

Property Finance: An International Approach

Giacomo Morri – Antonio Mazza



Basel Accords and Effects on RE Financing

Chapter 8



Agenda

8.1 Rationale of Basel accords

8.2 Basel II

8.3 Basel III

8.4 The Basel accords and Real Estate Financing

8.5 Standardized approach for credit risk calculation

8.6 IRB Foundation and IRB Advanced Methodology for credit risk calculation



8.1 Rationale of Basel accords

Basel Accords

The goal of Basel accords is to ensure **stability** within the banking system, which is directly linked to the overall stability of the whole economic system.

The idea on which these accords are based is that the **risk** taken on by a bank should be adequately **covered by its supervisory capital**. As a consequence the greater the risk involved in operations carried on by a bank, the larger the capital the bank will be required to set aside.

Basel I accord has been stipulated in 1988, Basel II came in 2004 and the actual Basel III accord has been approved between 2010 and 2011.



8.2 Basel II

Basel II Accord

Consists of **three pillars**:

1. minimum capital requirements
2. supervisory review of capital adequacy
3. public disclosure

The first pillar, in particular, has a direct consequence on the cost of the credit facilities and on the procedure for handling the credit facilities.

Basel II – Pillar 1 is based on the following **capital ratio**:

$$\frac{\text{Amount of capital available to bank}}{\text{Risk weighted assets of the bank}}$$

The above ratio is required to be at least 8%. The calculation of Risk Weighted Assets (RWAs) covers only credit risk and market risk. Basel II introduced **three distinct options for the calculation of credit risk**: the standardized approach, the IRB Foundation methodology and the IRB Advanced methodology.



8.3 Basel III

Basel III Accord

The reform addresses both **bank-level regulation** in order to increase the resilience of individual banks institutions to periods of stress, as well as **system wide risks** that can build up across the banking sector.

Basel III will **strengthen capital requirements for banks**: common equity is required to be 4.5% of RWA (2% in Basel II) and minimum compulsory level of Tier I Capital is 6% of RWA (4% in Basel II).

Basel III also introduces:

- additional capital buffers
- a minimum 3% leverage ratio
- two required liquidity ratios:
 1. Liquidity Covered Ratio
 2. Net Stable Funding Ratio



8.4 The Basel accords and RE Financing

Banks' equity capital may be seen as extra liquidity aimed to protect a bank against unexpected unfavorable events.

The “lending policy” of a bank should require the return on loans to be commensurate with the level of risk of the transaction being financed.

According to the rules introduced by the Basel Committee **the credit risk of financing operations**, including structured real estate operations, may be **assessed** by a bank **in three different ways**:

1. *Standardized Approach*
2. *IRB Foundation methodology*
3. *IRB Advanced methodology*



8.5 Standardized approach (1 / 2)

The calculation of credit risk using the Standardized Approach

The standardized approach requires banks to **divide their credit exposures into supervisory categories** (based on the typology of each exposure) and to insert **fixed risk weights corresponding to each supervisory category**.

The risk weights for sovereign, interbank and corporate exposures are differentiated based on **external credit assessments**.

The **risk weights for residential mortgage exposures (35%)** have been reduced with respect to previous agreements; **corporate exposures** instead maintain **higher weights (100%)** since commercial property lending has been a recurring cause of troubled assets in the banking industry over past years.



8.5 Standardized approach (2 / 2)

Advantages ✓

Drawbacks ✗

no need for the bank to have a structure to identify the risk of the operations since it uses external assessment and standardized weighted coefficients	very prudential risk weighted coefficients require the bank to set aside significant amounts of capital (generally higher than those required by other methods)
transparent and easy to be explained	relations between the bank and the borrower are not considered

8.6 IRB Foundation and IRB Advanced Methodology (1 / 2)

The calculation of credit risk using IRB Foundation and IRB Advanced Methodology

The methodology is based on an **internal assessment** of the debtors' risk which results in the allocation of an internal bank rating. The rating system should be focused on the evaluation of:

- *creditworthiness of a borrower*
- *level of risk of individual credit transactions*

The internal rating system is an assessment, in relation to a given period of time, which is made on the basis of all reasonably available information (both quantitative and qualitative ones) and it is expressed by a classification, on an ordinal scale, of the **capacity of a current or potential borrower to honor its contractual commitments**.

The IRB approach consists of 4 quantitative inputs:

1. *Probability of Default (PD)*
2. *Loss given Default (LGD)*
3. *Exposure at default (EAD)*
4. *Maturity (M)*

Given a value for each of these inputs, the IRB risk weight function produces a specific capital requirement for each exposure.



8.6 IRB Foundation and IRB Advanced Methodology (2 / 2)

The foundation and advanced IRB approaches **differ primarily in terms of the inputs** provided by the bank based on its own calculations and those provided by the supervisor.

	Foundation IRB	Advanced IRB
Probability of default	Provided by the bank based on own estimates	Provided by the bank based on own estimates
Loss given default	Supervisory values set by the Committee	Provided by the bank based on own estimates
Exposure at default	Supervisory values set by the Committee	Provided by the bank based on own estimates
Maturity	Supervisory values set by the Committee or At national discretion, provided by the bank based on own estimates (with an allowance to exclude certain exposures)	Provided by the bank based on own estimates (with an allowance to exclude certain exposures)





Contacts

Giacomo Morri, *PhD*



Senior Professor Accounting, Control, Corporate Finance & Real Estate Department

SDA Bocconi School of Management Milano – Italy

giacomo.morri@sdabocconi.it

Antonio Mazza

Visiting Lecturer

SDA Bocconi School of Management Milano – Italy

General Manager Aareal Bank AG – Hub Italy

antonio.mazza@aareal-bank.com

www.sdabocconi.it/realestate

www.morri-mazza.com