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Volume Title: Residential Real Estate, Its Economic Position as Shown by Values, Rents, Family Incomes, Financing, and Construction, Together with Estimates for All Real Estate

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Volume Publisher: NBER

Volume ISBN: 0-87014-037-X

Volume URL: <http://www.nber.org/books/wick41-1>

Publication Date: 1941

Chapter Title: The Economic Significance of Nonfarm Residential Real Estate

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Chapter URL: <http://www.nber.org/chapters/c5637>

Chapter pages in book: (p. 1 - 14)

PART ONE

The Economic Significance of Nonfarm Residential Real Estate

The value¹ of real property exceeds that of any other form of wealth in the United States. During 1900-22 more than half of the national wealth was in land and buildings, and today they probably make up fully as large a share. Residential real estate in particular is important not only because of its wide geographical distribution, but also because of its great aggregate value. In 1930 nonfarm residential² property constituted 46 per cent of the total value of all nonfarm real estate, and farm residences constituted 19 per cent of the value of all farm real estate.

Although this volume is concerned chiefly with nonfarm residential property, the most important single type, certain aspects of farm real estate are considered and estimates are given of the value of all real estate as well as of the principal types. Partly owing to the sparsity of data these estimates were not made in as much detail or as precisely as those of nonfarm residential real estate, but they are useful not only to indicate the importance of all these forms of wealth combined but also for furnishing a ground of comparison for the nonfarm residential data. A brief discussion of the economic significance of total real estate as well as of the major classes precedes the more comprehensive analysis of nonfarm residential.

In the analysis of nonfarm residential real estate, five aspects are considered: value, rent, incomes of owner-occupants and of tenants, financing, and new construction. For each, numerous statistical tables are presented in Part Three covering various aspects of the situation in various areas of the United States. Estimates for the country as a whole, for the respective states, or for population groups appear first in each section and are followed by estimates for the chief regions, by type of dwelling or other category.

Value of Real Estate: Aggregate and Major Components
In 1900 all real property, residential and nonresidential, was valued at about \$52.5 billion; by 1912 its

¹ Value as used here refers to the amount of money the property would command in the market.

² City and village real estate is used interchangeably with nonfarm in this discussion. The term residential is used in this volume as synonymous with housekeeping units; that is, it includes houses and apartments, but not hotels or other nonhousekeeping dwellings. The term dwelling or dwelling unit refers to the quarters designed for the use of one family and includes both land and building.

value had doubled. By 1930 it had trebled the 1912 total and, according to the estimates in Table I, amounted to more than \$314 billion. This rise in total value reflects not only more costly structures, enhanced ground rents and speculative values in urban centers, but also a larger number of structures as population expanded, particularly in towns and cities.³ The farm population changed little during this period. From 5.7 million in 1900 farm families increased to only 6.7 million in 1930. Nonfarm families, on the other hand, increased from 10.3 million in 1900 to 17.6 million in 1920 and 23.2 million in 1930 (Table II).

TABLE I

National Wealth and the Value of Real Estate (billions of dollars)

	1900	1904	1912	1922	1930	1934
Estimated total wealth ¹	88.5	107.1	186.3	320.8	..	..
Total value, real property and improvements ²	52.5	62.3	109.2	176.4	314.2 ³	203.6 ³
Percentage real property is of total wealth	59.4	58.2	58.6	55.0	..	..

¹ Department of Commerce Bulletin, Estimated National Wealth—Wealth, Public Debt and Taxation, 1922, p. 18.

² Ibid. (sum of real property and improvements, taxed and exempt).

³ NBER estimate; see Note to Part One.

During times of extreme economic changes, the market value of real estate may fluctuate markedly within a short period. From 1930 to 1934, for example, the value of both farm and nonfarm residential property fell about one-third. Although smaller than in some other important forms of investment and less than in many commodity prices, this decline had far-reaching repercussions because of the great aggregate value involved. All classes of real property in all sections of the country were affected. The important role real estate values play in the economy is most clearly evident at such times. Not only the owners of real estate and the holders of real estate mortgages but also bank depositors and other persons whose savings are

³ For the method used to obtain Tables I-V see the Note to Part One, Estimates of the Aggregate Value of Real Estate.

committed to financial institutions having substantial real estate investments may feel directly or indirectly the effects of radical fluctuations in real property prices. The disturbing effect of interrupted financing, of fluctuations in income from real property and hence in its value and salability, inevitably makes less secure the status of financial institutions and of their owners and depositors.

TABLE II

Number of Families, 1900-1930 (millions)

	1900	1910	1920	1930
Total ¹	16.0	20.3	24.4	29.9
Farm ²	5.7	6.1	6.8	6.7
Nonfarm ²	10.3	14.2	17.6	23.2

¹ Census of Population, 1930, VI, Families, Table 14, p. 11.² Population Bulletin, Families, U. S. Summary, Table 16, p. 11.

Within the total, there were interesting differences in the rate of growth of farm and nonfarm realty values. These were caused not only by the shift of population to cities, but also by the difference in general economic conditions prevailing in agriculture on the one hand and in urban industries on the other. Agricultural depression began in 1920 while urban values did not decline until after the 1929 crash.

Partly because of rising commodity prices for farm products, farm values doubled from 1900 to 1910 and again by 1920. With the severe post-war decline in agricultural prices, farm real estate values, according to decennial Census reports, fell from \$66 billion in 1920 to \$48 billion in 1930 and \$32 billion in 1934.

TABLE III

Farm and Nonfarm Real Estate Value and Percentage Distribution

	1900	1904	1912	1922	1930	1934
VALUE (BILLIONS OF DOLLARS)						
Farm	16.6	23.9	37.8	54.2	47.9	31.6
Nonfarm	35.9	38.5	71.4	122.2	266.3	172.0
Total	52.5	62.3	109.2	176.4	314.2	203.6
PERCENTAGE DISTRIBUTION OF VALUE						
Farm	31.6	38.3	34.6	30.7	15.2	15.5
Nonfarm	68.4	61.7	65.4	69.3	84.8	84.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

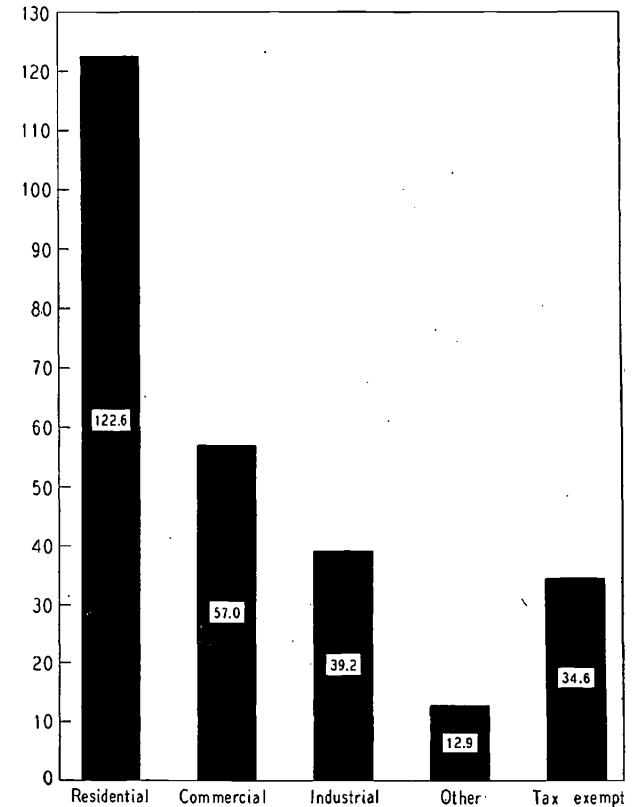
Total value figures for 1900, 1904, 1912, and 1922 are from Department of Commerce Bulletin, Estimated National Wealth—Wealth, Public Debt and Taxation, 1922, p. 18 (sum of real property and improvements, taxed and exempt). Total values for 1930 and 1934 are NBER estimates (sum of farm and nonfarm values). Farm value figures for 1900 and 1930 are from Census of Agriculture, 1930, IV, Table 4, p. 39. Farm values for 1904, 1912, 1922, and 1934, and nonfarm for 1934 are NBER estimates (see Note to Part One). Nonfarm values for 1900, 1904, 1912, and 1922 are obtained by subtracting farm value from value of total real estate, but the value for 1930 includes real estate used by utilities (Table IV, NBER estimate).

Total nonfarm real estate values increased from \$36 billion in 1900 to \$71 billion in 1912, \$122 billion in 1922, \$266 billion in 1930. Four years of depression following 1930 brought nonfarm realty values down to approximately \$172 billion, a shrinkage of more than one-third from the peak. From 1900 to 1922, therefore, the value of nonfarm real estate constituted between 60 and 70 per cent of the total value of real estate in the country as a whole. By 1930 it had risen to nearly 85 per cent (Table III).

CHART 1

Total Value of Nonfarm Real Estate by Classes, 1930

Billions of dollars



On the basis of value, residential property by itself dominates nonfarm real estate (Chart 1). Nearly half of the aggregate value of city and village realty in 1930 consisted of residential property, estimated at \$123 billion, and of this, \$76 billion was concentrated in the Middle Atlantic and East North Central states, the most thickly populated sections of the country (Table IV). Commercial property was less than half this amount, with values aggregating about \$57 billion or 21 per cent of total property. Industrial property made up 15 per cent of the total, with a value of \$39 billion. Property exempt from taxation, such as public buildings and churches, was valued at about \$35 billion or 13 per cent. A minor share of all property, about \$13 billion or 5 per cent, was devoted to various other private uses. These estimates cover all major

TABLE IV

Nonfarm Real Estate Taxed by Type and Real Estate Exempt, Value and Percentage Distribution by Geographic Division, 1930

REAL ESTATE TAXED							
	Nonfarm residential	Commercial	Industrial	Other	Total	REAL ESTATE EXEMPT	TOTAL REAL ESTATE
A VALUE (BILLIONS OF DOLLARS)							
United States	122.6	57.0	39.2	12.9	231.7	34.6	266.3
New England	9.6	2.1	2.5	1.3	15.5	4.1	19.6
Mid. Atlantic	45.7	17.4	14.9	4.4	82.4	15.7	98.1
E. N. Central	30.0	12.1	7.9	1.6	51.6	4.8	56.4
W. N. Central	8.1	4.7	2.0	0.7	15.5	1.7	17.2
South ¹	16.9	14.1	9.5	4.5	45.0	7.4	52.4
Mountain	2.0	0.6	0.6	0.3	3.5	0.2	3.7
Pacific	10.3	6.0	1.8	0.1	18.2	0.7	18.9
B PERCENTAGE DISTRIBUTION OF VALUE							
United States	46.1	21.4	14.7	4.8	87.0	13.0	100.0
New England	48.6	10.8	12.9	6.6	78.9	21.1	100.0
Mid. Atlantic	46.6	17.7	15.2	4.5	84.0	16.0	100.0
E. N. Central	53.1	21.5	14.0	2.9	91.5	8.5	100.0
W. N. Central	46.8	27.3	11.7	4.1	89.9	10.1	100.0
South ¹	32.3	26.9	18.1	8.6	85.9	14.1	100.0
Mountain	53.5	15.5	16.0	9.1	94.1	5.9	100.0
Pacific	54.6	31.9	9.3	0.4	96.2	3.8	100.0

¹ Includes South Atlantic, East South Central, and West South Central geographic divisions.

types of nonfarm property except railroad rights of way, utility lines, and other industrial property outside cities. The total of such items, however, constitutes merely a small fraction, probably less than 3 per cent,⁴ of the total value of urban and village real estate.

Value of Nonfarm Residential Real Estate

Slightly less than half of the nonfarm families in the United States own the houses in which they live; but dwellings occupied by their owners are in general worth about one-third more per unit than those which are rented. As a result, owner-occupied properties total somewhat more in value for the country as a whole than rented. In 1930 the former were valued at \$65 billion, the latter at \$58 billion (Table V). The smallness of the difference in aggregate value for the country as a whole is explained chiefly by the fact that owner-occupied dwellings in large cities are relatively fewer than in small towns and cities of moderate size. This fact explains also the substantially greater value of rented properties as a group in the Middle Atlantic states where realty values are highest. Over 42 per cent of the value of all the nonfarm rented units in the United States is in the three states of that area, and of this a great part is concentrated in New York City.

The majority of urban dwellings have values of less than \$5,000. In 1930⁵ when values were high, 51 per cent of American families owned and lived in dwell-

ings of this class, while the average value of all owner-occupied dwellings the country over was about \$5,800 and that of dwellings occupied by tenants about \$4,300, or three-fourths as large. Four years later, in the depression year 1934, when values of all dwellings averaged nearly one-third lower than in 1930, a survey of 61 cities showed that the proportion of owner-occupied houses with values under \$5,000 had increased from 46 per cent in 1930 to 70 per cent.

TABLE V

Value of Nonfarm Residential Real Estate by Geographic Division and Tenure, 1930 (billions of dollars)

	TOTAL*	OWNER-OCCUPIED	RENTED
United States	122.6	64.7	57.9
New England	9.5	5.7	3.8
Middle Atlantic	45.7	20.8	24.9
East North Central	29.9	16.8	13.1
West North Central	8.1	5.1	3.0
South Atlantic	8.3	4.8	3.5
East South Central	3.4	1.9	1.5
West South Central	5.3	2.8	2.5
Mountain	2.0	1.1	0.9
Pacific	10.4	5.7	4.7

* The slight differences between this column and the first column of Table IV are due to rounding.

Within the totals represented by these average values, marked differences arise in different parts of the country from many climatic, economic, and social causes as well as from differences in the houses themselves. Housing costs most in the North and East, where population and wealth are concentrated to a greater degree in high-cost metropolitan areas, where a more rigorous climate requires better construction, and where most dwellings are larger and more elab-

⁴ This estimate is based on data gathered by the Federal Trade Commission.

⁵ Census, 1930, VI, Table 23, p. 17.

orate. The greatest contrast is with the South where the average value of dwellings in 1930 was three-fifths of that for the country as a whole, and where a large proportion of the houses, particularly those occupied by negroes, are below the average value for the United States, and few rise much above it.⁶

Even more important than regional differentials in housing values is the general rule that the smaller the population group, the lower the cost of housing. As shown in detail in Table A 3, the prospective owner in 1930 would have found that an average house in the group of cities over 100,000 in population was valued at about \$6,500; in towns and villages less than 2,500 in population at about \$2,700. Farm dwellings averaged only about \$1,240. The principal exception to lower residential values in smaller centers is in the exclusive suburban developments near large cities (Chart 2).

The land or site on which the dwelling stands is an important element in property values, especially in explaining differences between farm and nonfarm property values, although the difference in the value of the structures themselves is even greater. For nonfarm dwellings, the site accounts on the average for about one-fifth of the value of the property; for new dwellings the percentage is somewhat smaller.⁷ For farms, even when an entire acre is allowed for the site, the value of the land averages less than 0.3 per cent of the total and ranges from less than 1 per cent to 4 per cent in various parts of the country.

These variations in average property values among regions and in population groups of different size and between farm and nonfarm emphasize the danger of generalizations concerning housing costs for the country as a whole, especially on the basis of information solely for the largest cities and their immediate surroundings. Value levels in large cities are not typical of housing in the United States.

Rent of Nonfarm Residential Real Estate

Over 12 million nonfarm families paid an aggregate rent in 1929, of \$4.6 billion. The secular trend in the amount paid in rent has been upward owing to the increase in the number of rented dwellings and the rent paid per dwelling. During short periods the controlling factor in the fluctuating amount of gross annual rent is the latter. From late 1929 to the beginning of 1934, the estimated total annual rent bill for nonfarm dwellings declined to \$3.2 billion, although the number of families or houses did not change materially.

⁶ See *National Bureau Bulletin* 75.

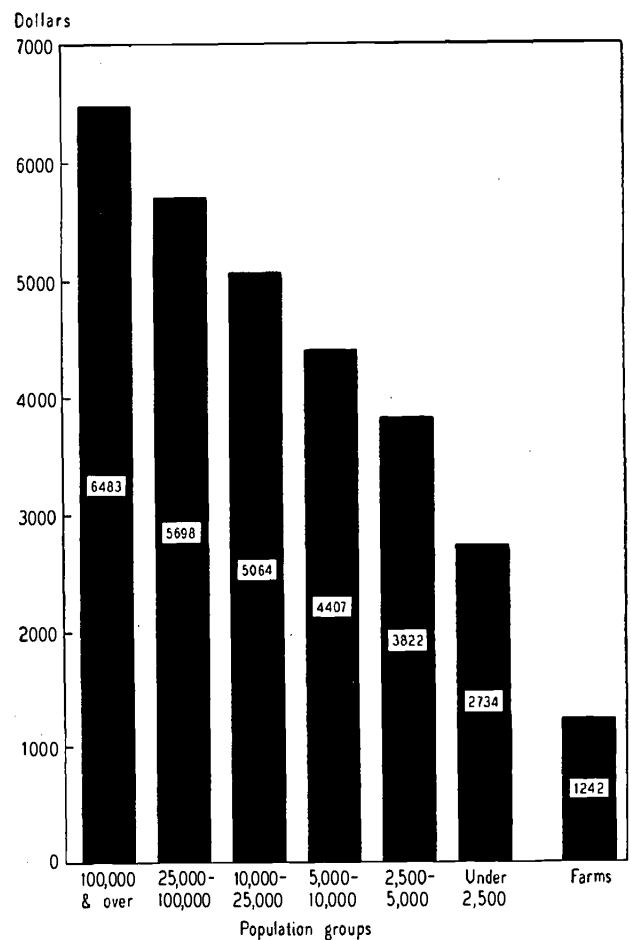
⁷ For new single-family homes securing mortgages accepted for insurance by the Federal Housing Administration in 1937, the average land valuation was 15.3 per cent of the average property valuation (4th Annual Report, year ending Dec. 31, 1937, Federal Housing Administration), p. 72.

Of the 12 million families who lived in rented houses in April 1930, more than half (55 per cent) were paying less than \$30 per month, and 80 per cent, less than \$50. A monthly rent as high as \$75 was paid by only 2 per cent. The 31 per cent decline in rents during the succeeding four years naturally placed a larger proportion in the lower rent paying groups.

Annual rents are commonly so set as to approximate 10 per cent of the value of dwelling property, except for apartments and other structures that include various services and facilities in the rent charged and therefore have higher rent-value ratios. Rent is related roughly to the reproduction cost of the structure, with allowances for age, obsolescence, depreciation, risk, upkeep and management costs. The value of the site and the character of the facilities or furnishings provided are other important factors in determining differences in residential costs and rents in the same city.

CHART 2

Average Value per Dwelling Unit
by Population Groups and on Farms, 1930

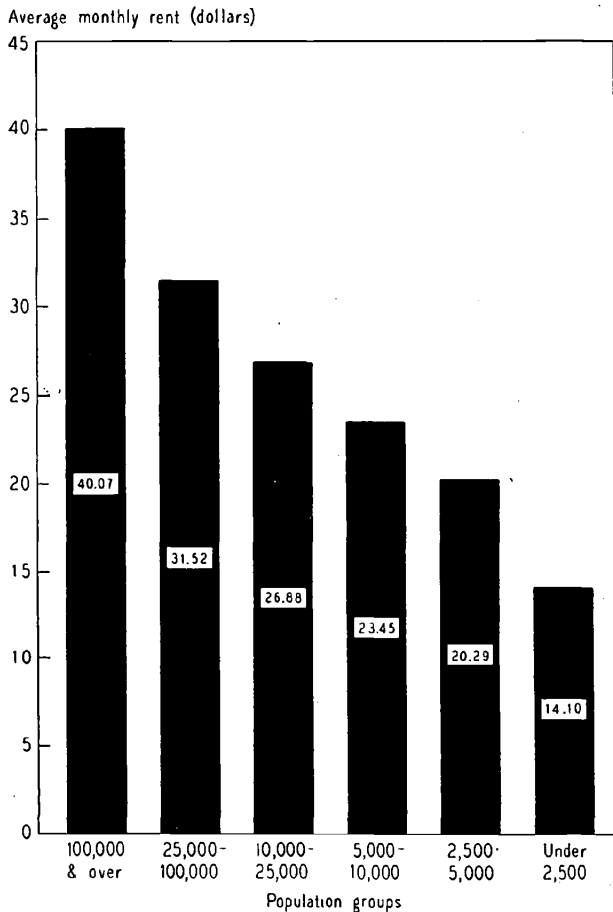


Rent levels in the larger cities, which are those most commonly discussed in housing programs, are no more representative of the country as a whole than are value

levels. Much lower rents prevail in towns and villages. In 1929 monthly rents in population groups under 2,500 averaged \$14 as compared with \$40 in cities of more than 100,000. Part of this difference is probably due to the more frequent inclusion of such facilities as heat, light, furnishings, and refrigeration in the rent bill in the larger cities (Chart 3).

CHART 3

Average Monthly Rent of Nonfarm Dwelling Units by Population Groups, 1930



Rents are commonly much affected by the character of the neighborhood and section of the city. In larger population centers families who can afford only small rents frequently live in old and poorly equipped dwellings in once prosperous sections, in the outlying suburbs, or in nearby small towns where the cost of land and construction is lower than near the center of the city or in the exclusive suburbs. The lower rents charged for the same space in new and often better constructed dwellings in these outlying areas and smaller towns suggest an important possible method of providing low cost dwellings that can be rented, as transportation becomes available and industries choose more economical sites.

Rents are highest in the North and East, lowest in

the South and Mountain states. These wide regional variations in rent are due to much the same factors as those which influence value, and include differences in the cost and type of construction because of climate, the cost of sites and of labor and materials of construction, as well as in the quality of the structures. Aside from these peculiarities of renting costs due to geographic location, the nation's urban rent bill is distributed roughly in proportion to population.

It may be assumed that, so long as population is concentrated in highly congested urban areas, where property values are high, many American families will continue to rent. Some families prefer not to have the responsibilities of ownership; many are unable to save enough money to make the down payment and the long series of subsequent payments necessary for purchase. Moreover, the traditionally high mobility of the American people and the infrequency of zoning laws that tend to protect property values have often made ownership somewhat hazardous, particularly in view of the lack of any organization of the residential market that would assure the ready sale of property. Consequently, at least half the task of supplying better housing for the nonfarm population will doubtless continue for some time to be the provision of suitable houses or apartments for rent. In such a housing program the lag between declines in rents and in family incomes is of paramount importance, for the size of the income determines the amount of money that can be expended for living quarters, which in turn limits the amount of capital that can be invested with economy and safety by landlords who construct or purchase dwellings for rent.

For the greater part of the population that lives in rented dwellings, rent ordinarily consumes from one-fifth to one-third of the family income. Food and clothing are the only larger items in the family budget. The proportion of income spent for rent tends to hold within a limited range from one year to another, although during depressions it usually increases because the rent structure is more rigid than are incomes. That is, incomes fluctuate with employment and wage rates while rents are fixed for the period of the lease. In the lower income groups a much higher percentage of income is spent for rent than in the higher. In 33 typical cities surveyed in 1934, average monthly rent took 21 per cent of the average family income in 1929, and 25 per cent in 1933.⁸ In 1933, 47 per cent of the income of families receiving \$250 to \$500 would have been spent for rent had the bills been paid; of incomes between \$1,500 and \$2,000, 19.7 per cent was absorbed by rent, while in families with incomes above \$7,500 only 9.2 per cent was spent for rent.

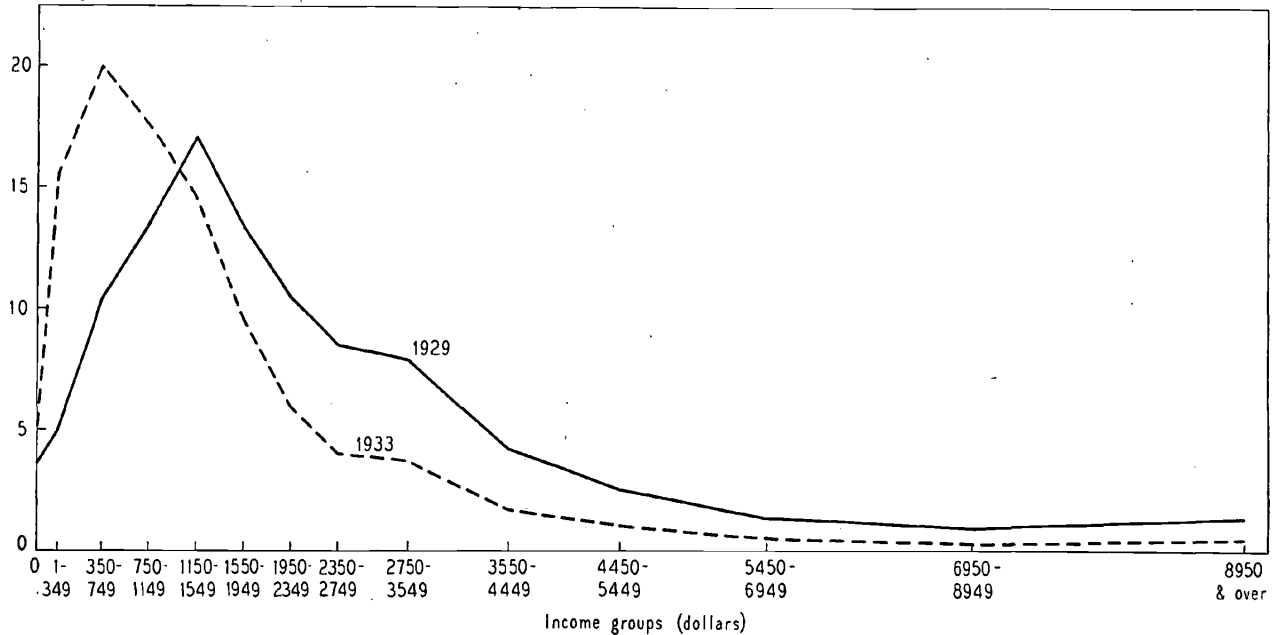
When the rent bill exacts more than about one-fourth or one-fifth of the family income, increasing

⁸ Reports from the *Financial Survey of Urban Housing*.

CHART 4

Families by Income Groups
Percentage Distribution, 33 Cities, 1929 and 1933

Percentage of total families



difficulty is encountered in its payment and delinquencies become much more common. Thus there are practical limits to the proportion of the income that can be expended for rent. For these reasons the predominance of moderate rents is a significant indication of the cost level at which new rental dwellings may be expected to find a market.

Relation of Value and Rent of Rented Properties

Comparison of the value of rented properties as declared by their owners with the rent reported by tenants, on a per room basis for 1933-34 in 42 cities, showed that on the average value was 8 times rent for 1-family dwellings, 9.4 for 2-family dwellings, and 10.8 for apartments. In some cities the range was from 4.3 to 18 times the annual rent and the ratio was generally lower in the South than in the North and West. For 1-family dwellings in most cities, however, the average value-rent ratio ranged from 8.9 in the West North Central to 12.6 in the East North Central. These ratios indicate the relation between the declared market value of the property and gross rents received. The furnishings or facilities included in the rent bill differ with the type and class of property and with local rental practice. On a net basis, with allowance for these charges, rent would constitute a lower proportion of value than here indicated, since the market value of the property would be unchanged and net rent, after operation costs had been deducted, would of course be less than gross. The large amount of service value added by the common practice of including furnish-

ings and facilities in rents for apartments and, less commonly, for 2-family dwellings, is responsible for the marked difference between the ratios for 1-family dwellings and other types, and to a considerable degree for the differences between geographic divisions.

Family Income in Relation to Rent and Value of Dwellings

The real property situation during the last decade has been vitally affected by changes in individual family incomes. Income received from all sources, including returns from business, declined greatly from the prosperity period that ended in 1929 to the depression years 1932 and 1933 (Chart 4). This decline was closely related to the serious reduction in employment, since both owner and tenant families derive most of their income from wages and salaries. Of the owner-occupant families reporting income in 1934,⁹ 79 per cent of the family income was from this source, and of the tenant families, 91 per cent. Moreover, the average percentage of full time worked by the chief wage earner of the family ranged from very low figures for the lower income groups to high figures for the upper income groups. The incomes of both owner-occupant and tenant families who reported incomes for 1929 and 1933 in 33 cities were concentrated in 1929 between \$1,150 and \$1,549. Four years later the incomes of approximately the same group of families were concentrated between \$350 and \$749. For the prosperous

⁹ Percentages computed from Tables 20 and 21, Financial Survey of Urban Housing.

year 1929, families who owned their houses in 52 representative American cities reported annual incomes averaging \$2,300. By 1933, the low point of the depression, average income had declined 36.4 per cent, to \$1,465, an amount equal to 33 per cent of the value of their dwellings. The decline was more severe than in the incomes of tenants, which fell 31.9 per cent. A greater dependence by the owner-occupant families on business profits accounts in part for this difference.

Families that live in rented dwellings have average incomes substantially less than owners, partly because they are smaller, have fewer mature members and fewer income earners. In 52 cities incomes of tenant families averaged \$1,590 in 1929 and \$1,080 in 1933, or about one-third less than incomes of owners. Rent paid by these families averaged \$30 a month in 1929 and \$20 in 1933.

The change in incomes for individual families was highly irregular, and for a large proportion the decline was much more severe than is indicated by the averages. In Cleveland, for example, 38 per cent of the incomes of 1,725 families receiving between \$950 and \$1,149 in 1929 fell below \$500 in 1933. For another 25 per cent, income fell into the \$500-749 class. Only 18 per cent retained their 1929 incomes or received larger incomes (Table VI). Such drastic changes deprived many families of the means of paying the usual amount of rent or of maintaining installments on mortgages. This situation was a prime cause of the widespread delinquency in rents and defaults on real estate loans, and of the decline in realty values.

TABLE VI

Percentage Distribution of 1933 Incomes of 1,725 Families receiving Incomes of \$950-1,149 in 1929, Cleveland, Ohio¹

INCOME GROUP 1933	PERCENTAGE DISTRIBUTION
No income	5.0
\$ 1- 249	11.8
250- 499	21.7
500- 749	25.4
750- 999	18.4
1,000-1,499	14.5
1,500-1,999	2.0
2,000-2,999	1.0
3,000-4,499	0.1
4,500-7,499	0.1
7,500 and over	0.0

¹ Special tabulation by the National Bureau of Economic Research of data obtained by the Financial Survey of Urban Housing. The 1929 income group is the modal or typical income group for the 1929 distribution of family incomes in Cleveland.

The value of houses in 1934, as reported in the Financial Survey of Urban Housing by nearly 125,000 owner-occupant families, averaged about 3.2 times the 1933 family income. This ratio varied from about 2 to 4. In the northeastern cities, where residential val-

ues are considerably higher than in the West and South and incomes are somewhat larger, the value of the family residence in relation to income was commonly above the national average.

The ratios of the values of dwellings to the annual incomes of owner-occupant families with low incomes were very much higher than the average for all owner-occupant families. Owner-occupant families with annual incomes ranging between \$500 and \$750 had houses valued, on the average, at 6 times their income, while those with incomes between \$3,000 and \$4,500 had houses with values averaging twice their incomes. In other years, when property values and particularly family incomes may have been different, other ratios may have prevailed.

For owner-occupant families whose houses are mortgaged the ratio between the value of the property and annual income is smaller than in the case of properties owned free from debt. The schedule of payments covering interest and principal must be met periodically as a recurrent cash expense similar to rent. If the loan is to be kept in good standing, income must be sufficient to provide for the regular payments as well as the family's other expenses. When incomes decline severely, many loans become delinquent, particularly on houses of families with small incomes and little or no margin of saving. This danger of loan delinquency among owners is similar to that of tenant families whose rent delinquency increases sharply as the rent-income ratio rises to 20 per cent or above.

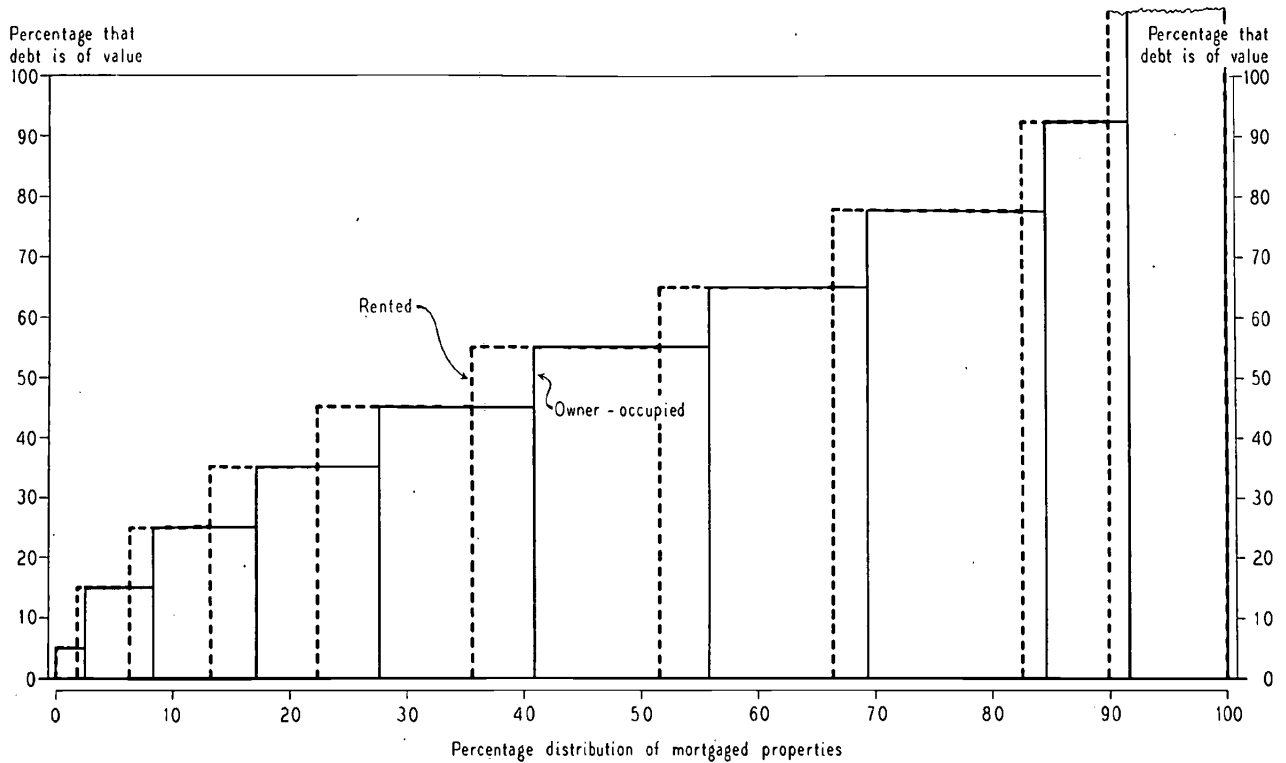
Financing Nonfarm Residential Real Estate

The price for which real estate can be bought or sold provides the security for its financing, thereby determining the size of the credit structure that can be erected on mortgages. It is greatly influenced by the peculiarly local nature and inherent immobility of real property. In the market, which is essentially local with limits defined by local conditions, real estate may sell much more readily at some times than at others, unlike a commodity that sells on an organized exchange where all offerings may be sold at any time for some price. Land values may rise or decline as the neighborhood improves or goes downhill. The value of buildings declines as they age, become obsolete, and deteriorate. The major hazard for real property owners and investors, however, may be the wide fluctuations in value that accompany national or local economic changes.

Over long periods measures of value for American real estate are modified when, as in the case of such other durable goods as automobiles, new materials or equipment are introduced or styles are radically altered. For example, residential units now have facilities built in as standard equipment that a few years ago were considered luxuries. A house built in 1940

CHART 5

Mortgaged Properties, Owner-Occupied, 52 Cities, Rented, 44 Cities
 Percentage Distribution by Ratio of Debt to Value, 1934



may differ only slightly in exterior design and construction from its predecessor of 1930, or even 1910, but its fixtures are much more complete. Electricity, improved plumbing and heating, refrigeration, garages and, more recently, air-conditioning, are illustrations of improvements in housing that have come as a result of industrial progress and that reflect the rising standard of living. Similar improvements have been made in nonresidential construction. Hence a part of the increase in the value of properties during the last 20 or 30 years is attributable to qualitative improvements in construction.

When a property is covered by a loan or a purchase-money mortgage, the problems associated with the fulfillment of the credit part of the transaction are to that extent postponed to the time payment falls due. By then or before, there may be a different relation between debt service and income, and even a major change in values as compared with the time the credit arrangement was made. This uncertainty as to the future relation of these factors and the effect on the economic system as compared with that originally contemplated is a central problem in real estate financing.

Real estate loans constitute the largest single form of credit, a predominance that reflects the leading position of real estate in the nation's wealth. Nonfarm residential property constitutes the security for most realty financing. In 1934 this class of indebtedness out-

standing was estimated as approximately \$26 billion, an amount probably considerably less than the outstanding debt in 1930, prior to the severe liquidation of mortgages during the depression.

Like the property that constitutes their security, real estate loans are widely distributed geographically, representing the obligations of many individuals and firms, secured in most instances by relatively small properties. The widespread and increasing use of realty credit is indicated by a comparison of owner-occupied residential properties mortgaged in 50 representative cities covered by the Census in 1920 and by the Financial Survey in 1934: the percentage rose from 49 to 55 per cent.

This growing use of credit was due in large part to rising values, the construction of new buildings at higher costs, and the more liberal provisions of mortgage credit by financial agencies. Existing structures also were used as the basis for larger mortgages as property values rose. Those properties which were free from debt, if transferred to others, were commonly used as collateral for the unpaid balance. This was true in most American cities of medium or large size where a majority of the properties are encumbered by one or more mortgages. The Financial Survey, covering 52 cities, showed an average of 56 per cent of owner-occupied dwellings and 40 per cent of rented dwellings mortgaged in 1934. Cities that are new or

that have recently experienced a period of active building are likely to have relatively more of their properties encumbered because they have more recently incurred capital loans. A substantial part of total encumbrance comes into existence at the time the property is acquired; though many other mortgages in the form of new financing, renewals, or refinancing are placed upon the property subsequent to its purchase.

The percentage of the value that the mortgage constitutes is a gauge of the financial soundness of the loan. The Financial Survey showed that in 1934 encumbered owner-occupied dwellings in most of the 52 cities covered were mortgaged on the average up to 50 or 60 per cent of their value; 59 per cent had mortgages amounting to more than one-half, and 31 per cent to more than 70 per cent of their value (Table VII and Chart 5). The unpaid balances vary from small percentages to the full value of the property and on some properties exceed it. New properties, or those recently bought, are likely to have larger proportions of the value remaining unpaid. A high debt ratio is produced also by a decline in the value of the property after a mortgage has been placed on it.

TABLE VII

68,385 Mortgaged Owner-Occupied Properties, Percentage Distribution by Debt-Value Ratios, 52 Cities, 1934

DEBT-VALUE RATIO (per cent)	PERCENTAGE DISTRIBUTION	CUMULATIVE PERCENTAGE
1-9	2.5	2.5
10-19	5.8	8.3
20-29	8.8	17.1
30-39	10.6	27.7
40-49	13.2	40.9
50-59	14.9	55.8
60-69	13.6	69.4
70-84	14.7	84.1
85-99	7.6	91.7
100 and over	8.3	100.0

Compiled from Financial Survey of Urban Housing data

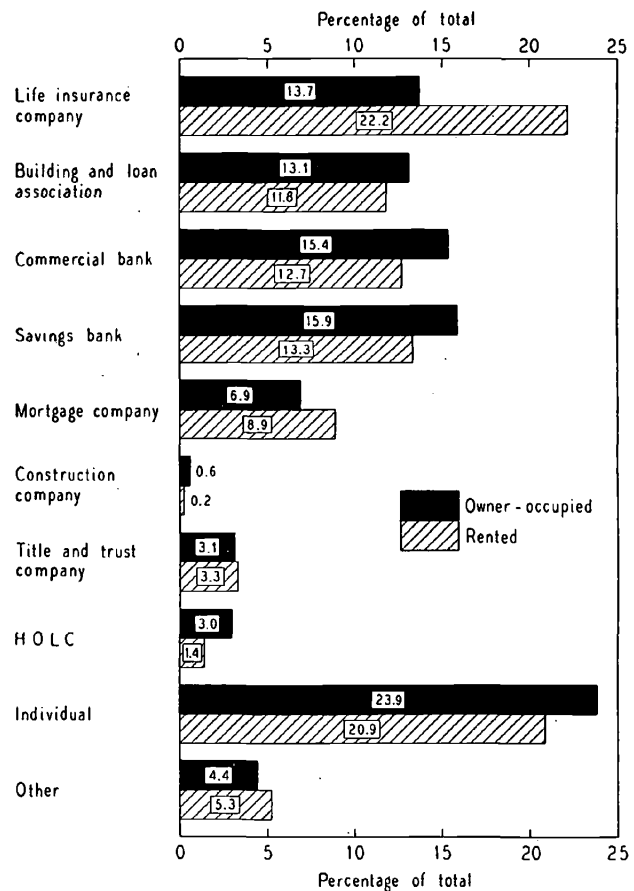
The institutions or agencies that provide mortgage credit differ widely in their practices, deriving and expending their loan funds through different channels and on different terms and conditions. Life insurance companies, commercial and savings banks, building and loan associations, mortgage companies, and individuals, are the principal sources. Their relative importance as mortgage holders in representative cities prior to the refunding operations that began in 1934 is shown in Chart 6. Since that time, the relative position has changed owing to the more rapid liquidation of loans by some agencies through the elimination of many of their active sources of credit and to the greatly expanded operations of federally sponsored agencies.

The changes in credit sources have been reflected also in the terms of loans. Formerly most loans were

made for relatively few years. The prevailing practice of the chief classes of lenders is illustrated by the terms of outstanding loans reported in 1934 in the 52 Financial Survey cities. Three-year loans were held largely by commercial banks, 5-year loans by life insurance companies, 10- to 12-year loans by building and loan associations; loans for 15 years or more were usually held by individual investors, the Home Owners Loan Corporation, and a few life insurance companies. Since the advent of the Federal Housing Administration commercial banks have taken a leading part in originating long term loans incident to qualifying mortgages for insurance.

CHART 6

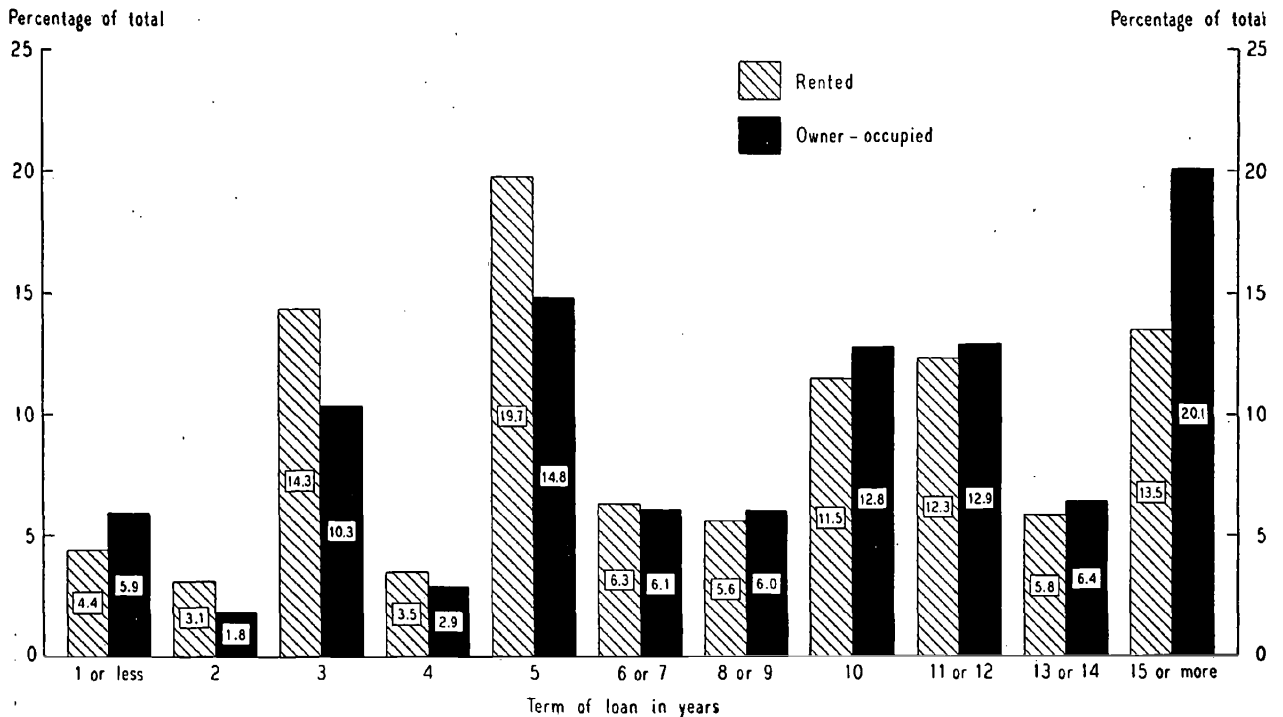
Residential Mortgage Debt on Owner-Occupied and Rented Properties, Percentage Distribution by Holding Agency 52 Cities, 1934



Distinctive features of changing loan practices in recent years have been the lengthening of terms and the inclusion of provisions for amortization and more frequent payments (Chart 7). This tendency has been strongly influenced by the use of long term amortized loans of the Home Owners Loan Corporation and by the requirement of the Federal Housing Administration that all loans on which insurance is granted shall

CHART 7

First Mortgages, Owner-Occupied, 52 Cities, Rented, 47 Cities
Percentage Distribution by Term, 1934



have long terms and carry amortization provisions. These changes have brought many more mortgages within the reach of more families.

Perhaps no development of recent years has been more significant for the future real estate situation than the marked reduction in interest rates on all types of loans. In 1934 contract interest rates in 52 cities averaged approximately 6.3 per cent on first mortgage loans on owner-occupied properties and 6.4 per cent on rented properties. Higher rates prevailed on second mortgages. Effective rates, which included incidental financing costs, were nearly one-half per cent higher than contract rates. Especially since federally sponsored agencies entered the field of housing, many loans have been made at 5 and 4½ per cent, and large loans at even lower rates. At the end of 1938 two federal agencies had made or insured a total of \$5 billion loans with contract interest rates of 5 per cent; in 1939 their prevailing rate was lowered to 4½ per cent. Vast quantities of private funds became available for mortgage loans at 4½ per cent or even lower rates. Low interest rates, especially if they continue to be generally available, will greatly affect real estate values and the credit structure through new loans and refinancing, at values based on low capitalization rates. On the whole, recent changes in credit regulations and in the institutions financing residential property in the United States have tended toward greater availability of funds and more liberal arrangements for credit. Since longer terms and lower rates have enabled bor-

rowers to carry loans more easily, the size of loans has increased.

Nonfarm Residential Construction

The rate of construction of new dwellings has far reaching economic consequences, not only for the industries that supply construction materials and the workmen who are directly employed in building, but also upon overcrowding or vacancy, the character of housing, the levels of rents, and the value of existing properties. Never has this subject been more widely considered in the United States. After nearly a decade of relative inactivity, general interest has again revived in construction and in the purchase and sale of existing properties, partly as a consequence of improved conditions of financing. Supplementing these economic forces a general movement for better housing began in 1935-36, and continued at a somewhat diminished rate in 1937-38. This revival in nonfarm residential building and related activity started a full two years after the beginning of the general business recovery in 1933-34 (Chart 8).¹⁰ Improvement in employment and trade and an increase in family incomes and in business earnings were apparently a necessary prelude.

The seventeen years following 1920 were noteworthy

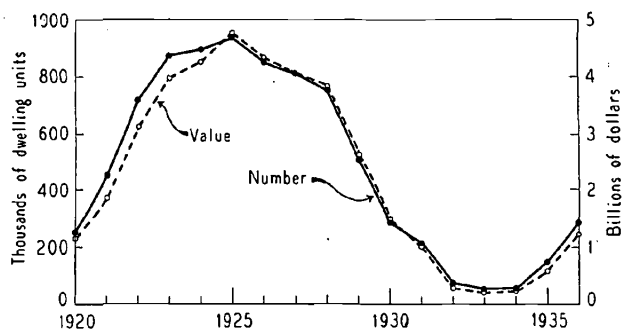
¹⁰ This chart and some other parts of the material on construction that appear in this volume were first published on September 15, 1937 in National Bureau Bulletin 65, by D. L. Wickens and R. R. Foster.

both for the great activity in new residential building and for its violent fluctuations. During the decade 1920-29 construction was started on 7,035,000 new nonfarm dwelling units; during the next seven years, 1930-36, on only 1,106,000.¹¹ The 1920's thus produced 86 per cent of total nonfarm residential construction accomplished during these seventeen years.

The timing of the crest of building activity is of vital economic importance. Beginning at a moderate rate with 247,000 units in 1920, building activity rose to boom proportions within a few years. An all-time record of nearly one million dwelling units, including apartments and houses (Tables E 1 and 2), was reached in 1925 rather than in 1928, as has been generally assumed. By 1930-31 construction had declined to the level of a decade earlier. The decline began four years before the industrial decline of 1929. A rapid further descent to a nominal building rate during the depression 1932-34 was followed by a revival, and in 1936 the 1920 and 1930 volume was again equaled (Chart 8).

CHART 8

Nonfarm Dwelling Units Built
Number and Value, 1920-1936



Construction in various parts of the country followed widely divergent courses, and even within re-

gions trends for individual cities have differed widely from the trend for the region as a whole. In nonmetropolitan urban centers, that is, those places not in metropolitan districts but with populations of 2,500 or more, construction fluctuated less violently than in metropolitan areas, and in recent years has been a larger proportion of the total than formerly. Many of these urban places not in metropolitan districts are in predominantly agricultural regions.

The tables in Part Three, section E, measure the fluctuations in residential construction since 1920, showing regional differences, the types of structure erected, and the total value of new nonfarm construction from year to year. Also, aggregate building from 1920 to 1936 is compared with that during the three decades 1890-1919. For many years building in the United States has been concentrated chiefly in a small area, over half of all new nonfarm residential units having been built in the industrial Northeast; during 1920-36 nearly three-fourths were built in the 96 metropolitan districts as defined by the Bureau of the Census. Residential construction in the 120 central cities of these metropolitan districts far exceeded that in any other group of urban centers. The concentration of nonfarm construction in metropolitan districts is even more pronounced on a value basis.

Reflecting the generally upward trend of average cost per dwelling unit throughout much of this period,¹² the total value of new housekeeping units built in nonfarm areas rose more rapidly than the number of units from 1922 to 1925, and declined less rapidly from 1925 to 1928. A part of this increase in cost per unit was due to the construction of more elaborate and expensive houses. Average costs of dwelling construction in small population centers, aside from environs of metropolitan centers, were substantially less than in large cities.

Note: Estimates of the Aggregate Value of Real Estate

The data on national wealth and on total value of real estate, 1900-22 (Tables I and III), are taken from the Department of Commerce Bulletin, *Estimated National Wealth—Wealth, Public Debt and Taxation, 1922*. Total real property and improvements for 1930 and 1934 represent the total value of urban real estate estimated by this study as described in Part Two and of farm real estate estimated as follows: For 1910,

¹¹ These totals compare with approximately 3,900,000 units built during each of the decades 1910-19 and 1900-09, and 2,400,000 during 1890-99. Despite the drastic curtailment in building during the 1930's the 8,142,000 units built during the 17 years 1920-36 exceeds the 7,840,000 units in the two decades prior to 1920, owing partly to the construction during the early 1920's of buildings that had been postponed during the War.

1920, 1925, and 1930 values were taken from the Census of Agriculture; for 1912 and 1922 estimates were made by a straight line interpolation between Census years. Table III gives the NBER estimates and their percentage distributions. In estimating the total value of all real estate in 1934 it was assumed that the decline from 1930 had been in the same proportion as for 1-family residential property, the index number being 65.6 (1930=100).

Method of Estimating Total Value of Nonfarm Real Estate, 1930 and 1934

The method was determined by the lack of materials comparable to those available for nonfarm residential

¹² Cost here means the average cost of dwellings actually built, as distinct from the trend of labor-materials price indexes.

TABLE IX

Cities and Villages for which Banks reported Estimated Percentage Market Value is of Assessed Value, 1936, Number and Percentage of Total, Summary by Geographic Division and Population Group

	ALL POPULATION GROUPS	100,000 OR MORE	25,000-100,000	A NUMBER				
				10,000-25,000	5,000-10,000	2,500-5,000	1,000-2,500	UNDER 1,000
United States	786	30	22	80	108	121	145	280
New England	31	4	3	12	5	1	5	1
Mid. Atlantic	117	3	4	18	24	30	18	20
E. N. Central	172	6	9	18	30	25	28	56
W. N. Central	177	5	1	9	13	20	30	99
S. Atlantic	61	4	1	3	7	7	13	26
E. S. Central	60	3	2	3	5	12	13	22
W. S. Central	75	3	1	6	8	11	21	25
Mountain	45	..	..	3	7	5	11	19
Pacific	48	2	1	8	9	10	6	12
		B PERCENTAGE OF TOTAL NUMBER OF CITIES (CENSUS 1930)						
United States	4.7	32.3	7.8	13.2	12.7	9.1	4.7	2.7
New England	9.5	30.8	7.1	15.4	7.4	3.2	14.3	1.7
Mid. Atlantic	6.1	16.7	6.9	11.1	12.4	10.5	4.0	2.6
E. N. Central	4.9	31.6	11.5	14.9	16.1	9.9	4.2	2.6
W. N. Central	4.3	55.6	5.6	14.5	15.9	11.1	5.4	3.1
S. Atlantic	2.7	44.4	3.1	5.9	8.0	4.3	3.0	1.7
E. S. Central	5.0	50.0	20.0	9.4	11.1	12.0	5.4	2.8
W. S. Central	4.4	37.5	5.6	14.3	9.0	6.6	5.3	2.6
Mountain	5.4	..	..	17.6	17.9	7.8	6.7	3.5
Pacific	6.8	22.2	5.3	19.0	14.8	11.1	4.1	3.6

the distribution of reports by geographic divisions and population groups and the percentage in each group represented by the sample. All reports that included data for residential and commercial real estate were tabulated by geographic divisions. Items for "industrial property" and "other real estate taxed" that were not reported on individual schedules were estimated by assuming that the ratio of assessed to market value was the same as that shown by the aggregates of the corresponding types for all those cities that reported these items. A total and an average was computed for each city reporting and averages of the city percentages were computed for: (1) residential real estate, (2) commercial real estate, (3) industrial real estate, (4) other real estate taxed, (5) total for each geographic division. These average percentages representing ratios of assessed to market value were used in connection with the actual data obtained from the schedules sent to the city assessors, as follows: The percentage that assessed value is of market value for each of the four types of taxed real estate by geographic divisions was divided into the corresponding assessed value, as described in the first paragraph above, to get an estimated market value. An average of the four percentages for residential, commercial, industrial, and other taxed real estate was used to convert the value reported for exempt real estate to full market value.

These percentages thus used as correction factors varied relatively little among the different types of real estate in most geographic divisions (Table X). Consequently the resulting aggregates of value varied little in relative importance from that indicated by their assessed values. The percentage assessed is of

market value for industrial real estate in New England, 99.9, is the outstanding exception, since the percentages for the three other classes in that region ranged from 81.9 to 88.6. In this case the high figure was due to the inclusion of reports for several cities indicating that assessed value was much above market value for industrial property. The aggregates by type were totaled for all real estate and upon the basis of this total a percentage distribution was computed showing the value of the sample for each type—residential, commercial, industrial, other real estate taxed, and real estate exempt. By substituting this study's estimated aggregate residential value for each geographic division for the residential property's percentage in the percentage distribution by type of real estate for the same geographic division, the value of each of the other types of real estate was computed. The estimated values of the respective types were totaled to obtain the estimated value of all real estate.

The fact that the city assessors' reports covered only the property within city limits probably results, as noted above, in a slight underestimate for certain types of property such as railroad rights of way, utility lines, and industrial property outside cities.

With a fair representation of population groups of different size, though the percentage in towns and villages was a smaller part of the total than the percentage in cities, the returns covered all parts of the country. The coverage of the reports on the ratio of assessed to market value varied somewhat among geographic divisions and population groups (see Tables VIII and IX).

The method used here differs in three respects from

that used by the Bureau of the Census in its estimate of wealth for 1900, 1904, 1912, 1922 as published in *Estimated National Wealth—Wealth, Public Debt and Taxation, 1922*. (1) In the Census study the assessed values for all real estate were combined without differentiation as to type. (2) The Census study undertook to adjust assessed to market values by means of a

TABLE X

Assessed Value as Percentage of Estimated Market Value of City and Village Real Estate Taxed; Bank Schedules, 1936, Average Percentages, by Type of Property, by Geographic Division

	No. of Schedules	ASSESSED VALUE AS PERCENTAGE OF ESTIMATED MARKET VALUE, BY TYPE OF PROPERTY			
		Residential	Commercial	Industrial	Other real estate taxed
United States	796	65.3	67.0	64.0	65.1
New England	34	83.8	88.6	99.9	81.9
Mid. Atlantic	120	66.6	64.5	62.1	67.2
E. N. Central	173	70.9	73.7	69.7	70.9
W. N. Central	178	67.6	69.3	66.0	68.8
S. Atlantic	61	59.9	60.4	57.9	57.6
E. S. Central	61	61.5	65.1	59.5	58.2
W. S. Central	75	59.1	58.6	54.5	55.3
Mountain	45	64.0	70.2	63.1	69.8
Pacific	49	44.2	45.7	44.4	43.7

SOURCE: *Special reports to the National Bureau from commercial and savings banks and taxation authorities*

correction factor derived from replies to an inquiry to state and county tax officials on the relation between assessed and sales values. To avoid the difficulties that confront tax officials in carrying out legal instructions which often require that real estate be assessed at full value, whereas actual practice usually indicates a level of assessed values that is considerably below market value, though in some cities it is above, the estimates, by this project, of the relation between assessed and market value were obtained from private sources, including banks and real estate firms specializing in tax work. (3) The Census study combined the real estate with the other property of corporations. Real property and improvements for steam railways, electrical railways, telegraph and telephone systems, and privately owned steam railways, central light and power enterprises and water works were combined in making an estimate of wealth by the ownership classification. The Census procedure probably resulted in an understatement of the real estate reported for Census years. This study sought to include the real estate of corporate enterprises as well as individually and publicly owned property and to classify it according to its general uses, under the general types of residential, commercial, industrial, other real estate taxed, and real estate exempt from taxation.