To the Graduate Council:

I am submitting herewith a thesis written by Ben Terry Rudd entitled "An Analysis of Rural Home Mortgage Credit Suppliers." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

B. R. McManus, Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

AN ANALYSIS OF RURAL HOME MORTGAGE CREDIT SUPPLIERS

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Ben Terry Rudd

December 1981

3055559

ACKNOWLEDGMENTS

The author appreciates the help and friendship of the many people who assisted in making this thesis a reality. Dr. B. R. McManus was most helpful in the guidance he gave throughout the study. Appreciation is also expressed to Dr. Charles M. Cuskaden and Dr. John R. Brooker for their commitment to this thesis. Special gratitude is due Morgan Gray, whose assistance in the computer programming aspects of analyses proved invaluable.

Sincere appreciation is expressed to each lender for participating in this study. Special thanks are extended to the members of the S-141 committee who assisted in developing the questionnaire in Appendix E.

The author also expresses his appreciation to his fellow graduate students and friends at Lakeview Apartments, whose companionship made graduate life more enjoyable; thanks to Ricky Barrow, Kevin Adney, Tommy Hunt, Leland Davis, Tim Monteque, and Danny Terry. Special thanks to Mary Helen Ogilvie for the many football and basketball games, walks, and movies. Finally, special appreciation to the author's mother, brother, sisters, and relatives for their support, without which undergraduate and graduate life would have been impossible.

ABSTRACT

Inadequate housing in rural areas of Tennessee has been a problem for many years. Increases in the quantity and quality of housing must be preceded by increases in the availability and volume of mortgage credit. These increases must be accomplished through firms operating in rural areas. The purpose of this study was to: (1) identify residential credit suppliers in non-SMSA counties in Tennessee; (2) determine the status of the rural home mortgage credit system by examining the relationship between the volume of total assets, as a measure of size, of primary credit institutions and selected economic structural variables; and (3) develop alternative delivery systems to facilitate the flow of home mortgage credit from lenders to borrowers in rural areas.

Data were obtained by survey and from year-end financial reports of commercial banks and savings and loan associations in rural areas. Although all of the non-SMSA banks and S&L's were surveyed, 85 (35 percent) of the banks and 23 (46 percent) of the S&L's responded. Year-end financial reports for all non-SMSA banks and S&L's were obtained from the Federal Deposit Insurance Corporation and the Federal Home Loan Bank Board, respectively.

In terms of number, total assets, and volume of mortgage credit, banks were the dominant rural credit supplier in non-SMSA counties in Tennessee. S&L's were second. Other institutions such as the Federal Land Banks, Production Credit Associations, Tennessee Housing Development Agency, Federal Home Loan Bank Board, Federal Home Loan Mortgage Corporation, and others were also represented.

In general, bank lenders tended to report more conservative attitudes than S&L lenders, with respect to loan policies concerning alternative residential mortgage loans. S&L lenders appeared to be more involved with extending home mortgage credit than banks. S&L's had a much higher portion of their assets invested in home mortgages than banks. S&L's had the capability of extending conventional mortgage home loans with relatively longer terms.

Although 240 (69 percent) of the 344 Tennessee banks were in non-SMSA counties, these banks only accounted for 47 percent of the bank assets. Similarly, 52 (54 percent) of the 96 Tennessee S&L's were in non-SMSA counties and controlled only 21 percent of the S&L assets.

Total assets were not determined to be significantly related to selected structural variables for banks or S&L's in 1979. Therefore, the size was not indicative of the proportion of total assets a bank had invested in home mortgage loans, demanded deposits, savings, or time deposits. As for S&L's, size was not related to the proportion of total assets invested in conventional loans or savings. The usual interest charged on conventional loans, usual repayment period allowed on conventional loans, usual percentage of purchase price required as down payment on conventional loans, average closing cost, and escrow were also unrelated to the size of either banks or S&L's.

The study concludes that commercial banks and S&L's were the major component in the home mortgage credit system in non-SMSA areas in Tennessee in 1979. Of these two components, banks were considerably more available to residents in non-SMSA counties; however, S&L's appeared to be more willing to make alternative types of loans and loans for

various types of housing. The percentage of assets loaned for home mortgages was relatively the same for the different size banks and S&L's respectively.

Unique marketing efforts designed specifically for rural residents could yield benefits for both lenders and borrowers. Simplifying lending procedures, program orientation for lending personnel, employing basic public relations techniques, and, in general, more effective and efficient lending could reduce processing time and effort. Thereby, public and private lending programs could be streamlined, reducing the time and cost of loans made to borrowers.

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	A. Objectives	2
	B. Justification	2
	C. Procedure	5
	D. Study Area	7
	E. Literature Review	7
II.	INSTITUTIONS SUPPLYING RESIDENTIAL MORTGAGE CREDIT	12
	A. Private Institutions	12
	B. The Farm Credit System	15
	C. Public Institutions	21
III.	IMPORTANT FACTORS CONCERNING RURAL RESIDENTIAL MORTGAGE CREDIT SUPPLIERS--BANKS AND SAVINGS AND LOANS	45
	A. Respondents Representative of Population	46
	B. Lender Attitudes	49
	C. Loan Guidelines for Income and Eligibility	54
	D. Scope of Loan Areas	62
	E. Appraisers Used, Market Value Categories, and Policy Guidelines for Different Types of Housing	70
	F. Residential Mortgage Loans	78
	G. Mobile Home Mortgage Loans	85
	H. Secondary Market Activity	92
	I. Energy Considerations	99
IV.	RESPONSIVENESS OF CONTINUOUS STRUCTURAL VARIABLES TO FIRM SIZE	104
	A. Structural Variables Related to Bank Size	108
	B. Structural Variables Related to S&L Size	112
V.	SUMMARY, CONCLUSIONS, AND IMPLICATIONS	117
	A. Summary	117
	B. Conclusions and Implications	121
LIST OF REFERENCES		128
APPENDICES		133
VITA		162

LIST OF TABLES

TABLE		PAGE
1.	Number and Total Assets of Banks in Tennessee By Location and Type of Charter, 1979	13
2.	Number and Total Assets of Savings and Loan Associations in Tennessee By Location and Type of Charter, 1979	16
3.	THDA Single-Family Income Limits for Various Size Households in Non-Urban Tennessee, 1979	24
4.	Number and Outstanding Balance of THDA Single-Family Mortgage Loans as of March 31, 1980	26
5.	Distribution of Funds from THDA Series A Bonds Among Various Originating Agents in Tennessee as of July 1, 1980	30
6.	Distribution of Funds from THDA Series C Bonds Among Various Originating Agents in Tennessee as of July 1, 1980	30
7.	Comparison of Residential Mortgage Credit Factors for All Non-SMSA and Respondent Banks and S&L Associations in Tennessee, 1979	47
8.	Attitude of 67 Non-SMSA Banks and 22 Non-SMSA S&L's Concerning the Volume of Conventional First Home Mortgage Loans Made in Tennessee, 1979	50
9.	Ability of Non-SMSA Banks and Non-SMSA S&L's to Meet the Demand for First Mortgage Home Loans in Tennessee, 1979	51
10.	Banks' and S&L's' Attitude Toward Alternative Types of Loans, 1979	53
11.	Reasons, Ranked by Importance, for Rejecting First Mortgage Home Loan Applications at Non-SMSA Banks in Tennessee, 1979	55
12.	Reasons, Ranked by Importance, for Rejecting First Mortgage Home Loan Applications at Non-SMSA S&L's in Tennessee, 1979	56

TABLE PAGE

13. Frequency of Non-SMSA Banks and Non-SMSA S&L's Which Do/Do Not Refer a Rejected Applicant to Another Lender in Tennessee, 1979 58

14. Frequency of Lenders Used By Non-SMSA Banks and Non-SMSA S&L's to Refer Rejected First Mortgage Loan Applicants in Tennessee, 1979 58

15. Number and Percent of Non-SMSA Firms and the Actual Guideline They Used for Proportion of Family Income Allocated for Mortgage Principal, Interest, Taxes, and Insurance in Tennessee, 1979 60

16. Number of Conventional, FHA/VA, and FmHA First Mortgage Home Loans Made to Households with Various Annual Incomes By Non-SMSA Institutions in Tennessee, 1979 61

17. Number and Percent of Non-SMSA Firms and the Approximate Percent of First Mortgage Home Loans They Made Within Their Counties in Tennessee, 1979 63

18. Number and Percent of Non-SMSA Firms and the Approximate Percent of First Mortgage Home Loans They Made in Adjacent Counties and Outside Adjacent Counties in Tennessee, 1979 65

19. Number and Percent of Residential Mortgage Loans Made By Non-SMSA Banks and S&L's for the Purchase of New Homes, Used Homes, and Repairs and Improvements Within Towns With a Population of 2,499 or Less, 2,500 or More, and Outside City Limits in Tennessee, 1979 66

20. Number of Non-SMSA Banks and Non-SMSA S&L's Reporting Major Problems in Financing Homes Outside City Limits in Tennessee, 1979 71

21. Frequency of Major Problems Existing in Financing Rural Homes Outside City Limits By Non-SMSA Banks in Tennessee, 1979 71

22. Appraisal Personnel Used By Non-SMSA Banks and Non-SMSA S&L's in Tennessee, 1979 72

23. Frequency of Non-SMSA Banks and Non-SMSA S&L's Encountering Problems in Appraising Innovative or Alternative Housing in Tennessee, 1979 74

24. Number and Percent of First Mortgage Home Loans Made in Various Market Value Categories By Non-SMSA Banks and S&L's in Tennessee, 1979 75

TABLE PAGE

25. Distribution of Non-SMSA Banks and S&L's By Guidelines for Various Types of Housing Loans in Tennessee, 1979 . . 77

26. Approximate Number and Percent of First Mortgage Loan Applications and Loans Made By Non-SMSA Banks and S&L's, By Type of Mortgage Loan, In Tennessee, 1979 79

27. Financial Items for Conventional, FHA/VA, and FmHA Loans Made By Non-SMSA Banks and Non-SMSA S&L's in Tennessee, 1979 80

28. Closing Costs to the Home Buyer for Loans as an Average Percentage and as a Dollar Amount of Loan Value, By Institution, in Tennessee, 1979 83

29. Estimated Processing Time Between Application and Final Approval for Various Types of Mortgage Loans Made By Non-SMSA Banks and S&L's in Tennessee, 1979 84

30. Approximate Dollar Value of Mobile Home Loans Expressed as a Percent of All Consumer Loans Made By Non-SMSA Banks in Tennessee, 1979 86

31. Number, Dollar Volume, and Average Value Per Mobile Home Loan Made By Non-SMSA Institutions in Tennessee, 1979 87

32. Financial Items for Mobile Home Loans Made By Non-SMSA Banks in Tennessee, 1979 89

33. Usual Actual Repayment Period for New Mobile Home Loans Made By Non-SMSA Banks in Tennessee, 1979 90

34. Frequency of Non-SMSA Banks and Non-SMSA S&L's Using the "Rule of 78" in Tennessee, 1979 91

35. Frequency of Non-SMSA Banks and S&L's and the Changes in Procedures Which Would Increase Their Use of FHA/VA and FmHA Mortgages in Tennessee, 1979 93

36. Frequency of Non-SMSA Firms For, Against, and Undecided About the Issuance of Tax Exempt Securities to Finance Housing in Their Market Area in Tennessee, 1979 93

37. Frequency of Non-SMSA Banks and S&L's Who Made Commitments With the THDA in Tennessee, 1979 95

38. Frequency of Non-SMSA Banks and S&L's Participating With Other Lenders in Making Housing Loans in Tennessee, 1979 95

TABLE PAGE

39. Frequency of Non-SMSA Banks and S&L's Participating in the Secondary Mortgage Market in Tennessee, 1979 96

40. Frequency of Reasons Reported By Non-SMSA Banks and S&L's for Not Participating in the Secondary Mortgage Market in Tennessee, 1979 98

41. Length of Time Non-SMSA Banks and S&L's Had Been Active in the Secondary Mortgage Market in Tennessee, 1979 . . . 98

42. Frequency of Non-SMSA Banks and S&L's and the Markets in Which They Sold Home Mortgages in Tennessee, 1979 . . . 100

43. Frequency of Non-SMSA Banks and S&L's That Purchased or Sold Whole Mortgage Loans in Tennessee, 1979 100

44. Frequency of Non-SMSA Banks and S&L's Considering Policies Which Would Include Energy Costs in Determination of Borrower Eligibility in Tennessee, 1979 101

45. Type of Information Regarding Assessments of Energy Efficiency Homes Needed By Non-SMSA Banks and S&L's to Make Better Lending Decisions in Tennessee, 1979 103

46. Regression Coefficients, Probabilities of Exceeding Calculated t-Values for $\hat{b}$, and Simple Linear Correlations Using Selected Dependent Variables With Total Assets as the Independent Variable, Non-SMSA Banks, 1977-1978-1979 . 109

47. Regression Coefficients, Probabilities of Exceeding Calculated t-Values for $\hat{b}$, and Simple Linear Correlations Using Selected Dependent Variables With Total Assets as the Independent Variable, Non-SMSA Respondent Banks, 1979 110

48. Regression Coefficients, Probabilities of Exceeding Calculated t-Values for $\hat{b}$, and Simple Linear Correlations Using Selected Dependent Variables With Total Assets as the Independent Variable, Non-SMSA S&L's, 1977-1978-1979 . 113

49. Regression Coefficients, Probabilities of Exceeding Calculated t-Values for $\hat{b}$, and Simple Linear Correlations Using Selected Dependent Variables With Total Assets as the Independent Variable, Non-SMSA Respondent S&L's, 1979 114

50. Observed Frequencies and Total Chi-Square Values of Non-SMSA Banks and S&L's Concerning Lender Attitudes Toward the Volume of Conventional First Mortgage Loans in Tennessee, 1979 139

TABLE PAGE

51. Observed Frequencies and Total Chi-Square Values of Non-SMSA Banks and S&L's Concerning Their Ability to Meet the Demand for First Mortgage Loans in Tennessee, 1979 139

52. Observed Frequencies and Total Chi-Square Values of Non-SMSA Banks and S&L's Concerning Lender Attitudes Toward the Use of Various Types of Mortages in Tennessee, 1979 140

53. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of Income Stability, 1979 141

54. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of Income Level, 1979 142

55. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of Appraisal, 1979 143

56. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of a Credit Rating, 1979 144

57. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of a Loan Applicant's Debt Picture, 1979 145

58. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of an Acceptable Co-Signer, 1979 146

TABLE PAGE

59. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of Being a Regular Customer, 1979 147

60. Chi-Square Value Calculations Using a Two-Sample Kolmogrov-Smirnov Goodness-of-Fit Test for Responses of Non-SMSA Banks and S&L's to a Single Question on a Residential Mortgage Schedule: Importance of a Sufficient Down Payment, 1979 148

61. Observed Frequencies and Total Chi-Square Values for Three Loan Areas and Three Loan Purposes for Non-SMSA Banks in Tennessee, 1979 149

62. Observed Frequencies and Total Chi-Square Values for Three Loan Areas and Three Loan Purposes for Non-SMSA S&L's in Tennessee, 1979 150

63. Observed Frequencies and Total Chi-Square Values of Non-SMSA Banks and S&L's Concerning Loan Policies for Various Types of Housing Loans in Tennessee, 1979 . . . 151

64. Test for Parallelism of Slopes for Bank Data 155

65. Test for Parallelism of Slopes for S&L Data 156

CHAPTER I

INTRODUCTION

Housing is a complex economic and social process involving designers, builders, realtors, appraisers, lawyers, lenders, and many others that culminates as a product to be transferred to the consumer in the local housing market. Moreover, for years the volume of housing demanded, perhaps more than any other one peacetime endeavor, determines the state of the economy--for example, whether or not there is relatively high unemployment, whether or not business profits are good, and whether or not government at all levels obtains sufficient taxes to provide the services and programs desired by the people.

Traditionally, housing supply has increased more rapidly in metro than in non-metro areas. However, during the 1970's, the number of houses increased more rapidly in non-metro areas than in metro areas (2,3). Many elements have played an important role in expanding the housing supply in rural areas, such as new and innovative delivery systems, alternative housing types and lending instruments, and new government programs.

Increases in the quantity and quality of housing must be preceded by increases in the availability and volume of mortgage credit. The importance of mortgage credit in financing the construction, remodeling, and marketing of housing is demonstrated by the expansion of credit during the 1960's, when construction costs increased markedly (26). American families owed about $144 billion in home mortgage debt in the

early 1960's (26). A decade later, in 1971, they owed approximately $303 billion in home mortgage debt (26). The value of new housing units for the 1970-1979 period increased at an annual compound rate of slightly over ten percent. Adequate mortgage credit is basic to home construction and improvement (9,23,39,41). Limited availability of private mortgage credit on less favorable terms to rural residents has contributed to a higher incidence of substandard housing (26).

A. OBJECTIVES

The objectives for this research were:

1. To identify residential credit suppliers in non-Standard Metropolitan Statistical Areas (SMSA) counties in Tennessee.
2. To determine the status of the rural home mortgage credit system by examining the relationship between the volume of total assets, as a measure of size, of primary credit institutions and selected economic structural variables.
3. To develop alternative delivery systems to facilitate the flow of home mortgage credit from lenders to borrowers in rural areas.

B. JUSTIFICATION

Residents of rural areas face unique problems in obtaining adequate housing; and, in part, these problems are due to an inadequate rural mortgage credit system (4). Perceived credit inadequacy and the

high frequency of substandard housing in rural areas have led observers to believe that there is a strong causal link between the two (4). If such a link exists, an improvement in the rural credit system could lead to an improvement in the quantity and quality of rural housing.

Several studies have shown that low-quality housing is concentrated in the South. Despite considerable improvement in the quantity and quality of rural housing over the past 25 years (1950-1975), fully half of the four million substandard housing units in the nation were found in rural areas (3). However, rural areas accounted for only 32 percent of the national housing inventory in 1975 (3). According to another estimate, 21 percent (13 million) of the nation's households suffered from one or more forms of housing deprivation, and more than 31 percent of these were in the South (34).

Housing units in Tennessee have been improved over the past decade (32). In 1970, 323,882 (27 percent) housing units in the State were inadequate. In 1970, more than 40 percent of the total occupied housing units in 25 Tennessee counties were inadequate. The Tennessee Housing Development Agency expected a reduction of 94,857 in the number of inadequate housing units in the State by 1979. As illustrated in Figure 1, two rural counties were expected to continue to have more than 40 percent substandard housing. Sixteen counties were expected to have between 30 and 39.9 percent substandard housing. Twenty counties were expected to have between 20 and 29.9 percent, and 34 counties were expected to have between ten and 19.9 percent substandard housing.

More than 805,000 persons representing 18 percent of all Tennessee households were expected to remain ill-housed in 1980 (26). During

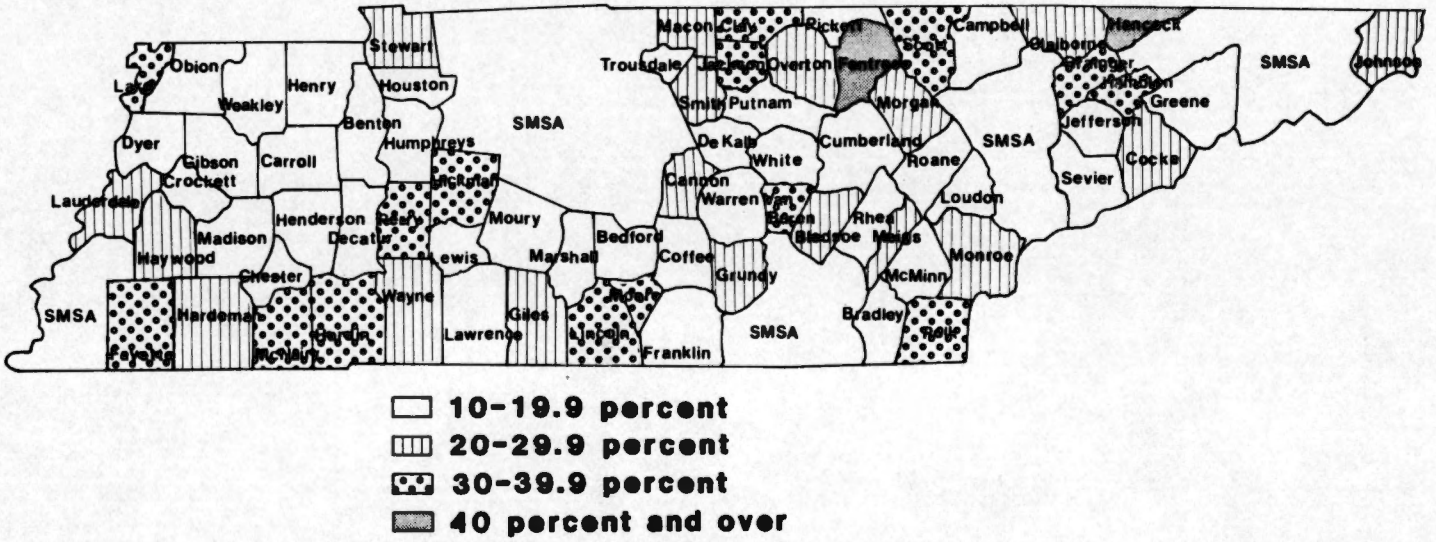


Figure 1. Inadequate Housing by Percent in Non-SMSA Tennessee Counties, 1979

Source: Report on the Need for Housing in Tennessee, 1979. Report Number TN-STAE-79-1018, Tennessee Housing Development Agency, Nashville, Tennessee, July 1979.

1980, rising home prices and rents, constricting vacancy rates, and low construction rates continued to limit housing choice and availability to a great extent.

The lack of interest in rural housing research by federally sponsored and supported groups has contributed to an approaching rural housing crisis, especially for low-income families (34). Stressing economic and socio-psychological research primarily in urban areas is an injustice to the millions of Americans living in rural environments (25).

In certain counties, a small local bank is the only accessible source of home mortgage credit for rural residents, and that credit capacity is often severely limited. More information is needed concerning the availability of home mortgage credit to rural residents from various lending institutions, the extent of use of alternative loan instruments, and other elements that affect the quality and quantity of rural housing in order to help administrators, policymakers, and lending executives evaluate current programs and plan new ones.

Documenting the attitudes, practices, and structure of rural home mortgage credit suppliers is necessary in order to establish a basis for improving rural housing. Such knowledge provides a basis for the evaluation of alternative lending policies and methods and the implementation of those which should help improve the quality of rural housing.

C. PROCEDURE

Data

Residential home mortgage credit data were obtained by survey and from year-end financial reports of commercial banks and savings and

loan (S&L) associations in rural areas. Further home mortgage credit data were obtained from publications of the Tennessee Housing Development Agency, the Farmers Home Administration, the United States Department of Agriculture, the United States Department of Housing and Urban Development, and other private and public agencies concerned with residential mortgage credit.

A structured survey was used to ascertain lender attitudes, applied policy alternatives, and economic conditions faced by executive loan officers at banks and S&L's in non-SMSA Tennessee counties.[1] The questionnaire (Appendix E) was mailed to an executive officer of each commercial bank and S&L in the 72 non-SMSA counties on July 1, 1980. The survey concerned 1979. Approximately 23 (10 percent) of the 240 commercial bank loan officers and nine (17 percent) of the 52 S&L loan officers returned the questionnaire within four weeks.[2] A second effort was necessary to obtain further responses. Executive officers who did not respond to the initial mail survey after four weeks were contacted by telephone and asked to complete the questionnaire. In total, 85 (35 percent) of the commercial banks and 23 (46 percent) of the S&L's responded.

---

[1]The questionnaire was developed by the Southern Regional Housing Research Committee (SRHRC). An introductory letter accompanied the questionnaire which requested that an executive officer complete and return it.

[2]One bank and one S&L did not have the institution identified on the returned questionnaire. Because the survey data and year-end financial data for each firm could only be associated through identification of the firm, these institutions could not be used in some of the analyses.

Year-end financial reports of rural banks and S&L's were obtained from the Federal Deposit Insurance Corporation and the Federal Home Loan Bank Board, respectively, for 1977, 1978, and 1979. These financial reports contained information concerning size, volume of deposits, and volume of home mortgage loans. The volume of residential mortgages insured or guaranteed by an agency of the U.S. Government and other pertinent housing credit data were obtained from these reports also. Additional information from publications was used in a general capacity for supportive purposes and theoretical bases.

D. STUDY AREA

This study was concerned with rural residential mortgage credit suppliers. A residential mortgage credit supplier was classified as rural in this study if the supplier was located in a non-SMSA. An SMSA, as defined at the time of the 1970 U.S. Census and for the purpose of this thesis, was a county or a group of contiguous counties containing at least one city of more than 49,999 inhabitants or twin cities with a combined population of at least 50,000. Any county not defined as an SMSA county was defined as a non-SMSA county. Of the 95 counties in Tennessee, 72 were classified as non-SMSA counties at the time of this study (Figure 1).

E. LITERATURE REVIEW

Most of the literature concerning the financial aspects of rural housing pertains either to geographical areas other than Tennessee or is quite general in perspective. Several researchers have addressed the

home mortgage credit problem from an allocative viewpoint by comparing structural and/or distributional differences between urban and rural areas. The lenders, as well as the borrowers, were considered by those researchers.

A review of available literature indicates that factors related to rural home mortgage credit problems, such as owner preference, the location of credit suppliers, and location of potential borrowers, are interrelated. Few studies have been conducted in which the availability of home mortgage credit in rural areas of Tennessee was investigated.

The satisfaction an individual gains from homeownership has been qualified in terms of average satisfaction with features such as plumbing, heating, ventilation, and storage space in dwellings (1,2,26). These variables were used as benchmarks of housing quality, primarily because they are among the criteria most importantly affecting preferences for homes.

In terms of homeowner preference, residents in non-metropolitan and/or rural counties were found to have less desirable housing units than residents in metropolitan and/or urban counties (1,2). The level of satisfaction with a home is not due to dissimilar housing preferences between urban and rural dwellers. Both groups desire the typical middle-class suburban dwelling, and both groups have similar housing aspirations (16,17). Hence, the relatively lower income of rural households is a significant constraint on the type of, as well as the quality of, housing dwellers can obtain.

Freeman supports the view that different preferences between rural and urban households are not responsible for observed variations in

expenditure patterns or observed differences in mortgage credit allocation (6). He analyzed housing census data and found that the quality of housing increased as income increased until the median level was attained. Thereafter, the quality of housing was not influenced significantly by further increases in income.

Several studies were reviewed which reveal income to be a significant variable accounting for some of the variability in the quality of housing (1,11). Non-metropolitan counties had lower-quality housing based on urban/rural comparisons of plumbing, adequacy of vacant units, construction of heating systems, and homes in need of major repairs. Non-metropolitan areas also had lower-income households than metropolitan areas (1,13).

A 1974 study revealed that poorer housing was most prevalent among non-farm families, families who rented their dwellings, and families with annual incomes of less than $6,000 (13). The results of a separate survey indicated that most renters paid under $60 a month and that 66 percent of the households surveyed had an annual income of $5,000 or less (15). Over half of the household heads surveyed said their housing was substandard, felt the need for better housing, and would be interested in better housing if they could obtain it (15).

Income was significantly related to desired features, characteristics, and availability of housing in several studies (11,18,41,27). Furthermore, higher-income families are more satisfied with their dwellings than lower-income families (11,13,15).

Many rural low-income families have housing problems. Rural areas generally are characterized by lower average family incomes, higher

percentages of substandard housing, and a lower percentage of families which are satisfied with their housing (26). In addition, rural areas generally have fewer sources of home mortgage credit and fewer loans available for the purpose of home mortgage credit (26).

The number of Veterans Administration and Federal Housing Authority loans was more than twice as great in urban as in rural areas (4). Reasons for the lack of government-insured loans in rural areas and the cost of issuing government-insured loans could not be determined, since there were too few rural lenders offering government-guaranteed loans in rural areas.

Few sources of information concerned the volume of Farmers Home Administration (FmHA) home mortgage loans. Spurlock found that few loans were made by the FmHA in rural areas in Kentucky for the purpose of residential mortgages (27). The national per capita amount of housing loans held by banks, S&L's, and the FmHA in 1975 was approximately $498 in rural areas and $1,590 in metro areas (28). The proportion of outstanding Federal Housing Authority (FHA) and Veterans Administration (VA) guaranteed loans was 17 percent in large metro areas compared with 2 percent in rural counties, and the FmHA held 34 percent of the outstanding home loans in rural counties compared with about 0.4 percent in the larger metro counties.

Commercial banks are the major source of home mortgage credit loans in rural areas (7,27). Approximately 44 percent of the residential mortgage loans in rural areas come from commercial banks (4). Commercial banks in rural areas offer shorter credit terms, higher rates of interest, and less financing than urban banks for a house of given value

(4,26,27). However, Hamlin stated that rural loans are generally associated with slightly lower interest rates and that the differences in urban and rural interest rates are negligible (7).

The relationship of debt to total assets, more specifically the loan-to-value ratio, has long been regarded as one important indicator of the soundness of almost any loan transaction (4). Jones and Durand identified the loan-to-value ratio as the most important loan characteristic contributing to the problem of home mortgage loan credit allocation (26). Rural areas had an eight percent lower loan-to-value ratio on the average than urban areas. The inequitable distribution of government-insured loans seems to be the reason for the lower ratio.

S&L institutions supply less first mortgage credit to homeowners in rural areas than commercial banks (27,28). In general, rural areas lack a sufficient number of S&L associations (26,27,40). Nationally, of the 856 most rural counties in the non-metropolitan areas, 805 did not have an S&L association in 1978 (23). In 1979, there were 52 S&L's in 35 of the 72 non-SMSA counties in Tennessee and no S&L association in the other 37 non-SMSA counties.

CHAPTER II

INSTITUTIONS SUPPLYING RESIDENTIAL MORTGAGE CREDIT

Many different institutions are involved with the residential mortgage credit system in non-SMSA areas of Tennessee. The purpose of this chapter is to identify those institutions which make residential mortgage loans and their specific functions in the mortgage credit system.

A. PRIVATE INSTITUTIONS

Commercial Banks

Commercial banks are the dominant institution with respect to size in the financial sector in Tennessee. They are the largest financial institution, in terms of total assets, purchase the widest variety of primary claims, and have the greatest number of individual offices. Like all other financial intermediaries, banks provide for the transfer of funds from surplus spending units to deficit spending units in the intermediation market.[3]

There were 383 bank offices in the non-SMSA counties in Tennessee in 1979. Two hundred forty of those offices were home offices, and 143 (37 percent) were branch offices.

As shown in Table 1, 69 percent of the banks in Tennessee in 1979 were located in non-SMSA areas. These banks controlled only 47 percent

---

[3]For sources and extent of bank regulation and supervision, see Kaufman, George G., Money and the Financial System. Chicago, Rand McNally College Publishing Company, 1975, p. 95.

TABLE 1

NUMBER AND TOTAL ASSETS OF BANKS IN TENNESSEE
BY LOCATION AND TYPE OF CHARTER, 1979

Location	Charter	Number	Percent	Total Assets $ (000)	Total Assets Percent
Non-SMSA	State--Nonmember FRS	188	54	4,488,676	31
	State--Member FRS	4	1	94,349	1
	National--Member FRS	48	14	2,156,815	15
SUBTOTAL		240	69	6,739,840	47
SMSA	State--Nonmember FRS	78	23	4,525,752	31
	State--Member FRS	7	2	605,507	4
	National--Member FRS	19	6	2,558,850	18
SUBTOTAL		104	31	7,690,109	53
TOTAL		344	100	14,429,949	100

Source: Computer data tape obtained from the Federal Reserve Board, Washington, D.C., 1979.

of the assets held by all banks in Tennessee. While over half of the non-SMSA banks were state chartered, they held only approximately one-third of the Tennessee bank assets. Four other non-SMSA banks were also state chartered but members of the Federal Reserve System (FRS). These banks held one percent of the State's banking assets. Forty-eight (14 percent) of the non-SMSA banks were chartered by the FRS.

The mean size, in total assets, of the 240 non-SMSA banks in Tennessee in 1979 was $28 million.[4] The range was from a high of $659 million to a low of $3 million.[5] The median size was $20 million.[6]

S&L Associations

A board of directors for each S&L is responsible for the development of policy for the conduct of business at the individual association. The board of directors is made up of local citizens. Although S&L associations are private institutions, they must work within a framework of special state and federal laws and regulations.[7]

Standards for the chartering of new associations, government of operating practices, and control over the kinds of loans and other investments is set by state and/or federal law. Operating standards and guidelines are regulated by supervisory agencies such as the Federal Savings and Loan Insurance Corporation (FSLIC).

[4,5,6]This information was calculated from information supplied by the Federal Reserve Board in Washington, D.C.

[7]For sources and extent of S&L regulation and supervision, see Tennessee Laws and Regulations for Savings and Loan Associations as prepared by the Tennessee Savings and Loan League, Inc., February 1977.

S&L's were the second largest type of financial intermediary in Tennessee in 1979. The assets of S&L's totaled $6.6 billion in that year and were exceeded only by the assets of commercial banks, which totaled $14.4 billion by the end of 1979.[8] In 1979, 52 S&L's were located in non-SMSA areas of Tennessee (Table 2). Furthermore, these S&L's were located in only 35 of the 72 non-SMSA counties in Tennessee (Figure 2). There were 37 non-SMSA counties in which no association was located.

As also shown in Table 2 and Figure 2, there were 12 state and 40 federally chartered associations in non-SMSA counties. There were 13 state and 31 federally chartered associations in SMSA counties. In total, there were 96 S&L's in Tennessee in 1979.

B. THE FARM CREDIT SYSTEM

The Farm Credit System was established, organized, and put into operation by the United States Government in order to help farmers help themselves. Short-, intermediate-, and long-term credit are all available for various purposes to mostly rural areas through the Farm Credit System (19).

The Farm Credit System is composed of three major levels of organization: the Farm Credit Administration (FCA), 12 Farm Credit Districts, and the cooperative banks and associations. The Federal Land Bank System (FLB), the Production Credit Association (PCA), and the

---

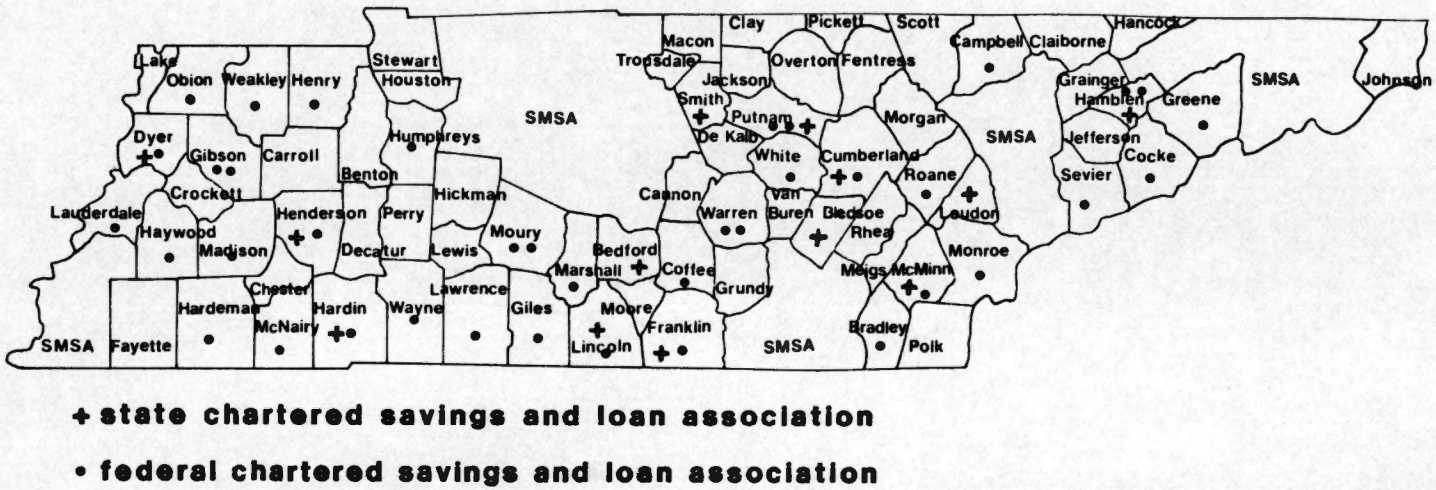
[8] A state law was enacted in 1972 which permitted state chartered S&L's. The first state chartered S&L was formed in the same year.

TABLE 2

NUMBER AND TOTAL ASSETS OF SAVINGS AND LOAN ASSOCIATIONS IN TENNESSEE BY LOCATION AND TYPE OF CHARTER, 1979

Location	Charter	Number	Percent	Total Assets $ (000)	Total Assets Percent
Non-SMSA	State	12	13	68,505	1
	Federal	40	41	1,288,500	20
SUBTOTAL		52	54	1,357,005	21
SMSA	State	13	14	610,590	9
	Federal	31	32	4,592,896	70
SUBTOTAL		44	46	5,203,484	79
TOTAL		96	100	6,560,489	100

Source: Computer data tape obtained from the Federal Home Loan Bank Board, Washington, D.C., 1979.



+ state chartered savings and loan association

• federal chartered savings and loan association

Figure 2. Location of Non-SMSA Savings and Loan Associations in Tennessee, 1979

Source: Computer data tape obtained from the Federal Home Loan Bank Board, Washington, D.C., 1979.

Banks for Cooperatives are the units responsible for actually extending credit within each District.

The FCA is a supervisory organization and makes no loans. It is an independent agency in the executive branch of the United States Government. The FCA consists of the Federal Farm Credit Board, the governor, and his staff. The FCA supervises banks and associations of the Farm Credit System from which loans originate. Approval authority over certain kinds of loans is retained by the FCA. This is an unusual function for a regulatory agency, as it generally is normally done by other major supervisory agencies.

Tennessee is in the Fourth Farm Credit District. The district includes a District Farm Credit Board, an FLB and affiliated Federal Land Bank Associations (FLBA's), a Federal Intermediate Credit Bank (FICB) and affiliated PCA's, and a Bank for Cooperatives.

Each District Farm Credit Board has seven members. Six directors are elected, two by borrowers from the FLB, two by borrowers from the PCA, and two by borrowers from the Bank for Cooperatives. The seventh director is appointed by the governor of the FCA. The District Farm Credit Board is the board of directors for each of the three banks in the district.

The three banks in the Fourth District are housed in the district offices located in Louisville, Kentucky. Rural home mortgage loans are made only by the FLBA's and the PCA's. The Bank for Cooperatives does not have authority to make rural home loans. Therefore, it is not discussed.

The Federal Land Bank System

The FLB System supplies long-term mortgage credit to eligible applicants--primarily farmers. Credit is extended through FLB-affiliated FLBA's. There were 13 FLBA's and 36 county offices in Tennessee in 1979.

Each FLBA is organized by borrowers from the district FLB and operates in a specified area under a federal charter. Each FLBA is a corporation and, as is the case with all corporations, is controlled by a board of directors. Members of the board are elected by members of the association who own voting stock.

FLB housing loans are restricted to single-family, moderately priced dwellings and their appurtenances in rural areas. Rural housing loans are amortized over periods not exceeding 30 years for new houses and must be secured by first liens on the dwelling. Thirty-year terms are not considered appropriate for older residences. Loans may be made on conventional homes, modular homes, or mobile homes meeting certain standards. No borrower may have more than one loan outstanding on a rural home at any one time. Furthermore, loans are not made to persons who plan to buy or build a home for the purpose of renting or reselling it.

Loans may be made to rural homeowners for the following purposes and no others: (1) buying the rural home; (2) building or remodeling the rural home, (3) making appropriate improvements to the security for a loan, (4) refinancing existing indebtedness incurred for (1), (2), or (3) above, and (5) taxes or insurance if due within 90 days after loan closing.

The aggregate volume of rural home loans made by the FLB of Louisville, Kentucky cannot exceed 15 percent of the total loan portfolio.

The executive committee of the FLB of Louisville recommends a maximum limit of 30 percent in rural home loan volume for any one local FLBA.[9]

All rural home loans are made on a fully amortized standard payment plan with monthly payments. Each loan is made on the variable interest rate plan. The rate of interest may be adjusted from time to time.

Interest rates are determined by the board of directors subject to FCA approval. Because FLB's are federally chartered instrumentalities of the Government, they are not subject to state usury laws which limit the rate of interest that may be charged. As a result, FLB's may charge higher interest rates than other commercial credit lenders if the need arises.

The Production Credit System

The Production Credit System supplies short- and intermediate-term credit to eligible participants--primarily farmers. Credit is extended through PCA's. There were nine PCA's and 71 field offices in Tennessee in 1979. The organization of PCA's is similar to that of the FLBA's, and the election of boards of directors for these two organizations is comparable.

Most PCA loans are for agricultural production purposes such as meeting current operating expenses. Loans made for these purposes usually mature within a year. Most PCA rural home loans are made for the purpose of repairing or remodeling an existing home or for the purchase of a

---

[9]Telephone communications with Mr. Michael Harber of the Federal Land Bank Association in Jackson, Tennessee.

mobile home. Loans of this type may have a maturity of up to seven years. Mortgage real estate loans or real estate may be used to secure a loan of this type.

The FICB's may participate with PCA's or with each other in making loans. Borrowers are required to purchase stock in the association in an amount equal to five to ten percent of the loan. Each PCA loan is short-term, with interest rates varying among associations primarily because of differences in operating expenses. Once a loan is approved by the PCA, notes and mortgages signed by the borrower are used as collateral to obtain funds from the FICB of the district.

PCA's may, with proper approval, participate in loans with local commercial banks and other lenders. However, certain provisions are included in participation agreements to assure that the banks do not substantially shift their lending away from agriculture.

C. PUBLIC INSTITUTIONS

The Tennessee Housing Development Agency

The Tennessee Housing Development Agency (THDA) was established in 1973 by the Tennessee Housing Development Agency Act. The primary purpose of the agency is to raise funds through the issuance of bonds and notes to assure a steady flow of production of new housing units for lower- and moderate-income persons and families. The mission of the THDA is to improve the housing and living conditions of persons in Tennessee who cannot otherwise afford decent housing.

The THDA has developed specific goals as follows (31): (1) to give priority to low-income families in providing housing assistance;

(2) to increase funds available for construction and permanent mortgage financing of residential housing for persons and families of low and moderate incomes; (3) to bring greater stability to the residential construction industry, particularly during periods of credit shortage; (4) to promote neighborhood conservation and to preserve the existing housing stock through rehabilitation of existing housing structures; (5) to promote enforcement of laws applicable to unlawful discrimination with respect to sale, construction, financing, and rental of housing; (6) to promote excellence in architectural and landscape design; (7) to improve the availability of accurate and current information concerning the housing stock of Tennessee; (8) to promote the effective use of energy-saving design in housing; and (9) to identify, promote, and coordinate the use of available resources for housing through effective technical assistance activities.

The THDA is an instrumentality of the State of Tennessee. The THDA has a board of directors composed of 16 members. The Secretary of State, State Treasurer, Comptroller of the Treasury, Commissioner of the Department of Finance and Administration, and a Staff Assistant to the Governor serve as ex officio directors of the THDA. Nine of the remaining members are appointed by the Governor. Six of those appointees must be representatives of various sectors of the housing, real estate, and home building industries and the mortgage lending profession, and three of them must be citizens of Tennessee who are knowledgeable about the problems of inadequate housing conditions in the State. In addition, the Speaker of the State Senate and the Speaker of the State House of Representatives each appoint one member.

The THDA is authorized to make, or participate in the making of, mortgage loans to qualified sponsors, developers, builders, and purchasers of residential housing for lower- and moderate-income persons and families. The mortgage must be approved by the State Funding Board subsequent to a schedule of financings proposed by the THDA during the fiscal year. The rules and regulations of the THDA provide that the maximum gross annual household income for persons and families to whom single-family mortgage loans are made in non-urban areas not exceed the amounts as presented in Table 3.[10] In this section, the influence of the THDA on rural areas in Tennessee was not determined.

The maximum sales price limitations for newly-constructed and existing homes which are financed by single-family mortgage loans in non-urban areas were $36,000 and $33,000, respectively, in 1979 but are subject to change. Mortgage loans may be either made by, or purchased by, the THDA. In either case, all mortgages must be either: (1) insured by or guaranteed by the U.S. or any instrumentality thereof or be a loan for which there is a commitment by the U.S. or any instrumentality thereof to insure or guarantee such a mortgage loan; (2) secured by a policy of insurance of guarantee issued by any qualified and approved mortgage insurer; (3) insured or guaranteed by any agency or instrumentality of the State; or (4) a loan made on a qualified residential property in which the borrower owns, or is prepared to own by use of a cash down payment, an equity of at least 25 percent in the property.

---

[10] Non-urban areas are those counties included in non-SMSA's by the U.S. Bureau of the Census and those counties not containing a municipality of 15,000 or more persons as of July 1978.

TABLE 3

THDA SINGLE-FAMILY INCOME LIMITS FOR VARIOUS SIZE HOUSEHOLDS IN NON-URBAN TENNESSEE, 1979

Household Size	Household Income ($)
One member	13,000
Two members	14,400
Three members	14,400
Four members	16,000
Five members or more	17,500

Source: "Official Statement: Mortgage Finance Program Bonds, 1980 Series C." THDA, Nashville, Tennessee, July 19, 1980.

In addition, all mortgage loans must be secured by a first lien on a fee simple or leasehold estate in real property located in the State.

The THDA activities in connection with single-family mortgage lending originally consisted of purchasing mortgage loans already outstanding on single-family homes. Since 1975, the THDA has made single-family mortgage loans directly and has purchased a limited number of mortgage loans. All such mortgages created or purchased are insured by the FHA or a private mortgage insurance company, or are guaranteed by the VA, or are on properties in which the borrower has an equity of at least 25 percent. The THDA also makes advance commitments to home builders directly for the making of permanent mortgage loans on newly constructed single-family homes.

The THDA had made 4,853 (60 percent) mortgage loans which were insured by the FHA, 2,054 (25 percent) mortgage loans which were guaranteed by the VA, 1,174 (15 percent) mortgage loans which were privately insured, and 12 (less than 0.5 percent) conventional mortgage loans as of March 31, 1980 (Table 4). FHA insured mortgages had the largest outstanding balance at $110,762,253. VA guaranteed mortgage loans had the second largest outstanding balance at $47,786,780. Privately insured mortgage loans had the third largest outstanding balance at $25,944,442. There were fewer conventional mortgage loans made than any other type of mortgage. In total, 8,093 single-family mortgage loans had been made by the THDA, with a total outstanding balance of $184,671,305 on March 31, 1980. The dollar distribution for loans made was approximately the same as the distribution of the number of loans made by type.

The THDA had purchased many mortgage loans as of March 31, 1980 (Table 4). In total, 1,189 loans were purchased, with a total

TABLE 4

NUMBER AND OUTSTANDING BALANCE OF THDA SINGLE-FAMILY MORTGAGE LOANS AS OF MARCH 31, 1980

Type	Number	Percent	Outstanding Balance ($)	Percent
Mortgage Loans Made				
FHA Insured	4,853	60	110,762,253	60
VA Guaranteed	2,054	25	47,786,780	26
Privately Insured	1,174	15	25,944,442	14
Conventional	12	*	177,830	*
SUBTOTAL	8,093	100	184,671,305	100
Mortgage Loans Purchased				
FHA Insured	178	15	3,707,108	11
VA Guaranteed	239	20	5,526,592	17
Privately Insured	644	54	19,036,662	59
Conventional	128	11	4,325,686	13
SUBTOTAL	1,189	100	32,596,048	100
Proceeds Disbursed for Mortgage Loans Not Closed	231		6,036,350	
GRAND TOTAL	9,513		223,303,703	

*Less than 0.5 percent.

Source: "Official Statement: Mortgage Finance Program Bonds, 1980 Series C." THDA, Nashville, Tennessee, July 19, 1980.

construction of multi-family developments for which there is evidence of existing permanent mortgage loan commitments (32). The THDA has made two loans to lending institutions under this program. Only one loan was unpaid and outstanding in the amount of $2,421,551 on March 31, 1980. THDA loans to lending institutions are conterminous with the estimated construction period for the development and the interest rate on such loans is related to the interest rate on the THDA notes.

The THDA provides housing assistance payments to families to enable them to rent existing housing (32). Under this program, owners of apartments or single-family homes rent these homes directly to low-income residents. Owners of such housing receive a rent which may not exceed a "fair market rent" established by the U.S. Department of Housing and Urban Development (HUD). The residents pay an amount equal to 15 percent to 25 percent of the family income, and the difference between that amount and the rent due is paid by HUD. This program was administered at the local level by various city and county agencies on behalf of the THDA. The THDA had funds available to assist 1,277 families under this program. As of April 30, 1980, assistance was being provided to 1,057 families.

The THDA administers a comprehensive Technical Assistance Program which is funded by grants from the Appalachian Regional Commission and HUD. Under that program, an annual report on the need for housing is prepared, a state-wide allocation plan for housing resources is under development, technical assistance to local communities in developing housing plans and programs is provided, housing market research is performed, and market and site data and design and energy conservation

information is made available. Through this program, the THDA also assists local communities in the preparation of applications for financial assistance from the FmHA and HUD under its Technical Assistance Program.

The THDA entered into reservation of funds agreements with various originating agents in the disbursement of proceeds of 1980 Series A Bonds and 1980 Series C Bonds (32). The THDA had entered into such agreements with 174 originating agents and 50 home builders were to receive proceeds from the Series A Bonds by July 1, 1980. Ninety-six originating agents were to receive proceeds from the Series C Bonds.

The 1980 Series A Bonds provided $76,050,000 in proceeds by July 1, 1980 (Table 5) (32). These proceeds were reserved for originating agents (banks, S&L's, and mortgage companies) and homebuilders (32). Approximately 27 percent, 19 percent, and 33 percent of these funds were reserved for banks, S&L's, and mortgage companies, respectively. The remaining 1 percent was reserved for homebuilders.

The 1980 Series C Bonds provided $54,700,000 in proceeds by July 1, 1980 (Table 6) (25a). These proceeds were reserved for originating agents (32). Approximately 18 percent, 24 percent, and 58 percent of these funds were reserved for banks, S&L's, and mortgage companies, respectively.

Federal Home Loan Bank System

The Federal Home Loan Bank System acts as a credit-reserve system for thrift and home financing institutions. The System raises funds through the issue and sale of consolidated obligations in the money and capital markets and extends credit to member institutions by using the

TABLE 5

DISTRIBUTION OF FUNDS FROM THDA SERIES A BONDS AMONG VARIOUS ORIGINATING AGENTS IN TENNESSEE AS OF JULY 1, 1980

Type of Originating Agent	Funds	
	Amount ($000)	Percent
Banks	20,534	27
Home Builders	23,576	31
Mortgage Companies	17,491	23
S&L's	14,449	19
TOTAL	76,050	100

Source: "Official Statement: Mortgage Finance Program Bonds, 1980 Series A." THDA, Nashville, Tennessee, July 19, 1980.

TABLE 6

DISTRIBUTION OF FUNDS FROM THDA SERIES C BONDS AMONG VARIOUS ORIGINATING AGENTS IN TENNESSEE AS OF JULY 1, 1980

Type of Originating Agent	Funds	
	Amount ($000)	Percent
Banks	9,846	18
Mortgage Companies	31,726	58
S&L's	13,128	24
TOTAL	54,700	100

Source: "Official Statement: Mortgage Finance Program Bonds, 1980 Series C." THDA, Nashville, Tennessee, July 19, 1980.

future proceeds of their present mortgage holdings as security. Funds are obtained primarily by sale of debt securities which are not explicitly guaranteed by the government; however, most investors feel there is a strong moral obligation on the part of the government in this regard (19). Three kinds of institutions are eligible for membership in the System: (1) S&L associations, (2) savings banks, and (3) insurance companies. However, the System serves only a part of the primary market since membership is comprised almost entirely of S&L associations. The System is headed by the Federal Home Loan Bank Board (FHLBB) which serves as a regulative authority in areas affecting the S&L business.

Federal Home Loan Bank Board

The activities of the Federal Home Loan Bank System are directed by the FHLBB. The FHLBB is an independent agency in the executive branch of the federal government. The Board consists of three members who are appointed for terms of four years by the President of the U.S. with the advice and consent of the Senate (19). The principal functions of the board are to serve as a regulatory authority in three general areas affecting the S&L business. The Board has chartering and supervisory authority for federal S&L's and the Federal Home Loan Banks (FHLB's) which comprise the Federal Home Loan Bank System. In general, the FHLBB conducts hearings; issues rules and regulations; approves charters, branches, agencies, and changes of location; conducts examinations; supervises mergers, dissolutions, reorganizations, and conversions; and conducts conservatorships and receiverships (19).

A board of trustees comprised of the FHLBB members also administers the FSLIC and governs the Federal Home Loan Mortgage Corporation (FHLMC)

which is a secondary mortgage market operation. Actual operations of the FSLIC are directed by a general manager under the supervision and authority of the FHLBB.

The types of advances authorized by the FHLBB in order to meet the needs and preferences of member institutions are:

1. Short-term, with a maximum maturity of 12 months, or long-term, with a maximum maturity of ten years;
2. Secured by specific collateral or unsecured, except that the FHLBB in any event holds a lien against the bank stock owned by the borrowing member;
3. Amortized or unamortized;
4. Variable-rate or fixed-rate.

These types of advances allow member institutions to adjust their borrowings from the FHLB's to changing external economic conditions.

Short-term advances are self-liquidating and should be repaid in a year or less. Long-term advances are a supplement to savings. When savings are inadequate to meet the housing needs of the community, an S&L could borrow such long-term funds.

The type and amount of collateral for advances is specified in the Federal Home Loan Bank Act and regulations. Generally, the management of each bank exercises judgment in determining the type and volume of collateral required for individual transactions. However, the most often accepted collateral consists of mortgage loans which are first liens in good standing on homes. Home mortgage loans provided as collateral must not have more than 30 years to maturity. Exceptions are permitted for loans insured by the FHA or guaranteed by the VA.

Federal Home Loan Mortgage Corporation

In 1970, the FHLBB established the FHLMC (38). The FHLMC was created by the Emergency Home Finance Act of 1970. The purpose of the FHLMC is to promote the flow of capital into the housing markets by establishing an active secondary market in mortgages.

The FHLMC is empowered to buy and sell FHA and VA loans and, more importantly, buy and sell participations and conventional loans. In periods of tight credit or regional imbalances in the mortgage money supply, the FHLMC provides additional funds to home mortgage lenders by purchasing existing mortgages from their portfolios. The FHLMC obtains funds to finance purchases in four major ways. The FHLMC can borrow from the FHLB's, issue Government National Mortgage Association-backed bonds, sell mortgage participation certificates, and sell guaranteed mortgage certificates.

Farmers Home Administration

The FmHA is an agency of the U.S. Department of Agriculture. The FmHA administers farm credit and rural housing programs (19). FmHA housing programs provide direct loans, insured loans, and grants. The FmHA was originally created in response to demands by farmers for low-cost direct loans from the government. Initially, the FmHA was established to help farmers obtain adequate credit from commercial lenders. Later, the government broadened the lending authority of the FmHA to include the entire rural community.

The lending authority of the FmHA involves two principal objectives. The first of these objectives is to strengthen the economic position of individual family farmers. Providing credit to individual

farmers who are unable to obtain adequate credit from commercial lenders at reasonable rates and terms is a major function of the agency. This objective includes the extension of credit to eligible farmers for purposes which improve the level of their agricultural income and, subsequently, their standard of living. The second principal objective of the FmHA is to improve the quality of rural communities. This objective evolved as the scope of the U.S. Department of Agriculture activities broadened to include the entire rural community.

The national office of the FmHA determines policies within the framework of laws established by Congress, establishes procedures, controls budgets, and provides technical training to field staff. Fiscal, business management, and accounting services were conducted by the national finance office. Each state has a director in charge of the respective state office.

Broad authority and responsibility have been delegated by an administrator to the state director to carry out the loan program in his state. The state director and his staff direct and train county office personnel, analyze loan programs, and administer the budgets allotted to their state for loans and administrative expenses. The state director also approves certain types of loans for which county supervisors have not been authorized to approve. The state director appoints selected farmers and businessmen who are interested in agricultural problems to a state advisory committee in most states. The state director consults this committee on the credit needs in the state and on adapting national policies to state problems. Tennessee has a representative of the FmHA located in each county or neighboring county. All applications for loans

are made through representatives in local offices. The supervisor in charge of the county office helps rural families prepare home plans, approves most loans, gives technical advice to borrowers, and accepts payments from certain borrowers. In connection with other types of loans, the county supervisor gives technical assistance, long-range development planning assistance, and general supervision.

Three individuals selected by the state director constitute a Farmers Home Administration Local Committee. Each committee member is appointed to represent each county or county office area. At least two farmers must be on each local committee. The third member must be a local person familiar with local farmers and their needs. These committees determine the eligibility of applicants, certify the value of farms where real estate loans are being made, review the progress of borrowers, and make recommendations concerning certain loan approval and loan servicing actions.

Farmers Home Administration Loans

The FmHA is authorized by law to make loans only to those who are unable to obtain adequate credit from other sources on reasonable terms. Lending authority includes extension of credit and accompanying counsel and supervision for rural housing. Rural housing includes individual dwellings, rental of cooperative units, farm labor housing, and other items.

FmHA borrowers agree to obtain their credit from other lenders when they reach or regain a financial position where they can do so. The FmHA credit program is designed to supplement other sources of credit and not compete with them.

The FmHA may make larger loans, relative to value of security, than standard commercial lenders. Loans can be up to 100 percent of the value of the housing unit in certain cases. Loans are secured by liens on assets; the type of asset used for security depends upon the type of loan.

Interest rates charged borrowers on loans are somewhat lower than prevailing market rates. Interest supplements are also provided to reduce the effective interest rate charged borrowers. The amount of supplement varies according to the level of interest rates in the financial markets and the ability of the borrower to meet payments. Therefore, when rates are high and/or incomes are low, the interest supplements are relatively large, and vice versa. Interest supplements also vary from one type of loan to another. Losses incurred as a result of these interest rate subsidies are financed from general federal tax revenues.

In Tennessee, the FmHA made 4,287 loans for $98 million in 1979.[11] Non-SMSA areas obtained 3,272 (76 percent) of these loans for a total dollar value of $73 million (75 percent).

Farmers Home Administration Housing Programs

Although FmHA housing programs are tailored to meet the needs of a specific segment of the rural population, some characteristics are common to all of them. For instance, homeownership programs are limited to families of low or moderate income who may rent, buy, build, or repair homes for their own use. These families do not qualify for credit with

---

[11] Information supplied by the FmHA in Nashville, Tennessee.

rates and terms that they can reasonably be expected to pay from other lenders.

The FmHA offers eight types of loans, each designed to alleviate a different housing problem (34).

Section 502 loans. These loans may be used to buy, build, repair, or rehabilitate rural homes and related facilities. Adequate water and waste disposal systems may also be purchased with these loans. Loans are made at a fair market rate. However, low-income families (those earning $11,200 or less a year) can receive interest credit assistance. This subsidy, paid by the FmHA, can reduce the effective rate of interest paid by the family from the current rate at loan closing to as low as one percent, with a loan term up to a maximum of 33 years. Under this subsidy, the family must pay 20 percent of its adjusted income for principal, interest, taxes, and insurance.

Loan terms vary, depending on the family income bracket. However, families with adjusted incomes between $11,200 and $15,600 must pay the current rate at loan closing on a loan which may have a term up to 33 years.

The Single-Family Rural Housing Loan Program is one of several guaranteed loan programs operated by the FmHA. However, it is the only guaranteed loan program that pertains to housing. This program provides a guaranty of up to 90 percent of a single-family loan made in a rural area. The guaranteed loans are intended to service families with annual adjusted incomes of between $15,600 and $20,000.

The loan interest rate may be negotiated between the borrower and lender. The rate, however, may not exceed that charged on other housing

loans in the area without a guarantee. The applicant must have equity from his own resources in either cash or land. Three percent equity is required on the first $25,000 and five percent on the excess. Homes must be modest in size and cost but adequate to meet the needs of the applicant. New homes are expected to average approximately 1,200 square feet of living area.

Section 504 loans and grants. These loans or grants are provided for very low-income homeowners for the purpose of making home repairs to correct health and safety hazards. Assistance is limited to $5,000 per family. Applicants must be 62 years old or older. This program is primarily used to bring running water and install bathrooms in homes.

Section 514 and Section 516 farm labor housing loans and grants. These sections provide loans and grants to public bodies and nonprofit corporations. The loan or grant must be used to provide housing for a person who makes a substantial portion of his or her income from working on farms.

Section 515 rural rental loans. This section is a direct mortgage loan program designed to aid in the development of newly constructed or rehabilitated rental or cooperative housing in rural areas. Occupancy is limited to low- and moderate-income families, persons whose age is 62 or older, and handicapped persons. The Section 515 program can be used to finance new construction or substantial rehabilitation of dwelling units under HUD's Section 8 leased housing program. Section 515 projects receiving subsidy assistance automatically allows 1 percent

interest credit assistance. The credit assistance may be raised to 2 percent if FmHA administrators feel the project needs it.

A maximum loan of $1.5 million may be obtained by developmental mortgagors unless there is prior approval for a larger loan. At least 2 percent of the cost of the development must be provided by all mortgagors as initial operating capital. Development loans have a maximum repayment period of 50 years. Interest rates are periodically adjusted by the FmHA administrator. Market conditions and a statutory formula dictates the direction and magnitude of the adjustment.

Section 515B cooperative ownership housing. Appended to Section 515, Section 515B is similar in matters concerning eligibility, project location, type of construction required, interest, and terms. However, the occupants own their homes under this program. This allows residents to build up their equity while paying rent.

Section 523 self-help grant. Families who cannot afford a commercially built home, but are willing to join together and build a home with their own labor, may apply for funds under this program. The self-help technical assistance grant is used to fund the organization which provides the guidance needed in forming these groups, informs the families of loan requirements, and provides supervision during construction.

Section 524 and Section 523 rural housing site loans. These loans are for communities without available building sites. A site loan can be made to a nonprofit corporation or public body to buy land and install streets and utilities necessary to develop a desirable subdivision. The

developed sites can be for self-help housing and for other low- and moderate-income family housing.

Section 8 funds. These funds are basically used to make up the difference between what a low- or moderate-income family can afford to pay and the actual cost of their housing. Section 8 payments are vital to community revitalization. Although these funds do not directly involve commercial lenders, the funds are vital to developers to whom an institution would make loans.

Federal Housing Administration

The FHA, created by the National Housing Act of 1934, is a federal agency within HUD. The FHA operates a variety of loan insurance and subsidy programs. These programs are designed to help stabilize the home mortgage market, improve housing construction standards, and facilitate sound financing on reasonable terms (19).

The Secretary of HUD sets interest rate ceilings on FHA loans at a level meeting market conditions. The FHA borrower pays an annual insurance premium of one-half percent of the average principal outstanding over the year on non-interest-subsidized loans in addition to the stated interest rate on the loan.

The FHA has several loan insurance and subsidy programs. Programs have been devised to serve the following purposes: (1) provide insurance for single-family loans; (2) expedite FHA-insured loan processing by allowing private lenders to make their own property appraisals and borrower credit approvals; (3) provide for very low, gradually increasing monthly payments during the early years of a home loan with a graduated

payment mortgage plan; (4) combine insurance and interest rate subsidies for new owner-occupied homes; and (5) provide rental apartments to low-income families at affordable rent.

A record $22.4 billion in FHA-insured loans were made in the U.S. in 1979 (35). Home mortgages accounted for $18.2 billion (81 percent), project mortgages accounted for $2.8 billion (12 percent), and property improvement loans accounted for $1.5 billion (7 percent). In an average month, the FHA insured 30,000 to 40,000 existing homes and 4,000 to 8,000 new homes across the nation during 1979.

Veterans Administration

The VA offers many programs and benefits for returning veterans (38). The loan guarantee program of the VA is of special importance. Amendments to the Serviceman's Readjustment Act of 1944 have extended benefits to more recent veterans, expanded the program to include mobile homes and condominiums, raised the maximum guarantee to $25,000 for one-family homes, and restored eligibility to veterans who already have used their entitlement once.

The interest rate on VA-guaranteed single-family mortgages is the same as that on FHA loans, except borrowers do not pay one-half percent of the loan for mortgage insurance. Federal legislation also exempted VA loans from state usury ceilings in 1979. This exemption allows rates of interest to exceed the rates charged by other lenders in the state on VA loans.

The volume of VA-guaranteed loans has fluctuated widely in the 35-year existence of the program. In 1979, national VA lending was $16.7 billion in new loans (35). This was an increase of $2.2 billion above

the 1978 level. The total number of home mortgage loans guaranteed by the VA during 1979 was 356,000.

Federal National Mortgage Association

The Federal National Mortgage Association (FNMA or Fannie Mae) participates in secondary market operations (36). The secondary market operation includes functions usually assigned to a central mortgage bank. It buys, sells, and holds federally underwritten and conventional mortgages and issues debentures for sale in the money and capital markets. The FNMA also makes advance commitments. However, the commitment prices are set below prevailing market prices to encourage sellers to seek other buyers. This advance commitment technique is known in the trade as a stand-by commitment. The FNMA also provides "warehousing" arrangements through the purchase-option procedure. Under this arrangement, the seller may repurchase the same mortgage at the FNMA purchase price within a nine-month option period. Despite this wide range of functions, the contribution of FNMA's secondary market operation to the development of a private secondary market is severely restricted by statutory and administrative regulation.

The major statutory restriction is the exclusion of conventional mortgages. By not dealing in conventional mortgages, the FNMA ignores the largest segment of residential mortgage debt and accentuates the division of the primary market. Restrictions are also placed on the age of mortgages eligible for purchase. Emphasis on newly originated mortgages has been maintained by administrative regulation. Offerings must be made to the FNMA within four months of the FHA final insurance endorsement of the VA Certificate of Guaranty

The FNMA purchases FHA and VA mortgages from all types of portfolio mortgage lenders. the FNMA is also the nation's largest purchaser of residential mortgages. During 1979, the FNMA increased its national mortgage loan portfolio by $10.8 billion to a total of $51.1 billion (36).

Government National Mortgage Association

The Government National Mortgage Association (GNMA or Gennie Mae) is a corporate entity within HUD (37). Basically, the GNMA provides a market for various types of mortgages. Operating policy is determined by the secretary of HUD within the limitations of law.

Privately insured conventional mortgages, unsubsidized FHA-insured and VA-guaranteed mortgages, subsidized FHA-insured mortgages, and other selected types of mortgages are especially marketable through the GNMA. Assistance provided through the GNMA's Special Assistance Functions may involve a tandem-type purchase program under which mortgages are purchased at favorable prices to avoid deep discounts and then sold at the going market yields with GNMA absorbing any discount points. GNMA assistance may also involve a direct purchase program under which mortgages are purchased and held in portfolio. GNMA programs include the following.

Conventional mortgage purchase program. The Emergency Home Purchase Assistance Act of 1974 expanded the GNMA's mortgage purchase program to include conventionally financed mortgages and new and existing housing for a period of one year.

Unassisted housing mortgage program. This program allows the GNMA to issue an advance commitment to purchase a mortgage at 98 percent (less fees) and at an interest rate below the current rate. The

commitments may then be sold back to the same mortgage originators at market prices. When the mortgages are finally insured, the GNMA pays the mortgage originator the difference between the price at which the commitment was issued and the price at which it was sold back. When commitments are not sold back, the GNMA buys the mortgages and thereafter offers them for sale through competitive bidding.

Assisted housing mortgage program. This program includes mortgages insured under Section 221 (d)(3) Rent Supplement, Section 236, Section 235, and Section 237. The program operates similarly to the program for mortgages for unassisted housing.

CHAPTER III

IMPORTANT FACTORS CONCERNING RURAL RESIDENTIAL MORTGAGE CREDIT SUPPLIERS--BANKS AND SAVINGS AND LOANS

The institutions involved in supplying or facilitating the supply of mortgage credit in Tennessee were discussed in the previous chapter. Although many primary and secondary institutions were discussed, commercial banks and savings and loan institutions are the most important sources of residential mortgage credit in rural areas. The first objective of this chapter is to present the results of the residential mortgage survey of banks and S&L's which describe executive loan officers' attitudes, policy alternatives, loan instruments, and various other items concerned with residential mortgage credit. The survey instrument used to obtain this information is presented in Appendix E.

The second objective of this chapter is to ascertain if significant differences exist between the non-SMSA respondent banks and S&L's with respect to lender attitudes, reasons for rejecting first mortgage home loan applications, loan policy for alternative types of housing, and the purpose of loans by location. The Kolmgrov-Smirnov (K-S) Goodness-of-Fit Test and the Chi-Square Goodness-of-Fit Test were used to determine these differences (27). Although these tests do not indicate the direction of existing differences, inferences about the direction of tendency could be made based on the percentage of responses reported by bank and S&L lenders for a particular question. For example, such inferences could show that one type of lender tends to reject more loan applicants than another type for a particular reason, or vice versa.

Various information was tested to determine if the respondents were representative of the population of rural institutions with respect to the volume of total assets, conventional mortgage loans, and total mortgage loans. As shown in Table 7, institutionally descriptive variables for all rural firms and respondent firms varied relatively little in 1979.

The following section is presented in order to establish the representativeness of the respondent banks and S&L's, i.e., those banks and S&L's that returned a residential mortgage survey. This section served to establish the general basis for further analysis. If the banks and S&L's responding to the survey are representative of all such institutions in non-SMSA areas, the findings of the analysis in this study could be generally applied to all non-SMSA banks and S&L's.

A. RESPONDENTS REPRESENTATIVE OF POPULATION

Total conventional mortgage loans comprised 65 percent of the total mortgage loan volume held by all non-SMSA banks and 60 percent of the total mortgage loans held by the respondent banks in 1979. All non-SMSA banks had a volume of total conventional mortgage loans equal to nine percent of their total assets. Respondent banks also had nine percent of their total assets invested in conventional mortgage loans. All non-SMSA banks had a volume of total mortgage loans equal to 17 percent of their total assets. Respondent banks invested 15 percent of their total assets in residential mortgage loans. The arithmetic mean of the 240 bank observations for total assets was $28,083,000. The standard deviation of total assets for 240 non-SMSA banks was $22,011,000. The

TABLE 7

COMPARISON OF RESIDENTIAL MORTGAGE CREDIT FACTORS FOR ALL NON-SMSA AND RESPONDENT BANKS AND S&L ASSOCIATIONS IN TENNESSEE, 1979

Variable	Banks		S&L's	
	All (n = 240)	Respondents (n = 84)	All (n = 52)	Respondents (n = 22)
	----------Percent----------			
Total Conventional Mortgages ÷ Total Mortgage Loans[a]	65	60	95	94
Total Conventional Mortgages ÷ Total Assets	9	9	80	80
Total Mortgage Loans ÷ Total Assets	17	15	84	85
	----------$000----------			
Mean Total Assets[b,c]	28,083	29,795	28,054	36,996
Standard Deviation of Total Assets	22,011	21,182	24,067	32,452

[a]Each of the three variables was computed by $\sum_{n=1}^{i} Xn / \sum_{n=1}^{i} Yn$.

[b]A test of the difference between the means obtained for total assets for all non-SMSA banks and the respondent banks resulted in the acceptance of the hypothesis of no difference between them at the 0.05 level.

[c]A test of the difference between the means obtained for total assets for all non-SMSA S&L's and the respondent S&L's resulted in the acceptance of the hypothesis of no difference between them at the 0.05 level.

arithmetic mean and standard deviation of total assets for the 84 respondent banks was $29,795,000 and $21,182,000, respectively. A test of the difference between the means obtained for total assets for all non-SMSA banks and respondent banks resulted in the acceptance of the hypothesis of no difference between them at the 0.05 level (Appendix A). Therefore, it was assumed that the total assets of the respondent banks was representative of the population of non-SMSA banks.

Total conventional mortgage loans comprised 95 percent of the total mortgage loan volume held by all non-SMSA S&L's and 94 percent of the total mortgage loans held by the respondent S&L's. All non-SMSA S&L's had a volume of total conventional mortgage loans equal to 80 percent of their total assets. Respondent S&L's also had 80 percent of their total assets invested in conventional mortgage loans. All non-SMSA S&L's had a volume of total mortgage loans equal to 84 percent of their total assets. Respondent S&L's invested 85 percent of their total assets in residential mortgage loans. The arithmetic mean of the 52 S&L observations for total assets was $28,054,000. The standard deviation of total assets for the 52 non-SMSA S&L's was $24,067,000. The arithmetic mean and standard deviation of total assets for the 22 respondent S&L's was $36,996,000 and $32,452,000, respectively. A test of the difference between the means obtained for total assets for all non-SMSA S&L's and respondent S&L's resulted in the acceptance of the hypothesis of no difference between them at the 0.05 level (Appendix B). Therefore, it was assumed that the total assets of the respondent S&L's was representative of the population of non-SMSA S&L's.

B. LENDER ATTITUDES

Attitude of Lenders Concerning the Number of Loans Made

Bank and S&L respondents reported their types of first mortgage home loans they made in 1979. The attitude of 23 percent of the banks and 14 percent of the S&L's was that they made too many conventional mortgage loans (Table 8). Sixty-seven percent of the banks and 50 percent of the S&L's felt that the volume of conventional loans they made was about right. However 10 percent and 36 percent of the banks and S&L's, respectively, wanted more conventional mortgage loans.

A Chi-Square Goodness-of-Fit Test was conducted to determine if there were differences between the respondent banks and S&L's with respect to their attitudes toward the volume of conventional first mortgage loans they made in 1979 (Appendix C, Table 50). The null hypothesis of no difference between the attitudes of bank lenders and S&L lenders was rejected at the 0.05 level of significance. Therefore, the attitudes of bank lenders was significantly different from the attitudes of S&L lenders. While banks appeared to feel they made too many loans, S&L's appeared to feel that they did not make enough first mortgage loans.

Ability of Firms to Meet Loan Demand

Most banks and S&L's responding to the survey were able to meet the demand for first mortgage loans in 1979 (Table 9). Twenty-three banks (34 percent) and four S&L's (17 percent) were unable to meet the demand for mortgage credit.

Those applicants unable to obtain credit from banks or S&L's either turned to alternative sources of credit or did not obtain credit.

TABLE 8

ATTITUDE OF 67 NON-SMSA BANKS AND 22 NON-SMSA S&L'S CONCERNING THE VOLUME OF CONVENTIONAL FIRST HOME MORTGAGE LOANS MADE IN TENNESSEE, 1979

	Attitude							
	Had Too Many		About Right		Wanted More		Total	
Type of Loan	Number of Respondents	Percent	Number of Respondents	Percent	Number of Respondents	Percent	Number of Respondents	Percent
Bank	15	23	45	67	7	10	67	100
S&L	3	14	11	50	8	36	22	100

TABLE 9

ABILITY OF NON-SMSA BANKS AND NON-SMSA S&L'S TO MEET THE DEMAND FOR FIRST MORTGAGE HOME LOANS IN TENNESSEE, 1979

Type of Firm	Ability to Meet Loan Demand					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Bank	45	66	23	34	68	100
S&L	19	83	4	17	23	100

In order to determine if there were differences between banks and S&L's in their ability to meet first mortgage loan demand, the data were subjected to the Chi-Square Goodness-of-Fit Test (Appendix C, Table 51). The hypothesis that there were no significant differences in the ability between banks and S&L's to meet the demand for first mortgage home loans in 1979 was accepted at the 0.05 level.

Firm Attitudes Towards Alternative Types of Loans

Firms were asked their attitudes towards alternative types of loans (Table 10). Most banks and S&L's considered variable interest rate loans to be normal. Few banks considered graduated payment loans to be normal; however, many banks would make graduated payment loans on a trial basis, and many banks would not consider making them. Most S&L's would make graduated payment loans on a trial basis. Most banks reported that they would not consider reverse annuity loans. Only three S&L's reported reverse annuity loans would be a normal alternative. Most banks would not consider rollover mortgage loans, while most S&L's would consider them to be a normal alternative. Most banks and S&L's would not consider subordinated lot least mortgages or price level adjusted mortgages. In general, S&L's appear to be more liberal than banks. S&L's reported more favorable attitudes toward alternative types of loans.

A Chi-Square Goodness-of-Fit Test was conducted on the responses to each type of loan to determine if the attitudes of bank lenders were different from S&L lenders (Appendix C, Table 52). The null hypothesis of no significant difference between bank lenders and S&L lenders was accepted for the variable interest rate mortgage, subordinated lot lease mortgage, and the price level adjusted mortgage at the 0.05 level of

TABLE 10

BANKS' AND S&L'S' ATTITUDE TOWARD ALTERNATIVE TYPES OF LOANS, 1979

Type of Loan	Institution Attitude							
	Normal		Trial Basis		Would Not Consider		Total	
	Number of Banks	Number of S&L's	Number of Banks	Number of S&L's	Number of Banks	Number of S&L's	Number of Banks	Number of S&L's
Variable interest rate	50	12	18	7	4	4	72	23
Graduated payment	8	7	27	11	29	3	64	21
Reverse annuity	1	3	11	7	43	9	55	19
Rollover mortgage	13	15	15	4	27	2	55	21
Subordinated lot lease	1	2	10	1	45	16	56	19
Price level adjusted mortgage	6	4	14	4	33	11	53	19

significance. The null hypothesis was rejected for the graduated payment mortgage, reverse annuity mortgage, and rollover mortgage at the 0.05 level of significance. S&L's tended to have a normal loan policy, while banks appeared reluctant to make these types of loans.

C. LOAN GUIDELINES FOR INCOME AND ELIGIBILITY

Importance of Reasons for Rejecting Loan Applications

Firms were asked to rate the importance of usual reasons for rejecting first mortgage loan applications in 1979. Based on the number of respondents and the degree of importance each respondent placed on the reason for rejection, it was possible to rank the reasons (Tables 11 and 12).[12]

The "debt picture" was determined to be the most important reason for rejection of a loan application by both banks and S&L's. Both banks and S&L's ranked "insufficient down payment" second in importance and "credit rating" third. Banks ranked "income stability" fourth in importance, and S&L's ranked "income level" to be fourth. Fifth in importance to banks was an applicant's income level. Fifth in importance to S&L's was "appraisal." Sixth in importance to banks was appraisal, and to S&L's, "income stability." Banks, as well as S&L's, ranked being a "regular customer" and having an "acceptable co-signer" as seventh and eighth in importance, respectively.

---

[12]The procedure used to rank the reasons was as follows: (1) each degree, numbered 1 through 7, was multiplied by the number of responses for each respective degree; (2) these seven products were summed; (3) the sum was divided by the total number of responses to that particular reason; and (4) the quotients for all eight reasons were defined as a rank coefficient and were ranked numerically.

TABLE 11

REASONS, RANKED BY IMPORTANCE, FOR REJECTING FIRST MORTGAGE HOME LOAN APPLICATIONS AT NON-SMSA BANKS IN TENNESSEE, 1979

Reason for Application Rejection	Total Number of Respondents	Degree of Importance: Low 1	2	3	4	5	6	High 7	Rank Coefficient[a]
		Frequency of Response							
Debt picture	66	0	0	0	8	13	22	24	5.9
Insufficient down payment	69	2	0	0	6	14	21	26	5.8
Credit rating	68	1	1	2	10	7	21	26	5.8
Income stability	66	2	1	4	6	13	18	22	5.4
Income level	67	2	1	3	11	18	15	17	5.3
Appraisal	66	3	2	4	9	13	19	16	5.2
Regular customer	65	5	1	4	8	16	16	15	5.1
Acceptable co-signer	63	19	11	13	9	5	5	1	2.8

[a]The procedure used to rank the reasons was as follows: (1) each degree, numbered 1 through 7, was multiplied by the number of responses for each respective degree; (2) these seven products were summed; (3) the sum was divided by the total number of responses to that particular reason; and (4) the quotients for all eight reasons were defined as a rank coefficient and were ranked numerically.

TABLE 12

REASONS, RANKED BY IMPORTANCE, FOR REJECTING FIRST MORTGAGE HOME LOAN APPLICATIONS AT NON-SMSA S&L'S IN TENNESSEE, 1979

Reason for Application Rejection	Total Number of Respondents	Degree of Importance: Low 1	2	3	4	5	6	High 7	Rank Coefficient[a]
		Frequency of Response							
Debt picture	16	1	0	1	1	3	3	7	5.6
Insufficient down payment	16	1	0	0	3	5	2	3	5.3
Credit rating	18	2	1	0	0	5	4	6	5.3
Income level	18	2	1	0	1	4	3	7	5.3
Appraisal	20	2	2	0	0	5	5	6	5.2
Income stability	16	0	3	1	3	4	2	3	5.0
Regular customer	13	9	1	0	2	0	0	1	1.4
Acceptable co-signer	11	10	0	0	1	0	0	0	1.3

[a]The procedure used to rank the reasons was as follows: (1) each degree, numbered 1 through 7, was multiplied by the number of responses for each respective degree; (2) these seven products were summed; (3) the sum was divided by the total number of responses to that particular reason; and (4) the quotients for all eight reasons were defined as a rank coefficient and were ranked numerically.

Generally, banks and S&L's tend to rank reasons for rejecting loan applicants similarly. For both institutions, the "debt picture" was ranked as the most important reason for rejecting a loan applicant. Therefore, an individual's assets, liabilities, and net worth appear to be of primary importance when considering a first mortgage home loan application. The lack of an acceptable co-signer was the least important reason for rejection of a loan application for both banks and S&L's.

Although reasons for rejecting first mortgage home loan applications were ranked similarly by banks and S&L's, there were significant differences between bank and S&L responses when each reason was subjected to the K-S Test (Appendix C, Tables 53 through 60). The rank coefficients for banks generally appeared to be slightly higher than for S&L's, which indicates that banks expressed a higher importance for the different reasons.

Firms Which Refer a Rejected Applicant to Another Lender

Firms were asked: (1) if they ever refer a rejected applicant for a first mortgage loan to another lender (Table 13); and (2) if they did, to what types of lenders (Table 14). Seventy-eight banks and 23 S&L's responded to this question. Approximately 88 percent of the banks and 65 percent of the S&L's responded "yes," they did refer a rejected applicant to another lender.

Banks most often referred an applicant to an S&L association. The second most frequently chosen lender was the FmHA. The FHA/VA, Federal Land Bank, and other home mortgage companies were third, fourth, and fifth, respectively. Respondent banks referred few rejected applicants to other banks and no rejected applicants to a PCA.

TABLE 13

FREQUENCY OF NON-SMSA BANKS AND NON-SMSA S&L'S WHICH DO/DO NOT REFER A REJECTED APPLICANT TO ANOTHER LENDER IN TENNESSEE, 1979

Type of Firm	Do Refer		Do Not Refer		Total	
	Number	Percent	Number	Percent	Number	Percent
Bank	67	88	11	12	78	100
S&L	15	65	8	35	23	100

TABLE 14

FREQUENCY OF LENDERS USED BY NON-SMSA BANKS AND NON-SMSA S&L'S TO REFER REJECTED FIRST MORTGAGE LOAN APPLICANTS IN TENNESSEE, 1979

Type of Firm	Lenders to Which Rejected Applicants are Referred						
	Banks	FHA/VA	FLB	FmHA	Home Mortgage Company	PCA	S&L
Bank	2	12	8	19	8	0	56
S&L	6	3	3	7	0	3	4

S&L's most frequently referred a rejected applicant to either the FmHA or a commercial bank. Several S&L's reported referring applicants to Federal Land Banks, PCA's, or other FHA/VA lenders.

Guidelines for the Proportion of Family Income Allowed for Mortgage Principal, Interest, Taxes, and Insurance

Firms were asked the guidelines they used for the proportion of family income allocated for mortgage principal, interest, taxes, and insurance. Fifty-four banks and 21 S&L's responded to this question (Table 15).

Most respondent banks (60 percent) and many respondent S&L's (47 percent) used a guideline of 25 percent. The second most often used guideline was 30 percent by banks and S&L's. Although other guidelines were used, the range was 20 to 50 percent for banks and 25 to 35 percent for S&L's. Furthermore, the frequency of responses for banks was well distributed throughout the range, while the frequencies for S&L's were concentrated in the 25 to 30 percentages.

Number and Type of Loans Made to Various Income Households

Firms were asked the number and type of first mortgage home loans they made to households with annual incomes of less than $16,500, $16,500 to $21,999, and greater than $22,000. As shown in Table 16, banks and S&L's made many more conventional mortgage loans than FHA/VA or FmHA mortgage loans. Most of the conventional loans made by banks and S&L's were to households with annual incomes between $16,500 and $21,999. Banks reported making the second largest number of loans to households with annual incomes which were less than $16,500. Households with annual

TABLE 15

NUMBER AND PERCENT OF NON-SMSA FIRMS AND THE ACTUAL GUIDELINE THEY USED FOR PROPORTION OF FAMILY INCOME ALLOCATED FOR MORTGAGE PRINCIPAL, INTEREST, TAXES, AND INSURANCE IN TENNESSEE, 1979

Actual Guideline for Proportion of Family Income (percent)	Type of Firm			
	Banks		S&L's	
	Number	Percent	Number	Percent
20	3	6	0	0
25	33	60	10	47
27	0	0	2	10
28	0	0	3	14
30	8	15	4	19
33	1	2	1	5
35	5	9	1	5
40	3	6	0	0
50	1	2	0	0
Total Number of Respondents	54	100	21	100

TABLE 16

NUMBER OF CONVENTIONAL, FHA/VA, AND FmHA FIRST MORTGAGE HOME LOANS MADE TO HOUSEHOLDS WITH VARIOUS ANNUAL INCOMES BY NON-SMSA INSTITUTIONS IN TENNESSEE, 1979

Family Annual Income Level	Type of First Mortgage Home Loan											
	Conventional				FHA/VA				FmHA			
	Responses		Loans		Responses		Loans		Responses		Loans	
	Banks	S&L's	Banks	S&L's	Banks	S&L's	Banks	S&L's	Banks	S&L's	Banks	S&L's
Less than $16,000	46	18	1,426	541	3	2	155	30	1	0	2	0
$16,500-$21,999	48	19	1,800	956	4	2	172	59	0	0	0	0
Greater than $22,000	45	18	1,150	548	2	2	45	32	0	0	0	0

incomes greater than $22,000 received the smallest number of conventional loans from banks. S&L's made about the same number of loans to households with incomes less than $16,500 as they did to households with incomes greater than $22,000.

Banks and S&L's made more FHA/VA loans than FmHA guaranteed loans. As with conventional loans, the largest number of FHA/VA loans made by banks and S&L's were to households with annual incomes between $16,500 and $21,999. While banks made considerably more FHA/VA loans to families with incomes less than $16,500 than to families with incomes greater than $22,000, S&L's made about the same number to both income groups.

Although S&L's reported making no FmHA loans in this question, a bank reported making two loans to households with annual incomes less than $16,500.

D. SCOPE OF LOAN AREAS

Percent of Loans Made Within the County, in Adjacent Counties, and Outside Adjacent Counties

While several rural banks made all of their first mortgage home loans within their county, all S&L's reported making at least a small percentage of their loans outside their county. Approximately 16 percent of the bank respondents made 100 percent of their loans within their county (Table 17). Most banks (54 percent) and S&L's (64 percent) made between 90 and 99 percent of their loans within their county. Approximately 22.0 percent of the banks and 9.0 percent of the S&L's made between 80 to 89 percent of their loans within their county. While only

TABLE 17

NUMBER AND PERCENT OF NON-SMSA FIRMS AND THE APPROXIMATE PERCENT OF FIRST MORTGAGE HOME LOANS THEY MADE WITHIN THEIR COUNTIES IN TENNESSEE, 1979

Percent of First Mortgage Home Loans Within County	Firms Making Loans			
	Banks		S&L's	
	Number	Percent	Number	Percent
100	14	16	0	0
90-99	45	54	14	64
80-89	19	22	2	9
Less than 80	7	8	6	27
TOTAL	85	100	22	100

eight percent of the banks reported making less than 80 percent of their loans within the county, S&L's reported 27 percent.

Although most of the first mortgage home loans made by banks and S&L's were within their county, many firms made loans in adjacent counties (Table 18). Only three percent of the banks reported over 20 percent of their first mortgage loans in adjacent counties, while 26 percent of the S&L's reported over 20 percent. Approximately 18 percent of the banks and 9 percent of the S&L's made between 11 and 20 percent of their loans in adjacent counties. Most of the banks (58 percent) and S&L's (56 percent) made between 1 and 10 percent of their loans in adjacent counties. There were many banks (20 percent) and only a few S&L's (9 percent) that did not make any loans in adjacent counties.

None of the banks made over 10 percent of their loans outside adjacent counties; however, 4 percent of the S&L's made over 10 percent of their first mortgage home loans outside adjacent counties. Most banks (71 percent) and S&L's (74 percent) did not make any loans outside adjacent counties.

Number and Percent of Loans Made by Purpose and Population Area

Firms were asked to approximate the number of loans they made for new home purchases, used home purchases, and repairs and improvements, and the population of the area where these loans were made (Table 19). In general, the estimated number of loans made by non-SMSA banks was considerably larger than non-SMSA S&L's. The estimated number of loans made by non-SMSA banks was 22,499, while the estimate for non-SMSA S&L's

TABLE 18

NUMBER AND PERCENT OF NON-SMSA FIRMS AND THE APPROXIMATE PERCENT OF FIRST MORTGAGE HOME LOANS THEY MADE IN ADJACENT COUNTIES AND OUTSIDE ADJACENT COUNTIES IN TENNESSEE, 1979

Percent of First Mortgage Home Loans	Firms That Made Loans in Adjacent Counties				Firms That Made Loans Outside Adjacent Counties			
	Banks		S&L's		Banks		S&L's	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Over 20	3	4	6	26	0	0	0	0
11-20	15	18	2	9	0	0	1	4
1-10	50	58	13	56	25	29	5	22
None	17	20	2	9	60	71	17	74
TOTAL	85	100	23	100	85	100	23	100

TABLE 19

NUMBER AND PERCENT OF RESIDENTIAL MORTGAGE LOANS MADE BY NON-SMSA BANKS AND S&L'S FOR THE PURCHASE OF NEW HOMES, USED HOMES, AND REPAIRS AND IMPROVEMENTS WITHIN TOWNS WITH A POPULATION OF 2,499 OR LESS, 2,500 OR MORE, AND OUTSIDE CITY LIMITS IN TENNESSEE, 1979

Location of Property Mortgaged		Purpose of Mortgage							
		New Homes		Used Homes		Repairs and Improvements		Total Loans[a]	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Towns of 2,499 or less:	Banks	411	8	331	6	358	7	1,100	21
	S&L's	128	4	138	4	135	4	401	12
Towns of 2,500 or more:	Banks	500	10	473	9	555	11	1,528	30
	S&L's	406	13	578	18	347	11	1,331	42
Outside city limits:	Banks	950	18	859	17	719	14	2,528	49
	S&L's	394	12	658	21	417	13	1,469	46
Total number of loans:	Banks	1,861	36	1,663	32	1,632	32	5,156	100
	S&L's	928	29	1,374	43	866	28	3,168	100

[a]The discrepancy between the total number of loans reported by banks and S&L's in this table and the total number of loans reported in Table 24 may be explained by the greater number of firms reporting the data in Table 19. Fifty-eight banks and 21 S&L's reported information contained in this table. Forty-seven banks and 19 S&L's reported information contained in Table 24.

was 7,846.[13] However, the estimated number of loans made per bank was 94, and the estimated number of loans made per S&L was 151.

Banks and S&L's reported making 30 percent and 42 percent of their total loans in towns with a population of 2,500 or more, respectively. Banks made 10 percent of the total loans for the purchase of new homes, 9 percent for the purchase of used homes, and 11 percent for repairs and improvements to houses. S&L's made 13 percent of their total loans for the purchase of new homes, 18 percent for the purchase of used homes, and 11 percent for repairs and improvements to houses.

An additional 21 percent and 12 percent of loans made by banks and S&L's, respectively, were made in towns with a population of 2,499 or less. Of the total number of loans, banks made 8 percent for new homes, 6 percent for used homes, and 7 percent for repairs and improvements. S&L's made a lower percentage of their loans for these purposes. They made 4 percent for new homes, 4 percent for used homes, and 4 percent for repairs and improvements.

Both banks and S&L's made more loans outside city limits than within the city limits. Forty-nine percent of the first mortgage loans made by banks were outside city limits. Of the total number of loans, banks made 18 percent for new homes, 17 for used homes, and 14 for repairs and improvements. S&L's made 46 percent of their loans outside city limits. As a percentage of the total number of loans made by S&L's,

---

[13]The total number of loans made by the respondents was divided by the total number of respondents. This average was then multiplied by the total number of non-SMSA firms.

12 percent, 21 percent, and 13 percent were made for new homes, used homes, and repairs and improvements, respectively.

Banks made a higher percentage of their loans for new homes and repairs and improvements than S&L's. S&L's made a higher percentage of their loans for used homes than banks. Banks made 36 percent of their loans for new homes and 32 percent for repairs and improvements. S&L's made 29 percent and 28 percent for new homes and repairs and improvements, respectively. S&L's made 44 percent of their loans for used homes, while banks made 32 percent.

Fifty-five respondent banks and 21 S&L's reported making a total of 5,156 loans and 3,168 loans, respectively. These loans were reported by location and purpose. Loans were made in towns with a population of 2,499 or less, 2,500 or more, and in areas outside city limits. The purpose of the loans were for the purchase of new homes, the purchase of used homes, and repairs and improvements.

The Chi-Square Test was used with data in Table 17 to determine if the proportion of loans made by banks for various purposes (new homes, used homes, repairs and improvements) was the same in various locations (populations of 2,499 or less, 2,500 or more, and outside city limits). The null hypothesis was that the location and the loan purposes were independent of each other. This null hypothesis was rejected (Appendix C, Table 61). Hence, it was concluded that the proportion of bank loans made by location and the number of bank loans made by purpose were not independent.

The greatest disparity between observed and expected frequencies occurred in the towns of 2,500 or more population. Fifty-three percent (16) of the total chi-square value occurred in this category.

It was observed that banks had a tendency to make more loans than expected for the purpose of repairs and improvements in towns of 2,500 or more and in towns of 2,499 or less. Banks were more likely to make loans for the purpose of purchasing new homes in towns of 2,499 or less and outside city limits. Loans for the purpose of purchasing used homes were also more likely to be made outside city limits.

The Chi-Square Test was used with data in Table 19 to determine if the location of the loans made by S&L's and the purpose of the loans were independent of each other. The null hypothesis was that the location and the purpose were independent of each other. This null hypothesis was rejected (Appendix C, Table 62). Hence, it was concluded that the proportion of S&L loans made by location and the number of S&L loans made by purpose were not independent.

The greatest disparity between observed and expected frequencies occurred in the towns of 2,499 or less population. Sixty-seven percent (14) of the total chi-square value occurred in this category.

It was observed that S&L's had a tendency to make more loans for the purpose of repairs and improvements in towns of 2,499 or less and outside city limits than in towns of 2,500 or more. S&L loans for the purpose of purchasing new homes were more likely to be made in towns of 2,500 or more and in towns of 2,499 or less. There was also a tendency for loans for the purpose of purchasing used homes to be made in towns of 2,500 or more and outside city limits than in towns of less than 2,500.

Presence of Financing Problems for Homes Outside City Limits

Firms were asked if major problems exist in financing rural homes, i.e., homes outside city limits (Table 20). While 22 percent of the banks reported major problems, 41 percent of the S&L's completing the survey reported problems.

Banks and S&L's listed the problems they encountered in financing rural homes (Table 21). The reason most often cited by banks was "low loan capacity." "Ineligible applicants," "high volume of paperwork," and "mortgages do not qualify for secondary mortgage participation" were other problems cited by banks. S&L's did not report the rural home financing problems they encountered.

E. APPRAISERS USED, MARKET VALUE CATEGORIES, AND POLICY GUIDELINES FOR DIFFERENT TYPES OF HOUSING

Types of Housing Appraisers Used and the Problems They Face

Prior to the financing of a mortgage loan, the property on which the loan is made is usually appraised to determine value. Banks and S&L's reported three types of appraisal personnel they used in determining this value. As shown in Table 22, in-house personnel was the major source of appraisers for both type firms. The second most often used appraisers were independent agents. The least used source of appraisal personnel were real estate brokers.

There are many firms, banks and S&L's, which use in-house appraisers. The reason for this may be the additional cost incurred by the firm for using appraisers outside the firm.

TABLE 20

NUMBER OF NON-SMSA BANKS AND NON-SMSA S&L'S REPORTING MAJOR PROBLEMS IN FINANCING HOMES OUTSIDE CITY LIMITS IN TENNESSEE, 1979

Type of Firm	Firms Reporting					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Banks	18	22	64	78	82	100
S&L's	9	41	13	59	22	100

TABLE 21

FREQUENCY OF MAJOR PROBLEMS EXISTING IN FINANCING RURAL HOMES OUTSIDE CITY LIMITS BY NON-SMSA BANKS IN TENNESSEE, 1979[a]

Financing Problems	Frequency of Problems Reported (number of banks)
Ineligible applicants	3
Low loan capacity	10
Mortgages do not qualify for secondary mortgage participation	3
High volume of paperwork	4

[a]Some banks reported more than one problem area.

TABLE 22

APPRAISAL PERSONNEL USED BY NON-SMSA BANKS AND NON-SMSA S&L'S IN TENNESSEE, 1979[a]

Type of Firm	Types of Appraisal Personnel Used (number)		
	In-House	Independent Agent	Real Estate Broker
Banks	58	10	11
S&L's	15	8	1

[a]Some firms reported more than one source of appraisal personnel.

Several major problems were encountered by banks and S&L's in appraising innovative or alternative housing (Table 23). Twelve bank respondents (14 percent) and seven S&L respondents (30 percent) encountered the problem of not having comparable housing as reference to base appraisals. Banks also encountered problems with a limited market and low appraisal value for innovative or alternative housing. Banks and S&L's admitted a lack of knowledge about this type of housing. This level of knowledge or inadequate sale history may be the reason for a low appraisal value.

Number and Percent of Loans Made on Property in Various Market Value Categories

Firms were asked the number of first mortgage loans they made in various market values. As shown in Table 24, banks reported the largest percent of their loans (33 percent) were for homes with a market value between $20,000 and $34,999. S&L's also reported the largest percentage (37 percent) of their loans in this market value category. Banks and S&L's both made the second largest portion of their loans (30 percent and 32 percent, respectively) for homes with a market value between $35,000 and $49,999. Banks made 22 percent of their loans for homes with market values of less than $20,000. S&L's made the third largest portion of their loans (13 percent) for homes with a market value between $50,000 and $64,999. Banks made only 10 percent of their loans in this market value category. Both banks and S&L's made 5 percent of their loans for homes with a market value equal to or greater than $65,000.

TABLE 23

FREQUENCY OF NON-SMSA BANKS AND NON-SMSA S&L'S ENCOUNTERING PROBLEMS IN APPRAISING INNOVATIVE OR ALTERNATIVE HOUSING IN TENNESSEE, 1979[a]

Type of Firm	Problems Encountered (number)			
	Limited Market	Lack of Comparable Housing	Lack of Knowledge	Low Appraisal Value
Banks	6	12	4	3
S&L's	0	7	5	0

[a]Some firms reported more than one problem area.

TABLE 24

NUMBER AND PERCENT OF FIRST MORTGAGE HOME LOANS MADE IN VARIOUS MARKET VALUE CATEGORIES BY NON-SMSA BANKS AND S&L'S IN TENNESSEE, 1979

Type of Firm	Home Market Value Category											
	< $20,000		$20,000-$34,999		$35,000-$49,999		$50,000-64,999		≥ $65,000		Total[a]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Banks	1,016	22	1,466	33	1,297	30	438	10	198	5	4,415	100
S&L's	302	13	836	37	720	32	293	13	107	5	2,258	100

[a]The discrepancy between the total number of loans reported by banks and S&L's in this table and the total number of loans reported in Table 19 may be explained by the greater number of firms reporting the data in Table 19. Fifty-eight banks and 21 S&L's reported information contained in Table 19. Forty-seven banks and 19 S&L's reported information contained in this table.

Policy Guidelines for Different Types of Housing

Most bank respondents considered new home purchase loans, existing home purchase loans, home construction loans, and home improvement loans to be normal policy loans (Table 25). Several banks followed a policy guideline of making a limited number of these loans. Although several banks followed a normal policy guideline with respect to mobile home purchase loans, many banks made a limited number of mobile home purchase loans. A large number of respondent banks appeared reluctant to finance alternative types of housing such as passive/active solar houses, earth sheltered houses, and prefab and modular houses. Although they did not eliminate such alternative types of housing from consideration, they only made such loans on a trial basis.

Most respondent S&L's followed a normal loan policy with respect to new home purchase loans, existing home purchase loans, home construction loans, and home improvement loans. Most S&L respondents either made a limited number or considered the following types of loans on a trial basis: passive/active solar houses, earth sheltered houses, and prefab and modular houses. The only type of housing loans most S&L's would not consider was mobile home loans.

Tests for significant differences between the responses of banks and S&L's for each type of housing loan were conducted (Appendix C, Table 63). There were significant differences between the responses of banks and S&L's for their respective policy guidelines for new home purchase loans, existing home purchase loans, home construction loans, mobile home purchase loans, home improvement loans, and active solar housing loans. There were no significant differences between the

TABLE 25

DISTRIBUTION OF NON-SMSA BANKS AND S&L'S BY GUIDELINES FOR VARIOUS TYPES OF HOUSING LOANS IN TENNESSEE, 1979

Type of Housing Loan	Policy Guideline Responses (number)[a]					
	Normal		Limited		Would Not Consider	
	Banks	S&L's	Banks	S&L's	Banks	S&L's
New home purchase	55	22	16	1	--	--
Existing home purchase	49	22	17	1	--	--
Home construction	50	11	20	6	1	4
Mobile home purchase	22	0	39	4	10	17
Home improvement	57	11	16	9	--	--
Passive solar houses	9	6	42	11	9	2
Active solar houses	7	6	44	10	8	3
Earth sheltered houses	3	2	39	12	17	6
Prefab and modular houses	11	4	43	16	11	2

[a]Some respondents did not answer one or more questions.

responses of banks and S&L's for their respective policy guidelines for passive solar system housing loans, earth sheltered housing loans, and prefab and modular housing loans.

F. RESIDENTIAL MORTGAGE LOANS

Loan Applications and Loans Made

Banks and S&L's received considerably more applications for conventional first mortgage loans in 1979 than for other types of mortgages (Table 26). Several credit applications were received by banks for FHA/VA, FmHA, and other types of loans. Respondent S&L's received only conventional and FHA/VA loan applications.

Seventy-one percent of the conventional loan applications received by banks were actually made. S&L's made 82 percent of the conventional loans for which they received applications. Respondent banks made considerably more FHA/VA, FmHA, and other types of loans than respondent S&L's.

Financial Items Involved With Various Types of Housing Loans

Firms reported financial items concerned with various types of first mortgage home loans. For conventional loans, as shown in Table 27, the average interest charged[16] by banks and S&L's was 12.13 percent and 11.35 percent, respectively. The average repayment period allowed was 12 years by banks and 28 years by S&L's. The variation in repayment period is probably due to the different types of loans made by banks and

---

[16]Average percentages were calculated by computing the percentage for each respective firm, then summing the percents, then dividing by the total number of firms responding.

TABLE 26

APPROXIMATE NUMBER AND PERCENT OF FIRST MORTGAGE LOAN APPLICATIONS AND LOANS MADE BY NON-SMSA BANKS AND S&L'S, BY TYPE OF MORTGAGE LOAN, IN TENNESSEE, 1979

Type of Mortgage	Applications				Loans Made			
	Banks		S&L's		Banks		S&L's	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Conventional	5,645	98	4,258	98	4,003	98	3,476	98
FHA/VA	53	1	98	2	22	1	68	2
FmHA	3	--[a]	0	0	3	--[a]	0	0
Other	54	1	0	0	33	1	0	0
TOTAL	5,755	100	4,356	100	4,061	100	3,544	100

[a]Less than 0.5 percent.

TABLE 27

FINANCIAL ITEMS FOR CONVENTIONAL, FHA/VA, AND FmHA LOANS MADE BY NON-SMSA BANKS AND NON-SMSA S&L'S IN TENNESSEE, 1979

Financial Item (averages)	Units	Type of First Mortgage Loan					
		Conventional		FHA/VA		FmHA	
		Banks	S&L's	Banks	S&L's	Banks	S&L's
Interest charged	Percent	12.13 (N = 69)	11.35 (N = 21)	10.70 (N = 3)	10.70 (N = 3)	10.00 (N = 1)	0 (N = 0)
Repayment period allowed	Years	12.00 (N = 73)	28.00 (N = 23)	30.00 (N = 4)	30.00 (N = 3)	20.00 (N = 1)	0 (N = 0)
Percentage of purchase price required as down payment	Percent	23.99 (N = 72)	17.39 (N = 23)	4.40 (N = 3)	3.00 (N = 2)	10.00 (N = 1)	0 (N = 0)
Prepayment penalty	Percent	2.00 (N = 1)	1.00 (N = 1)	0 (N = 0)	0 (N = 0)	0 (N = 0)	0 (N = 0)
Time for repayment	Years	11.00 (N = 49)	11.00 (N = 16)	0 (N = 0)	12.00 (N = 2)	1.00 (N = 1)	0 (N = 0)
Origination fee	Percent	3.19 (N = 16)	2.25 (N = 20)	1.00 (N = 4)	1.00 (N = 3)	5.40 (N = 3)	0 (N = 0)

S&L's. Banks reported an average percentage of purchase price required as down payment of 24 percent. S&L's reported 17 percent. A bank and an S&L reported a prepayment penalty of 2.0 percent and 1.0 percent, respectively. The average time for repayment was 11 years for both banks and S&L's. The average origination fee was 3.19 percent for banks and 2.25 percent for S&L's.

The same financial items for FHA/VA loans are also shown in Table 27. The average interest charged on FHA/VA mortgages was 10.7 percent for both banks and S&L's. Both institutions also allowed the same average repayment period of 30 years. The average percentage of purchase price required as down payment was 4.4 percent by banks and 3.0 percent by S&L's. Neither the banks nor the S&L's reported a prepayment penalty. S&L's responded an average time for repayment of 12 years, while no banks reported this item. Banks and S&L's reported an average origination fee of 1.0 percent.

One bank reported financial items concerned with FmHA loans. S&L's did not respond to this question. The bank reported an average interest charge of 10.0 percent, an allowed repayment period of 20 years, an average percentage of purchase price required as down payment of 10.0 percent, an average time for repayment of one year, and an average origination fee of 5 percent.

Banks reported that the largest proportion of first mortgage home loans had a term of ten years or less. The largest proportion of first mortgage home loans made by S&L's had a term of 25 to 30 years.

Closing Costs

Firms reported their average closing cost to the home buyer for loans as an average percent of the loan value or a dollar amount (Table 28). Items involved include the credit report, points, origination fee, mortgage insurance, legal fees, title search, appraisal, escrow for taxes, and property insurance.

The largest percentage average closing costs for both banks and S&L's were points charged and origination fees. The largest dollar components of average closing costs for banks were property insurance and legal fees. The largest components of closing costs for S&L's were property insurance and escrow for taxes.

Average Processing Time for Various Types of Loans

Firms were asked to estimate the typical processing time between application and final approval for various types of mortgage loans (Table 29). Banks had, on the average, a processing time of 1.4 weeks for conventional loans. S&L's had a slightly longer average processing time of 2.3 weeks for conventional loans.

Banks tended to take more time than S&L's to process FHA/VA mortgages. On the average, banks required 7.2 weeks, while S&L's required 4.2 weeks. Banks also reported an average processing time for FmHA guaranteed mortgages of 7.3 weeks. S&L's did not respond to this question.

The average time required to process alternative types of mortgage loans for banks was longer than the time required by S&L's. One bank required one week, and another bank required nine weeks to process alternative mortgages. The average for S&L's was two weeks. Alternative

TABLE 28

CLOSING COSTS TO THE HOME BUYER FOR LOANS AS AN AVERAGE PERCENTAGE AND AS A DOLLAR AMOUNT OF LOAN VALUE, BY INSTITUTION, IN TENNESSEE, 1979

	Average Closing Cost			
	Banks		S&L's	
Loan Item	Amount	Number	Amount	Number
Credit report[a]	0.12	2	0.01	2
Points[a]	1.55	10	2.37	13
Origination fee[a]	1.78	8	2.17	9
Mortgage insurance[a]	0.17	3	0.16	5
Legal fees[b]	77.41	36	96.25	12
Title search[b]	68.71	42	93.00	14
Appraisal[b]	41.90	33	70.68	22
Escrow for taxes[b]	57.50	2	113.33	3
Property insurance[b]	182.00	8	147.60	5

[a]Loan item as a percentage of loan value.

[b]Loan item in dollar units.

TABLE 29

ESTIMATED PROCESSING TIME BETWEEN APPLICATION AND FINAL APPROVAL FOR VARIOUS TYPES OF MORTGAGE LOANS MADE BY NON-SMSA BANKS AND S&L'S IN TENNESSEE, 1979

	Type of Mortgage Loan							
	Conventional		FHA/VA		FmHA Guaranteed		Alternative	
Estimated Processing Time (weeks)	Banks	S&L's	Banks	S&L's	Banks	S&L's	Banks	S&L's
1	45	1	---	---	---	---	1	---
2	23	15	---	1	---	---	---	2
3	3	6	---	2	---	---	---	1
4	---	1	1	1	1	---	---	---
5	---	---	---	1	---	---	---	---
6	---	---	---	---	---	---	---	---
7	---	---	1	---	---	---	---	---
8	---	---	---	1	---	---	---	---
9	---	---	2	---	2	---	1	---
Total number of respondents	71	23	4	6	3	0	2	3

mortgage processing probably varies due to the type of alternative mortgage requirements it must meet to be approved by banks and S&L's.

G. MOBILE HOME MORTGAGE LOANS

Approximate Dollar Value of Mobile Home Loans as a Percent of All Consumer Loans

Several banks and a single S&L reported the approximate dollar value of mobile home loans made by their firm as a percent of all consumer loans. Banks reported an average of 4 percent, while the S&L reported an average of 2 percent (Table 30). The range of percents was 1 to 9. The largest percent (34) of banks had an approximate dollar value of mobile home loans as a percent of all consumer loans of one percent.

Approximate Number and Value of Mobile Home Loans

Banks reported that all of their mobile home loans were of the conventional type (Table 31). Forty-six banks made 644 mobile home loans. The approximate total dollar volume of mobile home loans made by banks was $3,469,000. The average dollar volume per mobile home was $5,387. Only one S&L responded to this question.[17]

Financial Items Involved with Mobile Home Loans

Firms were asked to report the following averages for mobile home loans: interest rate, repayment period allowed, percentage of purchase

---

[17] Data not reported to preserve confidentiality.

TABLE 30

APPROXIMATE DOLLAR VALUE OF MOBILE HOME LOANS EXPRESSED AS A PERCENT OF ALL CONSUMER LOANS MADE BY NON-SMSA BANKS IN TENNESSEE, 1979

Approximate Dollar Value of Mobile Home Loans Expressed as a Percent of All Consumer Loans	Banks	
	Number	Percent
1	18	34
2	8	16
3	3	6
4	0	--
5	12	24
6	--	--
7	1	2
8	1	2
9	8	--
TOTAL	49	100

TABLE 31

NUMBER, DOLLAR VOLUME, AND AVERAGE VALUE PER MOBILE HOME LOAN MADE BY NON-SMSA INSTITUTIONS IN TENNESSEE, 1979

Type of Mobile Home Loan	Total Number of Mobile Home Loans Made				Total Dollar Volume of Mobile Home Loans Made		Average Value Per Mobile Home Loan	
	Banks		S&L's					
	Number of Loans	Number of Respondents	Number of Loans	Number of Respondents	Banks	S&L's	Banks	S&L's
Conventional	644	46	10	1	$3,469,000	$50,000	$5,387	$5,000
FHA/VA	0	0	0	0	0	0	0	0
FmHA	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0

price as down payment, repayment penalty, points, and loan amount. These figures are presented in Table 32.

The number of respondents varied. As many as 58 banks responded to at least one of the above items, while only one S&L reported this information. Because only one S&L reported the information, the average values were indeterminable.

Banks had high average figures for most items. The average interest rate charged by banks was 14.3 percent. The average repayment period for banks was approximately seven years. The average percent of purchase price as down payment was 26.5 percent. No banks charged a prepayment penalty. However, banks did charge an average origination fee of $22. Banks reported an average mobile home loan of $8,545.

Actual Repayment Period on New Mobile Home Loans

Institutions were asked to report the usual actual repayment period on new mobile home loans (Table 33). The maximum repayment period experienced by banks was 15 years. The minimum repayment period was three years. The average actual repayment period for mobile home loans was six years for banks. One S&L reported an actual repayment period of 15 years.

Frequency of Firms Using the "Rule of 78"

Banks and S&L's were asked if they apply the "rule of 78" for prepayment on mobile home loans. Approximately 91 percent of the respondent banks and 50 percent of the S&L's responded "yes" (Table 34). The "rule of 78" is a mathematical concept which allows a lender to calculate

TABLE 32

FINANCIAL ITEMS FOR MOBILE HOME LOANS MADE BY NON-SMSA BANKS IN TENNESSEE, 1979[a]

Financial Item (averages)	Number of Respondents	Units	Value of Item
Interest rate	58	Percent	14.3
Repayment period	51	Years	7
Percentage of purchase price as down payment	52	Percent	26.5
Prepayment penalty	0	Percent	---
Points	0	Percent	---
Originating fee	3	Dollars	22
Loan amount	33	Dollars	8,545

[a]Only one S&L reported this information; hence, average values were indeterminable.

TABLE 33

USUAL ACTUAL REPAYMENT PERIOD FOR NEW MOBILE HOME LOANS MADE BY NON-SMSA BANKS IN TENNESSEE, 1979

Repayment Period (years)	Banks	
	Number	Percent
1	--	---
2	--	---
3	7	11
4	8	13
5	18	28
6	10	16
7	12	18
8	1	2
9	--	---
10	5	8
11	--	---
12	1	2
13	--	---
14	--	---
15	1	2
Total Number of Respondents	63	100

TABLE 34

FREQUENCY OF NON-SMSA BANKS AND NON-SMSA S&L'S USING THE "RULE OF 78" IN TENNESSEE, 1979

Type of Firm	Use "Rule of 78"		Do Not Use "Rule of 78"		Total	
	Number	Percent	Number	Percent	Number	Percent
Banks	64	91	6	9	70	100
S&L's	3	50	3	50	6	100

interest payments (20). The returns to the lender tend to be more favorable when this rule is used.

H. SECONDARY MARKET ACTIVITY

Changes in Procedures Which Would Increase the Use of FHA/VA and FmHA Mortgages

Banks and S&L's were asked what changes in procedures would increase their use of FHA, VA, or FmHA mortgages if they did not loan through them. The only procedural problems reported were the high volume of paperwork and the lack of local representation (Table 35). Other less frequently reported reasons included more demand and increases in loanable funds. However, these are not procedural problems and are internal problems with respect to the individual firms.

Frequency of Firms For, Against, or Undecided About the Issuance of Tax Exempt Securities

Banks and S&L's were asked if they were for, against, or undecided about the issuance of tax exempt securities to finance housing in their market area (Table 36). Although no S&L's responded in favor of tax exempt securities, 35 percent of the banks favored their issuance. Most S&L's (86 percent) and banks (44 percent) were against their issuance. Approximately 21 percent of the banks and 14 percent of the S&L's were undecided about their position concerning the issuance of tax exempt securities.

TABLE 35

FREQUENCY OF NON-SMSA BANKS AND S&L'S AND THE CHANGES IN PROCEDURES WHICH WOULD INCREASE THEIR USE OF FHA/VA AND FmHA MORTGAGES IN TENNESSEE, 1979

Type of Firm	Changes in Procedures	
	Less "Red Tape"	Better Local Representation
Banks	35	2
S&L's	4	4

TABLE 36

FREQUENCY OF NON-SMSA FIRMS FOR, AGAINST, AND UNDECIDED ABOUT THE ISSUANCE OF TAX EXEMPT SECURITIES TO FINANCE HOUSING IN THEIR MARKET AREA IN TENNESSEE, 1979

Response	Banks		S&L's	
	Number	Percent	Number	Percent
For	25	35	0	0
Against	31	44	18	86
Undecided	15	21	3	14
TOTAL	71	100	21	100

Frequency of Firms Who Made Commitments With the THDA

Firms were asked if they made commitments for any mortgage funds from the THDA (Table 37) and, if so, how much. Most banks (89 percent) and S&L's (83 percent) reported that they did not make any commitments for mortgage funds. Two banks and one S&L reported making commitments, and 5 percent and 13 percent of the respondent banks and respondent S&L's, respectively, did not respond to this question. The maximum amount of funds received by banks and S&L's from the THDA was $250,000. The minimum amount reported was $2,000 by banks and $250,000 by the S&L's.

Frequency of Firms Participating With Other Lenders in Making Housing Loans

Banks and S&L's were asked if they participated with other lenders in making housing loans (Table 38). Approximately 11 percent of the respondent banks and 30 percent of the respondent S&L's did participate with other lenders. One bank reported that it participated with 20 banks involving $1,200,000 worth of mortgage funds. An S&L participated with a mortgage firm involving $155,000. Two other S&L's participated with unidentified lenders in extending a total of $1,000,000 worth of mortgage credit.

Frequency of Firms Participating in the Secondary Mortgage Market

Firms were asked if their institution dealt in the secondary mortgage market (Table 39). Seventy-four banks and 22 S&L's responded to this inquiry. Approximately 93 percent of the banks and 59 percent of the S&L's responding reported "no." Apparently, the problems with secondary market participation were common to both banks and S&L's. The

TABLE 37

FREQUENCY OF NON-SMSA BANKS AND S&L'S WHO MADE COMMITMENTS WITH THE THDA IN TENNESSEE, 1979

Type of Firm	Did Make Commitments		Did Not Make Commitments		Total	
	Number	Percent	Number	Percent	Number	Percent
Banks	2	2	79	98	81	100
S&L's	1	4	19	96	20	100

TABLE 38

FREQUENCY OF NON-SMSA BANKS AND S&L'S PARTICIPATING WITH OTHER LENDERS IN MAKING HOUSING LOANS IN TENNESSEE, 1979

Type of Firm	Did Participate With Others		Did Not Participate With Others		Total	
	Number	Percent	Number	Percent	Number	Percent
Banks	9	11	69	89	78	100
S&L's	7	30	15	70	22	100

TABLE 39

FREQUENCY OF NON-SMSA BANKS AND S&L'S PARTICIPATING IN THE SECONDARY MORTGAGE MARKET IN TENNESSEE, 1979

Type of Firm	Do Participate		Do Not Participate		Total	
	Number	Percent	Number	Percent	Number	Percent
Banks	5	7	69	93	74	100
S&L's	9	41	13	59	22	100

lack of participation may be a result of the location of access to a secondary mortgage market.

Reasons Why Firms Do Not Participate in the Secondary Mortgage Market

Most respondent banks and S&L's in Tennessee do not participate in the secondary mortgage market. These firms reported several reasons for their lack of secondary market participation (Table 40). The most often reported reasons by banks and S&L's included "too much paperwork," "volume too small," "source of funds not needed," and "insufficient staff."

Firms that did participate in the secondary mortgage market (5 percent of banks and 41 percent of S&L's) were also asked about problems they encountered. Banks and S&L's did not report any problems in these transactions. They also did not report any recommendations for changes in the secondary market methods.

Length of Time Firms Had Been Active in the Secondary Mortgage Market

Six banks and seven S&L's reported the length of time they had been active in the secondary mortgage market (Table 41). Only two banks and one S&L reported they had been active for ten years or more. Much of the lack of participation in the secondary mortgage market may be attributed to previously discussed problems. However, the newly participating firms (less than ten years) could be an indication of firms becoming more familiar with secondary operations, or that firms enter the market and then "give up" because of problems encountered.

TABLE 40

FREQUENCY OF REASONS REPORTED BY NON-SMSA BANKS AND S&L'S FOR NOT PARTICIPATING IN THE SECONDARY MORTGAGE MARKET IN TENNESSEE, 1979

Reasons	Banks	S&L's
Source of funds not needed	26	7
Insufficient staff	24	8
Policies change too often	12	4
Need more information	15	4
Too much paperwork	31	6
Volume too small	29	6
Inconvenient location of contact person	6	3

TABLE 41

LENGTH OF TIME NON-SMSA BANKS AND S&L'S HAD BEEN ACTIVE IN THE SECONDARY MORTGAGE MARKET IN TENNESSEE, 1979

Type of Firm	Years Active			Total Number of Respondents
	1-5	6-10	Over 10	
Banks	2	2	2	6
S&L's	5	1	1	7

Markets in Which Firms Sell Mortgages

Two banks reported selling mortgages to a mortgage broker in 1979 (Table 42). Several S&L's reported selling mortgages to the FNMA, GHLMC, GNMA, private sector firms, and the THDA. None of the lenders reported having any problems in these secondary market transactions. S&L's primarily made residential mortgage loans and other long-term investments which could account for the larger number of S&L respondents who reported this information.

Frequency of Firms Purchasing and Selling Mortgage Loans

Only two banks reported purchasing whole mortgage loans in 1979. No S&L reported making mortgage loan purchases (Table 43). However, two banks and three S&L's reported selling whole mortgages. Apparently these lending institutions have only limited activity in purchasing and selling mortgage loans.

I. ENERGY CONSIDERATIONS

Frequency of Institutions Considering Policies Which Would Include Energy Costs in Determination of Borrower Eligibility

Banks and S&L's were asked if they had considered, or were considering, policies which would include energy costs as part of the determination of a borrower's eligibility for a mortgage (Table 44). Most banks (85 percent) and S&L's (70 percent) responded "yes" to this question. These responses indicate that the lending institutions are beginning to consider the implications of energy costs on the value of a house and its impact on the ability of the borrower to repay.

TABLE 42

FREQUENCY OF NON-SMSA BANKS AND S&L'S AND THE MARKETS IN WHICH THEY SOLD HOME MORTGAGES IN TENNESSEE, 1979

Type of Firm	Selling Markets					
	FNMA	FHLMC	GNMA	Private Sector Firm	THDA	Mortgage Broker
Banks	0	0	0	0	0	2
S&L's	2	6	2	5	4	0

TABLE 43

FREQUENCY OF NON-SMSA BANKS AND S&L'S THAT PURCHASED OR SOLD WHOLE MORTGAGE LOANS IN TENNESSEE, 1979

Response	Banks		S&L's	
	Number	Percent	Number	Percent
Purchased	2	3	0	0
Did not purchase	72	97	23	100
TOTAL	74	100	23	100
Sold	2	3	3	13
Did not sell	70	97	20	87
TOTAL	72	100	23	100

TABLE 44

FREQUENCY OF NON-SMSA BANKS AND S&L'S CONSIDERING POLICIES WHICH WOULD INCLUDE ENERGY COSTS IN DETERMINATION OF BORROWER ELIGIBILITY IN TENNESSEE, 1979

Type of Firm	Considering Energy Policies		Not Considering Energy Policies		Total	
	Number	Percent	Number	Percent	Number	Percent
Banks	67	85	12	15	79	100
S&L's	16	70	7	30	23	100

Types of Information Regarding Assessments of Energy Efficiency Firms Need to Make Better Lending Decisions

Firms were asked what types of information regarding assessments of energy efficiency they needed to make better lending decisions (Table 45). In order of decreasing number of responses, banks chose the following types of information: cost and technical data, performance data, appraisal techniques, installation standards, public acceptance, adaptability to existing housing, and maintenance or warranty information. Also, several banks responded "do not know."

In order of decreasing number of responses by S&L's, the following types of information were chosen: performance data, cost and technical data, public acceptance, adaptability to existing housing, maintenance or warranty information, appraisal techniques, and installation standards. A small percentage of S&L's responded "do not know" and "other." These responses should provide a priority basis for developing technical and educational materials concerning energy efficiency in homes by those organizations with responsibility over housing welfare.

TABLE 45

TYPES OF INFORMATION REGARDING ASSESSMENTS OF ENERGY EFFICIENCY HOMES NEEDED BY NON-SMSA BANKS AND S&L'S TO MAKE BETTER LENDING DECISIONS IN TENNESSEE, 1979

	Banks		S&L's	
Type of Information	Number	Percent	Number	Percent
Public acceptance	24	29	10	43
Cost and technical data	37	44	13	56
Adaptability to existing housing	24	29	10	43
Appraisal techniques	30	36	7	30
Performance data	31	37	15	65
Installation standards	29	35	5	22
Maintenance or warranty information	23	27	8	35
Do not know	14	17	2	9
Other	1	1	2	9

CHAPTER IV

RESPONSIVENESS OF CONTINUOUS STRUCTURAL VARIABLES TO FIRM SIZE

The objective of this chapter is to determine the relationship between the size of lenders, banks, and S&L's, as measured in total assets, and the volume of residential mortgage credit they supplied, as well as to determine the relationship between credit-related factors and firm size.[18,19]

Continuous structural variables were those in which an arithmetic number could be used to express the magnitude of the variable over a wide range of numbers. Based on previous research, economic theory, and available data, several residential mortgage credit factors assumed to be responsive to the size of the firm and predictive of the volume of mortgage credit investments of the firm were identified. Data were obtained from year-end financial statements and the survey of banks and S&L's in non-SMSA areas in Tennessee conducted in this study. The following independent and dependent variables were used in the analysis of continuous data for banks and S&L's:

---

[18]The total assets, volume of demand deposits, volume of savings deposits, volume of time deposits, and volume of total residential mortgage loans for each bank were obtained from year-end financial statements for 1977, 1978, and 1979. These data were obtained from the Federal Reserve Board in Washington, D.C.

[19]The total assets, volume of savings deposits, and volume of total conventional mortgage loans for S&L's were obtained from year-end financial statements for 1977, 1978, and 1979. These data were obtained from the Federal Home Loan Bank Board in Washington, D.C.

1. Variables from year-end financial statements:

   a. Available for banks ($000):

      X1 = total assets

      Y1 = total volume of home mortgage loans

      Y2 = total volume of savings

      Y3 = total volume of demand deposits

      Y4 = total volume of time deposits

   b. Available for S&L's ($000):

      X1 = total assets

      Y1 = total volume of conventional mortgage loans

      Y2 = total volume of savings

2. Variables from this study's survey (available for banks and S&L's):

   Y5 = usual interest charged on conventional mortgages (percent)

   Y6 = usual repayment period allowed on conventional mortgages (years)

   Y7 = usual percent of purchase price required as down payment (percent)

   Y8 = average closing cost of mortgage loans[20,21]

   Y9 = average escrow involved with mortgage loans[21,22]

---

[20]Closing cost includes the sum of the average cost of the credit report, points, origination fees, legal fees, title search, appraisal, and mortgage insurance.

[21]When a dollar value was reported, it was converted to a percent by dividing it by the assumed average mortgage value of $32,000 and then multiplying by 100.

[22]The escrow account includes the sum of the average cost of the escrow for taxes and the property insurance.

It was not difficult to observe a large amount of variation in the volume of residential mortgage credit and credit-related items among different sized banks and S&L's. The intent here was to determine the relationship between the size of lenders and the volume of residential mortgage credit they supplied in 1979 and also to determine the relationship between credit-related factors and firm size. Least-square regression was used to ascertain these relationships.

The objective at this stage was to obtain parameters, the probability of exceeding the b parameter, and correlation coefficients for specific equations that would explain the responsiveness in the volume of residential mortgage credit factors to firm size. The least-squares line may be generally represented by:

$$Y_n = a + bX_n + E$$

where Y_n is the credit item, a is the intercept of the least-squares line, b is the slope of the least-squares line, X_n is total assets, and E is the residual, or error, term resulting from errors in the equation. The error arises from fitting the data to an improper algebraic form of the equation and/or exclusion of important independent variables.[23] The first section of this chapter is used to demonstrate the regression coefficients, probability values of exceeding the calculated T-values

---

[23]In order to determine if the assumption of linearity between the independent variable and dependent variables was appropriate, each X_n was expressed as X_n^2 and X_n^3. If another curve fit the data more appropriately, the a and b coefficients would be significant at the 0.05 level. None of the X^2 and X^3 coefficients was significant at the 0.05 level. These results led to the conclusion of a linear relationship between Y and X_n.

for the b parameter, and simple linear correlations of selected dependent variables with total assets as the independent variable.

Three years of year-end financial data were available for banks and S&L's. It was determined that the least-squares equation could be fitted to these two combined groups of data containing the three years of data (1977, 1978, and 1979).[24] For example, rather than fitting the equation to each year of data for a particular bank or S&L, the data were combined such that the bank or S&L was treated as three separate observations, i.e., one for each year. These two groups of data are identified as the "combined group of bank data" and the "combined group of S&L data."

Data from the survey which could be combined with year-end financial statements were available for only 1979. These two groups of data are identified as the "single year of bank data: 1979" and the "single year of S&L data: 1979."

The data were analyzed using selected dependent variables with total assets as the independent variable. Any variable in which a priori was expected to be correlated with the size of the institution was adjusted for this variation by dividing it by total assets. This procedure accounted for the variability in the variable due to the size of the lender.

A simple linear equation, $Y = a + bX$, was fitted to each of the four groups of data. The results of these fittings are presented in the following sections.

---

[24]For this group, there was no significant difference between the a and b parameters for each separate year of data with respect to the same least-squares line. This treatment allowed a single firm to be represented three separate times--once from each year. The tests and calculations involved are presented in Appendix D, Tables 64 and 65.

A. STRUCTURAL VARIABLES RELATED TO BANK SIZE

Combined Group of Bank Data

The results of fitting the simple linear equation to the three years of bank data are presented in Table 46. An examination of the probability values for exceeding the calculated t-values for the b parameter, when Ho: b = 0, showed that total mortgage loans and demand deposits, when adjusted for size, were significantly related (0.0003 and 0.0001, respectively) to total assets. Thus, as a bank increases its total assets, the ratio of total mortgage loans to total assets was expected to be influenced significantly.

Savings and time deposits, when adjusted for size, were not significantly related (0.1464 and 0.3161, respectively). Therefore, as a bank increases its size, the proportion of total assets held in savings or time deposits were not affected. The correlation coefficients were small.

Single Year of Bank Data: 1979

The results for the 1979 group of bank data are shown in Table 47. The parameters for the variables are estimated due to the number of survey respondents which supplied the data.

An examination of the probability values for exceeding the calculated t-values for the b parameter, when Ho: b = 0, showed that none of the dependent variables was significantly related (minimum α = 0.1094)

TABLE 46

REGRESSION COEFFICIENTS, PROBABILITIES OF EXCEEDING CALCULATED t-VALUES FOR $\hat{b}$, AND SIMPLE LINEAR CORRELATIONS USING SELECTED DEPENDENT VARIABLES WITH TOTAL ASSETS AS THE INDEPENDENT VARIABLE, NON-SMSA BANKS, 1977-1978-1979[a]

Dependent Variable	Number of Respondents[b]	a	$\hat{b}$	PR > (T)	r^2
Total Mortgage Loans ÷ Total Assets	717	0.1160	5.05×10^{-7}	0.0003	0.0186
Demand Deposits ÷ Total Assets	717	0.2776	-4.43×10^{-7}	0.0001	0.0247
Savings ÷ Total Assets	717	0.1468	2.30×10^{-7}	0.1464	0.0029
Time Deposits ÷ Total Assets	717	0.4751	1.85×10^{-7}	0.3161	0.0014

[a]All variables are in units of thousands of dollars.

[b]The three years of data are not statistically different with respect to the intercept and slope of each fitted regression line (Appendix D, Table 64). The number of banks from one year to the next is approximately equal.

Source: Computer data tape obtained from the Federal Reserve Bank in Washington, D.C., 1977-1978-1979.

TABLE 47

REGRESSION COEFFICIENTS, PROBABILITIES OF EXCEEDING CALCULATED t-VALUES FOR $\hat{b}$, AND SIMPLE LINEAR CORRELATIONS USING SELECTED DEPENDENT VARIABLES WITH TOTAL ASSETS AS THE INDEPENDENT VARIABLE, NON-SMSA RESPONDENT BANKS, 1979[a]

Dependent Variable	Number of Respondents[b]	a	$\hat{b}$	PR > (T)	r^2
Total Mortgage Loans ÷ Total Assets	84	0.1220	6.37×10^{-7}	0.1094	0.0309
Demand Deposits ÷ Total Assets	84	0.2418	-1.17×10^{-7}	0.6475	0.0026
Savings ÷ Total Assets	84	0.1257	-1.24×10^{-8}	0.9686	----
Time Deposits ÷ Total Assets	84	0.5297	9.76×10^{-8}	0.8127	0.0007
Usual Interest Charged on Conventional Loans	68	11.96	6.24×10^{-6}	0.4912	0.0072
Usual Repayment Period Allowed on Conventional Loans	72	11.81	4.60×10^{-7}	0.9880	----
Usual Percentage of Purchase Price Required as Down Payment on Conventional Loans	71	22.82	4.20×10^{-5}	0.4993	0.0067
Closing Costs[c,d]	61	0.4460	1.14×10^{-5}	0.1303	0.0384

TABLE 47 (Continued)

Dependent Variable	Number of Respondents[b]	a	$\hat{b}$	PR > (T)	r^2
Escrow Account[d,e]	61	0.0054	1.29×10^{-6}	0.4079	0.0116

[a]All variables are in units of thousands of dollars.

[b]The number of respondents for each dependent variable varies due to the number of firms which supplied the data.

[c]Closing costs include the sum of the average cost of the credit report, points, origination fees, legal fees, title search, appraisal, and mortgage insurance.

[d]When a dollar value was reported instead of a percent, it was converted to a percent by dividing it by the assumed average mortgage value ($32,000).

[e]The escrow account includes the sum of the average cost of the escrow for taxes and property insurance.

Source: Computer data tape obtained from the Federal Reserve System, Washington, D.C., 1979.

to the size of the lender. The correlation coefficients were small. Therefore, the importance of size as a determining factor in the volume of the independent variables was insignificant.

B. STRUCTURAL VARIABLES RELATED TO S&L SIZE

Combined Group of S&L Data

The results for the combined group of S&L data are shown in Table 48. The parameters for the adjusted variables total conventional loans and savings are the true population parameters. Total conventional loans were used in the analysis of S&L data due to the high percent of total mortgages comprised of conventional mortgages as discussed in the first section of this chapter.

An examination of the probability values for exceeding the calculated t-values for the b parameter, when Ho: b = 0, showed that neither dependent variable was significantly related to total assets. Both correlation coefficients were small. As a policy implication, the size of the S&L should not be important as a consideration for disbursement of conventional mortgage funds by such agencies as the THDA.

Single Year of S&L Data: 1979

The results for the 1979 group of S&L data are shown in Table 49. The parameters for the adjusted variables total conventional loans and savings are the true population parameters. The parameters for the remaining variables are estimated by least-squares due to the number of survey respondents which supplied the data.

An examination of the probability values for exceeding the calculated t-values for the b parameter, when Ho: b = 0, showed that none of

TABLE 48

REGRESSION COEFFICIENTS, PROBABILITIES OF EXCEEDING CALCULATED t-VALUES FOR $\hat{b}$, AND SIMPLE LINEAR CORRELATIONS USING SELECTED DEPENDENT VARIABLES WITH TOTAL ASSETS AS THE INDEPENDENT VARIABLE, NON-SMSA S&L'S, 1977-1978-1979[a]

Dependent Variable	Number of Respondents[b]	a	$\hat{b}$	PR > (T)	r^2
Conventional Loans ÷ Total Assets	156	0.7954	2.52×10^{-10}	0.3986	0.0046
Savings ÷ Total Assets	156	0.8681	-1.28×10^{-10}	0.6227	0.0016

[a] All variables are in units of thousands of dollars.

[b] The three years of data are not statistically different with respect to the intercept and slope of each fitted regression line (Appendix D, Table 65). The number of S&L's from one year to the next is approximately equal.

Source: Computer data tape obtained from the Federal Home Loan Bank Board, Washington, D.C., 1977-1978-1979.

TABLE 49

REGRESSION COEFFICIENTS, PROBABILITIES OF EXCEEDING CALCULATED t-VALUES FOR $\hat{b}$, AND SIMPLE LINEAR CORRELATIONS USING SELECTED DEPENDENT VARIABLES WITH TOTAL ASSETS AS THE INDEPENDENT VARIABLE, NON-SMSA RESPONDENT S&L'S, 1979[a]

Dependent Variable	Number of Respondents[b]	a	$\hat{b}$	PR > (T)	r^2
Conventional Loans ÷ Total Assets	22	0.7781	3.33×10^{-10}	0.5218	0.0208
Savings ÷ Total Assets	22	0.8906	-6.36×10^{-10}	0.0343	0.2052
Usual Interest Charged on Conventional Loans	20	11.30	1.34×10^{-9}	0.8577	0.0018
Usual Repayment Period Allowed on Conventional Loans	22	27.74	1.18×10^{-8}	0.4880	0.0244
Usual Percentage of Purchase Price Required as Down Payment on Conventional Loans	22	16.75	1.40×10^{-8}	0.7142	0.0068
Closing Costs[b,c]	22	2.97	-1.15×10^{-8}	0.2850	0.0569

TABLE 49 (Continued)

Dependent Variable	Number of Respondents[b]	a	$\hat{b}$	PR > (T)	r^2
Escrow Account[d,e]	22	0.05	-4.58×10^{-10}	0.6390	0.0112

[a]All variables are in units of thousands of dollars.

[b]The number of respondents for each dependent variable varies due to the source of the data.

[c]Closing costs include the sum of the average cost of the credit report, points, origination fees, legal fees, title search, appraisal, and mortgage insurance.

[d]When a dollar value was reported instead of a percent, it was converted to a percent by dividing it by the assumed average mortgage value ($32,000).

[e]The escrow account includes the sum of the average cost of the escrow for taxes and property insurance.

Source: Computer data tape obtained from the Federal Home Loan Bank Board, Washington, D.C., 1979.

the dependent variables was significantly related to the total assets of the lender. All correlation coefficients were small. Therefore, the importance of size as a determining factor in the volume of the independent variables was not significant.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

A. SUMMARY

Residents of rural areas face the problem of an inadequate rural mortgage credit system. Identifying residential credit suppliers in rural counties, determining the status of the rural home mortgage credit system, and development of alternative delivery systems were the general subjects of this research. The components considered in this system were commercial banks and S&L associations. The development of alternative delivery systems with respect to these components was considered. These systems considered the contribution to the community, as well as cost effectiveness to the lender. Specifically, the objectives of this study were:

1. To identify residential credit suppliers and facilitating agencies active in non-SMSA counties;
2. To determine the status of the rural home mortgage credit system by examining the relationship between the volume of total assets and the economic structural relationships; and
3. To develop alternative delivery systems to ease the flow of home mortgage credit between lenders and borrowers in rural areas.

To meet these objectives, data were obtained from several sources. A residential mortgage schedule concerning the volume of loans made,

lender policy, lender attitudes, and other information was completed by respondent non-SMSA banks and S&L's; financial statements of the banks and S&L's in Tennessee were obtained from the Federal Reserve Board and the Federal Home Loan Bank Board, respectively; and other information was obtained from published secondary sources. Differences between the mean total assets of the respondent firms and total assets of all non-SMSA firms for commercial banks and S&L's were tested and were found to be nonsignificant, respectively; therefore, the respondent banks and S&L's were assumed representative of the firms in non-SMSA counties with respect to size.

Residential credit lenders and facilitating agencies in non-SMSA counties were identified as either private suppliers or public suppliers, depending on the source of lending authority and/or funds. Although many institutions are active in the residential mortgage system, commercial banks and S&L's are the major components in non-SMSA areas. In 1979, there were 240 commercial banks and 52 S&L's in non-SMSA counties in Tennessee. These institutions had dominant economic influence over these areas of the State.

The status of the rural home mortgage credit system was determined by analysis of the residential mortgage schedules completed by commercial banks and S&L's. The schedules were completed by 85 (35 percent) commercial banks and 23 (44 percent) S&L's. Information was obtained concerning lender attitudes; loan guidelines for income and eligibility; scope of loan areas; appraisers used, market value categories, and policy guidelines for different types of housing; residential mortgage loans; mobile home mortgage loans; secondary market activity; and energy considerations.

The data were analyzed and the results presented such that the contribution of banks and S&L's to the achievement of the research objectives was identified.

Tests were applied to the respondent firms to determine if there were differences in the proportion of loans made for various purposes and the proportion of loans firms made by location. The null hypothesis was rejected for both banks and S&L's. The greatest disparity between the proportion of loans observed and the proportion of loans expected occurred in towns of more than 2,500 residents for new home loans, used home loans, and loans for repairs and improvements. The greatest disparity between the observed and expected proportion of loans made occurred in towns of less than 2,500 residents.

Tests were applied to the respondent firms to determine if there were differences between the respondent banks and respondent S&L's with respect to the following items: lender attitude toward the volume of conventional loans; ability to meet loan demand; reasons for rejecting loan applicants; loan policies for alternative types of housing; and lender attitudes toward alternative types of loans. Bank and S&L attitudes differed significantly with respect to the volume of conventional loans they made in 1979, reasons for rejecting loan applicants, most loan policies for alternative types of housing, attitudes concerning graduated payment mortgages, reverse annuity mortgages, and rollover mortgages.

Least-squares analysis was applied to four groups of data in order to determine the responsiveness of structural factors affecting the volume of residential mortgage credit to the size of the firm. The

probability of exceeding the calculated b values and correlation coefficients were used to indicate responsiveness. Due to the relatively high ratio of conventional residential mortgage loan to total mortgage loan volume, conventional loan volume was used as a proxy for total mortgage loans in analyses of the S&L data.

Other factors for the single year of 1979 data were also considered. These factors were usual interest charged, usual repayment period allowed, the percent of purchase price required as down payment on conventional loans, average closing costs, and average escrow involved with mortgage loans. The analysis showed a significant relationship between total assets and total mortgage loans and between total assets and demand deposits for the combined group of bank data. All other probability values indicated that the responsiveness of structural factors to total assets was insignificant in each of the other three groups of data.

Several alternative delivery systems were suggested in order to show how the flow of residential mortgage credit between lenders and borrowers may be stimulated. New marketing strategies designed specifically for residents in sparsely populated areas could be one such alternative. If designed to reduce the time and costs of processing and servicing, the strategy could be both time and cost effective. The strategy could include trainee programs, public relation efforts, convenient business locations, knowledgeable representatives, and free information services.

The end result of the lending strategy should mean reductions in the costs associated with origination and servicing of the loan to the lender. This being the case, eventually the costs of the loan to the

borrower could also be reduced, thereby increasing the affordability of mortgage credit to lower income individuals in rural areas.

B. CONCLUSIONS AND IMPLICATIONS

The results of the least-squares analysis showed that total assets is generally not a significant factor in predicting the proportion of total assets which is allocated to residential mortgages by banks or S&L's. In addition, certain other factors related to residential mortgage credit were not related to total assets. Therefore, assuming that the residential mortgage system during the period analyzed is fairly representative of what will occur in the future, the proportion of a firm's assets invested in mortgages will remain random and not directly related to firm size. Hence, smaller firms are likely to have the same portion of its assets in mortgage loans as a larger firm. The implication is that any policy decision made by a regulatory or supervisory agency regarding residential mortgages should not be directed toward a particular size firm, but to the institution of banking in general.

The result of chi-square analysis showed that significant differences between bank and S&L lenders exist with respect to their attitudes toward the volume of conventional first mortgage loans they made during 1979. S&L's appeared to have not made as many first home mortgage loans as they wanted to make. The desire of S&L lenders to make more loans indicates that home mortgage credit was available to qualified borrowers. The relatively low-income households associated with rural areas may have been an important factor in the lack of qualified borrowers and may, in part, contribute to the inadequate quality of housing.

The results of chi-square analysis showed significant differences between bank and S&L lenders with respect to their attitudes toward the use of graduated payment mortgages, reverse annuity mortgages, and rollover mortgages. Chi-square analysis also showed there were no significant differences between the attitudes of banks and S&L lenders concerning variable interest rate mortgages, subordinated lot least mortgages, and price level adjusted mortgages. Variable interest rate mortgages and rollover mortgages appeared to be the most normally acceptable types of loans. While S&L's tended to consider the other four types of mortgage loans on a trial basis, banks generally would not consider them. It can be suggested from the reported attitudes that S&L's were more willing to use alternative types of mortgage loans. This willingness allowed flexibility in lending and the "tailoring" of mortgage loans to suit borrower ability to repay the loan. Use of these alternative types of mortgage loans may have also contributed to the favorable attitude of S&L's concerning the higher volume of mortgage loans desired in 1979.

The results of Kolmogrov-Smirnov showed significant differences between bank and S&L lenders with respect to the degree of importance each institution associates with each respective reason for rejecting loan applicants. Generally, banks expressed higher calculated rank coefficients than S&L's, but ordering the importance of the requirements was similar.

Bank and S&L lenders appear to be willing to experiment with lending for new alternative type homes such as active/passive solar system houses, earth sheltered houses, and prefab and modular houses. Their willingness to consider these types of mortgages is beneficial to rural

residents. Through increasing the availability of credit for construction of alternative types of housing in rural areas, residents have the opportunity to invest in more energy efficient homes.

The implication of considering new alternative type homes is that a basis will be developed for future expansion, contraction, or modification of the respective alternative homes. The alternative type homes built will set a basis for comparison for similarly constructed future homes.

The surge in mobile home construction has played an important role in expanding the housing supply in rural areas (8). During the 1970's, one out of every four new homes in rural areas was a mobile unit, compared with only one in 12 in urban areas (8). S&L lenders appeared to be reluctant to make mobile home loans. Respondent banks reported making a moderate number of mobile home loans.

The implication is that if S&L's decline mobile home loans because of risk, the use of FHA or FmHA guaranteed loans would reduce the risk. If interest rates are too low for the commensurate risk, then regulatory policies should be changed to permit the appropriate interest rate.

"Red tape" items were the major reason why lenders offered few government-insured/guaranteed loans. The high volume of required paperwork and the necessity to complete this paperwork inhibited the flow of mortgage credit from borrowers to lenders. The high volume of paperwork was also a major reason why lenders did not participate in the secondary mortgage market. If this restraint on the flow of mortgage credit were reduced, bank and S&L lenders indicated that they would be more inclined to offer more FHA insured and VA guaranteed mortgages and participate in

the secondary mortgage market. These increases in mortgage funds could provide many more families with higher quality homes.

The implication is that "red tape" needs to be simplified to reduce the cost of doing business and speed the loan-making process. This objective could be accomplished if lending institutions would familiarize credit personnel with lending procedures or perhaps even reduce the volume of paperwork associated with a loan for return customers.

Since there were non-SMSA counties without an S&L, the implication is that these counties need the services of lending organizations which can serve the long-term credit needs of the people. These services could be initiated and accomplished through several alternative means.

In recent years, government and commercial lenders in the private sector have been working together to solve housing problems in rural areas. Examples of this would be the FmHA's expanded role in the 1970's. Ineligible applicants for commercial credit may be eligible to receive a mortgage loan from the FmHA. When borrowers become financially able, they are encouraged to "graduate" to a commercial lender. Another example includes recent changes in Federal Home Loan Bank Board regulations, such as the broadening of S&L ability in making home loans that are important to rural areas at a rate that is both affordable for the borrower and profitable to the lender.

Opportunities range from conventional single-family mortgages to large-scale community revitalization packages. There is much that can be done to take advantage of these opportunities while making significant contributions to the welfare of these rural communities. Opportunities are created through programs of government agencies like the FmHA which

are designed to encourage participation by private lenders. Other lending opportunities must be created and utilized by private thrift institutions.

Unique marketing efforts designed specifically for residents in sparsely populated areas could yield benefits for commercial lenders, as well as the rural community. The marketing of mortgage credit could entail many elements, such as extensive preliminary public relations, a convenient location from which business could be more efficiently conducted, advertisements, knowledgeable representation, and a toll-free telephone information service. A community representative sponsored by several commercial credit lenders or a public body could specialize in problem areas of loan processing. The processing specialist could be shared by each of his sponsors and be paid according to the volume of mortgage credit loans serviced at each institution. By allowing this individual's wage to be determined by the number and quality of home mortgage loans processed, his incentive would be towards processing a large volume of high-quality mortgage loan applications. Hence, the time and effort of the processing specialist and the funds provided by the participating institutions for wage and mortgage credit would both be utilized in a more efficient manner.

Ideally, a rural area containing several small towns or communities without a thrift institution would be a desirable area to being an effective credit marketing plan. To determine the marketability of credit in this area, preliminary market research could be conducted concerning the loan demand, per capita income, and other credit-related factors.

Public relations could be established by sending a loan representative to these areas. By visiting various social organizations and clubs, such as civic clubs, women's clubs, and others, the business community could be directly contacted. Merchants, builders, realtors, and local businessmen in general could be identified. A good working relationship should be cultivated because their acceptance would be critical to success. These efforts could be maintained by the branch manager after the program has been established.

Preliminary advertising could inform potential borrowers about the availability of credit. Although mortgage funds may not initially be available to these areas, economic growth engendered by this program could eventually make the mortgage credit contribution substantial.

Pamphlets, brochures, and newpaper advertisements could alert these communities to lending policies, borrower requirements, and current economic conditions such as interest rates, terms of payment, types of services offered, and other information. A further effort such as providing a toll-free telephone number to the residents of these areas might be desirable. Residents could use this source of information at will and at their own convenience.

Obtaining a convenient, economically feasible location from which to transact business might be an important step. To achieve this objective, a mobile unit could be an alternative. The unit could be large enough to accommodate a branch manager, a teller, and two customers. Because none of the communities would be large enough to support a permanent branch of the lending institution, the mobile unit could visit each small town one day each week and each larger town perhaps twice a week.

This marketing effort could establish the mobile unit as a viable part of the local business communities. The savings flow could strengthen and lending opportunities increase. Economic growth could materialize enough that each little town could have its own permanent branch.

Other established locations may be suitable for business activity. A shared-office could provide a lending firm with a convenient location to make loans while avoiding the cost and maintenance of a branch office building. Shared-office space could be found in a real estate office, courthouse, community center, or perhaps even an established office of another lender who cannot meet the loan demand in the area.

Through these efforts, private lending institutions could provide FHA/VA loans, conventional home loans, lot loans, home improvement loans, and rental and commercial loans. The set-up could also provide for a first-rate conduit of Community Investment Fund (CIF) money into a rural area.

LIST OF REFERENCES

LIST OF REFERENCES

1. Bird, Ronald. "Vacant Housing: Is It Adequate and in the Right Places?" Bulletin 536. Washington, D.C., U.S. Department of Agriculture, ERS, February 1975.

2. Bird, Ronald and Julia B. Perciful. "Housing Conditions in Areas Served by Farmers Home Administration Housing Programs, 1970, By States." Bulletin 492. Washington, D.C., U.S. Department of Agriculture, ERS, September 1972.

3. Bird, Ronald and Ronald Kampe. "25 Years of Housing Progress in Rural America." Report 373. Washington, D.C., U.S. Department of Agriculture, June 1977.

4. Copley International Corporation. "A Study to Identify the Existence of Any Housing Credit Market Differentials Between Rural and Other Areas and to Identify Causes of Such Differentials." Washington, D.C., U.S. Department of Housing and Urban Development, Vol. I, no date.

5. Federal Home Loan Bank Board. "Rural Lending." Washington, D.C., Office of Community Investment, 1979.

6. Freeman, Robert E. "Rural Housing Quality in the Ozard Region as Units and Occupants." Bulletin 758. University of Arkansas Agricultural Experiment Station, June 1970.

7. Hamlin, Edmund T. Financing of Rural Nonfarm Housing in the United States. Washington, D.C., U.S. Department of Agriculture, November 1970.

8. Horne, John E. "The Savings and Loan Industry and Home Financing--1979." Troy, Alabama, TSU Business and Economic Review, Vol. 3, July 1979.

9. Hurst, James R., Rose B. Boyd, and J. H. Yeager. "Financing Rural Homes." Bulletin 333, Auburn University Agricultural Experiment Station, June 1961.

10. Jones, Lawrence A. and David Durand. Mortgage Lending Experience in Agriculture. Princeton, Princeton University Press, 1954.

11. Kampe, R. E. "Household Income--How It Relates to Substandard Housing in Rural and Farmers Home Administration Areas, by State and Race, 1970." Agricultural Economic Report 287. Washington, D.C., U.S. Department of Agriculture, ERS, June 1975.

12. Kaufman, George G. Money and the Financial System. Chicago, Rand McNally College Publishing Co., 1975, p. 95.

13. King, Richard A., J. W. Lackey, and P. R. Lobue. "A Profile of Rural Housing in North Carolina." Report 29. North Carolina State University, Department of Economics, July 1974.

14. Kleinbaum, David G. and Lawrence L. Kupper. Applied Regression Analysis and Other Multivariable Methods. North Scituate, Massachusetts, Duxbury Press, 1978, p. 103.

15. Koos, Philip D. "A Housing Preference Study for Waycross--Ware County, Georgia." Waycross, Georgia, Slash Pine Area Planning and Development Commission, May 1971.

16. McCray, Jacqueline W. "A Comparison of Housing Values, Aspirations and Satisfactions of Low-Income Rural Florida Residents and Urban Tallahassee Public Housing Tenants." Doctoral Dissertation. Florida State University, 1975.

17. McIntosh, Ellen Ruth. "Housing Goals and Satisfaction of Selected Low-Income Homeowner Families." Master's Thesis. The University of Tennessee at Martin, 1973.

18. Montgomery, James E., G. J. McCabe, and L. H. Glover. "Housing Practices Among Low-Income Families in Selected Areas of Georgia, Texas and Virginia." Southern Cooperative Series Bulletin, Virginia Polytechnic Institute and State University, September 1975.

19. Nelson, G. Aaron et al. Agricultural Finance. Ames, Iowa State University Press, 1973, p. 289.

20. Nelson, G. Aaron et al. Agricultural Finance. Ames, Iowa State University Press, 1980, p. 130.

21. O'Block, Robert P. "An Economic Analysis of the Housing and Development Act of 1968." Harvard University, Graduate School of Business Administration, 1970.

22. Rob, Peter. An Introduction to Basic Statistics. Martin, Tennessee, School of Business Administration, The University of Tennessee at Martin, 1978, pp. 16-3, 16-11.

23. Sargent, Robert L., Jack R. Davidson, and Lawrence A. Jones. "Availability of Rural Housing Credit in Montana." Bulletin 586. Montana Agricultural Experiment Station, June 1964.

24. Solomon, Lewis C. Economics, Second Edition. Reading, Massachusetts, Addison-Wesley Publishing Co., 1976.

25. Southern Regional Housing Research Committee. "Cooperative Regional Project Outline." Project No. S-141, October 1979.

26. Spurlock, Hughes H. "Differences in Housing Credit Terms and Usage Between Metro and Nonmetro Areas in the United States, 1971." Agricultural Economic Report No. 305. Washington, D.C., U.S. Department of Agriculture, ERS, August 1975.

27. Spurlock, Hughes H. "Home Mortgage Credit Terms: A Comparison of Two Selected Areas in Metro and Rural Kentucky, 1975." Agricultural Economic Report No. 362. Washington, D.C., U.S. Department of Agriculture, ERS, February 1977.

28. Spurlock, Hughes H. "Housing Credit: A Rural Urban Comparison." Rural Development Research Report No. 6. Washington, D.C., U.S. Department of Agriculture, ESCS, November 1978.

29. Spurlock, Hughes H. "Mobile Home Situation in Washington County, Arkansas, 1972." Bulletin 790. University of Arkansas Agricultural Experiment Station, June 1974.

30. Stubbs, Alice C. "Housing of Low Income Families." MP 1076. Texas A&M University Agricultural Experiment Station, March 1976.

31. Tennessee Housing Development Agency. "Report on the Need for Housing in Tennessee." Report No. TN-STAE-79-1018. Nashville, July 1979.

32. Tennessee Housing Development Agency. "Mortgage Finance Program Bonds, 1980 Series C." Nashville, June 19, 1980.

33. The University of Tennessee Center for Business and Economic Research. Tennessee Statistical Abstract 1980. Knoxville, 1980.

34. U.S. Department of Agriculture. "The Problem with Rural Housing." Farm Index. Washington, D.C., ESCS, January 1979.

35. U.S. Department of Commerce. Statistical Abstract of the U.S., 1980. Washington, D.C., Bureau of the Census, 1980.

36. U.S. Department of Housing and Urban Development. 1979 Statistical Yearbook. Washington, D.C., 1979.

37. U.S. Department of Housing and Urban Development. "Government National Mortgage-Backed Securities Guide." Washington, D.C., October 1970.

38. U.S. League of Savings Associations. Savings and Loan Fact Book. Washington, D.C., 1979.

39. Williams, Dorwin, Lawrence A. Jones, and Frank Miller. "Financing Rural Homes in Missouri." Bulletin 587. Missouri Agricultural Experiment Station, April 1964.

40. Wiseman, Patricia A. "Housing Conditions in a Selected Rural Area of Southwestern Virginia." Master's Thesis. Virginia Polytechnic Institute and State University, 1975.

41. Yeager, J. H. "Rural Housing--Situation, Needs and Financing." Bulletin 334. Auburn University Agricultural Experiment Station, May 1962.

APPENDICES

CRANES CREST

APPENDIX A

APPENDIX A

TEST BETWEEN THE MEANS OF TOTAL ASSETS FOR NON-SMSA RESPONDENT BANKS AS OUTLINED BY ROB

(Reference 22, p. 10-23)

Model of test:

$$\text{Ƶ calculated} = \frac{\bar{X}_1 - \bar{X}_2}{\left[\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right]^{1/2}}$$

where: $\bar{X}_1$ = mean of total assets for non-SMSA banks ($000)

$\bar{X}_2$ = mean of total assets for non-SMSA respondent banks ($000)

S_1^2 = variance of total assets for non-SMSA banks

S_2^2 = variance of total assets for non-SMSA respondent banks

n_1 = number of non-SMSA banks

n_2 = number of non-SMSA respondent banks.

$$\text{Ƶ calculated} = 0.631 \leq \text{Ƶ critical} = \pm 1.96$$

$$(\alpha = 0.05)$$

Since the calculated Ƶ-value of 0.631 is less than the critical Ƶ-value ($\alpha = 0.05$) of ± 1.96, the two means are assumed to have come either from the same population or from different populations with the same distribution.

GRANES CREST

APPENDIX B

APPENDIX B

TEST BETWEEN THE MEANS OF TOTAL ASSETS FOR NON-SMSA RESPONDENT S&L'S AS OUTLINED BY ROB

(Reference 22, p. 10-23)

Model of test:

$$z \text{ calculated} = \frac{\bar{X}_1 - \bar{X}_2}{\left[\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right]^{1/2}}$$

where: $\bar{X}_1$ = mean of total assets for non-SMSA S&L's ($000)

$\bar{X}_2$ = mean of total assets for non-SMSA respondent S&L's ($000)

S_1^2 = variance of total assets for non-SMSA S&L's

S_2^2 = variance of total assets for non-SMSA respondent S&L's

n_1 = number of non-SMSA S&L's

n_2 = number of non-SMSA respondent S&L's.

$$z \text{ calculated} = -0.037 \leq z \text{ critical} = \pm 1.96$$

$$(\alpha = 0.05)$$

Since the calculated z-value of -0.037 is less than the critical z-value ($\alpha = 0.05$) of $\pm$ 1.96, the two means are assumed to have come either from the same population or from different populations with the same distribution.

APPENDIX C

APPENDIX C

CHI-SQUARE ANALYSIS RESULTS

TABLE 50

OBSERVED FREQUENCIES AND TOTAL CHI-SQUARE VALUES OF NON-SMSA BANKS AND S&L'S CONCERNING LENDER ATTITUDES TOWARD THE VOLUME OF CONVENTIONAL FIRST MORTGAGE LOANS IN TENNESSEE, 1979

Responses	Banks	S&L's	Chi-Square Values
Too Many	15	3	χ^2 calculated = 7.99
About Right	45	11	χ^2 (2, 0.05) = 5.991
Wanted More	7	8	Conclusion: significant difference

TABLE 51

OBSERVED FREQUENCIES AND TOTAL CHI-SQUARE VALUES OF NON-SMSA BANKS AND S&L'S CONCERNING THEIR ABILITY TO MEET THE DEMAND FOR FIRST MORTGAGE LOANS IN TENNESSEE, 1979

Responses	Banks	S&L's	Chi-Square Values
Yes	45	19	χ^2 calculated = 2.6
No	23	4	χ^2 (2, 0.05) = 5.991
Total	68	23	Conclusion: no significant difference

TABLE 52

OBSERVED FREQUENCIES AND TOTAL CHI-SQUARE VALUES OF NON-SMSA BANKS AND S&L'S CONCERNING LENDER ATTITUDES TOWARD THE USE OF VARIOUS TYPES OF MORTGAGES IN TENNESSEE, 1979

Mortgage Type/Responses	Banks	S&L's	Chi-Square Values
Variable Interest Rate:			
Normal	50	12	χ^2 calculated = 3.88
Trial Basis	18	7	χ^2 (2, 0.05) = 5.991
Would Not Consider	4	4	Conclusion: no significant difference
Graduated Payment:			
Normal	8	7	χ^2 calculated = 8.29
Trial Basis	27	11	χ^2 (2, 0.05) = 5.991
Would Not Consider	29	3	Conclusion: significant difference
Reverse Annuity:			
Normal/Trial Basis	12	10	χ^2 calculated = 6.42
Would Not Consider	43	9	χ^2 (1, 0.05) = 3.841
			Conclusion: significant difference
Rollover:			
Normal	13	15	χ^2 calculated = 16.06
Trial Basis	15	4	χ^2 (2, 0.05) = 5.991
Would Not Consider	27	2	Conclusion: significant difference
Subordinated Lot Lease:			
Normal/Trial Basis	11	3	χ^2 calculated = 0.15
Would Not Consider	45	16	χ^2 (1, 0.05) = 3.841
			Conclusion: no significant difference
Price Level Adjusted:			
Normal/Trial Basis	20	8	χ^2 calculated = 0.11
Would Not Consider	33	11	χ^2 (1, 0.05) = 3.841
			Conclusion: no significant difference

TABLE 53

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF INCOME STABILITY, 1979[a]

Responses	Banks	S&L's	Ratios Rb	Ratios Rs	Maximum Deviation (D=Rb-Rs)	D^2
1	2	0	2/66=0.0303	0/16=0.0		
2	1	3	3/66=0.0455	3/16=0.1875		
3	4	1	7/66=0.1061	4/16=0.2500		
4	6	3	13/66=0.1970	7/16=0.4375		
5	13	4	26/66=0.3939	11/16=0.6875	0.2936	0.0862
6	18	2	44/66=0.6667	13/16=0.8125		
7	22	3	66/66=1.0	16/16=1.0		
Total	66	16				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of income stability between banks and S&L's as a reason for rejecting loan applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{66 + 16}{(66)(16)}} = 0.3790.$$

Calculations: χ^2 calculated $= 4(0.0862) \left[\frac{(66)(16)}{66 + 16}\right]$

$= 4.4404.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 54

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF INCOME LEVEL, 1979[a]

Responses	Banks	S&L's	Ratios		Maximum Deviation (D=Rb-Rs)	D^2
			Rb	Rs		
1	2	2	2/67=0.0299	2/18=0.1111		
2	1	1	3/67=0.0448	3/18=0.1667		
3	3	0	6/67=0.0896	3/18=0.1667		
4	11	1	17/67=0.2537	4/18=0.2222		
5	18	4	35/67=0.5224	8/18=0.4444		
6	15	3	50/67=0.7463	11/18=0.6111	0.1352	0.0183
7	17	7	67/67=1.0	18/18=1.0		
Total	67	18				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note: H0: There are no significant differences in the degree of importance of income level between banks and S&L's as a reason for rejecting loan applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{67 + 18}{(67)(18)}} + 0.3611.$$

Calculations: χ^2 calculated $= 4(0.0183) \left[\frac{(67)(18)}{67 + 18}\right]$

$= 1.0386.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 55

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF APPRAISAL, 1979[a]

Responses	Banks	S&L's	Ratios		Maximum Deviation (D=Rb=Rs)	D^2
			Rb	Rs		
1	3	2	3/66=0.0455	2/20=0.1000		
2	2	2	5/66=0.0758	4/20=0.2000	0.1242	0.0154
3	4	0	9/66=0.1364	4/20=0.2000		
4	9	0	18/66=0.2727	4/20=0.2000		
5	13	5	31/66=0.4697	9/20=0.4500		
6	19	5	50/66=0.7576	14/20=0.7000		
7	16	6	66/66=1.0	20/20=1.0		
Total	66	20				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of appraisal between banks and S&L's as a reason for rejecting applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{66 + 20}{(66)(20)}} = 0.3471.$$

Calculations: χ^2 calculated $= 4(0.0154) \left[\frac{(66)(20)}{66 + 20}\right]$

$= 0.9455.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 56

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF A CREDIT RATING, 1979[a]

Responses	Banks	S&L's	Ratios Rb	Ratios Rs	Maximum Deviation (D=Rb=Rs)	D^2
1	1	2	1/68=0.0147	2/18=0.1111		
2	1	1	2/68=0.0294	3/18=0.1667	0.1373	0.0189
3	2	0	4/68=0.0588	3/18=0.1667		
4	10	0	14/68=0.2059	3/18=0.1667		
5	7	5	21/68=0.3088	8/18=0.4444		
6	21	4	42/68=0.6176	12/18=0.6667		
7	26	6	68/68=1.0	18/18=1.0		
Total	68	18				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of a credit rating between banks and S&L's as a reason for rejecting applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{68 + 18}{(68)(18)}} = 0.3605.$$

Calculations: χ^2 calculated $= 4(0.0189) \left[\frac{(68)(18)}{68 + 18}\right]$

$= 1.0397.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 57

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF A LOAN APPLICANT'S DEBT PICTURE, 1979[a]

Responses	Banks	S&L's	Ratios		Maximum Deviation (D=Rb-Rs)	D^2
			Rb	Rs		
1	0	1	0/66=0.0	1/16=0.0625		
2	0	0	0/66=0.0	1/16=0.0625		
3	0	1	0/66=0.0	2/16=0.1250	0.1250	0.0156
4	8	1	8/66=0.1212	3/16=0.1875		
5	13	3	21/66=0.3182	6/16=0.3750		
6	21	3	42/66=0.6364	9/16=0.5625		
7	24	7	66/66=1.0	16/16=1.0		
Total	66	16				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of a loan applicant's debt picture between banks and S&L's as a reason for rejecting applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{66 + 16}{(66)(16)}} = 0.3790.$$

Calculations: χ^2 calculated $= 4(0.0156) \left[\frac{(66)(16)}{66 + 16}\right]$

$= 0.8036.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 58

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF AN ACCEPTABLE CO-SIGNER, 1979[a]

Responses	Banks	S&L's	Ratios		Maximum Deviation (D=Rb-Rs)	D^2
			Rb	Rs		
1	19	10	19/63=0.3016	10/11=0.9091	0.6075	0.3691
2	11	0	30/63=0.4762	10/11=0.9091		
3	13	0	43/63=0.6825	10/11=0.9091		
4	9	1	52/63=0.8254	11/11=1.0		
5	5	0	57/63=0.9048	11/11=1.0		
6	5	0	62/63=0.9841	11/11=1.0		
7	1	0	63/63=1.0	11/11=1.0		
Total	63	11				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of an acceptable co-signer between banks and S&L's as a reason for rejecting applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{63 + 11}{(63)(11)}} = 0.4444.$$

Calculations: χ^2 calculated $= 4(0.3691) \left[\frac{(63)(11)}{63 + 11}\right]$

$= 13.8263.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 59

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF BEING A REGULAR CUSTOMER, 1979[a]

Responses	Banks	S&L's	Ratios		Maximum Deviation (D=Rb-Rs)	D^2
			Rb	Rs		
1	5	9	5/65=0.0769	9/13=0.6923		
2	4	1	6/65=0.0923	10/13=0.7692	0.6769	0.4582
3	4	0	10/65=0.1538	10/13=0.7692		
4	8	2	18/65=0.2769	12/13=0.9231		
5	16	0	34/65=0.5231	12/13=0.9231		
6	16	0	50/65=0.7692	12/13=0.9231		
7	15	1	65/65=1.0	13/13=1.0		
Total	65	13				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of being a regular customer between banks and S&L's as a reason for rejecting applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{65 + 13}{(65)(13)}} = 0.4132.$$

Calculations: χ^2 calculated $= 4(0.4582) \left[\frac{(65)(13)}{65 + 13}\right]$

$= 19.8553.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 60

CHI-SQUARE VALUE CALCULATIONS USING A TWO-SAMPLE KOLMOGROV-SMIRNOV GOODNESS-OF-FIT TEST FOR RESPONSES OF NON-SMSA BANKS AND S&L'S TO A SINGLE QUESTION ON A RESIDENTIAL MORTGAGE SCHEDULE: IMPORTANCE OF A SUFFICIENT DOWN PAYMENT, 1979[a]

Responses	Banks	S&L's	Ratios Rb	Ratios Rs	Maximum Deviation (D=Rb-Rs)	D^2
1	2	1	2/69=0.0290	1/16=0.0625		
2	0	0	2/69=0.0290	1/16=0.0625		
3	0	0	2/69=0.0290	1/16=0.0625		
4	6	3	8/69=0.1159	4/16=0.2500		
5	14	5	22/69=0.3188	9/16=0.5625	0.2437	0.0594
6	21	2	11/69=0.6232	11/16=0.6875		
7	26	5	69/69=1.0	16/16=1.0		
Total	69	16				

[a]All calculated values were rounded to the nearest ten thousandth. Any discrepancy in the calculated or critical chi-square value was caused by this rounding.

Note:

H0: There are no significant differences in the degree of importance of a sufficient down payment between banks and S&L's as a reason for rejecting applicants.

H1: There are significant differences.

Test Statistic: χ^2 calculated $= 4D^2 \left[\frac{N_1 N_2}{N_1 + N_2}\right]$

Criteria: Using $\alpha = 0.05$ and 2 d.f., the critical χ^2 value is

$$1.36 \sqrt{\frac{69 + 16}{(69)(16)}} = 0.3774.$$

Calculations: χ^2 calculated $= 4(0.0594) \left[\frac{(69)(16)}{69 + 16}\right]$

$= 3.0860.$

Conclusions: Reject the null hypothesis (H0); accept the alternative hypothesis (H1).

TABLE 61

OBSERVED FREQUENCIES AND TOTAL CHI-SQUARE VALUES FOR THREE LOAN AREAS AND THREE LOAN PURPOSES FOR NON-SMSA BANKS IN TENNESSEE, 1979

	Number of Loans By Purpose			
Loan Area	New Home Purchase	Used Home Purchase	Repairs and Improvements	Total
Towns of 2,500 or more	500	473	555	1,528
Towns of 2,499 or less	411	331	358	1,100
Outside city limits	950	859	719	2,528
Total	1,861	1,663	1,632	5,156

Note: χ^2_2 calculated = 30.7
χ (4, 0.01) = 13.277
Conclusion: significant difference.

TABLE 62

OBSERVED FREQUENCIES AND TOTAL CHI-SQUARE VALUES FOR THREE LOAN AREAS AND THREE LOAN PURPOSES FOR NON-SMSA S&L'S IN TENNESSEE, 1979

	Number of Loans By Purpose			
Loan Area	New Home Purchase	Used Home Purchase	Repairs and Improvements	Total
Towns of 2,500 or more	406	578	347	1,331
Towns of 2,499 or less	128	138	135	401
Outside city limits	394	658	417	1,469
Total	928	1,374	866	3,168

Note: χ^2_2 calculated = 19.9
χ^2 (4, 0.01) = 13.277
Conclusion: significant difference.

TABLE 63

OBSERVED FREQUENCIES AND TOTAL CHI-SQUARE VALUES OF NON-SMSA BANKS AND S&L'S CONCERNING LOAN POLICIES FOR VARIOUS TYPES OF HOUSING LOANS IN TENNESSEE, 1979

Loan Type/Responses	Banks	S&L's	Chi-Square Values
New Home Purchase:			
Normal	55	22	χ^2_2 calculated = 3.88
Limited/Trial Basis	16	1	χ^2 (1, 0.05) = 3.841
			Conclusion: significant difference
Existing Home Purchase:			
Normal	49	22	χ^2_2 calculated = 4.85
Limited Trial Basis	17	1	χ^2 (1, 0.05) = 3.841
			Conclusion: significant difference
Home Construction:			
Normal	50	11	χ^2_2 calculated = 10.08
Limited/Trial Basis	20	6	χ^2 (2, 0.05) = 5.991
Would Not Consider	1	4	Conclusion: significant difference
Home Improvement:			
Normal	57	11	χ^2_2 calculated = 4.26
Limited/Trial Basis	16	9	χ^2 (1, 0.05) = 3.841
			Conclusion: significant difference
Passive Solar Housing:			
Normal	9	6	χ^2_2 calculated = 2.62
Limited/Trial Basis	42	11	χ^2 (2, 0.05) = 5.991
Would Not Consider	9	2	Conclusion: no significant difference
Active Solar Housing:			
Normal	7	6	χ^2_2 calculated = 9.0
Limited/Trial Basis	44	10	χ^2 (2, 0.05) = 5.991
Would Not Consider	8	3	Conclusion: significant difference

TABLE 63 (Continued)

Loan Type/Responses	Banks	S&L's	Chi-Square Values
Earth Sheltered Housing:			
Normal/Limited/Trial Basis	42	14	X^2_2 calculated = 0.01 X^2 (1, 0.05) = 3.841
Would Not Consider	17	6	Conclusion: no significant difference
Prefab/Modular Housing:			
Normal	11	4	X^2_2 calculated = 0.79 X^2 (2, 0.05) = 5.991
Limited/Trial Basis	43	16	
Would Not Consider	11	2	Conclusion: no significant difference
Mobile Home Purchase:			
Normal/Limited/Trial Basis	61	4	X^2_2 calculated = 34.95 X^2 (1, 0.05) = 3.841
Would Not Consider	10	17	Conclusion: significant difference

APPENDIX D

APPENDIX D

TEST AND CALCULATIONS FOR 1977, 1978, AND 1979 BANK AND S&L DATA

The test as outlined by Kleinbaum and Kupper (14) is a test of parallelism between two slopes. The test and calculations are presented in Tables 64 and 65 for the 1977, 1978, and 1979 bank data and S&L data, respectively.

The coincidence of intercept was tested by regression analysis using "1" and "0" dummy variables. It was determined that the intercepts of the least-squares lines are not statistically significantly different from each other.

TABLE 64

TEST FOR PARALLELISM OF SLOPES FOR BANK DATA

Year	Parameter	n	Estimate (β)	S^2y/x	S^2y
1977	β_{77}	238	0.1514	3966158	2.70×10^{14}
1978	β_{78}	239	0.1510	4802893	3.48×10^{14}
1979	β_{79}	240	0.1550	5986004	3.81×10^{14}

Note: Least-Squares Equation: Total Mortgages = $\alpha + \beta$ (Total Assets).

H0: $\beta_{77} = \beta_{78}$; $\beta_{78} = \beta_{79}$; $\beta_{77} = \beta_{79}$

H1: $\beta_{77} \neq \beta_{78}$; $\beta_{78} \neq \beta_{79}$; $\beta_{77} \neq \beta_{79}$

Test Statistic: $$z = \frac{\beta_1 - \beta_2}{\left[S^2_{\beta_1} + S^2_{\beta_2}\right]^{1/2}}$$

Criteria: $|z|$ $\alpha = 0.05 \geq 1.96$.

Calculations:
$$S^2_{\beta_{77}} = S^2y/x_{77} \Big/ (n_{77} - 1)\, S^2x_{77} = 0.0067$$
$$S^2_{\beta_{78}} = S^2y/x_{78} \Big/ (n_{78} - 1)\, S^2x_{78} = 0.0066$$
$$S^2_{\beta_{79}} = S^2y/x_{79} \Big/ (n_{79} - 1)\, S^2x_{79} = 0.0067$$

$$z_{77-78} = \frac{0.1514 - 0.1510}{(0.0067 + 0.0066)^{1/2}} = 0.0035$$

$$z_{78-79} = \frac{0.1510 - 0.1550}{(0.0066 + 0.0067)^{1/2}} = 0.0353$$

$$z_{77-79} = \frac{0.1514 - 0.1550}{(0.0067 + 0.0067)^{1/2}} = 0.0311.$$

Conclusions: Since the critical values have not exceeded the critical value (1.96), it must be assumed that the slopes of the least-squares lines are not statistically significantly different from each other.

TABLE 65

TEST FOR PARALLELISM OF SLOPES FOR S&L DATA

Year	Parameter	n	Estimate (β)	S^2y/x	S^2y
1977	β_{77}	52	0.8269	3.23×10^{12}	2.70×10^{14}
1978	β_{78}	52	0.8099	5.53×10^{12}	3.48×10^{14}
1979	β_{79}	52	0.8055	4.90×10^{12}	3.81×10^{14}

Note: Least-Squares Equation: Total Conventional Mortages = $\alpha + \beta$ (Total Assets)

H0: $\beta_{77} = \beta_{78}$; $\beta_{78} = \beta_{79}$; $\beta_{77} = \beta_{79}$

H1: $\beta_{77} \neq \beta_{78}$; $\beta_{78} \neq \beta_{79}$; $\beta_{77} \neq \beta_{79}$

Test Statistic: $$z = \frac{\beta_1 - \beta_2}{\left[S^2_{\beta_1} + S^2_{\beta_2}\right]^{1/2}}$$

Criteria: $|z|\ \alpha = 0.05 \geq 1.96.$

Calculations:

$$S^2_{\beta_{77}} = S^2y/x_{77} \Big/ (n_{77} - 1)\, S^2x_{77} = 0.0002$$

$$S^2_{\beta_{78}} = S^2y/x_{78} \Big/ (n_{78} - 1)\, S^2x_{78} = 0.0003$$

$$S^2_{\beta_{79}} = S^2y/x_{79} \Big/ (n_{79} - 1)\, S^2x_{79} = 0.0003$$

$$z_{77-78} = \frac{0.8269 - 0.8099}{(0.0002 + 0.0003)^{1/2}} = 0.7603$$

$$z_{78-79} = \frac{0.8099 - 0.8055}{(0.0003 + 0.0003)^{1/2}} = 0.1796$$

$$z_{77-79} = \frac{0.8269 - 0.8055}{(0.0002 + 0.0003)^{1/2}} = 0.9570.$$

Conclusions: Since the critical values have not exceeded the critical value (1.96), it must be assumed that the slopes of the least-squares lines are not statistically significantly different from each other.

APPENDIX E

APPENDIX E

RESIDENTIAL MORTGAGE SCHEDULE



The Southern Regional Housing Research Committee is conducting research on housing mortgages and energy. Would you please take approximately 20-30 minutes to answer the questionnaire? Please return the questionnaire in the enclosed envelope. Thanks for your assistance.

1. Institution name: _____

2. Indicate the approximate percentage of your first mortgage home loans made in the following areas:
   a. within this county? _____%
   b. in adjacent counties? _____%
   c. outside adjacent counties? _____%

3. Of the loans you made in 1979, what number were made in the following categories:

Population	Towns of 2,500 or less	Towns or cities of 2,500 or more	Outside city limits
		Number of Loans	
Purchase of new houses			
Purchase of used houses			
Repairs and improvements			

4. Do major problems exist for your firm in financing rural homes (homes outside city limits)?
   _____ Yes _____ No
   If yes, what are the major problems? _____

5. What was the approximate number of applications and number of loans for first mortgage home loans made in 1979?

	Number of applications	Number of loans made
a. Conventional		
b. FHA insured/VA guaranteed		
c. FmHA guaranteed		
d. Other		

6. What was the situation for your institution concerning the volume of conventional, FHA, VA and FmHA guaranteed first mortgage home loans in 1979?

	Conventional	*FHA & VA*	*FmHA Guaranteed*	*Other*
Had too many				
About right				
Wanted more				

7. If you do not loan through FHA, VA or FmHA, what changes in the procedures would increase your use of them?

8. Were you able to meet the demand for first mortgage loans in 1979?
   Yes _____ No _____

9. In June, 1979 what was the:

	Conventional	*FHA and VA*	*FmHA guaranteed*
a. Usual interest charged (APR)			
b. Usual repayment period allowed			
c. Usual percentage of purchase price required as down payment			
d. Usual prepayment penalty, if any			
e. Average experienced time for repayment			
f. Origination fee for			

10. What proportion of the mortgages made for conventional loans in 1979 had loan-to-value ratios of:

95% loan _____% of loans 80% _____ 60% _____ 40% _____
90% _____ 70% _____ 50% _____ or less

11. What percent of the first mortgage home loans made in 1979 had terms of:

less than 10 years _____%
10 years _____%
15 years _____%
20 years _____%
25 years _____%
30 years _____%
35+ years _____%

12. What were the usual reasons for rejecting first mortgage home loan applications in 1979? Rate the following factors from low to high importance.

	Low Importance						High Importance			Low Importance						High Importance
Income stability	1	2	3	4	5	6	7	Debt picture		1	2	3	4	5	6	7
Income level	1	2	3	4	5	6	7	Acceptable co-signer		1	2	3	4	5	6	7
Appraisal	1	2	3	4	5	6	7	Regular bank customer		1	2	3	4	5	6	7
Credit rating	1	2	3	4	5	6	7	Sufficient down payment		1	2	3	4	5	6	7

Other, please specify _____

13. Do you ever refer a rejected applicant for a first mortgage loan to another lender? _____ Yes _____ No

If yes, what type or types of lender? _____

14. What is your guideline for proportion of family income normally allocated for mortgage principal and interest, taxes and insurance? _____

15. Approximately what number of your conventional, FHA, VA and FmHA guaranteed first mortgage home loans were made to households with annual income in 1979 of:

	Conventional	*FHA & VA*	*FmHA guaranteed*
a. less than $16,500			
b. $16,500 - $21,999			
c. $22,000 and over			

16. Indicate the number of home loans made during 1979 in the following market value categories?

	Number		*Number*
a. Less than $20,000	____	d. $50,000 - $64,999	____
b. $20,000 - $34,999	____	e. $65,000 and over	____
c. $35,000 - $49,999	____		

17. Who appraises the housing for your institution? _____

18. What major problems are encountered in appraising innovative or alternative housing? _____

19. What is your policy on loans for the following types of housing?

Type of housing	Normal loans	Limited amount of loans	Loan on trial basis	Would not consider
1. New home purchases				
2. Existing home purchases				
3. Home construction loans				
4. Refinancing of existing home loans				
5. Mobile home purchases				
6. Home improvement loans				
7. Passive solar system houses				
8. Active solar system houses				
9. Earth sheltered houses				
10. Prefab and modular houses				

20. Has this lending institution considered, or is it now considering, policies which would include energy costs as part of the determination of a borrower's eligibility for a mortgage? _____ Yes _____ No

Please explain _____

_____

_____

21. What types of information do you feel you need to make a better decision regarding assessments of energy efficiency in residential buildings for lending purposes? (Check as many as apply.)

_____ 1. Public acceptance
_____ 2. Cost and technical data
_____ 3. Adaptability to existing housing
_____ 4. Appraisal techniques
_____ 5. Performance data
_____ 6. Installation standards
_____ 7. Maintenance or warranty information
_____ 8. Don't know
_____ 9. Other; explain_____

22. Do you favor the issuance of tax exempt securities by local or state government or agencies to finance housing in your market area?

Yes _____ No _____ Don't know _____

23. What is your attitude toward the alternative types of loans listed below?

Type of Loan	Normal loans	Loan on trial basis	Would not consider
a. Variable interest rate			
b. Graduated payment			
c. Reverse annuity			
d. Rollover			
e. Subordinated lot lease			
f. Price level adjusted mortgage			

24. For home loans made in 1979, what were typical (average) closing costs to the buyer for loans as a percentage or dollar amount of loan value?

	Percentage	or	*Dollar Amount*
a. Credit report			
b. Points			
c. Origination fees			
d. Legal fees			
e. Title search			
f. Appraisal			
g. Escrow for taxes			
h. Property insurance			
i. Mortgage insurance			

25. During 1979, what was the typical processing time (in weeks) between application and final approval for loans of the following classes:

a. Conventional _____
b. FHA and VA _____
c. FmHA guaranteed _____
d. Alternative mortgages _____

26. Indicate the approximate number and dollar volume of mobile home loans in 1979:

Type of Loan	*Number*	*Dollar Volume*
Conventional		
FHA and VA		
FmHA guaranteed		
Other (specify)_____		

27. What was the approximate dollar value of mobile home loans as a percentage of loans of all consumer loans?

_____ %

28. For mobile home loans made in 1979, what was typical or average for the following:
    a. Usual interest rate (APR) ..... _____ e. Points ..... _____
    b. Usual repayment period allowed ..... _____ f. Originating fee ..... _____
    c. Usual percentage of purchase price as downpayment ..... _____ g. Loan amount ..... _____
    d. Usual prepayment penalty, if any ..... _____
29. Do you apply the (Rule of 78) for prepayment on new mobile home loans? _____ Yes _____ No
30. What is the usual actual repayment period on new mobile home loans? _____ Number of years
31. In 1979 did you make commitments for any mortgage funds from the State Housing Authority? _____ Yes _____ No
    If yes, how much? _____ (actual dollars)
32. Do you participate with other lenders in making housing loans? _____ Yes _____ No
    If yes, what was the type and location of lenders with whom you participated in 1979?

Type	*Location*	*Number*	*Amount*

33. Does your institution deal in the secondary mortgage market? _____ Yes _____ No. If yes, skip to question 36.
34. If not, why do you not participate in the secondary mortgage market? (Check as many as apply)
    _____ 1. Source of funds not needed
    _____ 2. Insufficient staff
    _____ 3. Policies change too often
    _____ 4. Need more information
    _____ 5. Paper work
    _____ 6. Volume too small
    _____ 7. Location of contact person
    _____ 8. Other, please specify _____
35. What recommendations for changes would you suggest in the secondary market methods?
    _____
    _____
    _____
36. (If yes to Question 33) How long have you been active in the secondary mortgage market? _____ Number of years
37. In which of the following markets do you sell?
    _____ 1. FNMA _____ 2. FHLMC _____ 3. GNMA _____ 4. Private sector firms (like Merrill Lynch)
    _____ 5. State Housing Authority _____ 6. Mortgage broker
    _____ 7. Other, please specify _____
38. What problems, if any, have you had in these secondary market transactions?
    _____
    _____
    _____
    _____
39. Did you purchase any whole mortgage loans in 1979? _____ Yes _____ No
40. Did you sell any whole mortgage loans in 1979? _____ Yes _____ No
41. Of all the loans you are presently servicing for single family homes, what proportion is actually held by:
    Other banks _____ REITS _____
    S & Ls _____ FNMA _____
    Insurance companies _____ GNMA _____
    Mortgage companies _____ Freddie Mac _____
    Other (specify) _____
42. What recommendations would you make for changes in secondary market methods?
    _____
    _____
    _____

Thank you for your assistance. We appreciate it!

Reports of Oklahoma Agricultural Experiment Station serve people of all ages, socio-economic levels, race, color, sex, religion and national origin. This publication is printed and issued by Oklahoma State University as authorized by the Dean of the Division of Agriculture and has been prepared and distributed at a cost of $368.64 for 3,000 copies. 0580.

VITA

Ben Terry Rudd was born June 16, 1956 in Memphis, Tennessee. He has one brother, Dr. John Daniel Rudd, and three sisters, Pamela Fay, Donna Ruth, and Cheri Ann. He graduated from Middleton High School in 1975.

He attended The University of Tennessee at Martin, where he graduated in March 1979 with a B.S. in Agricultural Business. He was a member of Alpha Zeta, Block and Bridle, and the Dairy Judging Team. In the same month, Mr. Rudd began a Master's program in Agricultural Economics at The University of Tennessee, Knoxville. He completed his studies in December 1981. Upon graduating, Mr. Rudd accepted a position with the Federal Land Bank of Louisville, Kentucky.