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Home Mortgage Delinquency and Foreclosure

I

Background of the Study

Four conditions combined to motivate this study: (1) the large and growing importance of home mortgage [1] debt in the postwar credit structure; (2) the radical shifts that occurred, following World War II, in the characteristics of this debt; (3) the considerable rise in mortgage foreclosure and delinquency in the late 1950's and early 1960's; and (4) the lack of rigorous analysis in previous studies of the performance of home mortgage debt, so that neither the factors responsible for mortgage performance nor the degree to which mortgage quality may have changed in recent years could be assessed. This chapter deals broadly with each of these conditions.

1. The Importance of Home Mortgage Debt

A number of postwar inquiries have depicted the growing importance of residential mortgage finance in the American economy, and only a few salient facts need be cited here.[2] Earlier studies, which fo-

[1] Almost all of the data in this study pertain to single-family or one- to four-family housing. Mortgages on apartment and other multifamily dwellings are omitted, as are mortgages on farm dwellings. In some cases data refer to all nonfarm residential mortgages, and in a few cases some farm dwelling debt is included. In such cases the broader term "residential mortgage" is employed.

[2] Important studies of postwar developments in the real estate finance market include the following: Saul B. Klaman, *The Postwar Residential Mortgage Market*, Princeton for NBER, 1961; Raymond R. Goldsmith, Robert E. Lipsey and Morris Mendelson, *Studies in the National Balance Sheet*, Princeton for NBER, 1963; and O. Jones and L. Grebler, *The Secondary Mortgage Market*, Los Angeles: Real Estate Research Program, Univ. of California, 1961. The forthcoming study by Earley, "The Quality of Credit in the United States," provides additional background material.

cused on the depression, wartime, and immediate postwar periods, were conducted under the National Bureau's Financial Research Program.[3] Beginning in 1946, U.S. residential construction revived vigorously, following the wartime hiatus of civilian construction and more than a decade of depressed prewar house building. The entire postwar period has been one of large home building as judged by prewar standards. From 1947 through 1964, residential construction never constituted less than 29 per cent of U.S. gross domestic investment, as against typical levels of about 18 per cent prior to World War II.

Single-family housing has been the backbone of postwar American residential construction. As judged by the value of total building permits, roughly 85 per cent of new U.S. residential construction was in single-family homes in 1946, as compared with only 64 per cent in 1936. In recent years multidwelling construction has grown in relative importance, but even in 1963 single-family homes constituted 68 per cent of the value of total residential building permits. Since residential construction is peculiarly dependent on mortgage credit, almost all one- to four-family housing being bought with the aid of mortgage loans, a major sector of the American economy is thus dependent upon the performance of the home mortgage market.

As a result of the long-sustained housing boom, residential mortgage debt has grown substantially in relative importance in the U.S. debt structure. Household mortgage debt was 16 per cent of all debt (omitting the debts owed by financial institutions) in 1963, as compared with only 7 per cent in 1939. Owing to the long and lengthening maturity of home mortgages in the postwar years, the proportion of personal disposable income absorbed by payments on these mortgages remained fairly small. But it was not negligible, being 3.5 per cent in 1963, more than twice its level in 1945.

The American financial system has become more dependent on the quality of home mortgage debt than ever before. Savings and loan associations, America's fastest-growing major type of financial institution in the postwar years, are of course especially heavily involved; almost 84 per cent of their total assets was invested in nonfarm residential mortgages at the end of 1963. Other types of institutions have increased their holdings of mortgages sharply. More than two-thirds of the funds of mutual savings banks were so invested in 1963, as compared with only about one-third before World War II. Less than 10 per cent of

[3] For a summary of these studies, see J. E. Morton, *Urban Mortgage Lending: Comparative Markets and Experience*, Princeton for NBER, 1956.

the total assets of life insurance companies was invested in residential mortgages as late as 1948, but more than 20 per cent was so employed in 1963. Even commercial banks, whose investment in residential mortgages comprised only about 4 per cent of total assets before World War II had 8 per cent so invested at the end of 1963. Lack of up-to-date over-all data makes it impossible to estimate the proportion of the total assets of all U.S. financial institutions combined that now consist of residential mortgages; but by 1958, national balance sheet data put this figure at 16 per cent, more than twice its prewar level. Judging by later partial data for the major types of institutional holders, this probably approached 20 per cent by 1963. The stake of the American credit system in the quality of home mortgage debt is thus large.

One of the significant postwar developments in home mortgage finance has been the increased importance of financial institutions relative to other lenders. The four major lenders—savings and loan associations, mutual savings banks, life insurance companies, and commercial banks—together held about 86 per cent of the mortgages outstanding on one- to four-family properties at the end of 1963, as compared with only 65 per cent in 1930 and 59 per cent in 1940. The most dramatic growth was in the savings and loan sector. Savings and loan associations accounted for about 44 per cent of total holdings of home mortgages in 1963–64, as against only 22.5 per cent at the end of 1940. Mutual savings banks, life insurance companies and commercial banks are now of roughly equal quantitative importance, each accounting for about 15 per cent of total holdings of one- to four-family mortgages in 1963–64. Their shares had grown slightly as compared with prewar years.

Owing to the rapid growth of mortgage banking, the pattern of the origination of mortgage loans has come to diverge substantially from the pattern of their holdings. Mortgage bankers generate and issue mortgages, but typically sell them to other institutional investors, especially savings banks and life insurance companies. Mortgage bankers also frequently service the loans, collecting instalments and otherwise dealing with borrowers. Before the war, in 1940, mortgage companies originated roughly 15 per cent of new one- to four-family home mortgages; by 1960, this proportion had reached 19 per cent of a vastly greater volume of lending.

Mortgage banking is especially prevalent in financing operations under government-sponsored FHA and VA programs. They originated about a fourth of new FHA loans in 1946 and a half in 1960. In 1960,

55 per cent of new one- to four-family VA mortgages were made by mortgage bankers.

The over-all composition of home mortgages among conventional, FHA-insured, and VA-guaranteed loans is relevant to their quality, although the relevance is likely to be exaggerated. In the earlier postwar years, the government-sponsored fraction of new mortgages was substantial, but in no year did the conventional loan fraction fall much below two-thirds, and it remained between 75 and 80 per cent in the early 1960's. In 1963 roughly 64 per cent of the one- to four-family mortgage debt outstanding was in conventional loans without government guarantee. In recent years the private insurance of conventional mortgages has spread. By 1964 between $1.5 and $2 billion worth of insurance was in force on conventional mortgages. The insurance, which is only written on loans having loan-to-value ratios in excess of 80 per cent, covered less than 1 per cent of the outstanding one- to four-family mortgage debt. It is not likely that substantial changes in the proportion of loans privately insured will take place in the near future.

In any case, the significance of insurance and guarantees for the quality of over-all mortgage debt is not great. Private mortgage insurance could not stand up for long against a serious rise in foreclosures. Even lending on government-insured or -guaranteed mortgages would be inhibited if delinquency and foreclosure became epidemic, and both the demand for and construction of housing would fall off under such conditions, with serious economic consequences.

2. *Changing Mortgage Characteristics*

TERMS

The postwar years brought about a revolution in the terms of home mortgage loans in America. Changes were particularly great in the length of maturities and in loan-to-value ratios. The VA and FHA programs produced excellent statistics on these terms, and representative terms for conventional mortgages have been collected since about 1950 by the U.S. Savings and Loan League and the Federal Home Loan Bank Board. There are also reasonably satisfactory statistics on the course of the typical relationship between the payments called for under FHA and VA mortgages and the income of the mortgagors. These are the three terms, in addition to the contract interest rate, included in the sample data used in this study.[4]

[4] A fourth important variable, the accuracy of the appraisal underlying the loan-to-value ratio, is unfortunately almost never ascertainable from lenders' rec-

Table 1 and Chart 1 show the upward trend in the average maturities of newly written FHA, VA and conventional loans on home properties from 1946 through 1967. With the exception of the years centering around the Korean crisis, average maturities rose almost every year through 1965 when the trend was arrested.

By 1960, the thirty-year FHA loan, first authorized in 1954, had become typical. (Thirty-five-year maturities were later authorized in some cases.) The average maturity of single-family FHA mortgages on new homes rose to thirty-one years in 1963, the year for which the performance data in the present study were secured. By that time even FHA loans on existing homes had risen to an average maturity of more than twenty-eight years. The average maturity of VA loans, like that of FHA's, continued to rise year by year (with the exception of the Korean period) through 1965. A thirty-year maturity became typical on new-home loans in the early 1960's, compared with less than twenty years at the beginning of the VA program after World War II. The proportional increase in maturities on loans financing the purchase of existing homes was comparable.

After the war, the typical maturity of conventional mortgages was, as before, considerably shorter than that of FHA and VA loans. Proportionately, however, their maturities increased even more sharply, especially after the mid-1950's. Even for the first few years after the war, conventional loans of less than fifteen years on new homes were typical. But by 1963 the median maturity of conventional loans made by savings and loan associations was almost twenty-four years for new homes and twenty-one for loans for the purchase of existing dwellings. In the case of conventionals, typical maturities continued to rise slightly even through 1967.

The sharp rise in typical loan-to-value ratios has been as significant as the lengthening of maturities. Summary data appear in Table 2 and Chart 2.

The VA program led the field in the move toward very low margin mortgages. No down payments were required initially on standard VA home mortgage loans. Down payments varying with the size of loan were imposed in 1950, revoked in April 1953, reimposed in July 1955, and revoked again in April 1958. There have been no VA down payment

ords. Other terms, such as technical provisions regarding foreclosure, prepayment privileges, and special covenants, have also had to be omitted for lack of data. The contract interest rate was included as a variable in the cross-section analysis, but its movements through time were so clearly dominated by changing monetary and credit conditions, rather than by quality shifts, that the movements are not noted here.

TABLE 1

Postwar Trends in Home Mortgage Maturities, 1946-67

(years)

Year	Average Maturity of New Loans				Estimated Median Maturity of New Loans[a]	
	FHA Single-Family Homes (Section 203)		VA Primary Loans (Section 501)		Conventional Loans by Savings and Loan Associations	
	New Homes (1)	Existing Homes (2)	New Homes (3)	Existing Homes (4)	New Homes (5)	Existing Homes (6)
1946	21.0	18.9	19.8	18.2	n.a.	n.a.
1947	20.2	19.1	20.2	16.7	n.a.	n.a.
1948	20.1	19.3	19.7	16.1	n.a.	n.a.
1949	22.8	19.8	21.2	17.4	n.a.	n.a.
1950	24.1	20.2	23.1	19.7	14.3	12.3
1951[b]	23.4	21.1	24.0	18.2	16.2	13.6
1952[b]	21.7	19.7	23.1	18.7	16.3	13.9
1953	22.2	19.9	23.2	19.3	16.5	13.9
1954	22.9	20.1	25.9	21.4	16.7	14.6
1955	25.6	22.7	27.4	22.4	17.4	15.1
1956	25.5	22.5	27.2	22.0	17.5	15.1
1957	25.5	22.5	27.3	21.3	18.5	15.2
1958	27.3	24.2	28.3	22.3	19.8	15.5
1959	28.8	25.1	28.9	23.6	21.1	16.1
1960	29.2	25.8	28.9	23.6	21.7	16.5
1961	29.5	26.7	29.1	25.4	21.9	16.9
1962	30.3	27.4	29.2	26.6	22.7	18.8
1963	31.0	27.9	29.3	27.3	23.9	20.2
1964	31.4	28.4	29.3	27.7	24.6	20.9
1965	31.7	28.6	29.4	27.8	25.3	22.2
1966	30.3	28.4	29.4	27.8	25.0	22.2
1967	29.8	28.5	29.4	28.0	25.4	23.1

SOURCE: For FHA, HHFA *Annual Reports* and *Quarterly Reports on FHA Trends;* VA data supplied by Veterans' Administration; conventional loan data supplied by U.S. Savings and Loan League.

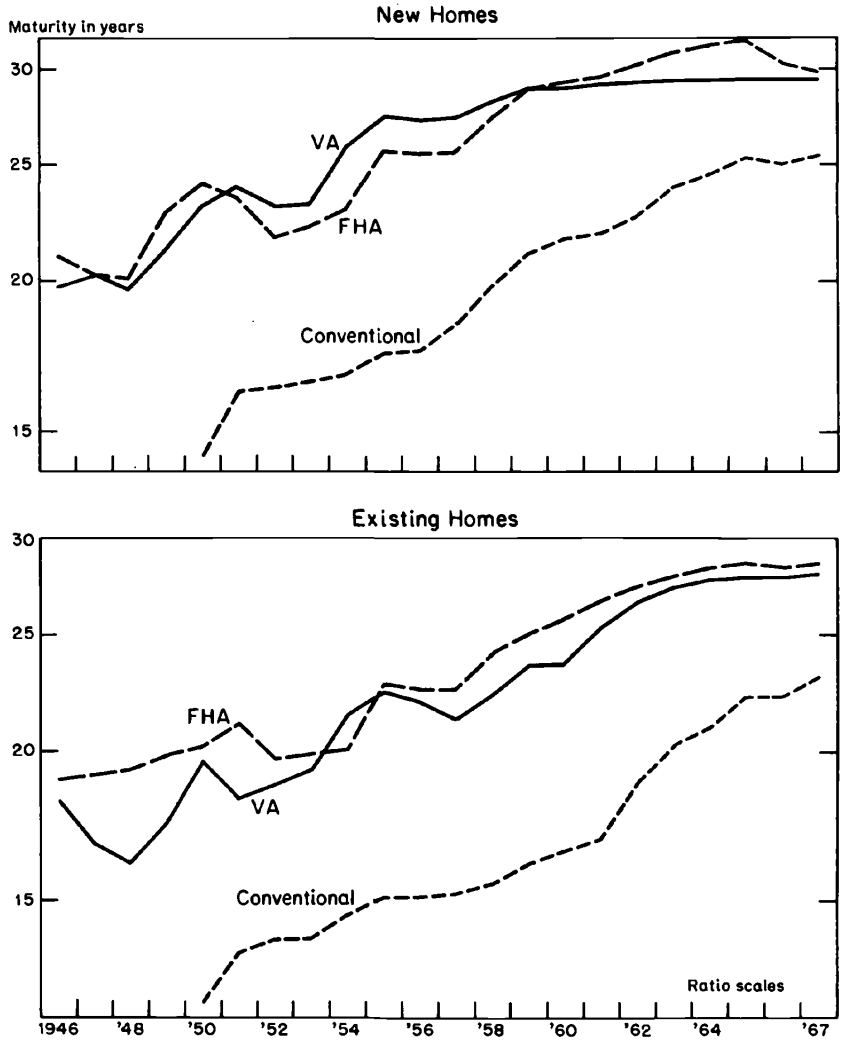
[a]Medians are estimated from frequency distributions of "most typical" maturities reported by a large sample of savings and loan associations in the spring of each year.

[b]Selective government controls over maximum maturities were in effect in most months of 1951 and 1952.

n.a. = not available.

CHART 1

Postwar Trends in Home Mortgage Maturities, 1946–67



SOURCE: Table 1.

TABLE 2

Postwar Trends in Home Mortgage Loan-to-Value Ratios, 1946-67
(per cent)

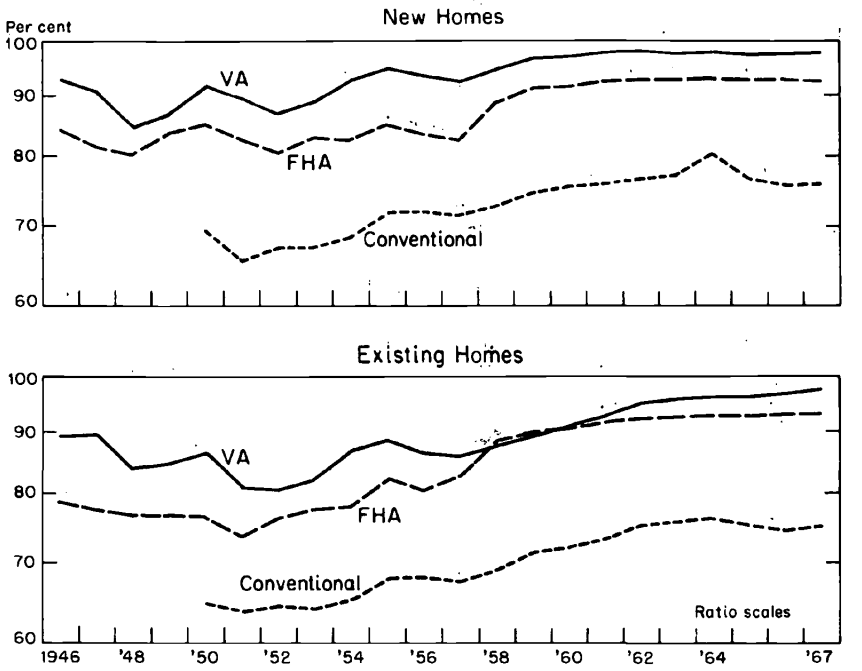
Year	Average Loan-to-Value Ratios of New Loans				Estimated Median Loan-to-Purchase-Price Ratio[a]	
	FHA Single-Family Homes (Section 203)		VA Primary Loans (Section 501)		Conventional Loans Made by Savings and Loan Associations	
	New Homes (1)	Existing Homes (2)	New Homes (3)	Existing Homes (4)	New Homes (5)	Existing Homes (6)
1946	84.1	78.6	92.7	89.1	n.a.	n.a.
1947	81.2	77.3	90.7	89.2	n.a.	n.a.
1948	80.1	76.5	84.5	83.8	n.a.	n.a.
1949	83.6	76.6	86.5	84.6	n.a.	n.a.
1950	85.0	76.4	91.9	86.4	69.2	64.6
1951[b]	82.5	73.6	89.6	80.7	65.5	63.6
1952[b]	80.4	76.1	86.9	80.3	67.0	64.1
1953	82.9	77.5	88.8	82.0	67.0	63.9
1954	82.2	77.8	92.6	86.8	68.3	65.2
1955	85.0	82.2	94.5	88.4	71.6	67.9
1956	83.2	80.3	93.1	86.3	71.6	67.9
1957	82.3	82.5	92.2	85.8	71.3	67.3
1958	88.7	88.1	94.3	87.4	72.7	68.9
1959	91.0	89.7	96.7	89.0	74.4	71.1
1960	91.4	90.5	96.8	90.7	75.3	72.0
1961	92.2	91.4	97.7	92.5	75.7	73.1
1962	92.7	92.1	97.8	94.9	76.6	75.1
1963	92.7	92.5	97.6	95.8	77.0	75.6
1964	92.9	92.8	97.6	96.2	80.4	76.1
1965	92.7	92.7	97.2	96.2	76.6[c]	75.3[c]
1966	92.7	93.0	97.3	96.8	75.7[c]	74.5[c]
1967	92.4	93.0	97.5	97.6	75.8[c]	75.2[c]

SOURCE: For FHA, HHFA *Annual Reports* and *Quarterly Reports* on *FHA Trends;* VA data supplied by Veterans' Administration; conventional loan data from 1950 through 1964 supplied by U.S. Savings and Loan League, for 1965-67 data see note c below.

[a]Medians are estimated from frequency distribution of "most typical" loan-to-purchase price ratios reported by a large sample of associations in the spring of each year. The ratios are for loans on

CHART 2

Postwar Trends in Home Mortgage Loan-to-Value Ratios, 1947–67



SOURCE: Table 2.

requirements since that time, although the practices of including closing costs in the mortgage amount—the making of "no no-down-payment loans"—is no longer permitted. As Table 2 shows, by 1963 the average loan-to-value ratio on VA new homes was almost 98 per cent and the average ratio on VA loans for the purchase of existing homes was only slightly lower. Thereafter the rise in loan ratios on new homes ceased although those on existing homes continued to rise slightly.

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the following price groups of houses: 1950, unspecified; 1951, $9,000-$15,000; 1952–54, $10,000-$15,000; 1955-64, under $15,000.

[b] Government controls over maximum loan-to-value ratios were in effect during most months of 1951 and 1952.

[c] 1965-67 data are averages as published by the Federal Home Loan Bank Board. They are not strictly comparable with earlier figures.

n.a. = not available.

Restrictions on the proportions of property value that could be advanced on FHA home mortgages were successively relaxed during the postwar years. Average loan-to-value ratios on new loans remained quite moderate through the mid-1950's, but thereafter began to rise rapidly. In 1963, FHA regulations permitted mortgages of up to 97 per cent of appraised value on the first $15,000, 90 per cent on the next $5,000, and 75 per cent on any remaining value up to a maximum loan of $30,000. The actual average loan-to-value ratios in 1963 were above 92 per cent on both new and existing home loans. Thereafter there was little change through 1967. The proportionate rise in loan-to-value ratios over the postwar years was even greater for FHA than for VA loans, as the chart shows. It is also significant that the earlier substantial difference between loan-to-value ratios for FHA loans on new and existing homes had disappeared by the early 1960's.

The main effective limits on the loan-to-value ratios of conventional home mortgages have been restrictions on the lending powers of federal and state chartered savings and loan associations which have membership in the Federal Home Loan Bank System. Before the war these were permitted to loan only up to 60 per cent of the appraised value of home properties. This limit was raised, subject to certain limitations, to 75 per cent, and later to 80 per cent, during the 1950's. In 1958, federal savings and loan associations were permitted in certain cases to loan up to 90 per cent of the appraised value of homes. Although typical loan-to-purchase price ratios remain lower for conventional than for government-sponsored mortgages, the uptrend has been proportionally about as great, as Chart 2 reveals. In 1964 the estimated median loan-to-purchase price ratio of loans reported by members of the U.S. Savings and Loan League was 80 per cent for new construction loans and 76 per cent for the purchase of existing homes, much above their levels in the early 1950's. Later data were not strictly comparable, but it appears there was a slight drop after 1964.

The postwar American housing market has been a market for new homes to a greater extent than before the war. Both government-sponsored and conventional mortgage finance have been directed especially toward new housing, much of it in large tracts and subdivisions. To some extent the markets for new and existing housing have been somewhat separate, perhaps more so than before the war. As the charts show, however, the pronounced easing of terms has characterized both markets. It remains normal to lend for somewhat shorter periods and at lower loan-to-value ratios on existing homes than on new ones, but the easing of terms on the former has been, on the whole, even more

pronounced. Over the period for which the loans included in our study were contracted, the very long-term, low-margin home mortgage was typical for all types of loans and lenders and in all parts of the country. We will examine the effects of these terms on loan performance in later chapters.

LOAN PAYMENT-TO-INCOME RATIOS

One of the relationships that has become more important to quality with the growth of long-maturity, low down payment loans is the percentage of the monthly mortgage payment (or estimated total housing expense) to the income of the borrower. It is interesting to look at the trend of this percentage on typical loans over the postwar years.

Unfortunately, there are no representative time series for conventional loans. Data for VA loans are available from 1954 on. FHA data are available for 1940 and each of the years 1946 to the present. Table 3 and Chart 3 present these data.

For FHA loans the notable feature is the stability of these percentages, both for new and existing home loans. The average percentage of borrower income absorbed by mortgage payment on loans for new homes did not exceed the level of 1940 in any postwar year. The low point in the percentage occurred in the mid-1950's. Since then it has risen somewhat, but it remained moderate in 1963 as compared with either the prewar or immediate postwar years and dropped slightly after 1963. The situation is broadly similar for FHA loans on existing homes.

In the case of VA loans, the situation is not so favorable. Satisfactory data are available only back to 1956 and only for the percentage of average total housing expense to average borrower income on loans on both new and existing homes combined. But these show a considerable weakening in this relationship between 1954 and 1967. The average ratio of income to housing expense was only 22 per cent in 1956, rose to 29 per cent in 1963 and to 30 per cent in 1966. Since these data are based on after-tax rather than pre-tax income, they are not comparable with the FHA data but the disparity in movement in the late 1950's and early 1960's was notable.

3. Trends in Borrower Characteristics

The lengthening of maturities and the rise in loan-to-value ratios have naturally increased the importance of borrower characteristics to the quality of home mortgages. Borrower characteristics available here include income, occupation, marital status, number of dependents, and

TABLE 3

Average Percentages of Mortgage Payment and Total Housing Expense to Borrower Income, FHA and VA Home Mortgage Loans

(per cent)

Year	FHA Single-Family Home Loans (Section 203)				VA Prior-Approval Loans, New and Existing Homes Combined (Section 501)
	New Homes		Existing Homes		
	Average Mortgage Payment (1)	Total Housing Expense[a] (2)	Average Mortgage Payment (3)	Total Housing Expense[a] (4)	Total Housing Expense to After-Tax Income (5)
1940	17	n.a.	15	n.a.	n.a.
1946	15	21	14	20	n.a.
1947	16	22	14	20	n.a.
1948	16	22	14	20	n.a.
1949	16	22	15	20	n.a.
1950	16	22	15	20	n.a.
1951	15	20	14	19	n.a.
1952	15	20	14	19	n.a.
1953	15	20	15	19	n.a.
1954	15	20	15	19	n.a.
1955	15	20	15	19	n.a.
1956	15	19	15	19	22
1957	15	20	15	20	24
1958	16	20	16	20	25
1959	16	20	16	20	26
1960	17	21	16	21	26
1961	17	21	16	20	28
1962	17	21	16	20	28
1963	17	21	16	20	29
1964	17	21	16	21	29
1965	16	21	16	21	29
1966	16	21	16	21	30
1967	16	21	16	21	30

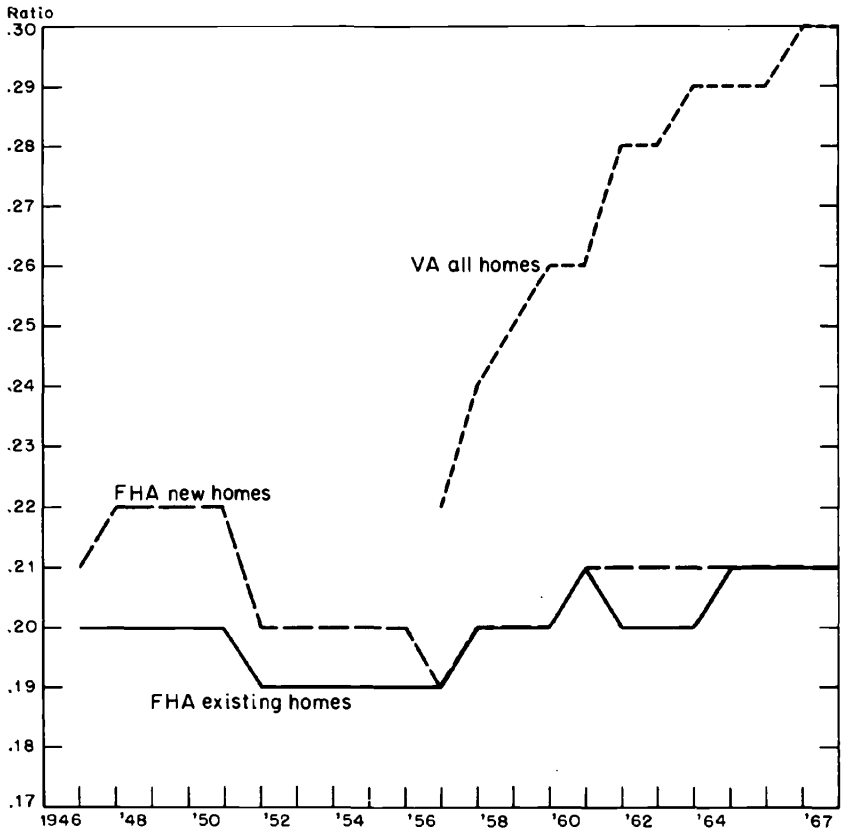
SOURCE: FHA percentages for 1940-64 computed from data in *Annual Reports* of the FHA and HHFA; 1965-67 data from *FHA Trends*. VA percentages computed from data in *VA Loan Guarantee Highlights*. Since they are based on after-tax income they are properly comparable to FHA data, but the uptrend from 1956 on is the significant comparison.

[a]The sum of mortgage payments, expenses for heating and utilities, and FHA-estimated cost of maintenance and repair.

n.a. = not available.

CHART 3

Postwar Trends in Housing Expense to Borrower Income Ratios, FHA and VA Home Mortgages, 1946–67



SOURCE: Table 3.

age. It is of interest to survey briefly the information available on the trends of these variables among home mortgage borrowers generally over the postwar years. The data are far from adequate, but some significant trends are observable.

BORROWER INCOME

Higher income is normally associated with a lower proportion of income absorbed in housing expense, which thus increases the cushion available to take care of mortgage and other obligations. Higher incomes are also

normally associated with greater wealth and liquid asset holdings, as well as with favorable occupational status. Hence the postwar trend of mortgage borrower incomes, both absolutely and relative to incomes of the entire population, is worth noting.

The rising incomes of the U.S. population since World War II, in both money and real terms, have unquestionably been an important factor in maintaining home mortgage performance. Mortgage borrowers, generally, have higher than average incomes. The following data are significant primarily in that they show whether mortgage borrowers have come to be drawn from relatively higher sectors of the family income structure over the course of the postwar years.

Table 4 shows the course of the average effective monthly income of FHA Section 203 borrowers and the ratio of this income to the median nonfarm family income of the United States. Table 5 presents similar data for VA borrowers. Chart 4 illustrates the behavior of the ratios for both FHA and VA borrowers.

FHA borrowers on both new and existing homes have considerably higher than median income, and until the mid-1950's this favorable relative income position improved. For new home borrowers the ratio improved through 1957; for existing home borrowers it reached its strongest position somewhat earlier. From 1957 on the trend became downward in both cases, however. In 1963–64 the average income of FHA borrowers relative to the population at large appears to have been about what it was shortly after the war.

The average income of VA borrowers, on the other hand, has had an unfavorable trend relative to median U.S. family income over the period for which data are available. In 1954 the average income of VA borrowers was about 30 per cent above the U.S. median, thus comparing favorably with FHA borrowers. By 1963, however, the VA average was very little higher than the median. There is some evidence here of a weakening of the quality of VA mortgage loans. It should be observed, however, that VA loans were declining in relative importance over these years.

There are unfortunately no good data on the postwar movements of the average incomes of conventional mortgagors, who owe much the larger portion of aggregate home mortgage debt. Fortunately, Survey Research Center data, based on representative samples of American spending units, can provide essential trends for all classes of mortgage borrowers combined, including conventional loan mortgagors. This evidence indicates that mortgage borrowers generally have more than shared in the postwar rise in money and real income. Although the data

TABLE 4

Postwar Trends in Average Income Levels of New FHA (Section 203) Borrowers and Ratios to Median Incomes of Nonfarm Families

Year	Average Effective Monthly Income (before taxes)[a]		Ratio to Median Nonfarm Family Income	
	New-Home Borrowers (1)	Existing-Home Borrowers (2)	New-Home Borrowers (3)	Existing-Home Borrowers (4)
1940	$222	$251	n.a.	n.a.
1946	302	303	1.21	1.21
1947	331	328	1.24	1.23
1948	367	359	1.30	1.27
1949	357	395	1.29	1.43
1950	351	403	1.21	1.38
1951	388	431	1.19	1.32
1952	430	452	1.25	1.32
1953	440	495	1.18	1.33
1954	469	520	1.27	1.42
1955	497	518	1.27	1.32
1956	545	549	1.29	1.30
1957	593	571	1.36	1.31
1958	601	581	1.35[b]	1.31[b]
1959	610	592	1.29[b]	1.25[b]
1960	632	605	1.31	1.25
1961	645	621	1.31	1.26
1962	641	636	1.26	1.25
1963	666	648	1.24	1.21
1964	677	656	1.20	1.16

SOURCE: Col. 1 and 2: 1940 from *Annual Report* of FHA, 1940 Table 47, p. 84; 1946 from *Annual Report* of National Housing Agency, 1946, pp. 156, 158; 1947-60 from *Annual Reports* of HHFA; 1961-64 from *FHA Trends*, various quarterly dates. Median nonfarm income data are from *Current Population Reports*, Series P-60, U.S. Department of Commerce.

[a]FHA-estimated amount of the "mortgagor's earning capacity . . . likely to prevail during approximately the first third of mortgage term."

[b]1959 nonfarm median income was missing from source. Ratio was estimated from the median for all families by adjusting for the 1958 ratio of nonfarm to all-family medians.

n.a. = not available.

TABLE 5

Postwar Trends in Average Income Levels of New VA Mortgage Borrowers and Ratios to Median Income of Nonfarm Families, Prior-Approval Primary Loans Under Section 501, 1954-63

(new and existing homes combined)

Year	Estimated Mortgagor Average Monthly Income (before taxes) (1)	Ratio to Median Nonfarm Family Income (2)
1954	$481	1.31
1955	501	1.28
1956	528	1.25
1957	540	1.24
1958	545	1.23
1959	531	1.12[a]
1960	560	1.09
1961	522	1.06
1962	530	1.04
1963	546	1.02

SOURCE: Col. 1, based on data supplied by Veterans' Administration. These data stated income after taxes, but equivalent before-tax figures were estimated for this purpose. Median nonfarm income underlying col. 2 from *Current Population Reports*.

[a]See Table 4, note b.

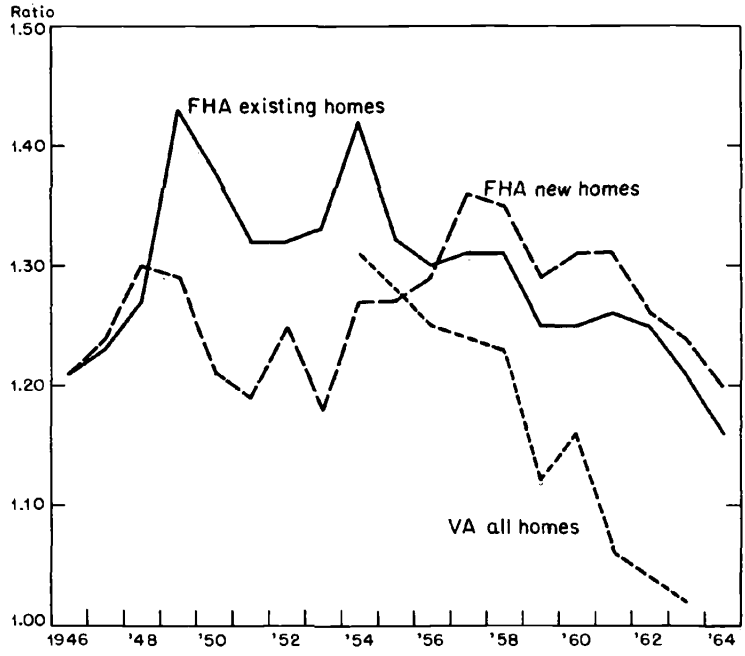
have rather wide sampling errors, the trends are so strong as to be convincing.

The data are summarized in Table 6. The top panel of the table shows that homeownership is most prevalent in the upper-income quintiles of the population, and in these quintiles the incidence of homeownership increased most from 1949 to 1960. Since the bulk of homeowners, especially those acquiring homes for the first time, are mortgage debtors, this is strong evidence of a greater upward movement in the family income of home mortgagors than of the population as a whole between these years.

The lower panels of the table, which cover home mortgage debtors only, tend to confirm this conclusion, although the data unfortunately go back only to 1958. Between 1958 and 1963, Panel B shows, the over-all percentage of nonfarm homeowning families with mortgage indebtedness rose only slightly, but the percentages in the higher-income groups rose markedly and in most lower-income groups the percentage

CHART 4

Ratio of Average Income of FHA and VA Mortgage Borrowers to Median Family Income, 1946–64



SOURCE: Tables 4 and 5.

fell. The same conclusion can be inferred from Panel C. The estimated share of total mortgage debt owed by families whose incomes were $10,000 or more rose sharply, from 21 per cent in 1958 to 38 per cent in 1963. Between these years only a small part of these changes could be attributed to rising money incomes and shifting income composition among the population.

In sum, it seems clear that those who owed residential mortgage debt enjoyed increases in income considerably greater than the average American family over the postwar years. This must have been an important factor in maintaining the quality of home mortgages.

OCCUPATIONAL COMPOSITION

There are no available time series on the occupational distribution of home mortgagors. Even cross-section information is scanty. It is, however, possible to draw inferences from the changing homeownership patterns of different occupational classes, owing to the very high correla-

TABLE 6

Postwar Changes in the Income Composition of Homeowners and Residential Mortgage Debtors
(per cent)

A. Nonfarm Families Owing Homes, by Income Quintiles, 1949-60

Quintile	1949	1954	1960	Change, 1949-60
Lowest	40	45	42	+ 2
Second	43	46	47	+ 4
Third	47	51	55	+ 8
Fourth	55	65	68	+ 13
Highest	69	71	77	+ 8
All families	51	56	58	+ 7

B. Nonfarm Homeowning Families With Mortgage Debt, by Income Groups, 1958-63

1962 Family Income	1958	1960	1963	Change, 1958-63
Under $3,000	22	24	25	+ 3
$3,000-4,999	52	54	45	- 7
$5,000-5,999	65	66	59	- 6
$6,000-7,499	74	72	74	0
$7,500-9,999	72	70	72	0
$10,000-14,999	68	78	70	+ 2
$15,000 and over	52	68	72	+ 20
All families	56	60	59	+ 3

C. Total Mortgage Debt Owed by Income Groups in Panel B

1962 Family Income	1958	1960	1963	Change, 1958-63
Under $3,000	4	4	3	- 1
$3,000-4,999	12	12	9	- 3
$5,000-5,999	13	12	8	- 5
$6,000-7,499	25	19	18	- 7
$7,500-9,999	25	20	24	- 1
$10,000-14,999	15	21	25	+ 10
$15,000 and over	6	12	13	+ 7
All families	100	100	100	

SOURCE: Survey Research Center, *Survey of Consumer Finances*, Ann Arbor, Mich.: panel A, *1960*, p. 60; panels B and C, *1963*, p. 87.

TABLE 7

Postwar Changes in Homeownership by Occupational Class, 1949-63

(per cent of all nonfarm families owning homes)

Occupation of Family Head	1949	1954	1960	1963	Change, 1949-63
Professional	48	58	58	62	+14
Managerial		59		72	+13[a]
	66		75	79[b]	+13
Self-employed		76		85	+ 9
Clerical and sales	46	55	59	66	+20
Skilled			64	69	+ 5[c]
	52	54		62[d]	+10
Semiskilled			58	56	- 2[c]
Unskilled and service	46	41	39	42	- 4
All families	51	56	58	61	+10

SOURCE: *1960 Survey of Consumer Finances*, p. 60; *1963*, pp. 90-91.

[a] 1954-63.

[b] A weighted average of "managers, officials" and "self-employed businessmen, artisans" in accordance with their relative numbers in *1963 Survey of Consumer Finances*, Table 5-6, p. 91. The percentages given for each separate category are listed above, along with their weighted averages.

[c] 1960–63.

[d] A weighted average of "craftsmen, foremen" and "operatives" in accordance with their relative numbers, *ibid.*

tion between homeowning and mortgage owing, and the known upward movement of the population towards occupations of higher skills. Estimates of the occupational distribution of homeowners between 1949 and 1963 are shown in Table 7. Chart 5 illustrates the changes occurring between 1949 and 1963.

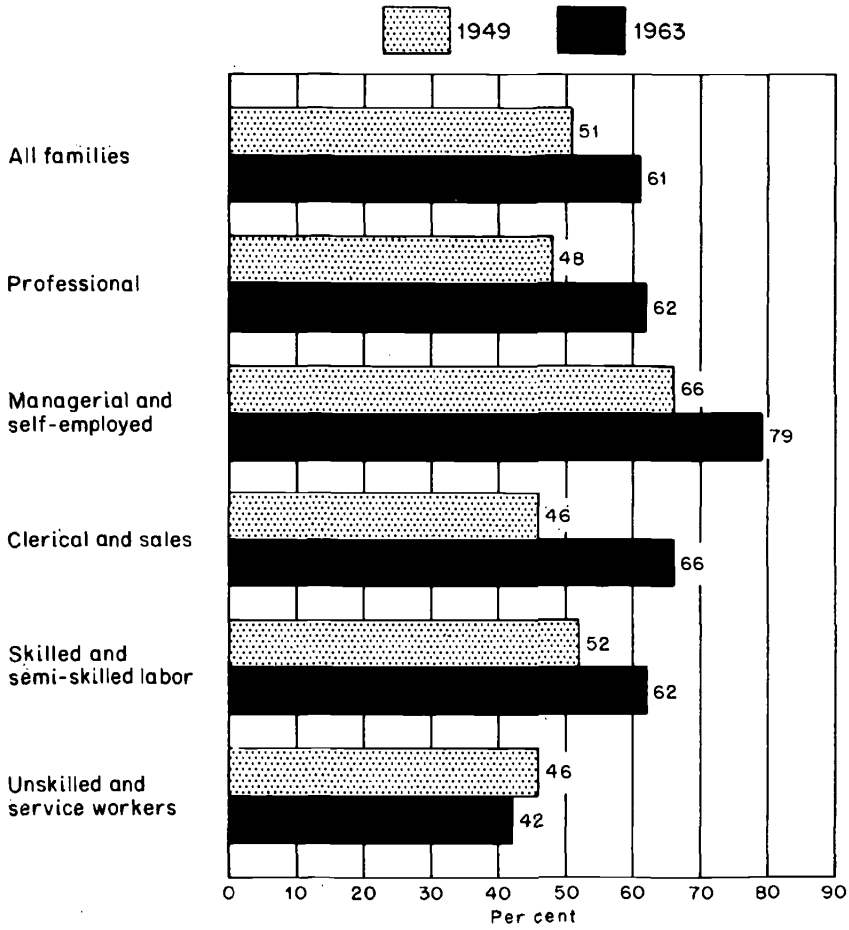
The largest proportionate increase occurred in the clerical and sales group. Increases were substantial also in the professional and self-employed groups. On the other hand, the percentage of homeownership among unskilled and service workers actually decreased.

AGE, MARITAL STATUS, AND DEPENDENTS

There are almost no good data on the marital status or the number of dependents of postwar home mortgage borrowers, although it is known

CHART 5

Percentage of Nonfarm Families Owning Homes, by Occupation of Family Head, 1949 and 1963



SOURCE: Table 7.

that they are somewhat concentrated in the younger married groups with increasing numbers of children. Some data suggestive of the changing age composition of homeowners and mortgage debtors are summarized in Table 8.

It appears from these data that the concentration of mortgage debt among the younger age groups has decreased considerably since 1949.

The sharpest increase in homeowning between 1949 and 1963, it would appear, was in the age groups from 35 to 54 years; the largest rise in the incidence of mortgage indebtedness between 1958 and 1963 was in the 45–54 age group. The share of total mortgage debt owed by household heads in both the 18–35 and 35–44 age groups decreased between these latter years. It would thus appear that there was some shift, over

TABLE 8

Postwar Changes in Homeownership and Mortgage Debt by Various Age Groups, 1949-63

(per cent, by age of family head)

A. All Nonfarm Families Owning Homes

Age	1949	1954	1960	1963	Change, 1949-63
18–24	21	17	14	15	−6
25–34	35	42	44	47	+12
35–44	53	57	64	71	+18
45–54	59	63	69	72	+13
55–64	62	66	62	63	+1
65 and over	59	63	65	72	+13

B. Homeowning Families with Mortgage Debt

Age	1958	1960	1963	Change, 1958-63
18–35	84	85	84	0
35–44	74	81	79	+5
45–54	54	62	65	+11
55–64	33	36	43	+10
65 and over	18	17	18	0

C. Total Mortgage Debt

Age	1958	1960	1963	Change, 1958-63
18–35	31	30	27	−4
35–44	39	37	36	−3
45–54	19	23	26	+7
55–64	7	7	8	+1
65 and over	4	3	3	−1

SOURCE: *1960 Survey of Consumer Finances*, p. 60; *1963*, pp. 87, 90-91.

the postwar years, toward a larger share of home mortgage debt in the middle-aged group.

4. The Postwar Trend of Mortgage Performance

For a number of years after World War II, the performance of this growing mass of home mortgages was remarkably strong. The brisk demand for housing and the generally rising prices of residential land and structures, combined with the rise of money and real income and the stability of employment, meant that mortgage payments were well maintained and that even those properties on which payments faltered could readily be sold at prices sufficient to satisfy indebtedness. It was only in the late 1950's that these conditions weakened and delinquency and foreclosures began to rise.

FORECLOSURES

Table 9 and Chart 6 present data on annual rates of mortgage foreclosures from 1950 through 1967. Data for the several types of mortgage are not exactly comparable, but the broad comparisons and trends are reasonably representative.

Although few comparable prewar rates are available, it is known that the rates of foreclosure on residential mortgages during the early and mid-1950's were extremely low by historical standards. It was not until 1960 that foreclosure rates rose appreciably, and only in 1961 were the increases substantial. From 1962 through 1965, foreclosure rates continued to rise, although the increases moderated in 1964 and 1965 and dropped slightly thereafter.

During the 1950's, foreclosure rates on VA, FHA and conventional mortgages did not diverge greatly. In the early 1960's, however, rates on VA loans rose appreciably faster than those on conventionals, and rates on FHA's rose especially rapidly. By 1963, foreclosure rates on VA loans were more than twice as high as estimated rates on conventionals, and rates on FHA loans were roughly four times as high. Unfortunately there are no really satisfactory data for conventionals beyond 1963.[5]

[5] The foreclosure data for conventional mortgages generally are not very satisfactory. The Federal Home Loan Bank Board estimates for all conventional one- to four-family mortgaged dwellings shown in Table 9 extend only through 1963, and in that year the rate indicated was much below that derived from data covering all insured savings and loan associations, which first became available in 1963. In that year this latter rate (which, however, includes voluntary transfers of deeds in lieu of foreclosure as well as foreclosures proper) was 5.04 per 1,000 loans, as compared with the rate of 2.48 estimated for all conventional loans. The

TABLE 9

Postwar Nonfarm Mortgage Foreclosure Rates, 1950-67

(per 1,000 mortgaged units)

Year	All Nonfarm Real Estate (1)	Conventional Mortgages (2)	FHA Mortgages (3)	VA Mortgages (4)
1950	2.17	1.60	2.00	2.92
1951	1.67	1.53	1.01	1.33
1952	1.55	1.49	.89	1.11
1953	1.70	1.84	.63	.98
1954	1.93	1.97	1.77	1.04
1955	1.94	1.98	2.00	1.24
1956	1.97	1.88	2.46	1.53
1957	2.08	2.15	1.53	1.78
1958	2.46	2.60	1.34	2.31
1959	2.44	2.33	2.03	2.75
1960	2.71	2.48	3.25	2.86
1961	3.70	2.77	6.70	4.19
1962	4.18	2.31	9.65	5.75
1963	4.52	2.48	10.89	6.24
1964	4.79	n.a.	11.80	6.85
1965	4.93	n.a.	12.08	6.60
1966	4.81	n.a.	12.03	6.46
1967	4.38	n.a.	9.93	5.44

SOURCE: Col. 1, Federal Home Loan Bank Board, revised series, 1965. Based on all mortgaged structures. From *Housing and Urban Development Trends*, (U.S.D.H.U.D.) Annual data, May 1968, Table A-57. Col. 2, an earlier FHLBB series based on samples of one- to four-family mortgaged units. From *Savings and Loan Fact Book*, 1964, Table 65, p. 78. Cols. 3 and 4, *from Housing and Urban Development Trends*, Table A-58, based on FHA and VA data.

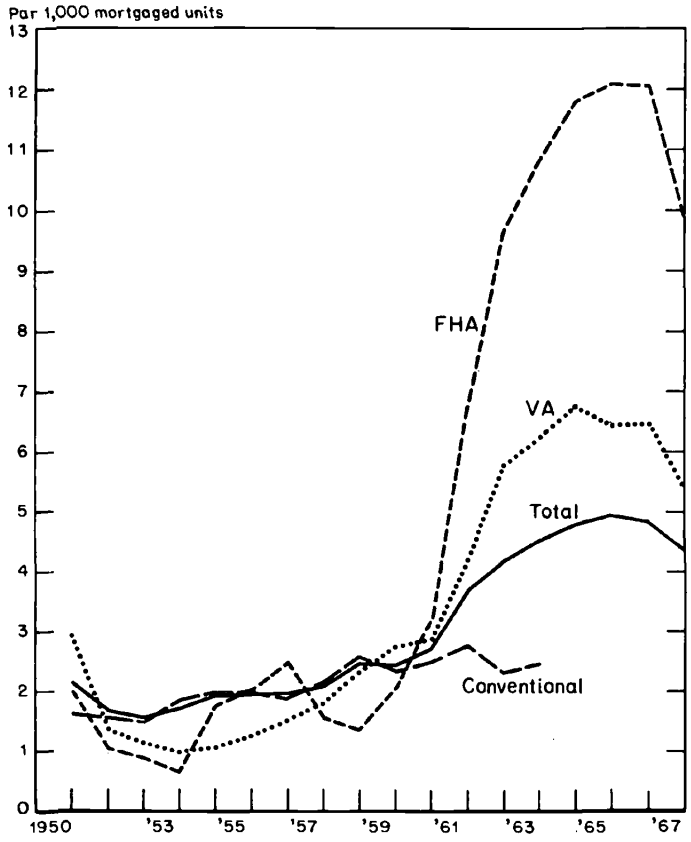
n.a. = not available.

The most notable feature of the table and chart, however, is the upward trend, between the mid-1950's and the mid-1960's, in all four measures of home mortgage mortality. Foreclosure rates rose somewhat

insured savings and loan association rate rose to 5.30 in 1964 and to 5.70 in 1965. Inasmuch as almost all home mortgages held by savings and loan associations are conventional loans, these rates should be reasonably representative for savings-and-loan-held conventional mortgages, and it would appear reasonable to compare these rates, rather than the lower rates shown for conventionals in Table 9, with rates for FHA's and VA's.

CHART 6

Postwar Nonfarm Mortgage Foreclosure Rates, 1950–67



SOURCE: Table 9.

more steeply during recession years, but rose also in years of prosperity. Even the years of sustained prosperity following 1960 did not arrest their upward trend until 1966.

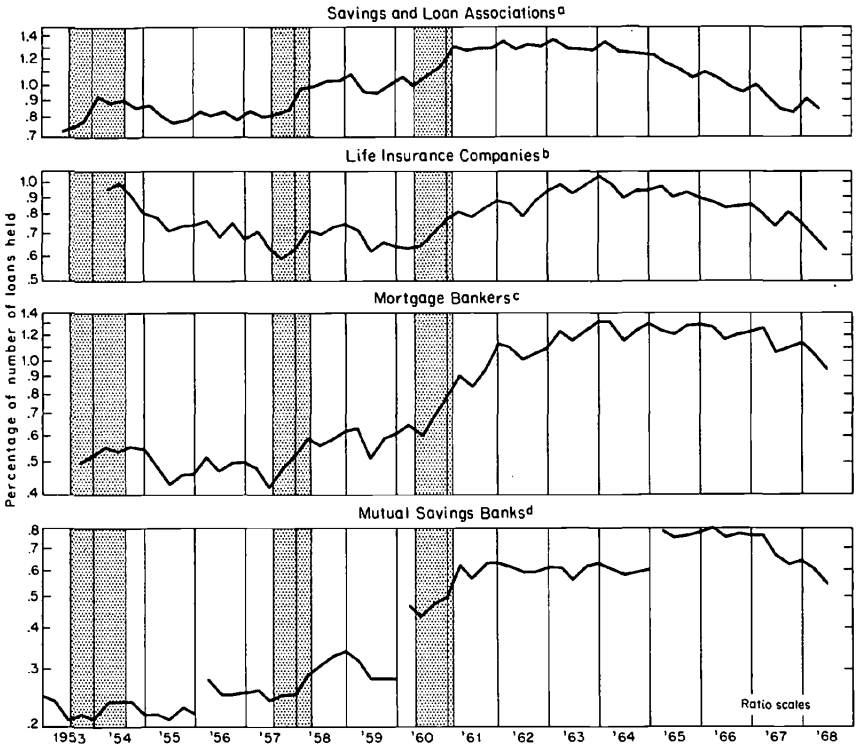
DELINQUENCY

The most sensitive data on the postwar preformance of home mortgages are the quarterly delinquency statistics gathered by the leading associations of mortgage lenders. The U.S. Savings and Loan League, the Mortgage Bankers Association, the National Association of Mutual Savings Banks and the Life Insurance Association of America began to gather

such statistics in the early 1950's. Their quarterly movements are indicated in Chart 7, and the annual averages are summarized in Table 10. The relative levels of rates for the four associations should not be too

CHART 7

Nonfarm Home Mortgage Delinquency Rates Reported by Important Classes of Lenders, 1952–68



SOURCE: See source for Table 10.

NOTE: Shaded areas represent business cycle contractions; unshaded areas, expansions (monthly chronology).

[a] Loans two months or more delinquent, as reported to U.S. Savings and Loan League.

[b] All city loans (not exclusively one- to four-family housing loans) two months or more delinquent, as reported to the Life Insurance Association of America.

[c] One- to four-family housing loans two months or more delinquent (including loans in foreclosure), as reported to the Mortgage Bankers Association of America.

[d] Loans three months or more delinquent, as reported to the National Association of Mutual Savings Banks. Loans in foreclosure are included beginning with 1956. Beginning with 1960, reports cover only one- to four-family housing loans.

TABLE 10

Nonfarm Residential Mortgage Delinquency Rates[a] Reported by Important Classes of Lenders, 1953-67

(percentage of number of loans held)

Year	Savings and Loan Associations (1)	Life Insurance Companies (2)	Mortgage Bankers (3)	Mutual Savings Banks (4)
1953	0.75[b]	n.a.	0.51[c]	0.22[d]
1954	0.89	0.92	0.55	0.24[d]
1955	0.80	0.74	0.46	0.22[d]
1956	0.81	0.72	0.50	0.26
1957	0.82	0.64	0.48	0.25
1958	1.01	0.72	0.59	0.32
1959	0.99	0.66	0.58	0.29
1960	1.06	0.68	0.68	0.47[e]
1961	1.29	0.82	0.95	0.61[e]
1962	1.32	0.86	1.06	0.60[e]
1963	1.31	0.98	1.23	0.60[e]
1964	1.28	0.94	1.23	0.59[e]
1965	1.14	0.92	1.25	0.77[e]
1966	1.02	0.85	1.22	0.77[e]
1967	0.92[f]	0.77	1.14	0.67[e]

SOURCE: Col. 1, U.S. Savings and Loan League. Loans delinquent two months or more. Quarterly averages are based on monthly data reported by a representative group of associations. Col. 2, Life Insurance Association of America. All city loans (not merely residential loans) delinquent two months or more, including loans in foreclosure, as reported by companies accounting for about 80 per cent of total assets of all United States insurance companies. Col. 3, Mortgage Bankers Association of America. Residential mortgage loans on one- to four-family units delinquent two months or more, including loans in foreclosure. Col. 4, National Association of Mutual Savings Banks. Loans delinquent three months or more. Loans in foreclosure are included beginning in 1956. Through March 1958, estimated from separate rates reported for FHA-insured, VA-guaranteed, and conventional loans.

[a] Average of quarterly rate.

[b] Average of second, third and fourth quarters.

[c] Average of third and fourth quarters.

[d] Excluding loans in process of foreclosure.

[e] Not comparable with 1959 and earlier years because of increase in coverage of the survey and the change in classification of loans from total mortgages to one- to four-family housing loans.

[f] Average of first three quarters.

n.a. = not available.

closely compared, since they reflect in part differing definitions of delinquency and lender practices among the lender groups. The significant thing is the broadly similar temporal movements shown in the several series.

Delinquency, like foreclosure, was very low through the early and middle 1950's. But it began to rise in the recession of 1957–58, well before foreclosure rates began to rise much. The rise continued through 1961 for all four types of lender. Thereafter delinquency rates flattened out for savings and loan associations and mutual savings banks, although they continued to rise for life insurance companies and mortgage bankers. Sensitivity to periods of recession is evident in all four series. In general, 1963 was about the peak year of delinquency experience for all lender groups except mutual savings banks. For all four types 1967 brought a fairly sharp decline in delinquency.

The delinquency data collected by the Mortgage Bankers Association are particularly valuable because they permit comparison among FHA, VA, conventional loans and of what may be called "casual" with serious delinquency. The quarterly rates reported by the MBA for each of the three types of loans, and for one, two, and three months or more delinquency, are shown on Table 11 and Chart 8.

The rising delinquency of the late 1950's and early 1960's affected all three types of mortgage, the least affected being conventional loans and the most FHA loans. The conventional loan series are by far the most stable, both over the entire period and cyclically.

An even more interesting feature of Chart 8 is the comparative behavior of "casual" (one month) and more serious delinquency. One-month arrearage in mortgage payments rose little over the entire twelve-year period, showing mainly a seasonal pattern, with peaks at the year ends. This seasonal pattern is especially prominent for conventional loans. One-month delinquency might almost be said to have shown characteristic norms, at slightly below 1.5 per cent for conventional loans and somewhat higher for FHA's and VA's. The one-month delinquency rate for conventional home mortgages was lower in 1966–67 than in the mid-1950's.

The clearest feature of the chart is the much greater rise in more serious delinquency through 1963–64. Two-month delinquency rates climbed more than one-month rates, and those for three months rose most sharply of all. This was true for each of the three types of loan. It is also significant that, although casual delinquency showed little cycle sensitivity, serious delinquency showed clear cyclical swings in each of the recessions of 1953–54, 1957–58, and 1960–61. This is evident in

TABLE 11

Mortgage Bankers Association, Nonfarm Residential Mortgage Delinquency, by Degree of Delinquency and Type of Loan, 1953-68

(percentage of number of given type of loan held)

Year	FHA-Insured Loans Delinquent:			VA-Guaranteed Loans Delinquent:			Conventional Loans Delinquent:			All Loans Delinquent:		
	One Months (1)	Two Months (2)	Three Months or More (3)	One Month (4)	Two Months (5)	Three Months or More (6)	One Month (7)	Two Months (8)	Three Months or More (9)	One Month (10)	Two Months (11)	Three Months or More (12)
1953	1.82	.30	.12	2.36	.44	.20	1.54	.32	.18	1.93	.35	.16
1954	1.76	.31	.17	2.17	.45	.22	1.26	.31	.18	1.79	.36	.19
1955	1.61	.26	.13	1.95	.37	.19	1.14	.25	.14	1.64	.30	.16
1956	1.62	.26	.13	2.04	.40	.22	1.20	.27	.15	1.72	.32	.17
1957	1.49	.24	.11	1.92	.37	.25	1.07	.25	.14	1.60	.30	.18
1958	1.46	.30	.14	2.09	.46	.32	1.06	.26	.16	1.66	.36	.22
1959	1.46	.28	.18	2.01	.44	.32	1.07	.26	.17	1.61	.35	.24
1960	1.64	.35	.28	2.14	.47	.37	1.09	.27	.19	1.73	.38	.30
1961	1.98	.46	.52	2.41	.56	.58	1.21	.30	.24	2.00	.46	.49
1962	2.13	.48	.72	2.38	.54	.64	1.33	.26	.22	2.08	.46	.59
1963	2.36	.60	.82	2.58	.62	.73	1.35	.30	.26	2.26	.56	.68
1964	2.32	.58	.84	2.43	.58	.74	1.32	.28	.25	2.18	.53	.70
1965	2.42	.60	.85	2.45	.58	.74	1.31	.30	.28	2.24	.54	.71
1966	2.49	.58	.83	2.44	.56	.69	1.34	.30	.30	2.27	.52	.69
1967	2.59	.58	.74	2.44	.54	.61	1.40	.30	.30	2.33	.52	.62
1968[a]	2.46	.53	.62	2.24	.47	.49	1.32	.28	.23	2.19	.47	.51

both Charts 7 and 8. Although there is evidence that the declining mortgage performance between the mid-1950's and the early 1960's was more structural than cyclical in origin, the data do show clearly that income and employment changes reflect themselves fairly promptly in home mortgage delinquency performance.[6] It was this combination of evidence that gave rise, in the early 1960's, to growing concern regarding home mortgage quality and motivated this and other studies of the problem.

5. Other Delinquency and Foreclosure Studies

In response to the rising incidence of mortgage loan difficulties, the Veterans' Administration, the Federal Housing Administration and the Housing and Home Finance Agency all made special studies of defaulted or foreclosed loans in 1961 and 1962. In addition, the United States Savings and Loan League, using some of the same data we employed, reported their own findings with respect to the causes of delinquency. Their results are summarized in the USSLL Occasional Paper No. 2, *Anatomy of the Residential Mortgage*. The major conclusions are briefly

[6] An effort was made earlier to test the sensitivity of mortgage delinquency to movements of employment and income by correlating quarterly levels and changes in delinquency in the twelve MBA reporting regions with the relative movements of income and employment in those regions over the years 1954–60. None of the correlations were significant. (See NBER, *44th Annual Report*, New York, 1964, pp. 121–124.) There are probably two reasons for this. First, the period was one in which structural changes in housing markets were more pronounced than cycles in employment. Second, it is known that mortgage performance problems are more closely associated with metropolitan areas than with broad regional areas. Separate delinquency data for metropolitan areas are not readily available, although some large mortgage lenders have made metropolitan area studies for their own guidance. Region of the country was one of the variables in our regression equations in analyzing the sample data, but only cross-section performance data were secured. Hence no analysis of differential performance movements among regions could be made.

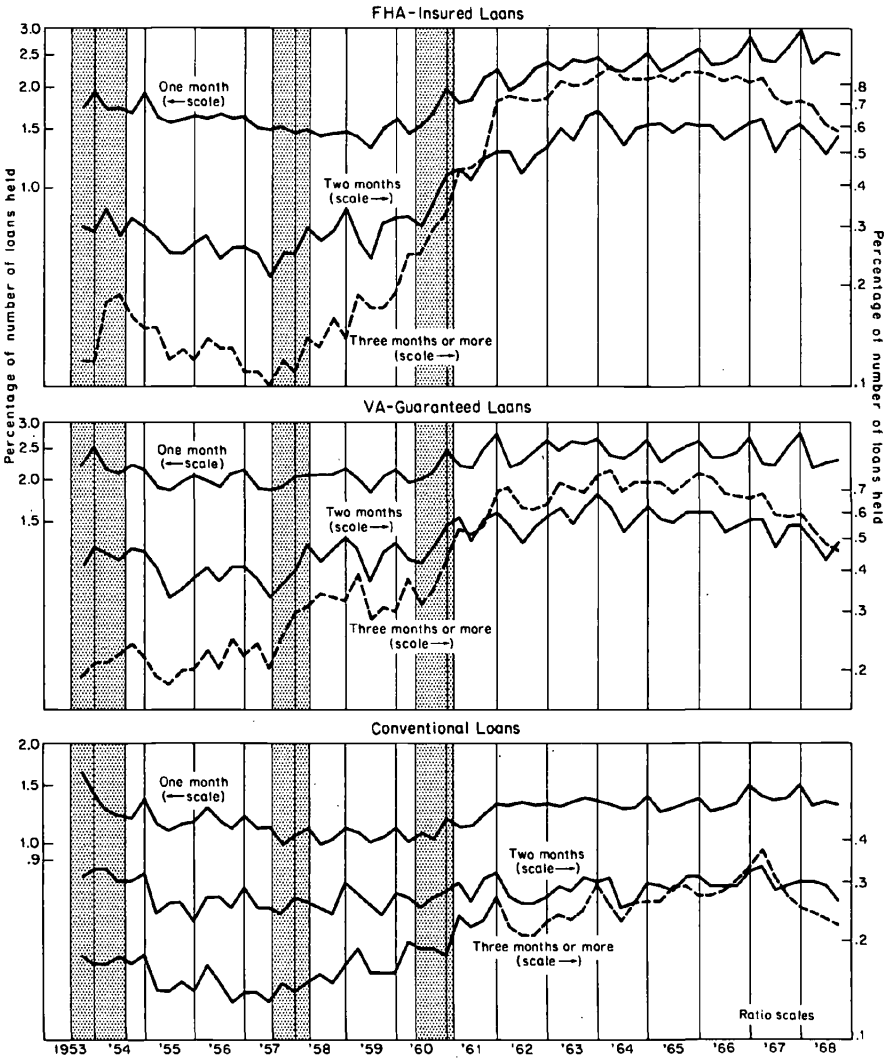
Notes to Table 11

SOURCE: Calculated from *National Delinquency Survey*, compiled by the Mortgage Bankers Association of America from reports on member holdings of residential loans of one- to four-family units. Loans in foreclosure are included with loans delinquent three months or more. Annual estimates are arithmetic means of the reported quarterly rates. The entry for 1953 covers only the third and fourth quarters.

[a] Average of first three quarters.

CHART 8

Home Mortgage Delinquency, by Degree of Delinquency and Type of Loan, 1953–68



SOURCE: Quarterly data reported by Mortgage Bankers Association. See source for Table 11.

NOTE: Shaded areas represent business cycle contractions; unshaded areas, expansions (monthly chronology).

summarized here. Those interested in more detail should consult the original studies.

THE VETERANS' ADMINISTRATION STUDY [7]

This study, published in April 1962, covered all VA-guaranteed loans which were in default as of December 31, 1960, plus all new defaults reported during the four-month period January 1 to April 30, 1961.[8]

The following patterns emerged from the analysis of the reported claims. (1) Loans made to Korean war veterans showed a higher rate of claims than loans made to veterans of World War II. (2) Younger borrowers, particularly those under 30 years of age, showed a higher incidence of claims than their older counterparts.[9] (3) The incidence of claims was found to decrease sharply with the increases in borrowers' equity, so that, as one might expect, the chance of default resulting in a claim decreased as the age of the loan increased. The most dangerous period appeared to be the first three years, but the incidence of claims remained fairly high up to seven years. (4) Claims appeared to be directly related to longer initial term-to-maturity and higher loan-to-value ratio. (5) On the other hand, "no no-down-payment loans" (loans which covered the full selling price of the property plus loan closing costs) showed a somewhat lower incidence of claims than simple no-down-payment loans in which the loan simply covered the full purchase price. The probable explanation for this anomaly is that the "no no-down-payment loans" were "seasoned," since this type of loan had been unavailable for several years. (6) The purchase price of the home was found positively related to the percentage of defaults resulting in claims up to $15,000, but beyond that level the relationship was negative. Since neither time nor loan-to-value ratios were held constant, however,

[7] Veterans' Administration, *Report of Loan Service and Claims Study,* Washington, D.C., April 1962.

[8] VA regulations require that holders of VA-guaranteed mortgages notify the VA within 105 days of the date of any default. Furthermore, the lender may file a claim with the VA whenever at least three monthly instalments are in arrears. Reported defaults may be "cured" before or after claims are made, and foreclosure may or may not follow the making of claims. VA defaults were somewhat below their record level when the study was made, but claims and foreclosures were the highest ever recorded for the VA program. This suggests that "casual" delinquency was a smaller percentage of total delinquency when the study was made than had previously been the case.

[9] It is noteworthy that the claims pattern differed from the default pattern with respect to age. While fewer defaults took place in the under-30 age group than in the 30–39 group (10 per cent vs. 55 per cent of the total), 24 per cent of the defaults in the under-30 group resulted in claims, whereas only 14 per cent of the 30–39 group failed to cure their default.

it is difficult to draw any firm conclusions from this finding. (7) In those cases where the lender and the borrower agreed on the primary reason for default of the loan, "curtailment of income" was the most frequently cited (39 per cent of all cases). Among lenders, "improper regard for obligations" was very frequently cited as the primary cause (26 per cent of the cases). Of the remaining reasons for default, death or illness (16 per cent) was the only one that was cited as important in more than a few cases.

THE FEDERAL HOUSING ADMINISTRATION STUDY [10]

The FHA study was based on several types of analyses: (1) an underwriting reprocessing of a 20 per cent sample of single-family homes acquired by the FHA through foreclosure between July 1, 1961, and March 31, 1962; (2) an analysis of new credit reports on borrowers, made at the time of foreclosure, for essentially this same sample; (3) a comparison of the underwriting ratings and transaction characteristics of acquired properties with the ratings and characteristics of all mortgages insured in 1958–61 or in the calendar year 1954; (4) several intensive studies of the experience of particular insuring offices; and (5) an examination of the operating statistics normally maintained by the agency.

Analysis of the cross classifications and frequency distributions revealed the following noteworthy relationships: (1) The age of the loan appeared to be an important factor in determining whether or not foreclosure would occur. As with VA loans, FHA mortgages which had been insured in the three years immediately preceding the study accounted for the greatest proportion of acquisition. (2) Lower-priced homes had a higher acquisition ratio than homes in the higher price brackets. (This was found to be true even when loan-to-value ratios were held constant.) (3) Low down payment mortgages showed a much higher acquisition rate than mortgages with higher down payments. (4) Longer-term mortgages showed higher acquisition ratios than shorter-term, even when corrections were made for differences in property values. (5) Borrower characteristics, as measured by the FHA rating system, were considerably more important than property and location characteristics in contributing to mortgage mortality.

With regard to the FHA's risk rating system,[11] it was found that

[10] Federal Housing Administration, *FHA Experience with Mortgage Foreclosures and Property Acquisitions,* Washington, D.C., January 1963.

[11] Until 1964 all loans offered for FHA insurance were subjected to an underwriting "risk rating" based on a combination of mortgage, property and bor-

(1) composite underwriting ratings below 60 resulted in three and one-half times as many acquisitions as ratings of 60 and above. In addition, comparison of new risk ratings made at the time of foreclosure with those made at the time of insurance revealed that (2) property ratings at foreclosure were considerably lower than those which had been assigned at the time of insurance, and (3) initial borrower ratings for acquired properties were generally very low. Furthermore, (4) comparison of new credit reports made as of the time of foreclosure with original credit reports indicated that 29 per cent of the foreclosure cases would have been rejected if the original credit report had been accurate and complete. This last finding led the FHA Commissioner to take administrative measures designed to improve the quality of the credit reports which serve as a basis for assigning borrower ratings. The FHA risk ratings appeared to be at least a fair guide to mortgage quality if the recorded information on which the index was based was reliable, but that was frequently not the case. Subsequently, FHA dependence on numerical risk ratings was abandoned (see preceding footnote).

THE HOUSING AND HOME FINANCE AGENCY STUDY [12]

This study was based on a survey of mortgage foreclosures on single-family homes in six metropolitan areas—Chicago, Dallas, Detroit, Los Angeles, New York, and Philadelphia—from April 1, 1961, through March 31, 1962. Data were obtained on 2,442 cases—519 FHA, 853 VA, and 1,070 conventional loans. Several sources of information were used, including case docket files of the FHA, VA, or lending institutions, and mail questionnaires and interviews with foreclosed borrowers.

Although there were some differences among the six areas and types of mortgages, it is possible to make these generalizations from the frequency patterns observed: (1) Lower-priced homes showed higher foreclosure rates than higher-priced homes for both VA and FHA loans, but for conventional loans foreclosures were concentrated in the highest

rower characteristics. The rating factors included the maturity of the loan relative to the estimated economic life of the residence, the loan-to-value ratio, locational and physical property characteristics, mortgage payment and housing expense relationship to estimated effective mortgagor income, and a credit rating of the borrower. To be accepted for insurance, a loan was required to have a "rating pattern" of at least 50 points out of a possible 100. Ratings from 50 to 59 were considered "marginal," although acceptable. Since 1964 no over-all rating pattern has been used and numerical ratings have been dropped altogether. Now the underwriter must rate the borrower, the property, and the location as "reject," "fair," "good," or "excellent."

[12] Housing and Home Finance Agency, *Mortgage Foreclosures in Six Metropolitan Areas,* Washington, D.C., June 1963.

and lowest price brackets, giving a U-shaped distribution.[13] (2) The number of foreclosures was positively related to loan-to-value ratios, and in those cases where comparison was possible it appeared that foreclosure rates were also higher for lower down payment loans. (3) The same kind of relationship appeared to hold for initial term to maturity, with longer-term loans showing both greater numbers and greater rates of foreclosure than shorter-term loans. (4) The age of the loan again emerged as a significant factor, with foreclosures declining sharply from the second through the seventh years. (5) Loans involving junior financing showed relatively high foreclosure. (6) Borrowers who had high housing expense-to-income ratios appeared to be especially vulnerable to foreclosure.

This last relationship, not examined in the other studies, is worth special notice. Of the foreclosed loans, 33 per cent of the FHA and 41 per cent of the VA had housing expense-to-income ratios of 30 per cent or more. In most of the areas studied, the percentages for conventional loans were fairly similar. Although exact comparison is impossible, the adverse influence at high expense-to-income ratios is strongly suggested. As the data presented above show, the average ratio of housing expense to income for section 203 FHA loans as a whole never exceeded 22 per cent in any year between 1940 and 1960. For VA prior-approval loans, the average ratio never exceeded 23 per cent on new loans guaranteed in any year from 1954 to 1960. Clearly the housing expense-to-income ratio was unusually high on a disproportionate share of the foreclosed loans.[14]

Questions dealing with the reasons for foreclosure revealed expected differences between borrowers' and lenders' views of what caused the trouble. Both cited "curtailment of income" as the reason in the greatest number of cases; but whereas lenders deemed "improper regard for obligations" and "excessive obligations" to be next in order of importance, borrowers so listed "death or illness" and "marital difficulties." "Marital difficulties" did rank well up among lenders' reasons as well. Borrowers would not be likely to view themselves as having an improper regard for obligations. It is probably significant that borrowers cited

[13] This latter finding must be interpreted with caution, however, since what was measured was the absolute number of foreclosures rather than rates. It is quite likely that this apparently different pattern mainly reflects the price distribution of homes on which conventional loans were made.

[14] This finding, it should be noted, is at variance with our own study which found payment-to-income ratios unrelated to either delinquency or foreclosure risk.

"excessive obligations" as a problem only half as frequently as lenders, and that they cited "death or illness" twice as frequently.

THE UNITED STATES SAVINGS AND LOAN LEAGUE STUDY [15]

Since the sampling procedures the League employed will be described in detail in subsequent sections and in Appendix A, we merely point out that the study was national in scope and included over 6,500 conventional loans, roughly half of which were in good standing. The study made no attempt to investigate the causes of foreclosure, but centered its attention on (1) loan, property and borrower characteristics in general, and (2) the difference in these characteristics for current loans vis-a-vis delinquent loans. No significance testing was performed, nor was there any systematic attempt to remove the influence of variables other than the one being studied. The technique was merely to run cross tabulations on the two groups of loans, showing what percentage of the currents and what percentage of the delinquents had a given characteristic.

Loan Characteristics. Most delinquencies were found to have occurred between the second and fifth year of the loan's life. It should be noted however, that the age distribution of delinquent loans did not differ drastically from that for current loans. Thus while 65 per cent of the delinquent loans had been on the books between two and five years, 53 per cent of the current loans were so classified. Furthermore, if all loans under seven years of age are singled out, 87 per cent of the delinquents and 83 per cent of the currents are included. Term to maturity did not appear to differ much between current and delinquent loans, but loan-to-value ratio did. Generally speaking, loans with high ratios appeared to be more prone to delinquency. With regard to loan purpose, refinancing appeared to be a source of trouble. While refinancing was listed as the purpose of only 17 per cent of the current loans, 29 per cent of the delinquents fell into this category. The study also found that "a large portion of the delinquent loans came from those loans with higher interest rates." It is possible to argue (as the author of the study did) that loan officers apparently demand higher rates from marginal borrowers to compensate for the higher risks. In view of the rather large movements in interest rates over the postwar period, however, it is virtually impossible to separate the inter-temporal variability from the cross-sectional. Junior financing was found to be asso-

[15] United States Savings and Loan League, *Anatomy of the Residential Mortgage*, Chicago, 1964.

ciated with greater delinquency risk, only 17 per cent of the current loans but 29 per cent of the delinquents reporting that junior financing had been employed. Note that these percentages are identical to the ones cited above concerning refinancing.

Property Characteristics. Location (in city, new suburb, built-up suburb) did not appear to be an important factor except where the loan was made to a builder. Builder loans in new suburbs appeared to carry higher risks of delinquency. The age of the home did not provide any insights, but purchase price did. Generally speaking, properties in the $10,000–$15,000 price bracket produced the greatest delinquency problem.

Borrower Characteristics. Income distributions for current and delinquent borrowers were similar, but delinquency was relatively more frequent among those whose source of income was their own business and among borrowers who moonlighted. Self-employed persons, unskilled laborers and salesmen were found to represent the greatest risks of deliquency, while executives, white-collar workers and professionals represented the lowest. Widowed and divorced borrowers tended to a somewhat less favorable delinquency experience, and there appeared to be a positive relationship between number of dependents and the incidence of delinquency. Younger borrowers (those under 40) showed a definite tendency toward higher delinquency, and beyond 40 the risk of delinquency was found to decrease with age. Finally, borrowers who had held their main job for less than five years were judged to be relatively poor risks.

Miscellaneous Points. In listing reasons for the delinquency, improper regard for obligations, loss of income, excessive obligations and death or illness were the more frequently cited, in that order. The first two reasons alone accounted for more than 60 per cent of the cases where a reason was given. Perhaps not unexpectedly, almost half (44 per cent) of the delinquent loans had been in trouble repeatedly and another 35 per cent had had intermittent difficulties. It is also noteworthy that nearly two out of three delinquent loans still had more than 90 per cent of the original balance owing.

WEAKNESSES OF THE STUDIES

None of these studies provided very solid ground on which to base conclusions relative to mortgage quality. In the first place, the govern-

ment studies concentrated on only one type of performance evidence foreclosure. No attempt was made to analyze delinquent versus current loans to see what factors are associated with delinquency. Nor was there any effort (except some slight analysis in the VA study) to determine why some delinquencies result in foreclosure while others do not. The U.S. Savings and Loan League study, on the other hand, looked at the causes of delinquency, but ignored foreclosure altogether.

Second, the findings are difficult to compare and evaluate in moving from one study to another. The VA study, for example, related various property, borrower and loan characteristics to "incidence of claims," i.e., the percentage of defaulted loans which resulted in the filing of a claim. The FHA study compared property, borrower and loan characteristics of properties acquired in 1961 and insured in 1958–61 with the population of all loans insured in that same period, in the form of frequency distributions showing what percentage of all loans insured fell into each of several classes. The weakest data by far were those in the HHFA report. Except for some general allusions to the characteristics of mortgages made in the period preceding the study, the analysis was confined almost exclusively to simple frequency distributions of the characteristics of the loans foreclosed. Whether the distributions represented anything other than the distribution of all loans, good and bad, it would be impossible to say from the study.

Beyond these weaknesses in the design of the cross-tabulation schemes, the studies also suffered from other shortcomings. (1) No significance testing was performed, and thus no basis exists for determining whether the relationships observed have any real meaning or whether they largely reflect random variation. (2) The samples on which the government studies were based left much to be desired. Only the HHFA study gave any attention at all to conventional loans, and in that case the "sample" is little more than a collection of foreclosed loans. Since no over-all delinquency or forecloseure data were available for the six metropolitan areas sampled, it is impossible to determine the universe which the sample is supposed to represent. The U.S. Savings and Loan League study provided adequate coverage of the conventional sector (FHA and VA loans were excluded) but it contained no information whatsoever on foreclosure. (3) The number and definitions of variables studied differed considerably among the studies, making comparisons hazardous at best.

Because of these weaknesses and limitations the studies did little more than suggest tentative hypotheses for further testing. These hypotheses are:

1. Delinquency and foreclosure rates vary directly with:
   a. Loan-to-value ratio
   b. Contract interest rate
   c. Housing expense-to-income ratio
   d. Number of dependents
2. Foreclosure (but not delinquency) rates tend to vary directly with term to maturity.
3. Delinquency and foreclosure rates tend to vary inversely with:
   a. Age of loan
   b. Borrower's equity
   c. Purchase price of property
   d. Age of borrower
   e. Borrower's occupational skill level
4. Loans involving junior financing or refinancing are more likely to lead to delinquency and foreclosure than loans on which no junior financing is present or loans which are made for some purpose other than to replace an existing mortgage.

6. The Present Study

RESEARCH STRATEGY

Our own study, formulated in the light of these earlier investigations, attempts to remedy their major shortcomings. In the first place, we study loan delinquency as well as foreclosure. Second, we use sample data not only for "bad" loans (those delinquent or in foreclosure) but also for "good" ones. By comparing the characteristics of paired classes (current vs. noncurrent, current vs. foreclosures, and delinquent vs. foreclosures), we can estimate statistically the contribution of each characteristic to delinquency and foreclosure. Third, we cover conventional as well as FHA and VA loans. Fourth, we study the loans made by each of three major types of mortgage lenders. Fifth, the sample is nationwide in coverage. We would have liked to work with only terminated loans in order to be able to clearly identify those which were genuinely "bad" or "good." As it is, we classified a loan as good if it was not in difficulty at the time of sampling and bad if it was in trouble. In addition, we would have preferred to have had samples taken at a number of different points in time. We found, however, that neither of these procedures was possible.

Our data were collected by the United States Savings and Loan League (USSLL), the Mortgage Bankers Association (MBA), and the National Association of Mutual Savings Banks (NAMSB). These organizations conducted surveys at various dates in 1963. They attempted

to secure reliable samples of both current and noncurrent (delinquent and foreclosed) loans of representative classes of their membership.[16]

The USSLL survey provided data covering 4,902 current and 1,570 noncurrent (ninety or more days delinquent or in foreclosure) conventional home loans from thirty-eight representative member associations. The MBA survey secured data from 36 mutual savings banks, 41 commercial banks, and 105 mortgage companies from their regular reporters for the association's quarterly surveys. Seventy-three savings banks participated in the NAMSB survey. Their data were added to those collected from the 36 mutual savings banks in the MBA survey, making 109 savings banks in all. In toto, the characteristics of 12,581 one- to four-family home mortgages were secured, 7,979 of them current and 4,602 noncurrent. Of these latter, 3,254 were ninety days or more delinquent, and another 1,348 in process of foreclosure. In the combined samples, 7,373 loans were conventionals, 2,700 were FHA's, and 2,508 were VA's.

An effort was made to include in each survey those characteristics that operating experience and earlier studies had indicated might be of special importance to mortgage quality. Loan and borrower characteristics were given greater stress than property characteristics, partly because earlier studies had indicated their greater importance and partly because the records used provided little meaningful property characteristics.

It was hoped that each survey could provide the same variables and on a comparable basis, but this was only partly successful. All three surveys did, however, provide the following information: the three presumptively important terms—(1) loan-to-value ratio, (2) initial term to maturity, and (3) mortgage payment-to-income ratio—(4) borrower income itself, (5) occupation, (6) marital status, (7) number of dependents, (8) age, and (9) the region in which the loan originated. Only the USSLL data, which fortunately were the major source of information on conventional loans, provided two other important types of information: (10) the purpose of the loan (i.e., whether for home construction or repair, home purchase or refinancing), and (11) whether there was junior financing involved in the transaction.

The Analysis

Given the large number of observations and the substantial number of characteristics included in the data, multiple regression analysis

[16] For technical description of the sampling methods and copies of the forms employed, see Appendix A.

appeared to offer the best framework for the study. The advantage of multiple regression over most other techniques is that it permits the isolation and holding constant of the effect of *all* variables included in the analysis, and provides measures of the relative influence of these variables upon the phenomena being investigated. Simpler methods do not permit this, so that if, as is almost always the case, variables operate jointly to produce a given effect, the results can be very misleading. Still more sophisticated techniques, such as multiple linear and non-linear discriminant functions, were explored but found impracticable. Multiple regression was supplemented by Lorenz-type tests of the "risk indexes" developed from the regressions. The purpose of these tests was to ascertain whether the functions had more discriminating power than was indicated in the usual tests of statistical significance.[17]

These analyses provided the key "cross-sectional" findings of the study. However, we attempted to apply the cross-sectional results to the question whether there had been, on balance, an improvement or deterioration in the quality of home mortgages over the postwar years. The manner in which this was done is described in Chapter III, which also summarizes our findings with regard to changes in quality over time. The major cross-sectional results of the regression analysis are presented in the next chapter. Technical detail is kept to a minimum in the text. More technical treatment of results is included in Appendix B.

[17] For more complete discussion of the computational techniques employed, see Appendix B.