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CHAPTER XV

LONG-TERM CHANGES IN COST AND TERMS OF MORTGAGE FINANCING

THE long-term growth of the residential mortgage debt and the tendency toward financing an increasing proportion of the acquisition cost of new residential real estate by mortgage loans have been associated with marked changes in the ease of borrowing. This association is of a highly complex nature, particularly if long-run rather than short-run relationships are considered. To what extent is the cost of borrowed funds a determinant of the demand for mortgage loans and, therefore, of the volume of new residential construction? To what extent is it a variable determined by, among other things, the demand for mortgage funds for new building (as well as for transactions within the existing stock of residential real estate)? Do long-term changes in mortgage interest rates reflect fundamental drifts in general capital market conditions, or are the rates mainly conditioned by the interaction of the forces of demand and supply specific to mortgage loans? Are home purchasers, who through the decades have accounted for such a large proportion of the demand for new residential construction, sensitive to long-term changes in credit terms, or is their willingness to buy primarily determined by current and anticipated income and by savings available for downpayments? Similarly, has the volume of new rental housing been so greatly influenced by short-run profit expectations as to be insensitive to the levels and long-term changes of financial charges?

The complexity of the interrelationships between the cost of borrowed funds, the propensity to use mortgage loans, and the volume of new residential construction is increased by the familiar difficulties of measuring the relative stringency of capital rationing in the mortgage market. Changes in the relative ease of borrowing may be reflected in varying degrees of willingness on the part of lenders to make loans at "going" interest rates and credit terms, as well as in actual changes in these rates and terms. Changes may also be expressed in varying levels of property appraisals, which determine maximum loan amounts and therefore the need for equity funds, without any apparent modifications of credit terms. These facets of market behavior, unfortunately, cannot be quantified.

Moreover, the structure of credit terms in mortgage lending is highly complicated. Even assuming a given amount of loan, the borrower's position is affected not only by contractual interest rates but also by the term of the loan, repayment provisions ranging from lump-sum pay-

ment of principal at the end of the term to monthly amortization over several decades, and non-interest costs of sometimes substantial magnitude. The statistical record of changes in the variables is poor, although it has been improved in recent years. Finally, historical analysis is complicated by the varying use of junior mortgages, the effective cost of which exceeds that of first mortgage loans per borrowed dollar. No systematic data on the use of junior mortgages or on the cost and terms of such loans are available.

In view of these difficulties, this chapter attempts no more than to present empirical materials which throw some light on the relationships between long-term movements of contractual mortgage interest rates, general interest rates, and residential building activity. In addition, it brings together the major, now widely scattered data on costs and terms of mortgage financing and combines certain elements of financing costs into composite indexes. These highly tentative measures should at least give some perspective to the historical changes in the cost of borrowing and facilitate the analysis of their relationship to changes in the demand for mortgage funds.

Long-Term Movement of Interest Rates

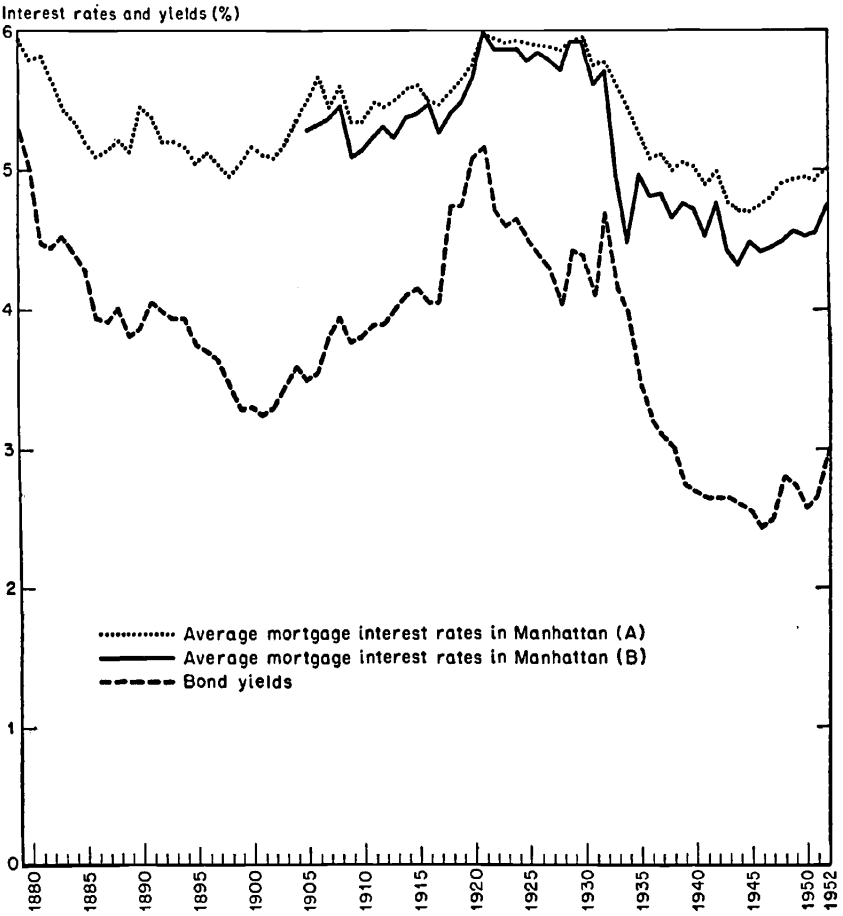
Swings of extremely long duration are suggested by the data on mortgage interest rates and bond yields since 1879 shown in Chart 24 and Table O-1. The mortgage interest series relate to loans on non-residential as well as residential properties, and they are subject to a great many qualifications, which are discussed in Appendix O. They are perhaps not adequate for precise determination of turning points and for analysis of short-term fluctuations. Nevertheless, they provide some indication of movements over long periods of time.

The period from 1879 to roughly the turn of the century was one of falling interest rates. The mortgage interest rate series for Manhattan and that for Chicago (Table O-1), as well as the bond yield series—all three of which cover this entire period—show a fairly steady decline; and the mortgage interest series for St. Louis, which begins in 1893, confirms this movement for part of the period. From the beginning of the century to the early twenties, both the five mortgage interest series (Table O-1) and the bond yields exhibit a rising tendency, more pronounced in bond yields and in the mortgage interest series for Manhattan, the Bronx, and Chicago than in the mortgage interest series for St. Louis. The year 1921 is an apparent peak in all of these series. In any event, the classes of interest rates here considered seem to have reached a peak sometime before 1879[1] and another in the early twenties.

[1] Macaulay's "best bond yields" series, which begins in 1857, shows a decline

CHART 24

Mortgage Interest Rates and Corporate Bond Yields, 1879-1952



Source: Table O-1.
(A) Series derived by Roy Wenzlick. For details, see Appendix O.
(B) Series prepared in this study.

While bond yields clearly show a decline beginning in the early twenties, four of the five mortgage interest rate series moved within narrow ranges on a high plateau throughout the decade. The subsequent drop in mortgage interest rates, extending over two decades, can be interpreted as the downward phase of another long swing comparable to that ending in the early twenties, with the rise in both mort-

from 1866 to the turn of the century. Frederick R. Macaulay, *Some Theoretical Problems Suggested by the Movements of Interest Rates, Bond Yields and Stock Prices in the United States since 1856*, National Bureau of Economic Research, 1938.

gage interest rates and bond yields in the recent postwar period possibly marking the beginning of the upward phase of this swing in general interest rates.

There is considerable evidence that the underlying trend in both general interest rates and mortgage interest rates has been downward over the last three-quarters of a century. Both mortgage rates for Manhattan and St. Louis and bond yields in the late thirties and the forties were considerably below the levels reached at the preceding trough, around 1900. The general decline in mortgage rates was probably even greater than that indicated for these two single areas because of the decline in differentials among regional interest rates (discussed below).

In view of the often-observed stickiness of mortgage interest rates, the conformity of broad movements of these rates and bond yields is quite close and manifests the unity of forces determining long-term changes in capital market conditions. However, differences between the series on bond yields and those on mortgage interest rates are also significant. Two important differences relate to the amplitudes and the levels of the series. Bond yields have a much greater amplitude of fluctuation than mortgage interest rates, ranging from less than 2.5 per cent to nearly 5.2 per cent between 1900 and 1950. Mortgage rates in Manhattan, the Bronx, and St. Louis remained within the 5-to-6-per-cent range through most of the period.

Greater sensitivity of bond yields would be expected. The bond yield series is derived from the yields on *outstanding* bonds. The mortgage rate series refers to the average contract rate on mortgages *made* in each year. Changes in economic conditions can affect outstanding bonds in only one way—through a change in market price (which is equivalent to a change in yield). The impact of changing conditions on new mortgage loans, on the other hand, may be expressed in changes in any of the following: loan-to-value ratios, appraisals, contract terms, non-interest costs, and the ratio of loan rejections, as well as contract interest rates. Also, since the data show contract interest rates rather than yields on mortgages, they fail to reflect changes in premiums and discounts on mortgage loans, at times important in the mortgage market.

Throughout the period under observation, contract mortgage interest rates remained at a higher level than bond yields. This difference can be ascribed to the higher cost of loan servicing, the greater risk of mortgage lending, and the greater imperfection of the mortgage market. But the difference in the levels of bond yields and mortgage interest rates has varied greatly since the turn of the century. Whenever bond yields were high, the difference between bond yields and

mortgage interest rates was low; the converse was true whenever bond yields were low. Since the range of movement of mortgage interest rates is quite narrow, the changes between the two rates are largely the result of the movement in bond yields. While changes in contract interest rates on mortgages are sympathetic to movements of bond yields, their amplitude is contained by usury laws and, in recent years, ceilings on FHA and VA rates on the up side and by a "floor" of risk allowances and servicing costs on the down side. When bond yields rise, mortgage interest rates increase, but the differential between them is narrowed since bond yields have no ceiling. When bond yields fall, mortgage rates also fall, but, because of the risk and cost elements, they decline proportionately less and the differential is widened.

Long Swings in Interest Rates and Residential Construction

As was pointed out before, systematic relationships between the volume of residential construction and relative stringency in the supply of mortgage funds cannot be established in any definite fashion, because of lack of an adequate index for the latter. Some insights into such relationships, however, may be gained from a comparison of the course of mortgage interest rates and bond yields with the course of residential construction expenditures. These insights are limited by the fact that neither bond yields nor contract interest rates for mortgage loans express fully the long-term changes in the cost and terms of mortgage financing.

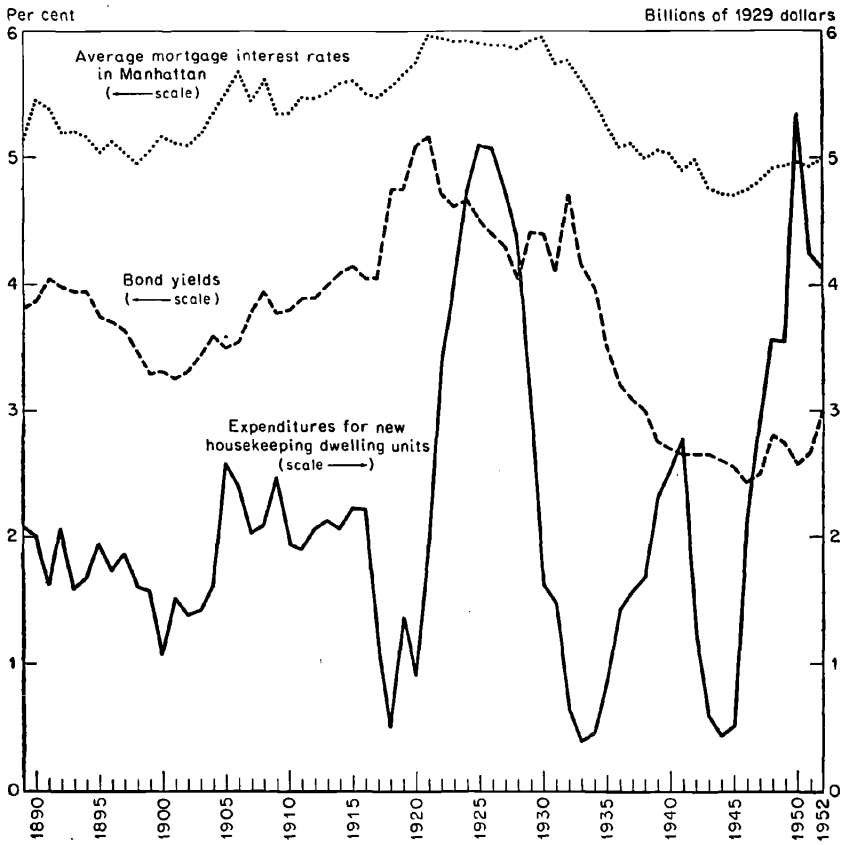
The series on Manhattan mortgage interest rates (A) and bond yields and estimates of deflated expenditures for housekeeping dwelling units for the period 1889-1952 are presented in Chart 25.[2] The data cover three expansion and three contraction phases in construction expenditures.

When the movements of construction expenditures and interest rates are compared, it is found that two of the three expansion phases in expenditures have been associated with rising mortgage interest rates and bond yields: the periods from 1900 to 1905-1908 and from 1918 to 1925. In the latter period, however, bond yields turned down several years earlier, in 1921. In contrast, the most recent expansion phase, which may be dated from 1933 if the interruption during the war is ignored, was accompanied by falling mortgage interest rates and bond yields until the end of World War II. The postwar expansion

[2] The use of a local series on mortgage interest rates, necessitated by the absence of more comprehensive data, raises the question of representativeness. As was shown in the preceding section, the movement of Manhattan interest rates has been broadly consistent with the movement of rates in several other localities, although the levels and amplitude of fluctuations have varied.

CHART 25

Residential Construction Expenditures, Bond Yields, and Average Mortgage Interest Rates in Manhattan, 1889-1952



Source: Construction expenditures: Table B-3.
Bond yields and mortgage interest rates: Table O-1.

in residential building was associated through 1952 with a small increase in interest rates.

Two of the three contraction phases in expenditures have been associated with declining mortgage interest rates and bond yields: the periods from 1889 to 1900 and from 1925 to 1933. In contrast, the drop in residential construction expenditures from 1905-1909 to 1918 was accompanied by rising bond yields and mortgage interest rates.

When the movement of construction expenditures in constant prices is compared with that of the spread between bond yields and mortgage interest rates, it is found that the spread was large during the major portion of two of the three expansion phases in expenditures:

the periods from 1900 to 1905-1909 and since 1933.[3] In the earlier period the spread, though large, generally declined. In the later period the spread generally increased. The expansion phase from 1918 to 1925 was associated with a small but rising differential between bond yields and mortgage rates. In all of the three contraction phases, the spread was neither large nor small and, to compound the complexity of these interrelationships, it increased in one of these periods (1889 to 1900), declined in another (1905 to 1918), and was fairly stable in the third (1925 to 1933).

Thus the evidence for these three long cycles in expenditures fails to support any assumption of systematic, invariant relationships between the volume of new residential construction and the available indicators of the cost of borrowed funds. As one might expect, low or declining interest rates have not been a necessary condition for the expansion of housing construction. On the contrary, two of three observations suggest that new construction activity may expand in spite of high or increasing interest rates or may, in fact, be a cause of the upward movement in rates. A similar phenomenon has been observed in respect to construction costs, which typically rise or remain at high levels in periods of high building activity.

The spread between the level of bond yields—as an approximation of the "pure" rate of interest—and contract mortgage interest rates also fails to reveal an invariant relationship to the course of residential construction expenditures, but it may be a factor of some strategic importance. None of the three contraction phases was accompanied by a high spread, and all of the three expansion phases were characterized by either large or increasing spreads. As was pointed out before, changes in the differential between mortgage interest rates and bond yields are mainly brought about by the movements of bond yields. These movements, while perhaps not independent of the volume of new residential construction, are only remotely related to it in view of the many other demands made on investible funds. Thus it would be difficult to assume that large or increasing spreads are caused by the expanding demand for funds for residential construction. The data suggest that a high or increasing spread may at least create favorable conditions for expansion of residential building activity by inducing investment in mortgages relative to other investment outlets. These observations are consistent with the tendency of financial institutions to increase the proportion of assets placed in mortgage loans when the

[3] For purposes of rough classification, a spread of more than 1.75 percentage points was considered "large," a spread of less than 1.25 was considered "small," and a spread between 1.25 and 1.75 was considered "medium."

spread between bond yields and mortgage interest rates is high (Chapter XIII).[4]

Changes in Residential Mortgage Interest Rates

More specific information for recent periods, for residential mortgages alone and covering more than a few cities, allows insight into mortgage interest rates charged by different types of lenders and rates prevailing in various geographical regions, as well as changes over time in contract rates. In addition to census findings, the substantial body of data collected by the National Bureau's Studies in Urban Mortgage Financing can be used for this purpose.

Table 64 indicates the course of contract interest rates on new loans made by three major groups of institutional lenders on one- to four-family houses between 1920 and 1947. These data, reflecting a sharp fall after 1920, confirm generally the movement of the interest rate series shown earlier in this chapter. The average contract rates charged by life insurance companies and commercial banks were at about the same levels through this period, while those of savings and loan associations were consistently higher. Although the limitation to one- to four-family houses eliminates the property-"mix" as one of the possible reasons for rate differentials between various types of institutions, these differentials must be analyzed cautiously. Differences in other lending terms make it difficult to interpret variances in contract interest rates.

As would be expected, interest rates on the debt outstanding show less change than those on new loans made. The average contract interest rate for mortgages outstanding on owner-occupied houses was 6.1 per cent in 1920 (weighted average).[5] First mortgages on owner-occupied houses in fifty-two cities in 1934 bore a weighted average contract rate of 6.18 per cent.[6] The national average interest rate for first mortgages on owner-occupied one- to four-family houses in 1940 was 5.54 per cent (simple average).[7] The median interest rate for owner-occupied residential properties, for rented properties, and for all properties in 1950 was 5.0 per cent.[8]

Although comparison is made difficult by differences in coverage and definition, it appears that the general level of interest rates on mortgage loans outstanding in 1934 was higher than in 1920. The average rate on

[4] For an analysis primarily of short-term relationships between bond yields and total new construction see W. H. Newman, *The Building Industry and Business Cycles*, University of Chicago Press, 1935.

[5] *Mortgages on Homes in the United States*, Bureau of the Census, Census Monograph II, 1923, p. 53.

[6] David L. Wickens, *Residential Real Estate*, National Bureau of Economic Research, 1941, p. 252.

[7] *Census of Housing 1940*, Bureau of the Census, Vol. IV, Part 1, p. 7.

[8] *Census of Housing 1950*, Vol. IV, Part 1, pp. 10, 58, and 364.

TABLE 64

Average Contract Interest Rates on Mortgage Loans[a] Made by Financial Institutions on One- to Four-Family Houses, 1920-1947
(*per cent; based on varying samples of institutions*)

	Life Insurance Companies (1)	*Commercial Banks* (2)	*Savings and Loan Associations* (3)
1920	6.1	6.2	7.0
1921	6.2	6.2	7.3
1922	6.1	6.2	7.0
1923	5.9	6.2	7.0
1924	5.9	6.1	7.0
1925	5.9	6.1	6.9
1926	5.8	5.9	6.9
1927	5.9	6.1	6.8
1928	5.9	6.1	6.7
1929	6.0	6.1	6.8
1930	6.0	6.2	6.9
1931	6.0	5.8	6.6
1932	6.0	6.1	7.0
1933	5.9	6.3	6.5
1934	5.8	6.1	6.4
1935	5.5	5.6	6.2
1936	5.2	5.3	6.4
1937	5.1	5.3	6.0
1938	5.1	5.1	6.0
1939	4.9	5.0	6.0
1940	4.6	4.7	5.7
1941	4.6	4.7	5.6
1942	4.5	4.6	5.5
1943	4.5	4.7	5.6
1944	4.5	4.6	5.3
1945	4.4	4.5	5.1
1946	4.2	4.3	4.7
1947	4.0	4.4	4.7

[a] Includes conventional, FHA, and VA loans.

Column — Source

1 Raymond J. Saulnier, *Urban Mortgage Lending by Life Insurance Companies*, National Bureau of Economic Research, 1950, p. 132.

2 Carl F. Behrens, *Commercial Activities in Urban Mortgage Financing*, National Bureau of Economic Research, 1952, p. 103.

3 J. E. Morton, *Urban Mortgage Lending: Comparative Markets and Experience*, Princeton University Press for the National Bureau of Economic Research, 1956, p. 173.

outstanding loans in 1940 was considerably below the average rate in 1934, and the rate in 1950 (despite the difficulty of interpreting the census median) was undoubtedly below that in 1940.

While no contract rates are available for the period before 1920, the 1890 census reported an *effective* (weighted) average interest of 6.2

per cent for mortgages outstanding on nonfarm owner-occupied houses. The average contract rate for 1890 in all likelihood was less than 6.1 per cent and probably substantially less. It appears, then, that contract rates in 1920 and 1934 were higher than in 1890, and in view of the decline in interest rates during the last decade of the nineteenth century they were probably higher still in comparison with rates prevailing around the turn of the century.

Differences among types of private holders in average contract interest rates on outstanding residential mortgages were relatively small both in 1934 and in 1940 (Table O-3). In 1934, average rates for first mortgages on owner-occupied houses in fifty-two cities varied between 6.09 per cent for life insurance companies and 6.72 per cent for savings and loan associations (simple averages). In 1940 the comparable range for the same kind of mortgage loan was from 5.42 per cent for life insurance companies to 5.92 per cent for savings and loan associations, on a nationwide basis. These ranges are exclusive of interest rates on HOLC loans. In 1950, median interest rates for first mortgage loans on all residential properties ranged from 4.5 per cent for life insurance companies, commercial banks, savings banks, and mortgage companies to 6.0 per cent for individuals.

Perhaps the most important long-term change in the structure of residential mortgage interest rates has been the decline in regional differentials (Table 65). In 1890 the spread between the regions with the highest and lowest effective interest rates was 3.8 percentage points. In 1920 the spread in terms of contract rates was 2.2 points; in 1934, 1.4 points; in 1940, .6 point. In 1950 the median first mortgage interest rate for both owner-occupied and rented properties in each of the four major census regions was 5.0 per cent.[9] In relative terms, the highest-cost region in 1890 had rates 69 per cent higher than the lowest-cost region. This differential was 39 per cent in 1920, 24 per cent in 1934, and 11 per cent in 1940. The decline from 1890 to 1920 may be overstated because of the change from the "effective rate" to the "contract rate" concept; that is, regional differences in effective rates may have narrowed less than indicated in the table. Nevertheless, the tendency toward smaller regional differences is unmistakable. It has resulted both from the improvement of lending facilities and the decrease in risks of mortgage lending in what were young regions in 1890 and from greater mobility of mortgage funds, through which local markets became less isolated. Differentials among communities of different size have also tended to narrow over the period since 1890 (Table O-4).

[9] *Ibid.*, Vol. IV, Part 1, pp. 46, 50, 54, 58, 355, 360, 364, and 369.

TABLE 65

Average Interest Rates on Residential Mortgages Outstanding, by Regions, Selected Years, 1890-1940

(*per cent*)

	ALL MORTGAGES ON OWNER-OCCUPIED HOUSES		FIRST MORTGAGES IN VARIOUS CITIES, 1934		FIRST MORTGAGES ON OWNER-OCCUPIED ONE-FAMILY HOUSES, 1940
	1890 (1)	*1920* (2)	*Owner-Occupied Houses* (3)	*Rented Houses* (4)	(5)
New England	5.5	5.8	5.93	5.88	5.38
Middle Atlantic	5.5	5.7	5.65	5.72	5.47
East North Central	6.8	6.1	6.18	6.15	5.45
West North Central	7.8	6.5	6.09	6.08	5.48
South Atlantic	6.3	6.3	6.25	6.32	5.63
East South Central	7.0	6.4	6.59	6.39	5.64
West South Central	9.0	7.9	6.99	7.07	5.97
Mountain	9.3	7.5	7.02	7.06	5.79
Pacific	8.6	6.8	6.34	6.42	5.73
United States	6.2	6.1	6.18	6.25	5.55

Column — Source

1-2 *Mortgages on Homes in the United States, 1920,* Bureau of the Census, pp. 53-58. Rates for 1890 are effective interest rates. Rates for 1920 and later years are contract rates. Weighted averages.

3-4 David L. Wickens, *Residential Real Estate,* National Bureau of Economic Research, 1941, p. 252. Weighted averages for fifty-two cities.

5 *Census of Housing 1940,* Bureau of the Census, Vol. IV, Part 1, p. 68. Simple averages.

The Growth of Amortization

At various points in this volume, caution has been expressed in regard to the widespread notion that the period from the twenties to the forties marked a complete change from unamortized to amortized residential mortgages. The evidence does not support such a simplified statement. Table 66, which traces the use of amortized loans by three major types of lending institutions, shows some drastic changes, but it modifies the view that amortization, except for savings and loan associations, is entirely a creature of the past two decades.

It is true that provisions for full amortization were carried by only 14 per cent of the loans made by life insurance companies on one- to four-family houses in the second half of the twenties, and by only 26 per cent of such loans made as late as the first half of the thirties. In contrast, 95 per cent of loans of the same type during the period 1940-1946 were made on a fully amortized basis. However, only 20 to 25 per cent of the loans made from 1920 to 1934 provided for no amortization whatever. The bulk of life insurance company mortgages made during this period included provisions for partial amortization.

TABLE 66

Percentage Distribution of Amount of Amortized and Nonamortized Mortgage Loans on One- to Four-Family Houses, by Type of Lending Institution
(*based on varying samples of institutions*)

	LIFE INSURANCE COMPANIES			COMMERCIAL BANKS			SAVINGS AND LOAN ASSOCIATIONS	
PERIOD	*Nonamortized* (1)	*Partially Amortized* (2)	*Fully Amortized* (3)	*Nonamortized* (4)	*Partially Amortized* (5)	*Fully Amortized* (6)	*Nonamortized* (7)	*Amortized* (8)
1920-1924	19.7	58.8	21.3	41.0	44.1	14.9	5.1	94.9
1925-1929	24.1	61.5	14.3	51.0	38.7	10.3		
1930-1934	20.1	52.8	26.4	50.7	35.7	13.6	6.7	93.3
1935-1939	2.2	21.0	76.7	10.3	20.7	69.0	..	..
1935-1941	..	..	..	..	..	..	.3	99.7
1940-1946	.9	3.5	95.4	..	..	..	..	..
1940-1944	..	..	..	3.7	23.3	73.0	..	..
1942-1945	..	..	..	..	..	..	.2	99.8
1945-1947	..	..	..	3.7	27.3	69.0	..	..
1946-1947	..	..	..	..	..	..	.8	99.2

Column — Source

1-3 Raymond J. Saulnier, *Urban Mortgage Lending by Life Insurance Companies*, National Bureau of Economic Research, 1950, p. 130.

4-6 Carl F. Behrens, *Commercial Bank Activities in Urban Mortgage Financing*, National Bureau of Economic Research, 1952, p. 50. The small number of cases in which information was not available were distributed proportionately over the three classes.

7-8 Edward E. Edwards, "Urban Real Estate Financing by Savings and Loan Associations," mimeographed, National Bureau of Economic Research, 1950, p. III-6. All mortgage loans by savings and loan associations. Over the period 1920-1947, however, loans on one- to four-family houses accounted for 90.5 per cent of the total mortgage loans by such associations. See *ibid.*, p. II-3. The "amortized" column includes both partially and fully amortized loans. But the bulk of such loans throughout the entire period carried full amortization provisions. The cases with no information were distributed proportionately between the two classes.

In the case of commercial banks, only 10 to 15 per cent of the same types of loans made from 1920 to 1934 provided for full amortization, as against about 75 per cent of the loans made during the forties. But here again, an additional 35 to 45 per cent of the loans placed from 1920 to 1934 carried partial amortization, while 40 to 50 per cent had no amortization provisions. The bulk of mortgages made by savings and loan associations, the third type of lender included in the table, have always provided for full amortization.

Thus the change during the past two decades is more accurately described as one from unamortized and partially amortized mortgage loans to regular, periodic amortization calculated to retire the loan in full during its term. Much of this change came during the late thirties when the adoption of fully amortized loans in HOLC and FHA operations increased the popularity of this type of mortgage (Chapter XVI), and when both lenders and borrowers, in the wake of depression experience with straight loans, began to recognize the importance of regular amortization. In 1934 about 38 per cent of the first mortgages outstanding on owner-occupied houses in fifty-two cities were straight loans. In 1940 only 15 per cent of all first mortgages on owner-occupied single-family houses were of this type. In 1950, 90 per cent of all mortgages on owner-occupied residential properties and 87 per cent of all mortgages on rented properties carried provisions for full amortization; only 5 per cent of all mortgages on owner-occupied properties and 3 per cent of all mortgages on rented properties were straight-term loans (Table O-5).

How the growth of amortization affected the level of demand for new residential construction will be analyzed in conjunction with other changes in loan terms. Of these, the lengthening of the contract term is perhaps the most dramatic.

The Lengthening of the Contract Term

A spectacular lengthening of the contract term of residential mortgages has been associated with the growing adoption of regular amortization during the past two decades. The contract term is, of course, not equivalent to the actual life of the mortgage. Short-term loans of earlier decades may have been in force for much longer periods than the original term indicated; consecutive renewal of three- or five-year loans, with or without partial amortization, was quite common. On the other hand, many of the long-term loans of more recent years have actually been paid off in shorter periods than those contemplated by the original contract term.[10] But in the case of amortized loans it is

[10] The average turnover rate of urban mortgages held by life insurance companies was 9.7 years in 1950. *Life Insurance News Data*, April 9, 1952. While

the original term which, in conjunction with the interest rate, determines the periodic payment on a given amount of loan and which, therefore, may substantially affect the demand for mortgage loans. From this point of view, a review of data on contract lengths for loans on one- to four-family houses is instructive (Table 67).

Life insurance company mortgages, which had contract terms of between 6 and 8 years in the twenties, bore lengths of 16 to 18 years in the late thirties and roughly 20 years from 1940 to 1947. Commercial bank mortgages increased in average length from between 2 and 3 years in the early twenties to roughly 10 years in the late thirties and an average of 13 years after 1940. Even savings and loan associations, which have traditionally made relatively long-term mortgages, shared in this movement. Average contract lengths of mortgages by these institutions rose from about 11 years in the twenties to about 15 years during 1946-1947. Here again, the influence of government aids, which will be described in Chapter XVI, is noticeable. Not only did HOLC, FHA, and VA loans provide for longer maximum contract terms than had been accepted before, but competition between insured and conventional loans tended to extend the terms for conventional mortgages.[11] The median contract term of first mortgages (providing for full amortization) on single-family houses bought by owner-occupants in 1949 and the first half of 1950 was 15 years.[12]

The Increase in Loan-to-Value Ratios

As was the case for the growth of amortization and the lengthening of contract terms, information on loan-to-value ratios in new lending activity is not available for periods before the twenties. But no appreciable changes in any of these components of loan terms appear to have occurred between about 1890 and the twenties, to judge from such descriptive materials on lending practices as exist. It is probably not far wrong, therefore, to consider the data for the twenties as reflecting practices that held roughly for earlier decades.

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the turnover rate is conditioned by refinancing, as well as actual rates of repayment on loans remaining on the books, an average turnover rate of less than 10 years would indicate faster repayments than called for by loans averaging contract terms of about 16 to 22 years for recent periods (Table 67).

[11] Two other historical statistics may be mentioned although they denote an approximation to the actual life of loans rather than the contract length. The 1890 census reported an average life of 4.75 years for nonfarm mortgages (or "lots" in the terminology of this census) (*Eleventh Census of the United States, 1890*, "Real Estate Mortgages," p. 107). The average life of mutual savings bank mortgages on single-family houses during the twenties varied roughly between 10 and 12 years (John Lintner, *Mutual Savings Banks in the Savings and Mortgage Markets*, Andover Press, 1948, p. 382).

[12] *Census of Housing 1950*, Vol. IV, Part 1, p. 190.

TABLE 67

Average Contract Lengths of Mortgage Loans Made by Selected Financial Institutions on One- to Four-Family Houses, 1920-1947[a]

(number of years; based on varying samples of institutions)

	Life Insurance Companies (1)	*Commercial Banks* (2)	*Savings and Loan Associations* (3)
1920	6.0	2.9	11.3
1921	7.9	1.8	10.6
1922	6.6	2.9	11.5
1923	5.9	2.9	11.2
1924	5.7	3.5	11.1
1925	6.0	3.1	10.9
1926	5.9	3.6	11.2
1927	6.7	2.5	11.4
1928	6.6	3.2	11.4
1929	6.8	3.7	11.2
1930	7.5	3.6	10.8
1931	7.8	3.0	10.8
1932	7.9	3.0	11.3
1933	6.3	2.1	11.1
1934	7.9	2.9	11.7
1935	13.0	9.8	11.9
1936	16.2	9.7	11.4
1937	16.7	9.6	12.8
1938	17.7	13.2	13.7
1939	18.3	14.8	12.9
1940	19.9	16.0	14.6
1941	20.6	14.4	13.9
1942	21.1	12.8	13.5
1943	21.7	12.4	13.4
1944	22.1	10.0	13.6
1945	20.1	9.3	14.3
1946	18.8	12.7	15.0
1947	19.5	14.8	15.2

[a] Includes conventional, FHA, and VA loans.

Column — Source

1 Raymond J. Saulnier, *Urban Mortgage Lending by Life Insurance Companies*, National Bureau of Economic Research, 1950, p. 133.

2 Carl F. Behrens, *Commercial Bank Activities in Urban Mortgage Financing*, National Bureau of Economic Research, 1952, p. 104.

3 J. E. Morton, *Urban Mortgage Lending: Comparative Markets and Experience*, Princeton University Press for the National Bureau of Economic Research, 1956, p. 174.

The progressive tendency toward higher loan-to-value ratios is shown in Table O-6 for mortgage loans on one- to four-family houses. Loan-to-value ratios of loans made by life insurance companies averaged between 44 and 53 per cent from 1920 to 1934; they reached a high of

82 per cent in 1944. Commercial bank ratios held fairly constant at around 50 per cent during the twenties and early thirties but approximated 70 per cent after World War II. Savings and loan associations, whose loans typically carried a high loan-to-value ratio, shared in this movement. In the twenties and thirties, loans made by the associations bore ratios of between 55 and 65 per cent. By 1946-1947 such loans bore ratios of around 75 per cent. Here again, the tendency toward higher ratios was initiated by federal legislation during the thirties.

However, this tendency is partly in the nature of an optical illusion. The data relate principally to first mortgages, and the trend toward higher loan-to-value ratios for first mortgage loans has been associated with a declining use of junior mortgages, which in earlier periods often supplemented the more conservative first mortgage loans. Thus the increase of loan-to-value ratios for first mortgages alone exaggerates the growing use of borrowed funds.

Combined Effects of Changes in Loan Terms

Although there are many gaps in the data, it is possible to draw some tentative conclusions about the movement of financial charges and loan terms over the period under study. Mortgage interest rates rose from a trough around 1900 to a peak in the twenties; after 1934 there was a sharp decline to levels in the forties that were the lowest in sixty years. There has been some rise in interest rates since the end of World War II. Non-interest charges to borrowers in the initiation of loans dropped substantially during the thirties and were completely or partly absorbed by lenders in many cases during the forties, but this tendency seems to have been reversed in recent years. Contract lengths and loan-to-value ratios increased greatly after 1934. An indication of the magnitude of changes in contract interest rates, contract lengths, and loan-to-value ratios is found in Table 68.

Contract interest rates charged by life insurance companies, commercial banks, and savings and loan associations during the forties were more than 25 per cent below rates charged in 1920-1924, contract lengths were over 75 per cent longer, and loan-to-value ratios were about 30 per cent higher. Most of these changes occurred after the middle thirties, when federal credit aids to residential construction began to influence mortgage loan terms (Chapter XVI). All major lending groups now require regular amortization of mortgage principal on the great bulk of their loans made on residential property. In the twenties and before, only savings and loan associations consistently employed this kind of repayment requirement, while other lenders made the majority of residential mortgage loans on a straight or partial amortization basis.

TABLE 68

Weighted Indexes of Terms of First Mortgage Loans on One- to Four-Family Houses Made by Life Insurance Companies, Commercial Banks, and Savings and Loan Associations

	Contract Interest Rates	*Contract Lengths*	*Loan-to-Value Ratios*
1920-1924	100.0	100.0	100.0
1925-1929	97.9	105.2	103.7
1930-1934	97.6	103.5	104.6
1935-1939	85.5	155.6	116.5
1940-1947	72.1	178.0	131.8

Source: Based on Tables 64, 67, and O-6. Indexes based on weighted averages of contract terms for life insurance companies, commercial banks, and savings and loan associations. For 1920-1924 the weights were the annual increments to residential mortgage debt held by the three types of institutions (Table N-4); for 1925-1947 the weights were the annual amounts of new loans made on one- to four-family houses by the three types of institutions (Table N-15).

Changes in the various costs and terms of borrowing affect the borrower's position in different ways. Reductions in interest rates and non-interest costs lower both the total cost of borrowing and the periodic outlays on debt service, other things being equal. Lengthening the term of an amortized loan reduces periodic outlays but increases total outlay to the borrower over the life of the loan. Increasing the loan-to-value ratio or, more accurately, the ratio of loan to purchase price or cost of acquisition reduces the downpayment required, thus diminishing the drain on the borrower's liquid assets or improving his chance of acquiring a real estate asset. It also increases periodic outlays and total charges to the borrower but has no effect on total costs per dollar of borrowed money, unless junior financing would otherwise have been involved. Finally, a shift from straight to amortized loans or from partial to full amortization increases the periodic outlays but reduces the total cost of borrowing, since interest is usually calculated on the outstanding balance of the loan. In addition, amortization involves acceptance by the borrower of a forced-savings regimen, although there is, of course, no assurance that these savings will be realized at the time the asset is sold.

Which of these various effects are likely to have a determining influence on borrowers' demands for funds? In general, it would appear that variations in downpayments and in periodic debt service charges are crucial. This is certainly true with regard to amortized mortgages and was probably true with regard to straight mortgages when, as in the twenties, refinancing was usually assumed to be certain and borrowers often expected to defer payment of principal indefinitely.[13]

[13] In Chapter XII it was pointed out, however, that the volume of repayments during the twenties was higher than has been commonly assumed.

As to the ratio of downpayment to acquisition cost, the general long-term tendency has been downward.[14] To this extent, the demand for borrowed funds has been stimulated. As to periodic outlays on debt service, the decline in contract interest rates and the lengthening of the term of mortgage loans since the twenties suggest a substantial stimulus to the level of demand. This influence, however, has been partially offset by the shift from straight or partially amortized loans to fully amortized mortgages. The almost universal inclusion of payments on principal in debt service has raised periodic outlays substantially at any given level of interest rates and has tended to absorb (in terms of cash accounting) much of the advantage to borrowers resulting from the lower interest rates and longer contract terms of recent periods. No aggregate quantification of the extent of absorption is possible in view of the paucity of data. But examples drawn from previously presented data serve at least to illustrate the point (Appendix P).

The conclusion that the shift toward fully amortized loans since the early thirties has tended to offset the lowering of debt charges by declining interest rates and longer contract terms does not, of course, detract from the greater soundness of such loans from both lenders' and borrowers' points of view. There is at least a strong presumption, however, that the more general use of amortized loans has kept the demand for mortgage funds below the level it otherwise would have reached, assuming no change in the course of interest rates.

[14] See also the estimates of the flow of equity and mortgage funds into new residential construction in Chapter XII.