HOUSING CHARACTERISTICS OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF LESS THAN $5,000

by

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An analysis of housing characteristics of North Carolina households with incomes under $5,000 was made in which housing characteristics of households with incomes under $3,000 were compared with those having incomes between $3,000-$4,999 by inside and outside Standard Metropolitan Statistical Areas. Possession of certain household appliances were compared for the two levels of income and for the two areas.

Cross tabulations of 1960 Census data as published by the S. J. Tesauro Company of Detroit were the source of the data. A statistical analysis for significant differences of two proportions was used.

For households with incomes under $3,000 outside SMSAs 87 per centof the houses were dependent for heat upon fireplaces, space heaters, or stoves. About two-thirds either had no bath or only partial facilities, and either had no water or only cold running water. Approximately one-half were rented, over thirty years old, valued under $5,000, and either deteriorating or dilapidated.

Of the households with incomes of less than $3,000 inside SMSAs, approximately 60 per cent of the houses were rented, over twenty years old, valued under $7,400, and heated by fireplaces, space heaters, or stoves; 40 per cent were deteriorating or dilapidated, had no or only a partial bathroom, and either had no running water or only cold running water.

At the higher income level in both areas, about three-fourths of the households had sound housing and hot running water.

In comparing housing characteristics between income groups, households with the higher income, both inside and outside SMSAs, had larger proportions of home ownership, houses of more recent construction, higher valuation of property, sound housing, one or more bathrooms, and more adequate water and heating facilities. At the higher income level outside SMSAs, larger proportions of houses were owned and were less than twenty years old. At the higher income level inside SMSAs, larger proportions of houses were valued over $7,400, were sound, had more than one bath, hot and cold water, and central heat.

In comparing household appliances between income groups, a greater proportion of households with the higher income both inside and outside SMSAs had the appliances studied. A greater proportion of households at the higher income level outside SMSAs had the appliances studied than households inside SMSAs with the exception of two or more radios.

Results of the study indicated that inadequate housing was not limited to the rural farm and non-white population in North Carolina. Households outside SMSAs with incomes under $3,000 had a significantly higher proportion of inadequate housing than those inside SMSAs.

The level of income tended to have a greater relationship to housing conditions and ownership of household appliances than the area in which the household was located. Furthermore, the

level of income tended to have a greater relationship to housing conditions and possession of the appliances studied outside than inside SMSAs.

As indicated by ownership, the level of consumption of the household appliances studied tended to be greater outside than inside SMSAs at the $3,000-$4,999 income level.

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CHAPTER I

INTRODUCTION

Despite the technological and social advances of the past decades many American families are today living in inadequate or dilapidated housing with few comforts and conveniences. Such conditions are usually associated with low-income groups. It may be assumed that poor housing is a by-product of poverty and, as such, is a contributing factor to the cycle of poverty.

Speaking of the North Carolina Fund initiated in November 1963, Governor Sanford said:

> In looking at the people caught by the chains of poverty we measured poverty by dollars and found that 37 percent of North Carolina families are caught by this definition. We also could have measured the extent of poverty in terms of housing rather than dollars and would have come up with about the same results.[1]

The quality of the nation's housing has shown marked improvement during the past decade and according to the 1960 Census a larger proportion of families had more adequate homes with better facilities than in 1950. In spite of this improvement one-fourth of the housing units in this country in 1960 were "structurally unsound or lacking one or more essential facilities."[2] The North

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[1] Greensboro Daily News, December 31, 1963.

[2] Emma Holmes, "Present Day Housing of United States Families" (paper presented to the Agricultural Outlook Conference, Washington, D. C., Nov. 21, 1963), p. 4.

Carolina Fund has reported that there are many thousands of North Carolinians who are living in houses that are "a blight on the landscape and indecent for humanity."[3] A study of the literature of the problems of housing and poverty makes it obvious that the two problems are inseparable.

Our nation's poor, according to Harrington, have been termed "The Invisible Poor." They are off the main highways. They are the wrong age to be seen. They are segregated. Then probably most important of all--clothes make the poor invisible. It is much easier to be decently dressed than to be decently housed, fed, or doctored. Unless we get off the main highways, or go into the segregated slum areas, or visit the elderly in their quarters, we do not recognize them until we see their houses and the conditions under which they live.[4]

Poor housing affects the well-being of families, from both a health and welfare viewpoint. Therefore, a study of housing characteristics is relevant to an understanding of the housing needs of low-income families.

I. THE PROBLEM

Statement of the Problem

The objectives of this study were: (1) to compare the housing characteristics of the households with incomes of less than $3,000 with those of incomes between $3,000-$4,999 for the

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[3]North Carolina Fund Programs and Policies (Durham, North Carolina: The North Carolina Fund, November 25, 1963), p. 10.

[4]Michael Harrington, The Other America, Poverty in the United States (New York: The MacMillan Company, 1963), pp. 3-6.

State of North Carolina, and for inside Standard Metropolitan Statistical Areas and outside Standard Metropolitan Statistical Areas; (2) to determine the differences in housing characteristics between inside and outside Standard Metropolitan Statistical Areas for the two income groups; and (3) to determine for North Carolina households the differences in patterns of consumption of selected household appliances for the two levels of income and for the two designated areas.

Importance of the Study

The housing of families is one of the basic concerns of the home economist whose primary purpose is improving home and family life. This study will provide for home economists and others who work with families an interpretation of specified housing characteristics of North Carolina households with incomes of less than $5,000. In 1960 sixty-four per cent of the households in North Carolina had incomes of less than $5,000. These households comprise a large portion of the families with which home economists work and according to the 1960 Census these are the families with the greatest number of children.

II. DEFINITIONS OF TERMS USED

The following terms were used in this study.

1. Household. A household consisted of all persons who occupied a housing unit. A housing unit was considered separate when its occupants did not live and eat with any other household and when there were (a) either direct access from the outside or through a common hall, and (b) either a kitchen or cooking equipment for the exclusive use of the occupants. If the unit was occupied

by five or more persons unrelated to the head of the household living in a unit, it was considered group quarters and therefore excluded.[5]

2. Household Income. Household income represented the total monies received by all persons in the household 14 years of age or over.[6]

3. Standard Metropolitan Statistical Areas. The definition of an individual Standard Metropolitan Statistical Area involved two considerations: first, that each area included at least one city with 50,000 inhabitants or more; second, that economic and social relationships with contiguous areas were metropolitan in character and the periphery of the specific metropolitan area could be determined. The abbreviation SMSA was used.[7]

4. Condition of Housing Unit:[8]

   a. Sound - the structure had no defects or only slight defects which normally are corrected during the course of regular maintenance.

   b. Deteriorating - the structure needed more repair than would be provided in regular maintenance.

   c. Dilapidated - the structure did not provide safe and adequate shelter and in such condition endangered health, safety, or well-being of occupants.

5. Residence:[9]

   a. Urban - places of 2,500 inhabitants or

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[5]People and Homes in the American Market - North Carolina, (Detroit, Michigan: S. J. Tesauro Company, 1961), Preface.

[6]Ibid.

[7]United States Bureau of the Census, United States Census of Housing: 1960, Vol. I, HC(1) No. 1 (Washington: Government Printing Office, 1963), p. LII.

[8]Ibid., p. LXIII.

[9]People and Homes in the American Market - North Carolina, loc. cit.

densely settled urban fringe areas, whether incorporated or unincorporated.

b. Farm - a place was considered a farm if occupied and (1) it was in a rural area, (2) it was less than ten acres with sales of crops, livestock, and other farm produce amounting to $250 or more, or it was ten acres or more with sales of crops, livestock or other produce amounting to $50 or more.

c. Non-farm - a rural occupied housing unit which did not qualify as a farm unit was termed non-farm.

6. Value of Property. This item includes only units on less than 10 acres owned or being bought and, in addition, consisted of only one unit with no business on the property. The term 'business' meant only a clearly recognizable commercial establishment such as a restaurant, store, or filling station.[10]

7. Household Appliances. The term household appliances for this study included washing machines, clothes dryers, televisions, radios, food freezers, and air conditioning.

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[10] Ibid.

CHAPTER II

REVIEW OF LITERATURE

In a search of the literature, information was found on housing characteristics on the national level but relatively few in-depth studies were found on the state level. Little research has been undertaken to establish measures of adequate housing, however, numerous factors have been identified that may influence the status of family housing. The following factors (1) income, (2) spending patterns, (3) education, (4) family values, and (5) building practices were considered of importance for review in relation to their effect upon the housing standards of households.

I. MEASURES OF HOUSING

Keyserling indicates that there is no simple answer for determining adequate housing. He states that

> the structure, facilities, availability of light and air, ease of accessibility, overcrowding, and even to a degree the setting, all need to be taken into account.[11]

Beyer points out that "the United States Census (the source of broadest housing statistics) limits itself to condition, facilities,

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[11]Leon H. Keyserling, Progress or Poverty, The U. S. at the Crossroads (Washington, D. C.: Conference on Economic Progress, December, 1964), p. 127.

and equipment."[12] Beyer considers the physical condition of a house as one of the most important measures of quality.[13] In the 1950 Census only the classifications dilapidated or not dilapidated were used; in 1960, the three categories used were: sound, deteriorating, and dilapidated.[14]

According to the 1960 United States Census of Housing, the extent of dilapidated or deteriorating housing was as follows: for the owner-occupied 8 per cent of the urban, 19 per cent of the rural non-farm, and 25 per cent of the farm; for the renter occupied, 21 per cent of the urban, 41 per cent of rural non-farm and 47 per cent of farm.[15]

Lack of plumbing facilities and running water have been generally accepted as other indicators of inadequate housing. In North Carolina in 1960 approximately one-third of the rural homes did not have running water.[16] A study made in four Southeastern states by Rose, et al. reported in 1961 that 40 per cent

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[12]Glenn Beyer, Housing: A Factual Analysis (New York: The MacMillan Company, 1958), p. 203.

[13]Ibid.

[14]United States Bureau of the Census, United States Census of Housing 1960--North Carolina HC (1) No. 35 (Washington: Government Printing Office, 1963), p. XXII.

[15]Laura Mae Webb, "Changing Patterns of Consumer Expenditures" (paper presented to the Agricultural Outlook Conference, Washington, D. C., November 19, 1963), p. 6.

[16]Emma Holmes, "Present Day Housing of United States Families" (paper presented to the Agricultural Outlook Conference, Washington, D. C., November 21, 1963), p. 12.

of the homes studied had no piped running water inside or outside the house.[17] Holmes reported that 62 per cent of all farmhouses in the United States in 1960 had bathing facilities and toilets and that 75 per cent had piped running water.[18]

In a study of farm house building practices in North Carolina reported in 1954 it was stated that when families were unable to complete houses as planned, the plumbing facilities were the first items to be omitted.[19]

Overcrowding is considered an important criterion of substandard housing.[20] According to Holmes, if a household contains more than one person per room it is considered crowded; if a unit contains over 1.5 persons per room it is considered overcrowded.[21] One out of every nine housing units in the United States fails to meet adequate space standards.[22]

Holmes states:

> . . . the average number of persons occupying a housing unit was 3.3 in 1960 and 3.4 in 1950. The combination of slightly smaller households and larger housing units meant fewer crowded

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[17]Boyd B. Rose, James R. Hurst, and J. H. Yeager, Rural Housing Situations and Needs, Bulletin 334 (Auburn: Alabama Agricultural Experiment Station, June 1960), p. 6.

[18]Holmes, op. cit., p. 2.

[19]James W. Green, House Building by Farm Owners in North Carolina, Bulletin 391 (Raleigh: North Carolina Agricultural Experiment Station, September 1954), p. 28.

[20]Beyer, op. cit., p. 75.

[21]Holmes, op. cit., pp. 1-2.

[22]Ibid., p. 4.

> homes. Units with more than one occupant per room declined from 16 per cent of the total in 1950 to 12 per cent in 1960. Units with more than 1.5 persons per room . . . declined from 6 to 4 per cent. The percentage of crowded farm homes was down from 30 per cent in 1940 to 14 per cent in 1960.[23]

In 1960, 28 per cent of all non-white homes in the United States were considered crowded and 14 per cent were judged overcrowded.[24]

Mace reports that, in 1960, the percentage of North Carolina households which were crowded was greater than that of the nation or the South Atlantic region. Furthermore, there were twice as many crowded non-white households in North Carolina as white households.[25]

II. FACTORS INFLUENCING HOUSING

Income

The United States Bureau of Labor Statistics considers a family of four to be living under conditions of poverty if its income is less than $4,000. According to the North Carolina Fund one-half of the white families in North Carolina in 1960 earned less than $3,035 and by the above definition would be considered living under conditions of poverty. During the same period one-half

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[23] Ibid., p. 2.

[24] Ibid., p. 4.

[25] Ruth L. Mace, Housing in North Carolina, A Preliminary Report on Housing Conditions, The Home Construction Industry, Home Financing, and the Use of Federal Aids (Chapel Hill: Institute of Government, University of North Carolina, August 1964), pp. 3-5. (Mimeographed.)

of the Negro families in North Carolina earned less than $1,286, but this is a much smaller group numerically.[26] According to Census data, however, the median family income in North Carolina in 1960 was $3,956.[27]

Definitions of poverty vary and there are no clear-cut standards by which to judge. President Johnson has stated that one-fifth of the nation is living in poverty. Harrington says 40-50 million or one-fourth of the population are poor. Lampman settled for 10 per cent although he said it could range from 9 per cent to 36 per cent depending upon the definition.[28] Harrington's definition of poverty would include:

> . . . those who are denied the minimal levels of health, housing, food, and education that our present stage of scientific knowledge specifies as necessary for life as it is now lived in the United States.[29]

According to Faltermayer, poverty is relative and statistics concerning income do not make necessary distinctions. If $3,000 were applied in England as a yardstick of poverty for a family of four, three-fourths of the population there would be classified as existing in poverty.[30]

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[26]North Carolina Fund Program and Policies, op. cit., p. 8.

[27]United States Bureau of Census, 1960 Census of Population, PC(S1)-48 (Washington: Government Printing Office, July 30, 1965), p. 4.

[28]Edmund K. Faltermayer, "Who are the American Poor?", Fortune Magazine, LXIX (March, 1964), p. 118.

[29]Harrington, op. cit., p. 179.

[30]Faltermayer, op. cit., p. 220.

Income, or a family's ability to pay, is obviously closely linked with housing conditions. Figures released by the United States Department of Agriculture gave the median family income in the United States for 1959 as $5,660 and that for the South as $4,465. Family incomes in the South have increased 99 per cent since 1949 (the highest growth rate in the country), nevertheless, incomes were at such a low level in 1949 that the median income was still far behind that for other areas of the country. Average family income levels rose by 84 per cent in the United States between 1949-1959, and about 50 per cent if one takes into account the changing purchasing power of the dollar.[31]

The United States Department of Agriculture further reported that 29 per cent of all families in 1949 had incomes of less than $2,000, but in 1959 only 13 per cent had incomes of less than $2,000.[32] Income gains have been made by all population groups but families receiving low incomes are still heavily concentrated among farm families and non-white families.[33]

For families with low incomes, according to Ellis, there is little difference between owning and renting and between living in metropolitan or rural areas of the country. She also concludes that low-income renter families living outside SMSAs make up the

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[31]United States Department of Agriculture, Economic Research Service, Recent Population Trends in the United States with Emphasis on Rural Areas, Agricultural Economic Report No. 23 (Washington: January, 1963), p. 33.

[32]Ibid., p. 32.

[33]Ibid.

concentration of families with poor housing. Housing of low-income farm families was found to be dilapidated or lacking plumbing facilities more frequently than that of non-farm families.[34]

Spending Patterns

The first systematic study of family income and expenditure was conducted in 1785 by Davies, an English clergyman, in order to understand better the problems of low-income families of his parish.[35] Other studies of spending patterns of working class families were made in Belgium, France, and Saxony, in the mid-1850's and as a result, Ernest Engel, a German statistician, published in 1857 the following law:

> The poorer an individual, a family, or a people, the greater must be the percentage of income necessary for the maintenance of physical sustenance and again of this a greater portion must be allowed for food.[36]

Followers of Engel have rephrased this law and now it is stated in three parts as follows:

1. As a family's income increases the percentage spent on food will decrease.
2. As a family's income increases the percentage spent on housing and household operations will

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[34]Mary Jane Ellis, "Housing of Low-Income Families," Family Economics Review, (March 1965), pp. 16-17.

[35]Emma Holmes, "Spending Patterns of Low-Income Families" (paper presented to the Agricultural Outlook Conference, Washington, D. C., November 17, 1964), p. 1.

[36]Carle C. Zimmerman, Consumption and Standards of Living (New York: D. Van Nostrand Company, 1936), pp. 39-40.

be roughly constant (with the exception of fuel, light, and refrigeration which will decrease).

3. As a family's income increases the percentage spent on all other categories and the amount saved will increase (with the exception of medical care items which are fairly constant).[37]

In commenting on the results of the 1961 Survey of Consumer Expenditures, Holmes stated that Engel's law for food proved true in 1961, however, the percentages spent for shelter and for clothing in 1961 did not remain constant regardless of income. Instead, low-income families spent relatively more of their consumption dollar for shelter and less for clothing than those with higher incomes.[38]

Zimmerman points out that "under depression or more widespread prosperity Engel's laws cannot be said to operate."[39]

Holmes reported that the amount spent for shelter and household operation in 1961 was almost as large as that spent for food by low-income city families. Urban families with incomes of less than $3,000 spent about 27 per cent of living expenditures for shelter but rural non-farm families spent 20 per cent and farm families 16 per cent.[40] According to a recent report from the United States Department of Agriculture, housing accounted

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[37]Jerome McCarthy, Basic Marketing, A Managerial Approach (revised edition; Homewood, Illinois: Richard D. Irwin Incorporated, 1964), pp. 183-84.

[38]Holmes, Spending Patterns of Low-Income Families, p. 4.

[39]Zimmerman, op. cit., p. 172.

[40]Holmes, Spending Patterns of Low-Income Families, p. 4.

for 29 per cent of all living expenses in 1961 and for the first time replaced food as the foremost item of the budget.[41] Low-income families spent larger proportions of their incomes for housing than did families with greater incomes in Durham, North Carolina in 1961. The same survey revealed that families with incomes from $2,000-$5,000 after taxes were spending over 30 per cent for housing, and families with incomes under $2,000 after taxes were spending over 42 per cent.[42]

Ellis states, "urban families in 1960 spent 30 per cent of their total expenditures for current living on housing including furnishings, equipment, and household operation."[43] In a study at the Wharton School, University of Pennsylvania, Winnicke reported that Negro families spent less on housing than white families of the same size and with the same income. The differences were most pronounced in the lower income classes and in the South rather than the North. Among families with more than a $4,000 income, racial differences in outlays on housing were less consistent.[44]

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[41]United States Department of Agriculture, Office of Information, Food and Home Notes (Washington,D. C., February 17, 1965), p. 2.

[42]United States Department of Labor, Consumer Expenditures and Income, Durham, North Carolina 1961, Bureau of Labor Statistics Report No. 237-69 (Washington: Government Printing Office, November 1963), p. 8.

[43]Mary Jane Ellis, "Housing, Household Furnishings and Equipment" (paper presented to the Agricultural Outlook Conference, Washington, D. C., November 21, 1963), p. 1.

[44]Nelson Foote, et al. Housing Choices and Housing Constraints (New York: McGraw Hill, 1960), p. 56.

Concerning housing for Negroes, Foote, et al. said:

> Except for the fortunate few, the Negro, of whatever income group is still typically consigned to the oldest and least desirable sections of the city. If the low-income white is overcrowded the Negro is doubly so. If the white unit is dilapidated, the Negro's is worse. If the white must pay a comparatively high rental for a substandard dwelling, the Negro--at least for what received--pays even more.[45]

Education

Because of the interrelationship of education and income, the quality of housing is thereby affected. The level of schooling has risen over the past several decades for the population as a whole, but population reports indicate that the level of education in the South is still below that of other regions. The widening gap between educational attainment for urban and rural adults may be partly the result of out-migration of young people from the farm that results in a large proportion of older persons in the rural areas.[46]

School enrollment for farm youth ages sixteen and seventeen years old shows a proportion of 81.8 per cent and that for urban youth 82 per cent. The majority of well educated farm youth leave the farm by the time they are 20 years old and as a result the middle aged and older people with less education predominate in the rural population.[47]

In 1955 for urban families with incomes of $5,000-$6,000, size of family had an inverse relationship to the amount of

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[45]Ibid., p. 128.

[46]Recent Population Trends, op. cit., p. 30.

[47]Recent Population Trends, loc. cit.

schooling but the amount spent for housing had a direct relationship to the amount of schooling. The same situation obtained for farm operator families with net money income of $3,000-$4,000. The average farm family is larger than the average urban family with the same years of schooling.[48]

The above figures substantiate Rose's conclusions that net income and net worth of heads of households increased as educational level increased, but that the average size of household decreased as years of schooling increased.[49]

Family Values

Economic and educational level cannot altogether account for housing expenditures of families, as patterns of spending persist which can only be explained by a family's goals and values.[50] A comprehensive review of the literature on goals and values is beyond the scope of this study but there are certain observations which are pertinent to housing for low-income families.

Reimer said:

> As some desires are satisfied, the concern of the family turns to other items of need. Size and number of rooms may not be high on the scale of preference as long as the family does not have a bathtub . . . needs appear, are satisfied, and fade out only to make place for new needs.[51]

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[48]United States Department of Agriculture, Helping Families Manage Their Finances, Home Economics Research Report 21 (Washington: Government Printing Office, June 1963), p. 44.

[49]Rose, et al., op. cit., p. 8.

[50]Rose, et al., op. cit., p. 15.

[51]Svend Riemer, "Architecture For Family Living", Journal of Social Issues, VII No. 1 & 2 (1951), p. 148.

Maslow suggests that our needs exist in a prepotency of needs in which basic needs, such as physiological and safety, come first and that only when these needs are met can we fulfill the higher needs.[52] Studies by both Cutler and Montgomery tend to verify this theory in regard to housing values. Lower class families studied by Cutler were concerned with health, economy, and safety, while comfort was important to upper class families.[53] Rural families in Oklahoma studied by Montgomery, et al. ranked comfort, economy, and family centeredness high but prestige, privacy, and beauty formed a pattern of less importance.[54] "Among many low-income families in our society," states Foote, "cost is the paramount consideration, livability next, and such matters as comfort and style last."[55]

In the study conducted by Rose, et al. in Alabama, Mississippi, Georgia, and South Carolina in 1961, only 31 per cent of the persons questioned considered housing their most urgently needed expenditure. Television sets, boats, appliances, and automobiles, which were placed ahead of housing, apparently gave more total satisfaction and prestige than housing expenditures.[56]

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[52]A. H. Maslow, Motivation and Personality (New York: Harper and Brothers, 1954), p. 97.

[53]Virginia Cutler, Personal and Family Values in the Choice of a Home, Bulletin 840 (Ithaca, New York: Cornell University Agricultural Experiment Station, November 1949), pp. 57, 63.

[54]James H. Montgomery, Sara Smith Sutker, Maie Nygren, Rural Housing in Garfield County Oklahoma (Stillwater: Oklahoma State University, August 1, 1959), p. 45.

[55]Foote, et al., op. cit., p. 379.

[56]Rose, et al., op. cit., p. 15.

Building Practices

Keyserling stated that "at least a fifth of all Americans are still ill-housed" and since low-cost housing is not profitable for private enterprise, little construction at this cost level has been made in speculative housing. Construction has been for middle- and high-income groups, and actually at times has glutted the housing market. Housing costs have risen faster than the incomes of the poor during the past decade.[57]

According to Harrington, public housing programs have failed to solve the problem as many of the poor are not eligible under existing regulations and are "squeezed" into existing poor housing to create further slum areas. It has also failed to reach the rural areas where much of the inadequacy in housing exists.[58]

Green found that quality of housing suffered because rural families which he studied lacked knowledge and adequate skills for house building which they were doing themselves. Many underestimated costs of building and as a result, at least two-thirds of the families omitted parts or moved in before the house was completed.[59] For the most part, new farm houses were built by persons with low-incomes and with very little savings; as a result, the houses were of poor quality. He stated "all substandard

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[57]Keyserling, op. cit., pp. 127-128.

[58]Harrington, op. cit., p. 141.

[59]Green, op. cit., p. 28.

housing is not old housing. Much of it is being built today." Building codes do not apply in rural areas and much unskilled labor is used.[60]

A rule of thumb frequently used is that a family may be able to afford a house that costs two to two and one-half times the annual income. When using this rule of thumb the cost of maintenance of the housing and long term debt obligations of the family should be considered. Many low-income families would qualify for loans under existing Federal Housing Administration regulations, but large families would be disqualified by the increased cost of the additional space requirements. When considering a loan, the Federal Housing Administration considers 22-24 per cent of the annual income a reasonable amount to pay for housing.[61]

The shell home industry has been attempting to meet the demand for low-cost homes.[62] Foote, et al. considered modular construction as holding much promise for low-cost homes.[63] The prefabricated house, according to Abrams, was thought at one time to be the answer for better housing for less money but it

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[60]James W. Green, "Implications for Educators in a Research Study Entitled The Farmhouse Building Process in North Carolina", Progress Report Rs-19 (Raleigh, North Carolina: Agricultural Experiment Station, North Carolina State College, March 1954), p. 9. (Mimeographed.)

[61]Mr. John Bowles, interview, May 1965, Federal Housing Administration, Greensboro, North Carolina. Permission to quote secured.

[62]Rose, et al., op. cit., p. 3.

[63]Foote, et al., op. cit., p. 344.

still is more expensive than houses built by conventional methods. Neither is core housing a "universal recipe for housing shortages."[64]

Abrams describes the housing problem as worldwide, and one which will become increasingly worse with world population increasing by fifty to sixty million annually, and with a continuation of the movement of families from rural to urban areas.[65] He states:

> Housing progress lags far behind industrial progress in every part of the world. The technical genius that broke the secrets of speed, sound, space and light still cannot build a house cheap enough for the rank and file. Increasing income can improve the family's capacity to pay for housing, but unless housing productivity is simultaneously improved, the gap between shelter cost and capacity to pay will continue unbridged for most workers.[66]

Dr. Ralph Ely of the Research Triangle Institute, Durham, where a study was conducted in regard to low-cost housing, does not agree with this statement. He says that technology is available for low-cost housing but that use of this technology is virtually prohibited by building codes, standards for financing, and labor union problems.[67]

According to Mr. Eugene Gulledge, Vice-President and Secretary of the National Association of Home Builders,

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[64]Charles Abrams, Man's Struggle For Shelter in an Urbanizing World (Cambridge, Massachusetts: Massachusetts Institute of Technology Press, 1964), p. 167.

[65]Ibid., p. 1

[66]Ibid., pp. 50, 251.

[67]Dr. Ralph L. Ely, Jr., letter, January 3, 1966, Research Triangle Institute, Durham, North Carolina. Permission to quote secured.

design and production of low cost housing is greatly hampered by the existence of building codes which attempt to specify how a house should be built instead of establishment of performance standards for structural components.[68]

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[68]Mr. Eugene Gulledge, interview, January 3, 1966, Vice-President and Secretary, National Association of Home Builders, Greensboro, North Carolina. Permission to quote secured.

CHAPTER III

PROCEDURE

This study portrays housing characteristics and household appliances of households with incomes of less than $3,000 and from $3,000-$4,999 for the State of North Carolina and for inside and outside Standard Metropolitan Statistical Areas of North Carolina. The housing characteristics and appliances for the two income groups and for the two areas are compared. This chapter includes the source of the data, the study of the housing characteristics, and household appliances, and the treatment of the data.

I. SOURCE OF THE DATA

The data for this study were taken from the 1960 United States Census of Housing and cross tabulations of the 1960 data for North Carolina published in People and Homes in the American Market--North Carolina, by the S. J. Tesauro Company of Detroit in 1961. Permission was granted by the company for use of this material. People and Homes in the American Market--North Carolina contains special cross tabulations of housing characteristics and household appliances that were made available to the Tesauro Company by the Bureau of Census from information collected in the 18th Decennial Census.

The cross tabulations are based on subsamples of the Census household sample of every fourth household. Two subsamples were selected simultaneously from the 25 per cent Census sample to give a 5 per cent sample and a 20 per cent sample. The Tesauro data were based on two 5 per cent samples. One sample consisted of the same households in the Census 5 per cent sample, and the other on a subsample of the 20 per cent sample.

II. INFORMATION SELECTED FOR ANALYSIS

Data on housing characteristics and household appliances for the State of North Carolina and for both inside and outside Standard Metropolitan Statistical Areas were selected for analysis in this study. The six SMSAs in North Carolina were Asheville, Charlotte, Durham, Greensboro, Raleigh, and Winston-Salem and the counties in which each city was located. The area outside SMSAs included the other ninety-four counties in North Carolina.

The two income groups studied were households with incomes of less than $3,000 and those between $3,000-$4,999.

The housing characteristics studied were selected because of their relevance to housing conditions and sanitary facilities. Those included were: (1) condition of unit, (2) owned or rented, (3) method of house heating, (4) age of structure, (5) value of property, (6) number of bathrooms, and (7) water availability.

Household appliances studied included the following: (1) washing machine, (2) clothesdryer, (3) television, (4) radio, (5) food freezer, and (6) air conditioning.

Five factors were selected to provide background information for the study. These included: (1) race, (2) residence, (3) education of head of household, (4) number of persons in household, and (5) age of head of household.

III. TREATMENT OF THE DATA

Data for the six SMSAs were totaled, then subtracted from the tabulations for the State of North Carolina to obtain data for outside SMSAs. Percentages were calculated by dividing each item by the total number of households in that particular category. The data were statistically analyzed for significant differences in housing characteristics and household appliances between the two income groups and between inside and outside SMSAs. The formulas as given by Senders were used for calculating the difference between two proportions.[69]

The hypotheses tested were as follows:

1. There is no difference in housing characteristics of households with incomes of less than $3,000 and from $3,000-$4,999.
2. There is no difference in housing characteristics between households inside and outside Standard Metropolitan Statistical Areas for the two income groups.
3. There is no difference in the consumption of

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[69]Virginia L. Senders, Measurement and Statistics (New York: Oxford University Press, 1958), p. 401.

household appliances between the two income levels and between the two designated areas.

CHAPTER IV

DESCRIPTION AND COMPARISON OF HOUSEHOLDS

In order to develop a profile of North Carolina households with incomes of $3,000 and between $3,000-$4,999 both inside and outside SMSAs race, age, education, number of persons in the household, and place of residence were studied. Households were first described and compared for income groups by area, and second, for areas by income groups according to the above mentioned factors.

I. HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000

Race of Head of Household

Analysis of the data presented in Table I indicated that there were almost twice as many white households as Negro households in the below $3,000 income group in the State of North Carolina. Inside SMSAs a larger proportion (59.6 per cent) were white households than were Negro (40.1 per cent). Outside SMSAs in this income group 64.6 per cent were white and 34.2 per cent were Negro. There was a larger proportion of Negro households with incomes of less than $3,000 inside (40.1 per cent) than outside SMSAs (34.2 per cent).

TABLE I

DESCRIPTION OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000
(Numbers Stated in Hundreds)

Description of households	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Race of Head						
White	3041	63.6	498	59.6	2543	64.4
Negro	1686	35.2	335	40.1	1351	34.2
Other	58	1.2	2	.3	56	1.4
Age of Head						
Under 25	326	6.8	66	7.9	260	6.6
25-34	703	14.7	122	14.7	581	14.4
35-44	848	17.7	135	16.2	713	18.0
45-54	911	19.0	140	16.9	771	19.5
55-64	878	18.4	159	19.2	719	18.2
65 and over	1119	23.4	208	25.1	911	23.3
Education of Head						
Less than 8 yrs.	2973	62.1	432	51.9	2541	64.3
8-11 yrs.	1142	23.9	226	27.1	916	23.2
12-15 yrs.	598	12.5	146	17.5	452	11.4
16 yrs. and over	72	1.5	29	3.5	43	1.1
Number of Persons in Household						
1	781	16.3	212	25.4	569	14.4
2	1337	28.0	252	30.2	1085	27.5
3	844	17.6	135	16.2	709	17.9
4	601	12.6	87	10.4	514	13.0
5 or more	1222	25.5	148	17.8	1074	27.2
Place of Residence						
Urban	1579	33.0	583	70.0	996	25.2
Rural nonfarm	2010	42.0	184	22.1	1826	46.2
Rural farm	1196	25.0	66	7.9	1130	28.6

Source: People and Homes in the American Market -- North Carolina, Vol. XXXII (Detroit: S. J. Tesauro Company, 1961). See Appendix for page references.

Age of Head of Household

The percentage of households with incomes of less than $3,000 tended to increase as the head of the household increased in age. Few heads of households were in the under twenty-five year age group, whereas, more heads of households were in the older age groups. Households headed by persons over sixty-five years old comprised 25 per cent of the households inside SMSAs with incomes under $3,000. This was a slightly larger proportion than for those outside SMSAs.

Education of Head of Household

Approximately 50 per cent of the heads of households with incomes under $3,000 inside SMSAs had less than eight years of schooling, while outside SMSAs the percentage was even greater (64 per cent). A further indication that the educational level of heads of households was higher inside than outside SMSAs was the fact that outside SMSAs 87 per cent had completed less than twelve years of schooling, while inside SMSAs 79 per cent had completed less than twelve years of schooling. Over 20 per cent of heads of households inside SMSAs with incomes under $3,000 had completed high school or had had some college education.

Number of Persons in Household

Inside SMSAs over 55 per cent of households with incomes below $3,000 were one or two person households. Outside SMSAs 41.9 per cent of the households were comprised of either one or two person households, whereas over one-fourth of the households

outside SMSAs with incomes of less than $3,000 had five or more persons in the household.

Residence

The proportion of rural non-farm households was greater than the rural farm households both inside and outside SMSAs. Outside SMSAs the rural population both farm and non-farm was greater than the urban population inside SMSAs.

II. HOUSEHOLDS WITH INCOMES BETWEEN $3,000-$4,999

Race of Head of Household

The proportion of Negro households was approximately twice as great inside as outside SMSAs (Table II). Over three-fourths of the households at this income level in both areas were white households.

Age of Head of Household

There was little difference in the age of heads of households at this income level between inside and outside SMSAs. The age groups twenty-five to thirty-four years and thirty-five to forty-four years comprised approximately 50 per cent of the households for both areas. Beyond the twenty-five to thirty-four year age group there was a tendency for the proportions in each age group to decrease as age increased.

Education of Head of Household

There was little difference in educational level of heads of households with incomes of $3,000-$4,999 between inside and outside

TABLE II

DESCRIPTION OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES FROM $3,000-$4,999
(Numbers Stated in Hundreds)

Description of households	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Race of Head						
White	2438	83.8	538	75.0	1900	86.6
Negro	461	15.8	179	25.0	282	12.9
Other	11	.4	0	0.0	11	.5
Age of Head						
Under 25	233	8.0	64	9.0	169	7.7
25-34	763	26.2	186	26.0	577	26.3
35-44	717	24.7	163	22.8	554	25.2
45-54	585	20.1	139	19.5	446	20.3
55-64	372	12.8	102	14.3	270	12.3
65 and over	239	8.2	60	8.4	179	8.2
Education of Head						
Less than 8 yrs.	1168	40.2	257	35.8	911	41.6
8-11 yrs.	870	29.9	222	30.9	648	29.6
12-15 yrs.	734	25.2	194	27.0	540	24.6
16 yrs. and over	137	4.7	45	6.3	92	4.2
Number of Persons in Household						
1	133	4.6	57	7.9	76	3.5
2	637	21.9	181	25.2	456	20.8
3	663	22.8	163	22.7	500	22.8
4	621	21.3	132	18.4	489	22.3
5 or more	855	29.4	185	25.8	670	30.6
Place of Residence						
Urban	1233	42.4	502	70.0	731	33.4
Rural nonfarm	1309	45.0	184	25.7	1125	51.3
Rural farm	367	12.6	31	4.3	336	15.3

Source: People and Homes in the American Market -- North Carolina, Vol. XXXII (Detroit: S. J. Tesauro Company, 1961). See Appendix for page references.

SMSAs. The highest incidence of educational level was less than 8 years of school.

Number of Persons in the Household

Households with incomes between $3,000-$4,999 tended to be larger outside than inside SMSAs. Inside SMSAs 56 per cent of the households consisted of three persons or less, while outside SMSAs 53 per cent of the households had four or more persons.

Residence

Over 50 per cent of the households with incomes between $3,000-$4,999 outside SMSAs were classified as rural non-farm residents. This was twice the proportion of non-farm residents inside SMSAs.

III. COMPARISON OF HOUSEHOLDS WITH INCOMES OF $3,000 AND BETWEEN $3,000-$4,999

Race of Head of Household

The proportion of white households was larger than the proportion of Negro households at both income levels and in each area (Table III, Figure 1).

Age of Head of Household

Heads of households tended to be older in the under $3,000 income group and younger in the higher income group for each area (Figure 2).

TABLE III

A COMPARISON OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000 AND BETWEEN $3,000 AND $4,999 FOR INSIDE AND OUTSIDE SMSAs

Description of Households	Inside SMSAs		Outside SMSAs	
	Less than $3,000	$3,000-$4,999	Less than $3,000	$3,000-$4,999
	(Per cent)			
Race of Head				
White	59.6	75.0	64.4	86.6
Negro	40.1	25.0	34.2	12.9
Other	.3	0.0	1.4	.5
Age of Head				
Under 25	7.9	9.0	6.6	7.7
25-34	14.7	26.0	14.4	26.3
35-44	16.2	22.8	18.0	25.2
45-54	16.9	19.5	19.5	20.3
55-64	19.2	14.3	18.2	12.3
65 and over	25.1	8.4	23.3	8.2
Education of Head				
Less than 8 yrs.	51.9	35.8	64.3	41.6
8-11 yrs.	27.1	30.9	23.2	29.6
12-15 yrs.	17.5	27.0	11.4	24.6
16 yrs. and over	3.5	6.3	1.1	4.2
Number of Persons in Household				
1	25.4	7.9	14.4	3.5
2	30.2	25.2	27.5	20.8
3	16.2	22.7	17.9	22.8
4	10.4	18.4	13.0	22.3
5 or more	17.8	25.8	27.2	30.6
Place of Residence				
Urban	70.0	70.0	25.2	33.4
Rural non-farm	22.1	25.7	46.2	51.3
Rural farm	7.9	4.3	28.6	15.3

Source: Tables I and II.

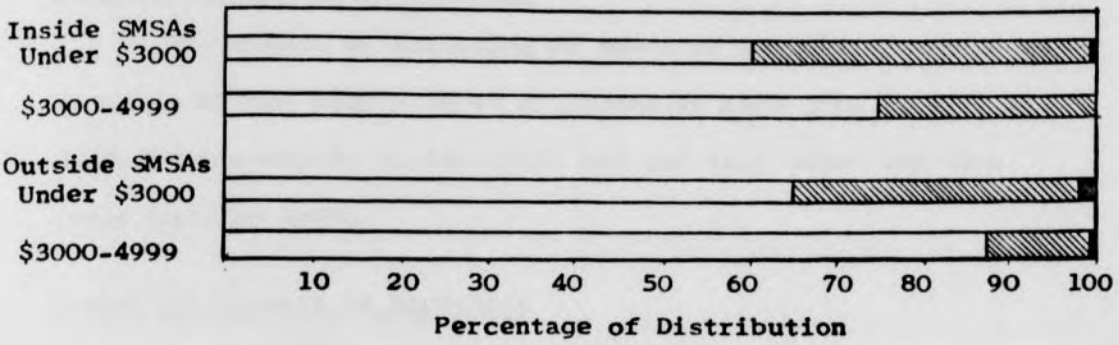

FIGURE 1

RACE OF HEAD OF HOUSEHOLD
BY INCOME AND AREA

Negro White Other

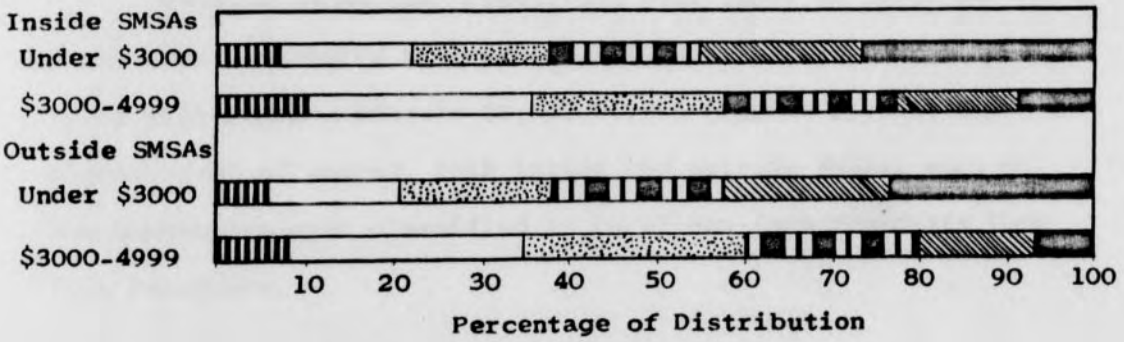

FIGURE 2

AGE OF HEAD OF HOUSEHOLD
BY INCOME AND AREA

Under 25 35-44 55-64

25-34 45-54 65 and over

Education of Head of Household

The amount of schooling of heads of households tended to increase at the higher level of income in each area (Figure 3). Heads of households inside SMSAs had had more schooling than those outside SMSAs.

Number of Persons in Household

There were larger proportions of one and two person households at the lower income both inside and outside SMSAs, while there were larger proportions of households with three or more persons at the higher income both inside and outside SMSAs (Figure 4).

Residence

Outside SMSAs the proportions were twice as large for rural farm households with incomes of less than $3,000 as for those with incomes between $3,000-$4,999 (Figure 5). At the higher level of income, both inside and outside SMSAs, more of the households were classified as rural non-farm residents than farm residents.

SUMMARY

There were almost twice as many white households as Negro with incomes of less than $3,000 in North Carolina. The proportion of Negro households with less than $3,000 income was larger inside SMSAs than outside SMSAs. Heads of households tended to be older in the under $3,000 income group in both

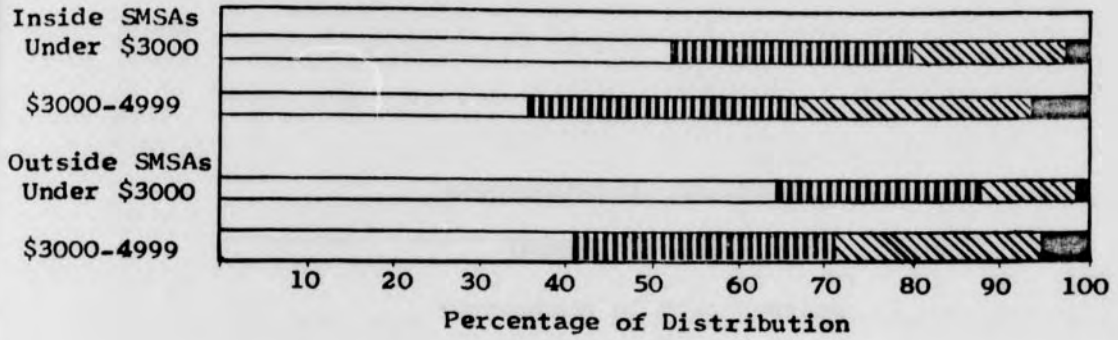

FIGURE 3

EDUCATION OF HEAD OF HOUSEHOLD
BY INCOME AND AREA

Less than 8 yrs. | 8-11 yrs. | 12-15 yrs. | 16 yrs. and over

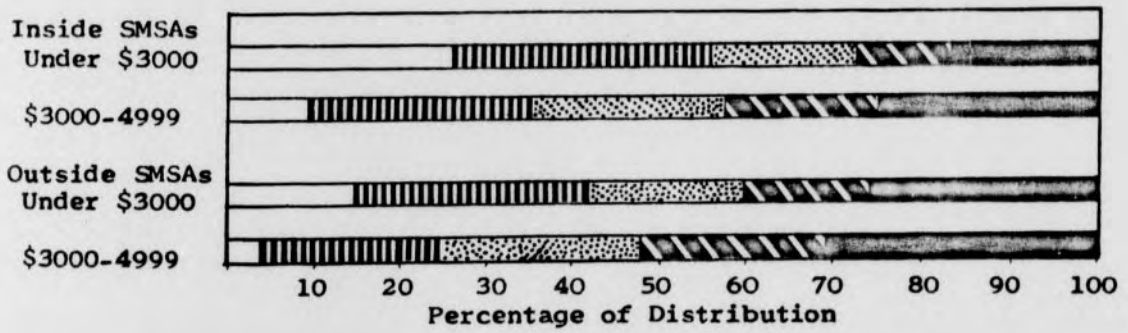

FIGURE 4

NUMBER OF PERSONS IN HOUSEHOLD
BY INCOME AND AREA

1 | 2 | 3 | 4 | 5 or more

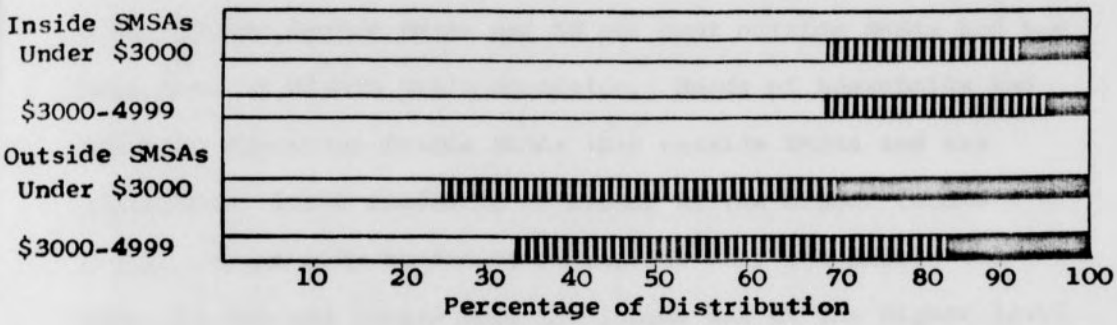

FIGURE 5

PLACE OF RESIDENCE
BY INCOME AND AREA

Urban Rural non-farm Rural farm

areas. Over 50 per cent of heads of households with incomes under $3,000 inside SMSAs and 64 per cent outside SMSAs had had less than an eighth grade education. Heads of households had had more education inside SMSAs than outside SMSAs and the educational level tended to be higher at the higher income level. Households tended to be smaller when the income was under $3,000 and larger when the income was at the higher level both inside and outside SMSAs. A larger proportion of households in both income groups was rural non-farm residents than rural farm.

CHAPTER V

HOUSING CHARACTERISTICS

Housing characteristics of households with incomes of less than $3,000 and between $3,000-$4,999 both inside and outside SMSAs were descriptively and statistically analyzed.

I. HOUSEHOLDS WITH LESS THAN $3,000 INCOME

Owned or Rented

Slightly more homes were rented than owned in this income group in the State of North Carolina, and both inside and outside SMSAs (Table IV). A larger proportion of households were owned or being purchased outside than inside SMSAs, while more households were rented inside SMSAs. The differences in ownership status between the two areas were statistically significant ($p \leq .01$).

Age of Structure

Almost one-half of the households in the lower income group in the State of North Carolina and both inside and outside SMSAs were in homes over 30 years old. Little difference in the age of structures was found between areas. The only significant difference between inside and outside SMSAs for age of structure was found for houses 6-10 years old ($p \leq .05$); these houses were more prevalent outside SMSAs.

TABLE IV

HOUSING CHARACTERISTICS OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000 FOR INSIDE AND OUTSIDE SMSAs
(Numbers Stated in Hundreds)

Housing characteristics	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Owned or Rented						
Owned/being bought	2308	48.3	335	40.2	1973	49.9
Rented	2477	51.7	498	59.8	1979	50.1
Age of Structure						
1 yr. or less	113	2.4	24	2.9	89	2.3
2-5 yrs.	306	6.4	49	5.9	257	6.5
6-10 yrs.	497	10.4	102	12.3	395	10.0
11-20 yrs.	875	18.3	135	16.3	740	18.7
21-30 yrs.	733	15.3	127	15.3	606	15.3
Over 30 yrs.	2261	47.2	393	47.3	1868	47.2
Value of Property						
Under $5,000	751	53.5	90	33.9	661	58.1
$5,000-$7,400	304	21.7	59	22.3	245	21.5
$7,500-$9,900	139	9.9	41	15.5	98	8.6
$10,000-$12,400	90	6.4	28	10.6	62	5.5
$12,500-$14,900	46	3.3	20	7.5	26	2.3
Over $15,000	73	5.2	27	10.2	46	4.0
Condition of Unit						
Sound	2548	53.2	513	61.6	2035	51.5
Deteriorating	1446	30.2	212	25.5	1234	31.2
Dilapidated	791	16.6	108	12.9	683	17.3

TABLE IV (continued)

Housing characteristics	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Number of Bathrooms						
None or partial	2812	59.0	317	38.1	2495	63.4
One	1822	38.2	481	57.7	1341	34.1
One and partial	48	1.0	14	1.7	34	0.8
Two or more	88	1.8	21	2.5	67	1.7
Water availability						
Running hot and cold	2174	45.4	566	67.9	1608	40.7
Running cold only	1002	20.9	162	19.5	840	21.2
Running water outside	158	3.3	12	1.4	146	3.7
No running water	1452	30.4	93	11.2	1359	34.4
Method of house heating						
Steam or hot water	155	3.3	80	9.6	75	1.9
Warm air furnace	283	5.9	113	13.6	170	4.3
Floor/wall/pipeless furnace	193	4.0	55	6.6	138	3.5
Built-in electric units	12	0.3	3	.3	9	.2
Other means - with flue	4018	84.0	565	67.8	3453	87.4
Other means - without flue	107	2.2	14	1.7	93	2.4
Not heated	16	.3	3	.3	13	.3

Source: People and Homes in the American Market -- North Carolina, Vol. XXXII (Detroit: S. J. Tesauro Company, 1961). See Appendix for page references.

Value of Property

Value of property of the owner-occupied homes of 53.5 per cent of households in the lower group for the State of North Carolina was found to be under $5,000. Homes valued at less than $5,000 accounted for the largest proportion both inside (33.9 per cent) and outside (58.1 per cent) SMSAs. Value of property was higher inside than outside SMSAs and differences in value of property between the two areas were statistically significant ($p \leq .01$) in every income category with the exception of that between $5,000-$7,400.

Condition of Unit

Sound housing was occupied by 53.2 per cent of households with incomes of less than $3,000 in North Carolina. More sound housing and less deteriorating and dilapidated housing was found inside than outside SMSAs. These differences in condition of unit between the two areas were statistically significant ($p \leq .01$).

Number of Bathrooms

Data for bathroom facilities showed that 59 per cent of the North Carolina households with incomes of less than $3,000 had either no or only partial bathrooms. More than 63 per cent of the households outside SMSAs either had no or only partial bathrooms. Over one-third of the households inside SMSAs either had no or partial bathrooms. Inside SMSAs 61.9 per cent of households had one or more bathrooms but outside SMSAs only 36.6 per cent of the households had one or more bathrooms. All differences

in number of bathrooms between inside and outside SMSAs were statistically significant ($p \leq .01$) except for the classification of two or more bathrooms.

Water Availability

No running water or running water only outside the housing unit was found in one-third of the households with incomes under $3,000 in the State. Thirty-four per cent of households outside SMSAs had no running water, while 40 per cent had both hot and cold running water. Inside SMSAs 11 per cent had no running water, although 68 per cent had both hot and cold running water. The differences between areas were statistically significant ($p \leq .01$) except for households with only running cold water.

Method of House Heating

For the state as a whole, only 13 per cent of households with incomes of less than $3,000 had some form of central heat. Some form of central heat was found in one-fourth of the SMSA dwellings but in only 10 per cent of those outside SMSAs. Inside SMSAs 67.8 per cent and outside SMSAs 87.4 per cent of the households were dependent upon fireplaces, stoves, or space heaters. The only differences not significant between areas were those for built-in electric units and no heat.

II. HOUSEHOLDS WITH INCOME BETWEEN $3,000-$4,999

Owned or Rented

More North Carolina households with incomes between $3,000-$4,999 owned homes (58.2 per cent) than rented (41.8 per cent) (Table V). Home ownership was more prevalent than renting at this income level both inside and outside SMSAs. Outside SMSAs 60.5 per cent owned their homes while only 51 per cent inside SMSAs owned their homes. The difference in ownership status between areas was statistically significant ($p \leq .01$).

Age of Structure

Homes over 30 years old were occupied by one-third of the households with incomes between $3,000-$4,999 in the State of North Carolina. No significant differences were found in the age of the structures between the areas. Homes less than ten years old were occupied by 30 per cent of the households at this income level in the State of North Carolina and inside and outside SMSAs.

Value of Property

Approximately 60 per cent of the owner-occupied households with incomes between $3,000-$4,999 in the State were valued at less than $7,400. Approximately 64 per cent of the owner-occupied homes outside SMSAs were valued at less than $7,400 while those inside SMSAs comprised only 48 per cent of the total. Over one-third of the owner-occupied households outside SMSAs were valued at less than $5,000. Differences between areas were statistically

TABLE V

HOUSING CHARACTERISTICS OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF $3,000-$4,999
(Numbers Stated in Hundreds)

Housing characteristics	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Owned or Rented						
Owned/being bought	1694	58.2	368	51.2	1326	60.5
Rented	1215	41.8	350	48.8	865	39.5
Age of Structure						
1 yr. or less	119	4.1	29	4.0	90	4.1
2-5 yrs.	352	12.1	77	10.8	275	12.5
6-10 yrs.	445	15.3	117	16.4	328	15.0
11-20 yrs.	634	21.8	142	19.9	492	22.4
21-30 yrs.	400	13.7	106	14.8	294	13.4
Over 30 yrs.	960	33.0	244	34.1	716	32.6
Value of Property						
Under $5,000	418	32.3	76	23.2	342	35.4
$5,000-$7,400	358	27.6	82	25.0	276	28.6
$7,500-$9,900	224	17.3	69	21.0	155	16.1
$10,000-$12,400	143	11.0	44	13.4	99	10.2
$12,500-$14,900	67	5.2	24	7.3	43	4.4
Over $15,000	84	6.6	33	10.1	51	5.3
Condition of Unit						
Sound	2197	75.5	551	77.3	1646	74.9
Deteriorating	550	18.9	125	17.5	425	19.3
Dilapidated	163	5.6	37	5.2	126	5.8
Number of Bathrooms						
None or partial	826	28.6	139	19.7	687	31.5
1	1894	65.6	522	73.9	1372	62.9
1 and partial	68	2.3	19	2.7	49	2.2
2 or more	101	3.5	26	3.7	75	3.4

TABLE V (continued)

Housing characteristics	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Water Availability						
Running hot and cold	2208	75.9	600	83.8	1608	73.3
Running cold only	393	13.5	76	10.6	317	14.4
Running water outside	37	1.3	3	.4	34	1.6
No running water	272	9.3	37	5.2	235	10.7
Method of House Heating						
Steam or hot water	120	4.1	59	8.2	61	2.8
Warm air furnace	457	15.7	161	22.4	296	13.5
Floor/wall/pipeless furnace	331	11.4	106	14.8	225	10.2
Built-in electric units	16	.6	1	.1	15	.7
Other means - with flue	1911	65.6	379	52.8	1532	69.9
Other means - without flue	71	2.5	12	1.7	59	2.7
Not heated	4	.1	0	0	4	.2

Source: People and Homes in the American Market -- North Carolina, Vol. XXXII (Detroit: S. J. Tesauro Company, 1961). See Appendix for page references.

significant for property valued under $5,000 ($p \leq .01$), between $7,500-$9,900 ($p \leq .05$), $12,500-$14,900 ($p \leq .05$), and over $15,000 ($p \leq .01$).

Condition of Unit

Sound housing was occupied by 75 per cent of the households with incomes between $3,000-$4,999 in the State of North Carolina. No significant differences in the condition of units were found between areas. About three-fourths of this income group in each area lived in sound housing.

Number of Bathrooms

Over one-fourth of the households with incomes between $3,000-$4,999 in the State of North Carolina had no bathroom or only partial facilities. More households inside than outside SMSAs had bathroom facilities. Thirty-one per cent of the households outside SMSAs had no or partial bathrooms. Differences in number of bathrooms between areas were statistically significant ($p \leq .01$) for households with none or partial bathrooms and for those with one bath.

Water Availability

Data for water availability showed that 75 per cent of North Carolina households with incomes between $3,000-$4,999 had both hot and cold running water. A significantly higher proportion of households inside than outside SMSAs had running hot and cold water, 83.8 and 73.3 per cent respectively ($p \leq .01$). Ten per cent of households outside SMSAs did not have running water.

Method of House Heating

Approximately two-thirds of the households with incomes between $3,000-$4,999 in the State of North Carolina were using fireplaces, stoves, or space heaters to heat their homes. More households within SMSAs (45.5 per cent) had central heat than those outside SMSAs (25.2 per cent). Fireplaces, stoves, or space heaters with flues furnished heat for 52 per cent of the households inside and 69 per cent outside SMSAs. Significant differences ($p \leq .01$) in method of house heating between areas were found for all categories with the exception of built-in electric heat, heaters without flues, and not heated.

III. A COMPARISON OF HOUSEHOLDS WITH INCOMES LESS THAN $3,000 WITH THOSE BETWEEN $3,000-$4,999

Owned or Rented

The proportion of households owning homes was greater at the higher income level both inside and outside SMSAs (Table VI). Outside SMSAs 60.5 per cent of the households at the higher level owned homes while inside SMSAs 51.2 per cent owned homes (Figure 6). Differences in ownerships status between income groups both inside and outside SMSAs were statistically significant ($p \leq .01$).

Age of Structure

Houses were of more recent construction at the higher income level (Figure 7). Houses less than ten years old occurred in 31.2 per cent of the households inside SMSAs and in 18.8 per cent of those outside SMSAs. Highly significant differences ($p \leq .01$) in age of structure between income groups were found

TABLE VI

A COMPARISON OF HOUSING CHARACTERISTICS OF NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000 AND BETWEEN $3,000 AND $4,999 FOR INSIDE AND OUTSIDE SMSAs

Housing Characteristics	Inside SMSAs		Outside SMSAs	
	Less than $3,000	$3,000-$4,999	Less than $3,000	$3,000-$4,999
	(Per cent)			
Owned or Rented				
Owned/Being Bought	40.2	51.2	49.9	60.5
Rented	59.8	48.8	50.1	39.5
Age of Structure				
1 yr. of less	2.9	4.0	2.3	4.1
2-5 yrs.	5.9	10.8	6.5	12.5
6-10 yrs.	12.3	16.4	10.0	15.0
11-20 yrs.	16.3	19.9	18.7	22.4
21-30 yrs.	15.3	14.8	15.3	13.4
Over 30 yrs.	47.3	34.1	47.2	32.6
Value of Property				
Under $5,000	33.9	23.2	58.1	35.4
$5,000-$7,400	22.3	25.0	21.5	28.6
$7,500-$9,900	15.5	21.0	8.6	16.1
$10,000-$12,400	10.6	13.4	5.5	10.2
$12,500-$14,900	7.5	7.3	2.3	4.4
Over $15,000	10.2	10.1	4.0	5.3
Condition of Unit				
Sound	61.6	77.3	51.5	74.9
Deteriorating	25.5	17.5	31.2	19.3
Dilapidated	12.9	5.2	17.3	5.8
Number of Bathrooms				
None or Partial	38.1	19.7	63.4	31.5
1	57.7	73.9	34.1	62.9
1 and partial	1.7	2.7	.8	2.2
2 and more	2.5	3.7	1.7	3.4
Water Availability				
Running hot and cold	67.9	83.8	40.7	73.3
Running cold only	19.5	10.6	21.2	14.4
Running water outside	1.4	.4	3.7	1.6
No running water	11.2	5.2	34.4	10.7
Method of House Heating				
Steam or hot water	9.6	8.2	1.9	2.8
Warm air furnace	13.6	22.4	4.3	13.5
Floor/wall/pipeless furnace	6.6	14.8	3.5	10.2
Built-in electric units	.4	.1	.2	.7
Other means with flue	67.8	52.8	87.4	69.9
Other means without flue	1.7	1.7	2.4	2.7
Not heated	.4	0.0	.3	.2

Source: Tables IV and V.

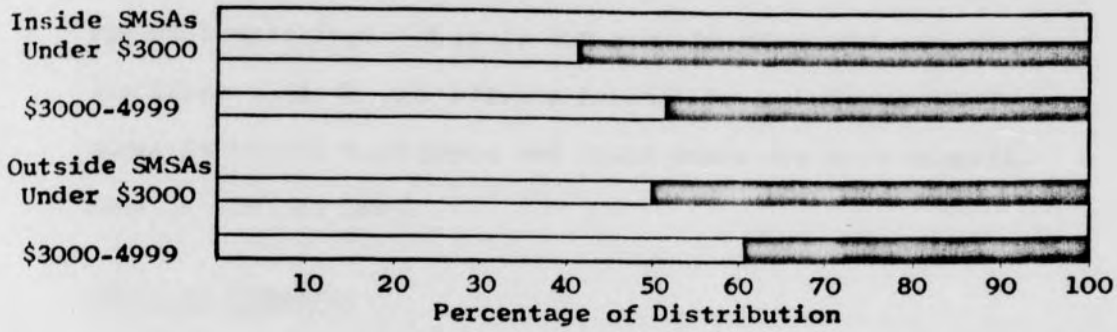

FIGURE 6

COMPARISON OF HOUSEHOLDS
OWNED AND RENTED
BY INCOME AND AREA

Owned Rented

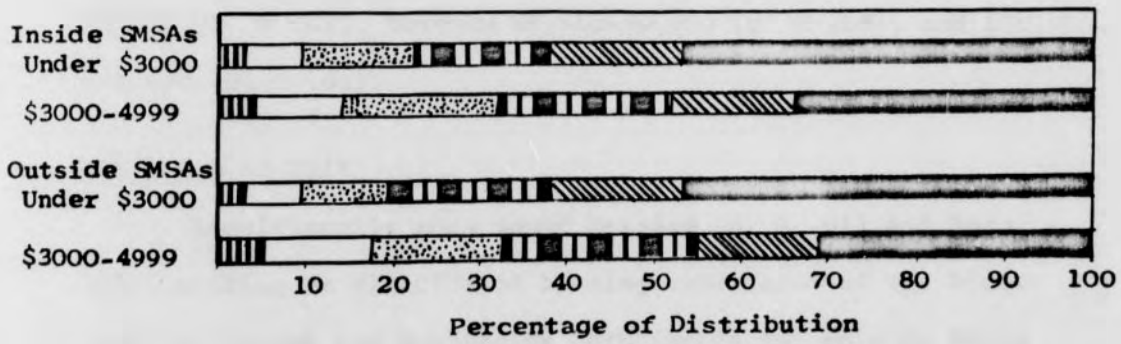

FIGURE 7

COMPARISON OF AGE OF STRUCTURES
BY INCOME AND AREA

1 yr. or less 6-10 yrs. 21-30 yrs.

2-5 yrs. 11-20 yrs. Over 30 yrs.

for all categories outside SMSAs. Inside SMSAs differences in age of houses from 2-5 years and over 30 years old were highly significant ($p \leq .01$) between income levels, whereas differences in houses 6-10 years and 11-20 years old were significant at the .05 level.

Value of Property

At the higher income level value of property of owner-occupied households was greater both inside and outside SMSAs (Figure 8). Highly significant differences ($p \leq .01$) were found in value of property between income groups for each category among the households outside SMSAs with the exception of over $15,000 ($p \leq .05$). There were significant differences between income groups inside SMSAs for property valued under $5,000 ($p \leq .01$), between $7,500-$9,000 ($p \leq .05$), and $10,000-$12,400 ($p \leq .01$).

Condition of Unit

Significantly more sound housing ($p \leq .01$) and less deteriorating or dilapidated housing were found at the higher level of income for households both inside and outside SMSAs (Figure 9).

Number of Bathrooms

Significantly better bathroom facilities were evident at the higher income level for both areas (Figure 10). Differences in bathroom facilities between income groups outside SMSAs were all statistically significant ($p \leq .01$), whereas inside SMSAs

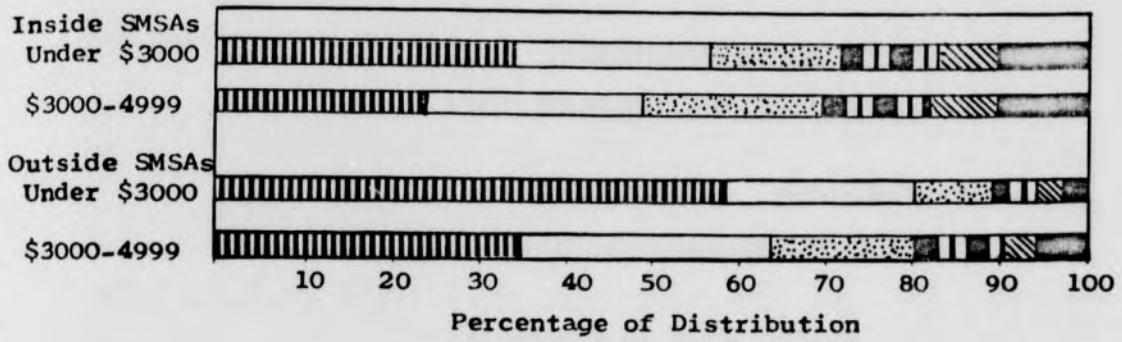

FIGURE 8

COMPARISON OF VALUE OF PROPERTY
BY INCOME AND AREA

Under $5000
$5000-7400
$7500-9900
$10,000-12,400
$12,500-14,900
Over $15,000

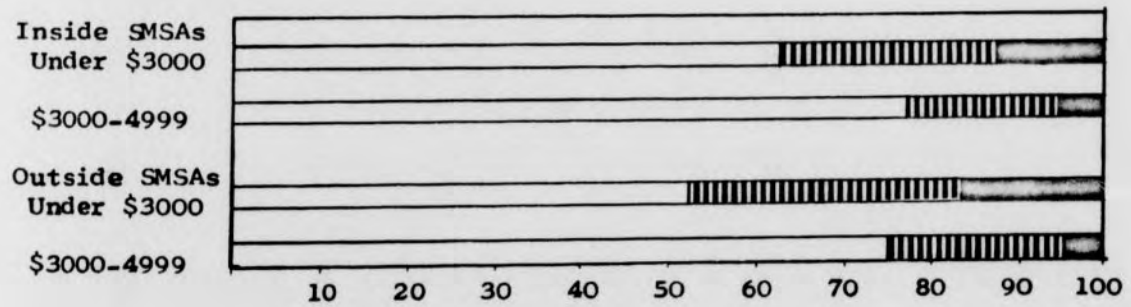

FIGURE 9

COMPARISON OF CONDITION OF UNIT
BY INCOME AND AREA

Sound
Deteriorating
Dilapidated

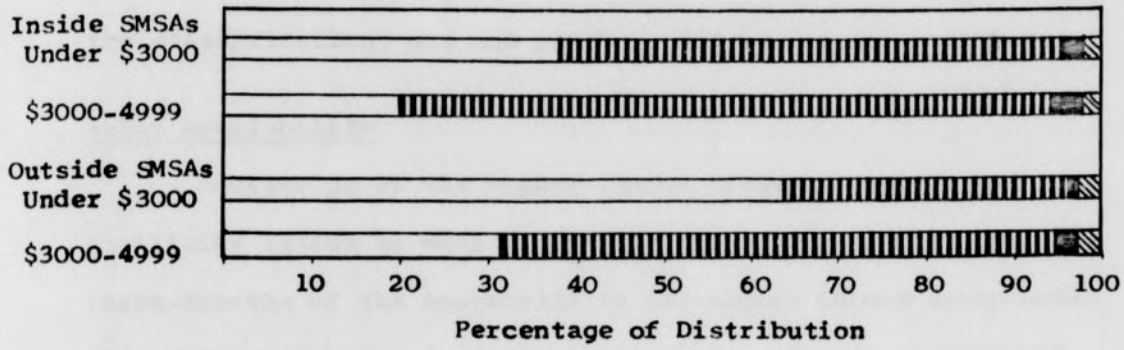

FIGURE 10

COMPARISON OF NUMBER OF BATHROOMS
BY INCOME AND AREA

None or partial

One and partial

One

Two or more

there were no significant differences between income groups for the classifications one and partial, and two or more bathrooms.

Water Availability

Households at the higher income level had better water facilities inside as well as outside SMSAs (Figure 11). Almost three-fourths of the households in the higher income group outside SMSAs had hot and cold running water. Highly significant differences ($p \leq .01$) between income levels were found in every category outside SMSAs and in every category inside SMSAs except for running water outside.

Method of House Heating

Households with the higher level of income in both areas had better heating facilities than households with incomes under $3,000 (Figure 12). Inside SMSAs there were significant differences ($p \leq .01$) in method of house heating between income levels for (1) warm air heat, (2) floor, wall, and pipeless furnace, and (3) other means with flue. Outside SMSAs there were significant differences between income levels in all categories with the exception of (1) other means without flue, and (2) not heated.

IV. SUMMARY OF SIGNIFICANT DIFFERENCES FOR HOUSING CHARACTERISTICS

Thirty-two housing characteristics were analyzed for significant differences between inside and outside SMSAs for the two income levels and between income levels for both inside and outside SMSAs (Table VII).

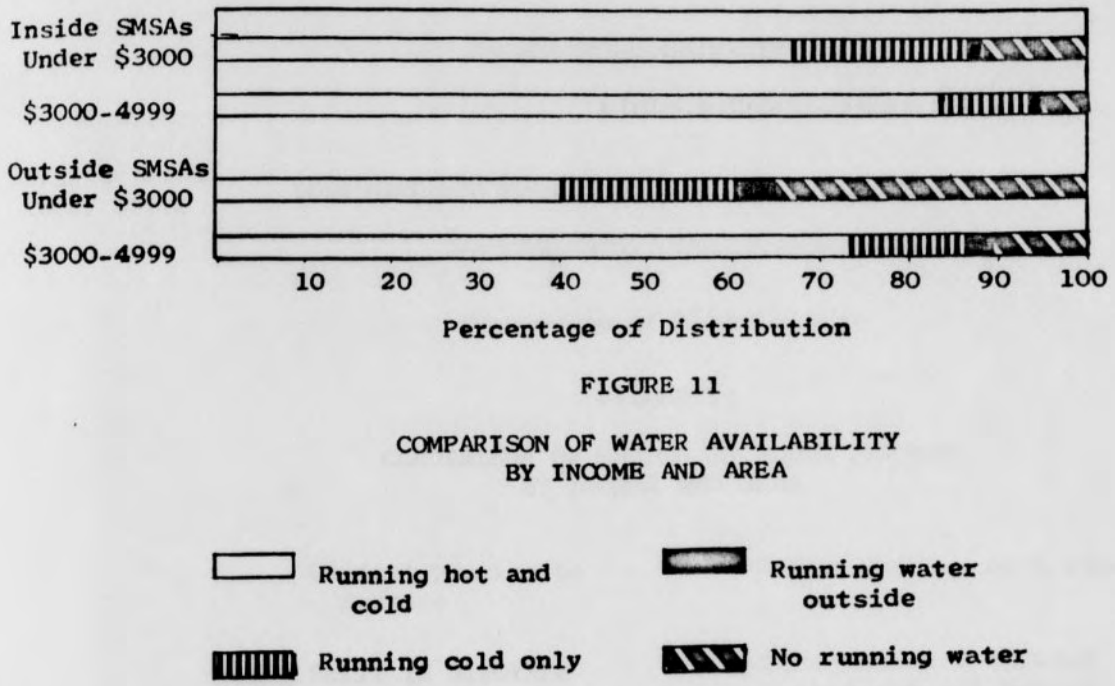

FIGURE 11

COMPARISON OF WATER AVAILABILITY
BY INCOME AND AREA

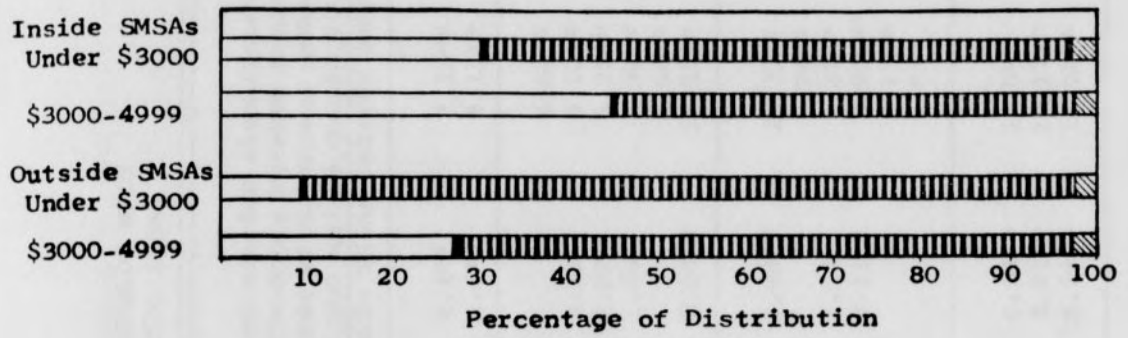

FIGURE 12

COMPARISON OF METHOD OF HOUSE HEATING
BY INCOME AND AREA

Central heating by furnace

Other means - with flue

Built-in electric units

Other means - without flue and not heated

TABLE VII

SIGNIFICANT DIFFERENCES IN HOUSING CHARACTERISTICS BETWEEN HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000 AND $3,000-$4,999 INSIDE AND OUTSIDE SMSAs

Household characteristics	t-values for significant differences between inside and outside SMSAs: Households with incomes under $3,000	t-values for significant differences between inside and outside SMSAs: Households with incomes $3,000-$4,999	t-values for significant differences between households with incomes under $3,000 and $3,000-$4,999: Inside SMSAs	t-values for significant differences between households with incomes under $3,000 and $3,000-$4,999: Outside SMSAs
Owned or rented				
Owned/being bought	5.38**	4.45**	4.4**	8.15**
Rented	5.38**	4.45**	4.4**	8.15**
Age of structure				
1 yr. or less				4.09**
2-5 yrs.			3.50**	8.10**
6-10 yrs.	1.96*		2.27*	5.95**
11-20 yrs.			1.89*	3.52**
21-30 yrs.				6.44**
Over 30 yrs.			5.28**	11.23**
Value of property				
Under $5,000	7.33**	4.07**	2.89**	10.32**
$5,000-$7,400				3.74**
$7,500-$9,900	3.45**	2.15*	1.74*	5.28**
$10,000-$12,400	3.09**		3.11**	3.916**
$12,500-$14,900	4.33**	2.08*		3.13**
Over $15,000	4.13**	3.00**		1.85*
Condition of unit				
Sound	5.32**		6.54**	18.0**
Deteriorating	3.35**		3.81**	10.17**
Dilapidated	3.38**		16.38**	12.92**

TABLE VII (continued)

Household characteristics	t-values for significant differences between inside and outside SMSAs: Households with incomes under $3,000	Households with incomes $3,000-$4,999	t-values for significant differences between households with incomes under $3,000 and $3,000-$4,999: Inside SMSAs	Outside SMSAs
Number of bathrooms				
None or partial	4.43**	6.21**	8.0**	24.54**
One	13.1**	5.50**	6.75**	22.15**
One and partial	2.43**			4.68**
Two or more				4.25**
Water availability				
Running hot and cold	14.3**	5.80**	7.23**	25.08**
Running cold only		2.62**	4.83**	6.60**
Running water outside	4.18**	2.55**	2.08*	15.0**
No running water	13.65**	4.58**	4.28**	19.75**
Method of house heating				
Steam or hot water	11.67**	6.43**		2.25*
Warm air furnace	10.57**	5.93**	4.63**	13.14**
Floor/wall/pipeless furnace	5.00**	10.45**	5.47**	34.01**
Built-in electric units				2.92**
Other means - with flue	14.0**	8.55**	6.25**	16.99**
Other means - without flue				
Not heated				

*Significant at the .05 level.
**Significant at the .01 level.

The fewest number of significant differences in housing characteristics (sixteen) were found between inside and outside SMSAs for households with incomes of $3,000-$4,999. There were no significant differences between the areas for age of structure, property valued between $5,000-$7,400, condition of unit, more than one bathroom, and the following types of heat: built-in electric units, other means without flue, and not heated.

The greatest number of significant differences in housing characteristics (thirty) was found between households with incomes under $3,000 and $3,000-$4,999 outside SMSAs. No significant differences were found in two categories which were: households not heated and those using other means without flue. Of all t-values calculated for differences in housing characteristics, the t-values were greatest between the two income levels outside SMSAs for condition of unit, bathroom facilities, water availability, and method of heat.

For households with incomes under $3,000 compared by areas, there were twenty-one significant differences in housing characteristics. No differences were found for the following: (1) age of structure: 1 year or less, 2-5 years, 11-20 years, 21-30 years, and over 30; (2) property valued between $5,000-$7,400; (3) two or more baths; (4) running cold water only; and (5) method of heat: built-in electric unit, other means without flue, and not heated.

For households inside SMSAs compared by the two income levels, there were twenty-one significant differences in housing

characteristics. No differences were found for the following: (1) age of structure: 1 year or less, and 21-30 years; (2) property valued: $5,000-$7,400, $12,500-$14,900, and over $15,000; (3) number of bathrooms: one and partial, and two or more; and (4) method of heat: steam or hot water, built-in electric units, other means without flue, and not heated.

Based on the results of this study the following hypotheses were rejected:

1. There is no difference in housing characteristics of households with incomes of less than $3,000 and from $3,000-$4,999.
2. There is no difference in housing characteristics between households inside and outside Standard Metropolitan Statistical Areas for the two income groups.

VI. COMPARISON OF PERCENTAGE DIFFERENCES OF SPECIFIC HOUSING CHARACTERISTICS

In view of the high t-values found for sound housing, bathroom, water, and heating facilities, the differences in percentages for the two groups were examined.

When percentage differences between income groups were compared, there were greater differences outside than inside SMSAs for houses less than twenty years old, valued over $5,000, considered sound, having one or more baths, having running hot and cold water, and with central heat (Table VIII). The greatest percentage differences between income groups outside SMSAs were for running hot and cold water and for one or more baths.

TABLE VIII

PERCENTAGE DIFFERENCES OF HOUSING CHARACTERISTICS

Housing characteristics	Inside SMSAs: Percentage difference between income groups	Outside SMSAs: Percentage difference between income groups
Less than 20 yrs. old	13.7	16.5
Valued over $5,000	10.7	22.7
Sound housing	15.7	23.4
1 or more baths	18.4	31.9
Running hot and cold water	15.9	32.6
Central heat	15.3	17.3

Source: Table VI

SUMMARY

At the $3,000 income level slightly more homes were rented than owned both inside and outside SMSAs. A significantly larger proportion of households owned homes outside SMSAs than inside. Despite the fact that large numbers owned their homes outside SMSAs, there were larger proportions of poor housing and property valued under $5,000 outside than inside SMSAs.

For households with incomes between $3,000-$4,999, 60 per cent of those outside SMSAs owned their homes, while inside SMSAs almost one-half rented their housing. There were no significant differences in age of structure or condition of unit between the two areas. About 75 per cent lived in sound housing in both areas. There were fewer differences in housing characteristics between

the two areas for the upper income group than for the lower one.

At the higher income level both inside and outside SMSAs there were significantly larger proportions of home ownership, more recent construction, higher valuation of property, more sound housing, and better bathroom and water facilities. The greatest number of significant differences were found for households outside SMSAs when compared by income and fewest significant differences for households with the higher income when compared by area. Households outside SMSAs had the greatest percentage differences between income groups for running hot and cold water and for one or more baths.

CHAPTER VI

HOUSEHOLD APPLIANCES

Household appliances in households with incomes of less than $3,000 and between $3,000-$4,999 both inside and outside SMSAs were descriptively and statistically analyzed.

I. HOUSEHOLDS WITH INCOMES LESS THAN $3,000

Clothes Washing Machine

Wringer or spinner type washing machines were owned by 50.4 per cent of the households with incomes of less than $3,000 in the State of North Carolina, but 37.4 per cent lacked a washer (Table IX). A significantly larger proportion of the households outside (65.2 per cent) than inside (50.3 per cent) SMSAs had washing machines. Differences between areas were statistically significant at the .01 level for wringer or spinner washers and those having no washer, significant at the .05 level for automatic or semi-automatic washers.

Clothes Dryer

Only one per cent of the households in North Carolina with incomes of less than $3,000 had dryers--0.9 per cent had electric and 0.1 per cent had gas. A larger proportion of households inside (1.6 per cent) than outside (0.9 per cent) had dryers. The difference between areas was significant ($p \leq .05$) for electric dryers but not for gas.

TABLE IX

HOUSEHOLD APPLIANCES IN NORTH CAROLINA HOUSEHOLDS
WITH INCOMES OF LESS THAN $3,000
(Numbers Stated in Hundreds)

Household appliances	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Clothes washing machine						
Wringer or spinner	2410	50.4	298	35.8	2112	53.5
Auto. or semi-auto.	574	12.0	118	14.1	456	11.5
Washer-dryer combination	12	.2	3	.4	9	.2
No washer	1789	37.4	414	49.7	1375	34.8
Clothes Dryer						
Electric	44	.9	14	1.6	30	.8
Gas	3	.1	0	0.0	3	.1
No dryer	4738	99.0	819	98.4	3919	99.1
Television						
1 set	3107	64.9	571	68.6	2536	64.2
2 or more	42	.9	11	1.3	31	.8
None	1636	34.2	251	30.1	1385	35.0
Radios						
1	3352	70.1	596	71.6	2756	69.7
2 or more	323	6.7	85	10.2	238	6.0
None	1110	23.2	152	18.2	958	24.3
Food Freezer: Separate Unit						
Yes	787	16.4	71	8.5	716	18.1
No	3998	83.6	762	91.5	3236	81.9
Air Conditioning						
1 room unit	109	2.3	25	3.0	84	2.1
2 or more room units	25	.5	6	.7	19	.5
Central system	14	.3	1	.1	13	.3
None	4637	96.9	799	96.2	3838	97.1

Source: People and Homes in the American Market -- North Carolina, Vol. XXXII (Detroit: S. J. Tesauro Company, 1961). See Appendix for page references.

Television

Slightly over one-third of the households in North Carolina with incomes of less than $3,000 had no television. About two-thirds of the households both inside and outside SMSAS had television. The only significant difference ($p \leq .01$) between areas was for households not having a television set.

Radio

At least one radio was owned by approximately 70 per cent of the North Carolina households with incomes of less than $3,000. No significant differences between areas were found in the proportion of households owning one radio. Differences between areas were significant ($p \leq .01$) in the categories two or more and none. About one-fourth of the households outside SMSAs had no radio.

Food Freezer

Food freezers were owned by 16.4 per cent of the households in the lower income group studied. A significantly larger proportion of the households outside (18.1 per cent) than inside (8.5 per cent) SMSAs had food freezers ($p \leq .01$).

Air Conditioning

Air conditioning units for one room were possessed by 2.3 per cent of households with incomes of less than $3,000 in the State. Inside SMSAs 3 per cent of the households had a one-room air conditioning unit. The difference in possession of a one-room unit between areas was statistically significant ($p \leq .01$).

Less than one per cent of the households with this income in either area had any other type of air conditioning.

II. HOUSEHOLDS WITH INCOMES BETWEEN $3,000-$4,999

Clothes Washing Machine

Over three-fourths of the North Carolina households with incomes between $3,000-$4,999 owned some type of washing machine (Table X). A significantly larger proportion of households outside (80.6 per cent) than inside (65.6 per cent) SMSAs had washing machines. The differences between areas were statistically significant for possession of wringer or spinner ($p \leq .01$), automatic or semi-automatic ($p \leq .05$), and for no washer ($p \leq .01$).

Clothes Dryer

Few households(2.7 per cent) with incomes between $3,000-$4,999 in the State had either electric or gas clothes dryers. At this income level, slightly more than 2 per cent of the households in each area owned a clothes dryer. There were no statistical differences between areas for any category.

Television

A television set was owned by 84.8 per cent of the households in North Carolina with incomes between $3,000-$4,999. No television was owned by 14 per cent of the households inside and 12.9 per cent outside SMSAs. The only statistical difference for possession of television sets between the two areas was for two or more sets ($p \leq .05$).

TABLE X

HOUSEHOLD APPLIANCES IN NORTH CAROLINA HOUSEHOLDS WITH INCOMES FROM $3,000-$4,999
(Numbers Stated in Hundreds)

Household appliances	State		Inside SMSAs		Outside SMSAs	
	Number	Per cent	Number	Per cent	Number	Per cent
Clothes washing machine						
Wringer or spinner	1257	43.2	253	35.3	1004	45.8
Auto. or semi-auto.	958	32.9	212	29.5	746	34.1
Washer-dryer combination	21	.7	6	.8	15	.7
No washer	673	23.2	247	34.4	426	19.4
Clothes Dryer						
Electric	75	2.6	15	2.1	60	2.8
Gas	3	.1	0	0.0	3	.1
No dryer	2832	97.3	703	97.9	2129	97.1
Television						
1 set	2469	84.8	597	83.5	1872	85.3
2 or more	58	2.0	18	2.5	40	1.8
None	383	13.2	100	14.0	283	12.9
Radios						
1	2069	71.1	509	71.0	1560	71.1
2 or more	397	13.6	115	16.0	282	12.9
None	444	15.3	93	13.0	351	16.0
Food Freezer: Separate Unit						
Yes	616	21.2	88	12.3	528	24.1
No	2294	78.8	629	87.7	1665	75.9
Air Conditioning						
1 room unit	144	4.9	34	4.8	110	5.0
2 or more room units	26	.9	5	.7	21	1.0
Central system	23	.8	1	.1	22	1.0
None	2717	93.4	676	94.4	2041	93.0

Source: People and Homes in the American Market -- North Carolina, Vol. XXXII (Detroit: S. J. Tesauro Company, 1961). See Appendix for page references.

Radio

At least one radio was owned by 84.7 per cent of the households with incomes between $3,000-$4,999 in the State of North Carolina. One or more radios were owned by 87 per cent of the households inside SMSAs and by 84 per cent outside SMSAs. Differences between areas for possession of two or more radios and for no radio were statistically significant ($p \leq .05$).

Food Freezer

Food freezers were owned by 21.2 per cent of the North Carolina households with incomes between $3,000-$4,999. A significantly larger proportion of households outside (24.1 per cent) than inside (12.3 per cent) SMSAs had food freezers ($p \leq .01$).

Air Conditioning

One-room air conditioning units were owned by 4.9 per cent of the households with incomes between $3,000-$4,999 in the State of North Carolina. No significant differences between areas were found for possession of air conditioning except for central systems and that was at the .01 level.

III. A COMPARISON OF HOUSEHOLD APPLIANCES IN HOUSEHOLDS WITH INCOMES LESS THAN $3,000 AND BETWEEN $3,000-$4,999

Clothes Washing Machine

With the higher income a larger proportion of the households in each area owned automatic or semi-automatic washers

(Table XI) (Figure 13). Fewer households outside (19.4 per cent) than inside (34.8 per cent) lacked washers. Highly significant differences between income levels were found for each category except washer-dryer combinations inside SMSAs.

Clothes Dryer

Few households at either income level inside or outside SMSAs owned clothes dryers (Figure 14). There were significant differences between income levels outside SMSAs for households owning an electric dryer and for households having none ($p \leq .01$).

Television

A significantly larger proportion of households both inside and outside SMSAs with the higher income had television; likewise, fewer households at the higher income had no television (Figure 15). All differences were highly significant except the category: two or more inside SMSAs ($p \leq .05$).

Radio

Approximately 70 per cent of the households in both income groups and in each area had at least one radio (Figure 16). There were highly significant differences between income groups both inside and outside SMSAs for possession of two or more radios and for households having none.

Food Freezer

At the higher level of income more households both inside (12.3 per cent) and outside (24.1 per cent) SMSAs had a food

TABLE XI

A COMPARISON OF HOUSEHOLD APPLIANCES IN NORTH CAROLINA HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000 AND BETWEEN $3,000 AND $4,999 FOR INSIDE AND OUTSIDE SMSAs

Household Facilities	Inside SMSAs		Outside SMSAs	
	Less than $3,000	$3,000-$4,999	Less than $3,000	$3,000-$4,999
	(Per cent)			
Clothes Washing Machine				
Wringer or spinner	35.8	35.3	53.5	45.8
Auto. or semi-auto.	14.1	29.5	11.5	34.1
Washer-dryer comb.	.4	.8	.2	.7
No washer	49.7	34.4	34.8	19.4
Clothes Dryer				
Electric	1.6	2.1	.8	2.8
Gas	0.0	0.0	.1	.1
No dryer	98.4	97.9	99.1	97.1
Television				
1 set	68.6	83.5	64.2	85.3
2 or more	1.3	2.5	.8	1.8
None	30.1	14.0	35.0	12.9
Radios				
1	71.6	71.0	69.7	71.1
2 or more	10.2	16.0	6.0	12.9
None	18.2	13.0	24.3	16.0
Food Freezer: Separate Unit				
Yes	8.5	12.3	18.1	24.1
No	91.5	87.7	81.9	75.9
Air Conditioning				
1 room unit	3.0	4.8	2.1	5.0
2 or more room units	.7	.7	.5	1.0
Central system	.1	.1	.3	1.0
None	96.2	94.4	97.1	93.0

Source: Tables IX and X.

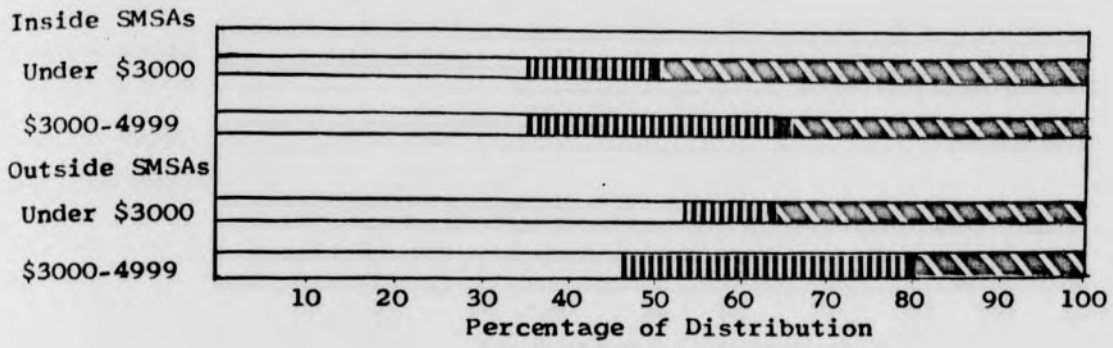

FIGURE 13

COMPARISON OF HOUSEHOLDS FOR
POSSESSION OF WASHING MACHINES

Wringer or spinner
Washer-dryer
Auto. or semi-auto.
No washer

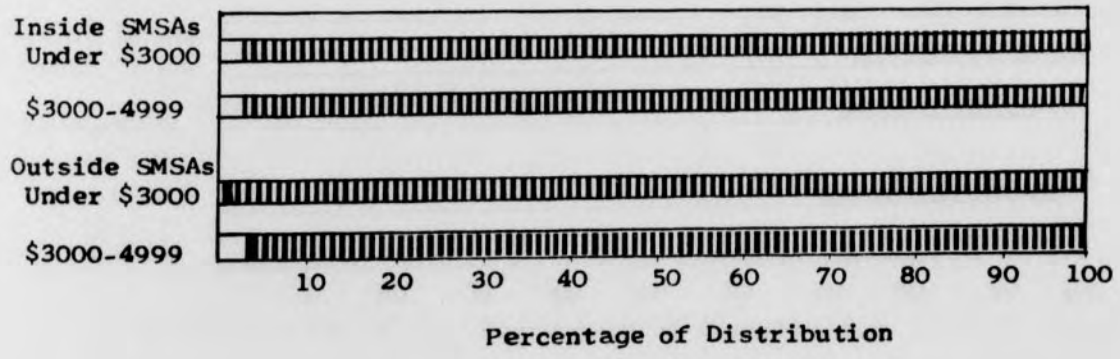

FIGURE 14

COMPARISON OF HOUSEHOLDS FOR
POSSESSION OF CLOTHES DRYERS

Electric
Gas
No dryer

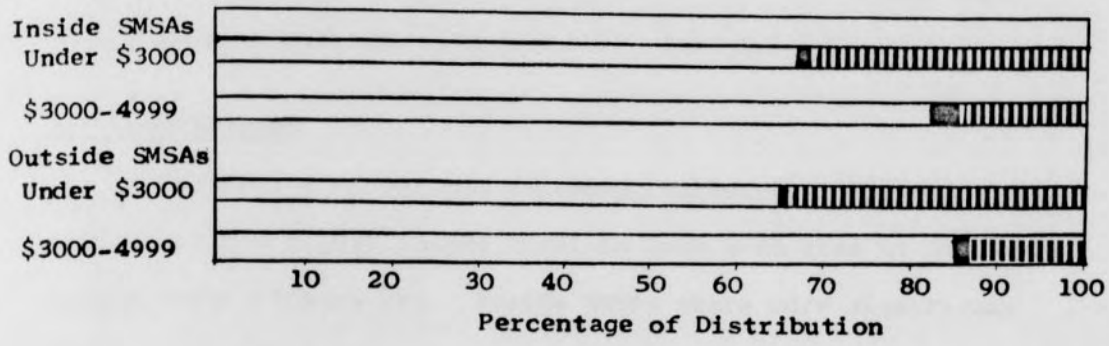

FIGURE 15

COMPARISON OF HOUSEHOLDS FOR
POSSESSION OF TELEVISION

1 set 2 or more None

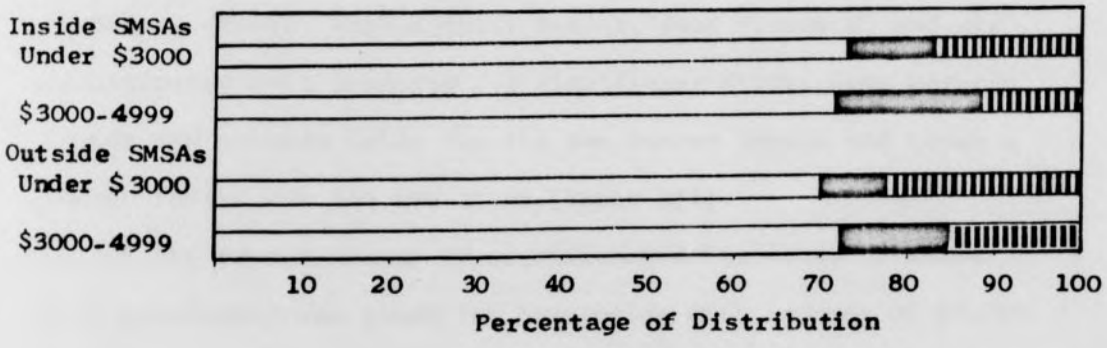

FIGURE 16

COMPARISON OF HOUSEHOLDS FOR
POSSESSION OF RADIOS

1 2 or more None

freezer than at the lower income (Figure 17). All differences were highly significant.

Air Conditioning

Possession of air conditioning, although small, was more evident at the higher income level in each area than at the lower income level (Figure 18). Inside SMSAs there were significant differences between income groups for households having one-room air conditioning units and for those having none ($p \leq .05$). Outside SMSAs there were highly significant differences between income groups for each category except households with two or more room units ($p \leq .05$).

IV. SUMMARY OF SIGNIFICANT DIFFERENCES OF HOUSEHOLD APPLIANCES

Nineteen categories for the household appliances washing machines, dryers, televisions, radios, food freezers, and air conditioning were analyzed for significant differences between inside and outside SMSAs for the two income levels and between income levels for the two areas (Table XII).

The fewest number of significant differences in household appliances was found for households with incomes of $3,000-$4,999 when compared by area. There were nine categories with significant differences. They were: (1) washing machine: wringer or spinner, automatic or semi-automatic, and no washer; (2) two or more television sets; (3) radios: two or more, and none; (4) food freezer: yes and no; and (5) central air conditioning.

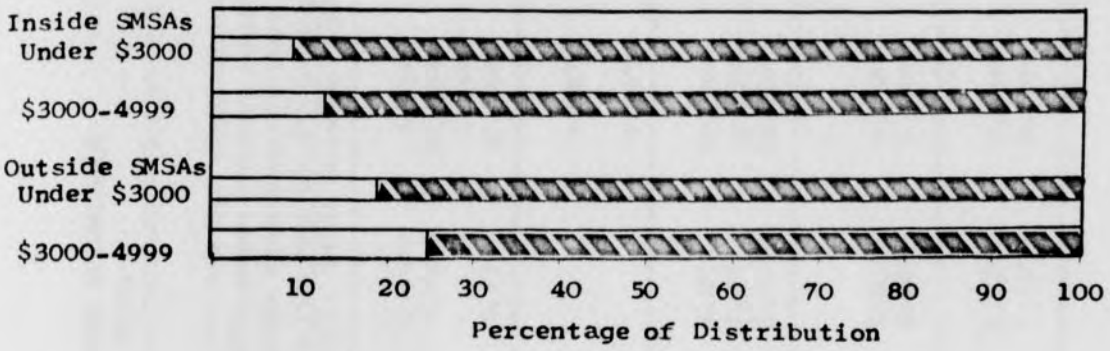

FIGURE 17

COMPARISON OF HOUSEHOLDS FOR
POSSESSION OF FOOD FREEZERS

Yes No

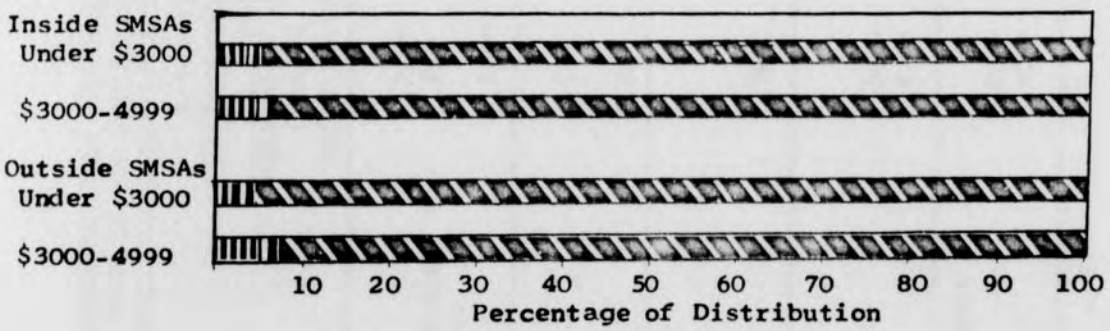

FIGURE 18

COMPARISON OF HOUSEHOLDS FOR
POSSESSION OF AIR CONDITIONING

1 room unit Central system

2 or more units None

TABLE XII

SIGNIFICANT DIFFERENCES IN HOUSEHOLD APPLIANCES IN HOUSEHOLDS WITH INCOMES OF LESS THAN $3,000 AND $3,000-$4,999 INSIDE AND OUTSIDE SMSAs

Household appliances	t-values for significant differences between inside and outside SMSAs		t-values for significant differences between households with incomes under $3,000 and $3,000-$4,999	
	Households with incomes under $3,000	Households with incomes $3,000-$4,999	Inside SMSAs	Outside SMSAs
Clothes washing machine				
Wringer or spinner	9.32**	5.0**	2.64**	5.83**
Automatic or semi-automatic	2.11*	2.31*	7.70**	21.52**
Washer-dryer combination				3.04**
No washer	8.28**	8.42**	6.12**	12.83**
Clothes dryer				
Electric	2.16*			6.66**
Gas				
No dryer	1.85*			6.06**
Television				
1 set			6.8**	17.58**
2 or more		2.10*	1.74*	3.57**
None	2.72**		8.51**	18.88**
Radios				
1				
2 or more	7.36**	2.21*	3.41**	9.45**
None	3.81**	1.935*	2.82**	7.83**
Food Freezer: Separate Unit				
Yes	6.85**	6.94**	2.46**	5.66**
No	6.85**	6.94**	2.46**	5.66**

TABLE XII (continued)

Household appliances	t-values for significant differences between inside and outside SMSAs: Households with incomes under $3,000	t-values for significant differences between inside and outside SMSAs: Households with incomes $3,000-$4,999	t-values for significant differences between households with incomes under $3,000 and $3,000-$4,999: Inside SMSAs	t-values for significant differences between households with incomes under $3,000 and $3,000-$4,999: Outside SMSAs
Air conditioning				
1 room unit	5.29**		1.85*	6.30**
2 or more room units				2.27*
Central system		2.40**		3.57**
None			1.69*	7.73**

*Significant at the .05 level.
**Significant at the .01 level.

The greatest number of significant differences in household appliances was found for households outside SMSAs when compared by income. There were seventeen significant differences and two categories with no appreciable differences which were: possession of gas dryers and one radio.

For households with incomes under $3,000 between inside and outside SMSAs there were eleven categories with significant differences. Those with no significant differences were: (1) washer-dryer combination, (2) gas dryers, (3) one television, (4) two or more television sets, (5) one radio, (6) two or more air conditioning units, (7) central air conditioning, and (8) no air conditioning.

Households with incomes between $3,000-$4,999 inside SMSAs had twelve significant differences. Those having no significant differences were: (1) washer-dryer combinations, (2) electric, gas, and no dryer; (3) one radio; (4) two or more room units, and central air conditioning.

Of all t-values calculated for household appliances the t-values for possession of automatic washers, one television, and lack of television were greatest between the two income levels outside SMSAs.

Based on the results of this study the following hypothesis was rejected: there is no difference in the consumption of household appliances between the two income levels and between the two designated areas.

V. COMPARISON OF PERCENTAGE DIFFERENCES OF SPECIFIC HOUSEHOLD APPLIANCES

Since extremely high t-values for automatic or semi-automatic washing machines and television sets were found, the percentage differences of household appliances were examined. When percentage differences between income groups were compared, there were greater differences outside than inside SMSAs for all household appliances (Table XIII). The largest percentage differences were for automatic or semi-automatic washers and for television.

TABLE XIII

PERCENTAGE DIFFERENCES OF SPECIFIC HOUSEHOLD APPLIANCES BETWEEN INSIDE AND OUTSIDE SMSAs

Specific Household Appliances	Inside SMSAs Percentage Difference Between Income Groups	Outside SMSAs Percentage Difference Between Income Groups
Automatic or semi-automatic washers	15.4	22.6
Some type dryer	0.5	2.0
1 or more TVs	16.1	22.1
1 or more radios	5.2	8.3
Food freezer	4.8	6.0
Some type air conditioning	1.8	4.1

Source: Table XI

SUMMARY

Wringer or spinner type washing machines were owned by 50.4 per cent of the households with incomes under $3,000 in the State of North Carolina. At this income level larger proportions of households outside than inside SMSAs had washing machines. Few households in either area had a clothes dryer. About two-thirds of the households with incomes under $3,000 had television. At least one radio was owned by 70 per cent of the households with incomes under $3,000 in both areas. Larger proportions of households outside than inside SMSAs had food freezers. Few households in either area had air conditioning.

Larger proportions of households with incomes between $3,000-$4,999 had some type of washing machine (automatic and non-automatic) outside than inside SMSAs. Few households with the higher income in either area had a dryer. At this income level about 85 per cent of the households in both areas had television. A radio was owned by 71 per cent of the households in each area. At the higher income level 24 per cent of the households outside and 12 per cent inside SMSAs had separate food freezers. No more than 5 per cent of the households in either area had air conditioning.

With the higher income a larger proportion of the households in each area owned automatic or semi-automatic washers, a television, two or more radios, and a separate food freezer. Possession of air conditioning, although small, was more evident at the higher income level in each area.

The greatest number of significant differences in household appliances was found for households outside SMSAs when compared by income. The fewest number of significant differences in household appliances was found for households with incomes of $3,000-$4,999 when compared by area.

Households outside SMSAs had greater percentage differences between income groups than inside for automatic washers, some type dryer, one or more television sets and radios, food freezers, and some type air conditioning. The greatest percentage differences were found for automatic or semi-automatic washing machines and one or more television sets.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

I. SUMMARY

Although there has been improvement in technology and in the quality of the nation's housing during the past decade, one-fourth of the housing units in this country in 1960 were inadequate. A study of related literature indicated that the South in general and North Carolina in particular were above the national average in poor housing.

The objectives of this study were (1) to compare housing characteristics of households with incomes of less than $3,000 with those of incomes between $3,000-$4,999 for the State of North Carolina and for inside and outside Standard Metropolitan Statistical Areas within the state; (2) to determine differences in housing characteristics between inside and outside Standard Metropolitan Statistical Areas for the two income groups; and (3) to determine differences in consumption (ownership) of certain household appliances for the two levels of income and for the two areas.

The source of the data was cross tabulations of housing characteristics and household appliances based on the 1960 Census data and published by the S. J. Tesauro Company of Detroit in People and Homes in the American Market--North Carolina.

Tabulations were utilized for the six SMSAs in North Carolina consisting of Asheville, Charlotte, Durham, Greensboro, Raleigh, and Winston-Salem and the counties in which each city is located. By subtracting totals from SMSAs from the tabulations for all North Carolina counties, numerical data were obtained for outside SMSAs.

Housing characteristics included condition of unit, ownership status, method of heating, age of structure, value of property, number of bathrooms, and availability of water. Household appliances included washing machine, clothes dryer, television, radio, food freezer, and air conditioning. Background information was utilized for race, education, age, place of residence of heads of households, and the number of persons in household.

The data were analyzed for significant differences between proportions of households with incomes under $3,000 and between $3,000-4,999 for inside SMSAs and outside SMSAs and for the areas by the income groups.

There were almost twice as many white households as Negro with incomes of less than $3,000 in North Carolina. The proportion of Negro households with income under $3,000 was larger inside than outside SMSAs. Heads of households tended to be older in the lower income group in both categories of location. Heads of households inside SMSAs had had more education than those outside SMSAs. The educational level tended to be higher with the higher income group in both areas. When the income was under $3,000, the number in the household tended to be smaller than when the income was at the higher level, both inside and outside SMSAs.

The majority of households with incomes under $3,000 inside SMSAs were urban and outside SMSAs were rural non-farm residents.

Of the households with incomes of less than $3,000 outside SMSAs, 87 per cent of the houses were dependent for heat upon fireplaces, space heaters, or stoves; and about two-thirds either had no or only a partial bathroom, and no or only cold running water. Approximately one-half of the houses were rented, over thirty years old, valued under $5,000, and either deteriorating or dilapidated. About two-thirds of these households had some type washing machine, a television, and a radio; less than 20 per cent had a freezer; less than 3 per cent had air conditioning; and less than 1 per cent had a clothes dryer.

Of the households with incomes of less than $3,000 inside SMSAs, approximately 60 per cent of the houses were rented, over twenty years old, valued under $7,400, and heated by fireplaces, space heaters, or stoves; 40 per cent were deteriorating or dilapidated, had no or only a partial bathroom, and either had no running water or only cold running water. Over two-thirds had at least one television and radio; about one-half had some type washing machine; and over 8 per cent had a food freezer. Less than 4 per cent had air conditioning and less than 2 per cent had a clothes dryer.

Of households outside SMSAs with incomes between $3,000-4,999, three-fourths of the houses were sound and had both hot and cold running water. Approximately 60 per cent of the houses were owned, less than twenty years old, valued at more than $5,000, and had one or more bathrooms. Thirty per cent had central

heat. About 88 per cent had one or more television and radio sets, one-third an automatic washer, and one-fourth a home freezer. Seven per cent had some form of air conditioning and 3 per cent had a dryer.

Of the households inside SMSAs with the higher income, three-fourths or more of the households had sound houses, one or more bathrooms and hot and cold running water. Approximately one-half of the houses were owned, over twenty years of age, valued at less than $7,400, and heated with fireplaces, space heaters, or stoves; and 45 per cent had some form of central heat. More than 85 per cent had one or more television sets and radios; over one-fourth had automatic washers, 12 per cent a food freezer, about 6 per cent some form of air conditioning, and about 2 per cent a clothes dryer.

In comparing housing characteristics between income groups, households with the higher income, both inside and outside SMSAs, had larger proportions of home ownership, houses of more recent construction, higher valuation of property, sound housing, one or more bathrooms, and more adequate water and heating facilities. At the higher income level outside SMSAs, larger proportions of houses were owned and were less than twenty years old. At the higher income level inside SMSAs, larger proportions of houses were valued over $7,400, were sound, had more than one bath, hot and cold water, and central heat.

In comparing household appliances between income groups, a greater proportion of households with the higher income both inside and outside SMSAs had the appliances studied. A greater

proportion of households at the higher income level outside SMSAs possessed more of the appliances studied than households inside SMSAs with the exception of two or more radios.

The greatest number of significant differences for housing characteristics and household appliances was found for households outside SMSAs when compared by income, and fewest significant differences in housing characteristics and household appliances for households with the higher income when compared by area.

Greater percentage differences were found between income groups outside than inside SMSAs for houses less than twenty years old, valued over $5,000, sound housing, one or more baths, hot and cold water, central heat, and for all household appliances studied. The greatest percentage differences were for hot and cold water, bathroom facilities, automatic washers, and television.

II. CONCLUSIONS

Based on the results of this study, the following conclusions were drawn:

1. Poor housing in North Carolina may be linked closely with low-income households, headed by persons over 55 years of age, and by persons having less than an eighth grade education.
2. Inadequate housing is not limited to the rural farm and non-white population in North Carolina.
3. Households outside SMSAs with incomes under $3,000 have a significantly higher proportion of inadequate

housing than those inside SMSAs.

4. The level of income may have a greater relationship to housing conditions and ownership of household appliances than the area in which the household is located.
5. The level of income tends to have a greater relationship to housing conditions and possession of the appliances studied outside than inside SMSAs.
6. The level of consumption of the household appliances studied, as indicated by ownership, tends to be greater outside than inside SMSAs at the $3,000-4,999 income level.

III. IMPLICATIONS FOR HOME ECONOMISTS

The complex nature of the housing problem requires the cooperation and efforts of several disciplines. Implications will focus on some of the problems which are particularly pertinent to the field of home economics. Home economists with their particular abilities and skills need to increase their assistance to other groups and agencies in action programs directed to low income families. They can carry on educational programs which relate to the improvement of housing, plumbing and heating facilities, to the selection of house plans, and to ways of improving the appearance of the home.

The level of education of many of the heads of households studied was under the eighth grade. It is suggested that home economists might place more emphasis on the development of

educational techniques and materials which would be within the comprehension and reading ability of these families.

This study indicates that television may be an effective means for educational programs since two-thirds of families with incomes under $3,000 own a set, and even greater numbers at the higher income level.

A large proportion of households under $3,000 in this study were headed by persons 55 years of age and over. It is suggested that home economists direct a portion of their educational programs in housing to this segment of the population.

Rural non-farm residents make up the largest proportion of residents with incomes under $3,000 outside SMSAs. More effort should be made to reach these persons by home economics teachers and extension personnel through adult education programs and other media.

Organizations of home economists should lend support to change present building codes from building specifications to establishment of performance standards. This change in building codes would facilitate use of present technology in construction of low-cost housing.

In summary, home economists need to become more acutely aware of the housing needs of low-income families; to lend support to improving their housing whether by public or private initiative; to cooperate with other groups concerned with family welfare; and to expedite joint programs of action for low-income families.

IV. RECOMMENDATIONS FOR FURTHER STUDY

More research is needed in the area of ownership status of low-income families. Does home ownership at this income level indicate poor housing or good housing? The Consumer Expenditure Survey in 1961 conducted by the Department of Agriculture and the Bureau of Labor Statistics provides valuable data for studies of housing expenditures for both renter and owner households.

What factors account for the differences in housing characteristics between the income levels in the smaller towns and rural areas of the State and those in urban areas? Can it be attributed to an economic problem alone as urban living costs may be higher than rural? According to Winnicke,[70] Negroes spend less on housing. Since there are twice as many Negro households inside as outside SMSAs at the $3,000-4,999 income level in North Carolina, could this contribute to the difference in housing between areas? Does the larger amount of home ownership at the higher income level outside SMSAs partially account for the greater percentage difference between income levels outside than inside SMSAs in better housing and greater consumption of household appliances?

A positive approach to the housing problem may be more helpful than the negative approach of concentrating on poor housing. Since 50 per cent of the households outside and 60 per cent inside SMSAs with incomes under $3,000 had sound housing, could it

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[70] Nelson Foote, et al., Housing Choices and Housing Constraints, (New York: McGraw Hill, 1960), p. 56.

be determined who these low-income families are? Are they young, old, owners, renters, or living in public housing? How have they accomplished sound housing with a limited income? Are they better managers? Do they have a better adjustment to life? What values and goals do they hold which motivate them? To know some of the answers to these questions would prove helpful to those who are trying to motivate low-income families.

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APPENDIX

APPENDIX

SOURCE OF DATA: People and Homes in the American Market--North Carolina, Vol. XXXII. Detroit: S. J. Tesauro Company, 1961.

Table I and II

56 NC 32 p. 2
56-011 Buncombe 32-021 p. 2
56-032 Durham 32-063 p. 2
56-034 Forsyth 32-067 p. 2.
56-041 Guilford 32-081 p. 2
56-060 Mecklenburg 32-119 p. 2
56-092 Wake 32-183 p. 2

Tables IV and V

56 North Carolina 32 pp. 2-3
56-011 Buncombe 32-021 pp. 2-3
56-032 Durham 32-063 pp. 2-3
56-034 Forsyth 32-067 pp. 2-3
56-041 Guilford 32-081 pp. 2-3
56-060 Mecklenburg 32-119 pp. 2-3
56-092 Wake 32-183 pp. 2-3

Tables IX and X

56 North Carolina 32 p. 3
56-011 Buncombe 32-021 p. 3
56-032 Durham 32-063 p. 3
56-034 Forsyth 32-067 p. 3
56-041 Guilford 32-081 p. 3
56-060 Mecklenburg 32-119 p. 3
56-092 Wake 32-183 p. 3

STATISTICS FROM REVIEW OF LITERATURE

	1940	1949	1950	1959	1960	1961
I. Condition of housing in U. S.[15]						
Dilapidated or deteriorating						
Owner occupied						
Urban				8%		
Rural non-farm				19%		
Rural farm				25%		
Renter occupied						
Urban				22%		
Rural non-farm				41%		
Rural farm				47%		
II. Plumbing facilities						
No running water						
N. C. rural homes[16]				1/3		
U. S. rural homes[18]					25%	
Southeastern states (rural)[17]						40%
No bathroom facilities[18]						
U. S. farm homes					38%	
III. In U. S. average number of persons occupying unit[23]			3.4		3.3	
Units with more than 1 person per room[23]			16%		12%	
Non-white[24]					28%	
Units with more than 1.5 persons per room[23]			6%		4%	
Non-white[24]					14%	
Crowded farm homes[22]	30%				14%	
IV. Median income of families						
N. C.[27]					$3956	
White[26]					$3035	
Negro[26]					$1286	
U. S.[31]					$5660	
South[31]					$4465	
V. Families in U. S. with income under $2,000[32]		29%		13%		

STATISTICS (continued)

	1940	1949	1950	1959	1960	1961
VI. Spending patterns of families with income under $3,000 (U. S.)						
Housing[40]						
Urban						27%
Rural non-farm						20%
Rural farm						16%

Footnote numbers as cited in Chapter II of Review of Literature.