

The Significance of Portfolio Lenders to Real Estate Brokers

Robert O. Edmister*
Gay B. Hatfield**

Abstract. For the reasons observed in the sample of mortgage loans examined, the real estate brokerage industry will continue to depend heavily on portfolio lending to finance residential housing transactions. This paper examines a sample of residential mortgages to determine the breadth of lending by home type and customer credit qualification. The findings show that portfolio lending is required to satisfy homebuyers with heterogeneous mortgage loan needs. Comparative analysis of credit decisions provides evidence of sound lending.

Introduction

Portfolio lending refers to mortgage loans originated with the intent of holding them until maturity; secondary mortgage market lending means originating mortgage loans with the intent of immediately selling the loans to others. With the development of mortgage pass-through and collateralized mortgage securities, the volume of newly originated mortgages purchased by others has expanded dramatically during the past decade. As the savings and loan crisis passes and the secondary mortgage markets develop, real estate brokers will find the role of savings and loan portfolio lending diminished but not eliminated.

For most prospective homebuyers, the purchase is contingent on the buyer's obtaining home mortgage financing. It is common for the real estate broker to assist the homebuyer in locating a mortgage lender and throughout the application process. A broker who understands the requirements of the secondary mortgage market and the accompanying role of the portfolio lenders will be able to better assist his client in obtaining appropriate financing.

Savings and loans, as well as commercial banks, mortgage bankers and finance companies, originate loans for sale to the secondary mortgage market. Real estate brokers who assist homebuyers with mortgage financing are not always told whether the mortgage is being originated for the lender's portfolio or for sale to the secondary mortgage market. Consequently, real estate brokers may not be aware of the importance of portfolio lending for a wide range of mortgage needs. If the only mortgage loans granted were those eligible for sale to a secondary market, then home sales would decline, thus negatively affecting the real estate brokerage industry. Prior research has not examined the range of needs traditionally satisfied by portfolio mortgage lending. This paper reports the results of an examination of residential mortgages to determine unusual lending needs by home type and customer credit qualification. The findings show that portfolio lending is required to satisfy homebuyers with heterogeneous mortgage loan needs.

*Mississippi League of Savings Institutions Chairholder, School of Business Administration, The University of Mississippi, University, Mississippi 38677.

**School of Business Administration, The University of Mississippi, University, Mississippi 38677.

Date Revised—April 1994; Accepted—April 1994.

The original purpose of thrifts was to provide residential homebuyers with mortgage loans that would be held in loan portfolios. The creation of the secondary mortgage market was designed to fill holes created by departing portfolio lenders. In addressing the S&L debacle and the industry's future, White (1991, p. 256) asks the question, *Do we still need a thrift industry?* In reality, obsolescence of the thrift industry is a matter of degree. We find evidence that secondary markets are imperfect substitutes for portfolio lenders for certain homes and homebuyers.

In this study, we examine 391 first residential mortgage loans in an attempt to identify mortgage contract terms and borrower characteristics. Our results show that approximately one-half of originated mortgage loans are ineligible for securitization (the selling of a mortgage to the secondary market) because they do not meet the criteria established by the secondary market. We find that mortgage borrowers have extremely diverse needs, many of which cannot be met by the secondary mortgage market. Diversity among borrowers and heterogeneity in housing are incompatible with homogeneous mortgage markets. In addition, the mortgage loans that were not sold, but rather held in the originating lender portfolio, performed as well as those that were sold. Thus, initial findings of securitization limitations provide a prima facie rationale for the continued existence of portfolio lending, thus refuting the proposition that the portfolio lending is obsolete.

Furthermore, our survey shows the importance of the portfolio lender to the real estate broker. Since one-half of the mortgages in our sample were ineligible to be sold in the secondary market, then total home sales would be reduced by half without the financing provided by portfolio lenders.

The organization of this paper is as follows. Section two reviews the information gathering and credit selection decision processes for both portfolio lenders and secondary market purchasers. The mortgage loan sample is described in the third section. The results and their implications are presented in section four. The paper concludes with general observations about the institutional structures designed to perform credit gathering and information analyzing functions in a mortgage loan market composed of widely diverse applicants and the importance of these findings to the real estate brokerage industry (section five).

Information Gathering and the Credit Selection Process

Hess and Smith (1988) segregate mortgage lending into three separate processes: loan origination, loan servicing and cash flow ownership. These processes characterize traditional portfolio lending.¹ Historically, an originator made a mortgage loan, secured by real property, to a local borrower, and the contract stayed on the balance sheet of the originating institution until the mortgage was paid in full. With the development of mortgage insurance and mortgage pools after World War II, savings and loan and mortgage banking institutions began originating mortgages for sale in a secondary market composed of permanent lenders.² Indeed, the secondary mortgage market has grown rapidly in the past two decades; however, not all mortgages can be sold in the secondary market. Those that do not meet the specific requirements of the secondary market are held, in historic fashion, by the originating lender.

In the past two decades, investment bankers have extended the secondary mortgage market through the creation of securitized mortgage obligations. Greenbaum and Thakor

(1987) note that securitization further “decomposes” mortgage lending into separate processes. The portfolio lender utilizes a comparative advantage in screening borrowers during the origination process, and investment bankers exploit a comparative advantage in funding in the cash flow ownership process. Growth in the secondary mortgage market has supplanted portfolio lending. How much further can the secondary mortgage market progress toward fulfilling all residential mortgage loan needs? This study evaluates the possibility that the secondary market can replace portfolio lenders as comprehensive providers of home mortgages. If this possibility should occur, and only mortgage loans that subsequently sold were made, how would the real estate brokerage industry be affected?

The secondary mortgage market has extensive criteria and regulations that a mortgage must meet before it is eligible to be purchased by an investor.³ Mortgage loans that conform to secondary market rules are eligible for securitized mortgage obligations and are referred to as “conforming loans.” A conforming loan may be sold or held by the original lender. In contrast, loans not conforming to secondary market rules are called “non-conforming loans.” Federal Reserve Flow-of-Funds accounts document amounts of lender-held mortgages; however, the extent to which mortgages are conforming is not reported. In order to investigate non-conforming lending, this study compares conforming loans and non-conforming loans. The non-conforming loans cannot be sold, and therefore, must be maintained in the portfolio of the originator (hence, they are sometimes referred to as portfolio loans).⁴ Irrespective of whether the mortgage is placed in the secondary market and/or held in the originator’s portfolio, servicing is performed by the loan originator.⁵ Thus, the difference between conforming and non-conforming loans arises during the origination process.

Before granting a mortgage loan request, the lender employs a credit selection procedure to determine the creditworthiness of the borrower. The credit selection process includes gathering and analyzing information (credit reports, appraisals, employment and asset verifications, past credit histories, and adverse legal actions). We assume that information gathering and analyzing is undertaken by financial institutions acting on their own behalf or as mortgage banking agents for other institutions. Benston and Smith (1976) and Hess and Smith (1988) point out that financial institutions have a comparative advantage as information gatherers. They have “economies of specialization” and are in an excellent position to have in-depth knowledge of a borrower’s credit history and the value of properties within their market area.

We have utilized the Mehta (1968) credit policy model as a framework to describe the differences between portfolio lenders and secondary market purchasers in the credit selection process. The Mehta model posits that after information is analyzed, the underwriter selects one of three possible decisions: (1) accept the applicant, (2) reject the applicant, or (3) seek more information and begin the process again. This model depicts a sequential decision process that incorporates the analysis function. Mehta presents theoretical arguments for determining the economic worth of information sources within the context of a sequential decision process, based on two premises: (1) All pertinent information is not worthwhile in making credit decision; (2) past experience can be employed effectively to make credit information decisions under uncertainty (p. 31).

These premises are consistent with loan underwriting practice. Banks spend substantial funds investigating applicant credit history (Thakor and Callaway, 1983). As Mehta points out, not all information can be gathered in a timely and cost-effective

fashion, that is, "not all relevant information is worthwhile" (p. 31). To determine if the information acquisition cost is justified *ex ante*, a lender using the sequential decision process assesses probabilities. At each of the multiple decision points, the lender selects that alternative (accept, reject, or investigate further) that has the maximum expected profit.

The sequential decision process includes the option to investigate further. The further investigation option is exercised when it is expected to yield a greater profit than the accept and reject alternatives. Therefore, the expected profit of the single-step process is always equal to or less than the profit of the sequential decision process. This well-known result is applied here to show the difference in underwriting between the secondary mortgage market and the portfolio lender. The reasons for differences in treatment of borrowers by portfolio and secondary market lenders is explained by differences in the credit decision processes.

Portfolio lenders are sequential, rather than single-step, decisionmakers. The analyzing institution is often located in close proximity to mortgage applicants, creating a convenient and low cost opportunity to request information sequentially. Elements for undertaking a sequential decision credit process, as defined in Mehta (1968), closely approximate portfolio lending. We propose that, because portfolio lenders have a comparative advantage in information gathering, their credit selection process is different from that of secondary market investors. Real estate brokers are impacted in two ways. First, due to the sequential decisionmaking-information gathering process, brokers need to assist borrowers frequently when dealing with portfolio lenders. Brokers can often assist borrowers denied credit in the secondary mortgage market by supporting their application process with a portfolio lender. Second, portfolio lending is known to have advantages for non-conforming mortgage applicants. Understanding the distinction between the secondary mortgage system and the portfolio lender allows brokers to solve more financing problems and consummate more sales.

The single-step credit process characterizes procedures used by secondary mortgage market purchasers. Secondary market purchasers bid on mortgage loans on the basis of information gathered by agents in conformity with secondary market rules. Secondary market purchasers perform their own credit analysis and make their own underwriting decision. The customary process is for secondary market bidders to either accept or reject borrowers on the face of the initial application. Furthermore, the secondary market decision customarily follows rules that limit information gathering by mortgage banking agents.

Consider the implications of restricting the analyst to a single-step process. To constrain gathering costs, the analyst limits the information items collected from borrowers. Given limited information, Type I errors (accepting loans that fail to perform) would rise in the absence of countervailing adjustments. A plausible countervailing adjustment would be to relax standards for Type II errors (rejecting loans that would have performed) by reducing the applicant acceptance rate. (Errors, profit and loss are defined in Exhibit 1.)

Due to the comparative advantage in sequential information analysis, the portfolio lender is more flexible than the secondary market. However, flexibility does not necessarily imply quality performing assets. The sequential decision process might be used to reduce investigation costs rather than credit selection error. Costs are reduced because the portfolio lender does not have to investigate every aspect of each borrower.

Exhibit 1
Credit Decision and Performance Joint Result

Credit Decision	Performance	
	Good	Loss
Accept Mortgage	Profit earned	Type I error
Reject Mortgage	Type II error	Loss avoided

Rather, portfolio lenders exercise judgment regarding the information collection process. Implementation of the sequential decision process depends in part on management. Also, management exercises discretion over the selection of loans sold to the secondary market.⁶ For example, “good” loans may be sold and “bad” loans retained in the portfolio. In this study, we have adopted Greenbaum and Thakor’s (1987) classification, and therefore, good loans possess a high credit rating while bad loans have a low credit rating or an irregularity. Greenbaum and Thakor (1987) recognize the informational advantage of the originator and conclude that originators will sell only good loans. Buyers, knowing they cannot identify problem loans, purchase only the loans with verifiable characteristics associated with good loans. Consequently, bad loans are left in the originator’s portfolio in the Greenbaum and Thakor model.

Conversely, the originating intermediary might retain the good loans and sell the bad loans. Sinkey (1989) notes that Penn Square sold Continental a disproportionately high share of bad loans. However, Sinkey observes that no similar “lemons” have yet been found in the secondary mortgage market and concludes that the “lemons” are not sold. To provide investors with assurance of the quality of purchased mortgages, each mortgage must conform to the predetermined standards. Otherwise, investors would incur large monitoring costs to assure that the agent underwrites quality mortgages and high information gathering costs for accessing remote locations and diverse legal systems. In a later section we present empirical tests of the relative performance of portfolio lenders and the secondary market portfolios.

Mortgage Loan Data

To observe the placement of mortgage loans and their quality, performance statistics on conforming and non-conforming mortgage loans are necessary. Reporting regulations promulgated by state and federal regulating agencies do not separate non-conforming loans. One means of measuring the extent and quality of non-conforming loans is to survey originators. This study collected detailed mortgage data from mortgage originators. Survey respondents (savings and loans in three states) provided data on 391 first mortgage loans granted to individuals for residential properties.

The survey design emphasized consistency and flexibility.⁷ The objective was to assure consistent responses despite different accounting systems and application forms at separate institutions. To improve feasibility and provide a consistent interpretation of responses, data items were extracted primarily from original mortgage documents by researchers rather than respondents.

The survey was sent to 149 institutions located in Mississippi, Arkansas and Louisiana. Institutions in RTC conservatorship as of August 1, 1990 were not included in the population.⁸ Mortgages qualified for the survey if they met the following criteria:

- first mortgage loans granted to individuals for owner-occupied residential properties.
- loans booked on one of twenty-two business dates randomly selected from each quarter in even years beginning in 1980 and ending in mid-1990.

All loans meeting the above qualifications were selected for the survey. The booking dates represent 1% of all business dates during the period; thus, each loan in the sample corresponds to approximately 100 loans originated.

The survey generated mortgage loan responses from twenty-nine institutions, each response representing one mortgage loan package. The mortgages had a total original loan amount of \$23,070,609 and a total current balance of \$17,334,211; the average original amount borrowed was \$59,004, and the average amount currently owed was \$44,333. The most frequent purpose for obtaining a mortgage loan provided by applicants was financing the purchase of a residential dwelling. The second most frequent purpose was to refinance an existing mortgage loan, and the third most frequent purpose was to finance construction of a new home.⁹

Results

Survey results for the volume of mortgages not eligible for sale to the secondary market and the repayment performance of rejected loans are presented in this section.

Mortgages Rejected by the Secondary Market

To measure the quantity of mortgages rejected by the secondary market and accepted by portfolio lenders (relative to all mortgages granted), we computed the proportion of non-conforming loans to conforming loans. Non-conforming loans comprised 53.8% of loan volume (\$12,404,452, 195 loans), and when expanded by the sampling proportion,¹⁰ represented total loans of \$6.3 billion. Regardless of the individual time period in the study, the percentage of conforming to non-conforming loans was stable. Conforming loans in the study totalled \$10,666,157 (196 loans), and when expanded by the sampling proportion would have represented \$5.4 billion in loans.¹¹ Due to the substantial volume and proportion of non-conforming loans, it is evident that portfolio lenders accept mortgage applicants rejected by the secondary market.

A large number of reasons accounted for loans not conforming to secondary market rules. Survey respondents identified twenty-seven different reasons why a loan would not enter the secondary market.¹² The primary reasons for non-conforming loans are listed in Exhibit 2. The reason accounting for the largest percentage of non-conformity was loan documentation that did not meet secondary market standards. Deficient borrower income, credit history, appraisal, property condition, marketability, and interest adjustments account for large numbers of non-conforming loans. Many (seventeen) other reasons account for another 22% of the non-conforming loans.

Exhibit 2
Primary Reasons for Non-Conforming Loans

Description	% Loan
Portfolio lender only	17.4
Documents do not conform to secondary market rules	15.4
Unknown	10.3
Deficient income	10.3
Deficient credit history	6.7
Appraiser or appraisal documents not approved by FHLMC	5.1
Nonstandard interest adjustment index	4.6
Deficient property condition	4.1
Limited marketability of property	4.1
REO financing	3.6
Amount of loan exceeds secondary market maximum	2.6
Investment	2.6
Unapproved land use or water source	2.6
Deficient employment history	2.1
Construction loan	2.1
Deficient downpayment	1.0
Downpayment borrowed	1.0
Amount of loan below secondary market minimum	.5
Unapproved condominium project	.5
Amortized partially, balloon note	.5
Uninsured loan with LTV ratio over 80%	.5
Appraisal value exceeds sale price	.5
Refinancing delinquent loans	.5
Property over-improved relative to surrounding properties	.5
Land value ratio exceeds secondary market limits	.5
Refinancing increased loan amount	.5

Reasons for non-conforming loans were related to the dollar volume and numbers of loans originated. About \$1.4 billion was accounted for by portfolio lending. Documentation problems prevented another \$846 million from entering the secondary market. Borrowers who failed income (\$475 million), credit history (\$212 million) and property condition (\$138 million) rules in the secondary market were financed with non-conforming loans. Problems with appraisers and appraisal forms prevented \$210 million of mortgages from qualifying for the secondary market. A total of eighteen other reasons accounted for another \$2.7 billion in loans that did not conform to secondary market rules.

Brokers should recognize the numerous and varied causes for loans not to conform. The causes (borrower, property and appraisal deficiencies) are usually outside the control of the originator; however, by virtue of its local knowledge, the portfolio lender overcomes these problems. Thus, homebuyers with a diversity of needs and backgrounds obtain mortgage loans that would have been denied by the secondary market.

Mortgage Performance Experience

Next, portfolio lender and secondary market performance experiences were compared. Payment performance was measured by the payment status, defined as current, past due, foreclosed, or paid in full loans on the study date. The current category includes loans for which payment has been received when due or within the grace period (usually fifteen days after the due date). Past due loans are those with one or more payments not received when due or within the grace period; they represent evidence of possible loss. Foreclosed loans are defaulted mortgages settled through judicial foreclosure proceedings. The "paid" status denotes loans paid in full, usually due to a sale of the real estate before the loan maturity date. The payment performances of a few loans were not reported by respondents; these are reported as "unknown". Past due loans accounted for 9.2% of the original amount loaned.

Foreclosure is rare for residential first mortgage loans in general and occurred only three times in our sample. The foreclosed loan amount accounted for only 1.3% of total loans. In foreclosure, substantial amounts recovered from the sale of real estate collateral are used to repay loan interest and principal. For the three foreclosed loans reported in this study, the total loss was \$77,806 (26.6% of the original loan amount). Therefore, net losses were only a small fraction (.3%) of total loans granted.

Comparisons between conforming and non-conforming repayments are presented in Exhibit 3. This exhibit shows that more of the conforming than the non-conforming loans are in the current category. Exhibit 3 payment performance statistics use the original amount and number of loans as the divisor. Note that Exhibit 3 shows that fewer of the conforming than the non-conforming loans are pre-paid. Our results also show that both conforming and non-conforming loans have almost identical ratios of past due to the total loans originated, 9.1% and 9.3%, respectively.

After adjusting for unequal repayment performance, conforming and non-conforming loans had current payment performance of 90% and 89%, respectively. The difference in payment performance between non-conforming and conforming loans is insignificant at the 99% level.

Exhibit 3
Payment Performance by Conforming and Non-Conforming Classification*

Performance	Number		Average		Percent	
	NC	C	NC (\$)	C (\$)	NC	C
Current	137	148	62,7321	54,425	69.3	75.5
Paid	29	22	72,541	53,472	17.0	11.0
Past due	22	16	52,455	60,722	9.3	9.1
Foreclosed	2	1	117,800	57,350	1.9	.5
Unknown	5	9	63,360	45,105	2.6	3.8
Total	195	196	63,616	54,419	100.0	100.0

*NC=Non-conforming loans (not sold in secondary market)

C=Conforming loans (sold in secondary market)

Importance for Real Estate Brokers

Our results indicate that the secondary mortgage market has not provided an acceptable distribution network for mortgage contracts for one-half of the mortgage borrowers in our sample. Exclusive reliance on the secondary mortgage market, as currently structured, would preclude a substantial portion of homebuyers from access to mortgage financing, thus reducing overall home sales. Diversity in homebuyers and homes continues to require portfolio lenders like the savings and loans that originated loans in the study sample.

The sequential decision lending process employed by portfolio lenders is well adapted to the diversity of mortgage applicants. We find strong support for the assertion of Benston and Smith (1976) and Hess and Smith (1988) that portfolio lenders have a comparative advantage as information gatherers. The repayment performance of non-conforming and conforming loans observed here contradicts the Greenbaum and Thakor (1987) results that good loans are sold and risky loans are retained in loan portfolios. The portfolio lenders have tended to compensate for diversity in borrowers by the use of the sequential lending process. Consequently, qualified buyers receive financing for either conforming or non-conforming loans; however, the buyers will have to undergo a more lengthy qualification process for a non-conforming loan.

While the information gathering and analysis sequence by portfolio lenders may appear to the applicant and real estate broker to be an unnecessary aggravation, our results suggest that it provides mortgage financing to a very diverse population of people and homes that would not qualify for secondary mortgage market financing. In short, portfolio lenders use their local knowledge and presence to safely originate non-conforming mortgages. For the reasons observed for the sample mortgage loans examined here, the real estate brokerage industry will continue to depend heavily on the portfolio lenders to finance residential housing transactions.

Notes

¹The phrase "portfolio lending" refers to loans permanently funded by the originating financial intermediary. Portfolio lenders typically intend to perform all three functions until mortgage loans are repaid.

²We use the term secondary market to refer to all third-party purchasers of whole mortgage loans. Major participants include insurance companies, pension funds, and federally chartered mortgage investment intermediaries.

³Due to the extensiveness of the regulations, details cannot be included in this paper; the "rule books" are available at mortgage lending institutions and from mortgage purchasers such as the Federal National Mortgage Association.

⁴Originators may hold and service all mortgage loans (portfolio lenders-only institutions) or sell selected mortgages. Loans underwritten by "portfolio lender-only" institutions would not necessarily conform to secondary market rules, and, due to borrower self-selection, would be largely non-conforming.

⁵Subsequently, the servicing rights may be sold by the originator to a third party.

⁶Currently, if the purchased mortgage is foreclosed within the first four months, the originating institution has to repurchase the loan. In addition, if principals identify an institution selling flawed credit packages, they will not continue to purchase loans from the institution.

⁷The survey instrument solicited the following information: (a) if conforming, name of the secondary market agency, if non-conforming, the reason for non-conformity; (b) present loan

balance and interest rate; (c) amount of original loan balance prepaid and date of prepayment; (d) number of payments more than thirty days late in the last twelve months; (e) if sold, date and sales price of loan; and (f) current payment status as current, past due, or in default, and if in default, the amount classified as a loss and date. The instrument also solicited completed loan application forms: (1) residential loan application, (2) verifications of employment, government loan, deposits, deposits for government loans, and rent or mortgage, (3) credit bureau report, (4) uniform residential appraisal report, (5) good faith estimate of settlement, (6) truth-in-lending, (7) FHA, VA, or Conventional Pre-qualifier and Qualifier, (8) HUD-1 uniform settlement statement, and (9) loan commitment letter.

⁸The intent of this study was to analyze the conforming/non-conforming loan practices of healthy thrifts. Including failed thrifts would bias the study in one way while excluding them results in a separate bias. We intend to enlarge the results of this survey by including RTC institutions in future research.

⁹Non-conforming loans were granted for refinancing and construction more frequently than conforming loans.

¹⁰The population was estimated by multiplying the sample amount by the inverse of the number of institutions sampled to all institutions in the study states and the inverse of the randomly selected dates to all business dates in the study period.

¹¹The average original amount borrowed was \$54,419 for conforming loans and \$63,613 for non-conforming loans. A few large non-conforming loans accounted for the larger average size.

¹²Some loans are originated by lenders exclusively for their own portfolios. Portfolio lenders do not need to conform to secondary market rules. Consequently, portfolio loans are not included in Exhibit 2. Ten percent of the respondents did not give reasons for non-conformity.

References

- Altman, E. I., R. Haldeman and P. Narayanan, ZETA Analysis: A New Model To Identify Bankruptcy Risk of Corporations, *Journal of Banking and Finance*, 1977, 29–54.
- Benston, G. J. and C. W. Smith, Jr., A Transactions Cost Approach to the Theory of Financial Intermediation, *Journal of Finance*, 1976, 31, 215–31.
- Brennan, M. and E. Schwartz, Determinants of GNMA Mortgage Prices, *AREUEA Journal*, 1985, 13, 209–28.
- Diamond, D., Financial Intermediation and Delegated Monitoring, *Review of Economic Studies*, 1984, 51, 393–414.
- Edmister, R. O. and H. E. Merriken, Pricing Efficiency in the Mortgage Market, *AREUEA Journal*, 1988, 16, 50–62.
- Fama, E., What's Different About Banks?, *Journal of Monetary Economics*, 1985, 15, 29–39.
- Greenbaum, S. and A. Thakor, Bank Funding Modes: Securitization versus Deposits, *Journal of Banking and Finance*, 1987, 11, 379–402.
- Grossman, S. J. and M. H. Miller, Liquidity and Market Structure, *Journal of Finance*, 1988, 43, 617–33.
- Hess, A. C. and C. W. Smith, Jr., Elements of Mortgage Securitization, *Journal of Real Estate Finance and Economics*, 1988, 1, 331–46.
- Holmstrom, B., Moral Hazard and Observability, *Bell Journal of Economics*, 1979, 10, 74–91.
- Kim, H. Y., Economies of Scale and Scope in Multi-product Financial Institutions: Further Evidence from Credit Unions, *Journal of Money, Credit, and Banking*, 1986, 18, 220–26.
- Leland, H. and D. Pyle, Informational Asymmetries, Financial Structure, and Financial Intermediation, *Journal of Finance*, 1977, 32, 371–87.
- Mehta, D., The Formulation of Credit Policy Models, *Management Science*, 1968, 30–50.
- Pennacchi, G. G., Loan Sales and the Cost of Capital, *Journal of Finance*, 1988, 43, 375–95.

- Sa-Aadu, J. and C. F. Sirmans, The Pricing of Adjustable Rate Mortgage Contracts, *Journal of Real Estate Finance and Economics*, 1989, 2, 253–66.
- Seward, J. K., Corporate Financial Policy and the Theory of Financial Intermediation, *Journal of Finance*, 1990, 45, 351–77.
- Sinkey, J. F., *Commercial Bank Financial Management in the Financial Services Industry*, New York: Macmillan, 1989, 587–95.
- Sirmans, C. F. and J. D. Benjamin, Pricing Fixed Rate Mortgages: Some Empirical Evidence, *Journal of Real Estate Finance and Economics*, 1990, 4, 191–202.
- Stiglitz, J., Credit Markets and the Control of Capital, *Journal of Money, Credit, and Banking*, 1985, 17, 133–52.
- Thakor, A. and R. Callaway, Costly Information Production Equilibria in the Bank Credit Market with Applications to Credit Rationings, *Journal of Financial and Quantitative Analysis*, 1983, 18, 229–56.
- White, L. J., *The S&L Debacle: Public Policy Lessons for Bank and Thrift Regulation*, New York: Oxford University Press, 1991.

Mortgage loan data are from the University of Mississippi Mortgage Study files collected in cooperation with the Savings Institution Leagues of Arkansas, Louisiana and Mississippi and the Federal Home Loan Bank of Dallas. The authors gratefully acknowledge information coding by Amitava Chatterjee, Pete Domasky, Scott Jackson, Bill Wells, and Frank Winkel.
