more risk-sensitive approaches and further develop their models for measuring and controlling operational risks. In this sense, the different approaches follow an evolutionary design (Austrian National Bank, 2006).

Chart 1: Operational risk



III. Capital adequacy according to the simplified standardized approach

In the Simplified Standardized Approach the Basel Committee suggests for the credit risk to be applied **a set of general rules for risk weights** and for operational risk to be applied the **basic indicator approach**.

III.1. Credit Risk

The credit risk framework comprises:

a. Credit risk ─ general rules for risk weights

In order to calculate capital requirements for credit risk the Committee has classified the claims for the public and private institutions and on-balance sheet items and off-balance sheet items. Each group of claims is weighted with a predefined risk weight.

b. Credit risk mitigation

Banks use a number of techniques to mitigate the credit risks to which they are exposed. Exposure may be collateralized in whole or in part with cash or securities, or a loan exposure may be guaranteed by a third party.
Where these various techniques meet the operational requirements below credit risk mitigation (CRM) may be recognized.
The Committee has defined the framework that is applicable to the banking book exposures under the simplified standardized approach.
The use of CRM techniques reduces or transfers credit risk, but it simultaneously may increase other risks to the bank, such as legal, operational, liquidity and market risks. Therefore, it is imperative that banks employ robust procedures and processes to control these risks, including strategy; consideration of the underlying credit; valuation; policies and procedures; systems; control of roll-off risks; and management of concentration risk arising from the bank's use of CRM techniques and its interaction with the bank's overall credit risk profile.

c. Credit risk — Securitization framework

A traditional securitization is a structure where the cash flow from an underlying pool of exposures is used to service at least two different stratified risk positions or tranches reflecting different degrees of credit risk. Payments to the investors depend upon the performance of the specified underlying exposures, as opposed to being derived from an obligation of the entity originating those exposures. The stratified/tranched structures that characterize securitizations differ from ordinary senior/subordinated debt instruments in that junior securitization tranches can absorb losses without interrupting contractual payments to more senior tranches, whereas subordination in a senior/subordinated debt structure is a matter of priority of rights to the proceeds of a liquidation.
Banks' exposures to securitization are referred to as "securitization exposures".
When the simplified standardized approach to credit risk is used, banks are permitted to use a **simplified version of the standardized approach** under the securitization framework
The standard risk weight for securitization exposures for an investing bank will be 100%.
For first loss positions acquired, deduction from capital will be required. The deduction will be taken 50% from Tier 1 and 50% from Tier 2 capital.

III.2. Operational Risk – Basic indicator approach

The basic indicator approach (BIA) is considered the simplest method of calculating the regulatory capital requirements for a bank's operational risk.

Basel II principles on Basic Indicator Approach
According to Basel Committee banks using the Basic Indicator Approach must hold capital for operational risk equal to a fixed percentage (denoted alpha) of the average

positive annual gross income[4] over the previous three years. In calculating the average value, the figures for any year in which annual gross income is negative or zero should be excluded from both the numerator and denominator. The charge may be expressed as follows:

$$K_{BIA} = [\Sigma (GI_{1\ldots n} * \alpha] / n$$

where:

K_{BIA} the bank's capital requirement under BIA,
GI annual gross income, where positive, over the previous three years,
N number of the previous three years for which gross income is positive,
α 15%, which is set by the Committee, relating the industry wide level of required capital to the industry wide level of the indicator.

Gross income is defined as net interest income plus net non-interest income[5]. It is intended that this measure should:
(i) be gross of any provisions (e.g. for unpaid interest);
(ii) be gross of operating expenses, including fees paid to outsourcing service providers;[6]
(iii) exclude realized profits/losses from the sale of securities in the banking book;[7] and
(iv) exclude extraordinary or irregular items as well as income derived from insurance.

European Commission - EU Directive [2006/48/EC] provisions on basic indicator approach

Under the BIA, the capital requirement for operational risk is equal to 15% of the indicator defined as follows:
- The relevant indicator is the average over three years of the sum of net interest income and net non-interest income;
- The three-year average is calculated on the basis of the last three twelve-monthly observations at the end of the financial year. When audited figures are not available, business estimates may be used;
- If for any given observation, the sum of net interest income and net non-interest income is negative or equal to zero, this figure shall not be taken into account in the calculation of the three-year average. The relevant indicator shall be calculated as the sum of positive figures divided by the number of years with positive figures.

Based on the accounting categories for the profit and loss account of credit institutions (under Article 27 of Directive 86/635/EEC), the **relevant indicator** shall be expressed as

[4] The simplified standardised approach for operational risk is the Basic Indicator Approach under which banks must hold capital equal to a fixed percentage (15%) of average annual gross income, where positive, over the previous three years.
[5] As defined by national supervisors and/or national accounting standards.
[6] In contrast to fees paid for services that are outsourced, fees received by banks that provide outsourcing services shall be included in the definition of gross income.
[7] Realized profits/losses from securities classified as "held to maturity" and "available for sale", which typically constitute items of the banking book (e.g. under certain accounting standards), are also excluded from the definition of gross income.

the sum of the elements from 1 to 7(with their positive or negative sings) as presented below:

1. Interest receivable and similar income;
2. Interest payable and similar charges;
3. Income from shares and other variable/fixed-yield securities;
4. Commissions and fees receivable;
5. Commissions and fees payable;
6. Net profit or net loss on financial operations;
7. Other operating income.

The above stated elements may need to be adjusted in order to reflect these qualifications:

i) The indicator shall be calculated before the deduction of any provisions and operating expenses.

Operating expenses shall include fees paid for outsourcing services rendered by third parties which are not a parent or subsidiary of the credit institution or a subsidiary of a parent which is also the parent of the credit institution.
Expenditure with the outsourcing of services rendered by third parties may reduce the relevant indicator if the expenditure is incurred from an undertaking subject to supervision under, or equivalent to, this Directive.

ii) The following elements shall not be used in the calculation of the indicator:
- realized profits/losses from the sale of non-trading book items,
- income from extraordinary or irregular items, and
- income derived from insurance.

IV. Possible implementation regulatory options – The Polish and the Romanian cases

Regarding the transposition of the EU Capital Requirements Directive, EU member states have followed different patterns in revising their regulatory framework. In some countries (e.g. Romania illustrated bellow), the supervisory authorities for banking and for securities have amended the entire legal framework (banking law, regulations, and orders), in cascade, in order to reflect the capital adequacy principles and requirements.

Another group of countries have included all the changes brought by the new directive on capital adequacy in one single document. Poland is one of the countries that have issued a single document on the capital requirements against particular risks and the detailed principles to be applied in determining those requirements, in a very comprehensive resolution on capital.

Illustration – Transposition of the EU Capital Requirement Directive in the banking regulatory framework in Romania

The regulatory framework on capital adequacy comprises the following banking law, regulations and orders:

- *Government Emergency Ordinance no. 99/2006 on credit institutions and the capital adequacy, approved and completed by Law no. 227/2007*
- *NBR and NSC Regulation no. 13/18/2006 on determining the minimum capital requirements for credit institutions and investment companies*
- *NBR and NSC Regulation no. 14/19/2006 on the credit risk treatment for credit institutions and investment companies according to the standard approach*
- *NBR and NSC Regulation no.15/20/2006 on the treatment of the credit risk for credit institutions and investment companies according to internal rating models approach*
- *NBR and NSC Regulation no. 21/26/2006 on the treatment of the credit risk attached to the securitized exposures and to the positions from securitization*
- *NBR and NSC Regulation no. 22/ 27/ 2006 on the capital adequacy of the credit institutions and investment companies*
- *NBR and NSC Regulation no. 23/28/2006 on the technical criteria for risk treatment and on the technical criteria used by competent authorities for its verification and evaluation*
- *NBR and NSC Regulation no. 24/29/2006 on determining the minimum capital requirements for credit institutions and investment companies for the operational risk*
- *NBR Order no. 9/2007 on credit institutions reporting on the capital adequacy situation at individual level*
- *NBR Order no. 12/2007 on the reporting of the minimum capital requirement for credit institutions*
- *NBR Regulation no. 5/2008 on approving the utilization of the standard approach or of the alternative standard approach for the operational risk*

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