Università degli studi di Roma Tor Vergata
Dottorato di ricerca in Banca e Finanza

MANAGING CORPORATE CREDIT RISK : IRB APPROACHES AND FACTORS INFLUENCING LGD

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Aim of the workshop

- Exploring some of the different methods for corporate credit risk management.
- Understanding the general features of the method presented.
- Identify different problematics related to the topic.
- End up at the end of the academic year with clear research issues to treat during the PhD program.

Contents

1. The New Basel Accord : What are the features of the Internal Rating Based Approach?
2. What are the factors influencing the Loss Given Default?
3. Possible Research Areas

Part 1.

BASEL II : INTRODUCTION TO THE IRB APPROACH

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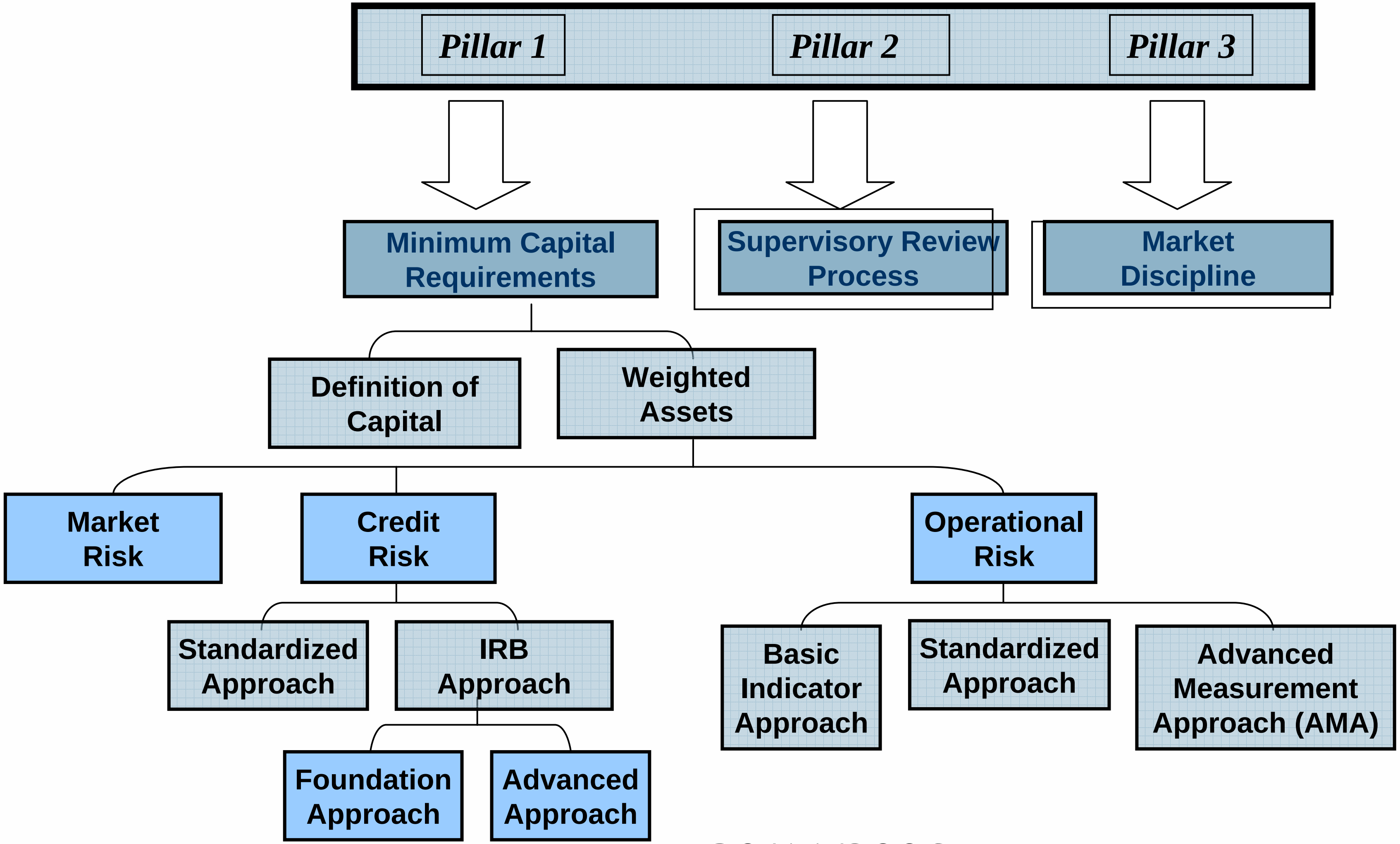
Introduction

- Credit Risk : the worst expected loss that an existing portfolio might incur until all the assets in it mature. (Kenji Nishiguchi 1998)
- BASEL II implementation by the end of 2006.
- Pillar I covers capital requirement for market, credit and operational risk.
- Under Pillar I banks should use “more risk sensitive methods for calculating credit risk capital requirements”.

Structure of Basel II



Risk components

Risk Weighted Assets (RWA) are a function of the following variables :

PD	Probability of default of a **borrower** over the next 12 months
LGD	Estimated loss on an **exposure** assuming default *under economic downturn conditions*
EAD	Exposure at default (as an amount) Credit balance at the time when default occurs
M	Maturity in years

Risk Measurement

RISK = PD x LGD x EAD

Choices Given To Banks To Address Credit Risk

The bank should adopt one of these approaches:

- Standardized approach
- Internal Ratings Based approach : the IRB approach.

Standaridized Approach

Briefly:

- Banks may assign risk weights based on external credit rating agency ratings of borrowers (e.g.: loans and commitments)

Ratings take into account credit quality and maturity

what about small borrowers? ➢ not rated.

IRB Approach

- The bank must assign internal ratings and probability of default at the single counterpart level.
- For each exposure class, IRB provides a single framework by which a given set of risk components (parameters) are translated into minimum capital requirements.

The IRB approach presents two variants:

1. The Foundation appraoch
2. The Advanced approach.

1. FOUNDATION APPROACH

- PD
  - Estimated by banks and assigned internally.
  - Subject to supervisory review (Pillar2).
- LGD, EAD, and M determined by supervisory rules.

2. Advanced Approach

- All four parameters are determined by the bank and are subject to supervisory review.
- These estimations may be subject to supervisory floors in some cases.

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Part 2.

Determinant Factors Influencing The Lgd

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Definition of default

- A loan is placed on non-accrual.
- A charge-off has already occurred.
- The obligor is more than 90 days past due.
- The obligor has filed bankruptcy.

When default occurs

Loss Given Default includes:

- The loss of principal.
- The carrying costs of non-performing loans (interest income foregone).
- Workout expenses (collections, legal, etc.)

Measurement of LGD

Three ways of measurement have been identified in literature:

1. *Market LGD* : observed from market prices of defaulted bonds or marketable loans soon after the actual default event (*LGD* as 100% minus the recovery rate)
2. *Workout LGD* : set of estimated cash flows (discounted) resulting from the workout and/or collections process, properly discounted, and the estimated exposure
3. *Implied Market LGD* : derived from risky (but not defaulted) bond prices using a theoretical asset pricing model.

Factors influencing LGD

- Main factors identified in literature include:
- **Place in the capital structure**: debt type and seniority grade.
- **Presence and quality of collateral**.
- **Industry**: moving average of industry recoveries and banking industry indicator.
- **Macroeconomic factor**: Business cycle (...recoveries in recessions are lower, than during expansions… Frye (2000)).

Conclusions

- Banks moving from a determined LGD (by supervisory rules) to their own LGD estimation (Advanced IRB approach) will have to know more about that component.
- Banks have to permanently assess the impact of factors affecting the LGD (for instance a variation in PD over economic cycles, increases the sensitivity of bank's LGD in the advanced IRB approach (Altman2002)).
- Industry models for LGD estimation such as LossCalc™ from Moody's KMV use most of the factors enumerated.

Possible research areas

- To which extend are European banks ready for the use of the advanced IRB approach and what are the main barriers to its implementation?
- Risk evaluation study of Micro-Credit financial institutions ⇨ To which extend can BASEL II BE implemented and which approach would be appropriate ?

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Comments?

Suggestions ?

THANK YOU FOR YOUR ATTENTION