

CREDIT RISK STUDY
OF
PRIVATE PLACEMENT BONDS AND COMMERCIAL MORTGAGE LOANS

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EXECUTIVE SUMMARY

The Society of Actuaries initiated a study of the credit risk of private placement bonds and commercial mortgage loans which represent about 45 percent of the assets of the life insurance industry. This pilot effort was undertaken to determine the feasibility of such a study on a regular basis. The pilot study started at year end 1985 and carried through to the end of 1989. Sufficient company participation and data collection occurred to provide a sound basis for analyses. Computer systems have been created to handle the data processing of the exposure base, detailed information on each asset in a portfolio.

A credit event, defined as any change from the originally contracted to cash flows, is identified and details on the original cash flows, revised cash flows and event expenses are put into a LOTUS 1-2-3 spread sheet format. These cash flows are used to determine the economic loss or gain associated with a credit event. By aggregating this information from all credit events, the basis point loss of the entire portfolio can be determined.

The study has amassed about \$111 billion in commercial mortgages for year end 1989 and about \$67 billion in private placements. These dollar amounts represent roughly 20,000 mortgages and 11,000 bonds. More participation is expected for 1990 data.

The study is moving along slower than is desired, but cleaning the data is essential before reports can be issued. This research is at the cutting edge in terms of investment studies and insurance industry needs. Much of what is underway can be utilized directly by various industry-NAIC committees and task forces for asset valuation reserves, interest maintenance reserves and risk based capital research.

Qualitative factors to determine the quality or safety of a commercial mortgage need to be studied in such a way as to be able to test them empirically. As an adjunct to the Credit Risk Study, information on 13 qualitative factors plus an overall rating of a loan is beginning. The purpose of this component of the study is to investigate and test quantitatively the notion that specific factors can capture the quality of a loan. The intent is to collect data on these factors and to compare the outcomes of the rated assets. By collecting sufficient experience, the degree of confidence in this use of various qualitative factors for rating can be ascertained and a rating methodology developed. Such a methodology can be "fine-tuned" to property type and geographic location if deemed appropriate.

CREDIT RISK STUDY

SLIDE #1

"The Work of Science is to substitute facts for appearances and demonstrations for impressions."

Motto of the Society of Actuaries

SLIDE #2

Credit Risk Study

- Joint SOA-ACLI Study
- Commercial Mortgages and Private Placements
- Broad Participaiton by Companies
- 1985-1989 Pilot Historical Study
- 1990 Onward Annual Reports

SLIDE #3

Credit Risk Study

- Exposure Base
- Credit Event Files
- Economic Loss Calculation
- Basis Point Loss on Portfolio
- Special Analyses by Investment Type

SLIDE #4

Credit Risk Study

- \$111 Billion Commercial Mortgages
- \$67 Billion Private Placements
- 20,000 Commercial Mortgages
- 11,100 Private Placements

SLIDE #5

Credit Risk Study

- 30 Data Elements per Exposure
- Variable Length Fields for Credit Events
- Calculation Procedures Being Tested
- New Participants for 1990 Study

SLIDE #6

Credit Risk Study

- Calculate Economic Loss
- Provide Industry Norms
- Monitor Investments
- Establish Adequate Reserves

SLIDE #7

Quality Rating Factors

- Credit Risk Study Quantitatives
- Capture Essence of Quality
- Collect Data on Variables
- Determine Important Factors
- Develop Rating Methodology

SLIDE # 8

Quality Rating Factors

- 13 Rating Factors
- Plus Overall Rating Assignment
- Scoring: 1 to 5
- 1 to 4: Investment Grade
- 5: Below Investment Grade

SLIDE #9

Quality Rating Factors

- Debt Service Coverage
- Loan to Value
- Leasing Status/Tenancy Credit
- Metro Area Market Outlook
- Micro Market Outlook
- Appropriateness of Building to Location
- Building Function and Style

SLIDE #10

Quality Rating Factors

- Lien Position and Title
- Refinancing Risk
- Borrower Financial Strength
- Asset Management Ability
- Income Enhancements and Credit Support
- Seasoning
- Overall Rating Assignment

SLIDE #11

Quality Rating Factors

- Start with 1990 New Commitments
- Re-evaluated Loans
- Rollovers
- Annual Updates
- Integrate into Credit Risk Study