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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: Sources, Method of Presentation, and Important Characteristics of the Statistical Data

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Chapter URL: <http://www.nber.org/chapters/c5638>

Chapter pages in book: (p. 15 - 18)

## PART TWO

### CHAPTER I

#### *Sources, Method of Presentation, and Important Characteristics of the Statistical Data*

Part Three presents the statistical information in five sections: A, the value of nonfarm residential real estate (Tables A 3 and 17 contain some farm data); B, rents; C, the relation between values, rents, and the incomes of owner-occupant and tenant families; D, the financial aspects of residential real estate; E, estimates of new nonfarm residential construction. Within these classifications the tables are numbered consecutively. Brief topical paragraphs giving the main qualifications of the data precede each section as half-title pages.

In the five chapters in Part Two the methods used to obtain the estimates presented in Part Three are described in some detail. But first we discuss: (1) the principal sources from which the statistical data were derived; (2) certain general principles that have guided their presentation; (3) the reliability and significance of owners' estimates of the value of residential real estate.

#### 1 Principal Sources

The statistical data rest heavily upon four main sources: (1) *Census of Population, 1930*, VI, Families; (2) Federal Real Property Inventory of 1934; (3) Financial Survey of Urban Housing; (4) Bureau of Labor Statistics reports on building permits.

The *Census of Population, 1930*, VI, provides the basic material for estimating the aggregate value of nonfarm residential real estate in 1930. This material was supplemented by a special tabulation of unpublished data prepared by this project from primary schedules of the Census Bureau covering 139 cities and by related information in the Federal Real Property Inventory and the Financial Survey of Urban Housing, the latter an intensive sample survey of the properties covered by the former. In estimating nonfarm residential construction the Census data on families were also used extensively in connection with the Bureau of Labor Statistics building permits data.

The Federal Real Property Inventory and the Financial Survey of Urban Housing provide the detailed housing data, chiefly for 1934, for selected cities

throughout the United States. Of the 64 cities covered by the Federal Real Property Inventory, 61 were included in the more intensive Financial Survey of Urban Housing, but 9 were covered incompletely so that the more detailed tabulations are available only for 52 cities. Until the publication of this volume, complete data had been published<sup>1</sup> for only 22 of the 52 cities though press releases had appeared for each city.

The Financial Survey of Urban Housing, undertaken in 1934, obtained reports from owner-occupants, tenants, and landlords on the physical characteristics of dwellings and their value, rent, and debt status, and the income of the occupant family. Value and debt reports were for January 1, 1930, 1933, and 1934; rent and income for 1929, 1932, and 1933. The Financial Survey reports constitute a sample varying from 5 to 30 per cent of the families in individual cities and averaging close to 12 per cent for tenant families and 15 per cent for owner-occupant families for all 61 cities.

#### 2 Presentation

The statistical evidence is presented in tabular form that is readily usable by those who may wish to know "the facts" concerning residential real estate. Where estimates have been made, details of methods are set forth so that each user may judge their validity and the proper fields for their application. Where sample data are used, the number of reports or a cross reference to other tables where they can be found has also been given to provide the analyst with a basis for judging their adequacy. The representativeness of the Financial Survey samples for each city is fairly accurate, as is evident from a comparison of similar items reported by the Real Property Inventory.<sup>2</sup> They have not been raised to represent full coverage in each city, and the geographic division totals of the number

<sup>1</sup> *Financial Survey of Urban Housing (Department of Commerce, Washington, 1937)*.

<sup>2</sup> *These comparisons are given at the beginning of the data for each of the 22 cities for which results were published in November 1937 and for the 30 cities not yet published, all covered by the Financial Survey of Urban Housing.*

reporting for the cities in each division are totals of the sample data.

The material is so voluminous that it has not been practicable to appraise it other than by these comparisons of the basic data. It must be used at the reader's discretion. As an additional aid in determining appropriate uses each section of tables is introduced by a brief summary of technical considerations or other pertinent items of information concerning the data or their derivation. Footnotes to individual tables serve a similar purpose.

The Financial Survey of Urban Housing data gave information on specific items for all 61 cities covered. Some tables from it are reprinted in this volume chiefly in summary form with certain related items for each city in which reports were adequate. Most data cover 52 cities, some, 61, and, for certain data from the Real Property Inventory, even 64 cities. Some data from owner-landlord reports relating to tenants or tenant-occupied property cover 44 or fewer cities.

For values, rents, and reports on financial items, the tables give, in addition to information for individual cities, weighted figures for the group of cities within each geographic division and for all reporting cities combined. The weighting on which such geographic division figures are based is explained in the footnotes to each table where they appear. The arithmetic averages for the cities included in the several geographic divisions were derived by weighting the sample data for each city on the basis of its relative importance in the group of cities reporting. The averages thus derived from the combination of data for cities covered may not be identical with, or even approximate to, the averages that would be derived from data for all cities or from a different selection of cities in each geographic division. In the absence of data for complete coverage it is impossible to determine the actual representation given by the weighted means for the selected cities. The weighted figures for the cities in each geographic division had often to be used as the true figures for the area as a whole, since it seemed the preferable alternative to use all the data available weighted on the basis of their relative importance, but it is believed that no considerable error has resulted from this procedure. These points are emphasized for the assistance of the reader who desires to use the weighted figures for the cities in each geographic division. The cities included, their importance in their regions, and other factors connected with the particular item of information must be appraised in conjunction with the purpose to be served and the requisite accuracy. Certainly in the absence of additional information the weighted figures may be assumed to be more representative of the geographic division than the figures for any one city.

The method of weighting the sample data for geo-

graphic division totals does not correct for any bias in the data for individual cities. These division totals merely weight the sample results on the basis of the relative importance of the several cities in terms of the items covered. Certain tables, e.g., A 11 and B 8, do attempt to present data for each city and for the combination of cities in each geographic division that represents complete coverage. The introductory comments to each section of tables call readers' attention to these.

### 3 Owners' Estimates

Owners' estimates, of which extensive use is made in this study, are the chief source of information concerning the value of real estate. They are provided by the 1930 Population Census, the Financial Survey of Urban Housing, and the Federal Real Property Inventory, as well as by numerous subsequent real property inventories in other cities. The Census of Agriculture has obtained reports on the value of individual farms, with occasional separate reports for buildings and land, as estimated by the farm operator in each Census of Agriculture since 1850 (Table A 17).

Market value of property rather than some other concept, such as the cost of the property plus additions and less depreciation, reproduction cost new less depreciation, the amount the owner would be willing to accept for the property, or the value at which the property is assessed for taxation purposes, has been established as the preferred concept in practice. It is assumed that the market value reported approximates the probable sale price under the usual terms and conditions of sale prevailing in the community. Market value does not mean, necessarily, that if all properties in the community were offered for sale at the time in question the stated value could be obtained. Rather, market value as usually defined means that under prevailing conditions of sales activity property similar to that for which the value was estimated is or could be sold at the stated price. Unusual conditions of sale, either in the terms of credit or cash required or in the forced character of the sale, are not ordinarily considered in quoting market value.

For a staple commodity such as wheat the value of the stock on hand is usually based upon the prices prevailing in the market for the different grades of wheat actually being sold currently. Such a valuation is possible since the commodity can be divided into a reasonably small number of fairly homogeneous grades which are sold on a continuous, organized, and broad market. Residential properties are sold under quite different conditions. Virtually every parcel is different from every other and is sold with particular reference to these differences on narrow, discontinuous, and only slightly organized markets. Consequently, the market value of a particular parcel cannot be determined precisely unless it is actually sold.

Market values of properties may be estimated regardless of tenure, though those of owner-occupied are most commonly used because of the presumed familiarity of the owner with such values. Furthermore, the value of properties, rented or otherwise used for income, may be estimated by capitalizing income to approximate investment and market values; or, as done in this study, the value may be estimated by applying to rent an empirical ratio between rent and value. Since properties inhabited by their owners do not yield rents their value cannot be estimated by this procedure unless the rent is first estimated.

Partial evidence for the assumption that owners' estimates do approximate market values as defined above is at hand. It is sometimes held that owners consider the value of their residences as continuously identical with the original cost to them. This contention is definitely not supported by experience with owners' estimates. The Department of Agriculture index of the value of farm land and buildings per acre, based largely on owners' reports, increased from 100 for 1912-14 to 170 in 1920, and declined to 73 in 1933, with changes in every intervening year. Moreover, the index for each of the 48 states behaved differently. The same variability in the average of owners' reports has been evident in the Census returns at 5- and 10-year intervals.

Original costs by year of acquisition and the values estimated by the owners on January 1, 1934 for identical properties, reported to the Financial Survey, indicate clearly that owners do not estimate value in terms of cost. The movement of the series indicates also that the deviations of estimated value in 1934 from original cost in the year of acquisition are more closely related to economic shifts in values than to depreciation resulting from the passage of time. The mere fact that owners do vary their estimates of market value and do not maintain them at cost of acquisition does not establish the correctness of the level of their estimates or of the trend. The values estimated for individual properties may deviate considerably from approximate market values or from the trends of such values. The values of groups of properties are much more reliable as measures of price movements.

So far as absolute levels are concerned, it is virtually impossible to secure information on a comprehensive scale that would indicate how much owners' average estimates deviate from actual market values. The extensive use of owners' estimates is occasioned partly by the absence of other data. However, the owner is familiar with the property evaluated. Usually he has purchased it; often he has built it. If his name is not made public and if no offer to purchase is given, he has little or no motive for misrepresenting the value. Although not an expert appraiser, he usually has gained a good idea of its value from the expert opinion

of appraisers who valued the property when he bought it or by his knowledge of prices paid for other similar properties that have been bought or sold in the same community. A tendency to understate value in order to avoid a high tax appraisal may be offset by overstatement for sale purposes.

So far as farm values reported by farm operators are concerned, experience indicates that they follow the general direction of sales price indexes. They reach high and low points at about the same time, but tend to lag behind sales price indexes during the early part of either an upward or downward movement. Table M 1 presents such index numbers for three states. In

TABLE M 1

Estimated Farm Values and Sales Prices per Acre  
Ohio, Minnesota, and Vermont, 1912-1937

Index Numbers (1929 = 100.0)<sup>1</sup>

	OHIO		MINNESOTA <sup>2</sup>		VERMONT	
	B. A. E. <sup>3</sup> estimated value	Sales price <sup>4</sup>	B. A. E. <sup>3</sup> estimated value	Sales price <sup>5</sup>	B. A. E. <sup>3</sup> estimated value	Sales price <sup>6</sup>
1912					82	88.3
1913			{70.1	69	82	94.9
1914			{76.2	81	80	89.9
1915			{76.2	81	85	77.3
1916			{93.5	96	93	99.2
1917			{93.5	96	103	110.1
1918			{115.8	115	108	111.7
1919			{115.8	115	111	115.9
1920			{152.8	146	122	127.8
1921			{152.8	146	122	125.2
1922			{130.9	119	118	109.2
1923	129.7	119.1	{130.9	119	109	119.3
1924	125.5	113.1	{118.3	110	106	95.8
1925	116.9	112.0	{118.3	110	102	92.4
1926	111.7	112.0	{107.9	107	102	110.9
1927	105.3	108.4	{107.9	107	102	100.0
1928	102.0	101.3	{100.0	100	100	100.8
1929	100.0	100.0	{100.0	100	100	100.0
1930	95.7	95.3	{89.6	84	100	84.9
1931	87.1	90.5	{89.6	84	98	83.2
1932	74.4	73.2	{63.7	63	91	86.5
1933	62.7	71.5	{63.7	63	82	80.6
1934	67.0	81.0	{59.7	55		
1935	70.2	84.5	{59.7	55		
1936	75.5	90.0	{61.9	54		
1937	79.7	90.5	{61.9	54		

<sup>1</sup> Index numbers shifted from other base years for better comparability.

<sup>2</sup> Since data for Minnesota are for crop years, 1912 is really 1912-13 and the base year is 1928-29.

<sup>3</sup> Bureau of Agricultural Economics.

<sup>4</sup> Semi-annual index of farm real estate values in Ohio, March 1938 (mimeographed release).

<sup>5</sup> Minnesota Farm Business Notes, June 20, 1938.

<sup>6</sup> Vermont Agricultural Experiment Station, Bulletin 391.

terms of dollar values per acre, estimated values tend on the whole to be somewhat higher than sales values. In Kansas estimated values per acre as reported to the Census in 1920, 1925, and 1930 were 3, 6, and 6 per cent higher, respectively, than average sales prices. In Ohio estimated values were 5 and 11 per cent higher in 1925 and 1930 respectively but 12 per cent lower in

1935. In Minnesota sales prices could not be directly compared with census estimates since the former were given for crop years. However, the estimates seem to be from 4 to 10 per cent higher than the sales prices in the four Census years 1920, 1925, 1930, and 1935. These differences may be accounted for by the fact that the properties sold were probably the less valuable ones, especially in depression years, since "distress" properties are likely to be less productive.

Estimates of farm values by farm operators may not be strictly comparable with estimates by urban families of the values of the houses they own and occupy since farmers operate their farms for profit and are more likely to have a business outlook, whereas the owner-occupant of an urban dwelling derives only a use value from the property. However, landlords who lease their properties for a cash rent also have the business man's outlook, and the relative changes in their estimates of the value of nonfarm residential real estate and in the estimates of owner-occupant families

during the same period are very similar. Evidence from the Financial Survey of Urban Housing indicates that in 37 cities from 1930 to 1934 the percentage decline in values as estimated by landlords did not differ more than 5 per cent from owner-occupants' estimates. In 2 cities the percentage changes were identical; in 32 cities landlords' estimates of values showed percentage declines greater than the estimates of owner-occupants, but the declines in 4 cities of the 32 differed less than 1 per cent, in 11 cities less than 2 per cent, in 19 cities less than 3 per cent, in 25 cities less than 5 per cent, and in only 1 city more than 10 per cent (10.5). Of the 10 cities in which owner-occupant estimated values indicated greater percentage declines than landlord estimated values, only 1 city showed a difference of more than 3 per cent (3.9) and for 7 of the 10 cities the difference was less than 2 per cent. It is quite possible that rented properties may have declined somewhat more in value than owner-occupied.

## CHAPTER II

### *Value and Rent of Nonfarm Residential Real Estate, 1930 and 1934*

The estimated total value of nonfarm residential real estate in the United States in 1930 is presented in Part Three, section A, Tables A 1-5. Table A 1 shows the number of dwelling units, Table A 2 their value by geographic division, state, tenure, and population group, and Table A 3 the average values per dwelling unit. Tables A 4 and 5 give the number of dwelling units and their values for each geographic division by type of dwelling. The value estimates for 1934 are presented by geographic division and tenure in Table A 8.

#### 1 General Problems and Information Utilized in the 1930 Estimates

The total value of nonfarm residential real estate in the United States had to be estimated because the Census of Population returns for 1930 show only the number of nonfarm families occupying dwelling units distributed by value or rent classes. Median values and rents but no totals or arithmetic average values or rents are given.

In the 1930 Census families are distributed by value of dwelling unit classes whenever a related member of the family owned the structure or dwelling unit occupied by the family. The dwelling units occupied by these families constitute the tenure class "owner-occupied dwellings."<sup>1</sup> When a residential structure

contained more than one dwelling unit and one of the dwelling units was inhabited by the family owning the structure, the Census enumerator obtained the value of the unit, not the value of the entire structure.<sup>2</sup> Families are distributed by rent classes when the dwelling unit

*of home" the following explanation is given: "Since a home is defined as the living quarters occupied by a family, the number of homes is always the same as the number of families. In the classification by tenure a home is counted as owned if it is owned wholly or in part by any related member of the family."*

<sup>2</sup> *Ibid.*, p. 6. Under the heading "Value or rental of home," the following statement appears: "The enumerator was instructed to report on the population schedule for each nonfarm family returned as owning its home, the approximate current market value of the home, and for each nonfarm family returned as occupying rented quarters the monthly rental, or if rental was not paid by the month, then the equivalent monthly rental or the approximate rental value per month." Information obtained from the special tabulations of census data undertaken by this project and by inquiry from the Bureau of the Census indicates that "home" as used here refers to dwelling unit and not structure. Leon E. Truesdell of the Census Bureau in a letter reply to an inquiry from this project states: "The owners were expected to return, in cases where they occupied only a part of the structure, the value of that part occupied by the owner's family. Specific instructions to this effect were given wherever the question was raised, though this point was unfortunately not covered in the printed instruction pamphlet. Because of this there are doubtless some cases in which the owner returned the entire value of the structure rather than only that part which he occupied as a residence."

<sup>1</sup> Census of Population, 1930, VI, 6. Under the heading "Tenure