THE JOURNAL OF FINANCE · VOL. XXX, NO. 4 · SEPTEMBER 1975

MORTGAGE COMPANIES: A FINANCIAL MODEL AND EVALUATION OF THEIR RESIDENTIAL REAL ESTATE LENDING ACTIVITIES*

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THE MORTGAGE BANKING INDUSTRY has been a major force in implementing federally-sponsored and subsidized mortgage loan programs. Annually, since 1945, mortgage companies have been responsible for originating and administering more FHA-insured and VA-guaranteed loans than all other lenders combined.

The purpose of this study is to provide an analytical framework, or model, useful for understanding the operating procedures of mortgage companies, and to use the model to assess the impact of various regulatory constraints on their lending activities.

The basic approach of the study is microeconomic. The method of investigation is: (1) to identify the cash flow relationships that define the financial aspects of a mortgage company's lending practices, (2) to construct a descriptive/normative model of those relationships, and (3) to explore, through simulation and sensitivity analysis, the significance of parameters that determine those cash flows. Particular attention is given to parameters subject to regulatory control.

The first part of the study is devoted to describing the functions of a mortgage banking company. Mortgage companies: (1) originate residential mortgage loans, (2) hold the loans in inventory for a short period of time, usually less than six months, (3) sell large blocks of loans to financial institutions, and (4) administer the collection of principal, interest, and escrow payments for these investors. Based on this discussion a mathematical model of a mortgage company is developed. The model incorporates a probability distribution to reflect the fact that the date on which a loan will be terminated, either through premature payoff or foreclosure, is unknown at the time of its origination. Cash flow parameter values estimated from financial data provided by a group of eight mortgage companies are used within the model to simulate the financial functions of a mortgage banker.

The model is used to examine such issues as: (1) the impact of FHA limitations on the fee that a mortgage originator may charge a mortgagor, (2) the value of FNMA commitments to purchase loans during periods of changing mortgage yields, (3) the profitability of issuing and servicing GNMA mortgage-backed securities, (4) the appropriate price to bid for GNMA auctioned loans, (5) the potential impact of legislation requiring mortgage lenders to pay interest on funds held in escrow for mortgagors, and (6) the impact of inflation on a mortgage company's servicing portfolio.

In general, because of regulatory limitations on origination fees, mortgage companies expect to incur a net negative cash flow when a residential loan is originated and sold to an institutional investor. This cash outlay is expected to be recouped from the monthly servicing fee paid by the investor. The nature of

* A dissertation completed at Purdue University in 1974.

these cash flows implies "break-even" loan size below which it is not profitable to originate and service mortgage loans.

The primary managerial implication of the study is that mortgage bankers should adopt one of two postures: either (1) do not originate loans less than the break-even amount, or (2) impose larger "front-end" discounts on smaller loans. The optimal discount varies directly with the probability of premature loan termination and the expected rate of increase in the cost of loan servicing, and inversely with the term-to-maturity and interest rate of the loan, and the servicing fee paid by the investor.

The primary policy implication of the study is that the present regulatory and institutional environment induces a potential bias against smaller mortgagors. The bias could be alleviated by extending the maturities of smaller loans or by restructuring the origination and servicing fees received by mortgage bankers.