The Internal Ratings Based Approach for Capital Adequacy Determination: Empirical Evidence from Sweden

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The authors

- constructed and estimated a credit risk model;
- determined the main factors having high predictive power for failure of loans/firms;
- used the model to examine several aspects of the IRB approach.

Which data?

- Panel data of one bank's loans: internal credit ratings and other loan specific variables
- Credit bureau data: balance sheet and income statement variables
- Macro data

Remarks:

- Data set is extremely useful as it contains detailed information on a bank's portfolio.
- Statistical results should be robust, because of the size of the data set.
- Macro data are very interesting because of the high degree of variation.

The credit risk model

- estimates probabilities of default for counterparts of the bank’s corporate sector portfolio,
- is a specification of a duration model.

Remarks:

- Duration model suitable for the paper’s purpose because it not only estimates PD for a given time interval but also captures duration.

But:

- For duration models, default should be an absorbing state. In the model default is defined as migration of the firm into lowest risk class (15).
- 50 % of firms obtain higher ratings one period after being rated 15.

Main findings of the estimation

- Very weak duration dependence.
- Higher PD for short-term than for long term credit.
- Mixed evidence on accounting data: but good predictions if remarks data of the credit bureau are excluded.

Main findings (cont'd)

- Macro variables are significant and have the expected signs.
- Among macro variables current economic activity seems most important.

Remarks

- Duration function not monotonic. But then: How to interpret the signs of the coefficients?
- Weak duration dependence possibly due to inclusion of both short and long term loans. Try estimation for separate classes of loans
- Term of credit is a decision variable of the bank. Short term credit may be the result, not the cause of high risk.

Remarks (cont'd)

- Is there strong co-linearity between macro variables and accounting data?
- Dependence on macro data very important -> Pro-cyclical effect? How strong?

The bank’s internal ratings

- PD’s for each risk class not stable over time.
- Capital charges under IRB approach sufficient to protect against VaR at 99 %.
- Time pattern of IRB capital charges parallels VaR.

Remarks:

- Definition of risk classes seem to reflect a through-the-cycle approach.
- Under IRBA definition of default refers to a 1 Y period. Authors seem to use different notion.
- If capital charges are in parallel with VaR of risk model: evidence for a dominant single risk factor?