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NUMBER 1

HOUSING STATUS OF SALARIED WORKERS EMPLOYED IN PITTSBURGH

by

THEODORE A. VEENSTRA

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DIRECTOR'S PREFACE

This report is the first of a series of research monographs by members of the Staff of the Bureau of Business Research. Publication of these monographs, dealing with economic problems of the Pittsburgh district, is part of an eight-year program in regional economic research made possible by a generous grant from the Buhl Foundation, of Pittsburgh, supplemented by the University through a guarantee of appropriations over this period.

The purpose of these monographs is to contribute to the solution of the economic problems confronting the district through the objective analysis and presentation of the nature of those problems. Scientific inquiry is prerequisite to any sound program of constructive action, and the Bureau's researches are directed toward laying a basis for such action.

Inadequate housing is a major problem confronting the nation. This fact is unmistakably evidenced by the national attention which that problem has received during the past two or three years. Furthermore, housing, as a regional problem, has a distinct bearing on the questions of regional competition and industrial survival. Although the present study is not concerned with the housing problem in general, it does deal with conditions affecting an important social and economic group, namely, salaried employees who work in downtown Pittsburgh—those commonly termed "white-collared" workers.

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The questionnaire used in obtaining data for this study was prepared with the advice of Mr. Charles F. Lewis, Director of the Buhl Foundation, of Pittsburgh; Mr. John F. Ihlder, Director of the Pittsburgh Housing Association; and Mr. Henry Wright, Research Secretary of the Committee on Large-Scale Operations, of The President's Conference on Home Building and Home Ownership. It is a pleasure to acknowledge their valuable contribution. The Bureau is greatly indebted to 19 Pittsburgh concerns (see footnote, p. 3) for their good will in distributing the questionnaire among their employees; and thanks are also due to the 1,415 salaried workers who returned the completed questionnaires.

Analysis of housing conditions reported by these salaried employees is presented in this study in four sections. The relationship between income and shelter costs is covered in Chapter I. Shelter costs in terms of varying family needs are discussed in Chapter II. Certain measures of the quantity and of the quality of housing accommodations enjoyed by the group studied are presented in Chapter III. Finally, in Chapter IV, some comparisons are made between accommodations and housing costs of home owners and those of renters.

The author wishes to acknowledge his indebtedness to Dr. J. Paul Watson and Mr. Bervard Nichols of the Bureau Staff for their editorial assistance.

RALPH J. WATKINS,
Director.

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INTRODUCTION

An investigation was made by the Bureau of Business Research in the spring of 1931 to determine the cost and the quality of housing accommodations secured by salaried workers employed in downtown Pittsburgh. One of the objectives of the study was to provide the Buhl Foundation, of Pittsburgh, with basic information to be used as a guide in planning a housing development to appeal to salaried employèes.¹ The housing status of 1,415 families was analyzed with a view to providing answers to the following questions:

1. What proportion rent and what proportion own their homes?
2. What are the costs of housing accommodations, both to the renters and to the home owners?
3. What proportion of family income is spent for shelter?
4. How does this proportion differ for various income groups?
5. What measurable factors influence expenditures for housing?
6. What are the housing accommodations enjoyed by these families?
7. How do costs vary with the type of accommodations secured?
8. Where do these families live?
9. What form of transportation do they employ, and how much time is spent in going to and from work?

¹ The Chatham Village development, of which 125 units were completed for occupancy in the spring of 1932.

10. What reasons are advanced for home owning or for renting?

11. How does the housing situation of renters differ from that of home owners?

The answers to these questions are of considerable local interest, since salaried workers comprise a substantial proportion of the population. Any light thrown upon their expenditure for housing—a large item in the family budget—may further new inquiries into the housing problems of Pittsburgh workers.

Although the results of this study are applicable only to the salaried workers employed in downtown Pittsburgh, they should, when combined with the results of other like studies, assist in the formation of policies for national action. The current depression has resulted in various proposals for the bettering of housing conditions throughout the nation; and the first national housing conference was held in Washington in December, 1931, under the direction of the President of the United States. Proposals for large-scale construction of homes, tax exemptions, limited dividend corporations, or federal, state, and municipal construction must be viewed in the light of factual studies of existing conditions.

The enlightened employer of labor is directly interested in the housing conditions of his employees. He desires that there be no interference with efficiency on the job, and that housing accommodations be ample and cheap as compared with those in other centers.

Real estate dealers and builders, whose function is to provide adequate housing facilities, should know the spending habits of their customers so that they may discharge this responsibility properly. The satisfying of housing needs at a cost within the limits provided by

the family budget is a real problem. Any lowering of the cost of the usual accommodations enjoyed by the various income classes, or the provision of better accommodations at the same or lower cost, is a major contribution to the advancement of the standard of living.

Financial institutions, life insurance companies, and various governmental agencies are interested in the problem of home financing. Knowledge of the usual budget allowances for shelter in a large number of families will provide a basis for the granting of credit. Philanthropic institutions likewise have an interest in housing conditions. Finally, the great mass of home owners and renters are concerned with the proper adjustment of their living expenses, of which housing costs are a substantial part to their incomes.

This study is designed to provide some factual basis for the decisions involving questions of housing which various social and economic groups must make.

Method of Securing Data

The data for this study were secured by means of questionnaires distributed to salaried workers through their employers. The cooperation of the following types of concerns with offices in downtown Pittsburgh was secured for the distribution of the questionnaires: two public utilities, four department stores, five financial institutions, five industrial concerns, one railroad, and two insurance agencies.² These concerns distributed the

² The following firms cooperated with the Bureau in this study: Aluminum Company of America, American Window Glass Company, Bell Telephone Company of Pennsylvania, Duquesne National Bank, Farmers Deposit National Bank, Gimbel Brothers, Joseph Horne Company, Kaufmann Department Stores, Inc., The Koppers Company, Mellon National Bank, Pennsylvania Railroad Company, Philadelphia Company, Pittsburgh Coal Company, Pittsburgh Steel Company, Reliance Life Insurance Company of Pittsburgh, Rosenbaum Company, Union National Bank of Pittsburgh, Union Trust Company of Pittsburgh, Edward A. Woods Company.

forms to those employees who belonged to the group being studied. In all but one case the president or other executive officer enclosed a letter recommending participation in the study.³ It is believed that the employees of these concerns represent a fair cross-section of the salaried workers employed in downtown Pittsburgh.

The Group Studied

Questionnaires were distributed among salesmen, accountants, clerks, statisticians, engineers, and junior executives. In order to get replies from the type of worker selected for the study, cooperating concerns were asked to distribute the questionnaires to employees described as follows: "Heads of families engaged in clerical and executive work in downtown Pittsburgh with salaries of \$5,000 annually or less." In general the persons reporting were heads of families engaged in the designated types of work. Salaries in a number of cases were in excess of \$5,000; but such cases, if otherwise acceptable, were included in the study.

A large proportion of the 1,385 persons reporting occupations were engaged in clerical work. Those having executive, technical, selling, and accounting positions were next in order in numbers reporting. Other groups were only sparsely represented.

Occupational groups were only roughly defined and persons reporting were instructed to indicate the occupational group to which they belonged. Some persons, no doubt, classified themselves in one occupational group when they might have been more logically included in

³ The letter soliciting cooperation of employees is shown in Appendix B; the letter suggested by the Bureau for use by executives, in Appendix C.

another. The distribution of the replies among the various occupational groups provides a cross-section of the type of workers to be studied (Table 1).

TABLE 1
DISTRIBUTION OF REPORTING SALARIED WORKERS*
BY TYPES OF EMPLOYMENT

Type of Employment	Number Reporting	Per Cent of Total
Clerical	623	45.0%
Executive	241	17.4
Technical	215	15.5
Selling	119	8.6
Accounting	94	6.8
Semi-technical	33	2.4
Semi-executive	28	2.0
Service	15	1.1
Professional	11	0.8
Statistical	6	0.4
Total Reporting Employment	1,385	100.0%
Employment Not Reported	30	.....

*Data in this table and in all subsequent tables are based on reports of salaried workers employed in downtown Pittsburgh.

Family incomes⁴ for 1930 ranged from as low as \$200 in one case to more than \$10,000 in several cases; but 1,000 persons, among the 1,350 persons reporting income, reported incomes ranging between \$2,000 and \$4,999. Only 144 reported incomes lower than \$2,000, while 206 reported incomes greater than \$4,999. Average family income of the entire group was \$3,636, being brought up to this level by a few high incomes; if the families with incomes of \$7,000 or more are eliminated, the average becomes \$3,262 per year. (These average incomes are weighted means of corresponding figures in Tables 3 and 4.)

In 831 cases among the 1,359 workers reporting salary, no income additional to salary was reported. Average salary, of course, was lower than average income, the difference being due to the exclusion of the extra

⁴ Includes salary of head of family, salaries of other working members of the family, other incomes of members of the family, and income from lodgers and boarders.

earnings of the remaining 528 families. The average annual salary, including salaries of \$7,000 or more, was \$3,213, and, excluding the salaries of \$7,000 or more, \$2,985.

Since family expenditures for shelter are more closely related to total family income than to the salary of the head of the family, comparisons were, in the main, based on family income. Because salaries constitute the greater part of family income, and because of the prevalent practice of setting monthly salaries in multiples of \$25, the interval for grouping was fixed at \$300 per year for purposes of considering the relation between income and rent and the relation of income to home cost and to home indebtedness. However, the number of cases was too small to justify the use of this interval for the lower and the higher salary range. The classes were selected so that each would center as nearly as possible on the most prevalent salary figure in the class. When another factor, such as number in the family or number of rooms, was introduced into the comparison, an income interval of \$1,000 was used. The groupings used in this study are shown in Tables 2 and 6.

Approximately 25 per cent of the families were composed of two members; 26 per cent, of three members; 22 per cent, of four members; 14 per cent, of five members; 7 per cent, of six members; and 7 per cent, of seven or more. The average family consisted of 3.8 members. For comparisons of the number of persons in the family with the cost and quantity of housing accommodations, all persons living in the home, including boarders and lodgers, were regarded as members of the family. Payments to the family by boarders and lodgers—but not their incomes—were included in family income, since these payments affect the family budget.

In interpreting the charts and tables presented in later sections it must be remembered that the group being studied is a limited one composed of salaried workers employed in downtown Pittsburgh. Generalizations must, therefore, be likewise limited.

The Data

In devising the questionnaire upon which this study is based, the following essentials were kept in mind: First, information in regard to shelter costs must be obtained in such a form that all persons replying could be placed on a reasonably comparable basis with respect to such costs. Second, all must be on a comparable basis in regard to income. Third, information necessary to provide a picture of the housing accommodations enjoyed by those reporting must be secured. The questionnaire as presented in Appendix A was used to obtain the required data.⁵

Data relating to costs of shelter fall into two classes, one pertaining to renters, and one to home owners. Renters were asked to report monthly rent paid at the time of answering the questionnaire.⁶ In addition, they were asked to indicate what special items were paid for by the rent reported. Heat, light, gas, and garage were some of the items specified. Each home owner was asked to report the purchase price of his home; where the home

⁵ The questionnaire provided several opportunities for cross checking the accuracy of the replies. It was doubtful that certain women who indicated family income greatly in excess of personal income were heads of families. In replying to "reasons for renting," several persons indicated that they were staying with parents and paying for their accommodations an amount which could hardly be regarded as rent. Several persons by reporting only one member in the family together with other information showed that they were single persons living away from home. These cross checks were used in restricting the group to its original definition.

⁶ The questionnaire was distributed during the first three months of 1931. The rents reported are in general those called for by leases dated May 1 or October 1, 1930.

was constructed by the present owner, he was asked to give the cost of the lot, the cost of the building, and the cost of the garage, separately. The year of purchase and the amount of indebtedness were also requested.

Four income items were requested from each family head, namely, total family income, total personal income, salary income from main occupation, and income received from boarders or lodgers, including that received from children.

To determine the accommodations of the reporting families, information was requested from each family pertaining to type of dwelling, number and kinds of rooms, type of furnace, kind of fuel used, type of transportation and time taken to get to work, and the approximate location of the home.

To provide a basis for comparison of needs, statements were requested relative to the number of persons in the family; their distribution into various classes such as children under 16, over 16, relatives, and other persons; and the age of the head of the family.

Because of the very personal nature of the information requested, the questionnaire contained no means for the identification of either individuals or the concerns for which they worked. Stamped envelopes, addressed to the Bureau of Business Research, were provided for mailing the replies. Thus, there could be no legitimate reason for anyone to falsify his reply. Although some discrepancies were found, the reasonableness of practically all the replies indicates that they were truthfully reported. Cooperation of more than one-third of those receiving the questionnaire was secured. The sections devoted to the "no report class" in the tables which follow show that a very large percentage of the questions

were answered by those reporting. There appeared to be very little doubt in the minds of the reporting workers regarding the information desired, although a careful checking of the reports indicated several places where questions might have been restated to advantage.⁷

Replies to the questions "Why do you rent?" and "Why do you own?" were numerous, and some of the reporting persons explained in great detail their attitudes on the subject. It must be remembered, however, in the interpretation of the replies to these questions, that the reasons given may be, not the actual reasons, but merely the result of subconscious attempts of persons to justify to themselves their present status relative to shelter.

⁷ See the revised questionnaire in Appendix D.

CHAPTER I
RELATIONSHIP BETWEEN SHELTER COST
AND INCOME

Since a question of prime importance is "What do families of varying incomes pay for shelter?", this chapter is devoted to the presentation of data dealing with the relation between income and cost of shelter. The housing situations of renters and those of home owners are presented separately.

A large proportion of the salaried workers of Pittsburgh are renters (58.2 per cent of those reporting). Rent is one of the largest single items in the family budget. It is important, therefore, to know how it varies with the salary of the head of the family or with the total income of the family.

Rent is construed here to be the payment for shelter only, but of the 823 families reporting rent, gas was furnished to 160 families, water to 582, electricity to 94, artificial refrigeration to 88, heat to 254, household services to 28, furniture to 17, and garage to 172 families, all without separate charge. The rent figures reported are, therefore, composites of payments for rent and payments for these various services and conveniences. Wherever it was practicable, adjustments of actual rents have been made to allow for included services (see page 18). When used in the discussion these new figures will be termed "adjusted rents."

Salary and Rent

The average rent (unadjusted) paid by the 792 renters reporting both salary and rent is \$58 per month. The average is \$57 when the fifteen renters earning \$7,000 or more annually are eliminated (Table 2).

TABLE 2
AVERAGE RENTS OF VARIOUS SALARY GROUPS, 1930
(Expressed in Dollars and as Percentages of Salary)

Salary Group	Average Annual Salary	Number of Reports	Average Monthly Rent	Average Annual Rent as Percentage of Average Salary
Less than \$1,000	\$ 745	11	\$ 39	62.8%
\$1,000 — 1,499	1,294	38	38	35.2
1,500 — 1,999	1,767	126	42	28.5
2,000 — 2,299	2,143	115	47	26.3
2,300 — 2,599	2,424	94	51	25.2
2,600 — 2,899	2,735	61	61	26.8
2,900 — 3,199	3,015	91	60	23.9
3,200 — 3,499	3,309	55	67	24.3
3,500 — 3,799	3,604	52	67	22.3
3,800 — 4,099	3,959	43	71	21.5
4,100 — 4,399	4,224	17	77	21.9
4,400 — 4,699	4,515	22	78	20.7
4,700 — 4,999	4,793	14	91	22.8
5,000 — 5,999	5,238	28	85	19.5
6,000 — 6,999	6,139	10	102	19.9
7,000 — 7,999	7,133	3	118	19.9
8,000 — 8,999	8,350	4	76	10.9
9,000 — 9,999	9,600	1	150	18.8
10,000 or More	13,371	7	126	11.3
All Groups	\$2,954	792	\$58	23.6%
All Groups Less than \$10,000	\$2,861	785	\$58	24.3%
All Groups Less than \$7,000	\$2,808	777	\$57	24.4%
Salary Not Reported	.....	31	\$58	.....

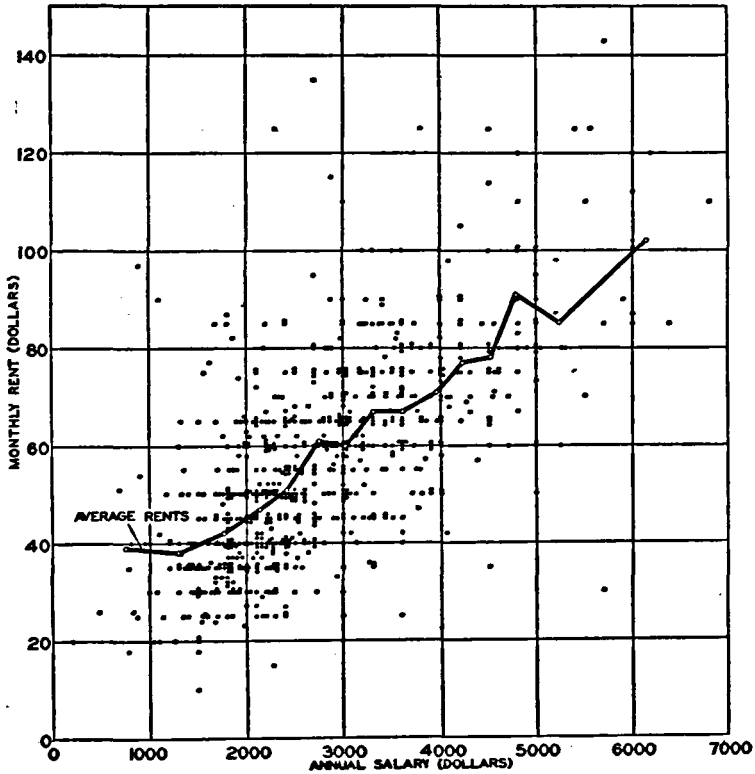
Widely varying rents were reported, the highest being \$235 and the lowest \$10.* From an inspection of Chart 1 it may be seen that a large proportion of this variation is explained by differences in salaries. Though persons with like salaries pay widely varying amounts for rent, there is a distinct concentration in a relatively narrow range about the average, which may be regarded

* The average deviation of monthly rents from their mean is \$21.75.

as the typical rent of the group. These typical rents, together with the rents and salaries of the 777 families, are plotted in Chart 1. Each dot represents a rent payer. The distance between a dot and the bottom of the chart represents monthly rent as measured by the scale at the left; the distance from the left edge of the chart represents salary as measured by the scale at the

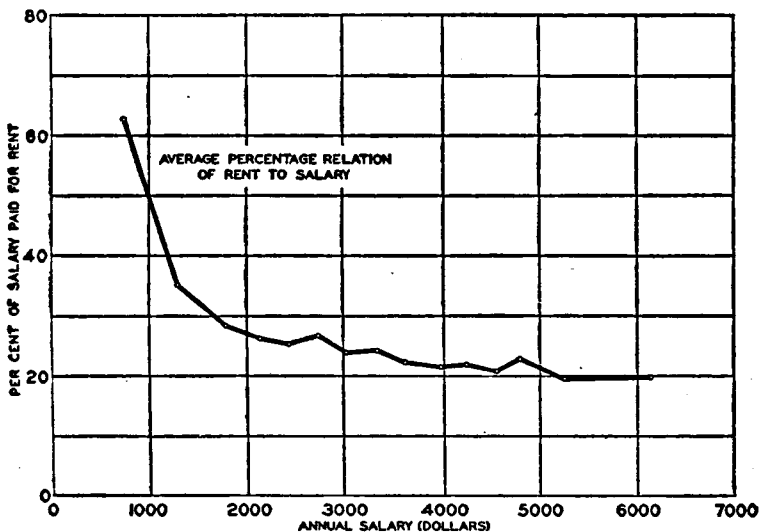
CHART 1
MONTHLY RENTS AND ANNUAL SALARIES, 1930, of 777
SALARIED WORKERS EMPLOYED IN DOWNTOWN
PITTSBURGH

(Averages presented in Table 2)



bottom. The solid, somewhat irregular line connects the average rents of successive salary groups, each group being composed of persons earning approximately the same salaries. Dots lying above this line represent persons paying more than the average rent for their respective salary groups, whereas dots lying below represent persons paying less than average.

CHART 2
AVERAGE RENT AS A PERCENTAGE OF AVERAGE SALARY,
BY SALARY GROUPS, 1930
(Data presented in Table 2)



Average rents vary from \$38, for those with salaries ranging from \$1,000 to \$1,499, to \$118, for those with salaries of \$7,000 to \$7,999. The average rent line generally rises from one salary group to the next higher and its trend approximates a straight line. Every \$100 increase in annual salary is followed, on the average, by an increase of \$1.35 in monthly rent or \$16.20 in

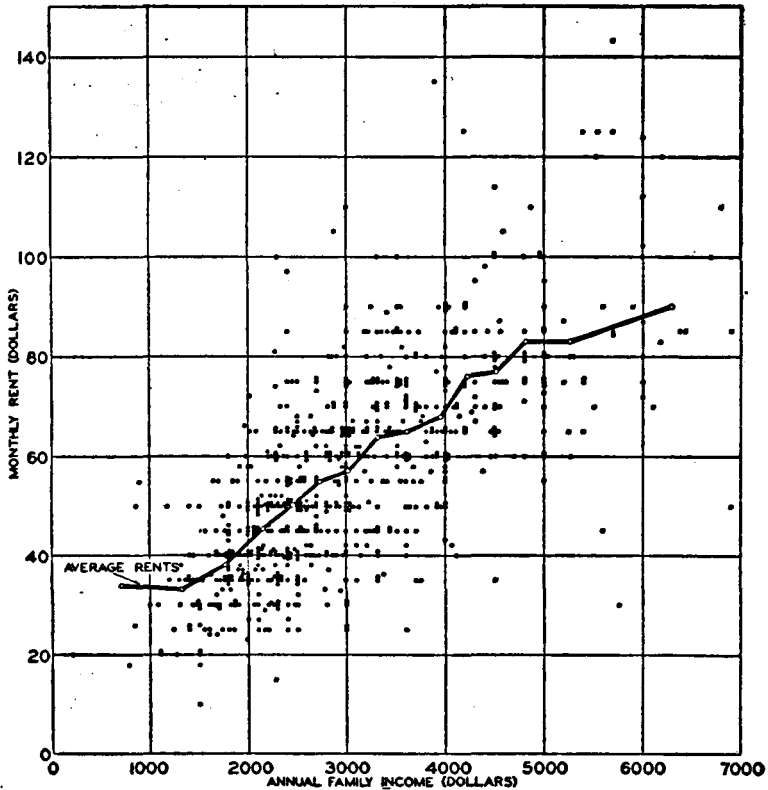
yearly rent. However, average rent expressed as a percentage of salary decreases as the average salary increases (Chart 2). In other words, the larger the salary of a salaried worker is, the smaller is the proportion expended for rent.

Family Income and Rent

The ability of the head of a family to pay rent is often greater than that indicated by his personal salary. As the dispersion of the dots in Chart 1 illustrates, persons earning the same salary pay widely different rents. Some of this dispersion results from the inclusion of persons whose families have income in addition to the salary of the head of the family. If there is additional income from earnings of other members of the family, or from savings, investments, pensions, insurance annuities, or other sources, the family may pay more rent than if their whole budget were based upon the salary of one person. For this reason, Chart 3 was prepared, similar to Chart 1 except that family income was substituted throughout for the salary of the head of the family.

Average rent for the entire group of renters for whom family income data are available is \$59, and differs from the corresponding figure in Table 2 because of a slight variation in the number of cases available (Table 3). This rent must be compared with an average family income of \$3,269 (Table 3), instead of an average salary of \$2,954 (Table 2). The percentage of family income paid for rent is, therefore, somewhat lower than the percentage of salary. Whereas rent amounts to 23.6 per cent of salary, it amounts only to 21.7 per cent of family income. The average rent of those with family incomes of less than \$7,000 is \$57.

CHART 3
MONTHLY RENTS AND ANNUAL FAMILY INCOMES, 1930, OF
766 SALARIED WORKERS EMPLOYED IN DOWNTOWN
PITTSBURGH
(Averages presented in Table 3)



Averages computed for the various family income groups range from \$33, for those with incomes of \$1,000-\$1,499, to \$101, for those with incomes of \$7,000-\$7,999. (In this discussion income groups above \$8,000 were not used because of the scarcity of cases). The trend of rents plotted against family incomes is upward (Chart 3), but is not so steep as the trend of rents plotted against salaries (Chart 1). For every \$100 increase in annual family income, rents are greater by

TABLE 3
AVERAGE RENTS OF VARIOUS FAMILY INCOME GROUPS,
1930: ACTUAL, AND ADJUSTED* FOR DIFFERENCES
IN SERVICES RECEIVED
(Expressed in Dollars and as Percentages of Family Income)

Family Income Group	Average Annual Family Income	Number of Reports	Average Monthly Rent—Actual		Average Monthly Rent—Adjusted	
			Amount	Per Cent of Family Income	Amount	Per Cent of Family Income
Less than \$1,000	\$ 718	5	\$ 34	56.8%	\$ 32	53.5%
\$1,000 — 1,499	1,323	25	33	29.0	31	28.1
1,500 — 1,999	1,757	91	38	26.0	35	23.9
2,000 — 2,299	2,142	95	45	25.2	42	23.5
2,300 — 2,599	2,427	99	50	24.7	46	22.7
2,600 — 2,899	2,733	65	55	24.1	51	22.4
2,900 — 3,199	3,011	88	57	22.7	52	20.7
3,200 — 3,499	3,309	57	64	23.2	59	21.4
3,500 — 3,799	3,601	59	65	21.7	60	20.0
3,800 — 4,099	3,951	55	68	20.7	64	19.4
4,100 — 4,399	4,208	24	76	21.7	70	20.0
4,400 — 4,699	4,508	30	77	20.5	69	18.4
4,700 — 4,999	4,823	14	83	20.7	76	18.9
5,000 — 5,999	5,258	42	83	18.9	75	17.1
6,000 — 6,999	6,272	17	90	17.2	82	15.7
7,000 — 7,999	7,383	6	101	16.4	95	15.4
8,000 — 8,999	8,418	5	65	9.3	62	8.8
9,000 — 9,999	9,300	2	109	14.1	99	12.8
10,000 or More	14,195	10	128	10.8	114	7.8
All Groups	\$3,269	789	\$59	21.7%	\$54	19.8%
All Groups Less than \$10,000	\$3,130	779	\$58	22.2%	\$53	20.3%
All Groups Less than \$7,000	\$3,045	766	\$57	22.5%	\$53	20.9%
Income Not Reported	.....	36	\$59	.....	\$54	.....

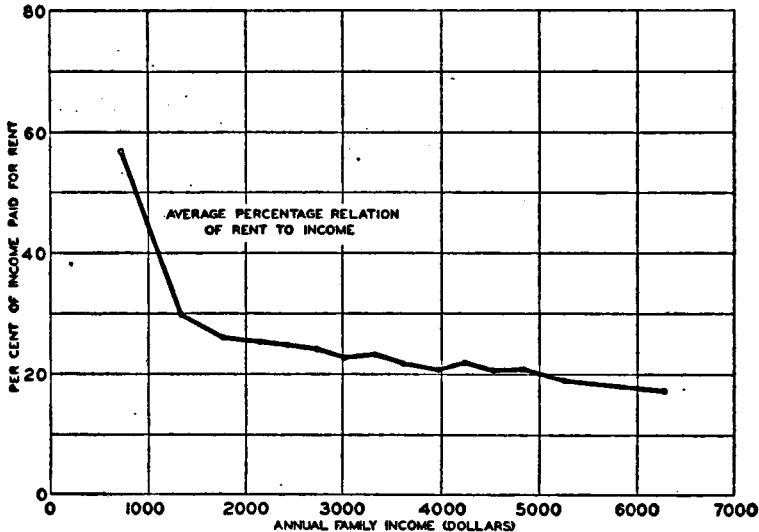
*The adjustment made is explained in the text, p. 18.

approximately \$1.10 per month or \$13.20 per year. Although rents increase with increases in family income, the percentage of income paid for rent has a much different trend. As income increases, the percentage paid for rent declines at a decreasing rate (Chart 4), the greatest decrease taking place in the lower income groups.

It appears that Engel's law⁹ with respect to food might be applied to rent, at least for the income group

⁹ See reference to Engel's studies in Warren C. Waite, *Economics of Consumption* (1928), p. 103.

CHART 4
 AVERAGE RENT AS A PERCENTAGE OF AVERAGE FAMILY
 INCOME, BY FAMILY INCOME GROUPS, 1930
 (Data presented in Table 3)



investigated in this study. Engel states that the poorer a family is, the larger the proportion of the budget required for food.¹⁰ Evidence presented in recent studies (see reference in footnote 10) shows that Engel's law does not apply to the lower income groups in urban areas because of the encroachment of the larger rent percentage upon the proportion of the family budget which would with lower rent be spent for food. Engel held that the proportionate expenditure for rent remained approximately the same throughout the various income classes. This is not true for the group studied here. Indeed, with respect to salaried workers in Pittsburgh, it appears that the poorer the family is, the greater the proportion of the budget required for rent.

¹⁰ "Je ärmer eine Familie ist, einen desto grösseren Anteil von der Gesamtausgabe muss zum Beschaffung der Nahrung Aufgewendet werden." Quoted from Povl Heiberg, "Has Engel's Law Its Limitations?" *American Statistical Journal*, XXVI, 174 (June, 1931) p. 175.

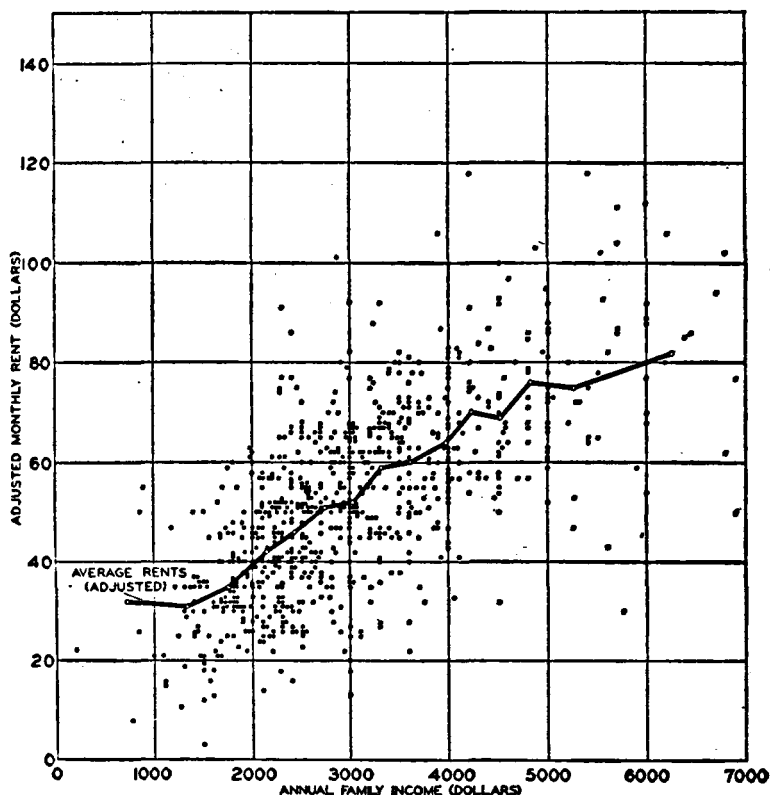
As stated in an earlier paragraph of this chapter the rent charge is, in certain cases, a composite of charges for basic shelter accommodations and charges for various services furnished by the landlord. It is evident that if two families lease practically identical accommodations, except that one has a garage, the family with the garage will pay the higher rent. If the two families have equal incomes, the percentages expended for rent will differ because garage rent is included in one case and not in the other.

To eliminate the variation caused by such inclusions, the rents of all families reporting extra accommodations or services were adjusted. Monthly costs, estimated on the basis of the judgment of several persons familiar with conditions in the city, were assigned to the various services. Since no information with regard to the possible variation of these costs with income or size of accommodations was available, a flat adjustment was made for each item.

The adjusted average rents for the various income groups are given in Table 3, the same table in which actual average rents are shown. Adjusted rents average lower than the actual for all income groups, but not uniformly. The average for the 789 families is \$54 per month—five dollars less than the average actual rent paid by these families.

The individual adjusted rents are plotted against individual family incomes in Chart 5. It is apparent that there is a fairly close relation between adjusted rents of salaried workers and their family incomes. Although there is considerable dispersion about the line connecting the average rents of the various income groups, a definite tendency of the dots to cluster about this line is

CHART 5
 MONTHLY RENTS—ADJUSTED*—AND ANNUAL FAMILY
 INCOMES, 1930, OF 766 SALARIED WORKERS
 EMPLOYED IN DOWNTOWN PITTSBURGH
 (Averages presented in Table 3)



*The adjustment made is explained in the text, p. 18.

evident.¹¹ The chart clearly indicates the regularity with which rents increase from one income group to the next higher.

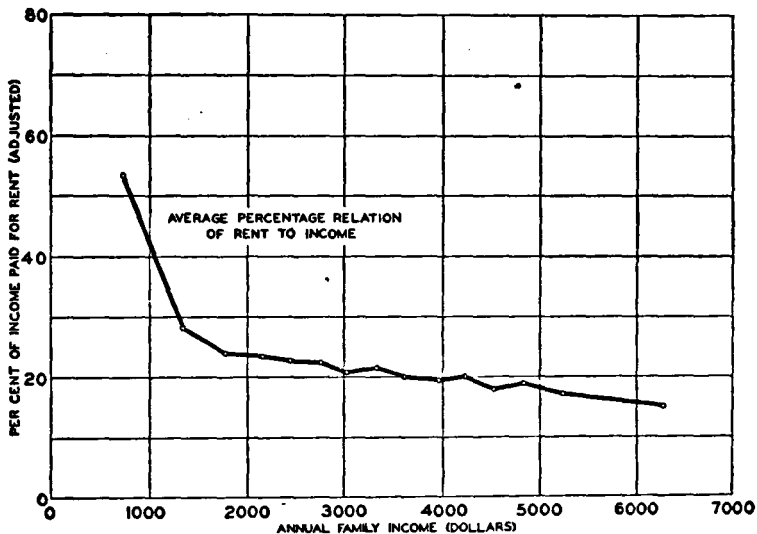
Average rents of the various income groups, adjusted to exclude hidden payment for gas, light, heat,

¹¹ The correlation of adjusted rents and family incomes yields a coefficient of $+0.66$. The coefficient of determination of $.44$ indicates that 44 per cent of the squared variation in rents is attributable to variations in family income.

garage, etc., and expressed as percentages of average incomes, have a downward trend when plotted against income (Chart 6). The percentages shown are lower than those for unadjusted rents (Chart 4) because of the elimination of the hidden payments for various extra services and accommodations. Persons in the lowest income group, those receiving less than \$1,000 annually, are obliged to pay 53.5 per cent of their income for rent. This is probably an abnormal situation resulting from decreased earnings during a year of business recession. It is probable that some families with reduced incomes in the latter half of 1930 were obliged to pay a rent out of line with their earnings because the reduction was not foreseen at the time of signing the annual

CHART 6
AVERAGE RENT—ADJUSTED—AS A PERCENTAGE OF
AVERAGE FAMILY INCOME, BY FAMILY INCOME
GROUPS

(Data presented in Table 3)



lease. Families are obligated to pay the rents originally agreed upon even though new conditions make it impossible for them to do so without great hardship, but the same is true of all contractual obligations. The next higher income group, the \$1,000-\$1,499 group, averages 28.1 per cent of family income for rent and the \$1,500-\$1,999 group averages 23.9 per cent. In the higher groups, the percentage of income paid for rent declines at a slower rate. Those with incomes of \$6,000-\$6,999 pay only 15.7 per cent.

The percentages shown in Chart 6 produce a fairly smooth line, but it must be remembered that these are based upon averages. Individual cases, if plotted, would be scattered about this line, some being at a considerable distance above, and some below. The smoothness of the line, however, gives evidence of the strength of the underlying relationship between income and rent and is, therefore, significant.¹²

Family Income and Original Home Cost

It is, of course, logically assumed that persons with large incomes buy or build more expensive homes than do those with small incomes. The exact relationship between income and the cost of homes is not so well known.

¹² It is of considerable local interest to know whether Pittsburgh renters pay more or less for housing accommodations than do renters in other cities in the United States. It is indeed regrettable that this question cannot be answered now. This study is restricted to a limited group of Pittsburgh renters, the salaried employees of downtown Pittsburgh concerns. The data cannot, therefore, be said to be representative of the Pittsburgh renting situation. The salaried group is one for which the rent-income relationship may be expected to differ from that of the wage-earning group. Questions of social prestige, no doubt, affect rent expenditures even in the lower income classes of the salaried group. Moreover, like studies have not been made of comparable groups in other cities. Many phases of this study must, of necessity, be limited to setting forth the facts; comparisons of the salaried group in Pittsburgh both with other groups in Pittsburgh and with like groups in other cities must be postponed until comparable data for such groups are made available.

Home cost differs from rent in that rent is the price paid for the use of accommodations for a short period, commitment usually being made for a year or less, whereas home cost is the price for the use of accommodations for an indefinitely long period, commitment being made at some time in the near or distant past for the life of the house. Rents increase or decline with the general level of real estate prices, whereas the cost of owning changes very little, once a commitment has been made. The renter can easily adjust his expenditure for shelter to conform to changing price levels; the home owner cannot. It is to be expected, therefore, that there will be variations in home costs explainable by differences in the level of real estate prices rather than by differences in income. Since rents are based on the current price level and home costs on various former price levels, it is probable that home costs of various income groups deviate more widely from their averages than do rents. It must be remembered that the relationships shown are those existing between incomes of 1930 and prices of homes purchased in earlier years.

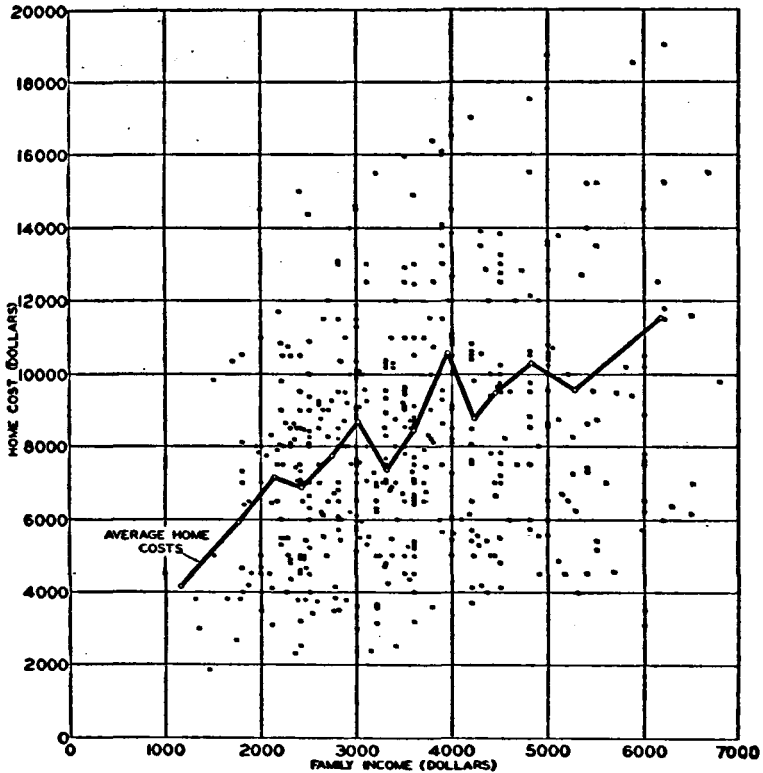
In spite of this confusing factor (date of purchase), a definite relationship between home cost¹³ and present income exists. Each dot in Chart 7 represent the family income in 1930 and the original home cost of a salaried home owner. The heavy line connects the average home costs of the adjacent income groups. This line is more irregular than the average rent line of Chart 5 but not so irregular as to belie the existence of an underlying

¹³ The expression "home cost" has been defined for the purpose of this study to be either (a) the purchase price of house and lot plus cost of garage, if one is built subsequently, or (b) purchase price of lot plus construction cost of house plus construction cost of garage, if this is not included in original cost of home. Among the home owners reporting, 67.5 per cent purchased homes already built, 31.8 per cent built homes, and 0.7 inherited their homes.

CHART 7

ORIGINAL HOME COSTS AND ANNUAL (1930) FAMILY INCOMES OF 518 SALARIED WORKERS EMPLOYED IN DOWNTOWN PITTSBURGH

(Averages presented in Table 4)



relationship.¹⁴ In general, it may be said that the home costs of salaried workers increase as their incomes increase. The low income group averaging \$1,759 annually paid \$5,927 for their homes, a cost more than three times their annual income, which probably represents an

¹⁴ The correlation of home costs and family incomes yields a coefficient of +.51. Home costs when measured from the line of relationship with family incomes have a standard error of \$4,294. The coefficient of determination of .26 indicates that 26 per cent of the squared variation in home costs is attributable to variations in family income.

TABLE 4
AVERAGE ORIGINAL HOME COSTS OF VARIOUS FAMILY
INCOME GROUPS, 1930
 (Expressed in Dollars and as Ratios to Family Income)

Family Income Group	Average Annual Family Income	Number of Reports	Average Cost of Home	Ratio of Cost of Home to Annual Family Income
Less than \$1,000	.....	0	.....	.....
\$1,000 — 1,499	\$ 1,150	2	\$ 4,150	3.6
1,500 — 1,999	1,759	21	5,927	3.4
2,000 — 2,299	2,136	37	7,152	3.3
2,300 — 2,599	2,419	57	6,886	2.8
2,600 — 2,899	2,747	47	7,735	2.8
2,900 — 3,199	3,013	53	8,677	2.9
3,200 — 3,499	3,305	42	7,349	2.2
3,500 — 3,799	3,599	58	8,431	2.3
3,800 — 4,099	3,949	42	10,568	2.7
4,100 — 4,399	4,229	33	8,724	2.1
4,400 — 4,699	4,499	30	9,418	2.1
4,700 — 4,999	4,819	17	10,279	2.1
5,000 — 5,999	5,272	52	9,531	1.8
6,000 — 6,999	6,167	27	11,528	1.9
7,000 — 7,999	7,366	9	17,243	2.3
8,000 — 8,999	8,120	10	7,506	0.9
9,000 — 9,999	9,163	3	15,933	1.7
10,000 or More	14,701	23	26,081	1.8
All Groups	\$4,151	563	\$9,387	2.3
All Groups Less than \$10,000	\$3,701	540	\$8,676	2.3
All Groups Less than \$7,000	\$3,582	518	\$8,507	2.4
Income Not Reported	.....	28	\$8,218	.....

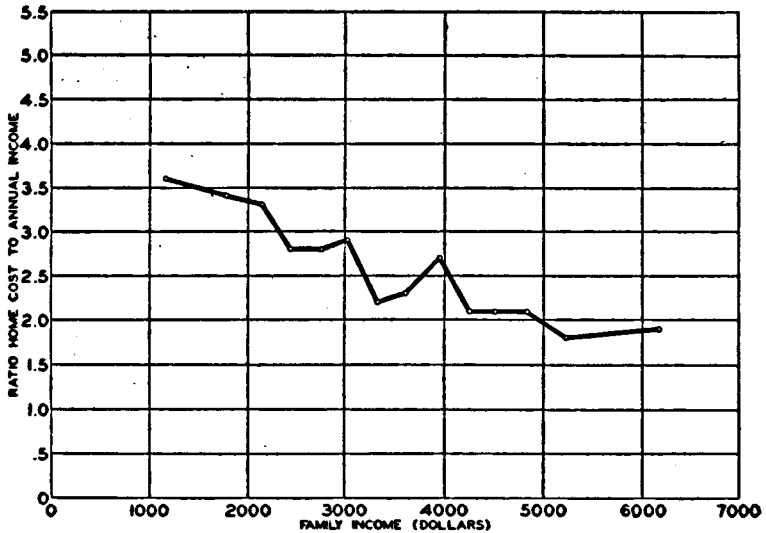
excessive expenditure for this group. In fact, all groups with incomes less than \$2,300 per year paid more than three times their yearly income for homes. Those groups with incomes ranging from \$2,300 to \$5,000 paid less than three years' income but more than two years' income for their homes (Chart 8). Persons with incomes greater than \$5,000 paid less than two years' income for their homes.

A purchase price equivalent to two years' income is commonly assumed to be the maximum price which should be paid for a home. If this assumption is correct, then it may be concluded that the salaried home owners, as a group, have expended more for their homes

CHART 8

RATIO OF AVERAGE ORIGINAL HOME COST TO AVERAGE ANNUAL (1930) FAMILY INCOME, BY INCOME GROUPS

(Data presented in Table 4)



than is justified by their present incomes; for only 29 per cent of the salaried home owners with less than \$5,000 income annually limited themselves to such a price. The desire to secure price appreciation in a rising real estate market, the desire to maintain living standards in the face of rising prices resulting from speculative activity and increasing costs of construction, and the misjudgment of future income are the probable causes of the apparently over-expended situation of home owners. In terms of depression income, at least, families who purchased homes during the last decade probably had over-bought. The present rate of mortgage foreclosures in the county gives evidence of this condition. It is in point, therefore, to consider briefly the home indebtedness reported by owners.

Indebtedness and Home Cost

A large proportion of owned homes are encumbered by mortgages. Of the group of home owners included, 78 per cent have first mortgages and 18 per cent have second mortgages. (The few land contracts reported were combined with first mortgages in this study.)

Total indebtedness equals 41 per cent of total original cost, encumbered and unencumbered homes being considered (Table 5). In other words, owned homes of

TABLE 5
AVERAGE INDEBTEDNESS* ON HOMES OF VARIOUS
FAMILY INCOME GROUPS
(Expressed in Dollars and as Percentages of Original Cost of Home)

Family Income Group (1930)	Number of Reports	Average First Mortgage	Average Second Mortgage	Average Total Encumbrance		
				Amount	Per Cent of Original Home Cost†	Ratio to Annual Family Income†
Less than \$1,000	0	.....	.....	.....	.....	.....
\$1,000 — 1,499	2	\$2,150	.....	\$2,150	52%	1.9
1,500 — 1,999	21	3,000	\$ 11	3,011	51	1.7
2,000 — 2,299	37	2,793	394	3,187	45	1.5
2,300 — 2,599	57	2,508	177	2,685	39	1.1
2,600 — 2,899	47	3,440	396	3,836	50	1.4
2,900 — 3,199	53	3,579	208	3,787	44	1.3
3,200 — 3,499	42	3,058	87	3,145	43	1.0
3,500 — 3,799	58	3,672	130	3,802	46	1.1
3,800 — 4,099	42	4,495	376	4,871	46	1.2
4,100 — 4,399	33	3,118	155	4,273	38	0.8
4,400 — 4,699	30	3,479	17	3,496	37	0.8
4,700 — 4,999	17	4,729	521	5,250	51	1.1
5,000 — 5,999	52	3,522	179	3,701	39	0.7
6,000 — 6,999	27	4,585	215	4,800	42	0.8
7,000 — 7,999	9	8,886	0	8,886	52	1.2
8,000 — 8,999	10	1,250	0	1,250	17	0.2
9,000 — 9,999	3	5,233	0	5,233	33	0.6
10,000 or More	23	6,162	143	6,305	24	0.4
All Groups	563	\$3,623	\$212	\$3,835	41%	0.9
All Groups Less than \$10,000	540	\$3,515	\$215	\$3,730	43%	1.0
All Groups Less than \$7,000	518	\$3,455	\$224	\$3,679	43%	1.0
Income Not Reported	28	\$2,799	\$292	\$3,091	38%	.....

*Based on the total number of homes, including those unencumbered. Debt is that outstanding in January or February, 1931.

†Home costs and family incomes are shown in Table 4.

salaried workers, on the average, are encumbered to the extent of two-fifths of their original cost. (This does not, by any means, provide a basis for conclusions concerning the average value of owners' equities.) Of course, some homes are owned outright, some are almost free, and others have a large balance still to be paid. Encumbered homes, numbering 427, show an average total indebtedness of \$4,830, equivalent to 52 per cent of average original cost. For the 80 cases having second mortgages, the average first mortgage is \$5,034 and the average second mortgage is \$1,398, an average total encumbrance of \$6,432, equivalent to 69 per cent of the average original cost.

TABLE 6
DISTRIBUTION OF HOME OWNERS BY INCOME GROUPS
ACCORDING TO THE PERCENTAGE OF OUTSTANDING
INDEBTEDNESS ON HOMES*

Family Income Group	Total Number of Cases	Percentage Indebtedness					
		None	Less than 16%	16% to 35%	36% to 55%	56% to 75%	More than 75%
Number of Cases							
Less than \$2,000	22	4	0	2	7	6	3
2,000—2,999	144	28	11	14	33	36	22
3,000—3,999	163	33	5	15	41	56	13
4,000—4,999	102	19	3	12	40	23	5
5,000—5,999	50	16	2	7	12	11	2
6,000—6,999	27	7	2	1	11	5	1
7,000 or More	41	15	2	4	12	8	0
All Groups	549	122	25	55	156	145	46
Data Incomplete	43	—	—	—	—	—	—
Per Cent of Total Cases							
\$1,000—\$1,999	100.0%	18.2%	0.0%	9.1%	31.8%	27.3%	13.6%
2,000—2,999	100.0	19.5	7.6	9.7	22.9	25.0	15.3
3,000—3,999	100.0	20.2	3.1	9.2	25.1	34.4	8.0
4,000—4,999	100.0	18.6	2.9	11.8	39.2	22.6	4.9
5,000—5,999	100.0	32.0	4.0	14.0	24.0	22.0	4.0
6,000—6,999	100.0	25.9	7.4	3.7	40.8	16.5	3.7
7,000 or More	100.0	36.6	4.9	9.7	29.3	19.5	0.0
All Groups	100.0%	22.2%	4.6%	10.0%	28.4%	26.4%	8.4%

*Income is for 1930; debt is that outstanding in January or February, 1931.

The lower income groups are in a somewhat poorer position with regard to the balances due on their homes. There are several probable reasons for this. Those in the lower income groups may have purchased at a later date than those in the higher groups; they may have paid a smaller proportion as a down payment; or they may be liquidating their debt at a slower rate.

Homes on which the indebtedness amounts to more than 75 per cent of the original cost are relatively more numerous among the low income groups (Table 6). On the other hand, homes free from indebtedness are most numerous among owners with high incomes. From 25 to 35 per cent of the homes of those in groups earning less than \$4,000 are 56 to 75 per cent encumbered,

TABLE 7
AVERAGE INDEBTEDNESS ON HOMES PURCHASED AT
VARIOUS COSTS

Cost Class	Number of Reports	Average Indebtedness*	Percentage Indebtedness
\$ 1,000 — \$1,999	1	\$ 0	0%
2,000 — 2,999	7	1,107	44
3,000 — 3,999	25	675	19
4,000 — 4,999	42	1,201	27
5,000 — 5,999	55	2,009	37
6,000 — 6,999	63	2,554	39
7,000 — 7,999	72	3,201	43
8,000 — 8,999	74	3,764	44
9,000 — 9,999	52	4,435	47
10,000 — 10,999	54	4,547	43
11,000 — 11,999	26	3,762	33
12,000 — 12,999	24	5,821	47
13,000 — 13,999	19	5,247	39
14,000 — 14,999	14	6,956	48
15,000 — 15,999	9	5,122	33
16,000 — 16,999	6	8,067	49
17,000 — 17,999	6	5,083	29
18,000 — 18,999	3	12,333	67
19,000 — 19,999	3	11,500	59
20,000 or More	21	8,883	31
All Cost Classes	576	\$3,835	41%
Data Incomplete	15	.....	....

*Average is based on all homes in the group, including those unencumbered; debt is that outstanding in January or February, 1931.

whereas only 18 to 23 per cent of those in higher income groups have so much indebtedness on their homes. Mortgages or other encumbrances amounting to 36 to 55 per cent of the original cost of the home were relatively numerous for all income groups. Homes 16 to 35 per cent encumbered were 10 per cent of the total while homes with less than 16 per cent were only 4.6 per cent of the total. The influence of income upon the amount of home financing required by the purchaser is indicated by the data in Table 6.

It is probable that the amount of debt is directly proportional to the original cost of the home and inversely proportional to the time elapsed since the date of purchase. In Table 7 average mortgages are given for various home-cost groups, and in Table 8 averages

TABLE 8
AVERAGE INDEBTEDNESS ON HOMES PURCHASED IN
VARIOUS YEARS

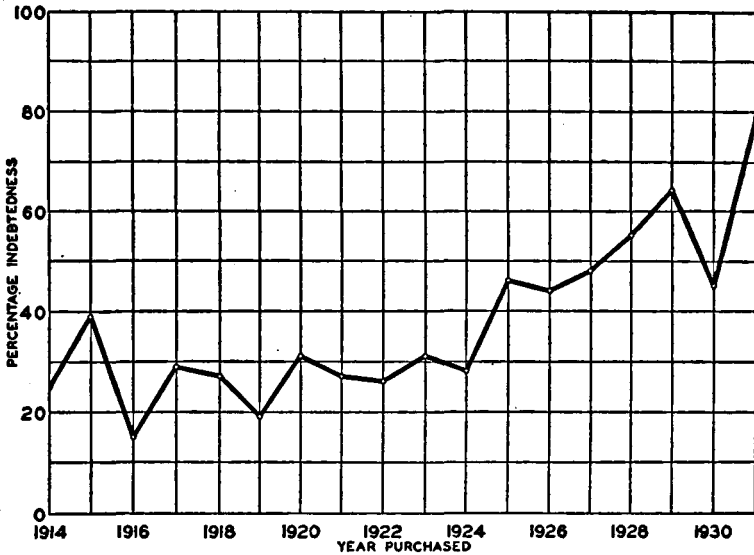
Year Built or Purchased	Number of Reports	Average Cost	Average Indebtedness*	Percentage Indebtedness
Before 1914	44	\$ 5,952	\$ 629	11%
1914	6	6,642	1,633	25
1915	11	5,310	2,073	39
1916	8	5,521	825	15
1917	7	5,936	1,709	29
1918	10	6,417	1,730	27
1919	18	5,773	1,106	19
1920	30	6,286	1,927	31
1921	18	7,827	2,111	27
1922	31	9,087	2,371	26
1923	37	8,211	2,572	31
1924	43	9,796	2,739	28
1925	56	10,219	4,685	46
1926	47	10,554	4,678	44
1927	58	10,870	5,193	48
1928	48	10,648	5,852	55
1929	40	10,660	6,857	64
1930	36	10,718	4,833	45
1931	4	9,338	7,375	79
All Years	552	\$9,387	\$3,835	41%
Data Incomplete	39	.....	.....	---

*Average is based on all homes in the group, including those unencumbered; debt is that outstanding in January or February, 1931.

CHART 9

AVERAGE INDEBTEDNESS ON HOMES (EARLY IN 1931) AS
A PERCENTAGE OF AVERAGE ORIGINAL COST, BY
YEARS OF PURCHASE

(Data presented in Table 8)



are given for homes purchased at different dates. Mortgages are greater relative to home costs for the medium-high-cost homes. There is considerable variation in the percentages of indebtedness but, in general, homes costing less than \$7,000 average 33 per cent indebtedness, homes costing from \$7,000 to \$14,000 average 43 per cent, and homes purchased at prices ranging from \$14,000 to \$20,000 average 44 per cent. For homes costing more than \$20,000, the percentage of present indebtedness is only 31. An explanation of the higher indebtedness on the medium-high-priced homes is found in the fact that these homes on the average were purchased in more recent years. Mortgages as well as home costs are

greatest for those homes acquired in recent years (Table 8 and Chart 9). The percentage of indebtedness is also large because of the shorter period of liquidation. It is interesting to note, however, that houses purchased as long ago as 1914 have, on the average, a substantial mortgage. There is, of course, no way of knowing how many of the mortgages reported for houses purchased in the early years are the original mortgages taken out at the time of purchase and how many are the result of later financing on the part of the home owner.

CHAPTER II

SIZE OF FAMILY AND AGE OF HEAD OF FAMILY IN RELATION TO SHELTER COST

That differences in income are an important cause of the wide variation in expenditures of families for housing has already been pointed out; but income differences do not completely explain such variation. It remains to be seen, therefore, whether other facts contribute to the explanation. Some variation in the cost of housing is no doubt due to diversity in preferences of individuals and cannot be linked with a measurable family characteristic.

In addition to being classified according to income, families may be classified according to the number of persons, the age of the head of the family, the age and sex distribution of the members, or expenditures for items other than housing. For possible causes of variations in expenditures for housing, the number in the family and the age of the head of the family were investigated, these being the only two factors, other than income, on which data were available. Family income was considered in connection with these two characteristics so there would be no duplication of its effect on housing expenditures. Renters and home owners were investigated separately.

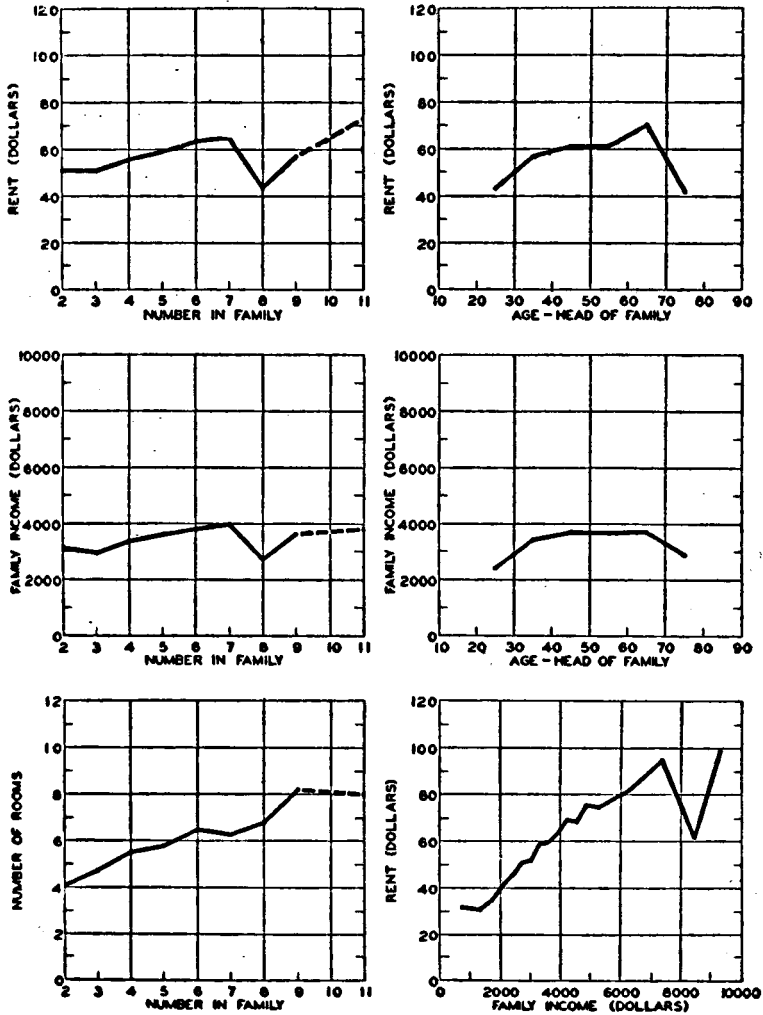
Renters: Size of Family and Age of Head of Family

In Chart 10 are presented, in addition to other comparisons, average adjusted rents¹⁵ for families of various

¹⁵ All the rent data for this section have been adjusted for varying accommodations, as explained on page 18.

CHART 10

COMPARATIVE RELATIONSHIPS: SELECTED HOUSING AND FAMILY DATA—RENTERS*



*Curves in left tier based on Table 9; first two curves in right tier, on Table 10; last curve, on adjusted rents, Table 3.

TABLE 9
RENT, FAMILY INCOME, AND NUMBER OF ROOMS,
ACCORDING TO NUMBER IN FAMILY

Number† in Family	Average Monthly Rent*	Average Annual Family Income (1930)	Average Number of Rooms
2	\$51	\$3,132	4.1
3	51	2,963	4.7
4	56	3,380	5.5
5	59	3,610	5.8
6	64	3,801	6.5
7	65	3,997	6.3
8	44	2,750	6.8
9	57	3,650	8.2
10 or More	73	3,800	8.0

*Rents presented in this table are adjusted for different accommodations and services; adjustments are explained on p. 18.

†Includes relatives living in home, boarders, and lodgers, but these were not numerous. For distribution of cases according to number in family, see column entitled "All Income Groups" in Table 11.

sizes.¹⁶ Families of two members and those of three average \$51 monthly rent; families of four, \$56; of five, \$59; of six, \$64; of seven, \$65; of eight, \$44; and those of nine, \$57. Expenditures for rent appear to increase with the size of family up to 7 persons; for larger families expenditures average less than those for families with 7 members. Apparently a relationship between the need for housing accommodations and the amount paid is uncovered, but on further analysis it is doubtful that this is true. An inspection of all curves on Chart 10 discloses interrelations between the various characteristics studied. There is a rather striking similarity between the curve showing average income and number of persons in the family and the curve showing average rent and number of persons in the family. It may at first appear illogical to expect family income to average high when the number of persons in the family is large, but there is such a

¹⁶ Number of persons in a family is defined as being all persons living in the home, including boarders and lodgers, of which there were but a few (not enough to affect the averages significantly).

TABLE 10
RENT AND FAMILY INCOME, ACCORDING TO
AGE OF HEAD OF FAMILY

Age: Head of Family	Number of Cases	Average Monthly Rent*	Average Annual Family Income (1930)
20-29	228	\$43	\$2,418
30-39	358	57	3,446
40-49	147	61	3,710
50-59	48	61	3,695
60-69	14	70	3,729
70-79	2	42	2,900

*Rents presented in this table are adjusted for different accommodations and services; adjustments are explained on p. 18.

tendency in this group. In some instances, no doubt, the relation is direct; for, in a large family, it is likely that members other than the head are contributing to the family income. Another explanation is found in the apparent tendency for both income and the number of persons in the family to be larger as age of the head of the family increases, up to 45 years. The apparent relationship between rent and the number in the family is mainly a reflection of the relationship between rent and income.

In Table 10 the cases are grouped according to income level and size of family, and in Table 11 average rents are shown for various sized families. Leaving out of consideration families with more than five members because of the scarcity of cases, there is only a slight indication of relationship between rent and number in the family. In the group with income less than \$2,000 annually, families of five members pay \$34 rent, slightly more than the average of \$33 for the group; families of four members pay \$38 rent, considerably more than average; those with three members pay \$34; those with only two members pay \$30 monthly. Among families with incomes ranging from \$2,000 to \$2,999, highest rents are

TABLE 11
DISTRIBUTION OF RENTERS BY FAMILY INCOME AND SIZE
OF FAMILY, AND AVERAGE RENTS OF VARIOUS
SIZED FAMILIES IN EACH INCOME GROUP

Number in Family*	Family Income Group (1930)							
	All Income Groups	Less than \$2,000	\$2,000— 2,999	\$3,000— 3,999	\$4,000— 4,999	\$5,000— 5,999	\$6,000— 6,999	\$7,000 or More
	Number of Cases Reporting							
2	247	54	83	59	30	10	4	7
3	216	35	85	52	30	9	4	1
4	160	16	56	49	22	8	3	6
5	90	9	26	33	10	6	1	5
6	37	2	11	10	5	5	3	1
7	24	3	8	4	3	3	2	1
8	10	1	6	2	1	0	0	0
9	4	0	3	0	0	0	0	1
10 or More	1	0	0	1	0	0	0	0
All Families	789	120	278	210	101	41	17	22
	Per Cent of Total Cases							
2	31.3%	45.0%	29.8%	28.1%	29.7%	24.4%	23.5%	31.8%
3	27.4	29.2	30.6	24.7	29.7	22.0	23.5	4.5
4	20.3	13.3	20.1	23.3	21.8	19.5	17.7	27.3
5	11.4	7.5	9.3	15.7	9.9	14.6	5.9	22.7
6	4.7	1.7	4.0	4.8	4.9	12.2	17.6	4.6
7	3.0	2.5	2.9	1.9	3.0	7.3	11.8	4.6
8	1.3	0.8	2.2	1.0	1.0	0.0	0.0	0.0
9	0.5	0.0	1.1	0.0	0.0	0.0	0.0	4.5
10 or More	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
All Families	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Average Adjusted Monthly Rent							
2	\$51	\$30	\$46	\$58	\$ 64	\$66	\$91	\$ 92
3	51	34	44	56	70	75	74	117
4	56	38	47	59	63	74	80	108
5	59	34	52	57	74	82	80	91
6	64	48	51	53	89	79	80	113
7	65	38	44	54	78	81	89	217
8	44	26	34	52	103	....	....	....
9	57	....	47	....	....	....	....	86
10 or More	73	....	....	73	....	....	....	....
All Families	\$54	\$33	\$46	\$57	\$69	\$75	\$82	\$103

*Includes relatives living in home, boarders, and lodgers, but these were not numerous.

paid by those with five members; however, families with two members and those with four average practically equal rent, whereas three-member families average the lowest. Among those with incomes ranging from \$3,000 to \$3,999, the average rents vary from \$56 (three-member families) to \$59 (four-member families). Considerable variation is found among families with incomes ranging from \$4,000 to \$4,999, but the variation is not consistent with the increase in number in the family. Low rents are paid by the two- and the four-member families and high rents by the three- and the five-member families. Much the same situation is noted among income groups above \$5,000, but the number of cases available in income groups above \$5,000 is insufficient to warrant conclusions.

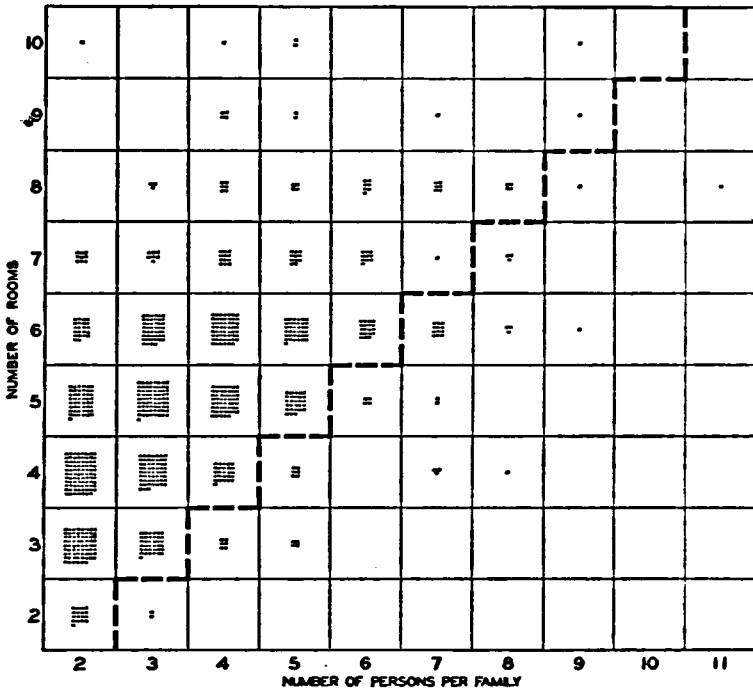
Thus, it is evident that there is a tendency for families with four or five members and with total incomes less than \$3,000 to pay greater than average rent for their income groups, and, on the whole, to pay more than those with two or three members. The little information available for families having more than five members indicates that they are inclined to spend even less for rent than families with two or three members in the same income groups. This is especially true with respect to those with incomes less than \$4,000.

Even though average rents remain fairly constant, accommodations, in terms of number of rooms per family, vary considerably with the size of family (Chart 10, lower left corner). Large families generally obtain living quarters larger than those of small families at only slightly increased rents. Chart 11 shows, for renters, the relationship between number in the family and number of rooms occupied, exclusive of bathroom. The zig-zag line running from the lower left of the chart to the

upper right separates those families with one room or more per person from those with less than one room per person. This line has been used as a standard for judging adequacy of accommodations, but, as such, it is arbitrary. It is impossible to set a standard of accommodations based on the number of rooms per person only. Needs vary with the sex and age distribution of the members as well as with the number of persons in the family. Rooms vary in size and in the use to which they are put.

CHART 11

NUMBER OF ROOMS AND NUMBER IN THE FAMILY: 787
RENTERS EMPLOYED IN SALARIED POSITIONS IN
DOWNTOWN PITTSBURGH*



*Dots to the left of the zigzag line represent families having one room or more per person; dots to the right, families having less than one room per person.

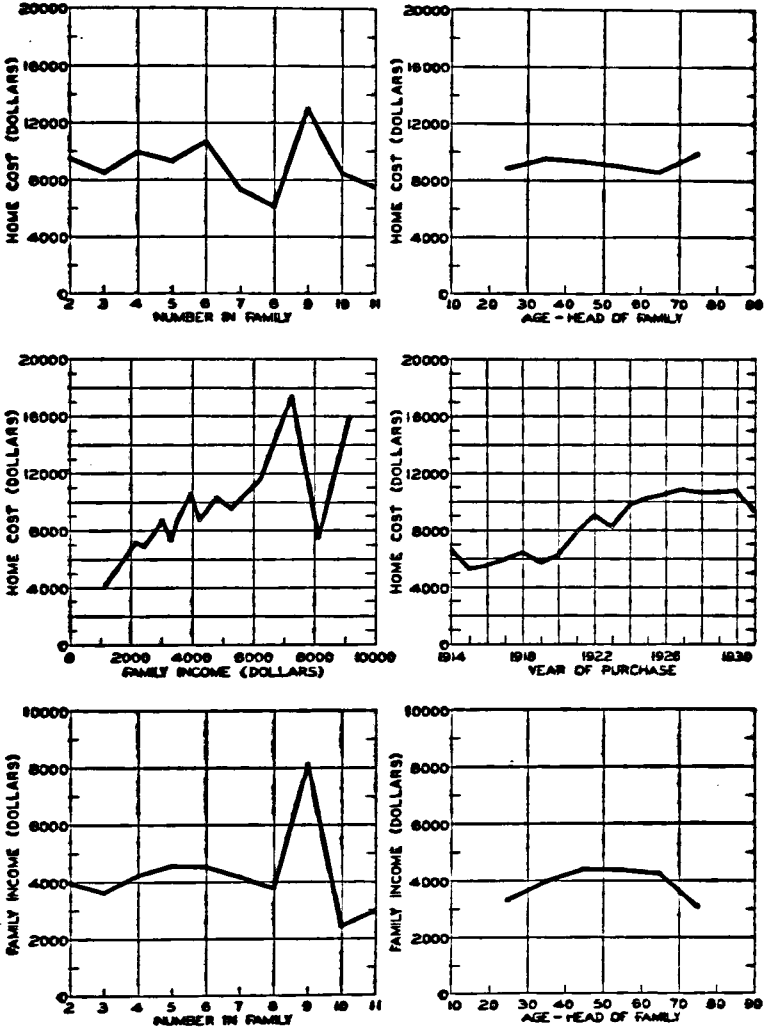
A four-room home with a breakfast nook and no dining room will accommodate a family of four persons about as well as a five-room home with a dining room. Another standard sometimes used to judge adequacy of accommodations is "a bedroom to every two persons in the family." This is also dependent on the age and sex distribution of the members of the family, and on the size and ventilation of the bedrooms. No minimum desirable standard to fit all cases has been devised.

It will be readily conceded, however, that families of three members each, living in two-room homes, are overcrowded, or that four- or five-member families living in three-room homes and five-member families living in four-room homes are inadequately housed. The number of families living in overcrowded quarters is small in comparison with the total number reporting. Most salaried renters in Pittsburgh have sufficient accommodations as measured by number of rooms. Those with large families requiring considerable room are supplied with large houses at little extra cost. The explanation of the small increase in cost for the larger families is no doubt to be found in the location and the quality of their homes. It is probable that these families must sacrifice convenience of location, character of neighborhood, quality of construction, or modernness of home in order to secure larger accommodations.

Owners: Size of Family and Age of Head of Family

The cost of homes to owners bears no consistent relation to the number in the family (Chart 12 and Table 12). The speculative element in home costs varies so widely that identical accommodations are purchased at different times at widely varying prices. Another factor obscuring any possible relationship is the fact that needs

CHART 12
 COMPARATIVE RELATIONSHIPS: SELECTED HOUSING AND
 FAMILY DATA—HOME OWNERS*



*Curve at left center based on data presented in Table 4; right center, Table 8; upper and lower left, Table 12; upper and lower right, Table 13.

TABLE 12
ORIGINAL HOME COST AND FAMILY INCOME, ACCORDING TO
SIZE OF FAMILY

Number in Family*	Average Cost of Home	Average Annual Family Income 1930
2	\$ 9,543	\$3,956
3	8,471	3,636
4	9,984	4,240
5	9,301	4,552
6	10,720	4,530
7	7,317	4,175
8	6,192	3,792
9	13,000	8,125
10	8,500	2,440
11 or More	7,500	2,975

*See footnote to Table 11.

at the time of purchase and at the present time are not identical: children in the home ten years ago may now have homes of their own; aged relatives may have died; or additions to the family may have occurred since the time of purchase. A third confusing factor is the lack of relationship between size of accommodations and their cost. A home of large size but lacking in convenience of location, in distinctiveness of neighborhood, or in modern appearance, may be purchased at a relatively low cost, whereas a small, modern home, well built, conveniently located, and in a reputable neighborhood may cost much more.

TABLE 13
ORIGINAL HOME COST AND FAMILY INCOME, ACCORDING
TO AGE OF HEAD OF FAMILY

Age: Head of Family	Average Cost of Home	Average Annual Family Income 1930
20-29	\$8,788	\$3,304
30-39	9,539	3,984
40-49	9,263	4,385
50-59	8,998	4,362
60-69	8,597	4,218
70-79	9,833	3,057

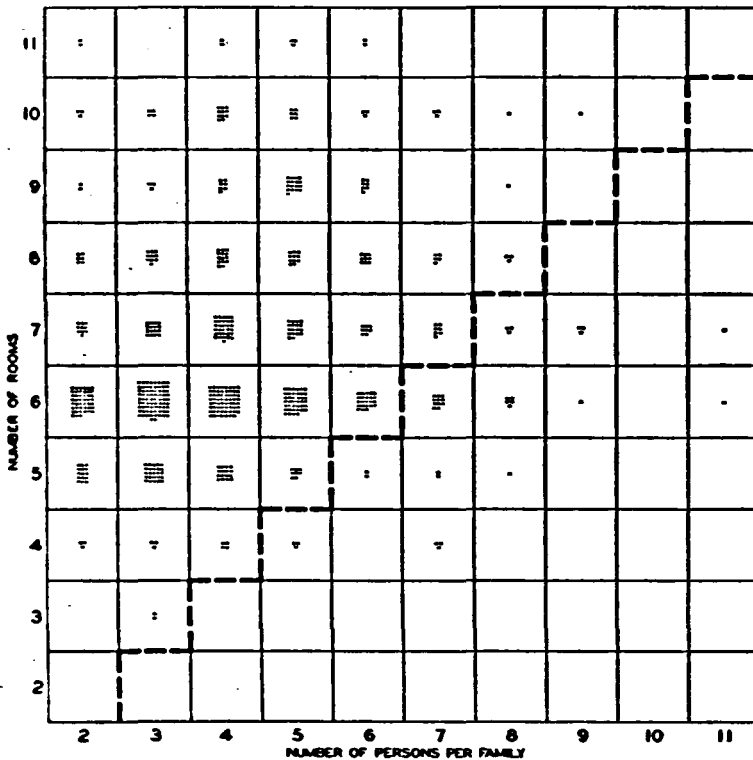
The factors which help to explain the lack of relationship between needs and expenditure for housing also emphasize one of the chief disadvantages of home ownership, that is, lack of flexibility. Home ownership is not easily adaptable to changes in the condition of the family purse or in the size of the family. The market for residential property is not a perfect one, and price changes are sometimes violent. This often makes it impossible for a person to realize on his investment in one home and purchase another more suited to his purse. For the same reason, home ownership is not easily adaptable to changes either in place of employment or in needs of the family.

In addition, the cost of owning the five- or six-room single, in which home ownership is greatly concentrated, is comparatively too great for many two- or three-member families, when such families can be accommodated comfortably in three- or four-room homes. For such families, the desirability of individual ownership of small cottages is worth study. Small homes are available in the form of apartments which, because of their economical construction and more intensive use of land area, can be rented for less than single houses; but these do not appeal to people who desire to own their own homes. Home owners have insisted on paying for more rooms than they actually need (Chart 13), perhaps without realizing that space above requirements is a luxury which in many cases they can ill afford.

There is no direct relation between the price paid for a home and the owner's present age (Chart 12 and Table 13). Several indirect relations, however, do exist. First, owner's present age is in direct relation to the length of time he has owned his home. That is, the older the home

owner, the greater the probability that his home was purchased at an early date. Because of high prices prevailing from 1923 to 1929, the costs of the more recently purchased residences are highest. This produces a tendency for home cost to vary inversely with the age of the owner. Second, age and income tend to show similar

CHART 13
 NUMBER OF ROOMS AND NUMBER IN FAMILY: 544 HOME OWNERS EMPLOYED IN SALARIED POSITIONS IN DOWNTOWN PITTSBURGH*



*Dots to the left of the signag line represent families having one room or more per person; dots to the right, families having less than one room per person.

variations; older persons in most cases are able to purchase higher priced homes because of larger incomes. The direct effect of the age factor on the price which a family is willing to pay for a home is probably negligible.

Only Limited Comparison Possible

It is, of course, somewhat of an error to treat home owners and renters separately in this connection, since what is desired is more information on the shelter expenditures of salaried workers and the variations in such expenditures with income and other factors. If the two classes were combined, it might be found that both age and number in the family affect the expenditure for shelter; but the two classes cannot logically be combined because of the incomparability of the shelter costs of the two groups. In a later section it will be shown that home owners for the most part are an older group and have larger families than renters. Moreover, it seems probable that their homes are better and more costly, relative to their incomes, than are the homes of renters (Chapter IV). All that can be said with reasonable certainty, however, is that the two family characteristics—number in family and age of head of family—do not materially affect the expenditure for shelter either of renters or of home owners.

CHAPTER III
HOUSING ACCOMMODATIONS OF SALARIED
WORKERS

Preceding sections have dealt with answers to the following questions: What do salaried workers pay for housing? What proportion of income is paid for housing? What relation exists between the needs of families and the amount paid for shelter? There is still left for discussion the question of the nature of accommodations enjoyed. Since the amount of income determines the ability to pay for housing accommodations, it will presumably determine to a large extent the quality and the quantity of the accommodations.

The following measures of accommodations are available:

1. Type of house.
2. Number of rooms.
3. Convenience to downtown section as measured by time taken to get to work.
4. Location of house.
5. Presence of bathroom, dining room, or full-sized kitchen.
6. Type of furnace.

No measure of the character of neighborhood was available.

The group has been divided according to tenure, accommodations of home owners and those of renters being discussed separately. Since only 33 of the 552

home owners live in other than single dwellings, no information on the type of dwelling of home owners is given.

From data presented in this study it is evident that home owners are in the minority among families with less than \$4,000 income.¹⁷ Because of the fact that incomes of a large proportion of salaried workers fall below this figure, almost 60 per cent are renters. The very small proportion of home-owning salaried workers who own, in addition to their homes, other living quarters which they rent, is especially significant in portraying the housing situation in Pittsburgh. One method of financing a home is the construction of additional living units, the rentals of which aid in payment for the owner's living quarters. This method has been used rather infrequently in Pittsburgh.

Type of Dwelling

Renters occupy homes in diverse types of buildings (Table 14). In fact, ten different types were reported. Approximately 25 per cent of all renters live in single dwellings, but the percentage among the various income groups varies widely. Somewhat less than 19 per cent of those with incomes less than \$2,000 live in singles, whereas 22 per cent of those with incomes from \$2,000 to \$2,999, 28 per cent of those with incomes from \$3,000 to \$3,999, 30 per cent of those with incomes from \$4,000 to \$4,999, and 42 per cent of those with incomes from \$5,000 to \$5,999 live in this type of dwelling. There are not enough families represented in the income groups higher than \$6,000 to warrant conclusions. There seems to be a tendency, however, for those groups to show a smaller percentage living in singles than the maximum reached in the \$5,000-\$5,999 group.

¹⁷ Table 34.

Doubles and duplexes also house a large number of renters, the duplex being the more popular of the two, especially with the lower income groups. Thirty-five per cent of all renters occupy one or the other of these two types of living quarters. Only five per cent of those with incomes less than \$2,000 live in doubles, as compared with approximately 20 per cent of those with salaries of \$5,000-\$5,999. Duplexes house 36 per cent of those with incomes of less than \$2,000 but only 7 per cent of those with incomes of \$5,000 to \$5,999. Percentages for other income groups fall between these two in a rather orderly fashion.

Double duplexes are infrequent but those reported are fairly evenly distributed among the various income groups.

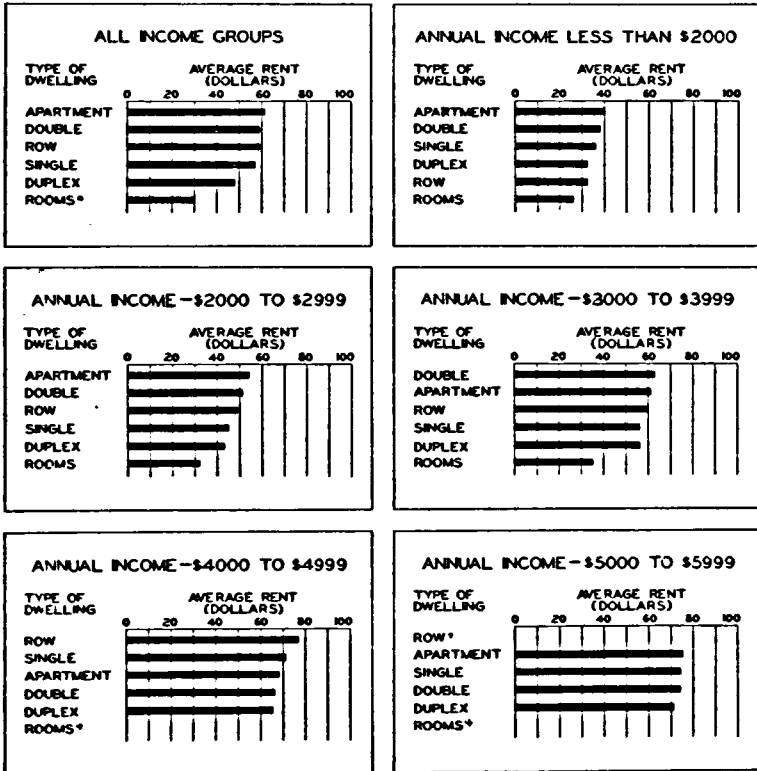
Slightly more than 11 per cent of those with incomes from \$2,000 to \$2,999 and about 10 per cent of those with incomes between \$3,000 and \$3,999 live in row houses.

Twenty per cent of all renters live in apartments, the third most popular type of dwelling. The percentages range from 12 per cent for annual incomes of \$2,000 or less to 30 per cent for incomes of \$4,000 to \$4,999. Many of those with incomes larger than \$5,000 annually also live in apartments. In the two low income groups, housekeeping rooms take the place of apartments to a large extent. Twenty per cent of the less than \$2,000 income group and 7 per cent of the \$2,000-\$2,999 group live in homes of this type.

There seems to be a tendency for the low income groups to live in housekeeping rooms and duplexes while the higher income groups are found most commonly in singles, doubles, and apartment houses. The reason is, of course, to be found in the variation in rents for the

several types of dwellings (Table 14 and Chart 14). Rents for all reported apartments average \$61 a month; rows and doubles, \$59; double duplexes, \$58; singles, \$57; duplexes, \$48; and housekeeping rooms, only \$30. Somewhat the same order of rentals is found within the individual income groups.

CHART 14
AVERAGE ADJUSTED MONTHLY RENTS FOR VARIOUS TYPES OF DWELLINGS, BY FAMILY INCOME GROUPS
 (Data presented in Table 14)



*The term "rooms," on these charts, means housekeeping rooms.

†Rent plotted only if based on two or more cases. Distribution of cases presented in Table 14.

TABLE 14
DISTRIBUTION OF RENTERS BY FAMILY INCOME AND TYPE
OF DWELLING, AND AVERAGE RENTS FOR VARIOUS
TYPES OF DWELLINGS IN EACH INCOME GROUP

Type of Dwelling*	Family Income Group (1930)							
	All Income Groups	Less than \$2,000	\$2,000-2,999	\$3,000-3,999	\$4,000-4,999	\$5,000-5,999	\$6,000-6,999	\$7,000 or More
Number of Cases Reporting								
Single.....	198	22	61	58	30	17	4	6
Duplex.....	187	42	70	45	19	3	2	6
Apartment.....	159	14	51	45	30	9	7	3
Double.....	89	6	31	28	12	8	2	2
Row.....	66	2	31	21	5	1	2	4
Housekeeping Rooms.....	50	24	20	6	0	0	0	0
Double Duplex.....	30	5	11	5	5	3	0	1
Miscellaneous.....	4	3	0	1	0	0	0	0
All Types.....	783	118	275	209	101	41	17	22
Per Cent of Total Cases								
Single.....	25.3%	18.7%	22.2%	27.8%	29.7%	41.5%	23.5%	27.3%
Duplex.....	23.9	35.6	25.4	21.5	18.8	7.3	11.8	27.3
Apartment.....	20.3	11.9	18.5	21.5	29.7	22.0	41.1	13.6
Double.....	11.4	5.1	11.3	13.4	11.8	19.5	11.8	9.1
Row.....	8.4	1.7	11.3	10.0	5.0	2.4	11.8	18.2
Housekeeping Rooms.....	6.4	20.4	7.3	2.9	0.0	0.0	0.0	0.0
Double Duplex.....	3.8	4.2	4.0	2.4	5.0	7.3	0.0	4.5
Miscellaneous.....	0.5	2.4	0.0	0.5	0.0	0.0	0.0	0.0
All Types.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average Adjusted Monthly Rent								
Single.....	\$57	\$36	\$45	\$56	\$71	\$74	\$70	\$138
Duplex.....	48	32	43	56	65	71	94	84
Apartment.....	61	40	54	61	68	75	81	102
Double.....	59	38	51	63	66	74	81	84
Row.....	59	32	49	60	77	85	100	97
Housekeeping Rooms.....	30	26	32	35	.....	.....	.....	.....
Double Duplex.....	58	43	51	61	71	77	.....	80
Miscellaneous.....	32	35	.....	25	.....	.....	.....	.....
All Types.....	\$54	\$33	\$46	\$58	\$69	\$75	\$82	\$103

*For definitions, see questionnaire in Appendix A.

Number of Rooms

Only a few renters live in two-room¹⁸ homes (Table 15 and Chart 11). Moreover, the majority of those living

¹⁸ The bathroom is not included in the number of rooms in the home.

TABLE 16
AVERAGE ADJUSTED MONTHLY RENTS* PAID FOR HOMES
OF VARIOUS SIZES, BY INCOME GROUPS

Number of Rooms	Family Income Group (1930) and Average Rents							
	All Income Groups	Less than \$2,000	\$2,000— 2,999	\$3,000— 3,999	\$4,000— 4,999	\$5,000— 5,999	\$6,000— 6,999	\$7,000 or More
2	\$31	\$22	\$25	\$55	\$55	....	....	....
3	36	30	35	42	48	\$76	\$ 85	\$ 25
4	48	35	45	54	68	62	88	60
5	57	38	49	60	68	86	77	89
6	62	47	53	59	71	71	85	90
7	63	44	50	60	73	64	59	122
8	77	40	46	66	79	95	112	143
9	84	....	....	74	67	87	....	106
10 or More	81	....	65	76	60	....	....	143
All Sizes	\$54	\$33	\$46	\$58	\$69	\$75	\$ 82	\$103

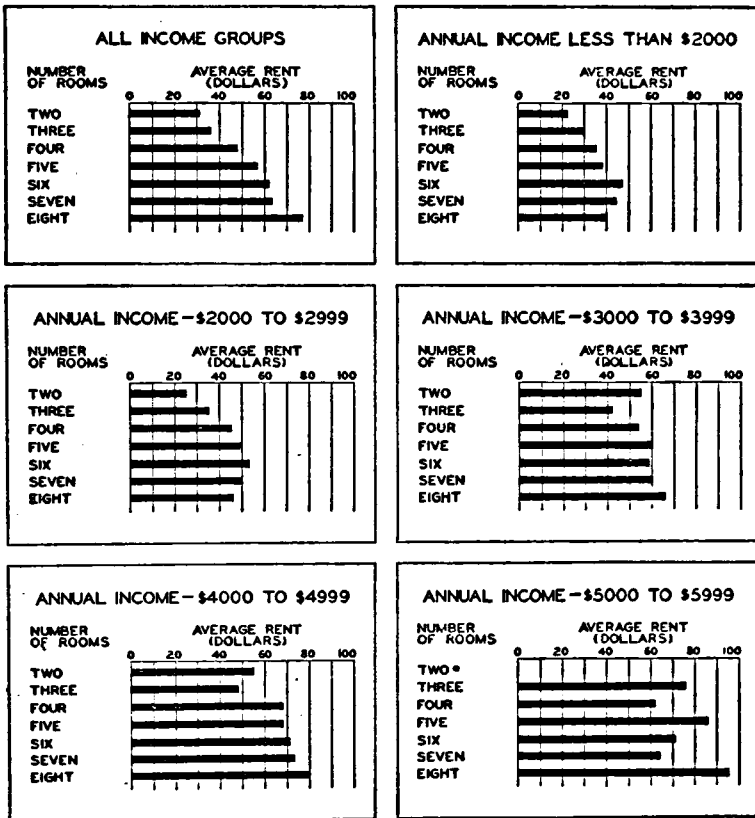
*See Table 15 for the number of cases on which each average is based.

20 per cent with incomes \$3,000 to \$3,999, 15 per cent with incomes \$4,000 to \$4,999, and 10 per cent of the \$5,000 to \$5,999 group live in four-room homes.

Only 15 per cent of those with incomes less than \$2,000 live in five-room places, and 11 per cent live in six-room, or larger, homes. Among those with incomes ranging from \$2,000 to \$2,999, 28 per cent have five-room homes, and 27 per cent have six or more rooms. Those with incomes from \$3,000 to \$3,999 have 32 per cent of their number in five-room homes and 45 per cent in six rooms or more. The \$4,000 to \$4,999 group have 30 per cent of their number living in five-room homes and 50 per cent in six or more rooms. Although some of those with \$5,000 to \$5,999 incomes occupy five rooms, about half their number live in six-room homes and 22 per cent live in even larger homes. Thus, it is evident that the number of rooms occupied by a family depends to a limited degree on the size of the family purse. This is, of course, due to the fact that the larger homes are generally more expensive. Rents for an equal number of

rooms, however, vary considerably with the various income groups (Table 16 and Chart 15). For instance, average rents for two rooms vary from \$22 per month in the case of the lowest income group to \$55 in the case of the \$4,000 to \$4,999 group. Rents for the larger homes show an equally wide range for the several income

CHART 15
 AVERAGE ADJUSTED MONTHLY RENTS FOR HOMES OF
 VARIOUS SIZES, BY FAMILY INCOME GROUPS
 (Data presented in Table 16)



*Rent plotted only if based on two or more cases. Distribution of cases presented in Table 15.

17 per cent, in seven rooms; 10 per cent, in eight rooms; 7 per cent, in nine rooms; and 6 per cent, in homes of ten or more rooms. On the whole, the higher income groups live in comparatively large homes whereas the lower income families are concentrated in five- or six-room homes. Eighty-three per cent of the families with incomes less than \$2,000 live in six-room or smaller homes as compared with 63 per cent of those with \$3,000 to \$3,999, 46 per cent of those with \$5,000 to \$5,999, and 31 per cent of those with incomes over \$7,000 annually.

The large homes show a higher average cost than the smaller ones, when the homes of all income groups are considered (Table 18 and Chart 16). But within specific income groups, home cost does not vary consistently with size of home. Average cost of larger homes is often less than that of smaller ones. In so far as the lower income groups are concerned, it is probable that the large homes are rather old and cost little more, if any, than a five- or six-room modern home.

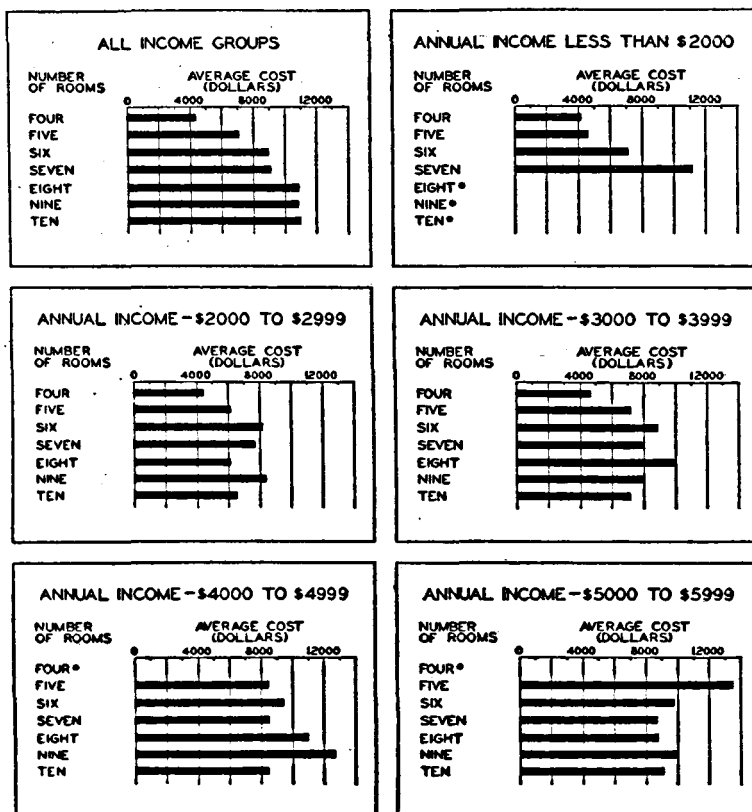
TABLE 18
ORIGINAL HOME COST,* ACCORDING TO FAMILY INCOME
AND SIZE OF HOME

Number of Rooms	Family Income Group (1930) and Average Home Costs							
	All Income Groups	Less than \$2,000	\$2,000—2,999	\$3,000—3,999	\$4,000—4,999	\$5,000—5,999	\$6,000—6,999	\$7,000 or More
3	\$ 8,250	\$ 4,500	.....	.....	\$12,000	.....	.....	.....
4	4,320	4,110	\$4,410	\$ 4,570	.....	.....	.....	.....
5	7,080	4,560	6,160	7,150	8,490	\$13,580	.....	\$22,500
6	8,910	7,060	8,180	8,840	9,400	9,750	\$ 8,810	10,820
7	9,080	11,170	7,730	7,910	8,500	8,670	12,520	16,490
8	10,830	.....	6,050	9,930	10,980	8,710	15,600	20,800
9	10,820	6,500	8,340	7,960	12,650	9,900	11,420	16,770
10	10,950	.....	6,510	7,100	8,470	9,050	10,120	18,820
11 or More	23,580	.....	.....	15,800	10,250	9,100	25,000	80,000
All Sizes	\$9,210	\$6,170	\$7,300	\$8,560	\$9,540	\$9,530	\$11,530	\$17,750

*For number of cases on which each average is based, see Table 17.

The five- or six-room homes of the low income groups cost considerably less than those of the higher groups. The same holds true for other sized homes. Although it is evident that size is important in determining costs of homes, there are other factors such as modernity of house

CHART 16
AVERAGE ORIGINAL COSTS FOR OWNED HOMES OF
VARIOUS SIZES, BY FAMILY INCOME GROUPS
(Data presented in Table 18)



*Home costs plotted only if based on two or more cases. Distribution of cases presented in Table 17.

Somewhat less than 8 per cent of all renters live within 20 minutes of their work (Table 19). A slightly larger percentage of renters in the two highest income groups live within 20 minutes of work. Twenty-six per cent of all renters, 30 per cent of those with incomes less than \$2,000, 24 per cent of those with incomes of \$2,000-\$2,999, 23 per cent of those with incomes of \$3,000-\$4,999, and 34 per cent of those with incomes of \$5,000-\$5,999 live 20 to 29 minutes from their work.

The largest percentage (36 per cent) of those in all income groups require from 30 to 39 minutes for the trip from home to place of employment. The various income groups show from 32 to 42 per cent of their numbers making the trip in 30 to 39 minutes.

Those requiring from 40 to 49 minutes are most numerous in the \$2,000-\$2,999 and \$3,000-\$3,999 income groups. Smaller proportions of those in both the lower and the higher income groups spend this amount of time in going to work. Almost 22 per cent of all renters require from 40 to 49 minutes to get to work.

Nearly 9 per cent of all renters travel more than 50 minutes on the way to work. A slightly larger proportion of the lower than of the higher income groups require 50 minutes or more. The difference is insignificant.

There seems to be no tendency for the families with the largest incomes to live farther in terms of time from the heart of the city. In fact, the low and the high income groups appear to be located nearest to their work. In actual distance, those in the higher income groups may be farther removed from downtown Pittsburgh than those in the lower income groups; but it is likely that, in such cases, time is largely made up by the use of speedier—and more expensive—forms of transportation.

TABLE 21
AVERAGE ADJUSTED MONTHLY RENT,* ACCORDING TO
FAMILY INCOME AND TIME SPENT IN GOING TO WORK

Time (Min.)	Family Income Group (1930) and Average Rents							
	All Income Groups	Less than \$2,000	\$2,000— 2,999	\$3,000— 3,999	\$4,000— 4,999	\$5,000— 5,999	\$6,000— 6,999	\$7,000 or More
0—9	\$46	....	\$46	....	....	....	....	....
10—19	56	\$27	51	\$56	\$63	\$67	\$99	\$141
20—29	55	31	46	56	69	80	78	98
30—39	54	33	46	57	69	76	82	103
40—49	55	39	48	60	69	74	86	....
50—59	53	40	43	64	74	64	....	56
60—69	43	36	37	48	62	42	....	....
70—79	36	....	23	50	....	....	....	....
80 or More	28	....	38	18	....	....	....	....
All Cases	\$54	\$33	\$46	\$57	\$69	\$75	\$82	\$103

*For number of cases on which each average is based, see Table 19.

use of slower methods of transportation. However, it is true that a renter can more easily select a residence near his work.

A larger proportion of home owners with incomes greater than \$3,000, than of those with lower incomes, live within 30 minutes of work. Between 18 and 19 per cent of the home owners earning less than \$3,000 annually, and 28 to 60 per cent of those in higher income groups, spend less than 30 minutes getting to work. Few

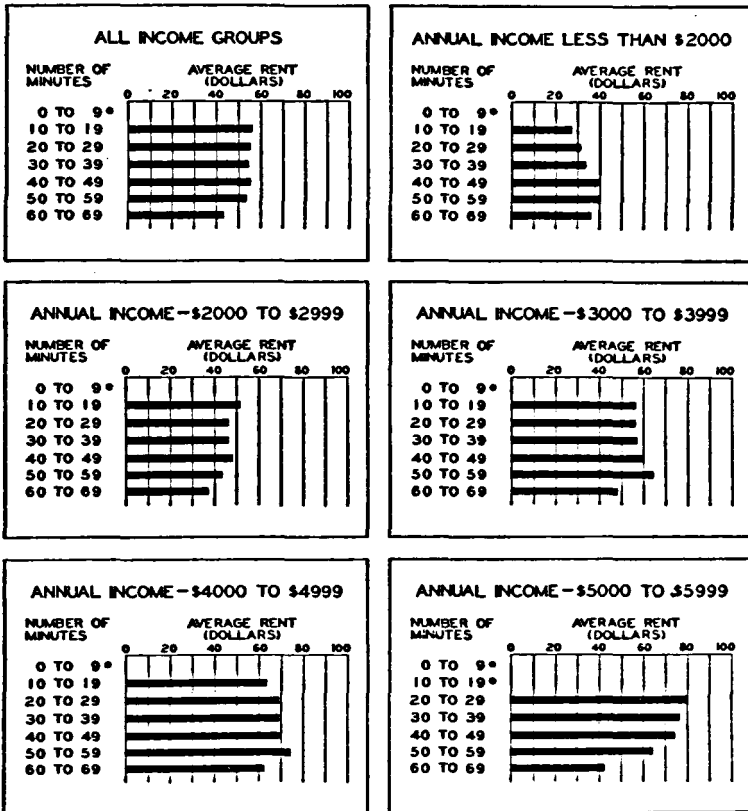
TABLE 22
ORIGINAL HOME COST,* ACCORDING TO FAMILY INCOME
AND TIME SPENT IN GOING TO WORK

Time (Min.)	Family Income Group (1930) and Average Home Costs							
	All Income Groups	Less than \$2,000	\$2,000— 2,999	\$3,000— 3,999	\$4,000— 4,999	\$5,000— 5,999	\$6,000— 6,999	\$7,000 or More
10—19	\$10,313	.....	\$5,567	\$8,789	\$ 6,675	\$ 7,430	\$12,650	\$18,883
20—29	9,833	\$6,038	7,421	8,509	9,265	9,595	11,463	17,601
30—39	9,062	4,777	7,206	8,800	10,072	9,718	8,515	19,500
40—49	9,462	6,488	7,958	9,005	10,005	11,088	15,554	15,658
50—59	7,293	6,500	6,612	7,331	8,900	5,400	....	....
60—69	7,794	2,650	6,227	7,389	9,887	8,500	10,500	4,200
70—79	5,436	.....	7,000	4,638	5,500	.....	.....	.....
80 or More	8,100	.....	.....	.....	8,100	.....	.....	.....
All Cases	\$9,193	\$5,765	\$7,276	\$8,525	\$9,566	\$9,531	\$11,528	\$17,594

*For number of cases on which each average is based, see Table 20.

of those with incomes greater than \$5,000 live more than 50 minutes from work, whereas from 9 to 20 per cent of those with smaller incomes are so situated. It is evident, therefore, that those with high incomes either live relatively close to downtown Pittsburgh or use speedier methods of transportation.

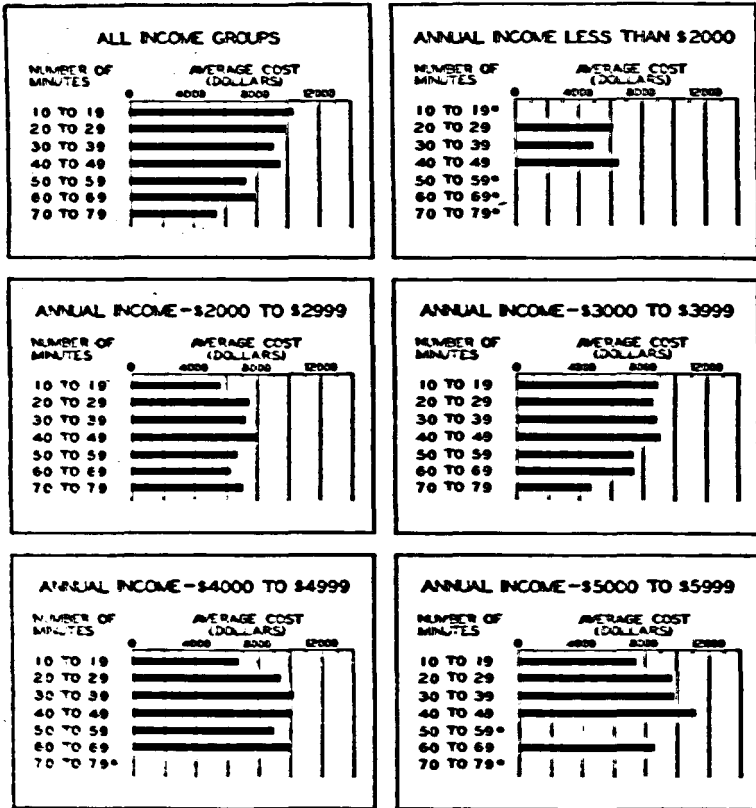
CHART 17
AVERAGE ADJUSTED MONTHLY RENT, ACCORDING TO
FAMILY INCOME AND TIME SPENT IN GOING TO WORK
 (Data presented in Table 21)



*Rent plotted only if based on two or more cases. Distribution of cases presented in table 19.

There appears to be a general tendency for both rent and home cost to decrease as time required to reach town increases, when all the renters and all the home owners are considered (Tables 21 and 22; Charts 17 and 18). It is not true, however, with respect to every income group among either renters or owners. In the groups

CHART 18
AVERAGE ORIGINAL HOME COST, ACCORDING TO FAMILY INCOME AND TIME SPENT IN GOING TO WORK
 (Data presented in Table 22)



*Home cost plotted only if based on two or more cases. Distribution of cases presented in Table 20.

with incomes below \$6,000, average rents and average home costs are highest in the case of homes located 30 to 49 minutes from work.

Distance no doubt is a factor in the determination of shelter costs, but its effect cannot be separated from that of another factor—the quality of the neighborhood. Obviously, neighborhoods equally distant from the downtown section vary in desirability and, therefore, in the cost of housing accommodations.

Type of Transportation Used.—Salaried workers employ six different means to get from home to office (Table 23). Street cars are used by the greatest number,

TABLE 23
MEANS EMPLOYED BY SALARIED WORKERS TO GET TO
WORK, AND AVERAGE TIME TAKEN

Usual Means of Getting to Work	Home Owners			Renters		
	Number	Per Cent of Total	Average Time (Min.)	Number	Per Cent of Total	Average Time (Min.)
Street Railway.....	275	46.4%	37.5	446	54.2%	33.7
Steam Railroad.....	190	32.1	37.4	242	29.4	35.2
Automobile.....	96	16.2	23.0	72	8.7	22.1
Motor-Bus.....	19	3.2	31.6	43	5.2	27.9
Incline*.....	8	1.4	25.0	13	1.6	26.7
Walking.....	4	0.7	43.2	7	0.9	20.4
All Cases.....	592	100.0%	34.8	823	100.0%	32.6

*Usually in combination with walking or with street cars.

both of home owners and of renters. Slightly more than half of the renters and a little less than half of the home owners are habitual patrons of street cars. Commuters on the railroads are the next most numerous group, 32 per cent of the home owners and 29 per cent of the renters using trains to get to their places of employment.¹⁹ The

¹⁹ The central office employees of one large railroad are included in this tabulation and no doubt account in some degree for the relatively high percentage of salaried workers who commute by rail.

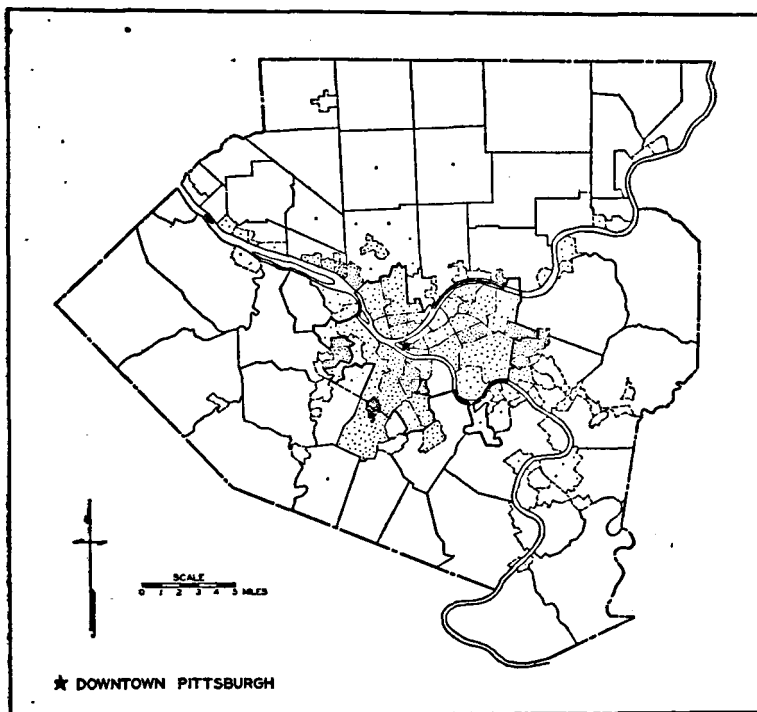
use of motor transportation by salaried workers is relatively rare. Only 16 per cent of the home owners drive automobiles to work and 3 per cent use motor-buses. Of the renters, less than 9 per cent drive automobiles and 5 per cent use motor-buses. The problem of parking in downtown Pittsburgh is no doubt an important factor limiting the use of automobiles. A few workers make use of the inclines and an insignificant proportion walk to work.

A comparison of the various modes of transportation with respect to time consumed discloses that automobiles use 13 to 14 minutes less time than street cars or commuter trains and 6 to 9 minutes less than the motor-buses. But this is not conclusive regarding the relative time-saving qualities of the various kinds of transportation, because nothing is known of the average distance traveled by means of each kind. Home owners take somewhat more time to get to work than do renters even though they use the same means of transportation. The average distance from downtown of the home owner is probably greater than that of the renter. A greater proportion of home owners than of renters live outside the City of Pittsburgh (Table 24).

Location of Homes.—With the information available it is impossible to determine the location of the home of a reporting salaried worker except with regard to the Pittsburgh ward or the outside political subdivision in which it is situated. Charts 19 and 20 furnish information on the location of the homes of the reporting group. Each dot represents the home of a salaried worker and is placed in the borough, township, or Pittsburgh ward reported without reference to the location of the home within the particular political unit.

CHART 19

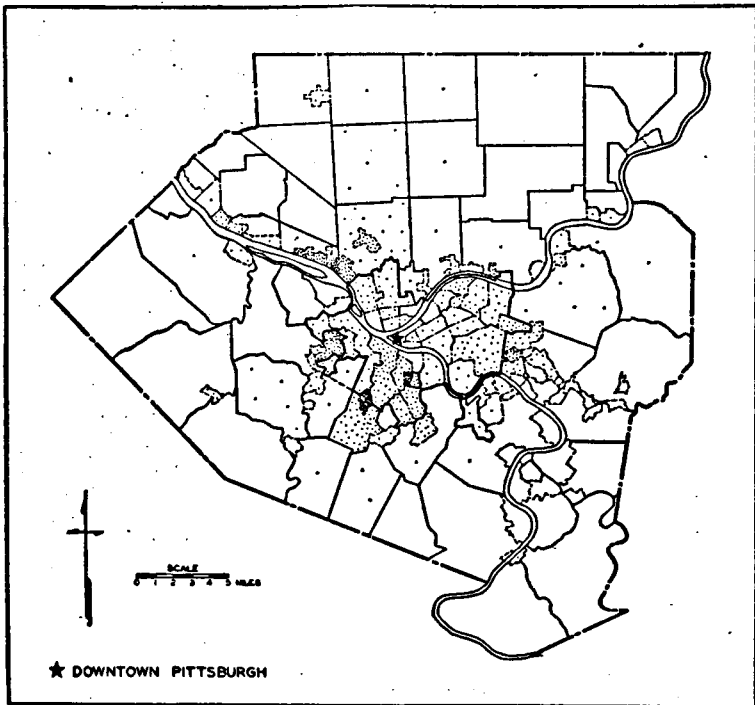
APPROXIMATE RESIDENCE LOCATIONS IN ALLEGHENY COUNTY OF 788 RENTERS EMPLOYED IN SALARIED POSITIONS IN DOWNTOWN PITTSBURGH



Of the total number reporting location, 664, or 47.5 per cent, live within the City of Pittsburgh; the remainder reside in a rather wide area outside the city limits (Table 24). Ward 19 in the city contains the homes of the largest number of salaried workers. Other wards ranked according to popularity are as follows: 14, 13, 26, 20, 7, 18, 27, and 29. Outside the city, Mt. Lebanon has the greatest number of salaried workers' homes. Dormont ranks a close second, and Wilkinsburg, Bellevue, Avalon, and Crafton are all well represented. Other

CHART 20

APPROXIMATE RESIDENCE LOCATIONS IN ALLEGHENY COUNTY OF 564 HOME OWNERS EMPLOYED IN SALARIED POSITIONS IN DOWNTOWN PITTSBURGH



boroughs which are well represented relative to their population are Ingram, Brentwood, Mt. Oliver, Edgewood, Ben Avon, and Emsworth.

The locations mentioned above are generally regarded as good home neighborhoods. Few of the salaried workers live in the industrial wards and boroughs. A few workers regularly commute from homes outside Allegheny County.

Renters are concentrated in the City of Pittsburgh, 54 per cent living within the city limits. Home owners,

TABLE 24
HOME LOCATION OF RENTERS AND OF HOME OWNERS
BY POLITICAL SUBDIVISIONS

Political Subdivision	All Homes		Rented Homes		Owned Homes	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
Ward 19—Pittsburgh	102	7.3%	61	7.5%	41	7.0%
Mt. Lebanon.....	95	6.8	53	6.5	42	7.1
Dormont.....	88	6.3	48	5.9	40	6.8
Ward 14—Pittsburgh	82	5.9	54	6.7	28	4.7
Wilksburg.....	61	4.4	51	6.3	10	1.7
Bellevue.....	49	3.5	27	3.3	22	3.7
Avalon.....	44	3.2	20	2.5	24	4.1
Ward 13—Pittsburgh	42	3.0	31	3.8	11	1.9
Crafton.....	37	2.6	19	2.4	18	3.1
Ward 26—Pittsburgh	37	2.6	28	3.5	9	1.5
Ward 20—Pittsburgh	36	2.6	25	3.1	11	1.9
Ward 7—Pittsburgh	35	2.5	32	4.0	3	0.5
Ward 18—Pittsburgh	31	2.2	22	2.7	9	1.5
Ward 27—Pittsburgh	31	2.2	18	2.2	13	2.2
Ward 29—Pittsburgh	30	2.1	16	2.0	14	2.4
Other Boroughs and Townships*	361	25.8	154	19.0	207	35.1
Other Pittsburgh Wards.....	238	17.0	151	18.6	87	14.8
All Cases.....	1399	100.0%	810	100.0%	589	100.0%
Total in City.....	664	47.5%	438	54.1%	226	38.4%
Total Outside City.....	735	52.5%	372	45.9%	363	61.6%
Location Not Reported.....	16	.....	13	.....	3	.....

*Includes 22 renters and 25 home owners who reported residence outside Allegheny County.

on the other hand, are located chiefly outside the city limits, the number living in the city being only 38 per cent of the total.

Type of Heating Equipment

Hot air furnaces are the most prevalent source of heat in the homes of the salaried renters; more than half their homes are equipped with such furnaces (Table 25). Approximately 20 per cent have hot water furnaces and 13 per cent have gas stoves or coal grates in individual rooms. Steam furnaces were reported in 11 per cent of the homes, and vapor in 2 per cent. The individual income groups differ greatly as to the source of

TABLE 25
DISTRIBUTION OF RENTERS BY FAMILY INCOME AND
TYPE OF HEATING EQUIPMENT IN HOME

Type of Heating Equipment	Family Income Group (1930)							
	All Income Groups	Less than \$2,000	\$2,000-2,999	\$3,000-3,999	\$4,000-4,999	\$5,000-5,999	\$6,000-6,999	\$7,000 or More
	Number of Cases Reporting							
Hot Air.....	406	54	162	117	43	21	6	3
Hot Water.....	154	15	38	45	32	9	5	10
Gas Stoves.....	92	34	35	17	4	0	0	2
Steam.....	84	3	25	23	17	7	5	4
Vapor.....	16	1	1	3	5	4	1	1
Grates.....	9	3	4	2	0	0	0	0
All Types.....	761	110	265	207	101	41	17	20
	Per Cent of Total Cases							
Hot Air.....	53.4%	49.1%	61.1%	56.5%	42.6%	51.2%	35.3%	15.0%
Hot Water.....	20.2	13.7	14.4	21.8	31.7	21.9	29.4	50.0
Gas Stoves.....	12.1	30.9	13.2	8.2	3.9	0.0	0.0	10.0
Steam.....	11.0	2.7	9.4	11.1	16.8	17.1	29.4	20.0
Vapor.....	2.1	0.9	0.4	1.4	5.0	9.8	5.9	5.0
Grates.....	1.2	2.7	1.5	1.0	0.0	0.0	0.0	0.0
All Types.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

heat used. More than 33 per cent of those with incomes less than \$2,000 use gas stoves or grates; approximately 49 per cent have hot air furnaces, and 14 per cent use

TABLE 26
AVERAGE ADJUSTED MONTHLY RENT,* ACCORDING TO
FAMILY INCOME AND TYPE OF HEATING
EQUIPMENT IN HOME

Type of Heating Equipment	Family Income Group (1930) and Average Rents							
	All Income Groups	Less than \$2,000	\$2,000-2,999	\$3,000-3,999	\$4,000-4,999	\$5,000-5,999	\$6,000-6,999	\$7,000 or More
Hot Air.....	\$51	\$34	\$45	\$57	\$65	\$70	\$80	\$ 82
Hot Water.....	66	35	57	62	74	81	92	111
Gas Stoves.....	40	33	40	46	64	....	....	40
Steam.....	62	35	52	62	64	71	76	97
Vapor.....	69	32	62	52	71	77	77	113
Grates.....	37	36	42	30	....	....	....	....
All Types.....	\$54	\$34	\$47	\$58	\$68	\$73	\$82	\$97

*For number of cases on which each average is based, see Table 25.

is provided by hot water, steam, or vapor more commonly than by hot air.

Among home owners the situation with respect to heat is somewhat different. Only 4.5 per cent depend solely on heat from individual gas stoves and coal grates, while 2.5 per cent have steam or vapor furnaces (Table 27). It is probable that most steam and vapor heating plants are found in apartment houses. Hot air and hot water furnaces are the two main sources of heat for owned homes. About 71 per cent of the owned homes are equipped with hot air furnaces; approximately 22 per cent are equipped with hot water.

Renters as a group are somewhat better off with respect to heating facilities than are home owners. This is probably owing to the fact that a large percentage of renters live in apartments, which generally furnish hot water, steam, or vapor heat. However, some 13 per cent of the renters depend exclusively on gas stoves or grates for heat, compared with only 4.5 per cent of the home owners.

TABLE 28
AVERAGE ORIGINAL HOME COST,* ACCORDING TO FAMILY
INCOME AND TYPE OF HEATING EQUIPMENT IN HOME

Type of Heating Equipment	Family Income Group (1930)							
	All Income Groups	Less than \$2,000	\$2,000-2,999	\$3,000-3,999	\$4,000-4,999	\$5,000-5,999	\$6,000-6,999	\$7,000 or More
Hot Air	\$ 7,907	\$ 6,424	\$ 6,972	\$ 8,002	\$ 8,147	\$ 8,741	\$ 8,114	\$10,712
Hot Water	12,814	9,750	10,349	11,217	11,639	13,300	14,699	19,634
Gas Stoves	3,811	1,750	4,106	4,225	4,575	3,750	.....	.....
Steam	12,116	5,000	7,067	8,250	**	.....	.....	24,460
Vapor	30,750	.....	.....	.....	.....	13,500	.....	36,500
Grates	4,833	.....	4,500	5,500	.....	4,500	.....	.....
All Types	\$9,042	\$5,984	\$7,245	\$8,476	\$9,370	\$9,165	\$11,528	\$16,280

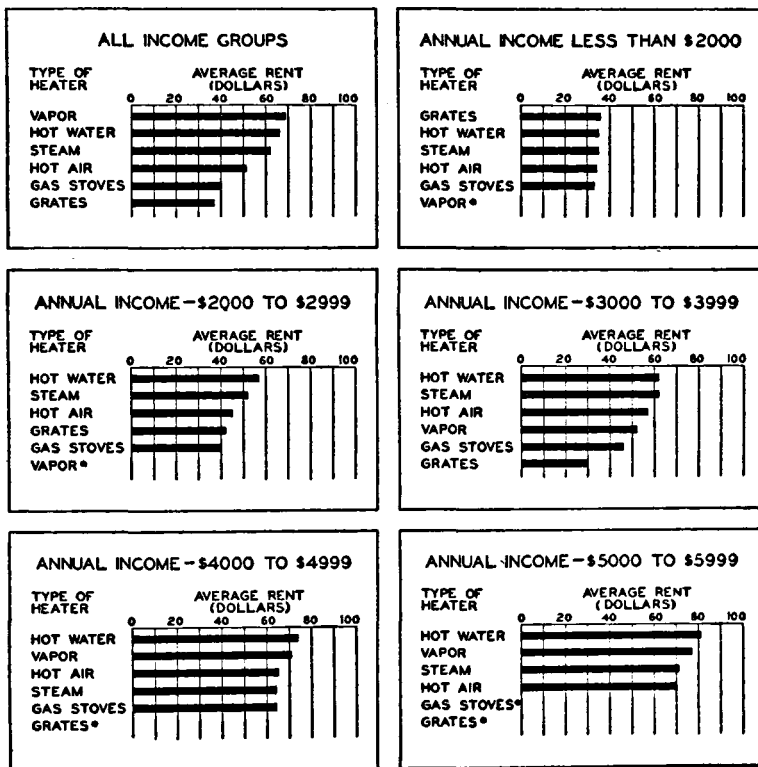
*For number of cases on which each average is based, see Table 27.

**Average for three cases is \$18,000, but there is room for doubt regarding the consistency of one of the three reports.

Homes heated by gas stoves or grates command the least average rents—\$40 and \$37, respectively (Table 26 and Chart 21). Homes heated by hot air furnaces rent on the average for \$51, whereas homes heated by hot water, steam, or vapor plants average from \$62 to \$69 a month. In general, this same relation between the average rents for homes equipped with various types of

CHART 21
AVERAGE ADJUSTED MONTHLY RENT, ACCORDING TO
FAMILY INCOME AND TYPE OF HEATING EQUIPMENT
IN HOME

(Data presented in Table 26)



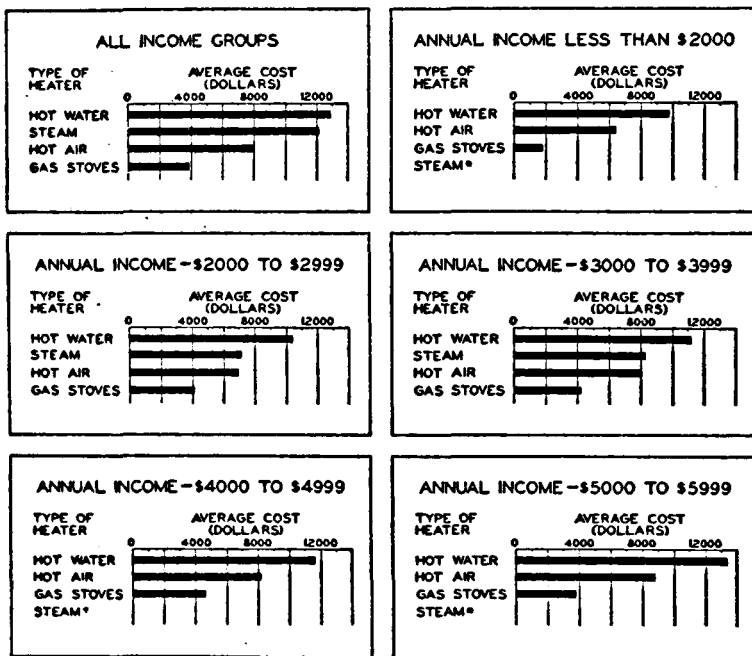
*Rent plotted only if based on two or more cases. Distribution of cases presented in Table 25.

heaters exists within the individual income groups, the average rents of each income group, of course, being higher than those of the preceding group. Probably not all differences in average rents are due to the differences in type of heater. It is likely that a home well equipped with respect to furnace is also well built and modern in other details.

CHART 22

AVERAGE ORIGINAL HOME COST, ACCORDING TO FAMILY INCOME AND TYPE OF HEATING EQUIPMENT IN HOME

(Data presented in Table 28)



*Home cost plotted only if based on two or more cases. Distribution of cases presented in Table 27.

†There were three cases of steam heat in the \$4,000-\$4,999 group, but the average home cost, \$18,000, appears doubtful.

Average costs for home owners are reliable only for those homes heated by hot water, hot air, or gas stoves, other types being represented by too few cases to justify conclusions (Table 28 and Chart 22). Homes heated solely by gas stoves are of relatively low cost, the average being approximately \$3,800; those heated by hot air furnaces cost, on the average, almost \$8,000; whereas those heated by hot water average \$12,800.

Dining Room, Bathroom, and Kitchen

Homes vary considerably in layout. Singles, duplexes, and doubles probably have, on the whole, the standard layout, which includes kitchen, dining room, living room, bathroom, and one bedroom or more. But many homes lack one or more of the three—dining room, bathroom, or full-sized kitchen.

Almost 80 per cent of the renters have dining rooms (Table 29). Only 49 per cent of the lower income group, those with annual incomes less than \$2,000, have dining

TABLE 29
NUMBER AND PERCENTAGE OF RENTERS REPORTING
DINING ROOM, PRIVATE BATHROOM, AND FULL-SIZED
KITCHEN, BY FAMILY INCOME GROUPS

Family Income Group (1930)	Number and Per Cent Reporting					
	Dining Room		Private Bathroom		Full-sized Kitchen	
	Number	Per Cent of Total*	Number	Per Cent of Total*	Number	Per Cent of Total*
Less than \$2,000	57	48.7%	70	59.8%	94	80.3%
\$2,000 — 2,999	212	76.8	226	81.9	227	82.2
3,000 — 3,999	184	88.9	189	91.3	185	89.4
4,000 — 4,999	92	92.9	95	96.0	84	84.8
5,000 — 5,999	41	97.6	42	100.0	37	88.1
6,000 — 6,999	16	94.1	16	94.1	15	88.2
7,000 or More	23	92.0	23	92.0	21	84.0
All Groups	625	79.8%	661	84.4%	663	84.7%

*Total is the number of persons reporting on the specified accommodation.

rooms. As income increases the percentage having dining rooms increases also. There are few renters with incomes greater than \$4,000 whose homes do not include dining rooms.

Private bathrooms are found more frequently than dining rooms, although nearly 16 per cent of the renters do not have private bathrooms. Probably the majority of these are living in houses made over into apartments, in housekeeping rooms, or in rural or semi-rural homes. Almost 40 per cent of the less than \$2,000 income group, 18 per cent of the \$2,000-\$2,999 group, and 9 per cent of the \$3,000-\$3,999 group are without private bathrooms. Few with family incomes greater than \$4,000 are without private bathrooms.

Full-sized kitchens—as distinguished from kitchenettes—are found in 85 per cent of the homes. The relative frequency of full-sized kitchens is about the same among all income groups of renters.

Relatively more of the owned homes include private bathrooms, dining rooms, and full-sized kitchens (Table 30). Only 2.9 per cent are without dining rooms, 9.0 per

TABLE 30
NUMBER AND PERCENTAGE OF HOME OWNERS REPORTING
DINING ROOM, PRIVATE BATHROOM, AND FULL-SIZED
KITCHEN, BY FAMILY INCOME GROUPS

Family Income Group (1930)	Number and Per Cent Reporting					
	Dining Room		Private Bathroom		Full-sized Kitchen	
	Number	Per Cent of Total*	Number	Per Cent of Total*	Number	Per Cent of Total*
Less than \$2,000	19	79.2%	15	62.5%	22	91.7%
\$2,000 — 2,999	134	95.7	125	89.3	135	96.4
3,000 — 3,999	158	98.1	152	94.4	156	96.9
4,000 — 4,999	101	99.0	94	92.2	101	99.0
5,000 — 5,999	51	100.0	49	96.1	50	98.0
6,000 — 6,999	26	96.3	23	85.2	26	96.3
7,000 or More	51	100.0	48	94.1	50	98.0
All Groups	540	97.1%	506	91.0%	540	97.1%

*Total is the number of persons reporting on the specified accommodation.

cent are without private bathrooms, and 2.9 per cent are without full-sized kitchens. The lowest income group of home owners is deficient in these conveniences but not to the same extent as the low income group of renters. Few families with incomes greater than \$2,000 annually are without these three usual accommodations: in the various income groups from none to 4.3 per cent are without dining rooms; from 3.9 to 14.8 per cent are without private bathrooms; and from 1.0 to 3.7 per cent are without full-sized kitchens.

It must be kept in mind that lack of a private bathroom does not mean the complete lack of modern sanitary facilities. Among the renters, no doubt, many families in housekeeping rooms, low-priced apartments, and made-over dwellings must share bathroom facilities with other families on the premises. Some of the home owners in all probability rent quarters to others with whom they must share bathrooms. In addition, a few renters and home owners live in rural or semi-rural districts and are without bathrooms, although they may not be entirely without modern sanitary facilities.

CHAPTER IV
COMPARATIVE ANALYSIS: HOME OWNERS AND
RENTERS

Housing Costs

It seems reasonable to assume that over a long period of time the cost of securing certain housing accommodations would tend to be the same for home owners and for renters. It is not at all certain, however, that shelter costs are equal for renters and owners on any specific date.

Comparison of housing costs of renters with those of home owners is hazardous. The renter's commitment relates only to the use of property and usually extends for not more than a year. His rent, therefore, is affected by recent changes in the value of real estate. The home owner, in contrast, makes a commitment for an indefinite period, not merely purchasing the use of property, but also gaining the right to increment in value as well as assuming the risk of loss in value. Consequently, in the case of the owner, payments for the use of property cannot be segregated from capital gains and losses. Therefore, the rent basis and the ownership basis at any given time may differ considerably.

Even if available data represented the situation following a fairly long period of active renting and selling, and therefore were reasonably comparable, there would remain the nettlesome question of what constitutes a trustworthy factor by means of which to convert

home costs of owners into the equivalent of rent. Shifts in taxes and interest rates, not to speak of any other elements presumably covered in gross rent, might account for considerable change in the ratio of rent to the value of rented (or equivalent owned) property.

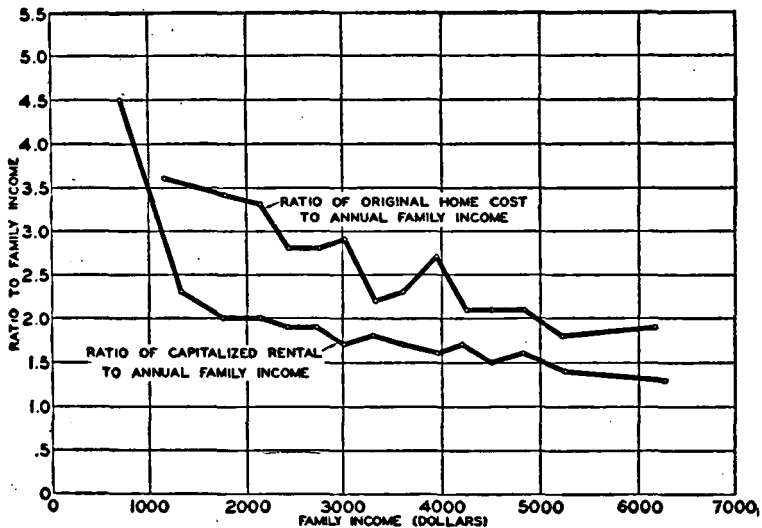
In spite of these recognized difficulties, it seems permissible to make some comparisons on the basis of the data available. Rents reported were, in general, those based upon 1930 leases. (The majority of Pittsburgh leases are dated May 1.) The index of rents in Pittsburgh, computed by the United States Bureau of Labor Statistics, stood, in June, 1930, at 164.9 (December, 1917 = 100), not greatly above the average rent level at which owned homes were purchased.²⁰ The two bodies of data may be assumed to be roughly comparable with respect to price level.

For purposes of converting rents into the equivalent of home costs, 12 per cent was assumed as the ratio of gross annual rent to value of rented property. This percentage is one rather commonly used in normal times to represent the gross return required for a net of six per cent on investment properties in Pittsburgh. On this basis, the value of a rented home is 100 times the monthly rent. If the average capitalized rentals are divided by average family incomes, ratios of the estimated average value of rented home to family income are secured, which are roughly comparable to the ratios of home cost to annual income presented in Chart 8.

²⁰ The Pittsburgh rent index of the Bureau of Labor Statistics is, for this comparison, assumed to measure changes in the purchase price of residential property in the district. The average rent level (or assumed real estate price level) at which owned homes were purchased was calculated by weighting the rent index for each year by the number of homes purchased during the year. Thus the average rent level at which homes of the salaried owners were purchased was found to be 155.0 (December, 1917, equals 100), as compared with a rent index of 164.9 for June, 1930.

A comparison of these two ratios, for various family income groups, is presented in Chart 23. The curve for home owners begins with a ratio of 3.6 for those with incomes between \$1,000 and \$1,499 and declines somewhat irregularly until a ratio of 1.8 for the \$5,000-\$5,999 income group is reached. Capitalized rentals of renters begin with a figure of 4.5 times annual family income, for the group receiving less than \$1,000, drop sharply to a ratio of 2.4, for the group receiving \$1,000-\$1,999, and then decrease fairly regularly to a

CHART 23
RATIO OF ORIGINAL HOME COST TO ANNUAL FAMILY INCOME,* FOR OWNERS, AND RATIO OF CAPITALIZED RENTAL† TO ANNUAL FAMILY INCOME, FOR RENTERS, BY FAMILY INCOME GROUPS



*Data presented in Table 4.

†Annual rent, based on adjusted monthly rents shown in Table 3, capitalized on a basis of an estimated gross annual yield of 12 per cent.

figure 1.3 times annual family income, for the \$6,000-\$6,999 income group. The average ratio for home owners with incomes less than \$7,000 annually is 2.4, whereas the corresponding ratio for renters is only 1.7. Relative to 1930 income, average original cost of owned homes was higher than the average imputed value, in 1930, of rented homes.

Several explanations of this situation are available. First, as was said above, home owners made their commitments in past years; since real estate prices have changed in the meantime, they paid something different from the current value for their homes, whereas renters pay on a more nearly current valuation. Second, practically all home owners live in single houses, whereas most of the renters live in various types of multiple-unit houses (Table 14). A single house generally is more costly than a unit in a multiple dwelling. Third, it is probable that home owners have better accommodations than renters with like income. It is certain that the accommodations of owners are larger, as measured by number of rooms (Tables 15 and 17). Finally, the needs of home owners for shelter are greater, since their families are larger, on the average (Table 31).

TABLE 31
COMPARISON OF HOME OWNERS AND RENTERS WITH
RESPECT TO AGE OF HEAD OF FAMILY AND
NUMBER IN FAMILY

Group	Age: Head of Family		Number in Family	
	Number of Cases	Average Age	Number of Cases	Average Number*
Home Owners.....	570	42.4	591	4.1
Renters.....	795	34.8	822	3.5
All Cases.....	1,365	38.0	1,413	3.8

*Number of persons living in home. This includes relatives, boarders, and lodgers, but these were not numerous.

It is impossible, therefore, to say which is the more advantageous economically, renting or home owning. The weight of numbers is on the side of renting; but financial necessities seem to have been of more influence than economic advantages in governing their choice, since a majority of the renters reported financial inability to purchase as their reason for renting. The preponderance of renters, therefore, proves nothing in regard to the comparative economic advantages of home owning or renting.

Reasons Reported for Present Status

A summary of replies to questions regarding reasons for home owning or for renting is presented in Table 32. Many persons gave several reasons but only the first one listed was counted.

The greatest number of home owners (120) gave as their chief reason for owning that it is cheaper. Owning either as a means of acquiring an estate or as a means of investment and saving was reported by 111. Many own for the personal satisfaction and pride which they have in their homes. Others own to provide a place for children. Only 22 among 521 owners, however, gave this reason. Independence, permanency, and privacy are reasons reported by a considerable number. There were 24 who regretted purchasing homes and thought that renting had become cheaper than owning.

It is impossible to say whether the reasons reported by owners are those which actually determined their purchase of homes. It is probable that reasons were reported by some in a subconscious attempt to justify a major expenditure. Conclusions based on the data shown in Table 32 must, therefore, be premised on the fact that the data present a cross-section of the present views of home owners on their past commitments.

More than half the renters indicate financial inability to purchase a home as their chief reason for renting. A large proportion (21 per cent) report that costs are too high, that it is cheaper to rent, or that Pittsburgh is a poor place in which to invest in a home. Many

TABLE 32
SUMMARY OF REPLIES TO THE QUESTIONS "WHY DO YOU OWN?" AND "WHY DO YOU RENT?"

Replies to "Why do you own?"			Replies to "Why do you rent?"		
	Number	Per Cent of Total		Number	Per Cent of Total
Cheaper.....	120	23.0%	Unable to buy.....	414	53.5%
Means of investment and savings.....	98	18.8	Convenience of moving.....	98	12.7
Personal satisfaction.....	79	15.2	Cheaper to rent.....	86	11.1
Independence of landlords.....	40	7.7	Cost of owning too high: Taxes, Land values.....	69	8.9
Permanency: Security of home.....	30	5.8	Prefer using funds otherwise.....	29	3.7
To better living conditions; Privacy; Had to buy; Nothing to rent.....	25	4.8	Do not want responsibility.....	24	3.1
Regret purchase: Costs now higher than rent.....	24	4.6	Do not want to locate permanently.....	17	2.2
For children.....	22	4.2	Poor place to buy.....	10	1.3
Preference for own home.....	19	3.6	Convenience of location.....	9	1.2
Gift; Inherited.....	17	3.3	Need of parents or relatives for care.....	7	0.9
To acquire an estate.....	13	2.5	Indefinite answers.....	11	1.4
To live in comfort; To improve to suit taste.....	9	1.7			
Convenience.....	7	1.3			
Patriotic reasons.....	4	0.8			
Make family life happy.....	2	0.4			
Indefinite answers.....	12	2.3			
All Replies.....	521	100.0%	All Replies.....	774	100.0%
No Reply.....	71	.....	No Reply.....	51	.....

rent because of the temporary nature of employment or the probability of transfer. Others do not wish to assume the responsibility of ownership.

To summarize the advantages claimed for home owning: It is said that home ownership provides permanency and privacy of home life, is a means of investment and of acquiring an estate, is a source of pride and personal satisfaction, gives the owner a chance to improve his home to suit his own tastes, allows the family to live in a type of house (the single) which is not readily available to renters, and provides a cheap as well as a better place to live. On the other hand, renting is said to be more flexible, to be cheaper in times of declining real estate values, to involve less responsibility on the part of the renter, to permit residence in the more convenient locations, and to require no capital outlay.

Occupation

Differences in the occupational distributions of the home owners and renters should be noted (Table 33). Approximately 54 per cent of the executives and 52 per

TABLE 33
COMPARATIVE FREQUENCY OF HOME OWNERS AND
RENTERS IN THE VARIOUS TYPES OF
EMPLOYMENT REPORTED

Type of Employment	Home Owners		Renters		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
Clerical.....	239	38.4%	384	61.6%	623	100.0%
Executive.....	131	54.4	110	45.6	241	100.0
Technical.....	85	39.5	130	60.5	215	100.0
Selling.....	33	32.8	80	67.2	119	100.0
Accounting.....	49	52.1	45	47.9	94	100.0
Semi-technical.....	11	33.3	22	66.7	33	100.0
Semi-executive.....	12	42.9	16	57.1	28	100.0
Personal Service.....	12	80.0	3	20.0	15	100.0
Professional.....	4	36.4	7	63.6	11	100.0
Statistical.....	0	0.0	6	100.0	6	100.0
All Types Employment Not Reported.....	582	42.0%	803	58.0%	1,385	100.0%
	10	.....	20	.....	30	.....

cent of the accountants are home owners, whereas only 43 per cent of those in semi-executive positions, 39.5 per cent in technical positions, and 38.4 per cent in clerical positions are home owners. The fewest home owners are found among those in semi-technical and selling positions. Personal service, professional, and statistical positions are too poorly represented to warrant conclusions.

It is probable that the cause of the rather wide differences between occupational groups with regard to home owning is accounted for by differences in remuneration, in security of employment, or in permanence of location of employment.

Family Income

Home owners are most frequent among the higher income groups (Table 34). The average 1930 family income of home owners was \$4,151 as compared with \$3,269 for renters. No home owners are found among the salaried workers with family incomes of less than

TABLE 34
COMPARATIVE FREQUENCY OF REPORTING HOME OWNERS
AND RENTERS IN THE VARIOUS FAMILY INCOME GROUPS

Family Income Group (1930)	Home Owners		Renters		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
Less than \$1,000	0	0.0%	5	100.0%	5	100.0%
\$1,000 — 1,999	24	17.1	116	82.9	140	100.0
2,000 — 2,999	147	34.8	275	65.2	422	100.0
3,000 — 3,999	164	44.0	209	56.0	373	100.0
4,000 — 4,999	105	51.2	100	48.8	205	100.0
5,000 — 5,999	52	55.3	42	44.7	94	100.0
6,000 — 6,999	27	61.4	17	38.6	44	100.0
7,000 — 7,999	9	64.3	5	35.7	14	100.0
8,000 — 8,999	10	66.7	5	33.3	15	100.0
9,000 — 9,999	3	60.0	2	40.0	5	100.0
10,000 or More	22	66.7	11	33.3	33	100.0
All Groups	563	41.7%	787	58.3%	1,350	100.0%
Income Not Reported	29	.....	36	.....	65	.....

\$1,000 annually, whereas five renters report such incomes. In all income groups of less than \$4,000 annually, renters predominate. More than 50 per cent of those with higher incomes are home owners.

Age: Head of Family

Renters are more numerous than home owners among salaried workers less than 40 years of age; the majority of those older than 40 are home owners (Table 35). As age increases, the proportion of home owners

TABLE 35
COMPARATIVE FREQUENCY OF REPORTING HOME OWNERS
AND RENTERS IN VARIOUS AGE GROUPS

Age: Head of Family	Home Owners		Renters		Total	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
20-29	29	11%	227	89%	2 56	100.0%
30-39	214	38	356	62	570	100.0
40-49	182	55	148	45	330	100.0
50-59	108	69	48	31	156	100.0
60-69	32	70	14	30	46	100.0
70-79	3	60	2	40	5	100.0
All Groups	568	42%	795	58%	1363	100.0%

increases also. Only 11 per cent of the workers 20-29 years of age, as contrasted with 70 per cent of those 60-69 years old, are home owners. Whether the greater prevalence of home ownership among the older workers is the result of larger earning capacity, of the longer time for accumulation of savings, or of a more intense desire for the stability that is assumed to accompany home ownership cannot be determined. It is probable that each is a factor. That home ownership increases with age is certain, and that it is either undesirable or unavailable to the younger salaried workers is implied by the data of Table 35.

CHAPTER V

SUMMARY AND CONCLUSIONS

The preceding discussion has pictured the housing conditions existing in the early part of 1931 among salaried workers employed in downtown Pittsburgh. An effort has been made to determine relationships between cost of housing and factors such as income, number in the family, age, and type of accommodations. Housing accommodations of renters and home owners were compared. Some of the significant results are summarized in the following statements:

1. Approximately 58 per cent of the salaried workers are renters, and 42 per cent are home owners.

2. About 32 per cent of the renters and 49 per cent of the home owners have income additional to the salary earned in their full-time positions. Family income, therefore, provides a better basis than salary for comparing shelter costs.

3. On the average, rents increase \$16.20 annually, or \$1.35 monthly, with each increase of \$100 in annual salary.

4. On the average, rents increase \$13.20 annually, or \$1.10 monthly, with each increase of \$100 in annual family income.

5. Rents of the salaried workers average \$59 a month, but if adjustments are made to eliminate the cost

(estimated) of extra services, payment for which is frequently included in the rent, the average rent becomes \$54.

6. Rents adjusted to exclude payment for extra services vary from \$31 for those with incomes of \$1,000-\$1,499 annually to \$60 for those with incomes of \$3,500-\$3,799 and \$82 for those with incomes of \$6,000-\$6,999.

7. As income increases, the proportion expended for rent decreases at a declining rate. Families with small incomes expend a much greater proportion of their income for rent than do those with large incomes. The percentage of family income spent for rent (adjusted) declines from 28.1 per cent, for those with incomes of \$1,000-\$1,499, to 20.0 per cent, for those with incomes of \$3,500-\$3,799, and to 15.7 per cent, for those with incomes of \$6,000-\$6,999.

8. Home costs of owners increase from \$5,927, for those with incomes of \$1,500-\$1,999, to \$8,431, for those with incomes of \$3,500-\$3,799, and to \$11,528, for those with incomes of \$6,000-\$6,999.

9. Home costs vary from 3.4 times the annual incomes of those earning between \$1,500 and \$1,999 to 2.3 times the incomes of those earning between \$3,500 and \$3,799, and to 1.9 times incomes of those earning between \$6,000 and \$6,999.

10. The purchase costs of homes vary with the date of purchase. Greatest costs have been incurred by those purchasing or building since 1924.

11. The average debt (early in 1931) on owned homes represents 41 per cent of the original cost of the home, ranging from 79 per cent on homes bought in 1931 to 11 per cent on homes bought before 1914.

12. Approximately 78 per cent of the owned homes have first mortgages and 18 per cent have second.

13. Indebtedness on homes does not vary noticeably with the incomes of owners.

14. Indebtedness is greatest on the most recently purchased homes. But homes purchased as long ago as 1914 are mortgaged to the extent of 25 per cent of their original cost.

15. There is little evidence, when each group is considered separately, that renters or home owners have based their expenditures for shelter on the size of their families or the age of the head of the family. But, if the two groups (renters and home owners) were combined, it is probable that some relation between shelter costs, size of family, and age would be found. Home owners appear to spend more for housing than renters and at the same time they have larger families and are an older group.

16. Home owners live in single dwellings almost exclusively. On the other hand, 25 per cent of the renters live in singles; 11 per cent, in doubles; 24 per cent, in duplexes; 20 per cent, in apartments; 8 per cent, in row houses; and 6 per cent, in housekeeping rooms. Persons with incomes of \$4,000 or more rent singles or doubles more commonly than do those with lower incomes.

17. Adjusted rents of singles average \$57; of doubles, \$59; of duplexes, \$48; of apartments, \$61; of row houses, \$59; of housekeeping rooms, \$30. Higher average rents of apartments, row houses, singles, and doubles are the result of the comparatively greater frequency of these types in the higher income groups. It

is also probable that apartments, row houses, and doubles, on the average, are the most recently constructed homes.

18. There is very little overcrowding in the homes of the salaried workers. (The study was made in the early part of 1931.) All but a few have at least one room for every person in the family; 50 per cent of the renters and 58 per cent of the home owners live in either five- or six-room places.

19. Approximately, 53 per cent of rented homes and 71 per cent of owned homes are heated by hot air furnaces. Hot water, vapor, or steam furnaces are relatively more common in the homes of renters than in those of home owners. However, only 4.5 per cent of the owned homes, as compared with 13 per cent of the rented homes, depend on gas stoves, heaters, or coal grates, exclusively. Rents of homes equipped with hot water, steam, or vapor furnaces range from \$62 to \$69, or \$11 to \$18 more than the average rent of homes equipped with hot air furnaces. Average rent of homes dependent on gas stoves is \$40.

20. The ratio of capitalized rentals (12 per cent basis) to annual family income is less, for every income group, than the ratio of original home cost to annual family income.

21. In general, home owners secure better accommodations, for which, of course, they pay more than renters of like income. Their homes are predominantly single dwellings, larger and better equipped with respect to bathrooms, dining rooms, and kitchens than are the homes of renters.

22. Home owners differ from renters with respect to age, number in the family, and income. Owners average almost 8 years older than renters; their families average 4.1 members compared with 3.5 members in the families of renters; and their total annual family income averages \$4,151 as compared with \$3,269 for renters. Home owners out-number renters only among those salaried workers 40 years of age or older and among those with incomes greater than \$4,000.

APPENDICES

APPENDIX A

QUESTIONNAIRE USED

NOTE: All information furnished is held strictly confidential. This form contains no means for the identification of individuals.

Section I

1. Where do you live? Pittsburgh Ward No. _____, _____, _____
Street, Nearby Cross St.
 or Borough Name _____
 or Township Name _____
2. Do you own your home or rent? Check one {Own
\Rent
3. If you rent, what is the total amount of rent paid for the year? \$ _____
\for one month? \$ _____
4. If you built your own home:
 What was the cost of the lot? \$ _____
 What was the cost of the building? \$ _____
 Does this cost figure include garage? Yes _____ No _____
 If garage was built subsequently, what was its cost? \$ _____
 In what year was home built? _____
 If you purchased your home:
 What was the purchase price? \$ _____
 If garage was built subsequently, what was its cost? \$ _____
 In what year was home purchased? _____
5. Is your home mortgaged? Yes _____ No _____
 - a. What is the amount outstanding on the first mortgage? \$ _____
 - b. What is the amount, if any, outstanding on second mortgage? \$ _____

Section II

6. What type of dwelling do you live in? Check one:

a. Single <input type="checkbox"/>	e. Row <input type="checkbox"/>
b. Double (party wall) <input type="checkbox"/>	f. Apartment house <input type="checkbox"/>
c. Duplex (one family above the other) <input type="checkbox"/>	g. Housekeeping rooms <input type="checkbox"/>
d. Double duplex (two families upstairs, two downstairs) <input type="checkbox"/>	h. _____ <input type="checkbox"/>

7. Do you rent your home furnished or unfurnished?
8. How many rooms does your home contain? Total Number _____ (not including bath)
- a. Bed rooms, Number _____ c. Private bath, Yes _____ No _____
- b. Dining room, Yes _____ No _____ d. Full-sized Kitchen Kitchenette
9. What is the type of heat used in heating your home?
- Type of furnace, check one: What fuel is used, check one:
- Hot air Coal
- Steam Gas
- Vapor Oil
- Hot Water _____
- Gas stoves in rooms
10. How many persons are there living in your home? _____
- Wife, Yes _____ No _____ Number of other relatives _____
- Number of children under 16 _____ Number of other persons _____
- Number of children 16 and over _____
11. What is your age? _____ years.
12. What form of transportation do you usually use? Check one:
- Street car Inclined plane
- Motor-bus Walk
- Railroad _____
- Private auto
- How long does it usually take you from home to work, using the medium of transportation checked above? _____ minutes.
13. If you rent, does your rental include the following?
- a. Gas, Yes No d. Refrigeration, Yes No
- b. Water, Yes No e. Heat, Yes No
- c. Electricity, Yes No f. Household service, Yes No
- g. Garage, Yes No

Section III

1. What type of work are you engaged in?
- Selling Clerical _____
- Accounting Executive _____
2. What was the combined income of your family in 1930? \$ _____

3. What was your personal income in 1930? \$.....
Of this amount, how much represented salary or earnings from your main
occupation? \$.....
4. How much income, if any, was received for rooms or lodging (from children,
boarders, or lodgers)? \$.....

Section IV

1. Why do you rent?.....
2. Why do you own your home?.....

NOTE: If any of these questions are not clear to you, please call Mayflower 3500,
Bureau of Business Research, and ask for the Statistician.

APPENDIX B

LETTER DESCRIBING PROJECT TO HEADS OF FAMILIES

(Sent out on Bureau of Business Research Letterhead)

To Heads of Families Who
Work in Downtown Pittsburgh:

Your cooperation is requested in a study of housing in Pittsburgh by the Bureau of Business Research of the University of Pittsburgh. This study is part of a project designed to provide employees in downtown Pittsburgh with modern housing facilities at a convenient location with maximum amenities at a minimum cost.

In order to further this project, it is essential to get the facts concerning housing conditions today. You are invited to cooperate with us by filling in the blanks on the attached sheets and returning them to the Bureau in the envelope provided for that purpose.

This form contains no means for the identification of individuals; since the questionnaire does not call for a signature, there is no way of knowing who you are or with what company you are connected. If the Pittsburgh ward number is known, street and nearby cross street need not be reported. If you live outside Pittsburgh you need report only the borough or township in which you reside.

Please read the questions carefully, fill in the blanks accurately, and mail the form at your earliest convenience. You have the opportunity of participating in a research study which is designed for constructive results. Your help will be appreciated.

Very truly yours,

RALPH J. WATKINS
Director

APPENDIX C

SUGGESTED LETTER FOR ENCLOSURE BY OFFICIALS OF COOPERATING CONCERNS*

(For use on Letterhead of Cooperating Concern)

The Bureau of Business Research of the University of Pittsburgh has requested the cooperation of our employees in a study of housing conditions in Pittsburgh. This study is designed to afford a basis for constructive action which will be of benefit to those who work in downtown Pittsburgh.

There is no possibility for the identification of individuals in this study. You are not asked to sign your name. Mail the form unsigned directly to the Bureau in the envelope provided for that purpose. By responding to this questionnaire you will engage in a public-spirited enterprise which may result in opportunities for improvement of living conditions for employees of this company.

I urge your cooperation in this study.

Very truly yours,

President

*All of the cooperating concerns, except one, addressed copies of this letter or one like it to their employees recommending their cooperation in the study.

APPENDIX D

REVISED QUESTIONNAIRE ON HOUSING*

(Note: If any of these questions are not clear to you, please call.....and ask for.....)

SECTION I

1. Where do you live?
Pittsburgh Ward No.....Street.....
Nearby cross street.....Or borough name.....
Or township name.....
2. Do you own your home or rent? Check one.
Own
- Rent.....
3. If you rent, what is the total amount of rent paid?
For the year? \$.....
For one month? \$.....
Does your rental include the following?
(a) Gas. Yes.....No.....
(b) Water. Yes.....No.....
(c) Electricity. Yes.....No.....
(d) Refrigeration. Yes.....No.....
(e) Heat. Yes.....No.....
(f) Household service. Yes.....No.....
(g) Garage. Yes.....No.....If two-car garage,
check here.....
Do you rent your home furnished?.....or unfurnished.....

* Charles F. Lewis, "A Community Built on Facts," *The Architectural Forum*, March, 1932, Part I, page 256. Mr. Lewis, in describing the questionnaire used in this study, says:

"The questionnaire was quite satisfactory from the standpoint of providing information as to existing living conditions among the groups studied. Analysis of it now, however, suggests additional information that might properly be asked for in such a survey. Particularly what is needed is to search the hearts and the minds as well as the homes of the groups under study. It is hardly enough to ask what conditions families now live under. It is equally important to ask what conditions they would like to live under. With that thought in mind the questionnaire used in the Pittsburgh study has been revised and expanded to accompany this article for whatever suggestive value it may have for architects and others interested in large-scale residential building."

4. If you own your own home:
 - What is its assessed valuation
 - On buildings? \$.....
 - On land? \$.....
 - What was the total in real estate taxes paid on it in 1931
 - For city, borough or township purposes? \$.....
 - For school purposes? \$.....
 - For county purposes? \$.....
5. If you built your own home:
 - What was the cost of the lot? \$.....
 - What was the cost of the building? \$.....
 - Does this cost figure include garage? Yes....No....
 - If garage was built subsequently, what was its cost?
 - \$.....
 - In what year was home built?.....
6. If you purchased your home:
 - What was the purchase price? \$.....
 - Does this cost figure include a separate garage?.....
 - If garage was built subsequently, what was its cost?
 - \$.....
 - In what year was home purchased?.....
7. Is your home mortgaged? Yes.....No.....
 - (a) What is the amount outstanding on the first mortgage? \$.....
 - (b) What is the amount, if any, outstanding on second mortgage? \$.....

SECTION II

8. What type of dwelling do you live in? Check one.
 - (a) Single.....
 - (b) Double (party wall).....
 - (c) Duplex (one family above the other).....
 - (d) Double duplex (two families upstairs, two downstairs).....
 - (e) Row.....
 - (f) Apartment.....
 - (g) Housekeeping rooms.....
 - (h)
9. How many rooms does your home contain? Total number
 -(not including bath)
 - (a) Bedrooms, Number.....
 - (b) Dining room, Yes.....No.....
 - (c) Private bath, Yes.....No.....
 - (d) Full-sized kitchen.....Kitchenette.....

10. What is the type of heat used in heating your home?
- | | |
|--------------------------|--------------------|
| Type of furnace? | What fuel is used? |
| Check one. | Check one. |
| Hot air..... | Coal..... |
| Steam..... | Gas..... |
| Vapor..... | Oil..... |
| Hot water..... | ..... |
| Gas stoves in rooms..... | |
11. How many persons live in your home?
- Wife. Yes.....No.....
- Number of children under 16.....
- Number of children 16 and over.....
- Number of other relatives.....
- Number of other persons.....
12. What form of transportation do you usually use?
- | | |
|-------------------|---------------------|
| Check one. | |
| Street car..... | Inclined plane..... |
| Motor-bus..... | Walk..... |
| Railroad..... | ..... |
| Private auto..... | |
- How long does it usually take you from home to work, using the medium of transportation checked above?
.....minutes?
13. Do you own a family automobile? Yes.....No.....
(If more than one for personal or family use, how many?
.....)

SECTION III

14. What is your age?.....years.
15. What type of work are you engaged in?
- | | |
|-----------------|----------------|
| Selling..... | Clerical..... |
| Accounting..... | Executive..... |
| | |
16. What was the combined income of your family in 1930?
\$.....
17. What was your personal income in 1930? \$.....
Of this amount, how much represented salary or earnings
from your main occupation? \$.....
18. How much income, if any, was received for rooms or lodg-
ing (from children, boarders, or lodgers)? \$.....

SECTION IV

19. If you were renting and moving into a new home now, would you prefer:
- (a) Single family house on separate lot.....
 - (b) Double (party wall).....
 - (c) Duplex.....
 - (d) Double duplex.....
 - (e) Row.....
 - (f) Garden grouping in completely planned community (such as Chatham Village).....
 - (g) Apartment.....
 - (h) Housekeeping rooms.....
 - (i).....
20. In a new home would you prefer:
- (a) Full-sized dining room.....
 - (b) Dinette.....
 - (c) Full-sized kitchen.....
 - (d) Kitchenette.....
 - (e) Bedrooms (how many?).....
 - (f) Garage.....

SECTION V

21. Why do you prefer to rent?
22. Why do you prefer to own your home?
23. Are you satisfied with the neighborhood in which you live, as to:
- (a) Convenience to your work. Yes.....No.....
 - Convenience to shopping centers. Yes....No.....
 - Convenience to recreation centers. Yes....No.....
 - Convenience to schools. Yes.....No.....
 - (b) Social security (i. e., the general cultural tone of the district). Yes.....No.....
 - (c) Would you like to have greater protection for your family in this last respect? Yes.....No.....
 - If so, why?.....
24. In what part, if any, of the city or suburban district would you rather live than where you live now?.....Why.....