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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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among those returned by mail, were rejected in editing because of incomplete data. Subsequent analysis indicates a downward bias in favor of the smaller income groups. When the rejected schedules containing income information are added to the used schedules, however, the total varies only slightly from the distri-

bution of the used returns, as shown by the accompanying table.

A more detailed presentation of the income data here shown in part and of the method of collection and tabulation is being prepared.

## CHAPTER IV

### *Financing Nonfarm Residential Real Estate*

With the exception of Tables D 1, 2, 4, and 48 all tables in Part Three, section D, are derived from Financial Survey data. The principal estimate of this section is for debt in 1934 (Table D 4). The percentages of owner-occupied nonfarm properties mortgaged and the debt-value ratios expressed in percentage form for 1920 are presented in Table D 1 by population group, state, and geographic division. Table D 2 presents for 1920 and 1934 for 50 cities the percentage of properties mortgaged and for 45 cities the debt-value ratios of mortgaged properties. The 1934 data are from the Financial Survey. Table D 48 presents data on financing of real estate in two New York City areas as derived from a special study.

Before the methods used to derive the mortgage estimates for 1934 are explained, the sources and methods used to obtain the data for 1920 and the information available for 1930 and 1934 from the Financial Survey are described.

#### 1 Percentage of Owner-Occupied Houses Mortgaged and Percentage that Debt is of Value, 1920

Census Monograph II, *Mortgages on Homes in the United States, 1920*, provides the information from which Table D 1 and the 1920 section of Table D 2 were derived. These census data were based on a mailed survey of 66.3 per cent of owner-occupied residences. The percentages of owner-occupied residences mortgaged and the debt-value ratios for all population groups combined (Table D 1) are transcribed directly from Tables 26 and 30 of the Census Monograph II. The percentages of residences mortgaged for each population group (Table D 1) are derived from Tables 26, 27, 28, 30, 31, and 33 of the Monograph.

The percentages of houses mortgaged in cities with populations of 100,000 and over (Table 27) and between 25,000 and 100,000 (Table 28) were used in conjunction with the number of mortgaged houses (Tables 31 and 33) to obtain total owner-occupied houses in each city in the respective population groups. The cities in both size groups were then arranged by

states in each geographic division and totals obtained by states and geographic divisions of the number of owner-occupied and mortgaged houses. From these totals were computed the percentages mortgaged in each state and geographic division for both population groups.

To obtain similar percentages for population groups under 25,000 the combined total of mortgaged dwellings for the larger cities, computed as described above, was subtracted from total mortgaged dwellings for states and geographic divisions in Census Monograph Table 30. Since the percentage mortgaged by states and geographic divisions for all cities was given in Table 26 it was possible to obtain total owner-occupied residences and derive by subtraction the number in population groups under 25,000. From total owner-occupied and mortgaged houses in population groups under 5,000 it was then possible to compute the percentage mortgaged.

The debt-value ratio by population groups (Table D 1) was transcribed directly from Census Monograph Table 34.

#### 2 Percentage of Owner-Occupied and Rented Houses Mortgaged and Debt-Value Ratios in Individual Cities

The city percentages for 1920 in Table D 2 were transcribed directly from Census Monograph Tables 27, 28, 31, and 33; the 1934 percentages and ratios are from the Financial Survey of Urban Housing. The debt-value ratios in Table D 3 for owner-occupied and rented properties for 1930, 1933, and 1934 are based on sample data derived from the Financial Survey. The number of reports on which they are based is shown in Tables D 5 and 6 by value groups together with the percentage mortgaged by value groups. Tables D 7 and 8 present Financial Survey data on the value of and the debt outstanding (principal only) on mortgaged properties by value groups and thus provide the basic sample data from which the debt-value ratios of mortgaged properties in 1934 are derived. Table D 9 presents, by type of dwelling, for each ten-

ure separately the percentage of properties mortgaged in 1934 as reported to the Financial Survey.

Tables D 11 and 12 present the number and percentage distribution of mortgaged properties by debt-value ratio groups; Table D 13, the debt-value ratios of mortgaged properties by value groups (derived from Tables D 7 and 8); Table D 14, the ratios of debt on mortgaged properties to the values of all properties, including properties not mortgaged (derived from Tables A 12 and 13, D 5 and 6).

### 3 Estimated Total Mortgage Debt on Nonfarm Residential Properties, 1934

The preliminary estimate of total mortgage debt on residential properties, Table D 4, was obtained by means of separate operations for owner-occupied and rented properties in each geographic division.

#### a Estimated Debt on Rented Properties

Debt on rented properties was estimated by multiplying the estimated 1934 value of rented residential properties<sup>1</sup> (Table A 8) in each geographic division by a weighted average debt-value ratio derived from Financial Survey data in 44 cities (Table D 14, col. 2). This ratio is the relation of debt on mortgaged rented properties to the total value of all rented properties, including those not mortgaged. This direct method of estimating debt on rented properties was used primarily because of the absence of other mortgage data on rented properties which would allow more detailed methods similar to those employed in estimating debt on owner-occupied properties described below. The 1920 Census and the various Real Property Inventory studies obtained no mortgage data on rented properties. The only specific data on debt of mortgaged rented properties are those in the Financial Survey.

#### b Estimated Debt on Owner-Occupied Properties

In estimating debt on owner-occupied residential properties the percentage of properties mortgaged and the debt-value ratio of mortgaged properties were determined separately. Forty-six of the Financial Survey cities were classified into groups of cities 100,000 or more and 25,000–100,000 in population by geographic division. The debt-value ratio in each city was recorded as shown by the 1920 Census and by the Financial Survey for 1934. Data for a third population group, under 25,000, were derived by subtracting the totals for the cities over 25,000 in population from the geographic division total. A weighted debt-value ratio of mortgaged owner-occupied dwellings was computed for the 46 cities by three population groups, in each geographic division for 1920 and 1934. The 1934 ratio

<sup>1</sup> Includes value of land and improvements; does not include nonhousekeeping dwellings (hotels, clubs, lodging houses).

was then expressed as a percentage of the 1920 ratio for each city. From these results was derived a weighted percentage for the size group. This was used as a correction factor to compute a debt-value ratio for 1934 by multiplying the percentage by the 1920 debt-value ratio of all mortgaged properties. This process was performed for each of the three population groups within each geographic division. These ratios were later used in connection with the aggregate value of mortgaged properties, described below, in estimating debt in 1934.

The aggregate value of mortgaged owner-occupied properties in 1934 was obtained by first estimating their average value in 1934 for three population groups, by geographic divisions. This was done by multiplying the average value of all such units as shown by the special Census tabulation of 46 Financial Survey cities for 1930 by a percentage expressing the average value of all owner-occupied 1-family dwelling units in 1934, for the same 46 Financial Survey cities, in relation to the average value of 1-family units in 1930 as estimated by this project. A weighted percentage was derived from the individual city percentages and applied to the size group average within each division to obtain an estimated average value for all properties. This process assumed that the changes in value for 1-family units during these four years applied to other types of dwellings also. The total value of all owner-occupied units was estimated by multiplying these average values by the number of all owner-occupied units in 1934. The average value of all mortgaged properties was computed by multiplying the average just found by a ratio expressing the average value of mortgaged properties as a percentage of the average value of all properties, as shown by the Financial Survey cities in 1934.

The 1920 Census reported the number of mortgages for 68 cities 100,000 or more in population and for 219 cities 25,000–100,000 in population and also for each geographic division as a whole. By subtracting the number of mortgaged properties in these 287 cities from the geographic division total of mortgaged properties, the number mortgaged in population groups under 25,000 was obtained. This total number mortgaged was divided by the total number of properties to obtain the percentage mortgaged. A similar process gave the percentages of properties mortgaged in 1934 for the same population and geographic division classifications. A ratio between the percentage mortgaged in 1934 and the percentage for 1920 was computed and applied as a correction factor to the percentage of all owner-occupied properties as reported by the 1920 Census to obtain an estimated percentage of all owner-occupied properties mortgaged in 1934. The number of owner-occupied houses mortgaged was estimated by multiplying this percentage by the total number of

owner-occupied houses standing, including vacant, in 1934. This number, in turn, was multiplied by the average value of mortgaged owner-occupied houses for each population group by geographic divisions, found as previously described, to obtain an estimated total value of all owner-occupied mortgaged properties in 1934. Finally, this aggregate value of owner-occupied mortgaged properties was multiplied by the debt-value ratio of mortgaged properties derived as described in the first part of this section, to estimate total mortgage debt on owner-occupied residential properties as of January 1, 1934.

In this preliminary estimate of debt, the different types of residential structures are not treated separately. The validity of using composite figures on debt frequency and debt-value ratios for all types combined, as is done here, rests upon the representativeness of the data. The representativeness of apartment dwellings is probably most doubtful. Such properties are usually encumbered more frequently than others

and it is more difficult to obtain credit data on them. Consequently the sample data probably do not adequately represent that type and mortgages are probably underestimated, at least on rented properties.

#### 4 Mortgage Loans, Two New York City Areas

The data for the Lower East Side and Harlem in New York City, Table D 48, were collected in 1934 by a CWA project on residential property conditions of these areas, sponsored by the New York Building Congress under the direction of Arthur Holden. The value and finance data on the schedules were analyzed as part of this study by the National Bureau with the cooperation and assistance of the Mayor's Planning Committee.

The primary data on assessed value, mortgage debt, priority of liens, source and terms of loans, were obtained from public records. The mortgage data were checked with the holder of the loan.

## CHAPTER V

### *Method of Estimating Nonfarm Residential Construction*

The estimates of residential construction summarized in Part Three, Tables E 1-5, were published in National Bureau *Bulletin 65*, together with a condensed statement of method. The estimates were made in five stages: (1) organization and adjustment of data; (2) estimate, in detail, by geographic division, population group, and type of dwelling, of aggregate nonfarm dwelling units built during 1920-29, corrected for bias in the basic building permit series; (3) estimate, based on the relationships found in (2), of aggregate nonfarm dwelling units built each year since 1920, and separate estimates for 1935 and 1936; (4) estimate, by applying average costs per dwelling unit to estimated units built, of the dollar value of new residential building each year since 1920; (5) estimate of aggregate nonfarm dwelling units built by decades, 1890-1929.

#### 1 Description of Data: Organization and Adjustment of a Primary Data Used

The estimates are based primarily on reported building permits for principal cities of the United States as published by the Bureau of Labor Statistics for the years since 1920,<sup>1</sup> and on changes in the number of families as derived from Census data. The permit data were adjusted for undervaluation and for under-

over-representation of actual construction, as described below. The data on number of families were adjusted to allow for changes in the boundaries of cities and for the varying area coverage of building permit reports.<sup>2</sup>

Among the items in the permit data are type of structure (i.e., 1- or 2-family dwellings, apartments, hotels, clubs, and lodging houses); number of family dwelling units; and estimated cost of the proposed structure, all as declared by the applicant for the permit. The permit data are available on an annual basis from 1920 to 1930, and monthly since September 1929. For 1920-32 reports are available only for cities having populations of 25,000 or more, the number of cities varying from 189 in 1920 to 360 in 1932.<sup>3</sup> In 1933 the number of cities covered by the permit reports of the Bureau of Labor Statistics was increased to 811 by the addition of population groups 10,000-25,000. During 1936 the number was again increased to nearly 2,000 by the addition of population groups

<sup>1</sup> *Building Permits in the Principal Cities of the United States. Bulletins 295, 318, 347, 368, 397, 424, 449, 469, 500, 524, and 545; Monthly Labor Review, March and April 1932, March and April 1933, and April 1934; Building Construction, Serial No. R-219, R-351, and R-538.*

<sup>2</sup> *Estimates based on contracts awarded are discussed in Note A.*

<sup>3</sup> *The total number of cities in the United States with populations over 25,000 was 287 in 1920 and 376 in 1930.*