AN EMPIRICAL INVESTIGATION INTO CMBS PRICING

AND THE ROLE OF THE RATING AGENCY

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Executive Summary

The commercial mortgage-backed security (CMBS) is a recent financial innovation. Cash flows from one or more commercial mortgages are pooled together and are then allocated on a prioritized basis to various securities. Return of principal is typically distributed top-down to the securities, while any losses due to borrower default are allocated bottom-up. This produces a senior-subordinated debt structure, where credit quality largely depends on how well protected a particular security is against default loss. Rating agencies assign credit ratings to the various securities that are carved out of an asset pool, and play a dominant role in determining exactly how much subordination (or "credit support") is required to obtain a particular rating. In general, the lower the credit quality of the mortgages that comprise the pool, the higher the required levels of credit support at equivalent credit rating levels.

CMBS's with the same credit rating are presumably "credit equivalent" securities. Yet the market differentiates like-rated issues through prices: for example, spreads range from under 50 basis points to over 120 basis points on AAA-rated CMBS during the 1994-96 period. This variation in price is substantial at that rating level, and suggests that one or more of the following explanations may apply: i) the rating agencies are not properly incorporating all of the important risk factors into their credit analysis, ii) investors are weighing the importance of certain risks more or less heavily than the rating agencies, or iii) investors are incorporating certain non-credit risk factors into prices. It is important to

understand these differences in pricing, since both investors and regulatory authorities depend on ratings as benchmarks of investment credit risk.

This paper investigates the various determinants of security structure as well as attempts to explain the source of the pricing dispersion noted above. To do his, we analyze 125 AAA-rated securities derived from 70 different CMBS offerings. Explanatory variables are divided into credit and non-credit variable categories. Credit variables, such as degree of pool concentration and whether loan cross-collateralization exists, are used to explain security subordination levels. Alternatively, non-credit variables, which include proxies for the degree of call risk in the pool and pool liquidity, are used to explain security pricing. Our main hypothesis is that, once credit risk variables are used to determine the level of credit support, non-credit risk variables only should impact security prices. Evidence to the contrary would suggest that investors in these securities and the rating agencies disagree on the relative importance of certain credit variables on investment risk.

Our findings can be summarized as follows. As expected, credit variables appear to be the main determinants of subordination levels of AAA-rated securities. Pool averaged Loan-to-Value Ratio and Debt Service Coverage Ratio, proxies for the degree of pool diversification and certain property types are particularly important in the determination of subordination level. Quasi-credit variables that include the Weighted-Average Life of the security, whether the security is derived from a Conduit asset operation, and whether or not a Special Servicer is designated also affect security structure. Only Deal Size and Time non-credit variables seem to affect credit support determination. With respect to security pricing, it appears that both credit and non-credit variables are important. The significance of credit variables in these regressions indicates that the market is "pricing around" the rating agencies to some extent. Thus, it appears that there is some asymmetry between the rating agencies and the investment community with respect to their assessments of credit risk.