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Volume Title: Urban Mortgage Lending: Comparative Markets and Experience

Volume Author/Editor: J. E. Morton

Volume Publisher: Princeton University Press

Volume ISBN: 0-870-14144-9

Volume URL: <http://www.nber.org/books/mort56-1>

Publication Date: 1956

Chapter Title: Lending Experience

Chapter Author: J. E. Morton

Chapter URL: <http://www.nber.org/chapters/c2851>

Chapter pages in book: (p. 89 - 122)

## LENDING EXPERIENCE

DATA on the characteristics of mortgages that have been extinguished are even scarcer and more deficient than data on loans still outstanding. This paucity of evidence on past lending practices and lending experience is the more surprising as such information is essential to the exploration of some of the most important problems confronting individual lending institutions and the agencies responsible for policy on a national level in the vast field of housing and housing credit. An attempt was made, therefore, as part of the National Bureau's survey of urban mortgage finance, to obtain data on extinct loans through a sampling of lenders' files, in the hope that—with data on active loans reported by the same institutions—representative information on nonfarm mortgage loans made since 1920, and on the outcome of such of the transactions as had been completed, would be at hand.

Sampling the inactive files of lenders is, of course, a more difficult and complex task than canvassing the files of active loans. The historical information kept varies greatly from institution to institution in amount and in kind, and is generally much less complete than information available for current loans. For these and related reasons the limitations of the historical part of the National Bureau's sample are considerably greater than those affecting its sample of active loans.<sup>1</sup> In addition to the fact that nonresponse by commercial banks and savings and loan associations was heavier in connection with past than with current loans, the historical part of the sample suffers from the incompleteness of the original population from which it was drawn. A good many small lending institutions had been wiped out as a consequence of the depression; it is not improbable that their mortgage lending experience was worse than average and that their exclusion from the sample has introduced some bias. Since the extent of the bias is unknown, no correction for it can be offered.

All 24 of the life insurance companies cooperating in the survey supplied information on inactive as well as active loans; of the other lenders, 116 commercial banks and 92 savings and loan associations responded to the historical part of the questionnaire. The resulting

<sup>1</sup> See Appendix A, especially pages 126 ff. and 137.

sample covers some 20,000 mortgage loans made during 1920-47, of which about two-thirds were completed transactions and one-third still outstanding at the survey date.<sup>2</sup> The primary objective of the present chapter is to reconstruct the pattern of changing lending practices and lending experience as reflected in the sample of mortgage loans made since 1920 by the responding institutional lenders.

### *Trends in Loan Characteristics since 1920*

A sustained upward movement in loan-to-value ratios and in contract lengths and a downward movement in contract interest rates have been the outstanding features of lending patterns since 1920 for the life insurance companies, commercial banks, and savings and loan associations included in the historical part of the loan sample (Charts 6 and 7). These tendencies appear more uniform for loans on one- to four-family homes than for loans on income-producing properties, though the smallness of the sample of loans of the latter type may account in part for their more erratic behavior. The relative decline in interest rates on home mortgage loans over the period beginning with 1920 was about the same for all three lenders. Throughout, these rates were lowest on the loans made by life insurance companies, slightly higher on commercial bank loans, and highest for those made by savings and loan associations. Toward the end of the period, however, the rate structure had become more uniform: absolute interlender variability of rates had declined, primarily because of the sharp fall in interest rates on loans made by savings and loan associations from over 7 percent in 1920 to less than 5 percent in 1946. Loans on income-producing properties in the sample tended toward slightly lower rates, with the loans of commercial banks showing the sharpest decline—from over 6 to about 4 percent (Chart 7).

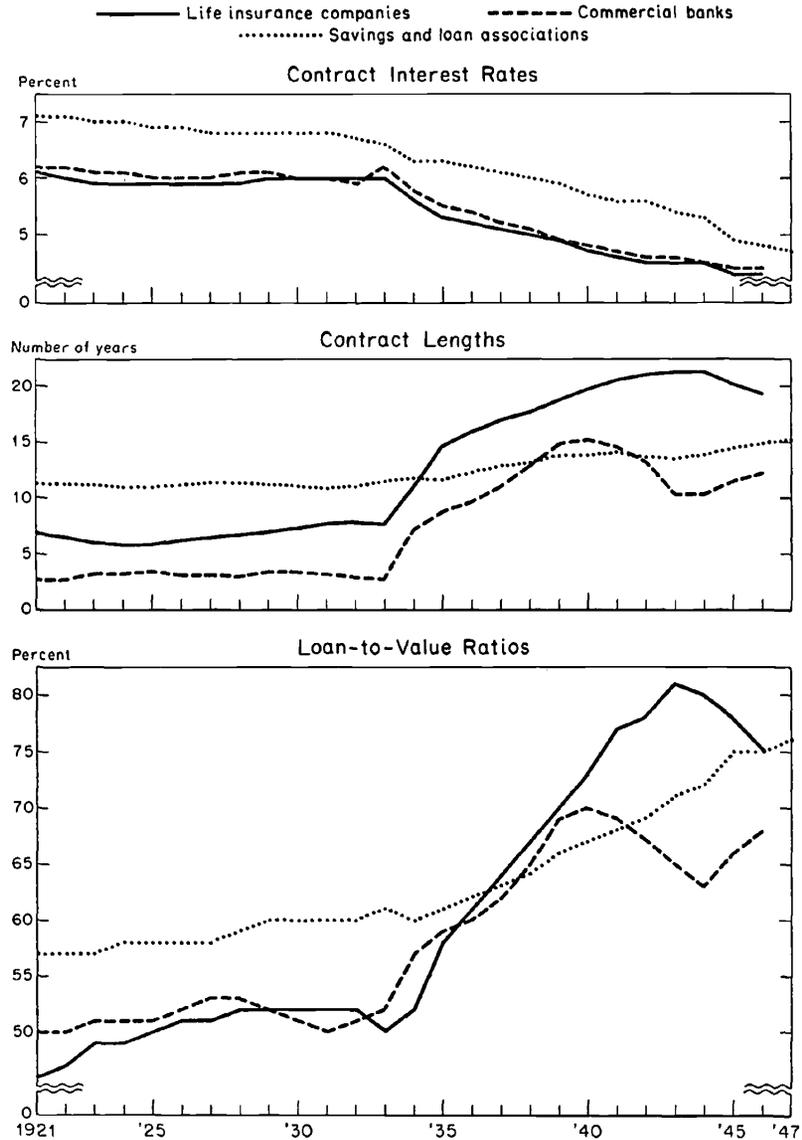
Both contract lengths and loan-to-value ratios increased perceptibly for all three lenders, and for loans on homes and on income-producing properties as well. For home mortgage loans the interlender variability both of contract lengths and of loan-to-value ratios was less at the end of the period than at the beginning. For contract

<sup>2</sup> The cut-off date varied somewhat for the different lenders; see Chapter 4, footnote 3. Appendix Tables A-9 through A-14 show the composition of the historical part of the sample in detail.

A sample of mortgage loans made since 1918 by mutual savings banks has been analyzed by John Lintner in *Mutual Savings Banks in the Savings and Mortgage Markets* (Harvard University, 1948), to which reference will be made in connection with foreclosure experience.

CHART 6

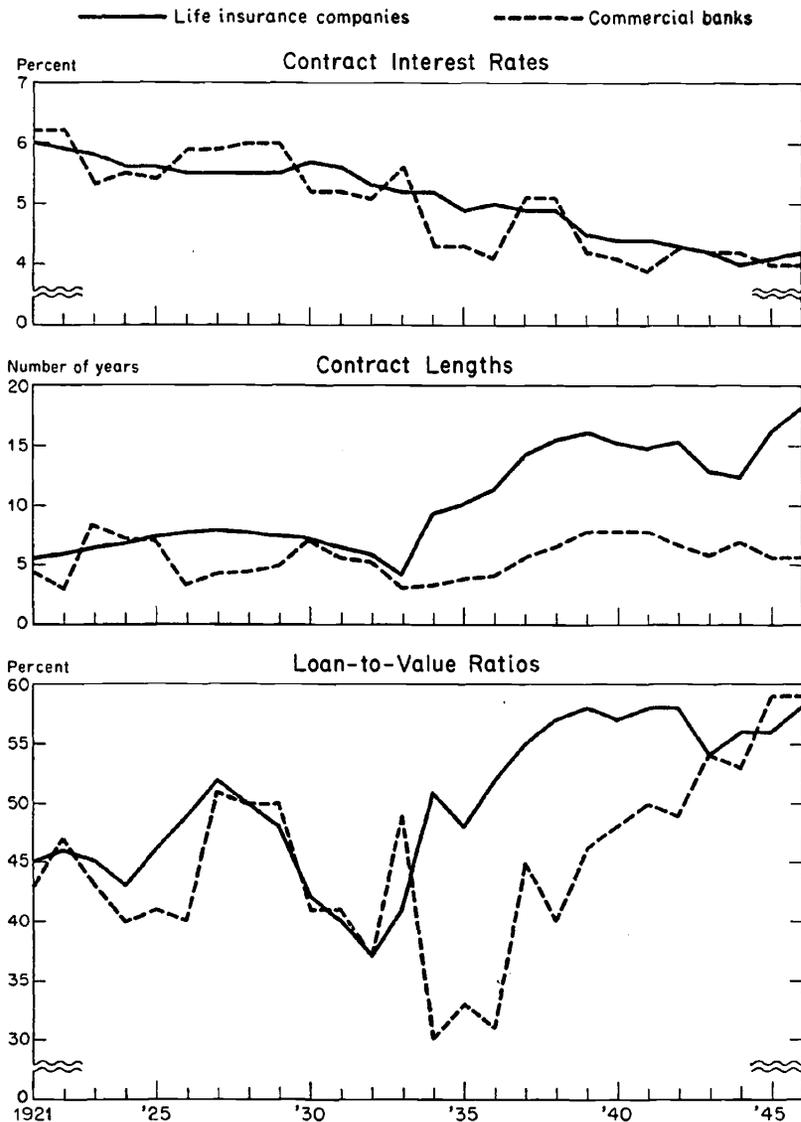
Contract Terms of Straight Mortgage Loans Made on Nonfarm Homes 1921-47



Three-year moving averages of interest rates, contract lengths, and loan-to-value ratios, weighted by three-year moving averages of original loan amounts. Based on sample data in Tables C-5 through C-7; refers to loans secured by one- to four-family homes.

CHART 7

Contract Terms of Straight Mortgage Loans Made on Nonfarm Income-Producing Properties 1921-46



Three-year moving averages of interest rates, contract lengths, and loan-to-value ratios, weighted by three-year moving averages of original loan amounts. Based on sample data in Tables C-8 through C-10; refers to loans secured by properties other than one- to four-family homes.

length of loans on income-producing properties, however, the opposite was found, a fact which appears attributable to the proportionately greater absorption of FHA-insured loans into the portfolios of life insurance companies than of commercial banks. To the extent that high loan-to-value ratios and long contract terms are indicative of liberality of credit, savings and loan associations appear to have been the most liberal home mortgage lender at the beginning of the period. At the end of the period, however, life insurance company home loans showed loan-to-value ratios equal with, and average contract lengths far exceeding, those of savings and loan associations. By the same criteria, commercial banks were least liberal almost throughout, and at the end of the period life insurance companies had become the most liberal lender in the home mortgage market. Again, this reflects the fact that life insurance companies utilized government insurance or guaranty in a larger proportion of their home mortgage lending than other lenders did.

Among loans secured by income-producing properties (a field in which savings and loan associations participated very little) the lengthening of contract terms proceeded much more rapidly in the case of life insurance companies than of commercial banks. Thus the sample reflects a division of the market into a large-property sector mainly consisting of government-insured mortgages and served by life insurance companies, and a small-property sector mainly consisting of conventionally financed nonresidential properties and served by commercial banks (Chart 7).

Changes in the average size of loans made by the various types of lender confirm the main tendencies already observed. Throughout the period beginning with 1920 and ending with 1947, home mortgage loans of life insurance companies averaged larger than those of commercial banks, and very much larger than those of savings and loan associations (Table 37). Over the period as a whole, and for all three lenders, there was a pronounced tendency toward higher original loan amounts. This rising tendency in mortgage size was steepest for savings and loan associations; next came commercial banks, and last life insurance companies—again a development resulting in greater uniformity among the different types of institutional lender at the end of the period than at its beginning.

For mortgages on income-producing properties, however, differences in loan size as between the several types of lender were larger, at the beginning of the period, than for home mortgages; and the differences increased over time (Table 37). The average size of all

TABLE 37  
Average Size of Nonfarm Mortgage Loans 1920-47, by Period Loan Made  
(dollar figures in thousands)

PERIOD MADE	1- TO 4-FAMILY HOMES						ALL OTHER PROPERTY					
	Life Insurance Companies		Commercial Banks <sup>a</sup>		Savings & Loan Associations		Life Insurance Companies		Commercial Banks <sup>a</sup>		Savings & Loan Associations	
	No. of Loans	Average Size	No. of Loans	Average Size	No. of Loans	Average Size	No. of Loans	Average Size	No. of Loans	Average Size	No. of Loans	Average Size
1920-24	851	\$4.4	714	\$3.9	551	\$2.7	118	\$47.5	86	\$33.7	67	\$ 4.4
1925-29	2,061	5.4	1,097	4.6	859	3.0	239	70.1	160	20.4	86	4.9
1930-34	809	5.5	408	4.3	386	2.8	54	49.8	69	38.3	25	4.4
1935-39	1,177	5.5	1,012	3.7	755	2.6	139	64.5	124	22.3	26	5.6
1940-47	3,243	5.1	2,388	4.5	1,937	3.7	224	70.2	304	32.6	51	10.5
1920-47 <sup>b</sup>	8,157	\$5.2	5,626	\$4.3	4,492	\$3.2	774	\$64.3	744	\$28.9	255	\$ 5.9

Based on National Bureau of Economic Research surveys of urban mortgage lending; for coverage, see the opening of Chapter 5.

<sup>a</sup> Based on original sample returns without adjustment for nonresponse.

<sup>b</sup> Includes 28 loans for which year made was not available; 16 loans made by insurance companies, 8 loans by banks, and 4 loans by associations.

such loans made by life insurance companies from 1920 through 1946 was over twice that of similar loans made by commercial banks; and in turn, the average size of commercial bank loans on income-producing properties was five times that of similar loans made by savings and loan associations.

### *Over-All Foreclosure Record*

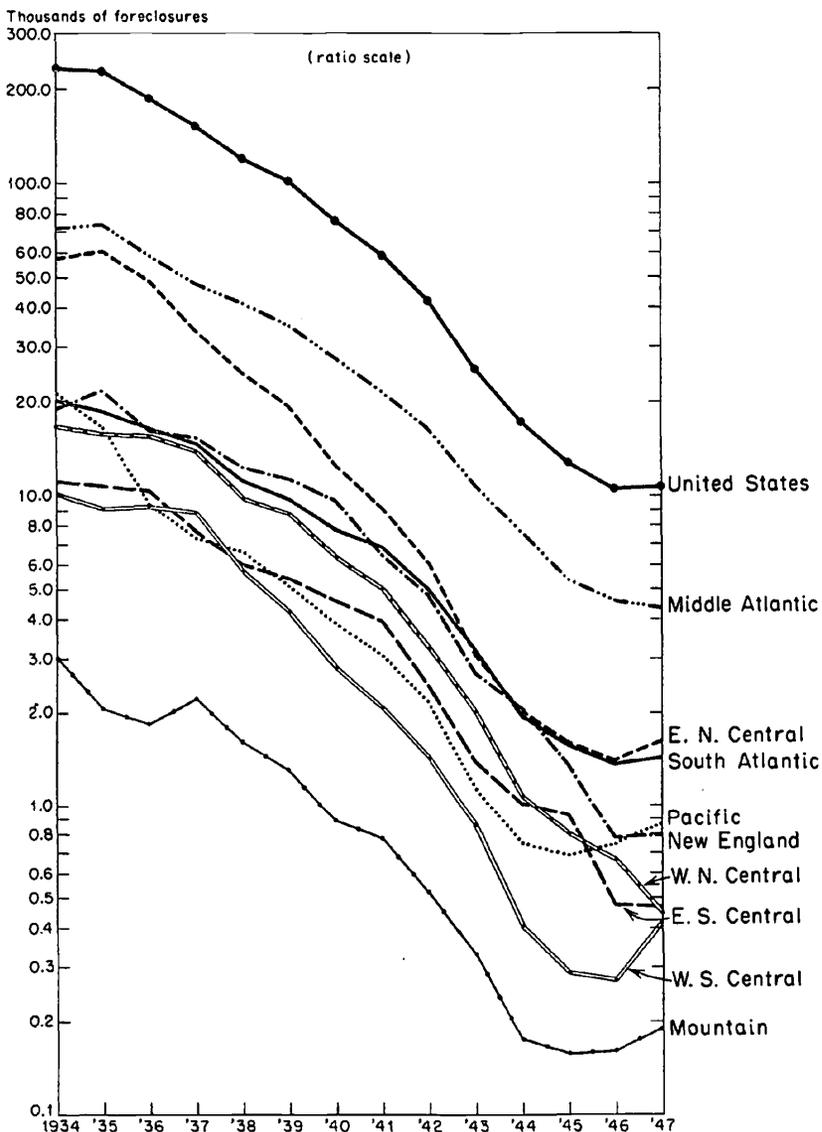
The most dramatic and painful aspects of the lending experience of all types of lender were brought about by the repercussions of the Great Depression on the mortgage markets. While the effects of the depression permeated all sectors of the mortgage market, their force varied from lender to lender. First of all, foreclosure experience varied with the type of housing involved and with the general economic characteristics of different areas. Thus the estimated number of nonfarm foreclosures occurring annually after 1933<sup>3</sup> was highest in the heavily industrialized Middle Atlantic, East North Central, and New England states; and annual rates of foreclosure declined more slowly in the Middle Atlantic states than elsewhere (Chart 8). Similarly, the impact of foreclosures was considerably heavier on large communities than on small ones. Foreclosure relatives—expressing estimated foreclosures on all nonfarm properties annually during 1934-41 as percentages of the number of nonfarm residential structures in 1940—show up always higher the larger the community size group, being nearly 2 percent for the largest urban centers in 1934 and 1935 (Table 38).<sup>4</sup> Throughout the post-depression period foreclosure relatives were higher than the national average in places with 20,000 residential structures or more—heavily urban areas—and less than the average for the rest. However, annual foreclosure relatives declined more rapidly for large than for small communities. Consistent with the record is the fact that the National Bureau's sample shows foreclosure rates to have been highest for life insurance companies and large commercial banks, both of which held a substantial proportion of their mortgages on properties in

<sup>3</sup> Breakdowns of Home Loan Bank Board foreclosure estimates by location of loss are available only from 1934 on.

<sup>4</sup> Being based on estimates of foreclosures on nonfarm properties of all types, of which about one-seventh are commercial rather than home properties, the relatives in Table 38 somewhat exceed the true foreclosure ratios for home mortgages. But the contrast between the mid-thirties and the later years is by no means exaggerated. Since the 1940 inventory was taken as the basis throughout, the high foreclosure ratios of the early years are probably understated in comparison with the others.

CHART 8

Foreclosures on Nonfarm Properties of All Types, by Region, 1934-47



Data supplied by the Operating Analysis Division of the Federal Savings and Loan Insurance Corporation.

large places and in the heavily industrialized parts of the country. For example, two-thirds of the home mortgage loans made by life insurance companies before the depression, and an even larger proportion of loans on income-producing properties, were on collateral located in metropolitan districts with more than one-quarter

TABLE 38  
Foreclosures on Nonfarm Properties of All Types,  
Annually 1934-41, per Hundred Nonfarm Homes  
in 1940, by Size of Community

Year	Under 5,000	5,000- 19,999	20,000- 59,999	60,000 & over	Total
1934	0.41	0.57	1.16	1.73	1.06
1935	0.39	0.56	1.15	1.74	1.06
1936	0.40	0.49	0.99	1.31	0.86
1937	0.37	0.47	0.83	0.99	0.70
1938	0.28	0.36	0.60	0.79	0.54
1939	0.24	0.27	0.50	0.71	0.46
1940	0.18	0.20	0.38	0.53	0.35
1941	0.15	0.16	0.30	0.39	0.27

Compiled from *Nonfarm Real Estate Foreclosures* (monthly reports of the Federal Home Loan Bank Board), and from data supplied by the Federal Savings and Loan Insurance Corporation on the number of nonfarm homes within each size group in 1940.

Size classification of communities is by number of nonfarm homes.

million inhabitants. The corresponding foreclosure rates were substantially higher than for smaller metropolitan districts and for non-metropolitan areas.<sup>5</sup> Similarly, for sample loans by life insurance companies on properties in the Middle Atlantic and the East North Central states foreclosure rates were substantially higher than in the rest of the country.

For small commercial banks and savings and loan associations, which as a rule catered to a market more diversified geographically and by size of community than that of the larger institutions, foreclosure experience appears to have been more favorable. However, it should be remembered that the high mortality rate among small lending institutions during the depression may have introduced a

<sup>5</sup> R. J. Saulnier, *Urban Mortgage Lending by Life Insurance Companies* (National Bureau of Economic Research, Financial Research Program, 1950), Table 25, p. 87.

For commercial banks and savings and loan associations the bias of non-response in the historical part of the sample was too pronounced to permit construction of estimates for geographic distributions.

downward bias in the foreclosure estimates based on their loan samples.

Aside from the record of foreclosures, there are no aggregate data pertinent to an analysis of lenders' experience by type of institution and by loan characteristics. In the sections to follow, based entirely on sample material, the limitations mentioned earlier should be kept in mind. The survey results, especially where they refer to commercial banks and savings and loan associations, should be considered suggestive rather than conclusive. Although tabulations will usually cover the full time span, the findings on which the discussion is based are derived chiefly from the characteristics of loans made before 1930, since for later years the proportion of uncompleted transactions grows higher, and the sample accordingly thinner from the standpoint of an experience study.

### *Determinants of Foreclosure*

Before the depression, the year a loan was made appears to have been one of the most outstanding determinants of the outcome of lending operations. For all three lenders included in the survey, foreclosure rates increased rapidly as the year in which the loan was made approached the peak of the mortgage financing boom in 1929 (Chart 9).<sup>6</sup> Moreover, for each lender annual average foreclosure rates reached or exceeded the average for the entire period 1920 to 1947 as early as 1924 and remained above it until 1933 (Table 39). Thus the entire period 1925-32 was one of substantially higher than average foreclosure rates. However, the sustained and rapid increases of these rates during the years 1926-29 suggest that the factors most directly and uniformly associated with waves of foreclosures were those which usually appear during a boom—namely, high real estate values, high incomes, and a large volume of credit.

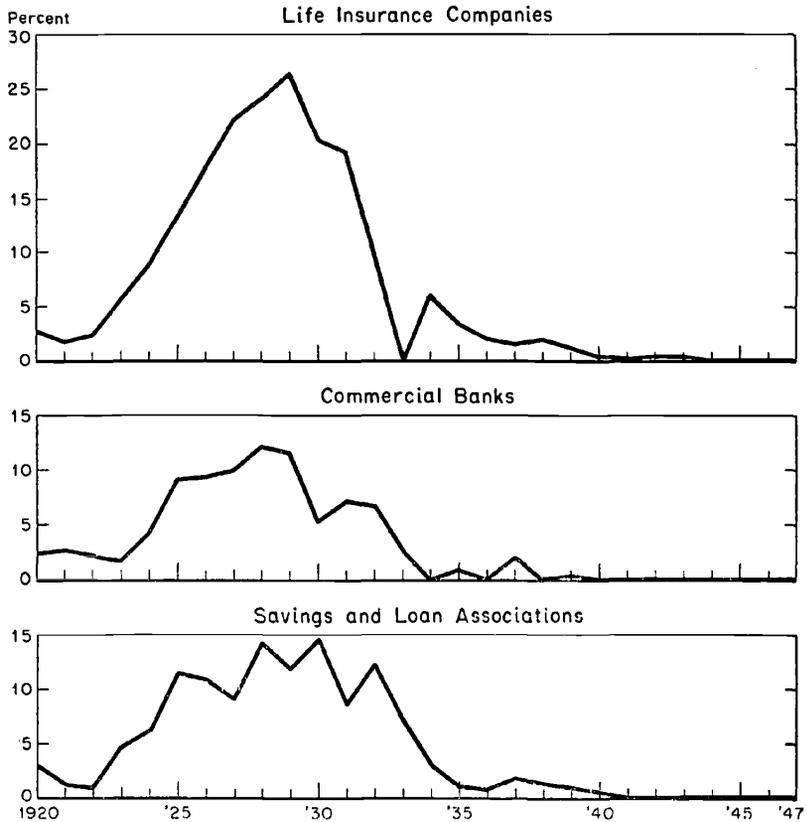
With respect to type of property, foreclosure experience was more favorable with mortgages on one- to four-family homes than on income-producing properties (Tables 39 and 40). For loans made during the five-year period before 1930, commercial banks, in particular, fared twice as badly with loans on income-producing properties as with loans secured by homes. The experience of savings and

<sup>6</sup> The same general pattern emerges if we confine the tabulations to loans outstanding at the beginning of the depression in 1930 (Table C-12). As would be expected, individual foreclosure rates are then uniformly higher, since the preponderantly good loans extinguished before 1930 have been excluded.

loan associations with home loans made during 1925-29 closely resembled that of commercial banks. Life insurance companies experienced substantially higher foreclosure rates than other lenders,

CHART 9

Foreclosure Rates by Year Loan Made: Nonfarm Home Mortgage Loans, 1920-47



Based on sample data in Table 39; refers to loans secured by one- to four-family homes. Foreclosure rate is the percentage ratio of the number of loans made in a given year and foreclosed by date of report (1947) to all loans made in that year.

especially with loans on one- to four-family homes, and the same is true for one group among the commercial banks—the medium-sized institutions, with portfolios of \$2 million to \$7.8 million. In the case of life insurance companies, experience appears to have been par-

TABLE 39  
Foreclosure Rates for Mortgage Loans on Nonfarm  
Homes, 1920-47, by Year Loan Made

PERIOD AND YEAR MADE	LIFE INSURANCE COMPANIES		COMMERCIAL BANKS		SAVINGS & LOAN ASSOCIATIONS	
	No.	Amt.	No.	Amt.	No.	Amt.
1920-24	5.3%	8.0%	2.7%	3.4%	3.4%	4.1%
1920	2.7	6.2	2.2	2.1	2.9	4.0
1921	1.7	4.9	2.5	2.3	1.2	1.4
1922	2.4	3.2	2.1	2.0	0.9	0.3
1923	5.7	7.9	1.6	2.5	4.7	5.3
1924	8.9	12.0	4.2	5.6	6.1	7.1
1925-29	20.9	23.0	10.3	11.5	11.6	12.9
1925	13.4	15.0	9.2	10.6	11.5	9.5
1926	18.0	19.6	9.3	8.9	10.9	11.0
1927	22.2	21.8	9.9	11.1	9.1	9.0
1928	24.1	28.5	12.1	14.1	14.3	15.1
1929	26.4	29.6	11.5	13.7	11.9	19.2
1930-34	17.4	21.1	5.1	6.4	10.4	14.0
1930	20.4	22.0	5.2	6.4	14.6	17.7
1931	19.3	23.9	7.1	9.0	8.5	12.0
1932	9.7	16.7	6.7	4.6	12.2	11.3
1933	0	0	2.5	2.5	7.1	12.2
1934	6.1	5.2	0	0	3.0	9.7
1935-39	1.8	2.0	0.6	1.1	1.2	2.0
1935	3.4	3.4	0.8	0.8	1.0	1.2
1936	2.0	2.5	0	0	0.8	3.5
1937	1.6	1.8	2.0	5.0	1.8	3.8
1938	2.0	1.7	0	0	1.3	1.2
1939	1.2	1.9	0.3	0.1	1.0	0.6
1940-47	0.2	0.2	0	0	0.1	0.1
1940	0.4	0.4	0	0	0.5	1.1
1941	0.2	0.1	0	0	0	0
1942	0.4	0.3	0	0	0	0
1943	0.4	0.4	0	0	0	0
1944-47	0	0	0	0	0.1	0.1
1920-47	7.9%	9.3%	2.8%	3.4%	3.8%	4.2%

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage see the opening of Chapter 5. Refers to loans secured by one- to four-family homes. Foreclosure rate is the number or original amount of loans made in a given year and foreclosed before date of report (1947) as a percentage of all loans made in that year. For number and original amount of sampled loans, see Table A-9.

TABLE 40  
Foreclosure Rates for Mortgage Loans on Nonfarm  
Income-Producing Properties, 1920-47,  
by Period Loan Made

PERIOD MADE	LIFE INSURANCE COMPANIES		COMMERCIAL BANKS		SAVINGS & LOAN ASSOCIATIONS	
	No.	Amt.	No.	Amt.	No.	Amt.
1920-24	9.3%	7.6%	2.3%	0.2%	1.5%	1.1%
1925-29	26.8	34.7	16.9	19.8	17.4	10.1
1930-34	14.8	8.8	7.2	2.2	0	0
1935-39	0.7	0.4	6.5	7.3	0	0
1940-47	0.9	0.1	0.3	<sup>a</sup>	0	0
1920-47	11.1%	13.1%	5.8%	4.2%	6.3%	3.0%

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Refers to loans secured by properties other than one- to four-family homes. Foreclosure rate is the number or original amount of loans made in a given period and foreclosed before date of report (1947) as a percentage of all loans made in that period. For number and original amount of sampled loans, see Table A-10.

<sup>a</sup> Less than 0.05 percent.

ticularly bad with the two- to four-family homes and with apartment buildings.<sup>7</sup>

In general, foreclosure experience with loans on income-producing properties was slightly more uniform among the different types of lender than experience with loans on homes (Tables 39 and 40). Also, a comparison of foreclosure rates based on number of loans with rates based on original amounts of loans reveals that the loans made from 1925 through 1929 on income-producing properties and later foreclosed were substantially larger than average loans; and that they were larger for life insurance companies than for commercial banks. Foreclosed loans on one- to four-family homes were also larger than the average loan made during 1925-29, but only slightly so, and with greater uniformity among the three lenders. The home loan market suffered less from the adverse effects of the depression than the market for loans on income-producing properties. Tabulations not reproduced here show that among surviving institutions the savings and loan associations and the smaller commercial banks had a somewhat less unfavorable experience than their larger competitors.

Among the factors other than the location of a property and the year in which the loan was originated that affect foreclosure experi-

<sup>7</sup> *Ibid.*, Table 24, p. 86.

ence, amortization and the loan-to-value ratio seem to have been most important. Foreclosure indexes<sup>8</sup> show that fully amortized home loans were better risks in terms of foreclosure experience than other mortgages (Table 41). For the sample of life insurance companies, however, a breakdown of the period 1920-29 into two subperiods indicates that the advantage of the fully amortized type of loan diminished during the later phases of the expansion.<sup>9</sup> This suggests that amortization was a protective device primarily for seasoned loans, but that it had little effect where loans encountered difficulties early in their contract life. The impression is reinforced by the fact that the sample loans made during 1925-29 by savings and loan associations and commercial banks on income-producing properties—that is, the typical short-lived loans—performed worse than their loans as a whole (Tables 39 and 40). In general, loans of relatively small size as compared with the appraised values of the underlying properties showed better foreclosure experience than loans with high loan-to-value ratios (Table 41). Differentiation in that respect among loans made by commercial banks was especially pronounced, suggesting that these institutions were able to acquire high quality loans with low loan-to-value ratios.

Small loans, of less than \$5,000, performed better than average, though less well than mortgages of all sizes for which the loan-to-value ratio was low. Thus, the data would imply that loans of large original amount, in particular those with high loan-to-value ratios, and on which repayment had been relatively small at the time of foreclosure, presented the greatest foreclosure risks.

The above tendencies are revealed more explicitly if we observe some of the effects of age, size, amortization provision, and loan-to-value ratio on the foreclosure experience reflected by the most uniform and best part of the National Bureau's sample, i.e. the data on mortgage loans made by large life insurance companies in the twenties and still outstanding in 1930 that were secured by single family owner-occupied homes (Table 42). In particular the tabulation shows that the relative frequency of foreclosures varied directly with size of loan for all observed years for both of the loan-to-value classes examined; similarly, that foreclosure rates during each period

<sup>8</sup> See Table 41 for definition of the measure used. The indexes measure relative risk of foreclosure for subcategories of loans within each lender group, 100 being the average for the group or for a subperiod within it.

<sup>9</sup> The same conclusions can be drawn if the analysis is limited to loans that were outstanding in 1930.

TABLE 41  
Foreclosure Indexes for Mortgage Loans Made on  
Nonfarm Homes, 1920-29, by Contract Terms

<i>Loan Characteristics</i>	<i>Life Insurance Companies</i>	<i>Commercial Banks</i>	<i>Savings and Loan Associations<sup>a</sup></i>
<b>TYPE OF LOAN</b>			
<b>1920-24</b>			
Fully amortized	23	102	b
Partial or no amortization	131	100	b
<b>1925-29</b>			
Fully amortized	51	86	b
Partial or no amortization	113	103	b
<b>1920-29</b>			
Fully amortized	44	90	103
Partial or no amortization	117	102	51
<b>CONTRACT INTEREST RATE</b>			
5.0 - 5.9%	76	89	26
6.0 - 6.9	107	111	83
7.0 and over	76	49	117
<b>CONTRACT LENGTH<sup>c</sup></b>			
0 - 4 years	135	107	40
5 - 14	89	86	101
15 and over	178	47	260
<b>LOAN-TO-VALUE RATIO</b>			
Less than 40%	49	35	38
40 and over	106	114	113
<b>ORIGINAL LOAN AMOUNT</b>			
Less than \$5,000	71	b	97
\$5,000 - 9,999	155	b	122
10,000 - 19,999	165	b	} 44
20,000 and over	135	b	

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Refers to loans secured by one- to four-family homes; for number of sampled loans, see Tables A-11 and A-12.

The foreclosure index is defined as

$$100 \frac{f_i}{g_i} \frac{\sum_i g_i}{\sum_i f_i}$$

where  $f_i$  is the number of foreclosed loans, and  $g_i$  the number of good loans (i.e. nonforeclosed loans) in the  $i^{\text{th}}$  subgroup of the variable, and where the summation extends over all subgroups included: e.g. all loans—with full, or partial, or no amortization—made in a given period by a given type of lender.

<sup>a</sup> Loans secured by all types of property are included, 95 percent being loans on one- to four-family homes.

<sup>b</sup> Not available.

<sup>c</sup> Excludes loans with indefinite maturities, e.g. share accumulation plan loans made by savings and loan associations.

TABLE 42  
Foreclosure Rates on Life Insurance Company Home Loans Made  
1920-29 and Outstanding January 1, 1930, by Amortization  
Provision and Size of Loan within Loan-to-Value Ratio

TYPE OF LOAN AND ORIGINAL LOAN AMOUNT	LOAN-TO-VALUE RATIO		TOTAL
	Under 50%	50% & Over	
TYPE OF LOAN			
1920-24	6.1%	23.8%	14.4%
Fully amortized	a	18.2 <sup>b</sup>	10.0 <sup>b</sup>
Partially amortized	5.8	20.4	11.4
Nonamortized	10.5 <sup>b</sup>	30.5 <sup>b</sup>	23.6
1925-27	15.7	24.2	20.9
Fully amortized	4.5 <sup>b</sup>	17.3	13.5
Partially amortized	16.6	23.4	20.3
Nonamortized	16.1	27.5	24.6
1928-29	10.5	29.5	23.4
Fully amortized	0 <sup>b</sup>	16.1 <sup>b</sup>	10.6 <sup>b</sup>
Partially amortized	10.4	29.3	22.9
Nonamortized	16.7 <sup>b</sup>	34.8	30.2
1920-29	12.4	26.2	20.9
Fully amortized	2.1 <sup>b</sup>	17.0	12.0
Partially amortized	12.7	25.8	20.1
Nonamortized	15.3	30.0	26.1
ORIGINAL LOAN AMOUNT			
1920-25	10.5%	19.9%	15.2%
Under \$5,000	9.3	18.0	13.7
\$5,000 and over	13.5	24.6	19.2
1926-27	15.6	26.5	22.5
Under \$5,000	12.1	22.7	18.8
\$5,000 and over	21.4	32.5	28.5
1928-29	10.5	29.5	23.4
Under \$5,000	6.4	27.6	20.7
\$5,000 and over	17.1	32.2	37.5
1920-29	12.4	26.2	20.9
Under \$5,000	9.5	23.3	17.9
\$5,000 and over	17.6	31.1	26.2

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Refers to life company loans made in the twenties that were secured by one- to four-family homes. Foreclosure rate is the number of loans foreclosed during 1930-47 as a percentage of all loans outstanding at the beginning of 1930.

<sup>a</sup> Not shown because less than ten loans included.

<sup>b</sup> Based on less than fifty loans.

varied directly with loan-to-value ratios within each size class of loans; and that foreclosure rates varied inversely with age of loan, and inversely with degree of amortization. It also points to the tendency for the highest foreclosure rates to concentrate in groups of loans that exceeded \$5,000, had loan-to-value ratios of 50 percent

or more, and were made during the latter part of the twenties (Table 42).

Insurance companies had better than average foreclosure experience with loans on which interest rates ranged from 5 to 5.9 percent; high interest rate loans—that is, those carrying rates of 7 percent or over—were the best foreclosure risk group for commercial banks, but the worst for savings and loan associations (Table 41). This suggests that in the market for high risk home mortgages commercial banks absorbed the best loans, and that at least some of the savings and loan associations may have absorbed the worst.

Foreclosure experience on long-term mortgages, those with contract terms of fifteen years or longer, was worse than average for life insurance companies and especially poor for savings and loan associations (Table 41); but the entire sample of home mortgage loans made before 1930 included only 132 with such long terms. With mortgages having contract lengths of less than fifteen years, for two of the three lenders good foreclosure experience did not coincide with the contract lengths they typically used. Thus, commercial banks, which during the twenties had specialized in short-term loans, fared worst on loans with contract lengths of less than five years; and savings and loan associations had their best foreclosure experience with such loans, though terms of more than ten years were predominant in their lending. Not only with contract lengths but in general, a comparison of foreclosure indexes for the various loan categories with the frequency distributions of loans made by each lender within those categories suggests that lending institutions were frequently more selective, or at any rate more successful, with respect to mortgage transactions lying outside their established lending spheres than with mortgages conforming more closely to their established policies.<sup>10</sup> It also appears—always in terms of foreclosure experience with home mortgage loans made before 1930—that the different loan characteristics were of varying usefulness in discriminating between good and bad loans. In general, most of the characteristics examined were less effective discriminators for loans made by life insurance companies than by commercial banks or, especially, by savings and loan associations. This would suggest that commercial banks and savings and loan associations had more nearly uniform lending habits and policies than insurance companies as a group.

<sup>10</sup> See Table A-12.

The foreclosure experience of life insurance companies was most sensitive to amortization provision, size of loan, and loan-to-value ratio; that of commercial banks and savings and loan associations to the usual contract terms—loan-to-value ratio, interest rate, and contract length. By and large, the characteristics examined are more effective in screening out good than bad loans. This, of course, is not necessarily an attribute of the selected characteristic but may also be due to the particular scale used; that is, to the boundaries set in grouping the loans. However, the sample data more or less suggest that it is easier to recognize a good loan than a bad one. To signalize the latter, much more efficient indicators would be needed, quite possibly involving many other factors and their complex interactions. Thus analysis of foreclosure rates,<sup>11</sup> rather than directly assisting in the rejection of bad loans, would seem to be more helpful in pointing out the limitations—at least for the period under study—of some of the time-honored lending criteria.

Many of the observations made with respect to the foreclosure experience of life insurance companies, commercial banks, and savings and loan associations are confirmed for mutual savings banks by Lintner's study of sample loans made in Massachusetts.<sup>12</sup> For mutual savings banks, too, considering loans made before 1932, experience was far better with mortgages on residential property, especially on single family owner-occupied homes, than with those on income-producing properties. With respect to the year a loan was made, foreclosure rates for the mutuals also increased during the period leading up to the depression and reached their peak for loans made during the immediate predepression years 1927-29. Foreclosure frequency varied directly with size of loan, and—as in the case of mortgage lending by the other three lenders—amortized loans performed better than others; likewise, the foreclosure rate varied directly with loan-to-value ratios.

In addition, the data for mutual savings banks throw some light on the effect of two geographic characteristics: community size, and distance of lender from the mortgaged property. For mortgages on single family homes foreclosure experience was worse the larger the

<sup>11</sup> For additional material on foreclosures, see Appendix Tables C-11 and C-12.

<sup>12</sup> John Lintner, *Mutual Savings Banks in the Savings and Mortgage Markets* (Harvard University, 1948). The sample, drawn at approximately the same time as the National Bureau's and covering loans made from January 1, 1918 to October 31, 1945, is described in pages 440ff., and the findings summarized here are developed in pages 359-439.

community. With respect to distance, experience was better the closer the lender to the mortgaged collateral. These findings are based, of course, on experience with uninsured loans only. To what extent the insurance feature of loans made under FHA protection would have weakened the effect of city size and of distance cannot be ascertained from present sources. The point gains added interest when it is recalled that long-distance lenders—for example, the large life insurance companies—made use of FHA insurance earlier and more freely than some of the other lenders.

Among factors other than those already discussed, borrower characteristics and socio-economic aspects of the locality and the neighborhood of the property would seem to be of particular interest in an analysis of foreclosure rates. Unfortunately, the requisite data are for all practical purposes nonexistent. It is, of course, extremely difficult to obtain historical information on borrower characteristics from any lender; and it proved impossible to reconstruct lending experience in terms of comparable borrower characteristics for an adequate loan sample from the past records of a representative group of lending institutions. It was possible, however, to obtain data for a limited group of loans indicative of foreclosure experience during the depression in one particular sector of the home mortgage market—namely, for loans acquired by the Home Owners' Loan Corporation, chiefly in 1934. These loans came from the portfolios of a great many different lenders and therefore provide adequate coverage with respect to type of lender. Two important limitations attach to them as a source of information on borrower characteristics. Since the loans refinanced by the HOLC, though not the worst, were likely to be poorer than average risks, they are not representative of all home mortgage loans outstanding during the early thirties. Moreover, the National Bureau's sample of HOLC loans is geographically limited, being restricted to loans made in Connecticut, New Jersey, and New York. The fact that nearly four-tenths of the sample loans were still outstanding at the time of the survey (1947) hardly affects the basic conclusions with respect to foreclosure experience, since only a negligible number of foreclosures occurred from 1947 until the liquidation of the HOLC in May 1951.

Accordingly, the HOLC sample can be used for the reconstruction of experience with probably worse than average risks among home mortgages made before the depression or during its early phases by

a variety of lending institutions in parts of the highly industrial Northeast.<sup>13</sup>

In the HOLC data, foreclosure rates are closely related to size of loan. A classification of loans by size (six groups at \$2,000 intervals) within family income shows a tendency at all income levels toward worse experience the larger the loan. But eliminating the effect of loan size shows that borrower's income was also an important factor in the outcome of the lending operation.<sup>14</sup> Within nearly all loan size groups a tendency was observed for foreclosure rates to decrease with increasing income, though less so in the highest income groups.<sup>15</sup>

Both the very young borrowers (under thirty years at the time the loan was refinanced) and the older ones (fifty years and over) were less successful in avoiding foreclosure of their homes than the middle-aged group; nearly one-half of the sampled loans to mortgagors under thirty years were foreclosed.<sup>16</sup> Thus economic pressure on borrowers at an early stage of their earning careers and on those at a late stage had a clear effect on the outcome of the lending operation.

The ratio of borrower's estimated equity in the mortgaged property to the original amount of the loan was inversely associated with foreclosure rates for all but the smallest and the very large mortgages; in other words, relatively large equity apparently was effective in avoiding default by a borrower, though even here the influence exerted by the absolute size of the economic burden—that is, the size of the loan—was more pronounced and decisive.<sup>17</sup>

In the low income group of mortgagors large families (seven dependents and more) were the best foreclosure risks, but the absolutely best risks with respect to family size in the entire sample were the small families (no dependents) in the high income brackets.<sup>18</sup>

Thus, the socio-economic status of the borrower as reflected by income, age, and size of family, and the relative financial importance

<sup>13</sup> For detailed tabulation and analysis of foreclosure experience, see *History and Policies of the Home Owners' Loan Corporation*, by C. Lowell Harriss (National Bureau of Economic Research, Financial Research Program, 1951), pp. 87-100. The sample is described on pages 49f.

<sup>14</sup> *Ibid.*, Table 23, p. 89.

<sup>15</sup> The income figures used were family income at the time the loan was refinanced, mainly 1934.

<sup>16</sup> Harriss, *op. cit.*, Table 24, p. 90.

<sup>17</sup> *Ibid.*, Table 30, p. 98.

<sup>18</sup> *Ibid.*, Table 23, p. 89.

of the property to the borrower—the latter as expressed by the ratio of equity to original loan amount—were all more or less effective elements in loan experience. The most obvious element, however—borrower's income—only proved to be a satisfactory discriminator between good and bad loans for the larger mortgages (\$4,000 or more); that is, for loans that were generally poorer than average risks. For smaller loans the borrower's family income at the time the loan was acquired by the HOLC was not significantly associated with loan experience; other characteristics must have accounted for the defaults of these mortgages.<sup>19</sup> Although over-all experience does suggest that the middle income brackets were somewhat better foreclosure risks than either the high or the low income groups, this result was due apparently to the particular shape of the joint distribution of incomes and loan sizes prevailing at that time.<sup>20</sup>

### *Loss Experience*

The possibility that a loan may default is only one of several considerations that enter into a lender's appraisal of risks. More important to him than the mere fact of foreclosure is the gravity of the default as indicated by the ultimate financial outcome of the loan transaction. The financial outcome of an unsuccessful mortgage transaction is determined by happenings not only during the life of the loan but also throughout the subsequent period during which the property acquired is part of the lender's owned real estate account. For this reason, a description of a lender's experience that seeks to gauge the amount of risk, rather than its mere frequency, will have to consider the combined outcome of both phases of a mortgage transaction: experience with the loan while it is active and, if the loan resulted in foreclosure, experience with the acquired collateral until the lender has disposed of it.

In order to compare differentials in the loss experience of various lenders on defaulted loans in the National Bureau's sample, the estimated net proceeds of all operations subsequent to foreclosure

<sup>19</sup> In connection with other factors that may influence experience, an HOLC tabulation of reasons for foreclosure, covering foreclosures in all regions of the country up to mid-1944, is of interest. The agency found that only one-sixth of the foreclosures were attributable to "total inability to pay," a slightly smaller proportion to "abandonment of property," "death of borrower," or "legal complications," and two-thirds to "noncooperation of borrower" and "obstinate refusal to pay" (Harriss, *op. cit.*, Table 21, p. 80).

<sup>20</sup> The same result was observed for a roughly comparable exposure period with respect to FHA loans. See *Foreclosure Experience with Insured Mortgages*, by Mortimer Kaplan (Federal Housing Administration, ms., 1941), pp. 217ff.

were subtracted from an estimate of the lender's investment at time of foreclosure for each completed transaction. The resulting loss figure was then related to the original amount of the loan, and to the lender's investment at the time of foreclosure.

It appears that the average loss ratios on all loans made after 1920 and foreclosed by 1947 were highest for commercial banks and lowest for life insurance companies. This was true both for loans secured by homes and for those secured by income-producing properties (Table 43). Thus, for commercial banks, losses on foreclosed loans on one- to four-family homes were about one-fourth of the original loan amount, and on income-producing properties, over one-third. Even life insurance companies, which according to the sample fared best, had substantial average loss ratios—in the neighborhood of one-tenth. Comparing loss experience with the foreclosure rates and foreclosure indexes discussed earlier, it would appear that commercial banks and savings and loan associations were more successful than life insurance companies in selecting good risks in the sense of loans that did not default, but that the savings and loan associations and especially the commercial banks were much less successful than the life insurance companies in their handling of acquired properties. An explanation of these differences between institutions might be found in the possible advantages of large-scale operation with respect to property management and sale, and of small-scale, local operations with respect to loan selection and servicing. Differences in the cost of foreclosure to the lender and in the proceeds of deficiency judgments may also have contributed to the differences in loss experience.

For each type of lender, and for each major property type, loans made after 1925 and subsequently foreclosed had higher loss ratios the longer the property was outstanding and the later it was sold, which suggests that easily disposable properties did not remain long in the owned real estate accounts but that less attractive collateral did.

Similarly, the difference between loss as a percent of original loan amount and the (smaller) rate of loss as a percent of the lender's investment at foreclosure was highest for loans on properties sold after 1935. Since the difference between the two ratios varies directly with foreclosure expenses (including noncapitalized delinquent interest and taxes paid by lender at the time of foreclosure, etc.), and inversely with borrowers' repayments up to time of foreclosure, it would appear that lenders found it generally difficult or

TABLE 43  
Liquidation Experience on Foreclosed Nonfarm Mortgage  
Loans by Period of Property Disposal  
within Period Loan Made, 1920-47

PERIOD LOAN MADE	PERIOD OF PROPERTY DISPOSAL	1- TO 4-FAMILY HOMES			ALL OTHER PROPERTY		
		<i>Life Ins. Cos.</i>	<i>Commer- cial Banks</i>	<i>Savings &amp; Loan Assocs.</i>	<i>Life Ins. Cos.</i>	<i>Commer- cial Banks</i>	<i>Savings &amp; Loan Assocs.</i>
<i>Loss as Percent of Original Loan Amount</i>							
1920-24	1930-47	4%	19%	23%	23%	a	a
	1930-34	12	..	a	..	..	..
	1935-39	5	19	26	a	a	a
	1940-47	2	20	a	57	..	..
1925-29	1925-47	9	24	10	14	34%	26%
	1925-29	a	a	a	..	..	a
	1930-34	4	10	7	a	a	a
	1935-39	7	24	9	17	29	24
	1940-47	12	37	14	24	40	..
1930-34	1930-47	12 <sup>b</sup>	28	22	-13	22	..
	1930-34	-2	a	13	..	a	..
	1935-39	11	17	23	a	a	..
	1940-47	15	a	32	-20	a	..
1935-39	1935-47	8	15	14	a	48	..
	1935-39	a	..	a	..	a	..
	1940-47	8	15	a	a	51	..
1940-47	1940-47	6	..	a	a	a	..
	Total	9%	24%	14%	13%	36%	27%
<i>Loss as Percent of Lender's Investment</i>							
1920-24	1930-47	5%	19%	19%	16%	a	a
	1930-34	11	..	a	..	..	..
	1935-39	6	16	23	a	a	a
	1940-47	2	21	a	44	..	..
1925-29	1925-47	9	21	9	13	31%	25%
	1925-29	a	a	a	..	..	a
	1930-34	4	10	7	a	a	a
	1935-39	7	20	9	-17	29	23
	1940-47	11	32	12	22	36	..
1930-34	1930-47	11 <sup>b</sup>	23	20	-11	10	..
	1930-34	-2	a	12	..	a	..
	1935-39	9	14	21	a	a	..
	1940-47	13	a	31	-17	a	..
1935-39	1935-47	8	16	13	a	55	..
	1935-39	a	..	a	..	a	..
	1940-47	8	16	a	a	77	..
1940-47	1940-47	5	..	a	a	a	..
	Total	9%	21%	13%	12%	33%	26%

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. For number of foreclosed loans, original amount, and lender's investment, see Table C-13. Negative loss ratios indicate gains.

<sup>a</sup> Not shown because less than five loans included.

<sup>b</sup> Includes one loan for which period of property disposal was not available.

unattractive to part with real estate acquired through foreclosure of mortgages with high unpaid balances. This tendency was more pronounced for commercial banks than for life insurance companies, which reflects probable differences in policy between the large and the small lenders, and the presence of a higher proportion of not fully amortized and of delinquent loans in the portfolios of commercial banks than of insurance companies.

### *Investor Returns in Urban Mortgage Lending*

The loss ratios considered so far pertained to experience with foreclosed mortgages only. A convenient and summary means for analyzing over-all investment experience is the average return actually realized by various types of lender on different groups of loans that include successful and unsuccessful transactions. In addition, the amount by which the rate of realized return falls short of what is termed here the expected yield, and which would have been realized if the terms promised in the original contract had been fulfilled, serves as an approximate measure of the per annum loss rate: that is, the rate at which reserves should have been accumulated to have offset the full amount of losses incurred. Thus interlender variations in loss rates according to the various characteristics of the loan contracts, the types of properties securing them, or the periods in which the loans were made summarize in a simple and compact way the risk differentials associated with different types of loan investment.

The actual measurement of return on investment, however, presents numerous and difficult problems. Since comparison within the lending experience reflected by thousands of sample loans was the primary purpose of the National Bureau survey, it seemed appropriate to sacrifice conceptual refinement to the exigencies of mass survey operations. In view of the information available and the different accounting and record-keeping practices of lenders, measures of return were computed for sample loans originated and extinguished during 1920-47 as follows: (1) The contract interest rate, weighted, in averaging, by the original amounts of the included loans, gave an estimate of expected yield in the sense indicated above. (2) The realized yield was assumed equal to the expected yield for fully paid mortgages, except if the original contract rate was later modified.<sup>21</sup> For foreclosed mortgages, the realized yield

<sup>21</sup> In such instances the last interest rate weighted by the original amount of the loan was used. For details of the techniques used in calculating the realized

was computed as the ratio of the lender's estimated net return to his investment in the foreclosed loan, including in the transaction the weighted financial experience both with the active loan and with the foreclosed property while carried in the owned real estate account.

Though these measures are only rough approximations to accurate and conceptually refined accounting ratios, they are useful for the comparison of broad lender groups and major types of loans. In particular the loss rates—the excess of the expected over the realized yield for various categories of loans—are suggestive of differences in financial experience, even though their absolute values may suffer from many technical shortcomings.

The realized yields on sample loans made from 1920 through 1929 (Tables 44 and 45) were generally higher for loans on homes than on income-producing properties and generally higher for fully amortized than for other mortgages. Since interest rates followed a similar pattern, the expected yields are also indicated in most cases as lower for mortgages on income-producing properties, and lower for nonamortized loans, than for others. Comparing realized yields as well as loss rates for the two types of lender whose experience data suffice (Tables 44 and 45), we find that commercial banks fared better than life insurance companies, especially with respect to mortgages on homes.

As to contract length, both life insurance companies and commercial banks had more satisfactory returns on investment with home mortgages in the ten- to fourteen-year contract length group than with other loans (Table 46). In general, loan categories for which the average expected yield was comparatively high fared better than others with respect to both realized yields and loss rates (Table 46). Since foreclosure experience (Tables 41 and C-12) did not follow the same pattern, this would suggest that, as a group, loans with interest rates at 6 to 6.9 percent, though frequently displaying higher foreclosure rates, produced better returns on investment than loans with either low or very high interest rates.<sup>22</sup>

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yields, see *Urban Mortgage Lending by Life Insurance Companies*, by R. J. Saulnier, pp. 96ff.

<sup>22</sup> Similarly, realized yields and loss rates indicate that the financial experience of life insurance companies was less satisfactory with loans having low loan-to-value ratios than with others, though in terms of foreclosure rates alone the reverse is found.

TABLE 44  
 Yields and Loss Rates for Mortgage Loans on Nonfarm  
 Homes, 1920-47, by Period Loan Made and  
 Amortization or Insurance Provision

PERIOD MADE AND TYPE OF LOAN	LIFE INSURANCE COMPANIES			COMMERCIAL BANKS		
	<i>Exp.</i> Yield	<i>Real.</i> Yield	<i>Loss</i> Rate	<i>Exp.</i> Yield	<i>Real.</i> Yield	<i>Loss</i> Rate
<i>1920-24</i>	5.99%	5.81%	0.18%	6.14%	5.99%	0.15%
Fully amortized	6.04	6.01	0.03	6.17	6.06	0.11
Partially amortized	5.97	5.81	0.16	6.03	5.84	0.19
Nonamortized	5.96	5.55	0.41	6.26	6.13	0.13
<i>1925-29</i>	5.89	5.03	0.86	6.04	5.37	0.67
Fully amortized	6.01	5.44	0.57	6.31	6.17	0.14
Partially amortized	5.88	5.05	0.83	6.04	5.38	0.66
Nonamortized	5.86	4.68	1.18	5.99	5.18	0.81
<i>1930-34</i>	5.98	4.79	1.19	6.13	5.53	0.60
Fully amortized	5.97	4.89	1.08	6.36	6.00	0.36
Partially amortized	6.02	5.08	0.94	6.05	5.46	0.59
Nonamortized	5.87	4.07	1.80	6.13	5.41	0.72
<i>1935-39</i>	5.21	4.97	0.24	5.21	5.10	0.11
Fully amortized	5.25	5.15	0.10	5.42	5.42	0
Partially amortized	5.38	4.76	0.62	5.30	4.87	0.43
Nonamortized	5.37 <sup>a</sup>	4.86 <sup>a</sup>	0.51 <sup>a</sup>	5.69	5.66	0.03
FHA	4.97	4.86	0.11	4.90	4.88	0.02
<i>1940-47</i>	4.60	4.57	0.03	4.69	4.68	0.01
Fully amortized	4.69	4.62	0.07	4.77	4.76	0.01
Partially amortized	4.74 <sup>a</sup>	4.73 <sup>a</sup>	0.01 <sup>a</sup>	4.88	4.88	0
Nonamortized	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	5.19	5.12	0.07
FHA <sup>c</sup>	4.52	4.50	0.02	4.48	4.48	0
<i>1920-47</i>	5.59	5.01	0.58	5.58	5.27	0.31
Fully amortized	5.51	5.15	0.36	5.51	5.43	0.08
Partially amortized	5.86	5.17	0.69	5.75	5.35	0.40
Nonamortized	5.84	4.76	1.08	6.01	5.46	0.55
FHA <sup>c</sup>	4.64	4.60	0.04	4.65	4.65	0

*Exp.* = expected. *Real.* = realized.

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Refers to loans secured by one- to four-family homes, exclusive of loans and properties still on the books in 1947. Average yields and loss rates are weighted by the original amounts of the included loans.

<sup>a</sup> Based on less than fifty loans.

<sup>b</sup> Not shown because less than ten loans included.

<sup>c</sup> Includes a few VA-guaranteed loans.

TABLE 45  
 Yields and Loss Rates for Mortgage Loans on Nonfarm  
 Income-Producing Properties, 1920-47, by Period Loan  
 Made and Amortization or Insurance Provision

PERIOD MADE AND TYPE OF LOAN	LIFE INSURANCE COMPANIES			COMMERCIAL BANKS		
	<i>Exp.</i> Yield	<i>Real.</i> Yield	<i>Loss</i> Rate	<i>Exp.</i> Yield	<i>Real.</i> Yield	<i>Loss</i> Rate
1920-24	5.89%	5.58%	0.31%	5.38%	5.35%	0.03%
Fully amortized	} 5.92	} 5.64	} 0.28	} 6.09 <sup>a</sup>	} 6.17 <sup>a</sup>	} -0.08 <sup>a</sup>
Partially amortized						
Nonamortized						
1925-29	5.51	3.81	1.70	5.96	4.94	1.02
Fully amortized	5.80 <sup>a</sup>	5.78 <sup>a</sup>	0.02 <sup>a</sup>	5.47 <sup>a</sup>	4.98 <sup>a</sup>	0.49 <sup>a</sup>
Partially amortized	5.59	3.54	2.05	6.15	4.20	1.95
Nonamortized	5.30	4.20	1.10	5.91	5.42	0.49
1930-34	5.51 <sup>a</sup>	5.06 <sup>a</sup>	0.45 <sup>a</sup>	5.71	4.44	1.27
Fully amortized	} 5.80 <sup>a</sup>	} 5.06 <sup>a</sup>	} 0.74 <sup>a</sup>	} 5.80 <sup>a</sup>	} 4.57 <sup>a</sup>	} 1.23 <sup>a</sup>
Partially amortized						
Nonamortized						
1935-39	4.78	4.67	0.11	4.27	3.59	0.68
Fully amortized	4.80 <sup>a</sup>	4.73 <sup>a</sup>	0.07 <sup>a</sup>	5.12 <sup>a</sup>	4.58 <sup>a</sup>	0.54 <sup>a</sup>
Partially amortized	4.76	4.67	0.09	4.46 <sup>a</sup>	2.00 <sup>a</sup>	2.46 <sup>a</sup>
Nonamortized	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	3.88 <sup>a</sup>	4.08 <sup>a</sup>	-0.20 <sup>a</sup>
FHA	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>
1940-47	4.33 <sup>a</sup>	4.31 <sup>a</sup>	0.02 <sup>a</sup>	4.26	4.23	0.03
Fully amortized	4.33 <sup>a</sup>	4.34 <sup>a</sup>	-0.01 <sup>a</sup>	4.54	4.53	0.01
Partially amortized	4.33 <sup>a</sup>	4.18 <sup>a</sup>	0.15 <sup>a</sup>	3.93 <sup>a</sup>	3.88 <sup>a</sup>	0.05 <sup>a</sup>
Nonamortized	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	4.79 <sup>a</sup>	4.68 <sup>a</sup>	0.11 <sup>a</sup>
FHA	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>
1920-47	5.31	4.41	0.90	5.18	4.57	0.61
Fully amortized	4.58	4.56	0.02	5.03	4.78	0.25
Partially amortized	5.49	4.29	1.20	5.18	3.85	1.33
Nonamortized	5.37	4.61	0.76	5.21	4.87	0.34
FHA	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>

Exp. = expected. Real. = realized.

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Refers to loans secured by properties other than one- to four-family homes, exclusive of loans and properties still on the books in 1947. Average yields and loss rates are weighted by the original amounts of the included loans. Negative loss rates indicate gains.

<sup>a</sup> Based on less than fifty loans.

<sup>b</sup> Not shown because less than ten loans included.

TABLE 46  
 Yields and Loss Rates for Nonfarm Mortgage Loans Made  
 1920-29, by Loan-to-Value Ratio and Contract Length

CONTRACT TERMS	LIFE INSURANCE COMPANIES			COMMERCIAL BANKS		
	<i>Exp.</i> Yield	<i>Real.</i> Yield	<i>Loss</i> Rate	<i>Exp.</i> Yield	<i>Real.</i> Yield	<i>Loss</i> Rate
<i>One- to Four-Family Homes</i>						
LOAN-TO-VALUE RATIO						
0 - 39%	5.96%	5.09%	0.87%	6.35%	6.11%	0.24%
40 - 79 <sup>a</sup>	5.90	5.19	0.71	6.04	5.52	0.52
CONTRACT LENGTH						
0 - 4 years	5.89	5.02	0.87	6.14	5.57	0.57
5 - 9	5.89	5.24	0.65	5.94	5.55	0.39
10 - 14	5.99	5.48	0.51	6.18	5.95	0.23
15 - 19 <sup>b</sup>	5.97	4.74	1.23	6.10	5.98	0.12
Total	5.92%	5.24%	0.68%	6.08%	5.60%	0.48%
<i>All Other Property</i>						
LOAN-TO-VALUE RATIO						
0 - 39%	5.55%	5.24%	0.31%	6.04%	5.11%	0.93%
40 - 79 <sup>c</sup>	5.63	4.07	1.56	5.57	5.11	0.46
CONTRACT LENGTH						
0 - 4 years	5.30	4.76	0.54	6.08	5.62	0.46
5 - 9	5.75	3.95	1.80	6.15	3.89	2.26
10 - 14	5.52	4.56	0.96	5.10	5.05	0.05
15 - 19 <sup>d</sup>	5.72	5.16	0.56	<sup>e</sup>	<sup>e</sup>	<sup>e</sup>
Total	5.61%	4.29%	1.32%	5.67%	5.14%	0.53%

*Exp.* = expected. *Real.* = realized.

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Includes loans made during 1920-29 that were extinguished by 1947. Average yields and loss rates are weighted by the original amounts of the included loans. For number and original amount of sampled loans, see Table A-14.

<sup>a</sup> Includes 10 loans with loan-to-value ratios of 80 percent and over.

<sup>b</sup> Includes 21 loans with contract lengths of twenty years and over.

<sup>c</sup> Includes 6 loans with loan-to-value ratios of 80 percent and over.

<sup>d</sup> Includes 8 loans with contract lengths of twenty years and over.

<sup>e</sup> Not shown because less than ten loans included.

### *Actual versus Contract Length in Mortgage Lending*

Less dramatic than foreclosure rates and loss ratios but quite important as an experience factor is the duration of the investment; that is, the number of years a mortgage remains on the lender's books. Interlender differences in average length of investment are helpful in interpreting yield and loss differentials. Comparisons between average contract and average actual length of loan—each weighted by original loan amounts—are also suggestive of dis-

crepancies between a lender's "expectations" and actual loan performance.

For sample loans made and extinguished during 1920-47 the discrepancy between actual and contract term was considerable for each of the lenders. Relatively few loans were extinguished within a year of contract maturity. In the part of the sample where completed experience records are reasonably numerous—namely, among loans made from 1920 through 1934—a substantial proportion were extinguished either before or after having reached contract maturity (Table 47). Although average actual lengths of loans varied from lender to lender, the variations were much smaller than those observed with respect to average contract lengths. Thus for savings and loan associations, whose contract lengths averaged substantially longer than those of the other two lenders, actual duration of investment fell short of contract length. For life insurance companies, on the other hand, and still more for commercial banks, the opposite was observed—average actual duration of loan exceeded average contract length (Table 48).

A similar pattern of difference among types of lender as to the relationship of contract length and actual loan performance is evident when the sample loans are classified by contract maturity. Because of the limitations of the sample no firm conclusions can be drawn with respect to the behavior of the small subcategories by period of origin. Among loans made during the fifteen years 1920-34 it appears that for commercial banks and life insurance companies about one-tenth of those with short contract maturities (five years and less), one-half of the middle group (six to ten years), and three-quarters of the loans with longer maturities (eleven to fifteen years) were paid off before having reached contract maturity (Table 47).<sup>23</sup> For savings and loan associations, however, the corresponding ratios generally exceeded those for the other two lenders, and among the associations' loans with contract lengths of six years and over about 70 percent were repaid before having reached their expected maturity.

Looking back over the data presented, it can be seen that most of them point toward a broad similarity in the experience of all principal lenders; certainly they reveal no striking differences among

<sup>23</sup> Heavy pay-offs are also indicated for loans with contract terms in excess of fifteen years; but the evidence is too scanty to permit comparison with other groups.

TABLE 47  
 Relationship of Actual to Contract Length for Nonfarm Mortgage  
 Loans Made 1920-34, by Contract Length and Period Loan Made  
 (percentage distribution of number of loans within period)

PERIOD MADE AND RELATIONSHIP OF ACTUAL TO CONTRACT LENGTH <sup>a</sup>	CONTRACT LENGTH											
	1 - 5 Years			6 - 10 Years			11 - 15 Years			16 Years and Over		
	Life Ins. Cos.	Savings & Loan Assocs.	Commer- cial Banks									
<b>1920-24</b>												
Under contract length	15%	27%	9%	69%	73%	63%	78%	57%	73%	100%	50%	
Equals contract length	45	44	30	18	10	25	16	14	12	..	..	
Over contract length	40	29	61	13	17	12	6	29	15	..	50	
<b>1925-29</b>												
Under contract length	9	26	7	41	46	70	66	84	68	48%	75	
Equals contract length	26	38	21	26	26	17	22	5	15	23	25	
Over contract length	65	36	72	33	28	14	12	11	17	29	..	
<b>1930-34</b>												
Under contract length	10	25	5	54	44	76	84	70	69	100	100	
Equals contract length	27	58	24	22	37	14	12	30	18	..	..	
Over contract length	63	17	71	24	19	11	4	..	13	..	..	
<b>1920-34</b>												
Under contract length	10	26	7	52	54	69	74	75	70	70	75	
Equals contract length	31	44	24	23	23	18	18	14	15	13	6	
Over contract length	59	30	68	25	23	13	9	11	15	17	19	

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage see the opening of Chapter 5. Refers to loans made during 1920-34 that were extinguished by 1947.

<sup>a</sup> To compensate for possible time bias due to the manner of compiling data from the loan schedules, loans repaid within one year before or one year after contract maturity were classified with loans for which actual length equaled contract length.

TABLE 48  
Average Contract and Realized Maturities for Nonfarm  
Mortgage Loans Made 1920-39, by Period Loan Made

PERIOD MADE	LIFE INSURANCE COMPANIES		COMMERCIAL BANKS		SAVINGS & LOAN ASSOCIATIONS	
	<i>Contract Maturity</i>	<i>Realized Maturity</i>	<i>Contract Maturity</i>	<i>Realized Maturity</i>	<i>Contract Maturity</i>	<i>Realized Maturity</i>
1920-24	6.1 yrs.	7.9 yrs.	3.2 yrs.	7.5 yrs.	10.6 yrs.	6.9 yrs.
1925-29	6.7	10.8	3.7	8.8	10.7	6.8
1930-34	7.5	8.6	3.4	9.0	10.7	6.0
1935-39	11.3	4.8	9.0	4.7	14.7	5.5

Based on National Bureau of Economic Research survey of urban mortgage lending; for coverage, see the opening of Chapter 5. Refers to loans made during 1920-39 that were extinguished by 1947. Average maturities are weighted by the original amounts of the included loans.

lenders in the major characteristics of their lending patterns.<sup>24</sup> The more subtle variations in lending experience from lender to lender are difficult to identify because of deficiencies in the size and nature of the sample of loans on which much of the analysis is based, and also because of the considerable conceptual complexities involved.

All things considered, it appears that the overwhelming force exerted by the depression of the thirties, and the widely pervasive effects of the preceding building boom, resulted in a more or less uniform experience pattern among all of the major types of mortgage lending institution. There are indications, also, that factors more directly associated with the lending operations, uniformly reflected in the experience of the most diverse lenders, contributed to the similarity in outcome. However, one must not read more into the evidence than is warranted by its quality and by its purely empirical and historical nature. The materials of this chapter have been offered as merely suggestive; as inviting speculation rather than leading to inferences, in the strict sense of the word. Viewed thus, the observed pattern of mortgage lending experience may be thought of as resulting from the joint impact exerted by changing over-all economic forces, and from differences in the aspects of particular loan trans-

<sup>24</sup> This statement should perhaps be qualified by pointing out that the long-distance lender, by and large, was more likely to foreclose than the local lending institution, though no corresponding difference in loss experience was observable once the property was foreclosed. The slightly deviating behavior of the banks may suggest a real difference or may reflect a bias due to the heavy nonresponse in that part of the National Bureau's sample.

actions customarily referred to as borrower, property, and loan characteristics.

Indicative of the impact of the general economic climate on lending experience is the clearly recognizable effect that the year a loan was made had on the outcome of the lending transaction. For the period under consideration, it may well have been that the outstanding factor affecting lending experience was the effect of the cycle time or cycle phase on the value and appraisal of the properties involved, on the borrowers' income expectations, on the lenders' willingness to lend and propensity to foreclose, and on the decisions of mortgage institutions to dispose of acquired properties.

Within the general economic context, and closely interwoven with each other, operated the factors which characterized particular loan transactions and resulted in minor differentials in lending experience as between different groups of loans. Concerning the effects of various economic characteristics of the property, the borrower, and the loan, the data reveal that comparatively favorable experience was associated with relatively small loans secured by modestly priced properties and extended to middle income borrowers; experience was also better with loans on owner-occupied homes and other small residential properties than on large residential structures and income-producing properties in general; and amortized loans performed better than nonamortized loans. Lower ratios of loan amount to appraised value of property, shorter contract maturities, and tighter credit terms in general tended to be inversely associated with relatively bad experience. To go much further toward general and far-reaching conclusions is not warranted by the information now available.

It would, of course, be tempting to ask how the selection of mortgage risks could be improved, and how risks associated with differences in quality among potential mortgage loans could be reduced by appropriately varying lending standards. Quite obviously, however, this problem transcends the straightforward application of actuarial concepts and techniques: experience data, by their very nature, pertain to a particular situation or historical phase of a process and are therefore of limited application where rapid and unexpected changes may take place; moreover, such data are necessarily confined to loans that were actually made, i.e. loans already selected from a much larger number of potential transactions with characteristics that probably differed from those of transactions actually closed. Because of these limitations and of the observed

tendency toward greater uniformity of credit terms and loan characteristics generally, it appears unlikely that future lending activity will produce experience data that could make it materially easier to discriminate safely, yet in sufficient detail, between potential loans of different quality.

On the other hand, there seems little doubt that experience information of a better and more reliable kind is genuinely needed. It could be made particularly useful to the lending officer if careful foreclosure analysis and current analysis of serious delinquencies and of prepayments were to become a matter of course. Such an intensive approach seems the more promising as many of the relevant experience factors (for example, neighborhood change) do not lend themselves easily to inclusion in the more extensive, actuarial type of analysis. Moreover, the evidence suggests that for the improvement of lending policies increased importance must be attributed to the correct observation and analysis of conditions in the economy as a whole: to factors affecting loan experience that extend far beyond the horizon of individual mortgage transactions.

