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ABSTRACT

AN ANALYSIS OF THE AGE-OCCUPATION MATRIX AS A CRITERION FOR VERTICAL AND HORIZONTAL MARKET DELINEATION

by David Luther Wilemon

In recent years, market researchers have attempted to improve the market delineation processes. Although other criteria can be employed as a basis for delineating markets, increasing emphasis has been focused on the use of single and multiple socio-economic variables. Two methods frequently employed for delineating and analyzing consumer expenditure patterns are social class and aggregated family life cycle analysis. Both methods, however, are subject to unique limitations in delineating markets. In social class analysis, the family age variable usually is ignored within each class. Researchers delineating markets by aggregated life cycle analysis may not consider the within class variability of incomes, occupations, social classes, and ages.

Due to the limitations of social class and aggregate life cycle analysis, an alternative approach to market delineation is proposed and investigated in the research. The approach utilized employs both age and occupation of the family head as criteria for delineating markets.

The research examined selected economic patterns of families in nine Standard Metropolitan Statistical Areas in the North Central and Eastern regions of the United States. The occupations investigated included salaried professionals and officials, self-employed, clerical and sales, skilled, semi-skilled, and unskilled. Each occupational category was disaggregated by the following age classes: under 25, 25-34, 35-44, 45-54, 55-64, and over 65 years. The unpublished, cross-sectional data used were collected by the Bureau of Labor Statistics in 1960-61. A Least Squares computer program was used for determining the income elasticities, the marginal propensities to consume coefficients, the standard error of the coefficient, and statistical significance of each coefficient.

The study revealed the following general conclusions. First, incomes and expenditures vary considerably among the various age classes of each occupational category. Generally, the higher ranking occupations had higher outlays on the expenditures classified as "necessities" (total food, clothing, and total housing). By contrast, in the lower family age classes, the lower ranking occupations spend absolutely and relatively more on house furnishings and automobile expenditures than do families in the higher ranking occupations. Second, expenditures generally vary more among the age classes of the higher ranking occupations than for the lower ranking occupations. Third,

family size and the number of children under 18 appear more influential in determining total food expenditures than does the family income level. Fourth, family disposable incomes reach maximum levels in the secondary age classes (45 years and over) for all the occupations. Disposable income levels generally follow the occupational ranking scale. Fifth, family savings levels do not completely follow the socioeconomic ranking scale in the higher ranking occupations. Savings follow the ranking scale in the skilled, semi-skilled, and unskilled groups. Sixth, definite patterns were not always found for the relationship between occupational rank and the income elasticities for total expenditures. In most cases, however, the middle and lower ranking occupational families had higher elasticities for total housing, total food, and clothing expenditures. The highest marginal propensities to consume usually were found in the primary age classes (under 44 years) of each occupational group, and generally were found in the clerical, skilled, and semi-skilled categories.

In conclusion, the age-occupation variables appear potentially valuable as criteria for delineating markets. The approach utilized in the research demonstrates many of the advantages of the social class and family life cycle delineation methods. Furthermore, it eliminates many of the weaknesses of the social class and life cycle approaches.

Two primary methods by which the age-occupation

approach can be utilized in market delineation are: (1) in identifying prime market targets for purposes of directing the marketing effort; and (2) for researching socio-economic changes in market areas over time.

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HORIZONTAL MARKET DELINEATION

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Dedicated to Jane,
my best friend,
for her understanding,
sacrifice, and encouragement

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CHAPTER I

BACKGROUND AND PROBLEM DELINEATION

Marketing management for many years has attempted to understand more accurately the characteristics of existing or potential markets. In recent years marketing management has placed even greater emphasis on the study of complex consumer and market behavior. For the most part, the increase in the necessity for understanding consumer and market behavior has resulted from increased competitive activities in the market frequently reflected in narrowed profit margins, conglomerate market competition, and higher marketing costs. As a consequence, many firms have attempted to develop some basis of "differential competitive advantage" by improving their market delineation methods. The rationale has been that they are likely to direct the marketing process with greater certainty and efficiency if their markets are delineated more accurately.

Background

Basic Approaches to Market Delineation

There are two broad fundamental methods of delineating markets. These are described below.

1. By geographical boundaries. Many markets are

delineated according to geographical tastes and habits. For some products there is an "Eastern market" or a "Southern market." Another example where geographical market delineation is used is in retailing. The immediate environment of a supermarket or department store may compose most of its market. From estimates of the needs and wants of the retail outlet's potential customers a product "mix" for the outlet can be developed.

2. By socio-economic characteristics of the consumer. The socio-economic approaches to market delineation are based on specific characteristics of consumers. Research evidence indicates that consumers with similar socio-economic characteristics often have similar expenditure patterns. The socio-economic approach also usually underlies the geographical market delineation method. Examples of the socio-economic approach to market delineation include delineating markets by income class, age, sex, social class, and family life cycle stage.¹ The increasing awareness of the need for improved market delineation methods is noted below:

As discretionary income rises and firms' competitive struggle to increase their share of this income intensifies, interest in how to make promotional efforts more effective is expanding. One approach

¹Robert Mainer and Charles C. Slater, "Markets in Motion," Harvard Business Review, XLII (March-April, 1964), 75-82; and Daniel Yankelovich, "New Criteria for Market Segmentation," Harvard Business Review, XLII (March-April, 1964), 83-90.

toward this end is the use of market segmentation to "customize" a particular marketing mix for a particular segment of the market. The greatest shortcoming of this approach is the inability of sellers to identify homogeneous segments of consumers. Income is an effective basis of segmentation for some products but not for others. Physical location of consumers is of some help, but regional differences become less and less important in our peripatetic society. . . .¹

The inherent advantages of delineating markets likely will have even more significant effects on future marketing strategy. For example, a market research executive, Ollie G. Crump, recently forecast that national advertising for many consumer goods will be deemphasized in the future.² This potential trend, according to Crump, is the result of the increasing heterogeneity of consumers. As a consequence, more of the corporate effort will be devoted to delineating the pertinent market sectors.

By investigating consumer behavior, market researchers can determine whether or not consuming groups demonstrate expenditure patterns significantly different enough for market delineation.³ When groups having similar expenditure patterns are identified and the marketing effort is

¹James M. Carman, The Application of Social Class in Market Segmentation (Berkeley: Institute of Business and Economic Research, the University of California, 1965), p. 1.

²American Marketing Association, News Bulletin, XXII, No. 1 (Chicago: American Marketing Association, July, 1965), 11.

³John A. Howard, Marketing Management, Analysis and Planning (Homewood, Ill.: Richard D. Irwin, Inc., 1963), pp. 31-32.

directed toward them, then, the firm's marketing process will likely be improved. A key problem, however, is determining which consumers should be delineated and what variables to employ in delineating them.

The Function of Socio-Economic Classificatory Variables

The basic function of socio-economic classificatory variables is to aid in identifying, classifying, and differentiating consuming groups. It would be ideal if a firm could rely on a single variable to accomplish the above tasks. Rarely, however, is the single variable sufficient for market delineation since a multivariate problem exists. Consequently, many variables have to be studied in order to obtain a few variables that accomplish the desired differentiation of consumers. The classification process, if effective, identifies and delineates "homogeneous" groups according to predetermined socio-economic characteristics. Illustratively, the market researcher might use either a single socio-economic variable such as income class or a combination of several socio-economic variables, for example, age, income, and occupation.

The market researcher's decision to employ single or multiple socio-economic classificatory variables usually rests on several factors; for example, the decision may depend upon the nature of the firm's market. Usually the markets for "staple" goods are broad and encompass several

heterogeneous segments of the general population, hence, broad market delineation may suffice. By contrast, the market for "luxury" goods may need to be defined with extreme precision. The number of classificatory variables used may also depend simply upon how well the firm desires to define the markets for its products at a given point in time. Often the desire for such classificatory knowledge is weighed against the economic costs of delineating the market since market delineation costs tend to increase sharply as classificatory variables are added. Still another consideration is that if too many variables are used, the differentiated sub markets will be too numerous and the potential customers in each too few for individual cultivation. Cummings, in employing an analogy applicable to market delineation, states:

Statistical classification in general may be likened to the process of focusing a camera: the image becomes blurred equally by moving the focusing lens too close or too far from the focusing screen, and becomes clear at precisely one point only.¹

An almost infinite number of unique consumer socio-economic classifications can be used to delineate markets. Illustratively, in the 1960 Census of Population, in addition to other socio-economic and demographic variables, there are 2 sex classes, 7 age classes, 11 occupational

¹John Cummings, Fundamentals of Statistics (Scranton, Pa.: International Textbook Press, 1923), p. 9.

categories, 11 income classes, 8 educational categories. The total number of delineated classes using age and sex would be 14 (2 x 7). If the age-sex classes were further disaggregated according to the 11 occupational categories, then the number of classes necessary to describe the population would be 154 (14 x 11). The consequence of continually adding socio-economic variables is illustrated in Table 1.

TABLE 1
POSSIBLE NUMBER OF DELINEATED MARKET CLASSES
USING SEVERAL SOCIO-ECONOMIC VARIABLES^a

Socio-Economic Characteristics	Number of Classes	
	For the Characteristic	In Combination with Preceding Characteristics
Sex	2	2
Age	7	14
Occupation	11	154
Income	11	1,694
Education	8	13,552

^aSource of socio-economic characteristics and number of classes for the characteristic from U.S. Bureau of the Census. U.S. Census of Population: 1960 General Social and Economic Characteristics, Michigan, Final Report PC (1)-24C (Washington: U.S. Government Printing Office, 1962). Table format adopted from John Cummings, Fundamentals of Statistics (Scranton, Pa.: International Textbook Press, 1923), p. 17.

As illustrated in Table 1, delineating markets by several socio-economic classificatory variables can become exceedingly complex and costly. Therefore, the selection of the proper classificatory variable or variables is

critically important since some variables may provide a basis for delineating markets accurately, but cannot be operationalized economically. Therefore, a primary step in market delineation is the development of variables which are operational and meaningful.

Development of Market Delineation Criteria

Generally, the socio-economic variables used in market delineation have been developed by using both micro and macro approaches. The micro approaches have usually been developed by behavioral scientists to study human behavior and characteristics. From their research, various socio-economic variables have been identified to differentiate groups of individuals possessing relatively homogeneous psychological, social, and economic characteristics. Frequently, the differentiated groups have been shown to exhibit similar consumption patterns. By generalizing from the micro findings of individuals and small groups, projections on how larger aggregates of consumers behave have been made. A potential shortcoming of the micro approach is that the samples drawn may not be representative of a larger population. And large samples are often not economically feasible for the sponsoring firm. It should be pointed out, however, that in some cases relatively small samples have proven to be reliable in predicting aggregate behavior. Another limitation is that the data collection instruments used may have been developed and utilized for

other purposes. The Thematic Apperception Test, for example, has been used in studying the psychological makeup of consumers though it was developed for use in clinical psychology.

The macro approach is concerned with aggregate expenditure patterns of large national and regional samples. A limitation applying to micro analysis applies to macro investigations but in reverse: The findings based on the aggregate may not be applicable to the individual consuming unit. In many cases, however, in market delineation or market sector analysis, the cost of investigating all individual expenditure patterns would be prohibitive. Market researchers, moreover, are primarily interested in aggregate behavior since the marketing effort usually is directed toward groups or market sectors.

One approach to macro analysis, basically a deductive one, examines "ex post" consumer expenditure patterns. By examining the expenditure patterns of different groups of consumers disaggregated by different socio-economic variables, potential insights into macro consumer behavior can be gained. An important advantage to the marketer of the "ex post" approach is that knowledge of the complexities of consumer motivation is not always a necessary condition for predicting and observing market behavior. McNeal posits that market researchers usually do not need an explanation of the "whys" of consumer behavior, rather, attention should

be devoted to examining the "patterns of consumer behavior."¹ While this may hold at the macro level, some market researchers would argue that the "why" of consumer behavior becomes critically important to the marketing strategy of the individual firm.

A wealth of "ex post" descriptive consumer expenditure statistics has become available since 1950.² From a marketing delineation standpoint, the statistics are potentially important for two primary reasons: (1) the statistics may provide information that can be employed to "test and operationalize" various socio-economic market delineation variables, and (2) the statistics may also provide a framework which can be employed for market prediction.

Evaluation of Socio-Economic Market Delineation Variables

An evaluation of socio-economic variables as a means of stratifying population rests upon several criteria.³

¹James U. McNeal, "Consumer Behavior--Introduction," Dimension of Consumer Behavior, ed. James U. McNeal (New York: Appleton-Century-Crofts, 1965), p. 6.

²University of Pennsylvania, Study of Consumer Expenditures, Incomes and Savings, Vols. I-XVIII (Philadelphia: University of Pennsylvania, 1956); and United States Department of Agriculture, Food Consumption of Households in the United States (Washington: U.S. Government Printing Office, 1956); and Life, LIFE Study of Consumer Expenditures (New York: Time, Inc., 1957); and U.S. Department of Labor, Bureau of Labor Statistics, Survey of Consumer Expenditure and Income, 1960-61.

³A more comprehensive discussion of evaluating criteria for the use of social class in marketing research can

Several evaluating criteria are described below:

1. Operational characteristics. Is the socio-economic variable practical in terms of implementation? Are data on the population's socio-economic characteristics and expenditure patterns difficult to obtain? What is the cost factor in implementing and operationalizing the criteria?

2. Monitoring of changes in the socio-economic variable. Is there monitoring of the socio-economic characteristics of the population to note important changes affecting market delineation? Income classes of the population are periodically monitored by governmental sources while social classes are not generally monitored.

3. Reflection of the influence of other variables. Does the variable reflect the influence of other socio-economic and demographic variables which influence expenditure decisions? Social class stratum usually reflects the influence of several factors on expenditure patterns, such as occupation, income, education, and dwelling area. However, income class may not reflect the influence of other socio-economic variables affecting expenditure patterns. If a variable is orthogonal, that is, uncorrelated with other variables and relevant to classification, it is very

be found in Social Class Definition in Market Research Objectives and Practice, A Report Prepared by the Working Party on Social Class Definition (London: The Market Research Society, 1963), p. 22.

useful in market delineation; however, few orthogonal variables exist. The next best alternative is to identify variables which encompass other variables in a known way and which have classificatory utility. Such variables make for economy of description, classification, and differentiation.

4. Homogeneous meaning of the variable. Does the socio-economic variable have a homogeneous meaning between market areas? Age, sex, and income classes have a homogeneous meaning; however, social class strata may not. Consequently, social class data may be difficult to apply between market areas.

5. Predictive value. How accurately can the socio-economic variable predict present expenditure patterns? Can the variable be employed as a basis for estimating changes in future expenditure patterns?

Preliminary Evaluation of the Age-Occupation Market Delineation Method

Table 2 illustrates some of the potential strengths and weaknesses of several socio-economic market delineation variables. The evaluation table is most likely to apply best to large retailers and to multi-product firms. The evaluation of the several socio-economic market delineation variables reveals that the multi-variable approach--age and occupation of the family head--appears to have several potential advantages in delineating markets. Many of the

TABLE 2

EVALUATION OF SELECTED SOCIO-ECONOMIC MARKET DELINEATION VARIABLES^a

Method of Socio-Economic Market Delineation	Evaluative Criteria Characteristics					Homogeneous Meaning	Prediction Ability
	Operational Characteristics Includes Cost of Implementation	Continuous Monitoring of Changes in Variables	Reflects Other Socio-Economic and Demographic Variables				
A. Single Variable Methods							
Aggregate Income Classes	Yes	No	Distorted	Yes	Distorted	Yes	Distorted
Age of Family Head	Yes	Sometimes	Distorted	Yes	Distorted	Yes	Distorted
Sex	Yes	No	Distorted	Yes	Distorted	Yes	Sometimes
Occupation	Yes	Usually	Yes	Yes	Yes	Yes	Sometimes
B. Multi-Variable Methods							
Family Life Cycle	Difficult	Sometimes	Sometimes ^b	No	Depends on Definition	No	Difficult
Social Class	Difficult	No	Sometimes	No	Difficult	No	Difficult
Age-Occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes

^aThe various methods of socio-economic market delineation and the evaluative criteria characteristics are discussed more completely in Chapter II.

^bThe ability of family life cycle analysis to reflect the influence of other socio-economic variables depends upon the method used to disaggregate the family life patterns and whether a "homogeneous group" is disaggregated, such as an occupational category.

advantages described below for using the age and occupation approach are not always present in other socio-economic market delineation approaches. Described below are some of the potential advantages of employing the age-occupation approach in market delineation.

1. The age-occupation delineation method disaggregates the general population into different population groups reflecting similar socio-economic variables such as educational attainment, prestige, life styles, reference groups, and incomes which influence consumption life style patterns.¹ The influence of occupation on consumption and the family's life style is illustrated in Figure 1.

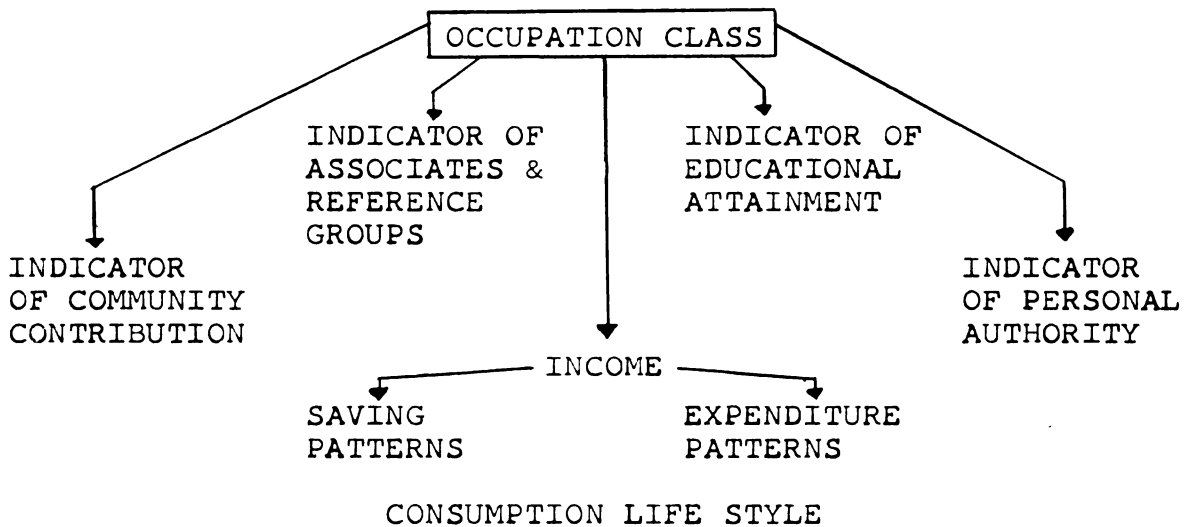


Figure 1. Influence of occupation on the life style and consumption life style of the family¹

¹The socio-economic variable influenced by occupational class has been adopted from Joseph A. Kahl, The American Class Structure (New York: Rinehart and Company, Inc., 1957), pp. 53-87.

¹Paul K. Hatt, "Occupation and Social Stratification," American Journal of Sociology, LV (May, 1950), 533-34.

2. The socio-economic variables, age and occupation of the family head, also make possible horizontal and vertical market delineation. Horizontal market delineation methods disaggregate consumers according to continuous socio-economic layers, such as income classes or family age classes which can include differing socio-economic population groups. By contrast, vertical market delineation differentiates consumers according to relatively independent classificatory variables, such as occupation or sex. Little research has been undertaken to evaluate delineating markets vertically and horizontally simultaneously. In fact, most of the prior research has employed only the vertical or horizontal approaches singly. The concept of horizontal and vertical market delineation is illustrated in Figure 2.

3. Data on occupational population by age classes are readily available. The U.S. Census monitors the population as does the Bureau of Labor Statistics every ten years.

4. By using age and occupation, the researcher can examine expenditure patterns that concomitantly reflect realistic changes in several other socio-economic variables such as income, family size, saving patterns, family age, and expenditures.

5. The age-occupation variables are easier to use

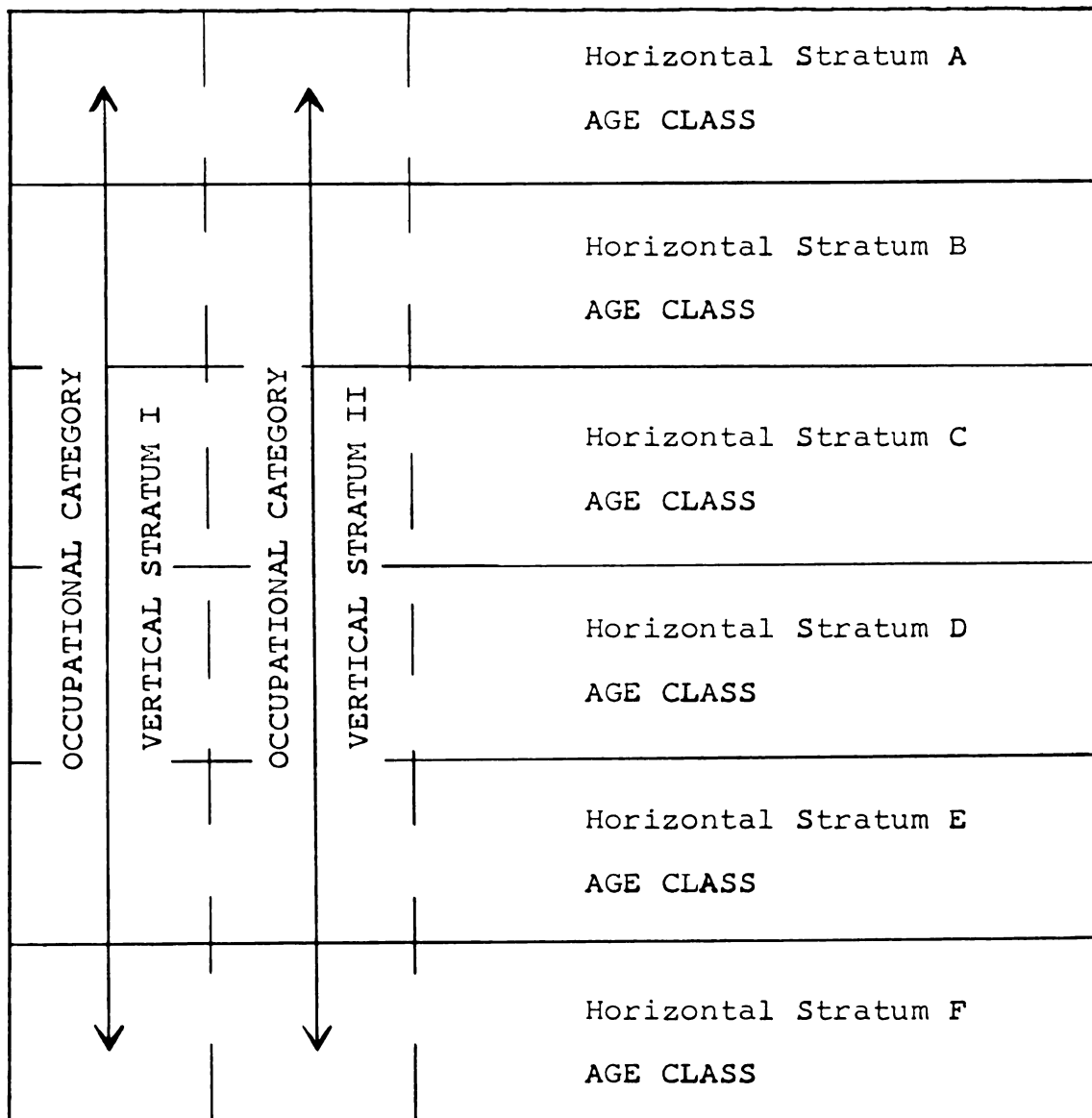


Figure 2. Schema of vertical and horizontal market delin- eation

than social class analysis.¹ To disaggregate a population according to the usual social class methods normally requires interviewing a large sample. A few researchers have pointed out that differences in incomes, expenditures, savings, life styles, and family life patterns exist among the various social class strata.² A weakness of social class analysis, however, is that each stratum is not disaggregated by family life cycles. Such differences appear critically important in market delineation since a given social class stratum may have both younger and older families which could affect the validity of the variable for prediction purposes. A similar limitation also holds when the general population is disaggregated into family life cycle classes. In delineating the general population into family life cycles, the social class factor is ignored.³ Therefore, in many cases to optimize the market delineation methods both the social class and stage in the life cycle of the family should be

¹For social class analysis in marketing see: Richard P. Coleman, "The Significance of Social Stratification in Selling," Proceedings of the 43rd National Conference of the American Marketing Association, ed. Martin L. Bell (December, 1960), pp. 171-84; and Pierre Martineau, "Social Classes and Spending Behavior," Journal of Marketing, American Marketing Association, XXIII (October, 1958), 121-30. The strengths and weaknesses of employing social class as a market delineation method are discussed in Chapter II.

²Ibid., pp. 174-84.

³For life cycle analysis see: Lincoln Clark (ed.), Consumer Behavior, Vol. II: The Life Cycle and Consumer Behavior (New York: New York University Press, 1955). For other problems in the implementation of life cycle analysis see Chapter II.

considered.

6. Occupational categories are comparable between Standard Metropolitan Statistical Areas, cities, or other urban areas or regions since the commonly used occupational definitions and categories have a homogeneous meaning.

7. Occupation may also serve as a useful proxy variable for social class. In determining social class placement occupation of the family head is almost always employed as a key variable. Warner recognized the importance of occupation in the determination of social class and found occupation highly correlated with his prediction of an individual's social class ($r=.91$).¹ Following Warner's investigation, Kahl and Davis also correlated occupation to social class placement and again found occupation highly correlated with social class estimates.²

But, in determining social class by the method generally recommended for marketing and economic purposes, other factors are employed simultaneously with occupation. For example, source of income, housing type, and dwelling area are used in determining social class position by Warner's Index of Status Characteristics method. According

¹W. Lloyd Warner, Marcia Meeker, and Kenneth Eells, Social Class in America (Chicago: Science Research Associates, 1949), p. 168.

²Joseph A. Kahl and James A. Davis, "A Comparison of Indexes of Socio-Economic Status," American Sociological Review, XX (June, 1955), 317-25.

to Warner, "the Index of Status Characteristics is, primarily, an index of socio-economic factors; but . . . it can be used with a considerable degree of confidence as an index of social-class position as well."¹ A priori reasoning suggests that the variables, source of income, housing type, and dwelling area are in reality dependent upon the occupational category of the family. Therefore, why measure each of the variables since occupational rank is so highly correlated with social class prediction?

As noted above, the socio-economic variables, age and occupation, appear to be useful in delineating the population into relatively homogeneous groups. If the age-occupation concept is useful for market delineation purposes then it must reflect significant differences in family expenditure patterns since the concept of market delineation is based on the notion that many consuming groups can have different expenditure patterns.

The Problem

Statement of the Problem

The primary objective of this research is to investigate expenditure patterns, using both age and occupation of the family head as market delineation variables. The potential utility of the age-occupation approach warrants an investigation to determine whether or not income,

¹Warner, Meeker and Eells, op. cit., p. 39.

expenditure, and savings patterns do vary within and among family age classes of several occupational categories.

In connection with the present investigation, several questions having potential market delineation implications are explored. Some of the questions are:

1. How do income, saving, and expenditure patterns vary among family age classes of each occupational category?
2. How do income, saving, and expenditure patterns vary among various age classes of different occupational categories?
3. Should some of the occupational categories or family age classes be combined for market delineation and prediction purposes?
4. How do income elasticities for different expenditure accounts vary among family age classes of an occupational category?
5. How do income elasticities among family age classes for various expenditure accounts of an occupation vary from the elasticities of other occupational categories?
6. How do family saving patterns vary within and among occupational-age categories?
7. How do average propensities to consume and save vary among the age classes of various occupational categories?

By examining the preceding questions, the research can determine the influence of age and occupation of the family head on family expenditure patterns.

Hypotheses

The major hypothesis of the study is that the socio-economic classificatory variables--age and occupation of the family head--reflect significant differences in family expenditure patterns.

The research is also designed to test the following specific hypotheses:

- I. Socio-Economic Occupational Rank and Absolute Expenditure Relationships
 - A. In each family age class average total dollar expenditures are positively related to the socio-economic rank of the occupation.¹ The higher the occupational rank, the greater the total expenditures are for families in each age class.
 - B. In each family age class average total food expenditures are positively related to the socio-economic rank of the occupation.
 - C. In each family age class average housing expenditures are positively related to the socio-economic rank of the occupation.
 - D. In each family age class average clothing expenditures

¹An explanation of occupational socio-economic rank is presented in Chapter III.

are positively related to the socio-economic rank of the occupation.

E. Family expenditures for housefurnishings and equipment reach maximum levels in the primary age classes for each occupational category.¹

F. Family expenditures for housefurnishings and equipment do not follow the socio-economic occupational ranking scale in any age class.

G. Family automobile expenditures do not correspond to the socio-economic occupational ranking scale in any age class.

H. Maximum automobile expenditures for each of the manual² occupational categories are concentrated in the primary age classes while maximum automobile expenditures for each of the nonmanual³ occupational groups are concentrated in the secondary age classes.⁴

II. Socio-Economic Occupational Rank and Relative Income-Expenditure Relationships

A. In each family age class the average propensity to

¹Primary age classes are those in which the family head's age is under 45 years.

²Manual occupational classes include skilled, semi-skilled, and unskilled workers.

³Nonmanual occupations include professionals, managers, and officials, the self-employed, and clerical and sales workers.

⁴Secondary age classes include those in which the family head's age is over 45 years.

consume for total family expenditures is inversely related to occupational socio-economic rank.¹ The higher the occupational socio-economic ranking, the lower the average propensity to consume in each age class of the occupation. That is, the research assumes that occupations with higher socio-economic rank also will devote more income to savings.

- B. In each family age class the average propensity to consume for the total of expenditure accounts classified as "necessities" is inversely related to occupational socio-economic ranking.²
- C. In each successive occupational age class the proportion of income devoted to total food expenditures increases in the primary age classes and decreases in the secondary age classes.
- D. In each family age class of all occupations the average propensity to consume for total food expenditures is inversely related to the socio-economic rank of the occupation.

¹The average propensity to consume (APC) is the ratio of mean disposable income to a family expenditure category.

²In the study "necessities" are defined as food, clothing, housing, and fuel, light, refrigeration, and water. For an alternative definition see: Donald F. Blankertz, "A Marketing Analysis of Suburban and Urban Expenditure Patterns," Theory in Marketing, ed. Reavis Cox, Wroe Alderson, and Stanley J. Shapiro (Homewood, Ill.: Richard D. Irwin, Inc., 1964), p. 297.

- E. In each successive occupational age class the proportion of income devoted to clothing expenditures increases in the primary age classes and decreases with family age in the secondary age classes.
- F. In each family age class of all occupations the proportion of income devoted to housefurnishings and equipment is inversely related to socio-economic occupational rank.

III. Occupational Rank and Family Disposable Income Concentrations

- A. Disposable income levels for all nonmanual occupational families reach maximum levels in the secondary family age classes.
- B. Disposable income levels for all manual working families reach maximum levels in the primary family age classes.

IV. Absolute Savings Levels and Family Age Class

- A. In each family age class of the nonmanual occupational categories the family savings levels do not follow the socio-economic ranking scale.
- B. In each family age class of the manual occupational categories family absolute savings levels follow the socio-economic ranking scale.

V. Socio-Economic Rank and Income-Expenditure Elasticities

- A. The magnitude of income elasticity coefficients for total expenditures within each age class is inversely related to the socio-economic rank of

the occupation.

- B. The magnitude of income elasticity coefficients for total food expenditures within each age class is inversely related to the socio-economic ranks of the occupation.
- C. The magnitude of income elasticity coefficients for clothing within each age class is inversely related to the socio-economic ranks of the occupation.
- D. The magnitude of income elasticity coefficients for total housing expenditures within each age class is inversely related to the socio-economic rank of the occupation.

VI. Marginal Income-Expenditure Relationships

- A. In each family age class, the marginal propensity to consume for total expenditures is inversely related to occupational socio-economic rank. The higher the occupational ranking, the smaller the marginal propensity to consume for total expenditures.

Method of Approach

The research employs unpublished cross-sectional data to examine variations in income, savings, and expenditures of occupational family age classes. The unpublished data are part of the 1960-61 national urban Bureau of Labor Statistics' Survey of Consumer Expenditures. Specifically,

the data utilized in this research represent family expenditures in nine Standard Metropolitan Statistical Areas in the North Central and Eastern regions of the United States. Each Standard Metropolitan Statistical Area selected has a population that exceeds 1,400,000. Further, each Standard Metropolitan Statistical Area is characterized as being located in heavily urbanized areas, and most have a heavy concentration of industry, similar climatic conditions, and a relatively similar occupational distribution.

The data utilized in this research are disaggregated into six occupational categories. And each occupational category is further disaggregated into six chronological age classes. For each occupational-age classification several family expenditure accounts are examined. The sample utilized in the research contained 2,168 families of two or more persons each.

Since the sample employed in this study was an aggregation of nine sets of Standard Metropolitan Statistical Area data, the data from each Standard Metropolitan Statistical Area had to be weighted and averaged. The initial step in constructing the sample entailed placing the original data from each Standard Metropolitan Area on data processing cards. The next step involved weighting each occupational-age class of each Standard Metropolitan Statistical Area by the number of sample families in each occupational-age class. Then, the dollar value of each

family expenditure account in each occupational-age class was multiplied by the number of families in each occupational-age class.

The next phase consisted of adding the totals of the number of families times the value of the family expenditures for each of the nine Standard Metropolitan Statistical Areas and dividing by the total number of families in the occupation-age classes of the nine Standard Metropolitan Statistical Areas. The computations result in a sample representing families in all nine Standard Metropolitan Statistical Areas. From the resulting weighted sample, computer programs for the marginal propensities to consume, average propensities to consume, and average propensities to save were constructed. To compute income elasticities for selected family expenditures within each occupational-age class, a computer program employing regression analysis was employed. First, the elasticity measures and the marginal propensity to consume are used to determine the emphasis families place on selected goods in the different age classes. Second, the average propensity to consume is computed to measure the relationship between average disposable income and each family expenditure account within each occupation-age class. The average propensity to save, the reciprocal of the average propensity to consume, also, is computed to measure savings or dissavings within each occupational-age class. Third, the absolute dollar

values of income and expenditures in each occupation-age class are examined to note the absolute differences in consumption patterns of each occupational-age class.

Limitations

Certain limitations of the study and data should be recognized.

1. The study examines the expenditure patterns of six broad occupational categories used by the Bureau of Labor Statistics. The grouping of several occupational titles into a few broad occupational classes can result in overaggregation. For example, in the occupational category, clerical and sales workers, a wide range of incomes is normally found which can affect the predictive value of the average incomes and expenditures for the aggregated occupational class. This variation must be considered in interpreting the findings of the study.

2. Certain limitations apply to chronological interpretations of cross-sectional data. That is, consumers may not always react in their economic life patterns as indicated by cross-sectional analysis. Perhaps a more accurate approach would entail investigating a large group of families for several years and noting how their income-expenditure relationship changes over time. However, such an approach is difficult, costly, and time consuming.

Irving B. Kravis, in addressing the above limitation of cross-sectional budget analysis, states:

On the economic side we are faced with the all too familiar gap between the construct of pure theory and the statistical approximation that is available. We would like to know how the same family or group of families would behave at instantaneously alternative levels of income. Budget data for any one period of time shows up how different families behave at several income levels. The difficulty can be minimized by ensuring that all the families, at whatever income level, are homogeneous with respect to the social and demographic variables that influence demand relationships.¹

In the present study an attempt has been made to insure as much homogeneity within the groups as possible. Illustratively, the occupational categories have been disaggregated into six family age classes. This disaggregation procedure is expected to increase the homogeneity of the groups studied.

3. The unpublished Bureau of Labor Statistics' data employed in this study are also subject to errors that may influence the findings. These limitations have been expressed by the Bureau of Labor Statistics:

All data have been reviewed, edited, and screened to minimize processing errors. Chance variations due to sampling can be measured statistically and the BLS is planning to estimate the sampling error for selected items and groups of items. Approximately 75 percent of the families in the 1960 sample furnished usable schedules and some of the nonrespondents supplied limited information on family

¹Irving B. Kravis, "Expenditure-Income Relationships for Consumers Durable Goods and Problems in Their Derivation," Proceedings of the 115th Annual Meeting of the Business and Economic Statistics Section of the American Statistical Association, ed. Walter F. Ryan (American Statistical Association, 1955), p. 106.

characteristics which will be used to evaluate the nature of the sample losses due to nonresponse. Among the participating families, inaccurate reporting is a source of error despite continued research in schedule design and intensive training of the interviewers. Such inaccuracies result from memory errors, misunderstanding of a question or reluctance to answer it, and incorrect entries by the interviewer. Although the BLS has accumulated substantial knowledge about such reporting errors and will continue research in this field, these errors can not be quantified satisfactorily.¹

4. The time between the Bureau of Labor Statistics' study and its subsequent release may also be a minor limitation. The data utilized in this study, although collected in 1961 and 1962, were not released until 1965. However, the National Industrial Conference Board, in its publication Expenditure Patterns of the American Family, utilizing basic Bureau of Labor Statistics data, made the following statement.

. . . the lapse of a reasonable period of time in a survey of this type does not significantly affect the usefulness of the results. Since the period in which the survey was in the field, average consumer expenditures increased but the evidence suggests that the difference in expenditure patterns among the various classifications of families . . . remained relatively constant. Change tends to be uniform. For instance, the variations in outlays for food by age of family head reported in this study are very similar to the variations reported in the Bureau's study conducted ten years earlier. . . .²

¹U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditures and Income Total United States, Urban and Rural 1960-61, BLS Report No. 237-93 (Washington: U.S. Government Printing Office, 1965), pp. 5-7.

²National Industrial Conference Board, Expenditures Patterns of the American Family (New York: National Industrial Conference Board, 1965), p. 153.

5. The study is not meant to be representative of the entire United States population, only to cities of 1,400,000 or more population in the North Eastern and North Central regions of the United States. However, it is reasonable to assume that the selected sample utilized in this study is generally representative of other urban areas in the United States. As a result, generalizations can be drawn from the findings of the study which are applicable to other urban areas in the United States.

Some Possible Contributions

The development of market delineation methods has generated considerable interest in recent years. As a result, several approaches to market delineation have been suggested for improving the market delineation task. Nevertheless, most of the approaches demonstrate significant limitations affecting implementation and utilization.¹

The focus of the present research is to investigate an alternative market delineation approach which may eliminate many of the implementation and utilization problems of other market delineation approaches. The age-occupation approach to market delineation is expected to be relatively accurate in disaggregating consumers into relatively homogeneous socio-economic groups. If demonstrated that

¹The limitations of several market delineation approaches will be explained in Chapter II.

expenditures vary among the different occupational categories and between age classes of an occupational category, the market delineation process may be improved. By knowing the importance the different occupations and the age classes within an occupation place on various expenditures, several applications are expected. One of the most significant applications may be in building a model of consumption behavior based on the occupation-age variables which can be used for predicting future macro market expenditure patterns.¹ By predicting and forecasting expenditure patterns, firms may more accurately plan marketing programs, advertising appropriations, sales effort allocation, and the firm's distribution networks.

Finally, it is possible that the study will provide a basis for developing hypotheses of future market delineation research.

Organization

The remainder of the study is organized into four chapters. Chapter II presents a review of the contributions of several researchers of consumption expenditures. The review also examines the influence of income and other socio-economic variables on family expenditure patterns.

¹U.S. Department of Labor, Bureau of Labor Statistics, "Uses of Family Expenditure Data," Report No. 238-13, August, 1965, (Washington: U.S. Government Printing Office), p. 9.

Finally, the review presents several of the most commonly utilized socio-economic approaches of market delineation to determine the strengths and weaknesses of each method. An analysis and evaluation of the data used in the study and the research design are presented in Chapter III. The findings of the research are presented in Chapter IV. Chapter V contains the summary and conclusions, as well as suggestions for future research.

CHAPTER II

REVIEW OF LITERATURE

Organization and Rationale

Since the present study is focused on consumer behavior and market delineation, a review of the literature was made relating the effect of several socio-economic variables on consumer expenditure patterns. The primary objectives of the review are twofold: First, there has been little research undertaken attempting to explain or illustrate differences and similarities in expenditure patterns of different occupations disaggregated by age classes. Therefore, a review was made of several other socio-economic variables likely having similar influences on occupational expenditure patterns. This review is used in explaining and understanding the findings of the present research. The second objective of the literature review is to evaluate the employment of several socio-economic variables in delineating markets.

Influence of Selected Socio-Economic Variables on Family Expenditure Patterns

There are several socio-economic variables influencing family expenditure patterns. To understand consumer

behavior, the nature and effect of the different socio-economic variables on expenditure patterns must be considered. Several studies have revealed in part the influence of socio-economic factors on consumption patterns. Usually, in order to determine the influence of socio-economic variables on consumption patterns, the researcher constructs a "structural model."¹ The function of the model is to relate the effect of several socio-economic variables on family expenditures. A model expressing the relationship of socio-economic and demographic variables on expenditures is:²

$$Y = f(X_1, X_2, X_3, \dots X_n).$$

The above model denotes the relationship between Y, the dependent variable, (expenditures) and the independent variables X_1 , X_2 , and X_n . The independent variables can include income, family size, family life cycle, occupation, race, age, and social class. The problem normally involved in determining the effect of socio-economic variables on expenditure patterns is determining what variables to examine.

In addressing the above problem, Robert O. Herrmann asserts that classical economic theory does not provide a

¹Robert Omer Herrmann, "Household Socio-Economic and Demographic Characteristics as Determinants of Food Expenditure Behavior" (Unpublished Ph.D. dissertation, Michigan State University, East Lansing, 1964), p. 9.

²Ibid., p. 10.

framework for the inclusion of all socio-economic variables, only income. Therefore, other disciplines frequently must also be utilized in determining what variables to examine.¹ For marketing purposes, to understand consumer behavior and market delineation, the selection and determination of significant independent variables is of critical importance. Based on past empirical research, the following socio-economic variables appear to significantly influence family expenditure patterns.

1. Family income
2. Change in family income
3. Age of household head and stage in family life cycle
4. Family size
5. Social class and occupation

Much of the research determining the influence of the above variables on expenditures has been conducted by economists, market researchers, home economists and agricultural economists. The agricultural economists and home economists are primarily interested in the effects of socio-economic variables on food expenditure patterns. Several findings of prior empirical research on the variables are reviewed below.

Income as a Determinant of Family Expenditures

Since the present study utilizes cross-sectional

¹Ibid.

budget data, a review was made of several consumer budget studies. The primary purposes of the review were: (1) to examine the contributions of pioneering budget analysts and (2) to note the effect of income and other socio-economic variables on family expenditure patterns over time. The usefulness of cross-sectional data, for understanding consumer behavior, is increased if basic income-expenditure relationships remain relatively constant over time. Therefore, several cross-sectional budget studies are examined in order to determine the stability of family expenditures.

Foundations of Family Budget Analysis

Since society has usually been concerned with its standards of living, a number of "living standard" studies has been undertaken during the past two hundred years.¹ Reviewing some of the studies through time primarily reveals two changes: (1) the purposes of budget studies have changed and (2) the scope of the studies has been enlarged. Most of the pioneering budget studies usually examine all broad occupational categories.² Another significant development

¹Much of the historical development of family budget analysis has been drawn from Carle C. Zimmerman, Consumption and Standards of Living (New York: D. Van Nostrand Company, Inc., 1936), Chaps. 1-17. As far as could be determined, LePlay's consumption studies have not been published in English; therefore, the background information on LePlay relies on Zimmerman's study.

²University of Pennsylvania, Study of Consumer Expenditures, Incomes and Savings, Vols. 1-18 (Philadelphia: University of Pennsylvania, 1956); and Life, Life Study of

in cross-sectional budget studies conducted by the government has been to provide a "benchmark" for the formulation of the Consumer Price Index aiding the measurement of the "cost of living."

Some of the most significant contributors to family budget analysis have been Frederic LePlay, Ernst Engel, and Carroll Wright, each making unique contributions to consumer budget analysis and directly or indirectly aiding in the formulation of several "laws" of consumption.¹ The "laws" not only relate income to consumption and saving, but indirectly reflect the significance of other socio-economic variables on consumption.

Frederic LePlay

LePlay's contributions to budget analysis and to the social sciences in general have influenced man's thinking on societal well-being for nearly 150 years. LePlay and his followers conducted budget studies in several countries.² Zimmerman, in an extremely comprehensive analysis

Consumer Expenditures (New York: Time, Inc., 1957); and U.S. Department of Labor, Bureau of Labor Statistics, Survey of Consumer Expenditures and Income, 1960-61.

¹The "laws" of consumption as discussed in this study refer to income-expenditure generalizations based on empirical research.

²Zimmerman, op. cit., p. 418. According to Zimmerman, the LePlay school conducted family budget studies in Algeria, Arabia, Austria, Bali, Belgium, California, Canada, China, Corsica, Egypt, Great Britain, the United States and several other countries.

of LePlay's works, reports that LePlay was primarily interested in the economic and social well-being of a society. To study the well-being of society LePlay used family budgets as a framework for his analysis.

LePlay largely studied the relation of the standard of living to the social structure. He early formulated the conception that if one knew the entire family budget one could describe the kind of family. Another idea was developed from this: if one knows the type of family one could understand the total social structure of which it was a part.¹

LePlay's budget studies were primarily limited to working class families. To interview families about their expenditure patterns LePlay developed a comprehensive family classification system to record and classify expenditures. Zimmerman notes that LePlay's classificatory systems "are still models in methodology."² LePlay's classification system as presented by Zimmerman is noted below:

1. Place. This includes a discussion of the geographical location of the particular family studied, and the type of industry and family in that area. In this section is presented the rationale for choosing the particular family and some discussion of its representativeness.
2. Civil state. This section lists the members of the household by age and sex, gives their age at marriage, and includes data concerning any children who have died. . . .
3. Religion and moral habits. Here the formal religion of the family is given, and the degree

¹Ibid., p. 424.

²Ibid.

of actual adherence to the forms and tenets of the religion is discussed.

4. Hygiene and health service. This discusses the physical condition of the members, the diseases which they have had, and their recourse to and costs of medical treatment.
5. Rank of the family. This deals with the position of the family in the social hierarchy and describes changes in the social standing of the family which tends to improve or depress its occupational (economic) status.
- 6-8. These categories are devoted to a discussion of the means by which the family exists. No. 6 is devoted to property, which is divided into real property, domestic animals, and tools or working equipment. Each item is discussed and is given a money value. No. 7 covers subventions, by which is meant the individual's rights in connection with the property and services of the community, the employer, or the government. Each item is discussed and evaluated. No. 8 involves the work and industries carried on by the family. Details are given concerning the work of the husband, wife, children, and other family members. If the family carries on any "industry," such as the keeping of a cow or a garden, this is discussed in detail.
- 9-11. These deal with the mode of existence of the family. No. 9 discusses the principal items of food, the number of meals partaken each day, the menus of typical meals, and the time of eating. No. 10 deals with the house, furniture, and clothing. It involves a physical description of the home, a list and evaluation of the important items of furniture and equipment, and the clothing for each member. No. 11 ends the discussion of the modes of existence by a characterization of the most important forms of recreation of each member of the family.
- 12-13. These deal with the history of the family. No. 12 discusses the principal phases of the family from the birth of the parents until the time of the study. It generally includes data concerning the social status and occupations of the last generation of the family. No. 13 attempts to characterize the family according

to the mores and institutions which seem to ensure the physical and moral well-being of the family. . . .

14. Analysis of income for the year. This is always divided into four sections--property, subventions, wages, and industries--and each one of these is always divided into two parts--the sources of income and the income. . . .
15. The expenses. These are divided into five sections--food; household; clothing; moral, recreational, and health needs; and industry, debts, taxes, and insurance--with an additional statement on yearly savings. Each section lists the expenditure in money or the value of the goods consumed if they were not purchased. The first section concerns food, which is divided into that consumed at home and that away from home. The foods are classified into cereals, fats, milk and eggs, meat and fish, legumes and fruits, condiments and stimulants, and fermented drinks. . . . The section on the household includes items of lodging, furniture, heat, and light. . . . The next section concerns moral, recreational, and health needs. This lists detailed expenditures for religion, education of the children, charity, recreation and ceremonies, and medical service. Section five lists the expenditures for industry, debts, taxes, and insurance. . . .¹

The total contributions of LePlay are not difficult to evaluate. His comprehensive family classificatory systems undoubtedly have influenced the present Bureau of Labor Statistics methodological procedures. Illustratively, the Bureau of Labor Statistics is concerned with the geographical location of the consumer, the demographic characteristics, the rank of the family (the occupational category) and the consumption standards of the family. LePlay's family consumption expense categories are also quite similar

¹Ibid., pp. 420-32.

to the one presently employed by the Bureau of Labor Statistics. LePlay's studies, however, were somewhat broader in that they also investigated additional characteristics of the consumer, such as the religion of the family, data concerning deaths in the family, family hygiene, holdings of property, and so forth.

LePlay's studies have provided an important benchmark for economists, sociologists, and anthropologists studying the well-being of society at different points in time. Although LePlay's working class classificatory system is not completely comparable to the present occupational classification system, it has undoubtedly provided an important benchmark for examining and comparing consumption standards.¹

Ernst Engel

Engel was strongly influenced by LePlay's earlier work.² Much like LePlay, Engel believed that a valid approach of appraising society's well-being was through cross-sectional analysis. Engel, especially interested in applying the statistical method to the social sciences, made several contributions toward understanding consumer behavior. His interest in analyzing previous budget studies, while the director of the Saxony Statistical Bureau from 1850

¹Ibid., pp. 418-19 and 424.

²Ibid., p. 374.

to 1858, led him to observe some systematic relationships between income and expenditures.¹

Wright reports that Engel compared the expenditure patterns of three different population classes to note the relative amount of expenditures devoted to different expenditures. His population groups were: (1) "a tolerably well-to-do member of the working class, (2) . . . a man whose income is double that of the former, and lastly, (3) . . . a person in easy circumstances."² From the investigation, reports Wright, Engel found that the "working man" spent approximately 95 per cent of expenditures for subsistence, clothing, lodging, and firing and lighting. The "man of the intermediate class" spent 90 per cent of total expenditures for the accounts while the "person in easy circumstances" spent 85 per cent of his expenditure budget on the accounts. From the above expenditure relationships Engel formulated his now famous law relating income to food expenditures:

The poorer an individual, a family, or a people, the greater must be the percentage of the income necessary for the maintenance of physical sustenance, and again of this a greater portion must be allowed for food.³

¹Ibid., p. 39.

²Massachusetts Bureau of Statistics of Labor, Sixth Annual Report of the Bureau of Statistics of Labor, Public Document 31 (Boston: Wright & Potter, State Printers, 1875), pp. 437-38.

³Zimmerman, op. cit., p. 101.

It is reasonable to assume that the lower income groups will spend a greater percentage of their incomes on necessities. But, does the same relationship hold for other expenditures? Following Engel's presentation of his food law, others began to investigate if the law was generally valid for other expenditures. One of the first to do so was Carroll Wright, in 1876, while serving as Director of the Massachusetts Bureau of Statistics of Labor.

Carroll Wright

As a contemporary of Engel, Wright reinterpreted Engel's Law and published the following four statements which have generally become known as "Engel's laws."

1. That the greater the income, the smaller the relative percentage of outlay for subsistence.
2. That the percentage of outlay for clothing is approximately the same, whatever the income.
3. That the percentage of outlay for lodging, or rent, and for fuel and light, is invariably the same, whatever the income.
4. That as income increases in amount, the percentage of outlay for "sundries" becomes greater.¹

Zimmerman notes, however, that the above statements of Wright were "an erroneous interpretation of Engel's law" since Engel's law applies only to food expenditures. Unfortunately, several researchers have empirically attempted to invalidate Engel's law by using the law to predict other

¹Massachusetts Bureau of Statistics of Labor, op. cit., p. 438.

income-expenditure relationships. Several consumer budget researchers believed that Engel's law also would hold for other family expenditures. As Zimmerman notes:

On the basis of this [Wright's] interpretation, it has become popular in many studies to abridge and reinterpret Engel's law. Thus, F. H. Streightoff found that in New York City clothing percentages increase with increasing income while percentages for fuel, light, and housing expenditures decrease. W. F. Ogburn, in a statistical study of families in the District of Columbia, showed that the percentage of expenditure for clothing increased and the percentage of expenditure for rent, fuel, and light decreased with increasing income. Ogburn mistakenly attributes such formulations to Engel, just as do two-thirds to nine-tenths of all studies, outside of German literature, dealing with this particular subject.¹

However, Wright made the conclusions by examining the data of Engel's study. In reality, it appears that Engel formulated his income-food expenditure "law" while Wright, examining the same data source, only expanded on the income-expenditure relationships rather than misinterpreted Engel's findings. Therefore, Wright should be given credit for formulating the "laws" regarding "clothing," "lodging or rent," "fuel and light," and "sundries."

Wright made many contributions to the study of family budget analysis. As Director of the Massachusetts

¹Zimmerman, op. cit., p. 101. The "mistake" in the nomenclature and interpretation of Engel's law is found frequently in the economics and marketing literature. See: William A. Berridge, Emma A. Winslow, and Richard A. Flinn, Purchasing Power of the Consumer: A Statistical Index (New York: A. W. Shaw and Company, 1925), p. 168; and Paul A. Samuelson, Economics: An Introductory Analysis (New York: McGraw-Hill Book Company, Inc., 1964), p. 209.

Bureau of Statistics of Labor, he concentrated primarily on studying laborers' living conditions. In 1875, he studied both skilled and unskilled workers and compared their consumption habits in value, quantity, and qualities. Wright's comprehensive methods created a foundation for most of the subsequent budget studies. As Zimmerman stated in 1935, methods of budget analysis had not advanced greatly.¹

Development of "Laws" of Consumption

LePlay, Engel, Wright, Zimmerman, and other budget analysts formulated several consumption "laws" in an attempt to explain specific income-expenditure relationships. The consumption "laws" are presented below by specific expenditure category and the formulator of the "law."²

Food consumption "laws"

Engel:

The poorer an individual, a family, or a people, the greater must be the percentage of the income necessary for the maintenance of physical sustenance, and again of this a greater proportion must be allowed for food.³

Wright:

That the greater the income, the smaller the relative percentage of outlay for subsistence.⁴

¹Zimmerman, op. cit., p. 471.

²Ibid., pp. 51-53. Zimmerman presents several other consumption "laws." Many of the "laws" presented in Zimmerman's writings duplicate the laws presented in the research and have been deleted from the study.

³Ibid., p. 51.

⁴Massachusetts Bureau of Statistics of Labor, op. cit., p. 438.

Clothing "laws"

Wright:

The percentage of outlay for clothing is approximately the same, whatever the income.¹

Halbwachs:

Labor spends a little less per adult unit for clothing than employers in the same income group. Officials spend a great deal more per adult unit for clothing than employees and laborers in the same income class.²

Rent, fuel, light, and housing "laws"

Wright:

The percentage of outlay for lodging, or rent, and for fuel and light, is invariably the same, whatever the income.³

Chapin, Streightoff, and Ogburn:

With increasing incomes, the percentages for fuel, light and housing decrease.⁴

Miscellaneous or sundry "laws"

Wright:

As the income increases in amount, the percentage of outlay for "sundries" becomes greater.⁵

Evaluation of Consumption "Laws"

The consumption "laws" were originally formulated

¹Ibid.

²Zimmerman, op. cit., p. 52.

³Massachusetts Bureau of Statistics of Labor, op. cit., p. 438.

⁴Zimmerman, op. cit., p. 52.

⁵Massachusetts Bureau of Statistics of Labor, op. cit., p. 438.

to explain relationships between income and consumption of specific expenditures. However, since many of the "laws" were developed 50-100 years ago, several important changes have occurred in our society which may affect the validity of the "laws." As an example, when the "laws" were being developed there was little consumer credit, especially for the working class families. Therefore, the incomes of families usually placed rigid restrictions on family expenditures. By contrast, in our society consumer credit is commonly used, and as a result, current family income does not place such a rigid parameter on spending behavior.

The majority of the pioneering budget studies also dealt with families spending most of their incomes usually on subsistence expenditures.¹ And the families of Engel's and Wright's period came much closer to the conception of "economic man" than do current families since most current families have discretionary income. Most of the pioneering budget analysts did not consider the proposition that some goods have an "economic" significance while others may have "socio-psychological" significance. Illustratively, economic goods are consumed for the satisfaction of physiological needs while socio-psychological goods are demanded for

¹Ibid., p. 440. Wright estimates that in 1875 skilled workers in Massachusetts devoted 93 per cent of their incomes for subsistence (food), clothing, rent, and fuel. In this study "necessities" are defined as total food, housing, clothing, and utilities.

their use as symbols of status and mobility.¹

Other changes having possible effects on current family expenditure patterns are the existence of Social Security benefits, minimum wage laws, guaranteed annual wage contracts, annuities, retirement plans, and subsidized medical care.

The general validity of the consumption "laws" over time can be evaluated by reviewing several American cross-sectional budget studies. By reviewing the proportion of income spent for various commodities in major budget studies conducted from 1875 to 1950 several relationships are noted below tending to validate some of the above consumption laws. The budget studies are found in Appendix I.

1. The proportion of income spent for food or subsistence generally decreases as income increases in all the budget studies "validating" Engel's and Wright's "laws."

2. Wright's "law," "the percentage of outlay of clothing is approximately the same, whatever the income," is not "validated" in the budget studies since the percentage of income spent on clothing increases with increase in income.

3. Wright's "law," "the percentage of outlay for lodging, or rent, and for fuel and light, is invariably the same, whatever the income," is somewhat difficult to

¹Pierre Martineau, "Social Classes and Spending Behavior," Journal of Marketing, Vol. 23 (October, 1958), pp. 123-25.

"validate." However, in the 1874-75, 1881-91, 1901 studies, utilities plus housing or rent expenditures do remain relatively constant in spite of changes in income. However, in the 1934-36 and 1950 studies, fuel, light, refrigeration, and housing tend to decrease proportionately as income increases. The latter two studies of 1934-36 and 1950 correspond to Chapin's, Streighloff's, and Ogburn's statement that "with increasing incomes, the percentage for fuel, light, and housing decreases."

4. Wright's "law," "that as income increases in amount, the percentage of outlay for 'sundries' becomes greater," is also "validated" by the study.

Change in Income as a Determinant of Expenditures

Another variable likely having a significant influence on family expenditure patterns is the change in income.¹ Unfortunately, the effect of the change in income variable frequently has been ignored in the marketing literature. To examine the effects of change in income a review was made on three contemporary income hypotheses explaining the effect of change in income on family expenditure and saving patterns.

In recent years, the influence of a change in income on consumption patterns primarily has been studied by

¹Elizabeth W. Gilboy, "Income-Expenditure Relations," Review of Economic Statistics, Vol. XXII, 1940, pp. 115-21.

economists and agricultural economists. By analyzing change in income-expenditure relationships, three hypotheses have been posited: (1) the absolute income hypothesis, (2) the relative income hypothesis, and (3) the permanent income hypothesis. Each hypothesis attempts to explain how consumers adjust consumption to new income levels. All the hypotheses can be utilized in determining and interpreting cross-sectional income-expenditure relationships.¹

Absolute Income Hypothesis

Keynes, one of the first to comprehensively examine the relationship between change in income and consumption, developed the absolute income hypothesis primarily because classical economic doctrine did not adequately explain income-aggregate consumption behavior. As a result, Keynes posited a revolutionary approach for explaining income-consumption relationships.

When Keynes wrote the General Theory about the only data available for analyzing income-consumption relationships were cross-sectional studies.² From the cross-sectional budget studies Keynes noted wide variations in consumer expenditure patterns. Keynes observed, for example,

¹A comprehensive examination of the three hypotheses is presented in: Robert Ferber, "Research on Household Behavior," American Economic Review, 52:19-63, 1962.

²J. M. Keynes, The General Theory of Employment Interest and Money (New York: Harcourt, Brace and Company, Inc., 1936).

that consumption generally decreases at an increasing rate as income increases.¹ From such observations, Keynes developed his consumption function and the absolute income hypothesis. As Hansen noted in his interpretative analysis of Keynes:

Keynes' most notable contribution, however, was his consumption function. The psychological propensities of consumers plus the institutional behavior patterns of the community (notably those of business firms) are such, he argued, that (1) some part of income (except at very low levels) is saved and (2) of any net addition to real income, some of the increment is saved. Accordingly, the behavior patterns of the community are such that a gap exists (which gap widens absolutely as real income increases between the amount the community wishes to consume and the output the community is capable of producing.²

The Keynesian relationship among income, consumption, and saving can be illustrated in Figure 3.

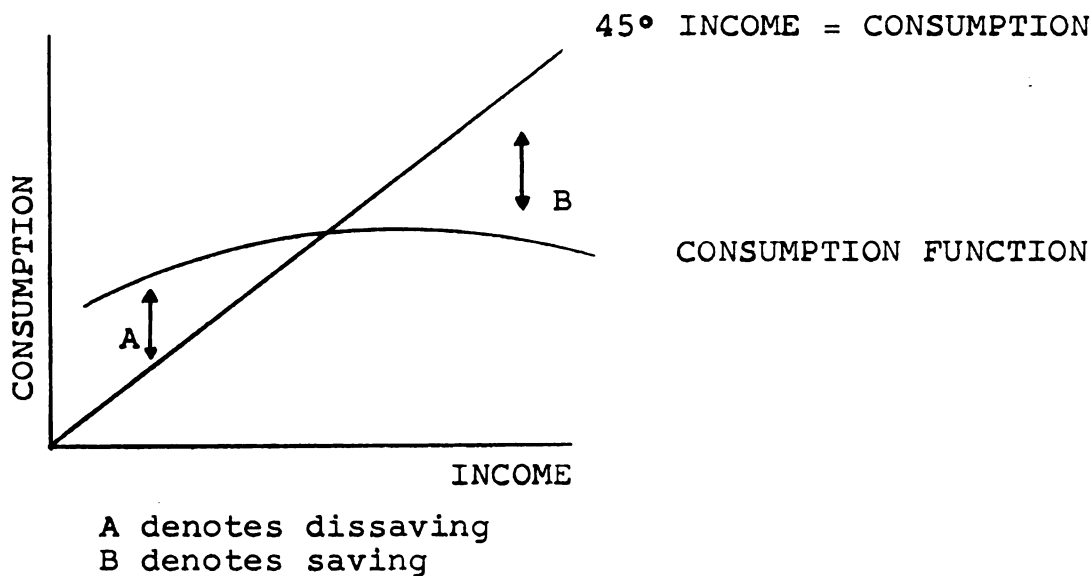


Figure 3. Graphical illustration of the absolute income hypothesis

¹Ibid., pp. 96-97.

²Alvin H. Hansen, A Guide to Keynes (New York: McGraw-Hill Book Company, Inc., 1953), p. 27.

Keynes posited several hypotheses attempting to explain the slope of the consumption function. Keynes believed the slope partially was determined by social and psychological influences on the consuming unit. The social factors included income distribution and occupation while the psychological influences were determined mainly by consumer "expectations."

In Figure 3, to the right of the equilibrium point (where consumption equals income), income increases both absolutely and relatively as compared to the increase in consumption expenditures. Keynes expressed the fundamental relationship between consumption and income in terms of the marginal propensity to consume expressed as

$$\text{M.P.C.} = \frac{\text{the change in consumption}}{\text{the change in income}}.$$

Under the Keynesian assumption the marginal propensity to consume, the consumption function slope, must be less than unity. The reciprocal of the marginal propensity to consume, the marginal propensity to save, asserts under the Keynesian analysis that, as income increases absolutely, saving will also tend to increase absolutely and relatively.

Relative Income Hypothesis

Due to a significant limitation of the Keynesian income-consumption hypothesis, notably that a stable and predictable relationship did not always exist between consumption and income, an alternative hypothesis was sought

which would aid in explaining the instability. Empirical investigations revealed that increases in consumption tended to lag behind increases in income; decreases in consumption lagged behind decreases in income. Duesenberry maintained consumption was determined in part by former living standards.¹ That is, if income increased, families would not immediately increase consumption expenditures since the expenditure patterns of families were conditioned to previous standards of living. Conversely, if income decreased, the family would not immediately decrease consumption expenditures. Duesenberry's hypothesis is illustrated in Figure 4.

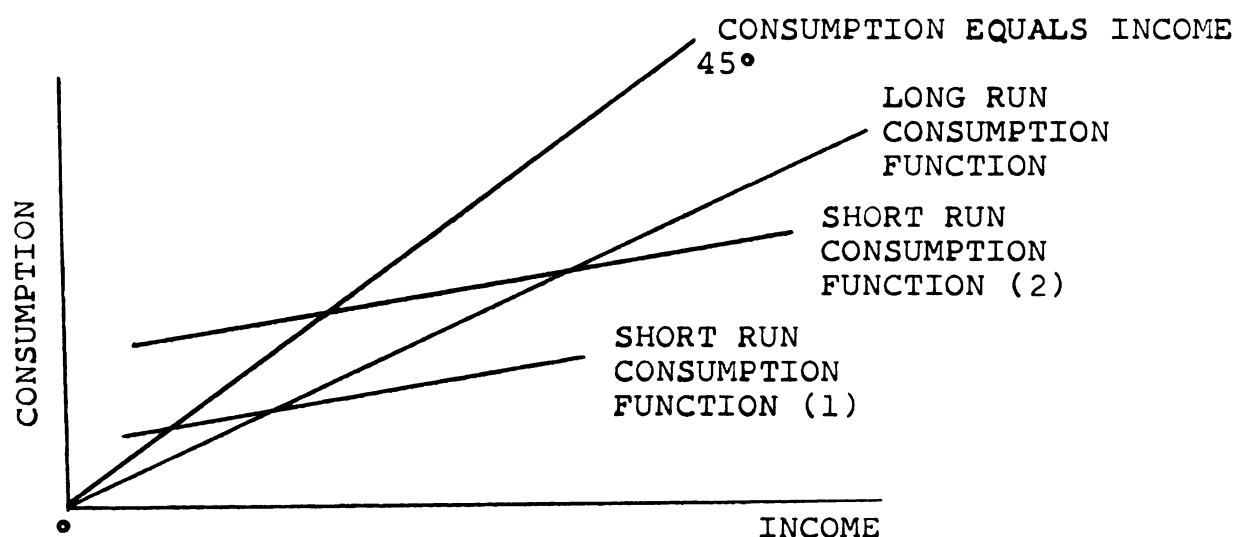


Figure 4. Graphical illustration of the relative income hypothesis

¹J. S. Duesenberry, Income, Saving and the Theory of Consumer Behavior (Cambridge, Mass.: Harvard University Press, 1952), Chap. 5.

In the "short run," as income increases or decreases consumption increases or decreases but not as rapidly as income. Families usually exhibit a short run consumption function with increases in income. However, in the "long run" consumption patterns will generally adjust to the new income levels.

A neoclassical addition to the relative income hypothesis introduced the wealth effect. With the addition of the wealth effect, variations in income, saving, and consumption patterns could partially be reconciled and explained.¹ For example, when family income decreased, consumption usually did not immediately decrease. The neoclassical approach explained the lag in consumption was due to the "wealth" of the family, such as stocks, bonds, and other assets.

Permanent Income Hypothesis

As noted previously, the literature reveals a diversity of opinion on the effect of income change on expenditure patterns. Ruth Mack decided the direction of

¹J. Tobin, "Relative Income, Absolute Income, and Savings," in Money, Trade and Economic Growth, Essays in Honor of John H. Williams (New York: Macmillan Company, 1951), pp. 135-56. Tobin found that the income-consumption relationship could be explained by other factors than "relative income." For example, he studied the difference in saving habits between Negro and white families and found that although Negro and white families may have equal incomes, the white family usually saved less. Tobin maintained that the difference was due to the greater amount of wealth (assets) white families possessed.

change in income should be regarded as a determinant of expenditures.¹ By utilizing Bureau of Labor Statistics data gathered in 1942, Mack found the effect of changes in income of families on expenditures. The families were separated into the following three "income-change" classifications:

1. Families whose income in the first quarter of 1942 (converted to annual basis) was within plus or minus five percent of their 1941 income.
2. Families whose income had increased by more than five percent.
3. Families whose income had declined by more than five percent between 1941 and the first quarter of 1942.²

After plotting the income-consumption regression for each of the income-change classifications, Mack made the following observations.

1. At each income level, expenditure is considerably higher for fallen income families than those whose income was stable or rising.
2. The income spending patterns of risen and stable income families do not appear to be markedly different although there does seem to be a faint tendency for rising income families to spend slightly less than stable income families at all levels of income except the top one.
3. Expenditures for the full sample seem to shift somewhat less with a given shift in income class (the regression is flatter) than for

¹Ruth P. Mack, "The Direction of Change in Income and the Consumption Function," The Review of Economics and Statistics, 30:239-58 (November, 1948).

²Ibid., p. 240.

any of the income-change groups. This tendency, which disappears in the highest income class, is caused by the fact that falling incomes were relatively more common in the lower income classes and rising incomes in the higher classes.¹

Mack further reports that other studies confirm that families whose income falls into a lower income class tend to spend more than the average for the lower income class group. Further, in cases where family income rose to a higher income class the level of expenditure tended to be somewhat lower than the average for that income class. In both cases Mack believed the expenditure behavior was due, in part, to the level of prior expenditures. In one sense, part of the family's expenditure patterns are "contractual." Expenditures for automobiles, owned housing, rent and utilities are not as easily adjusted upward or downward with changes in income.²

These findings led some economists to believe that present consumption is related primarily to the consumer's expectations of what their "permanent" income is rather than current income. Moreover, short term variations in income were thought to influence savings more than expenditures: as income increases in the short run consumption increases more slowly, and savings increase proportionately greater than consumption.

¹Ibid., p. 241.

²Ibid., p. 258.

Friedman's version of permanent income hypothesis is best known although others, such as Modigliani and Brumberg, have formulated similar hypotheses.¹ Friedman's hypothesis maintains that the family's perception of permanent income is the most significant variable in explaining a family's consumption patterns. Although a family's income may fluctuate in the short run, consumption is usually stable. For example, if income of a family suddenly increases or decreases there likely will be little change in the expenditures of the family unless the family perceives that the income change is permanent. Figure 5 illustrates the permanent income hypothesis.

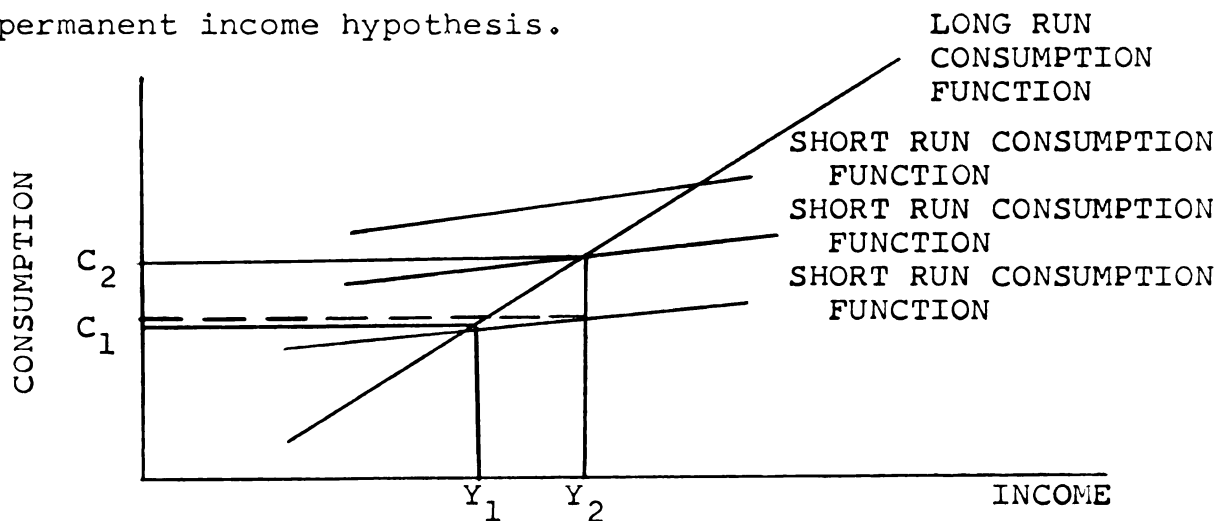


Figure 5. Graphical illustration of the permanent income hypothesis

¹Milton Friedman, A Theory of the Consumption Function (New York: National Bureau of Economic Research, Princeton University Press, 1957), pp. 20-37; and Franco Modigliani and R. Brumberg, "Utility Analysis and the Consumption Function--An Interpretation of Cross-Section Data," in K. K. Kurihara (ed.), Post-Keynesian Economics (New Brunswick, N.J.: Rutgers University Press, 1954), pp. 388-436.

In Figure 5, for example, consumers have an increase in income to income level (Y_2). Under the assumptions of the permanent income hypothesis, consumers would not adjust consumption to the new level (C_2) unless the new income level was perceived as permanent. It is likely, however, consumers usually make some minor adjustments with increases or decreases in income.

The Income Hypotheses and Family Savings

The Keynesian absolute income hypothesis points out as income increases savings increase both absolutely and relatively. By contrast, the relative income hypothesis states savings are employed to "adjust" to a new consumption level. When income changes to a new level, consumption usually does not adjust automatically. The family savings are used, for example, when a family adjusts to a new lower income level. The permanent income hypothesis reflects a similar relationship, according to the hypothesis savings are used to help balance consumption and the consumer's perception of his permanent income.¹

¹George Katona, "Effect of Income Changes on the Rate of Saving," Review of Economics and Statistics, 31: 95-102, 1949. Katona, using data from the Survey of Consumer Finance, found in the short-run savings usually increase proportionately more than income with increases in income and with decreases in income dissavings by families is more likely to occur than with consumers having a lower stable income level. Katona explains the income-saving relationship two ways: (1) consumers develop slowly changing consumption habits and (2) expectations of the future income levels of families.

Using the permanent income hypothesis to explain income-saving relationships, Eizenga studied the saving patterns of various occupational groups classified by income classes. Using the 1950 Bureau of Labor Statistics' Study of Consumer Expenditures, he found that occupational groups do not save the same amount at similar income levels. He also found the occupations which dissaved the most at lower income levels tended to save more at higher income levels.

Some of Eizenga's findings are presented below:

1. Self-employed people had greater savings at income levels above \$8,500; however, up to \$4,500 the self-employed dissaved.

2. Professionals save less than the self-employed at higher income levels and dissave less at lower income levels.

3. Professionals and skilled wage earners exhibit similar saving patterns at all income levels. The professionals save only a little more than skilled wage earners at most income levels.¹

Eizenga explains that the occupational income-saving relationships can be explained using Friedman's permanent income hypothesis:

All the occupation groups dissave at lower income levels and save at higher income levels. And they

¹W. Eizenga, Demographic Factors and Savings (Amsterdam: North-Holland Publishing Company, 1961), p. 70.

dissave more at lower and save more at higher income levels, the higher the permanent income that can roughly be approached by the average income of each occupational group. The average income of the self-employed people and the salaried professionals is considerably higher than that of other occupation groups. And according to the permanent income hypothesis, consumption tends to be a function of permanent income. There still remains the question: how can the dissaving possibility be explained. As far as the older-retired people are concerned, those just draw on their previous accumulated savings. But what about the younger people in high-income occupations with low incomes? They have confidence in the future returns of their present activities. This, however, only explains the willingness to borrow money. But such people have a big chance of finding a lender. Financial intermediaries, considering such applications, will base their decision on the expected income development. And both groups, although particularly the self-employed people, might be able to get credit. Self-employed people have other forms of security than do salaried professionals. Indeed, material wealth is a better basis for credit than non-material wealth. This might be the reason why self-employed people dissave more at lower income levels than salaried professionals with almost the same average income.¹

Stage in Family Life Cycle as a Determinant of Expenditures

The observation that families have rather distinct social and economic family life stages has generated considerable interest in marketing and economics. Rural sociologists, however, were the first to study and delineate the family life stages. They were of the opinion that the family life cycle could delineate differences in urban and rural cultures; show changes in the socio-economic status

¹Ibid., pp. 71-72.

of the family; and that it could measure family productivity.¹ Economists and market researchers began developing serious interest in the life cycle concept in the early 1950's to determine what specific effect, if any, the family life cycle had on expenditure patterns and whether the family life cycle could be employed in delineating markets and predicting consumer demand.²

Fisher maintains the family life cycle concept is a useful framework for explaining variations in the family's perception of its income and consequently consumption behavior. Fisher believes the younger family frequently has a different perception of income and saving than an older family. Fisher also believes the perception of price changes is influenced by age of family. A crucial question arising from Fisher's investigation is whether age of family or the "economic correlation of age" is more important in affecting the family's perception of income, consequently

¹Pitirim A. Sorokin, Carle C. Zimmerman, and Charles J. Galpin, A Systematic Source Book in Rural Sociology (Minneapolis: University of Minnesota Press, 1931), II, pp. 3-32; Charles P. Loomis, "The Study of the Life Cycle of Families," Rural Sociology, June, 1936, pp. 180-99; and J. A. Beegle and C. P. Loomis, "Life Cycles of Farm, Rural-Nonfarm, and Urban Families in the United States as Derived from Census Materials," Rural Sociology, March, 1943, pp. 70-74.

²Lincoln Clark (ed.), Consumer Behavior, II: The Life Cycle and Consumer Behavior (New York: New York University Press, 1955).

influencing expenditure patterns.¹

Lansing and Kish believe the family life cycle should be considered as an independent variable which can be substituted for chronological age in many types of consumer research since the stage in the family life cycle may have greater "explanatory" powers. The authors, like Fisher, maintain the stage in the family life cycle embodies other socio-economic variables which influence expenditure patterns. As Lansing and Kish state:

It is well known that changes occur in people's attitudes and behavior as they grow older, but many of these changes may be associated less with the biological process of aging than with the influence of age upon the individual's family memberships. Thus, the critical dates in the life of an individual may not be his birthdays so much as the days when a change occurs in his family status, for example, when he marries, or when his first child is born.²

On the other hand, Lansing and Morgan have utilized the family life cycle as a variable for explaining consumer incomes, savings, and expenditure patterns.³ Using cross-

¹Janet Fisher, "Family Life Cycle Analysis in Research on Consumer Behavior," Consumer Behavior, ed. Lincoln Clark, Vol. II (New York: New York University Press, 1955), pp. 28-36.

²John B. Lansing and Leslie Kish, "Family Life Cycle as an Independent Variable," American Sociological Review, October, 1957, pp. 512-13.

³John B. Lansing and James N. Morgan, "Consumer Finances Over the Life Cycle," Consumer Behavior, ed. Lincoln Clark, Vol. II (New York: New York University Press, 1955), pp. 36-51.

sectional data from the Survey of Consumer Finances in 1952 and 1953, Lansing and Morgan analyzed variations in income, savings, and expenditure patterns in the economic life history of families. They pointed out in their study that family income increases, then decreases over the life cycle. However, the findings were somewhat surprising since family income peaks were normally reached in the "young married childless class." Lansing and Morgan also explained the family income patterns by analyzing the wife's contributions to the family income stream. In the "young married childless stage" approximately 63 per cent of the wives worked for salaries or wages. In the next stage, "young, youngest child under 6," only 23 per cent of the wives received income which indicates that as the young families have children the income stream of the wives diminishes and consequently total family income declines. The next stage, "young, youngest child six or over," reveals that incomes again rise. Further, the percentage of wives who work again increases. From the above stage to the "older, no children under 18" stage income and the percentage of wives working decreased. The relationship of the wife's contributions to the family's income stream is illustrated in Table 3. Unfortunately, Lansing and Morgan do not explain the relative importance of the wife's contribution to family income which depends upon how much both the husband and wife make.

Table 4 illustrates the family income-life cycle

TABLE 3

INCOME FROM WAGES AND SALARY OF THE WIFE AT DIFFERENT STAGES
IN THE LIFE CYCLE--AVERAGE ALL INCOME CLASSES, 1953

Family Life Cycle Stage	Percentage of Wives Earning Wage or Salary Income
Young, childless	63%
Young, youngest child under six	23%
Young, youngest child six and over	38%
Older (over 45), with children	24%
Older, no children under eighteen	23%

Source: John B. Lansing and James N. Morgan, "Consumer Finances Over the Life Cycle," Consumer Behavior, ed. Lincoln Clark, Vol. II (New York: New York University Press, 1955), p. 40.

TABLE 4

THE MEDIAN INCOME OF SPENDING UNITS AT DIFFERENT STAGES IN
THE LIFE CYCLE, 1952 AND 1953

Family Life Cycle Stage	Median Income 1952	Median Income 1953
Young, single	\$2,600	\$2,600
Young, married, childless	4,600	4,800
Young, married, youngest child under six	4,200	4,300
Young, married, youngest child six or over	4,500	5,000
Older, married (over 45), with children	4,400	4,300
Older, married, no children under eighteen	3,600	3,900
Older, single	1,700	1,700

Source: John B. Lansing and James N. Morgan, "Consumer Finances Over the Life Cycle," Consumer Behavior, ed. Lincoln Clark, Vol. II (New York: New York University Press, 1955), p. 39.

relationship. In Table 4 family median income in both 1952 and 1953 are relatively high in the "young, married, childless" stage, as compared to the other life cycle stages, which corresponds to the high percentage of wives working (Table 3). However, in both years median income decreases in the stage "young, married, youngest child under 6" and only 23 per cent of the wives worked. An increase in median income is noted in the "young, married, youngest child six or over" stage which corresponds with the percentage of wives receiving income (38 per cent; see Table 3). From that stage, median income for families tends to decrease as does the percentage of working wives.

Lansing and Morgan explain further that the family life cycle offers a vehicle for studying durable goods spending patterns. Although Lansing and Morgan's analysis is limited to durable goods, several findings are presented. The research noted family expenditures for durable goods follow a "priority system"; as a result, families frequently tend to allocate income to durable goods at varying rates, depending on the life cycle stage and the type of durable good. The highest percentage of families buying houses occurred in the category "young, married, youngest child under 6" and gradually declines over the life cycle.

In new automobile purchases the percentage of families buying new automobiles reaches a peak in the "young, married, youngest child over 6" stage and then decreases.

By contrast, the percentage of families buying used cars remains relatively high in both the "young, married, childless" and the "young, married, youngest child under 6" stages. In the purchase of furniture two peaks are reached: first, in the "young, married, childless" class and then in the "young, married, youngest child over 6." The highest percentage of families purchasing refrigerators is found in the "young, married, childless" class. A similar relationship is presented noting the percentage of families purchasing stoves. By contrast, the highest percentage of families purchasing washing machines is found in the "young, married, youngest child under 6" class. The purchase of television sets also is higher in the "young, married, youngest child under 6" class.

The relationship among stage in family life cycle, median income, and percentage of families purchasing selected durable goods is presented in Table 5.

It was further demonstrated by Lansing and Morgan that the family life cycle could be utilized to examine changes in assets and debts. The findings of Lansing and Morgan indicated the following relationships.

1. The percentage of families with any liquid assets remains relatively constant in all family life cycle stages.

2. The median liquid assets per life cycle stage initially increase, reach a peak, decrease, and gradually increase.

TABLE 5

COMPARISON OF INCOME, STAGE IN LIFE CYCLE, AND PER CENT OF FAMILIES PURCHASING DURABLE GOODS, 1953 SURVEY OF CONSUMER FINANCES**

	Young Single	Young Married Childless	Young Married Youngest Child Under 6	Young Married Youngest Child Over 6	Older Married (Over 45) with Children	Older Married Under 18 Children	Older Single
Median Income	\$2,600	\$4,800	\$4,300	\$5,000	\$4,300	\$3,900	\$1,700
Durable Goods:							
House	+						+
New Car	5	6	9	7	4	3	2
Used Car	11	11	11	20	11	9	4
Furniture	10	22	23	18	14	11	5
Refrigerator	1	26	23	27	16	11	5
Stove	3	14	12	12	8	7	4
Washing Machine	1	13	10	7	5	7	1
Television	5	10	13	9	8	4	7
		14	22	19	16	12	

* + = Less than 0.5 per cent of families.

Source: Median income estimates from John B. Lansing and James N. Morgan, "Consumer Finances Over the Life Cycle," Consumer Behavior, ed. Lincoln Clark, Vol. II (New York: New York University Press, 1955), p. 39; per cent of families purchasing durable goods, ibid., p. 43.

** Carol W. Shaffer, "Income and Expenditure Patterns Related to the Life Cycle" (unpublished Ph.D. dissertation, Michigan State University, East Lansing, 1964), pp. 174-76. Shaffer, using data from the 1960 University of Michigan Survey of Consumer Finances, found similar "sequential" purchase patterns for durable goods. There appears to be a general consistency among the life cycle stages for purchasing and replacing household durable goods.

3. The percentage of families with any type of debt increases, then decreases.

In a study by Herrmann it was found that the life cycle stage ranked third as a determinant of food expenditures. The degree of urbanization and region exerted more influence in explaining food expenditure variations. In his research, Herrmann also noted two other important findings: (1) There were only minimal expenditure differences between husband and wife life cycle stages with children. (2) Similar expenditure patterns existed between childless categories, such as couple, wife under 40, no children, and couple, wife 40-64, no children present.¹

Social Research, Incorporated, examined furniture buying difference among working class and middle class families to determine what difference, if any, exists in the purchase of furniture between broad family life stages. The research reported most young working class and middle class families generally place emphasis on the inexpensiveness and practicality of furniture rather than on style and beauty.² Nevertheless, of the two classes of young families, middle class families "feel somewhat more compelled

¹Herrmann, op. cit., pp. 76-78.

²Social Research, Inc., "Furniture Buying and Life Stages," Reprinted from Kroehler Report, Kroehler Manufacturing Company, 1958, cited in Martin M. Grossack (ed.), Understanding Consumer Behavior (Boston: Christopher Publishing House, 1964), p. 288.

to exhibit 'taste' at this period than do lower status families."¹ Taste, according to the research, is exemplified by selecting a basic style of furniture even though only a few pieces are generally purchased.²

Other variations in furniture purchase patterns are also noted in the middle life stages of the working and middle class families. The middle class family usually "restocks" when the children reach adolescence. The research explains that the middle class parents believe that good furniture is necessary "to launch their children on the 'proper' dating routine."³ By contrast, the working class family in the middle life stages usually do not "restock" furniture until the children have left home because of competing demands on the family budget and the belief the furniture would receive better treatment.⁴

Social Class as a Determinant of Expenditures

Merrill defines social class as "a large and comparatively permanent group of persons of both sexes and all ages who occupy a common social position in a hierarchical ranking within a given society."⁵

¹Ibid., p. 288.

²Ibid.

³Ibid., p. 289.

⁴Ibid.

⁵Francis E. Merrill, Society and Culture--An Introduction to Sociology (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1958), p. 280.

The primary problem in determining the influence of social class on family expenditure patterns is twofold: First, determining the general method and the validity of the method as a means of stratifying the general population; second, determining the specific indices to employ in that method. John Howard addresses the concept of social class and concludes that research on the effect of social class on expenditure patterns is sparse.¹ There have been some studies, however, relating social classes to differences in buying behavior. A study sponsored by the Chicago Tribune and directed by W. Lloyd Warner related social class placement to differences in consumption patterns. To delineate the various social classes an Index of Status Characteristics was formulated based on a combination of socio-economic variables. Each index selected was weighted by a descending scale from 1 to 7. The lower the index number, the higher the Index of Status Characteristic. The indices employed in the construction of the social class strata and the weights attached to each were:²

(Weighted by 5)	Occupation (from 1-7 categories)
(Weighted by 4)	Sources of Income (from 1-7 types)
(Weighted by 3)	Housing Type (from 1-7 types)

¹John A. Howard, Marketing: Executive and Buyer Behavior (New York: Columbia University Press, 1963), p. 162.

²Pierre Martineau, "Social Classes and Spending Behavior," Journal of Marketing, 23:125, October, 1958.

The individual's total weighted score was used to place him in a social class. Each stratum formulated is noted below:

Upper Class
Upper-Middle Class
Lower-Middle Class
Upper-Lower Class
Lower-Lower Class¹

The findings of the study revealed that there is a general relation between income and social class position. However, Martineau maintained that income was only a rough indicator of the consumption behavior of the different social class strata and was illustrated by comparing household appliance purchase patterns of families classified by income and social class. By income placement a little over one-third of the home appliances were purchased by the highest income group. But when analyzed by social class placement, the Upper and Upper-Middle social classes purchased only one-sixth of the appliances. The purchases of appliances by income class are illustrated in Table 6.

Table 7 illustrates the percentage of appliances purchased by social class and the approximate percentage of the population in each social class. The data on the percentage of appliances purchased by social class reveal that the Upper and Upper-Middle classes purchased only one-sixth of the appliances.

¹Ibid.

TABLE 6

PURCHASES OF HOUSEHOLD APPLIANCES OVER FOUR YEAR PERIOD
BY INCOME CLASS OF THE FAMILY¹

Income Class	Per cent of Appliances Purchased by Income Class	Per cent of Population in Each Class
\$7,000 and over	36%	20%
\$4,000-6,999	46%	47%
Under \$4,000	17%	33%

¹Per cents rounded to nearest whole number for per cent of appliances purchased and per cent of population in each income class.

Source: Estimates of the per cent of appliances purchased by income class from Pierre Martineau, "Social Classes and Spending Behavior," Journal of Marketing, October, 1958, p. 126. Estimates of per cent of population in each income class from U.S. Bureau of Census, U.S. Census of Population: 1960, General Social and Economic Characteristics, Illinois (Washington: U.S. Government Printing Office, 1963), p. 335. The percentage of the sample population in each income class was not available from the original study. The U.S. Census of Population estimates are used for purposes of illustration.

TABLE 7

PURCHASES OF HOUSEHOLD APPLIANCES OVER FOUR YEAR PERIOD
BY SOCIAL CLASS POSITION OF THE FAMILY¹

Social Class	Per cent of Appli- ances Purchased by Social Class	Per cent of Popu- lation in the Social Class
Upper and upper-middle	17%	8%
Lower-middle	29	28
Upper-lower	46	44
Lower-lower	9	20

¹Per cent of appliances purchased and per cent of population in each social class rounded to nearest whole per cent.

Source: Pierre Martineau, "Social Classes and Spending Behavior," Journal of Marketing, October, 1958, p. 126.

From the data presented in Table 6 and Table 7, several interesting observations can be made. By disaggregating appliance purchases by income and social class, it is revealed that in both the middle income and social classes the percentage of appliances purchased generally corresponds to the percentage of population in those groups. However, in both the upper social classes and income classes a relatively high percentage of the appliances are purchased by a relatively small percentage of the population. By contrast, in the lower social classes and income classes a relatively high percentage of the population purchases a relatively small percentage of the appliances.

According to Martineau, an advantage of employing social class to study the purchase behavior of the home appliance market is that it aids in delineating the influence of various social and economic determinants of demand. If these social and economic influences on demand are understood, then the marketing and promotional effort can be conducted with greater certainty and efficiency.

Other differences in socio-economic characteristics and perceptions by social class strata were also noted in the study. Savings patterns also were shown to be correlated with class position. The upper classes tended to save by investing in stocks and insurance while the lower classes were more interested in "non-investment" savings

that can be quickly liquidated.¹

According to Martineau, significant differences in attitudes toward the home also were noted in the upper-lower class and the lower-lower class. He points out that "the Upper-Lower Class man sees his home as his castle, his anchor to the world, and he loads it down with hardware--solid heavy appliances--as symbols of security."² Martineau asserts, however, that "the lower-lower class individual is far less interested in his castle, and is more likely to spend his income for flashy clothes or an automobile."³

Several other contrasting attitudes and values which were reflected in expenditure behavior between the lower social classes and the middle social classes were also found by Lee Rainwater. Some of Rainwater's general observations are noted below.

1. The working class is more interested in having a less expensive house if a wide variety of appliances can be purchased. Further, the working class places priorities on food and other household furnishings. By contrast, the middle class family places priorities on housing and location.

¹Ibid., pp. 128-29.

²Ibid., p. 126.

³Ibid.

⁴Lee Rainwater, Richard P. Coleman, and Gerald Handel, Workingman's Wife (New York: Oceana Publications, Inc., 1959), pp. 154-83.

As Rainwater reports:

These working class women envision a kitchen completely modernized and filled with appliances--automatic dishwashers, clothes-washers, and clothes-driers, refrigerators with huge freezing compartments--all placed in such a way as to make their kitchen work handier and more pleasant. Middle class women are not too much less desirous of having this kind of kitchen, but there is this difference in their motivations: middle class women want such a kitchen in order "to make it as easy as possible to get through with the work and out of the kitchen." Working class women on the contrary, do not anticipate that they will even accomplish so easy an escape from the kitchen. Nor are they quite that eager to escape.

As far as most working class women are concerned, if their kitchens could be made attractive enough, they would be happy to make these kitchens the heart of the home. After all, the kitchen is a nice safe place to be. And, if the working class woman reigns anyplace, it is certainly in the kitchen that she is queen.¹

2. As for household furnishings, Rainwater found the furnishings of the living room are also of primary importance to the working class families. For some working class families the living room is "regarded as the public announcement of a family's decency and economic competence."² The living room is a place of which to be proud for the working class family.

3. Regarding specific household objects the working class family appears to value the television set above all others. Rainwater broadly explains the finding by

¹Ibid., p. 177.

²Ibid., p. 178.

stating that television is a fundamental source of relaxation and enjoyment. In contrast, the middle class family, reports Rainwater, values household possessions which reflect "aesthetic sensitivities."¹ "Aesthetic sensitivities" refers to the beauty and cultural connotations of various products purchased for use in the home.

4. The automobile also plays a dominant role in the working class family. In allocating expenditures in an imaginary budget the working class family assigned a greater proportion of the family budget toward automobiles than did the middle class family. Rainwater explains that "this willingness to make a heavy outlay on an automobile is apparently a concession on the wife's part to her husband's happiness."²

Richard P. Coleman complicates the concept of social class by an additional variable influencing social class spending patterns. Coleman believes within each social class stratum there is considerable variation among the members. The variations are due to difference in income within the social class and differences in personal goals and values.³ Members of a social class group having higher than average incomes of the particular class are

¹Ibid., p. 180.

²Ibid., p. 181.

³Coleman, op. cit., p. 181.

called "overprivileged" sectors of the particular social class by Coleman. Coleman explains the "overprivileged" groups normally have greater amounts of discretionary income than the other social class members making them prime market targets. In contrast, Coleman believes there is also an "underprivileged" sector of most social classes. The "underprivileged" and "overprivileged" in each class create ambiguities in social class definition.¹

Occupation of the Family Head as a
Determinant of Expenditures

The occupation of the family head often has been considered as an accurate predictor of social class placement. And it directly influences the consumption life styles of the family. However, there is a general paucity of research illustrating the direct influence of occupation on family consumption patterns. Usually, the occupation variable is employed in combination with other socio-economic variables in determining social class placement. In Warner's research, for example, on social stratification the occupation of the family head was the most accurate single socio-economic variable for predicting the social class of a family.² Warner makes clear, however, that the

¹Ibid.

²W. Lloyd Warner, Marcia Meeker, and Kenneth Eells, Social Class in America (Chicago: Science Research Associates, Inc., 1949), pp. 176-85.

prediction accuracy of social class placement is improved if other socio-economic variables are used in conjunction with the occupation of the family head.¹ An important question, for market delineation purposes, is whether the inclusion of several other variables is necessary for predicting social classes. For example, the amount of income, dwelling area, source of income, house type, and education are all correlated closely with occupation. The answer to the question lies in the desired degree of accuracy in identifying social class. To illustrate the differences in class placement accuracy, Warner correlated occupation as a social class predictor with his social placement results for Jonesville and found that the coefficient of correlation was .91 with a standard error of 1.8.² Next, Warner correlated various "sets" of socio-economic variables to

¹Warner frequently employed the following occupational categories: professionals, proprietors and managers, clerical and kindred workers, manual workers, protective and service workers, and farmers.

²Warner employed the standard error of the estimate as a measure of the degree of accuracy in predicting one variable from another variable. In the case of the correlation of occupation to social class placement, the standard error of the estimate was given in terms of a fifteen point scale. That is, each of the five social classes was subdivided into three subclasses. Thus, from the standard error estimate, the researcher may deduce that "if social class is predicted from the status characteristics, the chances are two out of three that the deviation between the predicted class position and the true class position, if it were known, is not greater than the standard error." (Social Class in America, p. 168.) In the case of occupation, the ability to predict an individual's social class might mean an error of slightly more than one and one-half social classes.

determine which was most accurate in predicting class placement which previously had been delineated by his Evaluated Participation method. Using occupation, amount of income, source of income, education, house type, and dwelling area, Warner found that the multiple correlation coefficient of these variables in predicting social class placement was .974 with a standard error of the estimate of .98. Using a combination of socio-economic variables produced greater reliability in predicting social class placement.

Therefore, although occupation is not as accurate in predicting social class as the combination of occupation and other socio-economic variables, it is nevertheless a key indicator of social class placement. And as a primary indicator of social class it appears reasonable that it is also a dominant variable in influencing family consumption patterns.

Family Size as a Determinant of Expenditures

Several research investigators also have found family size an important determinant of expenditures. The effect of family size has been of primary interest in the study of food consumption. A general research conclusion of family size posits large families do spend more dollars for food than smaller families, but, the amount spent is not proportionate to the ratio of the number of persons.¹

¹U.S. Department of Agriculture, Income and Household Size, Marketing Research Report No. 340 (Washington: U.S. Government Printing Office, 1959), p. 40.

An example of family size-expenditure relationships is illustrated in Table 8.

TABLE 8

RELATIONSHIPS OF FOOD EXPENDITURES FOR ONE WEEK TO FAMILY SIZE, URBAN FAMILIES, UNITED STATES DEPARTMENT OF AGRICULTURE SURVEY, 1948

Size of Household	Per Family		Per Family Member	
	Dollars	Per cent Index	Dollars	Per cent Index
2 persons	20.18	100	9.66	100
3 persons	24.64	122	8.50	88
4 persons	28.15	139	7.49	78
5 or more persons	32.06	159	6.34	66

Source: United States Department of Agriculture, Food Consumption of Urban Families in the United States, Agriculture Information Bulletin No. 132 (Washington: U.S. Government Printing Office, 1954), p. 6.

The above relationships are considered to be the result of several variables influencing food expenditures. First, economies of scale are present in the preparation of food. Second, many of the larger families include more children than the smaller families. As noted, the four person family spends only 39 per cent more for food than does the two person family. Third, large families generally consume food of lower quality. Fourth, the smaller families usually eat away from home more than do large families.¹

¹Ibid., pp. 6-7.

A similar relationship also is noted in Table 9 for other family expenditure accounts. Using data from the 1950 Bureau of Labor Statistics' survey cross-classified by family size and income class, the following per capita consumption relationships are noted. Table 9 generally indicates as the family size increases per capita expenditures generally decrease. One may again posit there are economies of scale in purchasing and consuming. As noted in the family size-per capita expenditure relationships, expenditures do not vary greatly from the per capita expenditures of the two person family budget to the per capita expenditures of the three person budget.

Summary

By reviewing several research studies illustrating the influence of socio-economic variables on family expenditures, several findings were noted which aid the market researcher in explaining differences in family expenditure patterns.

In the review of the effect of income and change in income on expenditure patterns, three hypotheses were examined. The Keynesian absolute income hypothesis basically states as income increases, expenditures also increase, but not in direct proportion to the income increase. By contrast, the relative income hypothesis is based on the proposition of family consumption patterns being partially determined by former living standards of the family.

TABLE 9

SELECTED AVERAGE PER CAPITA EXPENDITURES BY FAMILY SIZE AND INCOME CLASS, LARGE
CITIES IN THE NORTH, 1950-51

Family Size and Income Class	Total Current Expenditures	Food and Beverages	Household Operation	Furnishing and Equipment	Clothing	Medical Care
Single Consumer						
\$3,000-4,000	2,702	821	140	73	332	96
\$4,000-5,000	3,768	1,450	212	66	359	98
\$5,000-6,000	4,148	1,293	230	229	401	190
\$6,000-7,500	5,028	1,668	173	22	767	103
Two Person Family						
\$3,000-4,000	1,697	552	73	110	178	96
\$4,000-5,000	2,183	640	91	187	220	115
\$5,000-6,000	2,533	761	133	182	321	104
\$6,000-7,500	2,700	745	134	207	302	141
Three Person Family						
\$3,000-4,000	1,218	418	47	79	132	73
\$4,000-5,000	1,515	478	57	110	174	34
\$5,000-6,000	1,787	533	81	125	214	38
\$6,000-7,500	1,995	595	89	137	260	100

Source: Adapted from the University of Pennsylvania, Study of Consumer Expenditures, Incomes and Savings, Vol. II (Philadelphia: University of Pennsylvania, 1956), p. 242.

According to Duesenberry, the relative income hypothesis explains why consumption does not automatically change with income increases or decreases. The permanent income hypothesis is based on the premise of consumption being related to the consumer's expectations of what his permanent income will be rather than current income.

In the review of family life cycles, the particular life cycle stage of the family was shown to partially influence expenditure patterns. Fisher noted the family's perception of income, prices, and expenditures varied among life cycle stages. It was also noted by Lansing and Morgan that income and expenditures varied considerably in the different life cycle stages. Part of the variation was believed to be the result of wives working and contributing to the income stream and the presence or absence of children.

Regarding the effect of social class and occupational category on expenditure patterns, a few researchers have demonstrated that the social class and occupation of the family influences expenditure patterns. Most of the research, however, showing differences in social class expenditure patterns, has been conducted on consumer durable goods. The Chicago Tribune Study noted the lower social classes placed more emphasis on large expensive appliances and household furnishings than did middle class families. The findings of Rainwater generally agreed with the findings of the Chicago Tribune Study.

The review of the effect of family size on family expenditure patterns generally noted family size does influence expenditures, but not in direct proportion to the number of people in the family. The family size-expenditure relationship was explained by the existence of economics of scale in purchasing and utilization.

Evaluation of Selected Socio-Economic Variables
as Criteria for Delineating Markets

In reviewing the effects of several socio-economic variables on family expenditure patterns, several socio-economic variables were examined influencing family expenditure patterns. Market researchers are fundamentally interested in determining socio-economic influences on consumption patterns for purposes of market delineation. Nevertheless, although a variable can readily differentiate consumer expenditure patterns, the variable may have several disadvantages for market delineation utilization.

In the evaluation of socio-economic variables for market delineation, several methods of delineating markets are examined and evaluated. The two basic criteria employed to evaluate the socio-economic variables for market delineation utilization are: (1) the operational characteristics of the variables which include the cost and complexity of implementation and (2) the degree the variable reflects socio-economic homogeneity of the differentiated groups.

Market Delineation by Family Income Class

The income class of the family frequently is a commonly used method to delineate markets. For some types of goods and services family income serves as a reliable predictor of purchase patterns. To employ the income class method, markets are usually classified according to the number of families in various income classes. From such a classification, the market is usually given some type of quantitative or qualitative rating for market evaluation purposes.

The fact of families having parabolic income patterns is a fundamental problem encountered in employing family income classes. Incomes for families increase, then usually decrease as families move through family life cycles. For example, in the income class of \$5,000-5,999, both younger and older families are present and, as a result, erroneous market conclusions may result. The younger families usually have a larger family and possibly both the husband and wife are working. On the other hand, an older family may be in the same income class with no children. Undoubtedly, the expenditure patterns of each family would differ widely and likely would affect the reliability of employing strictly income classes in market delineation.

Using 1950 Bureau of Labor Statistics data, Kurt Mayer posits somewhat of a different assumption regarding income class. Mayer asserts there is "an impressive

uniformity of spending patterns" regardless of occupational category.¹ By examining aggregated family expenditure patterns cross-classified by occupation and income class, only small differences were noted in the percentage of total expenditures devoted to food, housing, clothing, and transportation within each income-occupation class.² Unfortunately, Mayer does not consider the effect of the family age variable. In rechecking the source of Mayer's data, a wide range of family ages was found to be included in each occupation-income category.³ For market delineation purposes, Mayer can be positing a dangerous conclusion. Moreover, the highest income class utilized by Mayer ranges only from \$6,000 to \$7,500, eliminating differences in family spending patterns in higher income-occupation categories. In 1950, for example, in the 35-44 year age class for large cities in the North, over 18 per cent of the "self-employed" families and over 18 per cent of the "professionals" had higher incomes than \$7,500. The omission of the higher income classes neglects important market sectors.

Coleman maintains in the purchase of automobiles

¹Kurt Mayer, "Diminishing Class Differentials in the United States," Kyklos; Zurich, Switzerland: International Review of Social Sciences, 12:605-26, 1959.

²Ibid., p. 622.

³University of Pennsylvania, Study of Consumer Expenditures, Incomes and Savings, Vol. 18, Table 4-2, p. 39 (Philadelphia: University of Pennsylvania, 1956).

income class does not appear the primary determinant.

Rather, "status aspirations" of consumers determine what brand and model of an automobile purchased. Similarly, Social Research, Incorporated's study of the adoptions of color television reveals that at the time of the study color sets were being purchased by all income classes.

Another factor possibly distorting the value of employing income class alone is that the lower income ranges are disproportionately represented by unskilled and semi-skilled workers, retired families, students, and in some cases the young professionals and managerial workers. All of these consuming groups likely have widely varying expenditure patterns.

A primary advantage of employing income classes is the usual ease in obtaining data and the simplicity of the income criteria.

Market Delineation by Stage in Family Life Cycle

The life cycle as a basis for market delineation has generated considerable interest in recent years since it offered an approach that would potentially reduce some of the errors in other market delineation approaches, especially the income method.

A fundamental problem in implementing family life cycle analysis for market delineation purposes involves determining what actually constitutes a family life cycle.

To illustrate the diversity of opinions, Sorokin notes the family life cycle constitutes the following stages:

1. Married couple just starting independent existence.
2. Couple with one or more children.
3. Couple with one or more self-supporting children.
4. Couple becoming old; some children marry, separate from the family, and start as an independent couple.¹

On the other hand, Beegle and Loomis believe an accurate family life cycle portrayal includes the following life stages:²

1. Marriage.
2. Birth of first child.
3. Birth of last child.
4. Marriage or the migration of first child from parental household.
5. Marriage or the migration of the last child from the parental household.
6. Death of the father.
7. Death of the mother.

Two methods for investigating the family life cycle are presented by Lansing and Morgan. Their classification is based on social relationships when the adult "breaks or creates significant ties with other adults."³ The life cycle stages delineated by Lansing and Morgan are:

1. The bachelor stage.
2. The marriage stage.
3. The stage of the solitary survivor.⁴

¹Sorokin, Zimmerman, and Galpin, op. cit., p. 31.

²Beegle and Loomis, op. cit., p. 70.

³Lansing and Morgan, op. cit., p. 37.

⁴Ibid.

The marriage stage is further subdivided in the following stages:

1. Marriage stage
 - a. The newly married couple with no children.
 - b. The full nest--the married couple with dependent children.
 - c. The empty nest--the married couple after the children have left home.¹

The other approach presented by Lansing and Morgan generally is used in presenting data for economics and marketing purposes. It delineates the following life cycle stages:

1. Young single
2. Young married, no children
3. Young married, with children, youngest child under six
4. Older married, with children
5. Older married, no children under 18
6. Older single.²

Martin H. David presents a similar classification scheme by dissecting family life cycles into two broad classifications: (1) where head of family is younger (under 45 years old) and (2) where head of family is old (45 years of age or older). David also includes a classification for "others" which do not fit into the above classifications. David's classificatory scheme is presented in Figure 6.

The University of Michigan's Survey Research Center usually employs the following life cycle delineation:³

¹Ibid.

²Ibid., p. 39.

³George Katona, Charles A. Lininger, James N. Morgan, and Eval Mueller, 1961 Survey of Consumer Finances, Monograph No. 34 (Ann Arbor: University of Michigan, 1964), p. 11.

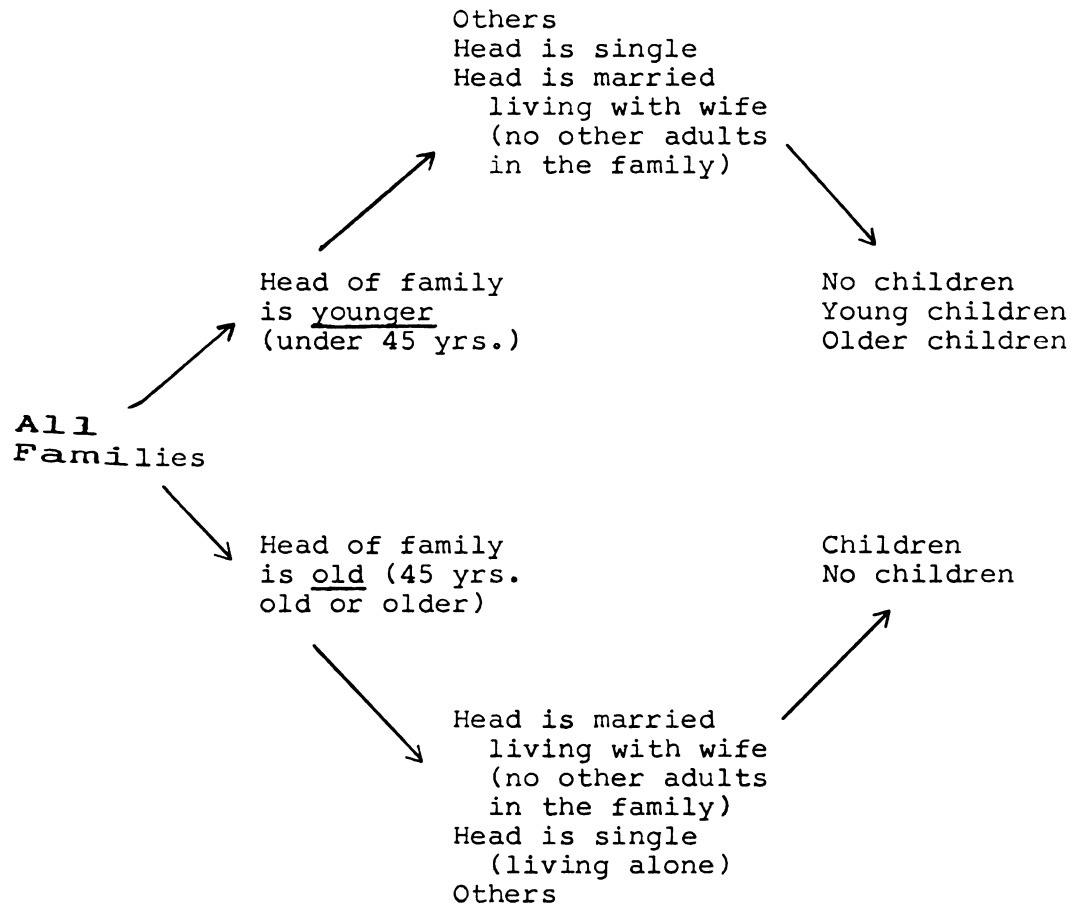


Figure 6. David's life cycle classification patterns¹

¹Martin H. David, Family Composition and Consumption, Contributions to Economic Analysis, No. 25 (Amsterdam: North-Holland Publishing Company, 1962), p. 22.

Under age 45

Single

No children

Children

Married, no children

Married, children

Married less than 10 years

Married 10 years or longer

Youngest child under 6

Youngest child 6 or older

45 years of age or older

Married, children

Married, no children

Single

Children

No children

Most of the research on family life cycles has been conducted on aggregated socio-economic groups, possibly weakening the findings for market delineation purposes. Whether different socio-economic groups have different life cycles has not been widely investigated. Another limitation in operationalizing the life cycle concept occurs since some researchers separate family life cycles into several specific stages while others separate only into three or four and, as a result, some confusion exists regarding what stages are the most appropriate for marketing purposes. However, a comparison of the various family life cycle stages reveals that there is not a great amount of diversity in the various approaches. In Table 10 a comparison is made of the different life cycle stages which have been discussed in this section. As can be seen, with a few adjustments there is a very close relationship among the alternative approaches. The family life cycle classification

TABLE 10

ALTERNATIVE FAMILY LIFE CYCLE STAGES AND NOMENCLATURE

Family Life Cycle Stages	Sorokin, Zimmerman, Galpin	Beegle and Loomis	Lansing and Morgan	David	University of Michigan Survey Research Center
Single			"Young single"	Under 45 years "Head is single"	Under age 45 "Single no children" "Single children"
Married, no children	"Married couple just starting independent existence"	"Marriage"	"Young married, no children"	"Head is married"	"Married, no children"
Married, some children	"Couple with one or more children"	"Birth of first child"	"Young married, with children, youngest child under six"	"Young children"	"Married, children" "Married less than 10 years--youngest child under 6"
Completed family	"Couple with one or more self-supporting children"	"Birth of last child"	"Older married, with children"	"Older children"	"Married, children" "Married 10 years or longer" "Youngest child 6 or older"

TABLE 10 (continued)

Family decline	"Couple becoming old, some children marry, separate from the family..."	"Marriage or the migration of the first and last child from parental household"	"Older married no children under 18"	45 years old or older "Children"	45 years of age or older "Married, children"
Married, no children				"Married, no children"	"Married, no children"
Single		"Death of father" "Death of mother"	"Older single"	"Head is single"	"Single" "Children" "No children"

also may not be a valid frame of reference since the researcher also does not know the exact family size. There are also operational problems in implementing the life cycle concept for purposes of market delineation.

Market Delineation by Social Class

In the 1950's, delineating markets by social class strata gained considerable attention with the research and writings of W. Lloyd Warner, Pierre Martineau, Richard Coleman, and Burleigh B. Gardner. Although interest was generated in the concept, limited practical value has been derived from the efforts.

Social class placement denotes some type of ranking system for stratifying or disaggregating a heterogeneous population into homogeneous groups according to a classification variable. A fundamental difficulty in applying a universal definition to social class is that there are varying methods based on differing premises for determining social class. Basically, three methods are employed in determining social classes: (1) the reputational approach, (2) the subjective approach, and (3) the objective approach. A key problem develops for the market researcher in determining which of the stratification approaches is best for market delineation purposes. Empirical research that evaluates the utility of the various approaches for market stratification purposes has been sparse.

The reputational approach involves a rating system

by which individuals in a given community are asked to classify one another into various social classes. In other words, the inhabitants of a community are asked to rank one another according to a hierarchical social classification scheme. Warner describes the reputational approach or the Evaluated Participation method below:

The method of Evaluated Participation (E.P.), comprising several rating techniques, is posed on the propositions that those who interact in the social system of a community evaluate the participation of those around them, that the place where an individual participates is evaluated, and that the members of the community are explicitly or implicitly aware of the ranking and translate their evaluations of such social participation into social-class ratings that can be communicated to the investigator. It is, therefore, the duty of the field man to use his interviewing skill to elicit the necessary information and to analyze his data with the requisite techniques for determining social class, thereby enabling the status analyst to determine the levels of stratification present and to rank any member of the community.¹

Broom and Selznick point out that those who rank the other members in a community are the "judges" and the "judges" are usually long-term residents of the community which brings out a significant problem in operationalizing the reputational approach. Broom and Selznick raise the question of whether or not the "judge" will view the community hierarchy in the same way. In other words, one "judge" may only delineate three social classes; however, another

¹W. Lloyd Warner, Marcia Meeker, and Kenneth Eells, Social Class in America (New York: Harper and Row, 1960), p. 35.

may delineate five or six classes. Broom and Selznick ask whether there may be as many social classes in the social structure as there are "judges."¹

The subjective approach is based on a personal classificatory scheme. In effect, members of a community are asked to place themselves in a class. Many inherent advantages frequently favor the employment of the subjective approach over the reputational approach. First, since it does not require knowledge of others, it can be operationalized on a broader scale. Second, some sociologists believe it is far more significant "to know where a person thinks he is than to know where others place him."² Nevertheless, Broom and Selznick maintain that there are significant variations among individuals where they place themselves in the class hierarchy. These variations may affect the validity of the subjective approach.

The third approach to social class placement, objective analysis, also entails classification according to an evaluatory system. Of all the approaches for determining social class, objective analysis has been utilized most frequently by market researchers in delineating markets. The rationale behind the approach assumes that if members of a group have similar socio-economic characteristics,

¹Broom and Selznick, op. cit., pp. 173-74.

²Ibid., p. 172.

then their spending patterns should be similar. The objective approach also is more economical and easier to implement than reputational or Evaluated Participation method. And in one sense it is more "objective" than either the subjective or reputational approaches. Warner describes three steps in operationalizing the objective approach or his Index of Status Characteristics.

1. Making the primary ratings on the status characteristics which are to comprise the Index--usually occupation, source of income, house type, and dwelling area.
2. Securing a weighted total of these ratings.
3. Conversion of this weighted total into a form indicating social-class equivalence.¹

In the Jonesville Study, Warner placed standard weights on the occupation of the family head, source of income, housing type, and dwelling area. In that study, occupation was given weight of (4), source of income (3), house type (3), and dwelling area (2). Next, the participants were assigned a rating on their occupational category, source of income, house type, and dwelling area. The rating scales are all based on a seven point scale. The lower the rating for each socio-economic characteristic, the higher the "status characteristic." Then, the participant's personal rating on each of the four variables is multiplied by the standard weights placed on occupation,

¹Warner, Meeker, and Eells, op. cit.

source of income, house type, and dwelling area. The weighted ratings are then converted into the various social classes. Under the Index of Status Characteristics method, the lower the total weighted rating, the higher the social class.

In evaluating social class as a means of delineating markets, several limitations should be recognized. To employ the reputational and subjective approaches, the market researcher is immediately faced with difficulties. The reputational approach usually requires a small community where inhabitants know each other since it is necessary for the ranking methodology to be accomplished. Also, in order to arrive at meaningful market delineation conclusions, a relatively large number of the inhabitants must be classified, making the approach both expensive and difficult. The researcher is then faced with the task of determining whether or not his findings are comparable with other communities.¹

The subjective approach is vulnerable to the same limitations as the reputational approach: several limitations are present in operationalizing the approach economically and in comparing social classes between communities.²

The objective approach also has methodological requirements limiting its usefulness in marketing. The primary

¹Ibid., p. 35.

²Broom and Selznick, op. cit., p. 174.

problem develops in operationalizing the concept on a population large enough to be of value for market delineation. The researcher is also faced with a myriad of questions: Are the indices applicable to other communities? What weights should each market delineation variable receive?¹

Finally, most of the knowledge regarding social class has been derived from the "classic" stratification studies in towns of less than 50,000 people. Smaller cities were chosen primarily since it was easier to observe the interaction of the people and because the smaller cities are usually more homogeneous in socio-economic characteristics than larger cities. Whether the social class methodologies are applicable to large metropolitan market areas is difficult to determine.

¹Ibid., p. 172; James M. Carman, The Application of Social Class in Market Segmentation (Berkeley: University of California Press, 1965), p. 35. In a comprehensive examination of Warner's work, Carman asserts that Warner's research efforts to find proxy variables which could be used in place of the Evaluated Participation method was faced with several limitations. First, Warner's social classification system (Index of Social Characteristics) could not be employed between different communities and cities of varying sizes. Second, since the Index of Status Characteristics, asserts Carman, is a continuous ranking system, the various social class delineating points are arbitrary. Third, Carman notes that the appraisal of the housing type and dwelling area require subjective judgments. However, Warner (Social Class in America, p. 36) maintains that both his Evaluated Participation and Index of Status Characteristics were constructed to be employed in any community. Warner writes that "both methods can be used in any kind of community. The results obtained will vary, of course, from community to community; some cities may have many classes, some towns only a few, some may be rigidly organized, others vary loosely."

Market Delineation by Occupational Category

For the most part, little has been written on employing occupational category as a method of market delineation. A few studies, however, have attempted to relate residually the family's occupational category to social class or income class. A recent market research report sponsored by Time maintains there are three important socioeconomic variables needed in market delineation. The variables suggested are: education, occupation, and income. The rationale of the three variable approach is based on the assertion that: (1) education establishes the "values" families place on different goods and services, (2) occupation places parameters on family "standards of living and buying," and (3) income provides the "means" for family purchasing.¹ In an investigation of the market segments proposed by the Time study, several ambiguous "market segments" are found. For example, the research proposes the total market for eighty-six products and services should be disaggregated into three basic groups. And within the three groups the market is "segmented" into seven groups. The largest "segment" is composed of "blue collar" households making under \$10,000 a year and represents 36.2 per cent of the total market. The "blue collar" segment is,

¹Time Marketing Services, Selective Mass Markets for Products and Services (Time Marketing Information Report, No. 135, undated), p. 2.

in reality, composed of skilled, semi-skilled, and unskilled workers but no differentiation of each occupational category is made. The research can be making a serious omission by ignoring the occupational breakdown of the "blue collar" class.

Regarding occupational expenditure pattern differences, Coleman maintains occupational groups place different values on categories of goods. The young lawyer likely spends a large portion of the family budget on housing, the "right neighborhood location, furniture, and clothing. By contrast, Coleman notes the small business owner or "diesel engineer" probably has a "better house," more furniture, and more savings than some of the higher socioeconomic occupational groups. And Coleman believes the working class family generally has "a bigger, later model car, plus more expensive appliances in its kitchen and a bigger TV set in its living room." Coleman also states the working class family spends more on recreational activities.¹ The other findings of Coleman support Kahl's thesis that "prestige tends to be bestowed through consumption behavior rather than income, for only that which can be seen can be judged."² Kahl further posits that "consumption patterns and interaction networks are intimately linked;

¹Coleman, op. cit., p. 162.

²Kahl, op. cit., p. 108.

people spend their leisure time with others who share their tastes and recreational activities, and they learn new tastes from those with whom they associate.¹

There has been considerable discussion, in recent years, about the integration of the white- and blue-collar occupational classes. The integration is on two levels: (1) an economic plane and (2) a social plane. Blue-collar workers frequently do make higher incomes than the white-collar group, making it possible for blue-collar workers to adopt many "life styles" of the white-collar worker. The above point also was emphasized by Coleman, asserting many blue-collar workers have "better homes" than white collar workers. As the blue-collar class has increased its economic significance, its social importance and the concomitant rewards also have increased. Kahl, with a somewhat different viewpoint, notes the following observations on the life styles of the blue-collar and white-collar workers:

Some observers believe that with the entry of so many blue-collar workers into the ranks of the middle-income group, there is still an important distinction between their value standards and those of white collar workers. According to this view, those at the top of the blue-collar hierarchy feel that they have arrived as far as they can go, or as far as a man should desire; they are satisfied, and do not spend their money for conspicuous symbols of display that would raise their prestige in the eyes of the community, such as "good address." Indeed, they would consider

¹Ibid.

it snobbish to behave that way. By contrast, the clerks and salesmen who earn about the same amount of money are thought to be less satisfied with it, for they compare themselves to the richer men above them in the business world. They are supposed to be at the bottom of their ladder, whereas the successful blue-collar workers are at the top of theirs. Consequently, the white-collar worker is supposed to be relatively less satisfied with his lot in life. He is described as belonging to a "frustrated lower-middle class," and is even feared to be especially susceptible to fascism as an outlet for his dissatisfaction.¹

The primary advantage of differentiating consuming groups according to occupational category is the groups are usually delineated by other variables, such as income, expenditures, life styles, and other environmental influences, all of which are reflected in the expenditures of a family.

Market Delineation by Chronological Age

Delineating the market by chronological age in recent years has received some attention. The 1950 and 1960-61 Bureau of Labor Statistics studies, the 1956-67 Life Study of Consumer Expenditures, and the 1965 National Industrial Conference Board's Expenditure Patterns of the American Family have all presented data on family expenditures classified by chronological age.

The age of the family is an integral classificatory variable offering several advantages in market delineation. Simple integral variables (continuous variables) commonly

¹Ibid., p. 113.

used in market delineation are age of family head and income class. Both age and income class denote gradation which usually increases homogeneity when delineating groups of consumers. When an occupational category is disaggregated by age of the household head, for example, the possibility of greater homogeneity of the differential groups is increased. In market delineation families of similar ages generally exhibit similar expenditure patterns.

The usual chronological age classes are:

Age of Family Head

Under 25
25-34
35-44
45-54
55-64
65-74
75 plus

There are other advantages in delineating the population chronologically. Delineating the population by age classes gives a "moving analysis" of changes in socio-economic groups. However, research on the characteristics of specific socio-economic age classes has been limited.¹ If the age classes are carefully interpreted while bearing in mind their inherent limitations, much can potentially be ascertained about consumer behavior. The age class delineation reflects changes in income, family size,

¹Fabian Linden, "A Graphic Guide to Consumer Markets," The Conference Board Business Record (New York: National Industrial Conference Board, March, 1961).

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expenditures, educational attainment, and other variables providing important clues for marketing management. Lansing and Kish state the age variable has "several important advantages such as uniformity of measurement, relatively easy and uniform acceptance, and the fact that it is a continuous metric scale."¹ However, they make clear some of the disadvantages in using age. Age of the family head, the authors state, is not always as important as changes in an individual's family relationships such as additions and deletions to the family. The authors admit, however, much research remains before the validity of family life cycles can be fully evaluated.²

One of the most potentially serious limitations of analyzing aggregate age classes of the population lies in determining whether or not the heterogeneous population groups which have been combined differ significantly in their income and expenditure patterns. For example, to obtain aggregate age cycles all broad occupational categories usually are summed together. However, the socioeconomic characteristics of different groups in a specific life cycle stage usually vary significantly.

An important advantage of employing age classes is data are available for most urban areas for different age

¹Lansing and Kish, op. cit., p. 512.

²Ibid., pp. 518-19.

classes for the data of the United States Census of Population and the Bureau of Labor Statistics. Market delineation by age classes also allows the researcher to scrutinize more closely the variations in income, expenditures and savings among various age classes. In many instances, however, the value of market delineation by age classes may be increased if the general population is disaggregated.

Market Delineation by Other Socio-Economic Methods

The process of market delineation can be accomplished by a multiplicity of methods. Slater and Mainer note the market delineation variables frequently are used either singularly or in combination with other variables to delineate markets. The market delineation approaches suggested by Slater and Mainer are:

- Motivations, values, or interests
- Age
- Income
- Education
- Family-life cycle
- Home ownership
- Ethnicity
- Socio-economic status
- Experience as a consumer
- Frequency of product use
- Characteristics of place of residence.¹

The authors note the method used to delineate markets depends for the most part on market research budgets and the nature of information sought. Although Slater and

¹Slater and Mainer, op. cit., p. 76.

Mainer's analysis primarily concerns delineating markets for a product or a few products, some interesting notions are posited. For example, the authors state that consumer spending patterns vary significantly among various market segments. This phenomenon which may be called "segment sensitivity" has important macro implications. The authors note that age is an important variable in noting changes in market patterns. From information on various age groups, the marketer will be able to audit the marketing effort. Further, important information may be derived from the age groups that are significant consumers and from the age groups which may only be "marginal market segments" to determine their particular behavioral patterns.

The idea that markets should usually be delineated according to values, motivations, usage patterns, aesthetic preferences, or degree of susceptibility has been advocated by Yankelovich. He bases his premise on the belief that the usual demographic characteristics may not present valid market information. His method, "segmentation analysis," is based on some rather tenuous concepts. For example, he discusses several "modes of segmentation," such as "susceptitudes," "individualized needs," and "self-confidence." Unfortunately, Yankelovich neglects to discuss how the criteria may be operationalized meaningfully.¹

¹Yankelovich, op. cit., pp. 83-90.

Summary of the Evaluation of Socio-Economic Market Delineation Methods

In the evaluation of selected socio-economic market delineation methods, several limitations were noted which may affect the value of the methods for market delineation. In the examination of market delineation by income class, the review noted that families of different ages may be included in a given income class, possibly affecting the validity of the research finding. Coleman noted for some goods income was not as important as the "status aspirations" of the consumer. Finally, when income class is used singularly as a delineating variable, the findings may be distorted since there are generally many heterogeneous socio-economic groups in each income class.

In the analysis of family life cycle for market delineation purposes, the limitation was made noting the lack of a standard method of disaggregating family life stages. Life cycle analysis is also relatively difficult to implement.

Social class as a means of delineating markets frequently is costly and difficult to operationalize. Further, there probably has not been adequate empirical research to determine which social class methodology is most applicable for marketing purposes.

In the review of chronological age as a market delineation method, several advantages and disadvantages were noted. The potentiality of delineating homogeneous

groups in terms of socio-economic characteristics is an advantage. Further, chronological age reflects changes in income, family size, education, and reflects other variables influencing expenditure patterns. A disadvantage in using age may occur if only combined heterogeneous socio-economic groups are disaggregated, allowing considerable variation in other socio-economic characteristics.

The findings of the studies involving broad occupational groups were basically parallel to the social class findings since occupational class is so highly correlated with social class placement. Occupational category usually is also easier to implement than social class in market delineation since only one variable is employed, making the classification process simpler. Further, secondary data are available covering most of the important areas.

CHAPTER III

RESEARCH DESIGN

Introduction

A fundamental requirement for understanding consumer behavior is knowing how people spend their incomes. If market researchers know how consumers and especially groups of consumers allocate incomes, they can better direct the marketing effort. The purpose of Chapter III is to present the methodology used in the study to determine how groups of consumers, differentiated by occupational category and age, spend their incomes for various goods and services.

Since the research utilizes data from a national cross-sectional study, the nature and validity of the data are discussed first. Second, the sector of the national study used in the research is explained and the marketing importance of the data is noted. Third, the socio-economic variables used in the study are presented. The variables include age of family head, occupation of family head, and the family expenditure accounts. Fourth, the methodological procedures for analyzing the data and testing the hypotheses are presented.

Source and Nature of Empirical Data

The 1960-1961 Bureau of Labor Statistics Study

The data utilized in the study are part of the 1960-61 Bureau of Labor Statistics' nationwide Survey of Consumer Expenditures. Although the national survey was conducted primarily to gather family expenditure data to revise the Consumer Price Index, other important objectives are also served by the survey. The Survey of Consumer Expenditures was also "designed to provide data serving other important survey objectives, such as analysis of expenditure patterns for purposes of economic policy and marketing and academic research."¹ For example, the data have been used to construct economic models and in forecasting changes in various product markets. In addition to these survey objectives, the Bureau of Labor Statistics also uses the expenditure data to prepare and revise various "standard budgets." A four-person City Workers' Family Budget is maintained for a general living standard index. These budgets are utilized to measure income adequacy, changes in living standards and intercity differences in costs of living.²

¹U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditures and Income, Urban Places in the North Central Region, 1960-61 (Washington: U.S. Government Printing Office, 1964), p. 5.

²U.S. Department of Labor, Bureau of Labor Statistics, "A Short Description of the Survey of Consumer Expenditures in 1960-61" (Washington: U.S. Government Printing Office, 1964), pp. 1-3.

Sample Design

The Bureau of Labor Statistics' national sample represents Standard Metropolitan Statistical Areas and other urban places in non-metropolitan areas of the United States. The first phase in the sampling operation entailed the selection of a sample of 66 urban places representative of all urban places in the 50 states. Further, all of the 12 largest Standard Metropolitan Statistical Areas in the United States were also included in the sample. Since the survey was conducted over a two year period, the city sample was divided into two subsamples which were representative of entire urban population. However, for the twelve largest Standard Metropolitan Statistical Areas only half of the data was collected in each year.¹

In the second phase of the sampling operation a sample of housing addresses was taken from the Comprehensive Housing Unit Survey or from address listings used in the 1960 Census of Population and Housing. From the address listings, the national sample was drawn. Normally, only members of consumer units were included in the survey who were full-year members.²

Collection of Data

The data were collected using detailed personal

¹Ibid., p. 2.

²Ibid.

interviews by trained Bureau of Labor Statistics personnel and to insure completeness of information, the respondents were asked to consult personal records whenever possible. As noted in the following statement, considerable care was given to insure accurate reporting and collection of the data:

Reported receipts and disbursements were summarized and reviewed in the field to determine completeness, consistency, and balance of the family account. Families were reinterviewed when necessary to clarify ambiguous entries and complete the record . . . completeness and reasonableness of the reported account, rather than the degree to which receipts and disbursements balanced, were primary criteria for determining the acceptability of a schedule.¹

Reliability of Data

The Bureau of Labor Statistics has attempted to obtain "the most accurate information possible about family expenditures and spending patterns in detail, including the quantity and price of some purchases."² Since 1950, some research has been undertaken to "validate" Bureau of Labor Statistics' data with other independent sources. For example, in 1957 Morris Hamburg compared the per capita clothing expenditures, from the 1950 Wharton-Bureau of Labor Statistics study to the 1950 Department of Commerce per capita estimates.³ Irwin Friend compared the 1950 Wharton-

¹Ibid.

²Ibid.

³Morris Hamburg, "Some Experiments with Demand Relationships for Clothing," Proceedings of the 117th Annual Meeting of the Business and Economic Statistics Section of the American Statistical Association, ed. E. T. Weiler (American Statistical Association, 1957), p. 372.

Bureau of Labor Statistics disposable income estimates with the University of Michigan-Federal Reserve survey and found similar income estimates as well as similar portions of income spent on total consumer durable goods.¹ Other comparisons between the 1950 Wharton-Bureau of Labor Statistics study and the Census of Population have noted a close relation in "average rent paid."² Further, by comparing the 1950 Wharton-Bureau of Labor Statistics study with the Federal Reserve Board's Survey of Consumer Finances, similar expenditures for "home repairs and improvements" have been noted.³

The 1960-61 Bureau of Labor Statistics per cent distribution of expenditures is also generally in agreement with the Department of Commerce's 1961 ratios of personal consumption expenditures to total personal consumption expenditures.⁴ Table 11 illustrates the proximity of both estimates.

¹Irwin Friend, "Progress Report: Wharton School Study of Consumer Expenditures," Proceedings of the 115th Annual Meeting of the Business and Economic Statistics Section of the American Statistical Association, ed. Walter F. Ryan (American Statistical Association, 1955), p. 230.

²Helen Humes Lamale, "Methodology and Appraisal of Consumer Expenditure Studies," Proceedings of the 115th Annual Meeting of the Business and Economic Statistics Section of the American Statistical Association, ed. Walter F. Ryan (American Statistical Association, 1955), p. 236.

³Ibid.

⁴Kathryn R. Murphy, "Contrasts in Spending by Urban Families: Trends Since 1950," Monthly Labor Review (Washington: U.S. Department of Labor, Bureau of Labor Statistics, November, 1964), p. 1250.

TABLE 11

DEPARTMENT OF COMMERCE SELECTED PERSONAL CONSUMPTION EXPENDITURE ESTIMATES AS PER CENTS OF TOTAL PERSONAL CONSUMPTION EXPENDITURES, 1961, AND BUREAU OF LABOR STATISTICS PER CENT DISTRIBUTION OF EXPENDITURES FOR ALL FAMILIES IN URBAN UNITED STATES, 1960-61

Personal Consumption Expenditure Accounts*	% Distribution of Expenditure**	
	Department of Commerce Ratios, 1961	Bureau of Labor Statistics, 1960-1961
Food and Beverages	25%	26%
Clothing	8	10
Household Operations	6	6
Furniture and Household Equipment	6	5

*Accounts not always strictly comparable.

**Percentages rounded to nearest whole per cent.

Source: Department of Commerce estimates derived from Survey of Current Business, August, 1965, pp. 46-47; Bureau of Labor Statistics estimates from Survey of Consumer Expenditures, 1960-61: Consumer Expenditures and Income, Urban United States, 1960-61 (BLS Report 237-38, 1964).

Another major criterion for judging the value of cross-sectional surveys for predicting consumer behavior is whether stable relative expenditure relationships for specific expenditures for families having similar incomes and ages exists.

In Table 12 an examination is made of the relative stability of selected expenditure accounts. By comparing the 1960-61 Bureau of Labor Statistics Survey and the 1950 Bureau of Labor Statistics Survey by similar income-age classes, the general stability of family expenditures is noted.

TABLE 12

COMPARISON OF PER CENT DISTRIBUTION OF EXPENDITURES FOR
CURRENT CONSUMPTION BY INCOME-AGE CLASS, 1950 AND 1960-61

Expenditure Accounts***	Percentage of Expenditures	
	1960-61 Bureau of Labor Statistics Survey*	1950 Bureau of Labor Statistics Survey**
Income Class \$3,000-4,000		
Age Class 25-34		
Food and Beverages	30.0	33.4
Tobacco	2.6	2.2
Household Operations	5.9	3.7
Clothing	12.3	11.6
Personal Care	3.0	2.4
Transportation	10.2	12.8
Income Class \$6,000-7,500		
Age Class 35-44		
Food and Beverages	28.9	32.7
Tobacco	1.8	1.8
Household Operations	5.2	5.4
Clothing	11.5	13.2
Personal Care	2.8	2.5
Transportation	12.8	10.5

*Northeastern region of the United States.

**Large cities in the North.

***Data not strictly comparable.

Source: 1960-61 estimates from U.S. Department of Labor, Bureau of Labor Statistics, Survey of Consumer Expenditures, 1960-61: Consumer Expenditures and Income, Urban Places in the Northeastern Region (Supplement 2-Part A to Bureau of Labor Statistics Report 237-34, 1964), pp. 24-25; 1950 estimates derived from University of Pennsylvania, Study of Consumer Expenditures, Incomes and Savings, 11:344.

As noted in Table 12, a general stability exists in the percentage of current family expenditures devoted

to selected expenditure accounts. In the \$3,000 to \$4,000 income class the percentage of expenditures devoted to food and beverages and transportation decreased slightly from 1950 to 1960-61. By contrast, the percentage of expenditures devoted to tobacco, household operations, clothing, and personal care increased slightly.

In the \$6,000-\$7,500 income class the percentage of expenditures devoted to food and beverages, household operations, and clothing decreased slightly between 1950 and 1960-61. The percentage of expenditures devoted to personal care and transportation increased slightly between 1950 and 1960-61.

As in any survey, the 1960-61 Bureau of Labor Statistics' Survey of Consumer Expenditures is subject to errors in the sampling, interviewing, recording, and processing operations. The estimation of the above type of errors is exceptionally complex and costly. Nevertheless, the Bureau of Labor Statistics has prepared some preliminary estimates of the sampling error. As noted by the Bureau of Labor Statistics:

These preliminary calculations of sampling error applicable to the 1960-61 CES averages for the urban United States indicate a standard error of \$45 for total expenditures, or something less than 1 percent of the estimated average total expenditures of \$5,390. Similar calculations of error were made for five selected components of total expenditures (food, housing, clothing, transportation, and health, recreation, etc.). The absolute errors (i.e., in dollar amounts) were smaller, but the relative errors (i.e., as a percentage of average expenditures) were

somewhat larger for the components than for total expenditures. However, the relative error for no component exceeded 1.5 percent.¹

Sector of Bureau of Labor Statistics
Data Utilized in the Research

The specific data employed in this research come from unpublished data representing family expenditures in nine Standard Metropolitan Statistical Areas in the North Central and Eastern regions of the United States. All the Standard Metropolitan Statistical Areas are classified by the Bureau of Labor Statistics as class A cities since all have populations that exceed 1,400,000. The data utilized in the present study were collected in 1960-61 as part of the Bureau of Labor Statistics' Study of Consumer Expenditures and have not been published as part of the normal publishing program of the Bureau of Labor Statistics.

There are several important advantages in using the unpublished Bureau of Labor Statistics-Standard Metropolitan Statistical Area data. Some of the advantages are described below:

1. The magnitude of the scope and detail of the study make it difficult to duplicate by most sources other than the government. Governmental participation likely insures relatively nonbiased collecting and reporting of

¹U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditures and Income, Urban Places in the North Central Region, 1960-61 (Washington: U.S. Government Printing Office, 1964), p. 7.

the data.

2. The unpublished data separate families from single consumers, allowing greater flexibility in using the data. When single consumers are tabulated in the same chronological family age classes and occupational categories, family expenditure patterns are distorted. In the standard published Bureau of Labor Statistics data families and single consumers are combined.

3. The data are presented by chronological age classes for each occupational category, allowing the researcher to examine family consumption patterns according to occupation "life stages."

4. Since the number of families is known for each occupational category and age class, the data can be weighted and regrouped according to the needs of the researcher since each Standard Metropolitan Statistical Area is self-weighting.

5. Another advantage for the study in using the unpublished data is the published Bureau of Labor Statistics-Standard Metropolitan Statistical Area data do not disaggregate occupational spending patterns by family age classes.

The data were selected since all Standard Metropolitan Statistical Areas are located in heavily urbanized areas; most have a heavy concentration of industry; similar climatic conditions; and a relatively similar occupational

"mix." These similarities are considered as an advantage in the research. In one sense, a third variable, location, is present in the study. However, the location variable is always present in a study of this nature unless a national study is undertaken.

Geographical and Marketing Importance of the Data

The selected Standard Metropolitan Statistical Areas represent important market areas for consumer goods and services. The total population in Standard Metropolitan Statistical Areas in the North Central and Eastern region represent approximately 18 per cent and 10 per cent of the total United States population respectively.

The 1960 population of each Standard Metropolitan Statistical Area used in the study, average consumer unit size, estimated consumer units, and relative importance of estimated universe to the total United States population are presented in Table 13.

Number of Sample Families Utilized

The breakdown for the number of sample families in each age class, occupational category, Standard Metropolitan Statistical Area and the total sample families are presented in Table 14. As noted in the table, the largest number of sample families tend to be primarily concentrated in the intermediate age classes while a smaller number of families appear in the lower and higher age classes. The

TABLE 13

POPULATION CHARACTERISTICS OF SELECTED STANDARD METROPOLITAN STATISTICAL AREAS IN THE NORTHEAST AND NORTH CENTRAL REGIONS, 1960-61

Region & SMSA	Adjusted 1960 Population (1)	Average* Consumer Unit Size (2)	Estimated Consumer Units in Urban Universe (1) ÷ (2) (3)	Relative Importance of Estimated Universe U.S. (%) (4)
<u>NORTHEAST</u>	22,355,160		7,427,593	18.51
Boston, Mass.	2,408,729	3.0	802,910	2.00
New York, N.Y.	10,301,930	2.9	3,552,389	8.86
Northern, N.J.	3,845,248	3.1	1,240,402	3.09
Philadelphia, Pa.	3,852,432	3.2	1,203,885	3.00
Pittsburgh, Pa.	1,946,821	3.1	628,007	1.56
<u>NORTH CENTRAL</u>	13,428,164		4,053,628	10.10
Chicago, Ill.	6,360,324	3.3	1,927,371	4.80
Cleveland, Ohio	1,740,500	3.4	511,912	1.28
Detroit, Mich.	3,526,527	3.3	1,068,644	2.66
St. Louis, Mo.	1,800,813	3.3	545,701	1.36
TOTALS	35,783,324**		11,481,221	28.61

*Average consumer unit refers to (1) a group of two or more people usually living together who pooled their income and drew from a common fund for their major items of expense, or (2) a person living alone or in a household with others, but who was financially independent, i.e., his income and expenditures were not pooled. Definition from U.S. Department of Labor, Bureau of Labor Statistics, "Definition of the Survey Data," December, 1964, p. 1.

**Includes all occupational categories, families not currently employed, and retired families.

Source: U.S. Department of Labor, Bureau of Labor Statistics, "Handbook for Survey Users," Attachment 10 (Washington: Bureau of Labor Statistics, 1964), pp. 1-2.

TABLE 14

NUMBER OF SAMPLE FAMILIES IN EACH AGE CLASS, OCCUPATIONAL CATEGORY, AND STANDARD METROPOLITAN STATISTICAL AREA

Age Category & SMSA	Professionals and Managers	Self- Employed	Clerical and Sales	Skilled	Semi- Skilled	Un- Skilled	Total Families in Each SMSA Age Class
Under 25 years							
Boston	1	0	2	1	0	0	4
Chicago	0	0	1	3	2	2	8
Cleveland	1	0	3	1	2	1	8
Detroit	1	0	1	1	0	1	4
New York	1	0	4	2	1	3	11
N. New Jersey	0	0	2	4	5	1	12
Philadelphia	2	0	2	2	2	2	10
Pittsburgh	5	0	0	2	2	2	11
St. Louis	2	1	2	5	1	5	16
Totals	13	1	17	21	15	17	84
25-34 years							
Boston	14	2	5	4	7	5	37
Chicago	19	6	9	13	13	6	66
Cleveland	12	2	8	7	9	9	47
Detroit	13	2	7	14	11	5	52
New York	13	4	5	11	12	8	53
N. New Jersey	21	5	15	18	12	6	77
Philadelphia	7	1	6	6	11	12	43
Pittsburgh	8	3	4	8	8	7	38
St. Louis	7	4	9	17	12	8	57
Totals	114	29	68	98	95	66	470

TABLE 14 (continued)

Age Category & SMSA	Professionals and Managers	Self- Employed	Clerical and Sales	Skilled	Semi- Skilled	Un- Skilled	Total	
							Families in Each SMSA	Age Class
35-44 years								
Boston	14	0	9	15	8	4	50	
Chicago	14	8	11	28	15	11	87	
Cleveland	27	2	13	21	14	7	84	
Detroit	13	6	7	14	16	10	66	
New York	25	5	20	12	11	21	94	
N. New Jersey	18	9	8	11	8	10	64	
Philadelphia	18	8	7	13	10	10	66	
Pittsburgh	4	3	7	18	16	6	54	
St. Louis	13	2	9	12	13	11	60	
Totals	146	43	91	144	111	90	625	
45-54 years								
Boston	13	3	3	7	9	9	44	
Chicago	13	2	9	18	12	4	58	
Cleveland	5	5	8	9	10	1	38	
Detroit	13	6	7	18	15	3	62	
New York	12	8	12	19	16	12	79	
N. New Jersey	14	5	7	15	18	5	64	
Philadelphia	15	6	11	9	11	9	61	
Pittsburgh	11	6	7	13	13	16	66	
St. Louis	14	3	4	17	10	10	58	
Totals	110	44	68	125	114	69	530	

TABLE 14 (continued)

Age Category & SMSA	Professionals and Managers		Self- Employed	Clerical and Sales		Skilled	Semi- Skilled	Un- Skilled	Total Families in Each SMSA Age Class	
55-64 years										
Boston	14		2	3		7	5	7	38	
Chicago	9		5	6		15	8	6	49	
Cleveland	6		5	7		14	4	6	42	
Detroit	3		2	4		7	9	7	32	
New York	11		4	10		8	15	12	60	
N. New Jersey	11		7	8		8	4	11	49	
Philadelphia	6		2	6		7	1	4	26	
Pittsburgh	6		5	4		11	8	8	42	
St. Louis	1		7	4		7	7	8	34	
Totals	67		39	52		84	61	69	372	
65 and over										
Boston	1		2	2		0	0	2	7	
Chicago	2		1	1		3	1	2	10	
Cleveland	1		2	0		0	4	0	7	
Detroit	0		2	2		2	2	1	9	
New York	3		4	4		6	2	1	20	
N. New Jersey	1		2	0		2	3	1	9	
Philadelphia	1		1	0		4	0	1	7	
Pittsburgh	1		1	0		2	1	0	5	
St. Louis	2		0	6		2	1	2	13	
Totals	12		15	15		21	14	10	87	
Total families in each occupational group	462		171	311		493	410	321	2,168	

relatively smaller number of sample families in the younger and older chronological age classes will be considered in analyzing the findings of the study.

The number of self-employed families comprise approximately 8 per cent of the total sample families. Professionals and managers account for about 21 per cent of the total population. The clerical and sales workers and skilled workers comprise about 14 per cent and 22 per cent, respectively. The semi-skilled and unskilled workers comprise about 19 per cent and 15 per cent of the sample families. In total, there are 2,168 sample families utilized in this research.

Variables Utilized in the Research

The Age-Occupation Matrix

Family expenditures are examined in six occupational categories. Each occupational category is disaggregated into six chronological age cells. The age-occupation cells represent the basic observational unit in the research. The age-occupational cells utilized in the research are presented in Table 15.

In Table 15, cell A-1 delineates the families of Salaried Professionals and Officials under 25 years of age. Age-cell B-2 in the matrix denotes the Self-Employed families in the 25-34 year old classification, and so on.

Occupational classification.--Broad occupational

TABLE 15

FAMILY AGE-OCCUPATIONAL CELLS EMPLOYED IN RESEARCH

Occupational Categories	Age Classes					
	Primary Age Classes			Secondary Age Classes		
	Under 25	25-34	35-44	45-54	55-64	65 and Over*
Salaried Professionals and Officials	A-1	A-2				
Self-Employed	B-1	B-2				
Clerical and Sales						
Skilled						
Semi-Skilled						
Unskilled						

*The age classes 65 to 74 years and 75 years and over combined to form age class 65 years and over.

categories have been classified according to a socio-economic ranking scale.¹ The two primary correlates are income and education of the respective occupations. However, the degree of skill involved and the prestige of the occupation are also important correlates.

Employing various occupational ranking systems,

¹In addition to the occupational classification scheme listed in Table 15, several other occupational delineation schemes have been employed. For example, the U.S. Census of Population uses the following broad occupational categories: (1) Professionals, Technical, and Kindred Workers, (2) Managers, Officials, and Proprietors, except Farm Proprietors, (3) Clerical, Sales, and Kindred Workers, (4) Craftsmen, Foremen, and Kindred Workers, (5) Operatives and Kindred Workers, (6) Service Workers, including private household workers, (7) Laborers, except Farm and Mine, (8) Farmers and Farm Managers, and (9) Farm Laborers and Farm Foremen.

researchers have demonstrated that occupational categories have "a somewhat distinct economic standard of life and exhibit intellectual and social similarities."¹ For example, educational attainment and income usually increase from a lower ranking occupational category to a higher ranked occupational category.² By employing income and educational attainment data from the Bureau of Labor Statistics for each occupational category used in the present research the following relationships are noted in Table 16.

It appears reasonable to assume that since income is fundamentally a dependent variable of occupational category, occupations with higher socio-economic ranking and concomitant higher incomes will demonstrate higher expenditures than the lower ranking occupations. Although income is basically a dependent variable of occupation, expenditures are expected to be primarily dependent upon income. Therefore, it is expected that expenditure patterns will be positively correlated with income.³

¹Delbert C. Miller, Handbook of Research Design and Social Measurement (New York: David McKay Co., Inc., 1964), p. 98.

²The degree of skill necessary to perform the occupational task also tends to increase from the lower ranking occupational groups to the higher occupational categories.

³The number of sample families utilized in the research tends to be concentrated in the middle age classes. In both the younger and older age classes the number of sample families is smaller. In the under 25 age class the self-employed occupational group only has (1) sample family. The expenditure patterns for this occupational-age class are presented for illustration and continuity purposes.

TABLE 16

OCCUPATIONAL SOCIO-ECONOMIC RANKING, MEAN EDUCATIONAL ATTAINMENT, AND MEAN DISPOSABLE DOLLAR INCOMES, 1960

<u>Occupational Category</u>	<u>Mean Years Education</u>	<u>Mean Disposable Dollar Income</u>
Salaried Professionals and Officials	14	\$8,438
Self-Employed	12	8,030
Clerical and Sales Workers	12	5,948
Skilled Workers	10	6,680
Semi-Skilled Workers	10	5,850
Unskilled Workers	9	4,313

Source: Mean disposable income and education from U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditures and Income: Urban Places in the North Central Region (BLS Report No. 237-35) (Washington: U.S. Government Printing Office, 1964), pp. 41-46.

Age classifications.--The age classifications utilized in the research are employed by the Bureau of Labor Statistics to differentiate the effect of age of family head on incomes, expenditures, and other socio-economic characteristics. The age classifications utilized in the study are:

Under 25 years
 25-34
 35-44
 45-54
 55-64
 65 years and over

The Bureau of Labor Statistics believes the particular age classification allows the researcher to develop more accurate insights into the social and economic

significance of family age. The Survey Research Center of the University of Michigan employs a similar chronological age classification. There are, however, only six age classes utilized in the studies of the Survey Research Center. The Bureau of Labor Statistics, on the other hand, employs seven classifications. But, in this research study only six age classes are utilized due to the small number of sample families in the older age classes (65 years and over). The other difference between the two surveys' age classification is the Survey Research Center does not include family heads under eighteen years. The Bureau of Labor Statistics can include any family head under twenty-five years.

Family Economic Accounts

This study encompasses the following asset, liability, and expenditure accounts of families in each occupational class and within each chronological age subclass. Each of the following expenditure accounts is utilized either directly or indirectly in the research.

Decrease in assets

Increase in liabilities

Increase in assets

Decrease in liabilities

Savings

Total current expenditures

Total food
 Food prepared at home
 Food away from home

Housing expenditures
 Rented dwelling
 Owned dwelling
 Other

Fuel, light, refrigeration, and water

Household operations

Household furnishings and equipment

Clothing, clothing materials, services

Automobile expenditures

Analysis of Data

Data Preparation and Programming

The unpublished data were obtained from Bureau of Labor Statistics' regional offices in the North Central and North Eastern regions of the United States. The raw data come on computer print-outs, cross-classified by sampling strata, age of head and occupation of the family head for each Standard Metropolitan Statistical Area. The data represent the expenditure patterns for families of two or more persons and there are eight age-occupation cross-classifications. The two latter age classes (65-74 and 75 and over) were combined to form one age class (65 and over) by weighting and combining the number of families into the one age class of 65 years and over.

Since there are nine sets of Standard Metropolitan Statistical Area data utilized in the study (one set of

data from each SMSA used), the data had to be weighted and averaged in order to make the resulting sample averages that represented all the class A Standard Metropolitan Statistical Areas in the North Central and North Eastern regions. To construct the sample, the data from each Standard Metropolitan Statistical Area were punched on data processing cards and weighted according to the number of families in each age-occupation of the family head class. To weight and average the families, the family economic accounts in each Standard Metropolitan Statistical Area occupation-age cell is multiplied by the number of families in the cell. Then the products for each occupation-age cell are summed and divided by the total number of families in the occupation-age classes. After each of the nine Standard Metropolitan Statistical Areas was weighted and averaged, a resulting average for each age-occupation class representing the nine Standard Metropolitan Statistical Areas was obtained. From the weighted average figures, computer programs for the marginal propensity to consume, the average propensity to save, and the income-expenditure elasticities were developed.

Methodological Procedures

In the analysis of cross-section family budget data several alternative analyses are available to the researcher. Depending upon the objectives of the researcher, the analysis may entail complex correlation and multiple

correlation analysis as well as regression analysis. In this approach, usually the separate influence of each independent variable on the dependent variables is determined. Such statistical approaches are the usual procedures employed by agricultural economists in isolating the effect of several socio-economic variables on food purchasing patterns. Another approach to the analysis of cross-section family budget data is employing elasticity measures, the marginal propensity to consume, and average propensities to consume and save. Each measure provides several advantages in analyzing cross-section data in marketing. First, each of the measures usually reflects the influence of several socio-economic factors. For example, the elasticity measure normally reflects the influence of other variables in addition to income. Such consumption influences as changes in family size, saving-debt relationships, tastes, degree of urbanization, and age of family are usually reflected in the elasticity coefficients. In many instances for market delineation purposes the reflection of such influence is more important and significant than isolating the effect of one or two socio-economic variables on consumption patterns. Furthermore, the elasticity measures, average propensities to consume, and marginal propensities to consume are also useful in predicting future expenditure patterns. The specific methodology used in this study is explained below.

The analysis of the study is static, that is, it is focused on cross-sectional relationships between occupational age classes at one point in time. Elasticity measures will be employed to compute the income elasticities for all expenditure accounts within the family age classes in each occupational category. For example, in the occupational category--skilled workers--there are six age classes. In each age class there is an average disposable income account and an average dollar value for each expenditure account. From the computed expenditure elasticities for each age class, several inferences may be made. For example, by comparing the income elasticities within each age class, an indication of how occupational groups adjust to changes in income can be made as well as the following relationships:

1. Specific expenditure account "priorities" between occupational family age classes and among identical family age classes of different occupations.
2. Expenditure "priorities" for selected expenditures based on elasticity coefficients for selected expenditures within the occupational-age classes.

In employing least-square regression analysis to compute elasticities in cross-sectional studies, the assumption is made that prices remain constant.¹ This is a

¹George Katona, Lawrence R. Klein, John B. Lansing, and James N. Morgan, Contributions of Survey Methods to Economics (New York: Columbia University Press, 1954), p. 190.

reasonable assumption since the data utilized in this study were collected in a relatively short period of time in each year. As previously mentioned, some precautions should be made in interpreting the cross-sectional elasticities: families may not always react to changes in income as cross-sectional elasticities indicate. In market delineation, however, the primary concern is predicting changes in consuming groups. Most family budget analysts assert that cross-sectional elasticities are generally reliable predictors.¹

In this study regression analysis is used to compute the income elasticities of several family expenditures. In each age class of each occupation the independent variable is the income of the occupational class and the dependent variables are the expenditure accounts. The elasticities will measure the responsiveness of expenditures to income change within each age class of each occupational category.

To determine hypothetical marginal changes in total expenditures between family age classes for each occupation, marginal propensities to consume are also calculated.²

¹See Irving B. Kravis, "Expenditure-Income Relationships for Consumers' Durable Goods and Problems in Their Derivation," Proceedings of the 115th Annual Meeting of the Business and Economic Statistics Section of the American Statistical Association, ed. Walter F. Ryan (American Statistical Association, 1955), pp. 106-13.

²See Hamburg, op. cit., p. 371; and Kravis, op. cit., p. 18.

The marginal propensity to consume is the change in expenditures associated with a corresponding change in disposable income. As such, it demonstrates the percentage of a new level of income spent for consumption. The marginal propensity to consume is computed for the total family expenditure accounts.

To compute the relationship between average disposable income and average total and specific expenditure accounts in each occupational age class, the average propensity to consume is computed to indicate the portion of income devoted to "current expenditures in each family age class. The national average propensity to consume for the population averages about .93, denoting that consumers devote approximately 93 per cent of income for expenditures.¹ However, it is expected that variations occur in the average propensity to consume among the different family age classes.

The average propensity to save for each occupational age class is also computed and it indicates the proportion of disposable income saved or dissaved in each age class.

The major hypothesis of the study states the socioeconomic classificatory variables, age and occupation of the family head, significantly influence expenditure patterns.

¹Louis J. Paradiso, "Consumer and Business Income and Spending in the Postwar Period," Survey of Current Business (Washington: U.S. Government Printing Office, U.S. Department of Commerce, March, 1963), pp. 12-14.

In order to determine whether significant differences in expenditures occur between the family age classes of an occupational category, a significance measure is needed. For purposes of the study and for market delineation utilization an economic and marketing criterion has been established to judge significant differences in expenditure accounts. In the study, differences in expenditures between family age classes are considered significant when family expenditures vary five per cent or more from the mean account expenditures of the preceding family age class. In the family age classes where expenditure accounts do not vary five per cent or more, the accounts are not considered significantly different. In the "not significantly different" expenditure accounts, the hypotheses can neither be accepted nor rejected.

As previously mentioned, the Bureau of Labor Statistics has made sampling error estimates for several expenditure accounts. For the urban United States the standard error for average total expenditures was computed to be less than one per cent. The relative standard errors for selected specific expenditure accounts (food, housing, clothing, transportation, and health, recreation, etc.) were all less than one and one-half per cent. Considering the above chance sampling variations, the study assumes the established economic and marketing significance criterion of five per cent as more than adequate for allowing

chance sampling variations and denoting significant differences in expenditures.

Definitions of Terms

In a study of this nature it is important that the terms employed are understood. Listed below are the terms used by the Bureau of Labor Statistics in coding and classifying data. The following terms will be utilized in this research: Bureau of Labor Statistics definitions:¹

Account balancing difference. The difference between reported total receipts and reported total disbursements. Total receipts consist of income after taxes, other money receipts, and moneys or credit received from decreasing assets or increasing liabilities. Total disbursements consist of expenditures for current consumption, personal insurance, gifts and contributions, and outlays of money that resulted in increasing assets or decreasing liabilities.

Automobile transportation. Purchase and operation of automobiles. Purchase is net of trade-in allowances (or sale) and discounts, but includes financing charges.

Decreases in assets. Decreases in cash holdings, business investments, and money owed to the family; sale of owner-occupied dwellings, other real property and personal property; sale or retirement of stocks and bonds; settlement or surrender of personal insurance policies; and decreases in other assets.

Decreases and increases in liabilities. Changes in the mortgage debt on owner-occupied dwellings and other real property; money owed to banks,

¹U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditures and Income, Urban Places in the Western Region, 1960-61 (Washington: U.S. Government Printing Office, 1964), pp. 4-5.

insurance companies, etc.; money owed for rent, taxes, automobiles, house furnishings and equipment, and other goods and services; and changes in other liabilities.

Education of head. Years of school completed during or before survey year, in elementary or high school, college, university, or professional school.

Expenditures for current consumption. The cost of goods and services for family living (including financing charges and sales and excise taxes) bought during the survey year, whether or not payments were completed during the year. Consumer durable goods such as automobiles and household equipment were considered as consumption items, but purchases and sales of homes were considered as changes in assets. Family expenditures for items used partially for business, such as home or car, were adjusted to exclude the amount chargeable to business use.

Family. The family, or consumer unit, refers (1) to a group of people usually living together who pooled their income and drew from a common fund for their major items of expense, or (2) to a person living alone or in a household with others but who was financially independent, i.e., his income and expenditures were not pooled. Never married children living with parents were always considered as members of the consumer unit.

Family head. In husband-wife families, the husband was considered the head. In other types of families the person recognized as the head by other family members was so designated.

Family size. The number of equivalent, full-year members based on the total number of weeks during which both full-year and part-year members belonged to the family in the survey year, divided by 52 weeks.

Full-time earners. A count of family members who were employed 48 weeks or more in the survey year, and for 35 hours or more per week in wage and salary occupations. The minimum requirement did not apply to self-employed workers in an unincorporated business or profession.

Gifts and contributions. Cash contributions to persons outside the family and to welfare, religious,

educational, and other organizations; and the cost of goods and services purchased in the survey year and given to persons outside the family.

Net change in assets and liabilities. The algebraic sum of increases and decreases in assets and liabilities. Net increases in assets or decreases in liabilities represent a net saving during the year. Net decreases or increases in liabilities represent a deficit (-) or net dissaving.

Occupation of family head. The major occupation at which employed for the largest number of weeks in the survey year. The classification was made in accordance with the 1960 Census of Population, Alphabetical Index of Occupations and Industries, except that the self-employed (including businessmen, professionals, and artisans) were separated from salaried managers, officials, and professional workers. Members of the Armed Forces, living off base, and therefore eligible for the survey, were classified separately. The retired included heads who were wholly retired and some with nominal earnings which were less than retirement income.

Increases in assets. Increases in cash holdings, business investments, and money owed to the family; purchase and improvement of dwellings and other real property; purchases of stocks and bonds; and increases in other assets.

Money income after taxes. Money income after deduction of personal taxes (Federal, State, and local income taxes, poll taxes, and personal property taxes).

Other Definitions

Ex post consumer expenditure patterns. Current or historical consumer expenditure patterns usually disaggregated according to one or more socio-economic variables.

Cross-sectional consumer expenditure survey. An investigation of expenditure patterns of individual or families with differing socio-economic characteristics at one point in time.

Market delineation. The process of identifying consuming groups from a heterogeneous aggregated population.

Socio-economic characteristics. Identifying traits of individuals or groups, such as income, educational attainment, and occupational category.

Necessities. In this research, "necessities" include total food, total shelter, clothing, and utilities.

Primary age classes. The family age classes in which the family head's age is under 45 years.

Secondary age classes. The family age classes in which the family head's age is over 45 years.

Manual occupational categories. The lower socio-economic ranked occupational categories including skilled, semi-skilled, and unskilled workers.

Nonmanual occupational categories. The higher socio-economic ranked occupational categories including professional, self-employed, and clerical and sales workers.

Average propensity to consume. The ratio of the mean disposable income to a specific expenditure account.

Average propensity to save. The ratio of mean disposable income to total family savings.

Marginal propensity to consume. The proportion of a new level of income devoted to expenditures.

Income elasticity. The responsiveness of a change in expenditures to a change in income.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

The objective of this chapter is to present the empirical findings of the research. By presenting the findings relating the influence of both age and occupation on selected expenditure patterns, potential insights may be gained regarding the influence of the occupation-age variable on family expenditure patterns and consumer behavior.

The findings of the study are organized into six sections. The six sections follow the presentation of the hypotheses in Chapter I. The first section presents the findings relating socio-economic occupational rank and absolute expenditures. The second section presents the findings relating socio-economic occupational rank and relative income-expenditure relationships. The findings relating occupational rank and family disposable income concentrations by age class are presented in the third section. Absolute family saving levels by occupation and age class are presented in the fourth section. The income-expenditure elasticities for selected family expenditures are presented in the fifth section. Finally, the marginal propensity to

consume for total expenditures is presented in the sixth section.

Occupational Socio-Economic Rank and Absolute Expenditure Relationships

As previously discussed in Chapter I, occupational categories can be ranked on a socio-economic scale. As previously discussed, an important correlate of the socio-economic ranking scale is the income of the family. This is an important determinant of expenditure patterns. Thus, in the study it generally was expected that the higher the socio-economic rank of the occupations, the greater the total expenditures for each occupational category. However, the expenditures for all goods were not expected to completely follow the ranking scale.

Total Family Expenditures

The first hypothesis relating socio-economic rank and family age class to absolute dollar expenditures states that in each family age class average total dollar expenditures are positively related to the socio-economic rank of the occupation.

The findings relating occupational socio-economic rank and family age class to total family expenditures are presented in Table 17. In addition to the weighted average for total expenditures in each occupational category (where all age classes were combined), the findings are also presented by family age class of each occupation. A weighted

TABLE 17

FAMILY TOTAL EXPENDITURES BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO-ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$8805	\$8256	\$5441	\$7658	\$8973	\$9597	\$10213	\$8705	\$8930	
Self-employed	8076	7455	5820	7234	7642	8538	8862	8789*	6939	
Clerical	6692	6456	5652*	6294	6728	7000	7798	6514	5067	
Skilled	6559*	6455	5329	6547*	6555*	6679	7073	6548*	4854*	
Semi-skilled	6077	6047	5012	5733	6456*	6111	6310	6000	4977*	
Unskilled	5369	5415	4607	5096	5802	5314	6053*	4790	3828	

*Expenditures not significantly different according to the 5% criterion.

average is also computed for the average total expenditures in the primary and secondary age classes. In Table 17 average total expenditures (all age classes combined) coincide with the socio-economic occupational ranking system. Professionals have the highest absolute family expenditures. In the primary age classes the expenditure sequence by socio-economic rank for total family expenditures is not always maintained. The self-employed, in the under 25 age class, have the largest expenditures and are followed by the clerical and professional categories. In the 25-34 age class, the professionals lead in total expenditures; however, the data reveal that the skilled category has higher expenditures than the clerical families. The total expenditures sequence is maintained in the 35-44 age class except for the families in the skilled category which spend more than the clerical families.

In the secondary age classes, the ranking of expenditures by socio-economic occupational rank in the 45-54 age classes is maintained. In the 55-64 age class, however, total expenditures do not follow the general socio-economic ranking. As noted in the data, the self-employed have the highest total expenditures while the professionals rank second. In this age class skilled workers spend slightly more than the clerical category. In the 65 and over age class, the ranking of expenditures is maintained except for the semi-skilled workers who demonstrate higher total

expenditures than the skilled category.

The data on the average total expenditures for the primary and secondary age classes reveal that expenditures correspond to the socio-economic ranking scale.

Total Food Expenditures

The second absolute expenditure hypothesis states that in each family age class, total food expenditures are positively related to occupational socio-economic rank. The relationship of occupational rank and total food expenditures is not as clearly defined as for total expenditures. In Table 18 total food expenditures are presented by occupation and family age classes. The data on average total food expenditures (all age classes combined) generally follow the occupation ranking scale except for the self-employed and skilled workers. The self-employed have the highest total food expenditures. The skilled workers, on the other hand, spend more on total food than do those in the clerical category. There is also very little difference in total food expenditures between the professional and self-employed categories.

In the primary age classes, the irregularities in total food expenditures also are present in the under 25 age class. The self-employed category demonstrates the largest total food expenditures and is followed by the semi-skilled, professional, and skilled workers. The clerical and unskilled categories have the lowest total food

TABLE 18

FAMILY TOTAL FOOD EXPENDITURES BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO-ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$1945	\$1897	\$1305	\$1689	\$2111	\$2015	\$2083	\$1918	\$1930	
Self-employed	1982*	1933	1586	1746*	2067*	2018	1994*	2181	1663	
Clerical	1659	1569	1251	1426	1735	1777	1968*	1649	1352	
Skilled	1712*	1674	1271*	1597	1786*	1755	1851	1744	1229	
Semi-skilled	1617	1581	1377	1457	1715*	1660	1731	1584	1416	
Unskilled	1463	1409	1089	1312	1541	1526	1671*	1396	1416*	

*Expenditures not significantly different according to the 5% criterion.

expenditures. The self-employed category, again in the 25-34 age class, demonstrates the highest total food outlays and is followed by the professionals. In the 25-34 age class both skilled and unskilled workers have greater expenditures than those in the clerical category. In the 35-44 age class, the total food expenditure sequence is ranked in descending order by the professionals, self-employed, skilled, semi-skilled, clerical and unskilled groups.

In the secondary age classes, the occupational total food expenditure patterns present a more uniform total food expenditure pattern. Expenditures in the 45-54 age class correspond to the occupational ranking. However, in the 55-64 age class, the self-employed have the highest expenditures, followed by the professionals, skilled, and clerical categories, respectively. Professionals, in the 65 and over age class, have the highest expenditures and are followed by the self-employed, unskilled and semi-skilled, clerical, and skilled categories, respectively. The data on average total food for the primary age classes reveal that the self-employed have the highest total food expenditures, followed by the professionals, skilled, semi-skilled, clerical, and the unskilled groups. For the average of the secondary age classes, the self-employed have the highest expenditures, followed by the professionals, clerical, skilled, semi-skilled, and unskilled.

Total Housing Expenditures

The third hypothesis relating age and occupation to absolute expenditures states that in each of the family age classes average housing expenditures are positively related to the socio-economic rank of the occupational category. In Table 19 the occupations are again ranked and the data relating the patterns for total housing expenditures are presented. Total housing expenditures encompass expenditures for shelter, utilities, household operations, house furnishings, and equipment. Average total housing expenditures (all age classes combined) for the occupational categories follow the socio-economic ranking scheme. In the primary age classes, however, considerable expenditure variation occurs in the under 25 age class. The clerical category demonstrates the highest expenditures followed by the professionals, semi-skilled, skilled, unskilled, and self-employed. Total housing expenditures in the 25-34 age class correspond to the ranking of the occupations. And in the 35-44 age class the sequence is maintained except for the manual working occupational categories where semi-skilled workers demonstrate higher expenditures than do the unskilled or skilled workers although the differences are small.

In the secondary age classes, the expenditure sequence again is maintained in the 45-54 age class. However, in the 55-64 age class the self-employed have the highest

TABLE 19

FAMILY TOTAL HOUSING EXPENDITURES BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$2583	\$2570	\$1925	\$2628	\$2583	\$2601	\$2687	\$2494	\$2415	
Self-employed	2499*	2250	1220	2400	2172	2686	2656*	2728	2663	
Clerical	2011	2026	2049	2083	1978*	1992	2078	2010	1541	
Skilled	1743	1822	1669	2021*	1709	1654	1713	1637	1370	
Semi-skilled	1668*	1730	1675*	1722	1744*	1596	1633*	1559	1454	
Unskilled	1557	1632	1721*	1467	1737*	1469	1582*	1406	1122	

*Expenditures not significantly different according to the 5% criterion.

outlay. Finally, in the 65 and over class the self-employed demonstrate the largest total housing expenditures followed by the professionals, clerical, semi-skilled, skilled, and unskilled.

The average data for total housing expenditures in the primary age classes show that total housing expenditures follow the occupational ranking scale. However, the average housing expenditures do not completely follow the occupational rank in the secondary age classes since the self-employed category expends more for total housing than does the professional group.

Clothing Expenditures

The fourth hypothesis relating absolute expenditures to the occupation-age variables states that in each family age class family clothing expenditures are positively related to occupational socio-economic rank. Table 20 illustrates the relationship between family clothing expenditures and the occupational-age variables. The disaggregation of family clothing expenditures by occupational family age classes illustrates some irregularities in the pattern of clothing expenditures. The data reveal that average family clothing expenditures (all age classes combined) follow the occupational ranking scale except for those in the self-employed category who spend slightly more on clothing than do the professionals. In the primary age classes, the pattern of expenditures is also irregular. The self-employed,

TABLE 20

FAMILY CLOTHING EXPENDITURES BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$ 964	\$867	\$470	\$730	\$1010	\$1103	\$1179	\$994	\$1016	
Self-employed	1041	958	654	803	1069	1103	1210*	1130	716	
Clerical	776	775	591	669	888	776	937	677	391	
Skilled	719	680	419	651*	738	764	875	700*	356	
Semi-skilled	677	666	416*	595	761*	691	738	640	523	
Unskilled	568	585	446	529	652	548	676	451	331	

*Expenditures not significantly different according to the 5% criterion.

in the under 25 age class, expend the highest amount on clothing and are followed by the clerical, professional, unskilled, skilled, and semi-skilled groups, respectively. In the 25-34 age class, regularity according to the occupational ranking scale is maintained except for the self-employed group which devotes more income toward clothing purchases than do those in the professional category. In the 35-44 age class, the self-employed group again definitely spends more on clothing than do those in the professional category. Also it is noted that the semi-skilled families spend more than the skilled workers. Those in the other occupational categories, however, tend to distribute their incomes according to occupational rank.

In the 45-54 age class, the self-employed group spends a fraction more than the professional group. The other occupations, however, demonstrate clothing expenditures according to occupational rank. In the 55-64 age class, those in the self-employed category display higher expenditures than those in the professional category, and the skilled families spend more than do the clerical. Finally, in the 65 and over age class semi-skilled workers demonstrate higher expenditures than do those in either the skilled or clerical categories and the unskilled families spend slightly less than the skilled category.

The sequence of expenditures for clothing is maintained in the average expenditures for the primary and

secondary age classes except that the self-employed have higher expenditures than do those in any of the other occupational categories.

House Furnishing and Equipment Expenditures

Two hypotheses were formulated to aid in determining the relationship between age and occupation and house furnishing expenditures. The first hypothesis states that family expenditures for house furnishings and equipment reach maximum levels in the primary age classes for each occupation. The second hypothesis states that the sequence of house furnishing and equipment purchases does not follow the socio-economic ranking scale in any age class.

Several interesting relationships were found in the comparison of house furnishing and equipment expenditures by occupational socio-economic rank. House furnishings basically include household textiles, furniture, floor coverings, small appliances, housewares, and household insurance. The data showing the average amount spent for house furnishings and equipment are presented in Table 21.

Average house furnishing and equipment expenditures, all age classes combined, generally follow the socio-economic rank of the different occupations with the exception of the skilled category. In the skilled category, expenditures average a little higher than for the clerical occupational category; however, there is only a slight difference in expenditures.

TABLE 21

FAMILY HOUSE FURNISHING AND EQUIPMENT EXPENDITURES BY OCCUPATIONAL
SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$466	\$492	\$451	\$548	\$452	\$429	\$471	\$375	\$353	
Self-employed	376	378	70	344	407	374	345	424	329	
Clerical	339	384	586	415	323	280	279	329	114	
Skilled	347*	374	308	454	330*	316	310	358	192	
Semi-skilled	316	354	455	309	378	272	298*	235	215	
Unskilled	301	333	567	251	348	265	282	277	63	

*Not significantly different according to the 5% criterion.

In the primary age classes, expenditures for house furnishings increase, then decrease with family age for the professional and skilled categories. Those in the self-employed category, by contrast, increase expenditures with family age. Throughout the primary age classes, the clerical families spend less with increases in family age. Those in the semi-skilled and unskilled categories follow similar expenditure patterns since all have high expenditures in the under 25 category, with a decrease in expenditures in the 25-34 age class, and an increase in expenditures in the 35-44 age class.

In the secondary age classes, those in the professional category devote less income to house furnishings with increasing family age. By contrast, the self-employed, clerical, and skilled groups increase, then decrease expenditures with family age. The semi-skilled and unskilled workers, however, continually decrease expenditures with increasing family age.

The data further reveal that maximum expenditures are reached in the primary age classes by all the occupational categories with the exception of the self-employed group. The data reveal also that in the under 25 age class clerical workers definitely spend more than those in the other occupational categories. In the remaining age classes, the professional families maintain the highest average expenditures except for the self-employed in the 55-64 age

class. The data also reveal that in the 25-34 and 35-44 age classes, the skilled families have higher disbursements for house furnishing and equipment expenditures than do the clerical families.

In the secondary age classes, the irregularity of expenditures by socio-economic rank is also revealed. Illustratively, in the 45-54 age class, the professionals exhibit the highest level of house furnishing expenditures. The professionals are followed by the self-employed, skilled, semi-skilled, unskilled, and clerical. By contrast, in the 55-64 age class, the self-employed have larger expenditures than those in the other occupations. The self-employed are followed by the professionals, skilled, clerical, unskilled, and semi-skilled. In the 65 and over age class professionals lead in expenditures for house furnishings and they are followed by the self-employed, skilled, clerical, and unskilled.

Finally, the data for the average expenditures for the primary and secondary age classes reveal that the expenditure sequence is not maintained in either age classification.

Automobile Expenditures

Regarding the relationship between socio-economic occupational rank and expenditures for automobiles, two hypotheses were set forth. The first hypothesis states

that the magnitude of family expenditures for automobiles is not correlated with occupational rank in any age class. The second hypothesis states that the maximum automobile expenditures for each of the manual occupational categories are concentrated in the primary age classes while maximum automobile expenditures for each of the non manual occupational groups are concentrated in the secondary age classes. In the analysis of automobile expenditures by family age classes several varying relationships are noted. The data are presented in Table 22.

Average automobile expenditures for each occupational category are not in accordance with the general socio-economic ranking scale. For the average automobile expenditures, all age classes combined, professionals spend considerably more than do those in the other occupations. And somewhat surprising, the skilled workers devote more income than those in either the self-employed or clerical category. The semi-skilled families follow the professional and skilled occupational categories. The workers in the clerical category spend significantly more on automobiles than either the self-employed or unskilled workers. In the under 25 age cell, skilled workers expend considerably more on automobiles than those in the other occupations. However, for the 25-34 age class, the professionals have the highest expenditures and they are followed by the skilled families. In the 35-44 age class, the professionals again

TABLE 22

FAMILY AUTOMOBILE EXPENDITURES BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$1189	\$1089	\$671	\$1028	\$1174	\$1334	\$1527	\$1037	\$1228	
Self-employed	639	650	568	712	610	632	695	655	385	
Clerical	727	666	582*	690*	664	808	857	808	585	
Skilled	904	927	885	975	900	878	1017	770	483	
Semi-skilled	811	833	662	801	882*	785	845	774*	346	
Unskilled	626	643	460	703	635	607	846*	422	230	

*Not significantly different according to the 5% criterion.

have the highest expenditures. The semi-skilled and the skilled workers rank second and third in expenditures.

In the secondary age classes, all of the occupations reduce automobile expenditures as family age increases except the professionals who decrease, then increase expenditures. In the 45-54 age class, the professionals expend the most for automobiles. The skilled category follows in second place. Another irregularity in the 45-54 age class is that unskilled workers have higher automobile expenditures than the self-employed, and semi-skilled groups.

The 55-64 year age class is the first family age class in which clerical workers spend more for automobile expenditures than the skilled families. In the 65 and over age class the professional families increase their expenditures substantially. The professionals are followed by the clerical, skilled, self-employed, semi-skilled and unskilled families, respectively.

In examining the data for the average expenditures in the primary age classes, several irregularities in the family purchase patterns are found. The professionals expend the most and they are followed by the skilled, semi-skilled, clerical, self-employed, and unskilled families. The average automobile expenditure data for the secondary age classes point out that the professionals again have the highest expenditures. The professionals are followed by the skilled, clerical, semi-skilled, self-employed, and unskilled.

Occupational Socio-Economic Rank and
Relative Income-Expenditure Relationships

A frequently used measure for determining income-expenditure patterns is the average propensity to consume. As previously defined, the average propensity to consume is the proportion of disposable income devoted to either total expenditures or to a specific family expenditure account. The average propensity to consume provides two important measures for marketing and economic purposes: 1) a measure of family income dispersion and 2) a relative measure of comparing expenditure priorities among different socio-economic groups. In the findings presented below, the average propensity to consume is employed to demonstrate the above relationships. The average propensity to consume for total expenditures is presented first and is followed by the average propensity to consume for "necessities."

Total Family Expenditures

A hypothesis was formulated stating that in each family age class the average propensity to consume, for total family expenditures, is inversely related to occupational socio-economic ranking. The average propensity to consume for total expenditures is presented in Table 23. In the analysis of the average propensity to consume by the occupational-age classes, several irregular expenditure patterns are noted. The average propensity to consume for the occupations, when all age classes are combined, is not

TABLE 23

AVERAGE PROPENSITIES TO CONSUME FOR FAMILY TOTAL EXPENDITURES
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	.87	.90	.81	.90	.91	.84	.86	.81	.72	
Self-employed	.80	.89	1.31	.75	.97	.74	.77	.72	.71	
Clerical	.94	.96	.95	.94	.98	.92	.96	.89	.82	
Skilled	.93	.96	1.00	1.03	.92	.89	.92	.86	.78	
Semi-skilled	.95	1.00	1.10	1.00	.98	.90	.93	.88	.83	
Unskilled	.98	1.05	1.07	1.09	1.02	.89	.93	.87	.80	

in accordance with the occupational socio-economic scale. The self-employed have the lowest average propensity to consume, followed by the professionals, skilled, clerical, and the semi-skilled families. Those in the unskilled category demonstrate the highest average propensity to consume.

In the primary age classes, there are some occupations whose average propensity to consume exceeds unity, denoting that current family expenditure exceeds the disposable income of the family. In the under 25 years age class, those in the professional category have the lowest average propensity to consume; however, the self-employed group has the highest average propensity to consume. The clerical and skilled families are the only other occupational categories in addition to the professional category having an average propensity to consume less than unity. In the 25-34 age class, the self-employed have the lowest expenditure ratio and are followed by the professionals, clerical, and semi-skilled group. The data also reveal that in the skilled and unskilled categories the income-expenditure ratio exceeds unity. The occupations in the 35-44 year age class follow the socio-economic ranking scale except for the skilled group which has a lower average propensity to consume for total expenditures than either the clerical or self-employed.

In the secondary age classes, all the average propensities to consume are less than unity. Further, all of

the ratios decline with increasing family age. In the 45-54 age class the self-employed have the lowest average propensity to consume. Following the self-employed are those in the professional, skilled, semi-skilled, unskilled, and clerical categories. A similar relationship is found in the 55-64 age class where the self-employed continue to have the lowest average propensity to consume for total expenditures. The self-employed are followed by the professionals, skilled, semi-skilled, unskilled, and clerical groups. The self-employed continue to have the lowest average propensity to consume in the 65 and over age class and they are followed by the professional, skilled, unskilled, and clerical and semi-skilled families.

The average data for the primary age classes disclose that the self-employed have the lowest average propensity to consume. The self-employed are followed by the professionals, clerical and skilled, semi-skilled, and unskilled. The average data for the secondary age classes again reveal that the self-employed devote the smallest percentage of their income for total expenditures. Following the self-employed according to the proportion of income devoted to current expenditure are the professionals, skilled and unskilled, semi-skilled, and clerical.

Necessity Expenditures

The second hypothesis relating the proportion of income devoted to expenditures sets forth that in each family

age class the average propensity to consume, for all expenditure accounts classified as "necessities," is inversely related to occupational socio-economic rank. In this study "necessities" include total food, total shelter, clothing, and utilities. To compute the average propensity to consume the expenditures for each of the accounts were totaled and divided by the disposable income of the family. The data on the income-expenditure ratios for necessities are presented in Table 24.

The average propensity to consume for each occupational category (all age classes combined) follows the socio-economic ranking scale except for those in the clerical category who have a higher consumption ratio for necessities than those in the skilled category.

In the under 25 age class, the self-employed have the highest average propensity to consume and are followed by the semi-skilled, unskilled, skilled, clerical, and professional families. The income-expenditure ratios in the 25-34 age class follow the socio-economic ranking system with the exception of the self-employed families which have the lowest average propensity to consume. The average propensity to consume in the 35-44 age class follows an irregular pattern according to the socio-economic ranking scale. Unskilled and clerical families have the highest income-expenditure ratio and are followed by the self-employed, semi-skilled, and professional families.

TABLE 24

AVERAGE PROPENSITIES TO CONSUME FOR "NECESSITIES"
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Average All Age Classes			Primary			Average Secondary Age Classes			
				Under 25	25-34	35-44	45-54	55-64	65 and Over	
Professional	.44	.47	.43	.47	.48	.38	.41	.41	.36	
Self-employed	.44	.50	.68	.42	.56	.41	.42	.41	.41	
Clerical	.52	.53	.49	.50	.57	.50	.52	.49	.45	
Skilled	.49	.52	.52	.54	.50	.47	.50	.45	.40	
Semi-skilled	.52	.55	.61	.55	.53	.50	.52	.48	.47	
Unskilled	.55	.58	.57	.60	.57	.51	.52	.49	.53	

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In the secondary age classes, the average propensity to consume, for all occupations, generally tends to be considerably lower than in the primary age classes. In the 45-54 age class those in the clerical category have the highest average propensity to consume for necessities, followed by the semi-skilled, unskilled, skilled, self-employed, and professional families. The occupations in the 55-64 age class generally have lower income-expenditure ratios for necessities than do families in the 45-54 age class. The professionals and self-employed have the lowest average propensity to consume and they are followed by skilled, semi-skilled, clerical, and unskilled. In the 65 and over age class, the average propensity to consume generally continues to decline for all the occupational groups except for the unskilled workers who have a higher income-expenditure ratio. The professionals have the lowest ratio followed by the self-employed, skilled, clerical, semi-skilled, and unskilled.

The data for the averages of the primary age classes generally reveal that with decreases in the occupational rank the average propensity to consume for "necessities" increases. An exception to the pattern occurs with those in the skilled category who have a slightly lower average propensity to consume. A similar relationship exists for the averages of the secondary age classes.

Total Food Expenditures

Two hypotheses were set forth relating the proportion of income devoted to family total food expenditures. The first hypothesis states that in each successive occupational age class, the proportion of income devoted to total food expenditures increases in the primary age classes and decreases in the secondary age classes. The second hypothesis states that the average propensity to consume for total food expenditures in each age class of all occupations is inversely related to the socio-economic rank of the occupation. That is, the lower ranking occupations will demonstrate higher average propensities to consume than will higher ranked occupational categories. The data for the average propensities to consume for families in the primary and secondary age classes are presented in Table 25.

The findings for the average propensity to consume for the primary age classes points out that the average propensity to consume for the professionals, clerical, and skilled groups increases with family age. However, it is also noted that self-employed and semi-skilled groups decrease, then increase the proportion of income spent for total food. The unskilled, on the other hand, decrease the proportion of income for total food from the 25-34 to the 35-44 age class.

In the secondary age classes, the professionals,

TABLE 25

AVERAGE PROPENSITIES TO CONSUME FOR TOTAL FOOD EXPENDITURES
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	.19	.21	.20	.20	.21	.18	.18	.18	.16	
Self-employed	.20	.23	.36	.18	.26	.18	.17	.18	.17	
Clerical	.23	.23	.21	.21	.25	.23	.24	.23	.22	
Skilled	.24	.25	.24	.25	.25	.23	.24	.23	.20	
Semi-skilled	.25	.26	.30	.25	.26	.25	.25	.23	.24	
Unskilled	.27	.27	.25	.28	.27	.26	.26	.25	.30	

clerical, and skilled families generally decrease the proportion of income for total food in the secondary age classes. The self-employed increase, then decrease the relative amount of income for total food, but the semi-skilled families decrease, then increase total food expenditures. The unskilled workers decrease the proportion of income for total food, then increase the proportion in the 65 years and over age class.

The uniform pattern of an increasing average propensity to consume with decreasing occupational rank is not strictly maintained in any of the family age classes. In the nonmanual occupational groups in all the age classes, the self-employed have both higher and lower average propensities to consume than the professional group. The occupations in the manual categories follow a more uniform pattern; however, some variations do occur in the under 25 age class.

The most uniform patterns are found in the averages for the primary and secondary age classes.

Clothing Expenditures

The hypothesis relating the income-expenditure ratios for family clothing expenditures states that in each successive occupational age class, the proportion of income devoted to clothing expenditures increases the primary age classes and decreases with family age in the secondary age

classes. The average propensities to consume for clothing are presented in Table 26.

An examination of the data for the primary age classes reveals that the average propensity to consume increases with increasing family age for the professionals, semi-skilled, and unskilled workers. The self-employed families decrease, then increase the proportion of income for family clothing. The clerical families devote the same proportion of income in the under 25 and 25-34 age classes, then increase the proportion. The skilled workers initially increase the proportion of income, then maintain the ratio in the 25-34 and 35-44 age class.

In the secondary age classes, all the occupational groups decrease the proportion of income for clothing with increasing family age except for the semi-skilled group which maintains the same proportion in the 55-64 and 65 and over age class.

The data for the averages of the primary age classes reveal that the professional category devotes the smallest proportion of income toward the purchase of clothing. By contrast, the self-employed and clerical groups have the highest average propensity to consume and are followed by the skilled, semi-skilled, and unskilled groups.

The data for the average of the secondary age classes disclose that all the occupations devote a similar proportion of income for clothing except for the unskilled families who devote slightly less income.

TABLE 26

AVERAGE PROPENSITIES TO CONSUME FOR CLOTHING EXPENDITURES
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary			Secondary						
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	.10	.09	.07	.09	.10	.10	.10	.09	.08	
Self-employed	.10	.12	.15	.08	.14	.10	.11	.09	.07	
Clerical	.11	.12	.10	.10	.13	.10	.12	.09	.06	
Skilled	.10	.10	.08	.10	.10	.10	.11	.09	.06	
Semi-skilled	.11	.11	.09	.10	.12	.10	.11	.09	.09	
Unskilled	.10	.11	.10	.11	.12	.09	.10	.08	.07	

House Furnishings and Equipment Expenditures

The average propensity to consume for house furnishings and equipment expenditures reveals a different pattern than for some of the other income-expenditure relationships. The hypothesis formulated states that in each family age class, the proportion of income devoted to house furnishings and equipment expenditures is inversely related to socio-economic occupational rank. The data for the average propensity to consume for house furnishings and equipment expenditures are presented in Table 27.

The data indicate that for average of all age classes, there is very little difference in the average propensity to consume for house furnishings and equipment expenditures. However, in the primary age class, specifically in the under 25 age class, considerable differences are noted. In the under 25 age class, for example, those in the unskilled category devote the highest proportion of income to house furnishing and equipment expenditures. The unskilled are followed by the semi-skilled, professionals, skilled, clerical, and self-employed. The skilled families in the 25-34 age class have the largest average propensity to consume. However, in the 35-44 age class the professionals, self-employed, clerical, and skilled workers have identical average propensities to consume. The semi-skilled and unskilled workers have slightly higher average propensities to consume.

TABLE 27

AVERAGE PROPENSITIES TO CONSUME FOR FAMILY HOUSE FURNISHING AND EQUIPMENT
EXPENDITURES BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes							
	Average All Age Classes	Average Primary Age Classes	Primary			Average Secondary Age Classes		
			Under 25	25-34	35-44	45-54	55-64	65 and Over
Professional	.05	.05	.07	.06	.05	.04	.04	.03
Self-employed	.04	.05	.02	.04	.05	.03	.03	.03
Clerical	.05	.06	.10	.06	.05	.04	.03	.02
Skilled	.05	.06	.06	.07	.05	.04	.04	.03
Semi-skilled	.05	.06	.10	.05	.06	.04	.04	.04
Unskilled	.06	.07	.13	.05	.06	.05	.04	.01

In the secondary age classes, there is no identifiable pattern for the average propensity to consume. For example, in the 45-54 age class the professionals, skilled, semi-skilled, and unskilled workers have identical average propensities to consume. Although slightly lower, the self-employed and clerical families also devote an identical proportion of income toward the purchases of house furnishings and equipment.

In the data for the averages of the primary age classes, the professionals and self-employed distribute the smallest proportion of income for house furnishings and equipment. Following the professionals and self-employed are the clerical, skilled, and semi-skilled families who have identical average propensities to consume. The unskilled have the highest average propensity to consume for the age class. The data for the averages of the secondary age classes do not follow such a uniform pattern. As an example, the professionals have a higher average propensity to consume than do the self-employed.

Occupational Rank and Family Disposable Income Concentrations

Two hypotheses were formulated with respect to family income patterns. The first hypothesis states that in the non-manual occupational categories (professionals, self-employed, and clerical families), disposable income levels are highest in the secondary age classes. The second

hypothesis states that in the manual occupational classes (skilled, semi-skilled, and unskilled) disposable income levels reach maximum levels in the primary age classes. Table 28 illustrates the income concentration for both the non-manual and manual groups.

Non-manual Occupational Categories

The average disposable income levels for the non-manual occupational categories (all age classes combined) follow the general ranking scale except that the self-employed category has a slightly higher average income than the professional group. Considerable differences exist between the clerical, professional, and self-employed groups.

In the primary age classes, average disposable income for the occupational categories does not follow the socio-economic ranking scale in all the family age classes. In the under 25 age class, clerical families have higher disposable incomes than do those in the self-employed group. The data for the 25-34 age class show that the self-employed have higher disposable incomes than either the clerical or professional families. But, in the 35-44 age class, the family disposable income levels follow the socio-economic ranking scale.

In the secondary age classes the disposable income levels follow the occupational ranking scale in the 45-54 and 65 and over age classes. In the 55-64 age class, however, the disposable income level of the self-employed exceeds

TABLE 28

FAMILY DISPOSABLE INCOME LEVELS BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO-ECONOMIC OCCUPATIONAL RANK	Age Classes						
	Primary			Secondary			
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54 55-64 and Over
Professional	\$10124	\$9178	\$6699	\$8561	\$9880	\$11490	\$11840 \$10760 \$12359
Self-employed	10232*	8528	4444	9612	7892	11500	11539* 12139 9724
Clerical	7105	6717	5951	6729	6850	7612	8167 7288 6220
Skilled	7104*	6729	5358	6379	7167*	7533	7688 7628* 6227*
Semi-skilled	6405	6091	4543	5758	6586	6773	6818 6861 6021*
Unskilled	5513	5161	4303	4671	5682	5926	6495 5519 4798

*Not significantly different according to the 5% criterion.

that of the professionals. The data also point out that the disposable income levels of the self-employed and clerical groups decline with increases in family age. However, the disposable incomes of those in the professional category increase in the 65 and over age class.

The data for the average disposable incomes for the primary age classes follow the ranking scale. However, the averages of the secondary age classes do not since the self-employed have a slightly higher disposable income level.

Manual Occupational Categories

The average disposable income for the manual working classes (all age classes combined) follows the socio-economic ranking scale. In the primary age classes, income increases with family age for all the occupations. Further, with increases in family age, the differences in disposable income between the skilled and semi-skilled workers remain relatively stable. However, the differences in disposable income between the semi-skilled and unskilled groups tend to increase.

In the secondary age classes, the family disposable incomes again follow the occupational ranking scale. The data also reveal that all the families experience sharp declines in disposable income.

The average income levels for both the primary and secondary age classes correspond to the socio-economic rank of the occupations.

Family Absolute Savings Levels

Two hypotheses were formulated relating family savings levels with the age and occupation of the family head. The first hypothesis states that in each family age class, the family savings levels of the non-manual occupational categories do not follow the socio-economic ranking scale. The second hypothesis states that in each family age class the family saving levels of the manual occupational categories do follow the socio-economic ranking scale.

The definition of total family savings used in this study is broader than the definition of "liquid cash holdings"; however, it gives a more realistic view of the total family savings patterns.

Savings are defined as:

- + the increase in assets
- the decrease in assets
- the increase in liabilities
- + the decrease in liabilities
- + personal insurance

In Table 29 the absolute savings patterns are presented for both the non-manual and manual occupations.

Non-manual Family Savings Patterns

Those in the self-employed category have the highest average savings (all age classes combined), followed by the professional and clerical workers. Family saving patterns in the under 25 age class follow the socio-economic ranking scheme. However, in the 25-34 age class, the self-employed families demonstrate the highest saving levels,

TABLE 29

FAMILY SAVINGS LEVELS BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	and Over	65
Professional	\$1196	\$1122	\$1397	\$1018	\$1178	\$1302	\$1334	\$1337	\$ 826	
Self-employed	1975	1505	665	2859	781	2152	2440	1951	2481	
Clerical	556	536	144	669	509	585	443	666	946	
Skilled	584	473	102	197	715	710	650	813	648	
Semi-skilled	315	146	-15	129	182	513	557	345	879	
Unskilled	240	109	-326	-9	129	304	395	530	240	

followed by those in the professional category. But in the 35-44 age class, family savings correspond to the occupational socio-economic rankings.

In the secondary age classes, the self-employed families have the highest saving levels in all the age classes. In the 65 and over age class, the professionals decrease family savings; however, the self-employed and clerical families substantially increase the level of savings.

The data also indicate that for the average of both the primary and secondary age classes, those in the self-employed category have the highest savings levels. And the self-employed families are followed in level of savings by the professional and clerical workers.

Manual Family Savings Patterns

The family saving patterns of the manual working class families generally follow the socio-economic rank of the occupational categories. The average family savings (all age classes combined) all follow the socio-economic ranking pattern. In the primary age classes, some of those in the manual occupational categories demonstrate dissaving patterns. In the under 25 age class, for example, both those in the semi-skilled and in the unskilled categories dissave. The skilled group does have small average savings. In the 25-34 family age class, the only age class dissaving is the unskilled occupational group. However, the degree

of dissaving is considerably reduced from that of the preceding age class. All the occupational categories have positive savings in the 35-44 age class. It is also noted that there is a considerable increase in family savings for those in the skilled occupational category; however, the semi-skilled and unskilled workers also increase the absolute savings levels.

In the secondary age classes family saving patterns do not all follow the same pattern as in the primary age classes. The skilled workers decrease savings slightly in the 45-54 age class. By contrast, the semi-skilled and unskilled families considerably increase savings. In the 55-64 age class, skilled and unskilled workers increase savings, but the semi-skilled category decreases savings. The average saving patterns in the 65 and over age class show an irregular similarity. In that age class, those in the skilled and unskilled category decrease savings, while the semi-skilled workers increase family savings.

The data for the average family savings levels of the primary and secondary age classes reveal that family savings follow the socio-economic rank.

Occupational Rank and Income- Expenditure Elasticities

Four hypotheses were formulated relating the responsiveness of expenditures to changes in incomes within each occupational-age class. The elasticity coefficients in

the following tables indicate the responsiveness of a change in expenditures to a given change in disposable income within each age class of each occupational category. An elasticity coefficient greater than one (unity) indicates that expenditures are elastic. But, an elasticity coefficient less than one indicates inelastic expenditures. That is, the family expenditures do not change relatively as much as disposable income changes. An elasticity coefficient of one (unity) indicates that expenditures change in the same percentage ratio as income.

In presenting the findings for each occupational-age class the elasticity coefficients are presented first. Following the presentation of the elasticity coefficients, the standard error of the elasticity coefficient is presented. The elasticity coefficients which are statistically significant at the .05 level are noted in each table.

Total family expenditures

The first hypothesis states that in each occupational-age class the magnitude of income elasticity coefficients for total expenditures is inversely related to the socio-economic rank of the occupation. In Table 30, the elasticity coefficients for total expenditures are presented for each occupational-age class.

In the under 25 age class, the self-employed category does not contain enough sample families to compute the elasticity coefficients. The professionals, however,

TABLE 30

INCOME-EXPENDITURE ELASTICITIES FOR TOTAL EXPENDITURES,
BY SOCIO-ECONOMIC OCCUPATIONAL RANK AND AGE CLASS

Socio-economic Occupational Rank	Age Classes							
	Primary				Secondary			
	Under 25	25-34	35-44	45-54	55-64	65	and Over	
Professionals Standard Error ^a	.215 .110	1.152* .154	.406 .416	1.340* .150	.739* .247		.573* .151	
Self-employed Standard Error	.000 .000	.187 .119	.503* .081	.583* .060	.868* .061		.537* .109	
Clerical Standard Error	.586 .356	.443* .171	.832* .230	1.043* .315	.762* .164		.637 .296	
Skilled Standard Error	1.206* .215	.983* .297	.844* .238	.879* .116	1.216* .199		.691 .533	
Semi-skilled Standard Error	.459* .107	.884* .273	1.054* .187	.768* .198	.876* .256		.822 .353	
Unskilled Standard Error	1.126* .207	.673* .270	.975* .203	.834* .136	.860* .203		.226 .195	

^aStandard error of the elasticity coefficient.

*Significant at the .05 level.

have the lowest elasticity coefficients and are followed by the semi-skilled. It is noted, however, that the elasticity coefficient for the clerical category is not significantly different at the .05 level. In the 25-34 age class, the self-employed families demonstrate the lowest elasticity coefficient. They are followed by the clerical, unskilled, semi-skilled, skilled, and professionals. In the 25-34 age class, however, the elasticity coefficients for the self-employed are not statistically significant. The magnitude of elasticity coefficients in the 35-44 age class are inversely related to occupational rank except in the unskilled classification. The unskilled have a lower elasticity coefficient than do the semi-skilled. It is noted that the professional elasticity coefficient does not meet the .05 statistical level.

In the 45-54 age class, several diverse patterns are noted in the relationship between occupational rank and total expenditure elasticities. The self-employed families demonstrate the lowest elasticity coefficients. They are followed by the semi-skilled, unskilled, skilled, clerical, and professional families, respectively. Both the professional and clerical families demonstrate elastic expenditures. In the 55-64 age class, the professionals have the lowest elasticity coefficient for total expenditures. The professionals are followed in the magnitude of income elasticities by the clerical, unskilled, semi-

skilled, self-employed, and skilled families. The skilled families are the only occupational group in the age class which demonstrates elastic expenditures. In the 65 and over age class, the elasticity coefficients for the clerical, skilled, semi-skilled, and unskilled do not meet the .05 statistical levels. The unskilled families have the lowest elasticity coefficients. The unskilled families are followed in order of increase of elasticity coefficients by the self-employed, professional, clerical, skilled, and semi-skilled families. All of the occupations demonstrate inelastic expenditures for total expenditures in the 65 and over age class.

Total food elasticities

The second hypothesis states that the magnitude of income elasticities within each occupational age class is inversely related to the socio-economic rank of the occupations.

In the under 25 age class, the only families demonstrating elastic expenditures are in the skilled group. Elasticity coefficients could not be computed for the self-employed in this age class. The professional families demonstrate a unique income-total food expenditure relationship. As noted in Table 31, the elasticity coefficient signifies that total food expenditures are an inferior good. Inferior goods are those which decline with increases in family incomes. Of the remaining family groups in the under

TABLE 31
INCOME-EXPENDITURE ELASTICITIES FOR TOTAL FOOD EXPENDITURES
BY SOCIO-ECONOMIC OCCUPATIONAL RANK AND AGE CLASS

Socio-economic Occupational Rank	Age Classes						
	Primary			Secondary			
	Under 25	25-34	35-44	45-54	55-64	65	and Over
Professionals ^a Standard Error	-.241 .213	.543* .219	.232 .449	.868* .253	.377 .565		.718* .121
Self-employed Standard Error	.000 .000	.201 .139	.391* .040	.532* .075	.794* .152		.537* .056
Clerical Standard Error	.848 .356	.066 .158	.649* .154	1.144 .498	.589* .144		1.783 1.042
Skilled Standard Error	1.106* .446	.858* .276	.410 .321	.430 .381	1.113* .349		.360 .610
Semi-skilled Standard Error	.244 .277	.666 .289	.729* .274	.445 .218	.592 .285		.756 .292
Unskilled Standard Error	.677 .316	1.321* .383	.565 .266	1.292* .209	.799* .196		.507* .137

^aStandard error of the elasticity coefficient.

*Significant at the .05 level.

25 age class, the semi-skilled have the lowest elasticity coefficient. The semi-skilled families are followed by the unskilled, clerical and skilled families, respectively. However, only the skilled families have elasticity coefficients which meet the .05 significance criterion. In the 25-34 age class, the unskilled families have the only elastic total food expenditure coefficient. The ranking of occupational families from lowest to highest income elasticities is as follows: clerical, self-employed, professional, semi-skilled, skilled, and unskilled. However, only the elasticities in the professional, skilled, and unskilled groups meet the statistical significance criterion. In the 35-44 age class the professionals have the lowest elasticity coefficients. They are followed by the self-employed, skilled, unskilled, clerical, and semi-skilled families in order of increasing income elasticity coefficients. The elasticity coefficients for the professional, skilled, and unskilled families, however, do not meet the statistical significance criterion.

In the 45-54 age class, the clerical and unskilled families are the only ones demonstrating elastic total food expenditures. The skilled families have the lowest total food elasticity coefficients. The skilled families are followed by the semi-skilled, self-employed, professional, clerical, and unskilled families. All the elasticity coefficients meet the .05 significance level, except for

clerical, skilled, semi-skilled, and unskilled families. In the 55-64 age class, the ranking of occupations according to the magnitude of the elasticity coefficients, from lowest to highest, is as follows: professionals, clerical, semi-skilled, self-employed, unskilled, and skilled families. All the elasticity coefficients meet the significance level except for the professional and semi-skilled families. In the 65 and over age class, only the clerical families demonstrate elastic expenditures for total food expenditures. The skilled families have the lowest elasticity expenditures and are followed by the unskilled, self-employed, professional, semi-skilled, and clerical families. All the elasticity coefficients meet the .05 significance level except the one for the skilled families.

Clothing elasticities

The third hypothesis states that the magnitude of income elasticity coefficients for clothing is inversely related to socio-economic ranks of the occupational groups within each age class. Again in the under 25 age class, the elasticity coefficients for the self-employed clothing expenditures cannot be computed. The elasticity coefficients in Table 32 reveal several diverse patterns. In the under 25 age class, the clerical and skilled groups both demonstrate elastic expenditures. However, the other groups have inelastic clothing expenditures. The lowest clothing elasticity coefficient occurs in the professional group.

TABLE 32

INCOME-EXPENDITURE ELASTICITIES FOR FAMILY CLOTHING EXPENDITURES
BY SOCIO-ECONOMIC RANK AND AGE CLASS

Socio-economic Occupational Rank	Age Classes						
	Primary			Secondary			
	Under 25	25-34	35-44	45-54	55-64	65 and Over	
Professionals ^a	.134	.797	.842	.644	1.185*	.823*	
Standard Error	.354	.442	.533	.387	.358	.244	
Self-employed	.000	.382	.823*	.853*	1.028*	1.595*	
Standard Error	.000	.288	.183	.170	.140	.331	
Clerical	1.280	.390	1.320*	1.248	1.648*	1.570	
Standard Error	.674	.483	.414	.568	.151	.833	
Skilled	3.085*	.441	.746	1.508*	1.671*	.101	
Standard Error	.637	.811	.417	.412	.173	.359	
Semi-skilled	.268	1.587*	1.408	.824	.602	2.545*	
Standard Error	.412	.657	.737	.380	.648	.874	
Unskilled	.224	.088	.338	1.615*	.791	.831	
Standard Error	.453	.473	.421	.328	.502	.561	

^aStandard error of the elasticity coefficient.

*Significant at the .05 level.

In increasing elasticity magnitudes, the professionals are followed by the unskilled, semi-skilled, clerical, and skilled groups. Only the skilled families, however, have elasticity coefficients which are statistically significant.

In the 25-34 age class, only the semi-skilled families demonstrate elastic clothing expenditures. The lowest elasticity coefficients are found in the unskilled group. The unskilled families are followed by the self-employed, clerical, skilled, professionals, and semi-skilled families. Only the elasticities for the semi-skilled groups are statistically significant in the 25-34 age class. In the 35-44 age class, the clerical and semi-skilled families both have elastic clothing expenditures. The lowest elasticity coefficient is in the unskilled group. The unskilled families are followed by skilled, self-employed, professional, clerical, and semi-skilled families, respectively. Only the self-employed and clerical groups have elasticity coefficients which are statistically significant in the 35-44 age class.

In the 45-54 age classification, the clerical, skilled families, and unskilled families demonstrate elastic clothing expenditures. The lowest elasticity coefficient is found in the professional category. The professionals are followed by semi-skilled, self-employed, clerical, skilled, and unskilled families. The elasticity coefficients are statistically significant in the self-employed,

skilled, and unskilled families. The coefficients are elastic for all the occupational categories in the 55-64 age class, except for semi-skilled and unskilled groups. The semi-skilled families have the lowest elasticity coefficients, and they are followed by those in the unskilled, self-employed, professional, clerical, and skilled groups. All the coefficients are statistically significant, except for the semi-skilled and unskilled families.

In the 65 and over age class, the self-employed, clerical, and semi-skilled groups have elastic clothing expenditure coefficients. The skilled have the lowest elasticity coefficient. The skilled families are followed by those in the professional, unskilled, clerical, self-employed, and semi-skilled families. The elasticity coefficients for clerical, skilled, and unskilled families are not statistically significant at the .05 level.

Total housing elasticities

The fourth hypothesis states that the magnitude of elasticity coefficients for total housing expenditures within each age class is inversely related to the socioeconomic occupational rank. The total housing elasticity coefficients presented in Table 33 illustrate the diversity of the responsiveness of expenditures to changes in income.

In the under 25 age class, the skilled and unskilled groups demonstrate elastic total housing expenditures. The total housing elasticity coefficients cannot be computed

TABLE 33

INCOME-EXPENDITURE ELASTICITIES FOR TOTAL HOUSING EXPENDITURES
BY SOCIO-ECONOMIC RANK AND AGE CLASS

Socio-economic Occupational Rank	Age Classes						
	Primary			Secondary			
	Under 25	25-34	35-44	45-54	55-64	65 and Over	
Professionals ^a	.396	1.862*	1.086*	1.221*	.477	.382	
Standard Error	.239	.328	.389	.398	.327	.232	
Self-employed	.000	.318	.585*	.559*	.983*	.399	
Standard Error	.000	.290	.094	.109	.099	.223	
Clerical	.176	.986*	.566	.974	1.436*	.782	
Standard Error	.546	.156	.342	.481	.274	.272	
Skilled	1.592*	1.593*	.843	.644	1.040	.037	
Standard Error	.370	.534	.371	.350	.604	.356	
Semi-skilled	.251	.895*	.697	.721*	.713*	.667	
Standard Error	.361	.343	.500	.237	.229	.559	
Unskilled	1.131	.287	.988*	.558*	.697	.421*	
Standard Error	.629	.258	.330	.201	.306	.165	

^aStandard error of the elasticity coefficient.

*Significant at the .05 level.

for the self-employed group since not enough sample families are in that occupational-age category. The clerical families have the lowest elasticity coefficient. They are followed by the semi-skilled, professionals, unskilled, and skilled families, respectively. The elasticity coefficients for the professional, clerical, semi-skilled, and unskilled are not statistically significant at the .05 level.

In the 25-34 age classification, the unskilled families have the lowest total housing expenditure elasticity coefficient. They are followed by the self-employed, semi-skilled, clerical, skilled, and professional families. The elasticity coefficients are statistically significant for all the occupations, except for the self-employed and unskilled groups. In the 35-44 age class, the only occupational group having elastic total housing expenditures are the professional families. The other occupations ranked according to the magnitude of income elasticities are clerical, self-employed, semi-skilled, unskilled, and the professionals. The clerical, skilled, and semi-skilled total housing elasticity coefficients are not statistically significant.

The elasticity coefficients in the 35-44 age class, ranked according to occupation with the lowest to the highest elasticity coefficients, follow the following sequence: clerical, self-employed, semi-skilled, skilled, unskilled, and professionals. The professional families are the only

occupation demonstrating elastic expenditures. In the 35-44 age class, the elasticity coefficients for the clerical, skilled, and semi-skilled, and semi-skilled groups do not meet the .05 level of significance.

The professional families are the only occupational groups demonstrating elastic total housing expenditures in the 45-54 age class. The unskilled have the lowest income elasticity and are followed by those families in the self-employed, skilled, semi-skilled, clerical, and professional groups. The elasticity coefficients for the clerical and skilled families do not meet the .05 level of significance.

In the 55-64 age class, both the clerical and skilled families have total housing coefficients which are elastic. The lowest elasticity is found in the professional occupational category. The professional families are followed by the unskilled, semi-skilled, self-employed, skilled, and clerical groups. The coefficients for the professional, skilled, and unskilled families are not statistically significant at the .05 level.

In the 65 and over age classification none of the occupations demonstrate elastic total housing expenditures. The lowest elasticity coefficients occur in the skilled families. They are followed by the professional, self-employed, unskilled, semi-skilled, and clerical families. Only the unskilled group demonstrates elasticity coefficients

which are statistically significant at the .05 level.

Marginal Income-Expenditure Relationships

One hypothesis was formulated to relate the relationship between a change in income and a change in expenditures. The hypothesis states that in each family age class the marginal propensity to consume for total expenditures is inversely related to occupational rank. The marginal propensity to consume coefficients in Table 34 reveal several diverse patterns. In the under 25 age class, for example, the lowest marginal propensity to consume for total expenditures appears in the professional category. Following the professional families in the magnitude of the marginal propensities to consume are the clerical, semi-skilled, skilled and unskilled families. As in the case of the income-expenditure elasticities, the marginal propensity to consume for the self-employed families cannot be calculated. The marginal propensity to consume coefficients for the professional and clerical families are not statistically significant at the .05 level.

In the 25-34 age class the self-employed families have the lowest marginal propensity to consume for total expenditures. They are followed by the clerical, unskilled, semi-skilled, skilled, and professional families in the magnitude of the marginal propensity to consume. The marginal propensity to consume coefficients are not statistically significant at the .05 level for the self-employed,

TABLE 34

MARGINAL PROPENSITIES TO CONSUME FOR TOTAL EXPENDITURES,
BY SOCIO-ECONOMIC OCCUPATIONAL RANK AND AGE CLASS

Socio-economic Occupational Rank	Age Classes					
	Primary			Secondary		
	Under 25	25-34	35-44	45-54	55-64	65 and Over
Professionals ^a Standard Error	.097 .061	.970* .137	.416 .388	1.185* .125	.546* .222	.256* .084
Self-employed Standard Error	.000 .000	.080 .103	.723* .120	.364* .045	.666* .044	.558* .102
Clerical Standard Error	.568 .371	.362 .159	.771* .203	1.041* .283	.723* .131	.509 .231
Skilled Standard Error	1.174* .234	.956* .335	.769* .222	.781* .098	1.108* .155	.582 .388
Semi-skilled Standard Error	.580* .104	.822* .253	1.048* .191	.736* .181	.750* .202	.627 .301
Unskilled Standard Error	1.223* .183	.649 .283	.930* .175	.783* .133	.661* .197	.349 .169

^aStandard error of the marginal propensity to consume coefficient.

*Significant at the .05 level.

clerical, and unskilled groups.

The magnitude of the marginal propensity to consume coefficients generally follow the occupational ranking scale in the 35-44 age class. The professional families have the lowest marginal propensity to consume of any occupation. They are followed by self-employed, skilled, clerical, unskilled, and semi-skilled families. All of the marginal propensities to consume are statistically significant, except for the professional families.

In the 45-54 age classification, both the professional and clerical families have marginal propensities to consume which are greater than one. However, the lowest marginal propensity to consume is found in the self-employed category. The self-employed families are followed by those in the semi-skilled, skilled, unskilled, clerical and professional occupations. All the marginal propensities to consume are statistically significant in the 45-54 age class.

The professional families have the lowest marginal propensities to consume in the 55-64 age class. The professional families are followed by the unskilled, self-employed, clerical, semi-skilled, and skilled families. All of the marginal propensities to consume are statistically significant in the 55-64 age class.

In the 65 and over age class, the marginal propensities to consume are all smaller than those in the 55-64 age

classes. The lowest marginal propensity to consume is found in the professional category. The professional families are followed by those families in the unskilled, clerical, self-employed, skilled and semi-skilled group. Only the marginal propensities to consume for the professional and self-employed groups are statistically significant at the .05 level.

Summary

The purpose of Chapter IV was to present the findings of the research. The findings based on the hypotheses of Chapter I illustrated the influence of the age-occupation variables on family expenditure patterns. In presenting the findings several relationships were revealed between the age-occupation variables and absolute expenditures, relative expenditures, disposable income levels, absolute savings levels, income-expenditure elasticities, and the marginal propensities to consume for total family expenditures.

The findings pertaining to absolute expenditures revealed several important relationships. The data for family total expenditures, for example, revealed that absolute expenditures generally followed the occupational ranking scale. Several variations between occupational rank and total expenditures were noted, however, in the under 25 age class. The relationship between occupational rank and total food expenditures was not as clearly defined as for total family expenditures. Only in the 45-54 age

class did absolute food expenditures completely follow the ranking scale. The expenditure sequence for total housing expenditures usually followed the occupational ranking scale although considerable expenditure variation occurred in the under 25 age class. Further, variations in expenditures were found between the professional and self-employed families in the 55-64 and 65 and over age classes. Several variations between family clothing expenditures and occupational rank were found to exist in the various occupation-age classes. In most of the age classes, the self-employed had higher clothing expenditures than did the professional families. Several variations in clothing expenditures also were noted in the under 25 age class. Several other variations also were found in the house furnishings and equipment expenditures. The most significant variations were found in the under 25 age class, where clerical and semi-skilled families demonstrated the highest expenditures. In most of the other age classes, the lower ranked occupations had higher expenditures than the clerical group. Considerable variations in automobile expenditures also were found. In the primary age classes, high absolute automobile expenditures were found in the skilled and semi-skilled groups. Variations in automobile expenditures also were found in the secondary age classes.

The findings regarding the average propensity to consume for total family expenditures indicated that the

proportion of income devoted to total expenditures generally increases with the lower ranking occupations. Further, the average propensity to consume generally decreases with family age in the secondary age classes. Similar relationships also hold for the "necessity" expenditure accounts. The average propensities to consume for total food expenditures also usually increased with decreases in occupational rank. Relative expenditures for family clothing outlays remained relatively constant in most of the occupational-age classes. However, with increases in family age in the primary age classes the proportion of income devoted to clothing generally increases. By contrast, in the secondary age classes the proportion of income devoted to clothing expenditures generally decreases. The findings also revealed that the proportion of income devoted to house furnishings and equipment expenditures generally is higher for the lower ranking occupations. The greatest variation in the average propensities to consume in the lower ranking occupations were found in the under 25 age class.

Only in the 45-54 age class did the family disposable income levels completely follow the socio-economic ranking scale. Usually, however, the disposable income levels did follow the socio-economic ranking scale.

The findings dealing with the absolute family savings levels also revealed considerable variations among the occupational groups. Generally, the self-employed

exhibited higher savings than the professional group. And, on the average, the skilled families generally had higher savings than the clerical families. The remaining occupational groups generally followed the socio-economic ranking scale.

The findings on the income-expenditure elasticities for total expenditures revealed that in most of the age classes the lower ranking occupations have higher income-elasticities than the higher ranked occupations. Most of the income-expenditure elasticities for total food expenditures are inelastic. However, a definite pattern for the relationship between socio-economic rank and the total food elasticities was not always present in each age class. Several elastic family clothing expenditures coefficients were found in the 35-44, 45-54, 55-64, and 65 and over age classes. Although a definite pattern was not clearly established for any age class, the clerical and skilled groups generally had higher clothing elasticities. The income-expenditure elasticities for total housing expenditures indicated that total housing expenditures generally were inelastic. However, the professional, clerical, skilled, and unskilled families had elastic expenditures.

The data on the marginal propensities to consume for total expenditures revealed that the highest ratios generally were found in the 35-44 and the 45-54 age classes. The marginal propensities to consume usually decreased with an increase in family age in the secondary age classes.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The purpose of this chapter is to present the summary and conclusions of the research. The chapter is divided into five sections. Section one evaluates the hypotheses presented in Chapter I. The conclusions of the research are presented in the second section. The family economic profiles presented in the conclusions section are based on data presented in Chapter IV. The third section compares family expenditures by occupation and chronological age to expenditures by social class, family life cycle stage, and income class. The implications of the occupation-age approach are presented in the fourth section. Finally, in the fifth section the suggested areas for further research are discussed.

Evaluation of Hypotheses

Socio-Economic Occupational Rank and Absolute Expenditure Relationships

1. In each family age class average total dollar expenditures are positively related to the socio-economic rank of the occupation.

From the data presented in Table 17, the hypothesis cannot be accepted for two reasons. First, in the under 25, 25-34, 55-64, and 65 and over age classes, total family expenditures do not completely follow the socio-economic ranking scale. In the under 25 age class, the clerical, skilled, semi-skilled, and unskilled occupational groups follow the socio-economic ranking system; however, the professional and self-employed categories do not. In the 25-34 age class, all the occupations follow the ranking system except the skilled and clerical categories. The professionals and self-employed and the clerical and skilled workers do not follow the ranking system in the 55-64 age class. In the 65 and over age class, however, all the occupations follow the ranking scale except for the skilled and semi-skilled workers.

The second reason the hypothesis must be rejected is that the differences in expenditures among the occupations in the 35-44 and 45-54 age class are not judged to be significantly different according to the 5 per cent criterion.

2. In each family age class average total food expenditures are positively related to the socio-economic rank of the occupation.

On the basis of Table 18, the hypothesis related to each family age class cannot be accepted. In each of the age classes, families in the higher ranked occupational

categories do not always demonstrate higher total food expenditures. In the under 25 age class, the self-employed spend more than the professionals, and the semi-skilled workers spend more than the clerical workers or skilled groups. The data in the 25-34 year age class reveal that the self-employed spend more than the professionals and that the skilled and semi-skilled workers spend more than the clerical groups. The data for total food expenditures in the 35-44 age class reveal that the skilled workers spend slightly more than the clerical workers. However, the difference is not significant according to the 5 per cent criterion.

In the 45-54 age class, expenditures for total food do follow the socio-economic ranking scale. However, the differences in expenditures among the various occupations are not always significant. In the 55-64 age class, the total food expenditures do not follow the socio-economic ranking scale since the self-employed have higher outlays than do the professionals. The skilled group also has higher expenditures than the clerical group. Finally, in the 65 and over age class, semi-skilled and unskilled workers spend more on total food expenditures than either the clerical or skilled occupational groups.

3. In each family age class average total housing expenditures are positively related to the socio-economic rank of the occupation.

On the basis of the data presented in Table 19, the hypothesis cannot be accepted. In only two family age classes do total housing expenditures correspond to the occupational ranking scale. The 25-34 and the 45-54 age classes correspond to the occupational ranking scale; however, in none of the age classes does a significant difference in expenditures exist.

4. In each family age class family clothing expenditures are positively related to the occupational socio-economic rank.

The data presented in Table 20 indicate that none of the expenditure data in the age classes completely follow the occupational ranking scale. In each age class, except the 65 and over group, the self-employed spend more than professionals for clothing. In the skilled, semi-skilled, and unskilled groups, clothing expenditures correspond to the occupational rank; however, the sequence of expenditures for the under 25 and 35-44 age classes cannot be judged to be significantly different. The absolute clothing expenditure hypothesis for each family age class cannot be accepted.

5. Family expenditures for house furnishing and equipment reach maximum levels in the primary age classes for each occupational category.

The data in Table 21 indicate that all the professionals, clerical, skilled, semi-skilled, and unskilled

categories reach maximum house furnishings and equipment expenditures in the primary age classes. Therefore, the hypothesis is accepted for these occupational categories. The self-employed category does not reach maximum expenditures for house furnishings and equipment expenditures until the 55-64 age class. The hypothesis cannot be accepted for the self-employed group.

6. Family expenditures for house furnishings and equipment do not follow the socio-economic occupational ranking scale in any age class.

The data in Table 21 reveal that several irregularities in expenditure patterns occur in the various age classes. In the under 25 age class, for example, the unskilled families demonstrate the highest expenditures of any occupation. And in the 25-34 age class, the professionals are followed in maximum expenditures by the skilled families. Expenditures for house furnishings and equipment in the 35-44 age class also do not follow the ranking scale. In this age class, the unskilled, semi-skilled, and skilled workers spend more on house furnishings and equipment than those in the clerical category. In the 45-54 age class, skilled and semi-skilled workers expend more on house furnishings than the clerical workers. Irregularities in expenditure patterns are also noted in the 55-64 and 65 and over age classes. Therefore, the hypothesis is validated for each age class.

7. Family automobile expenditures do not correspond to the socio-economic ranking scale in any age class.

The hypothesis is accepted on the basis of the data in Table 22. In each age class, a lower ranking occupational category demonstrates higher expenditures than a higher ranking occupation. As indicated by the data in the under 25 age class, skilled workers have the highest absolute expenditures. Further, in the 25-34 and 35-44 age classes, the skilled workers rank second in average automobile expenditures. Similarly, the semi-skilled group spends absolutely more on automobile expenditures than either the self-employed or clerical in all the primary age classes.

In the secondary age classes, other "irregularities" in expenditures are noted. The skilled group expends more than the self-employed in all the secondary age classes.

8. Maximum automobile expenditures for each of the manual occupational categories are concentrated in the primary age classes while maximum automobile expenditures for each of the non-manual occupational categories are concentrated in the secondary age classes.

The data on the manual occupational categories presented in Table 22 reveal that only the semi-skilled workers reach maximum automobile expenditures in the primary age classes. Therefore, the hypothesis is valid for the

semi-skilled occupational group. However, the skilled and unskilled occupational groups reach maximum automobile expenditures in the secondary age classes. As a result, the hypothesis for the skilled and unskilled groups cannot be accepted.

The automobile expenditure data presented in Table 22 reveal that the professional and clerical groups reach maximum automobile expenditures in the secondary age classes. As a result, the hypothesis relating the non-manual expenditures for automobiles is accepted for the professional and clerical groups. But the hypothesis cannot be accepted for the self-employed category since maximum automobile expenditures are reached in the primary age classes.

Socio-Economic Occupational Rank and
Relative Income-Expenditure Relationships

1. In each family age class the average propensity to consume for total family expenditures is inversely related to occupational socio-economic rank.

The above hypothesis states that the higher the occupational rank, the lower the average propensity to consume for total family expenditures. The percentage of disposable income expended for total expenditures is presented in Table 23. On the basis of the data for the average propensities to consume, the hypothesis cannot be accepted for any of the family age classes. Generally, the average

propensity to consume increases as the occupational rank decreases; however, there are several significant variations. In the under 25 age class, for example, the self-employed have the highest average propensity to consume. But in the 25-34 age class the self-employed have the lowest average propensity to consume. Irregularities are also noted in the 35-44 age class where the self-employed have a higher average propensity to consume than the professional group. Further, the skilled group demonstrates a lower average propensity to consume than the clerical or self-employed group. In the 45-54 age class, the self-employed have the lowest average propensity to consume. Further, the clerical group has the highest average propensity to consume of any age class. Similar irregularities are noted in the 55-64 age class. In the 65 and over age class, the self-employed group has the lowest average propensity to consume.

2. In each family age class the average propensity to consume for the total of expenditure accounts classified as "necessities," is inversely related to occupational socio-economic ranking.

On the basis of the data in Table 24, the hypothesis cannot be validated. Although the average propensity to consume for necessities more closely corresponds to the socio-economic ranking scale in each age class than do total

expenditures, there are still considerable variations among the occupational categories. Such variations are specifically noted in the primary age classes. The self-employed, for example, have a higher average propensity to consume than any of the other occupational groups in the under 25 age class. And following a similar relationship as for total expenditures, the self-employed have the lowest average propensity to consume. Also, it is significant to note that the skilled and semi-skilled families have lower average propensities to consume than do either the skilled or self-employed families in the 35-44 age class. In the secondary age classes, the average propensity to consume for necessities does not follow the occupational ranking scale in any of the age classes.

3. In each successive occupational age class the proportion of income devoted to total food expenditures increases in the primary age classes and decreases in the secondary age classes.

On the basis of the data presented in Table 25, the hypothesis is not accepted for the occupational categories in the primary age classes. The proportion of disposable income devoted to total food generally remains constant in the age classes of each occupation. In none of the successive age classes does the proportion of income devoted to total food expenditures continually increase.

In the secondary age classes, only the clerical and skilled workers exhibit a decreasing average propensity to consume. Therefore, the hypothesis can be accepted for clerical and skilled occupational categories. The other occupations generally experience gradually declining average propensities to consume in the secondary age classes.

4. In each family age class of all occupations the average propensity to consume for total food expenditures is inversely related to the socio-economic rank of the occupation.

On the basis of Table 25, the hypothesis cannot be accepted. Although a general pattern emerges within the various occupational categories, that is, the lower ranking occupations having higher average propensities to consume than some of the higher ranking occupations. Nevertheless, no strict inversed pattern is maintained throughout all the occupational groups in any age class.

5. In each successive occupational age class the proportion of income devoted to clothing expenditures increases in the primary age classes and decreases with family age in the secondary age classes.

On the examination of the data in Table 26, the hypothesis cannot be accepted for all of the occupational groups in the primary age classes. The hypothesis can be accepted for the professional, semi-skilled, and unskilled

occupational groups since the average propensity to consume increases in each successive age class. The self-employed decrease, then increase the proportion of income devoted to clothing expenditures in the primary age classes. The clerical group, by contrast, maintains the same ratio in the under 25 and 25-34 age classes, then increases the proportion of income. And the skilled workers initially increase, then maintain the same income-expenditure ratio in the 25-34 and 35-44 age classes.

The hypothesis can be accepted for the professional, self-employed, clerical, skilled, and unskilled groups since the average propensity to consume for clothing expenditures decreases with each successive age class. Successive decreases in the average propensity to consume are not found in the secondary age classes for self-employed workers.

6. In each family age class of all occupations the proportion of income devoted to house furnishings and equipment is inversely related to socio-economic occupational rank.

The above hypothesis cannot be accepted for any of the occupational age classes. The data presented in Table 27 reveal that the average propensity to consume for house furnishings and equipment generally increases in the lower ranked occupations especially in the under 25 age class. The average propensity to consume also generally increases in the 35-44 age class.

In the secondary age classes, the average propensities to consume for each occupation are similar in the 45-54 and 55-64 age classes. In the 65 year and over age class, the semi-skilled have the highest average propensity to consume.

Occupational Rank and Family Disposable
Income Concentration

1. Disposable income levels for all non-manual occupational families reach maximum levels in the secondary age classes.

The above hypothesis is accepted on the basis of the data presented in Table 28 where higher disposable incomes are found in the secondary age classes for all the non-manual occupational categories. The clerical families reach maximum disposable income levels in the 45-54 age class. By contrast, the self-employed and professional families reach highest disposable income levels in the 55-64 and over age classes, respectively.

2. Disposable income levels for all manual working families reach maximum levels in the primary family age classes.

The above hypothesis cannot be accepted on the basis of the data in Table 28. In fact, all the manual occupational groups exhibit higher disposable income levels in the secondary age classes. The skilled and unskilled families reach their highest disposable income levels in

the 45-54 age class. The semi-skilled families, however, do not reach maximum income levels until the 55-64 age class.

Absolute Savings Levels
and Family Age Class

1. In each family age class of the non-manual occupational categories family savings levels do not follow the socio-economic ranking scale.

On the basis of the data presented in Table 29, the hypothesis is accepted for all the occupational-age classes except the under 25 age class. In the 25-34, 45-54, 55-64, and 65 and over age classes, the self-employed families have higher savings than those in any of the other occupational categories. Another significant discrepancy in the occupational ranking scale and the family saving patterns occurred between the skilled and clerical families. Illustratively, the skilled families have higher total savings in the 35-44, 45-54, and 55-64 age classes.

2. In each family age class of the manual occupational categories family saving levels follow the socio-economic ranking scale.

On the basis of the data presented in Table 29, the hypothesis can be accepted for the under 25, 25-34, 35-44, and 45-54 age class. The hypothesis cannot be accepted for the 55-64 and 65 and over age class. In the 55-64 age class, unskilled workers demonstrate higher saving levels than do the semi-skilled workers. And in the

65 and over age class, the semi-skilled group has higher savings levels than does the skilled occupational group.

Socio-Economic Occupational Rank and
Income-Expenditure Elasticities

1. The magnitude of income elasticity coefficients for total expenditures within each age class is inversely related to the socio-economic occupational rank of the occupations.

From the data presented in Table 30, the hypothesis cannot be accepted for any of the occupational-age classes. Income elasticities are not completely inversely related to the occupational ranking system in any age class. However, in most of the age classes the lower ranking occupations do have higher income elasticities than the higher ranked occupations. Illustratively, in the under 25 age class, the elasticity coefficients are inversely related to occupational rank for the professional, clerical, and skilled families. In the 25-34 age class, elasticities again increase from the self-employed to the skilled group. Except for the unskilled group, the income elasticities are inversely related to occupational rank in the 35-44 age class. However, no uniform pattern for the elasticity coefficients appears in the 45-54 age class. In the 55-64 age class, the elasticities are generally lower for the higher ranked occupations but no clear pattern emerges. Finally, in the 65 and over age class, the elasticity

coefficients generally increase with the lower ranked occupations. Except for the professional and unskilled groups the expenditures follow the ranking scale. Therefore, the hypothesis cannot be accepted.

2. The magnitude of income elasticity coefficients for total food expenditures within each age class is inversely related to the socio-economic occupational rank of the occupations.

On the basis of Table 31, the hypothesis related to each occupational-age class cannot be accepted. In each of the age classes, families in the higher ranked occupational categories do not consistently demonstrate lower income-expenditure elasticities for total food. In the under 25 age class, the food elasticities increase with decreases in occupational rank except for the semi-skilled and unskilled families. No general pattern emerges for the families in the 25-34 age class. However, in the 35-44 age class the total food elasticities increase with decreases in occupational rank between the professional and clerical groups. For the skilled, semi-skilled, and unskilled families the total food elasticities decrease, increase, and decrease again. In the 45-54 age class, the food elasticities increase between the families in the self-employed and clerical categories. The food elasticities also increase between skilled and unskilled group. The total food elasticities in the 55-64 and 65 and over age

class do not reveal any identifiable pattern. The hypothesis cannot be accepted for any of the family age classes.

3. The magnitude of income elasticity coefficients for clothing within each age class is inversely related to the socio-economic occupational rank of the occupations.

The data presented in Table 32 indicate that none of the elasticity coefficients for clothing expenditures in the age classes completely follow the occupational ranking scale. However, the elasticity coefficients for clothing expenditures follow the sequence of the occupational ranking scale more closely than for total family expenditures and total food expenditures. The clothing elasticity coefficients in the under 25 age class increase with decreases in occupational rank between the professional and skilled groups. This pattern, however, is not maintained in the semi-skilled and unskilled occupational groups. In the 25-34 age class the elasticity pattern also is maintained between the self-employed and semi-skilled groups. No identifiable elasticity pattern is found in the 35-44 age class. The sequence of elasticity coefficients in the 45-54 age class is maintained except for the families in the semi-skilled category. In the 55-64 age class, the elasticity coefficients increase between the self-employed and skilled groups. However, the sequence is not maintained for the professional, semi-skilled, and unskilled groups. In the

65 and over age class the clothing elasticities generally increase between the professional and semi-skilled groups except for the divergence of elasticities in the self-employed and skilled group.

Although the general sequence of clothing elasticities is partially maintained in each age class, the hypothesis cannot be completely accepted for any of the age classes.

4. The magnitude of income elasticity coefficients for total housing expenditures within each age class is inversely related to the socio-economic occupational rank of the occupations.

The data in Table 33 reveal that several irregularities in the elasticity patterns occur in the various age classes. In the under 25 age class, the clerical families demonstrate the lowest elasticity coefficients for total housing expenditures. For the remaining occupational categories in the under 25 age class no identifiable elasticity pattern emerges. In the 25-34 age class the highest elasticity coefficients generally appear in the clerical, skilled, and semi-skilled groups. The elasticity coefficients for total housing expenditures decrease between the professional and clerical categories. The unskilled group, however, demonstrate the second highest elasticity coefficients. The professionals in the 45-54 age class have the highest elasticity coefficients. In this age class, no identifiable pattern emerges. The elasticity coefficients increase with

decreases in occupational rank in the 55-64 age class between the professional and clerical groups. By contrast, the elasticity coefficients decrease with the lower ranking categories. Finally, in the 65 and over age class, the elasticity coefficients increase with decreases in occupational rank between the professional and clerical categories. However, the remaining occupations do not reveal any specific elasticity patterns. In summary, the hypothesis cannot be accepted for any occupational-age class.

Marginal Income-Expenditure Relationships

1. In each family age class, the marginal propensity to consume for total expenditures is inversely related to the socio-economic occupational rank of the occupations.

On the basis of the data in Table 34, the hypothesis related to each family age class cannot be accepted. However, in the under 25 age class the marginal propensity to consume coefficients increase with decreases in occupational rank for all the occupations except the semi-skilled. However, in the 25-34 age classification no identifiable pattern for the marginal propensities to consume emerges. A general pattern does emerge in the 35-44 age class except for the skilled and unskilled groups. In the 45-54 age class the highest marginal propensity to consume coefficient is found in the professional category. The self-employed,

by contrast, have the lowest marginal propensity to consume for total expenditures. In the 55-64 age class, a general pattern emerges between the professional and skilled occupational categories. However, this pattern is not maintained for the semi-skilled and unskilled groups. Finally, in the 65 and over age class a general pattern of increasing elasticities emerges between the professional and semi-skilled groups. The unskilled families have the second lowest marginal propensity to consume.

Conclusions

The conclusions are divided into two sections. The first section summarizes the findings presented in Chapter IV. The second section presents and interprets the family economic profiles for the various occupations.

The hypotheses set forth to guide the research were formulated on the basis of occupational socio-economic rank. Two primary correlates of the socio-economic ranking scale are income and education. It appeared both reasonable and logical that generally the higher ranking occupations would spend absolutely more on most of the broad categories of goods and services. By contrast, it was expected that the higher ranking occupations would spend proportionately less of their incomes on the same goods and services. In many cases, the above relationship holds for the occupations. But when the broad occupational

categories are disaggregated into chronological age classes, considerable variations are noted in both absolute and relative expenditure patterns. In other words, what holds for the aggregated occupational category (where all the age classes are combined) does not necessarily hold for the disaggregated family economic life stages. The summary of the findings reveals that each age class of an occupation exhibits unique income, expenditure, and savings patterns. The summary of the findings reveals the following relationships.

Summary of findings

1. Family total expenditures do not follow the socio-economic ranking in every age class. In the 35-44 and 45-54 age classes, however, total expenditures do follow the ranking scale. However, in these age classes the differences in total expenditures cannot always be judged to be significantly different.
2. The correspondence between occupational socio-economic rank and total food expenditures holds only for the 45-54 age class; however, the differences in expenditures in that age class cannot be judged to be significantly different.
3. The correspondence between occupational socio-economic rank and total housing expenditures holds completely only for the 25-34 and 45-54 age classes. Nevertheless,

the absolute differences according to the significance criterion cannot be judged to be valid.

4. The relationship between family clothing expenditures and occupational socio-economic rank does not hold completely in any age class. Considerable variations occur in both the non-manual and manual occupational categories.

5. The relationship between house furnishings and equipment expenditures and family maximum outlays indicates that all the occupations have the highest expenditures in the primary age classes except for the self-employed group which reaches maximum expenditures in the secondary age classes. It was also revealed that house furnishings and equipment expenditures do not follow the socio-economic ranking scale in any age class.

6. The data related that automobile expenditures do not follow the socio-economic ranking scale. In every age class, a lower ranking occupational category expended absolutely more toward the purchase of automobiles. In the primary age classes, the skilled and unskilled workers expended more on automobiles than either the clerical or self-employed category. In the secondary age classes, the skilled group had higher outlays than did the self-employed. The data also reveal that in each age class in the secondary life stages, clerical workers spend more than do the self-employed families.

It was also found that maximum automobile outlays

for automobile expenditures in all occupations were generally found in the secondary age classes. The semi-skilled and self-employed reach maximum expenditures in the primary age classes.

7. The average propensity to consume for total family expenditures does not correspond to the socio-economic ranking scale in any of the family age classes. The lower average propensity to consume for the self-employed and skilled workers in the 35-44, 45-54, 55-64, and 65 and over age classes especially upsets the ranking scale. The data for the average propensity to consume (all age classes combined) reveal that the self-employed have the lowest income-expenditure ratio. It is also noted that the skilled workers have a lower average propensity to consume than do the clerical families. The data also reveal that for all the occupations, the average propensity to consume for total expenditures decreases from the average of the primary age classes to the average of the secondary age classes.

8. The average propensities to consume for the total of expenditure accounts classified as necessities does not correspond to the socio-economic ranking scale. Significant exceptions to the "necessity" income-expenditure ratios are noted between the skilled and clerical categories in the 35-44, 45-54, 55-64, and 65 and over age classes. In each of these age classes, the skilled workers have lower average propensities to consume than

do the clerical workers.

9. Generally the average propensity to consume for total food increases with each successive age class in the primary age classes. And the average propensity to consume generally decreases with each successive age class in the secondary age classes. Exceptions to this pattern are noted for the self-employed, semi-skilled, and unskilled in the primary age classes. In the secondary age classes, exceptions are noted in self-employed, semi-skilled, and unskilled groups.

10. Although the average propensity to consume for food generally increases in the lower ranked occupations in both the primary and secondary age classes, there are several exceptions in many of the occupational-age classes.

11. The proportion of income for clothing expenditures increases in the primary age classes for all the occupations except the self-employed, which decreases, then increases, the proportion of income devoted to clothing. In the secondary age classes, the average propensity to consume for clothing generally declines in all age classes.

12. The proportion of income devoted to house furnishings and equipment slightly increases with the lower ranking occupations. However, the proportion of income devoted to house furnishings varies only slightly among most of the age classes.

13. Disposable income levels reach maximum levels for the professionals, self-employed, and clerical in the secondary age classes. However, disposable income levels for the skilled, semi-skilled, and unskilled workers reach maximum levels in the secondary rather than the primary age classes.

14. Family savings levels for the professional, self-employed, and clerical workers generally do not follow the socio-economic ranking scale. Only in the under 25 age class does the relationship between socio-economic rank and family saving levels hold. In the remaining age classes the self-employed have the highest saving levels.

15. In all but the 55-64 age class, the saving levels for the skilled, semi-skilled, and unskilled families follow the occupational ranking scale.

16. The income-total expenditure elasticities do not follow the socio-economic ranking scale completely in any family age class. However, in many of the age classes the elasticity coefficients increase with decreases in occupational rank.

17. There appears to be little relation between occupational rank and the income elasticities for total food expenditures. In the under 25 age class for professionals, the elasticity coefficients indicate that total food expenditures are an inferior good.

18. The elasticity coefficients for family clothing

expenditures become more elastic, then less elastic, with decreases in occupational rank. The highest elasticity coefficients generally were found for the clerical and skilled families.

19. The elasticity coefficients for total housing expenditures indicate that for the professional families housing expenditures are sensitive to changes in income in the 25-34, 35-44, and 45-54 age classes. Housing expenditures by the self-employed families are generally income inelastic. The clerical families have elastic expenditures for total housing expenditures in the 55-64 age class. By contrast, the skilled workers experience elastic total housing expenditures in the under 25, 25-34, and 55-64 age class. The semi-skilled families do not experience elastic total housing expenditures in any age class. The unskilled families, however, do have elastic expenditures in the under 25 age class.

20. The highest marginal propensities to consume for total expenditures generally are found in primary age classes for each occupational group. Further, the highest marginal propensities to consume generally are found in clerical, skilled, and semi-skilled groups.

In the following section several possible determinants of occupational expenditure patterns are discussed. By examining some of the influences on expenditure patterns a basis for interpreting the findings and the economic

profiles can be provided. The interpretation also may aid in revealing some of the most significant variables responsible for the unique expenditure patterns found in the different occupational groups.

Interpretation and Analysis of Selected Occupational Economic Profiles

Probable Determinants of Occupational Expenditure-Saving Patterns

In the following sections interpretive analyses of each occupation's economic profiles are presented. Included in the analyses will be a comparison of specific expenditures by each occupation; a comparison of occupational saving profiles; and an analysis of each occupation's disposable income and specific expenditures. Several explanations, hypotheses, and conjectures can be given for the differences in the economic profiles of each occupation. Possible reasons for differences in the economic profiles are explained below under the following categories:

1. Income expectations by various occupational groups.
2. Differences in perception of income security.
3. Differences in family formation.
4. Occupational social and status requirements.
5. Differences in perception of savings and wealth.

Income expectations by various occupational groups.

Most families, regardless of their occupational group,

usually have some perception of what their lifetime earnings will be. The perception may be based on other families' earnings in that occupation, historical and projected trends, or some other prediction base. Illustratively, professional and self-employed families usually expect relatively high lifetime income paths. But, the clerical, skilled, semi-skilled, and unskilled groups expect a more uniform lifetime income path. That is, the lower ranked occupations can identify various constraints on their income patterns.

Differences in perception of income security. In addition to the occupations having some expectations of their income patterns, families in different occupational group also have ideas regarding the security of their incomes. In many cases, professionals perceive that their incomes are relatively secure. Security of the professional's income takes two forms: (1) the availability of alternative employment opportunities, and (2) the income rewards as reflected in the alternative opportunities offered by their careers. Regarding the latter point, the professional usually has more opportunities to "control" earnings than some of the lower ranked occupations. The self-employed probably perceives the security of his income much differently than the other occupational groups. The self-employed may perceive his income path as being less secure than other occupations regardless whether he has higher or

lower income levels than other families. His earnings usually are directly related to various environmental conditions and constraints as well as his own initiative. Further, the self-employed frequently experiences erratic income patterns; however, the expenditure patterns usually remain relatively stable. The stability of the self-employed's expenditures may be explained by the Permanent Income Hypothesis. That is, families spend their incomes on the basis of their perception of what their permanent income will be. The clerical and skilled workers likely view their incomes as being relatively secure. In the case of the clerical and skilled workers, employment, union, and other factors influence the perception of income security, such as guaranteed annual wages, contractual arrangements, and possibly minimum wage laws. The semi-skilled and unskilled workers are likely to view their income paths as being less secure than other families in other occupational groups.

Differences in family formation. Another variable affecting the economic profiles of the different occupational families are the differences in family formations. The professionals, for example, generally start their families later than families in other occupations. The family formation can be delayed by attaining the educational requirements and training necessary to enter a specific profession. By contrast, the lower ranked families normally

marry at a younger age. Consequently, for the lower ranking occupations, the family formation period begins at a younger family life stage.

Occupational social and status requirements of the occupation. Expenditure patterns also are influenced by the pressures on the family for status. In the status case, certain expenditures frequently are perceived as giving the family status (automobiles, household appliances, clothing, housing, and house furnishings). Professional families may also believe that there are certain status requirements for their occupational level. The status requirements usually are in the form of durable goods.

Perception of savings and wealth. Each occupational group's perception of savings and wealth also affects the expenditure patterns of the family. For some occupational groups savings are perceived as being a "buffer" between income and consumption. The "buffer concept" appears to hold for the lower ranked occupations and the younger families in most occupational categories. Savings may also be perceived as being the basis for further additions to income. The latter case would normally be true in the case of investments and real property.

Generally, the family age variable also affects the saving patterns of the family. In the higher ranked occupations, such as the professionals, the young family

may not place as much emphasis on savings as some of the lower ranking occupations since they expect higher future earnings. In the middle family age classes, there may also be a decrease in family savings due to other commitments, such as college education for the children or a new home. Finally, family savings may increase in the older age classes as the family plans and prepares for retirement.

Mention should also be made regarding the perception of savings by the self-employed families. Usually in an examination of the saving profiles of self-employed families several erratic patterns exist. For example, if successful in business, the self-employed's financial status can change from an "entrepreneurial" base to an "investment-entrepreneurial" base. The self-employed family, for example, in the younger age classes may derive the majority of his earnings in the form of income. However, as the self-employed continues to develop the business he not only draws income from the business, but he may also be investing some of the income into his enterprise. The investing of income into the business can change the "entrepreneurial base" into the "investment-entrepreneurial" base. And as the self-employed family progresses over the life cycle income may increase as well as the self-employed's investment in the enterprise.

In examining the economic profiles of each occupational group in the following section, several relationships

are explored. First, the disposable income and selected expenditure relationships of each occupation will be compared. In the comparison, the relationship between the disposable income levels in each age class and total family expenditures, total food expenditures, automobile expenditures, and total housing expenditures will be analyzed. Second, the family savings profiles for the manual and non-manual occupation categories will be presented. Following the presentation of the family saving patterns, a graphical comparison relating each occupation's expenditures for specific expenditure accounts classified by age class will be presented.

Interpretive Analysis of Selected Income-Expenditure Profiles

Disposable income profiles. In Figure 7, the family disposable income profiles for the various occupational categories present several diverse patterns. The most diverse profiles appear in the professional and self-employed categories. The professional profile shows a steady increase in disposable income until the 45-54 age class. Disposable income levels decline in the 55-64 age class and again increase in the 65 and over age class.

From the disposable profiles it appears that the aggregated group of professionals in the under 25 age class do not discount the present value of their incomes for two reasons: first, families discounting present income for

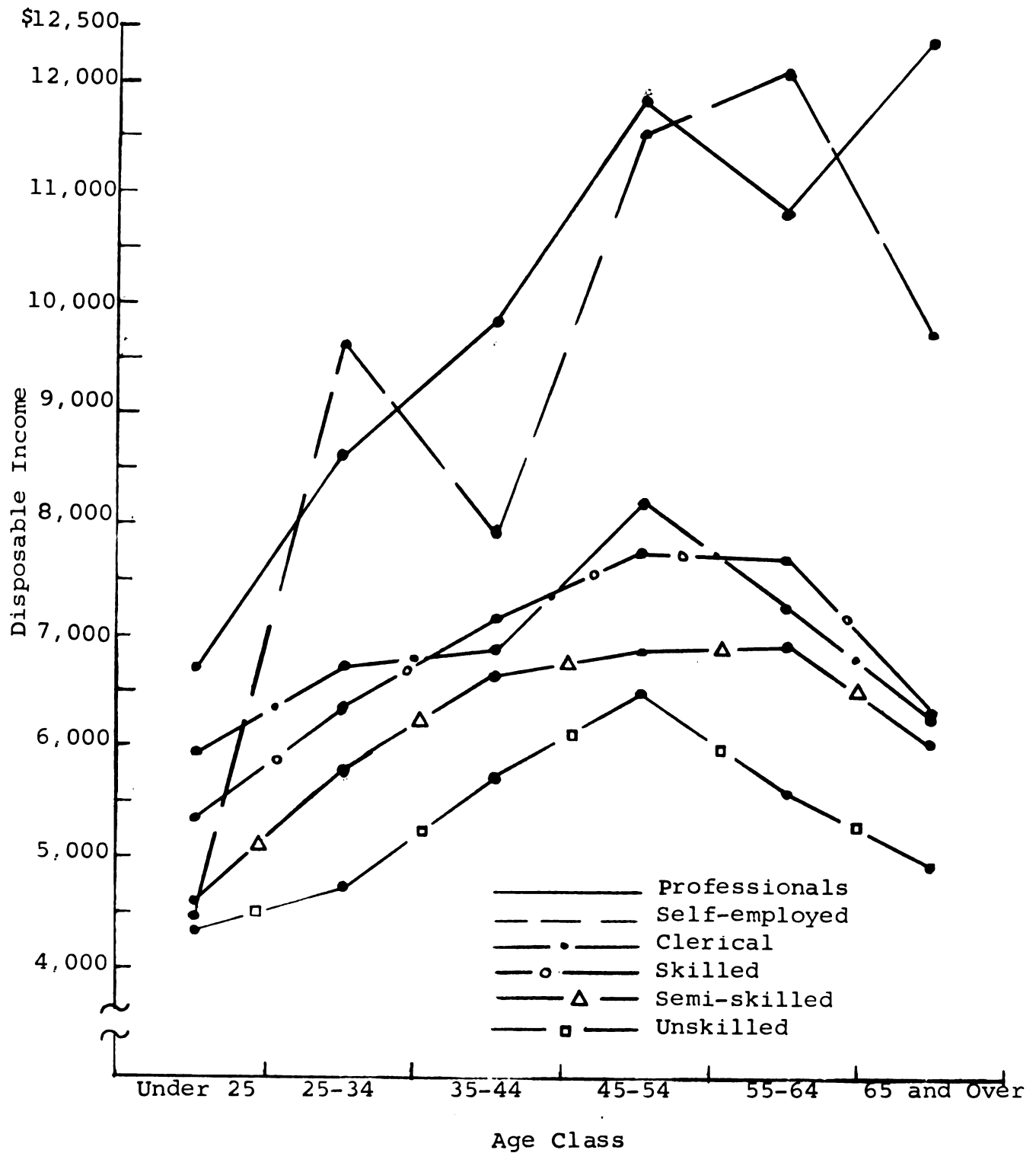


Fig. 7. Family disposable income profiles by occupational category and family age class.

potentially higher incomes must make less income than could normally be expected. In other words, in discounting present income, the household head presently is foregoing alternatively higher incomes for future earning capacities.

The aggregate data does not confirm this since the average incomes in the other occupational categories are substantially lower than in the professional category in the under 25 age classes. However, it is reasonable to assume that families in specific professional groups do discount their present incomes. Second, the data indicate that on the average, professionals do not dissave. The apparent decrease in incomes from the 55-64 age class for professionals may be explained in part by households retiring. Probably the increase in incomes from the 55-64 to the 65 and over age class is the result of highly "skilled" professionals who continue in the labor market. This may be the result of personal or financial incentives. As a result, the average income figures are higher than for the 55-64 age class. It should also be noted that all the other occupational groups experience declines in incomes from the 55-64 to the 65 and over age class.

The self-employed families experience sharp increases in disposable income between the under 25 and 25-34 age class. However, their income decreases between the 25-34 and 35-44 age class. Income increases steadily until the 65 and over age class where a decline in income occurs.

The other occupational groups, clerical, skilled, semi-skilled, and unskilled, generally exhibit parabolic income profiles. All of these occupations reach maximum expenditures in the 45-54 age class. Further, the range of disposable income does not vary as much as in the self-employed and professional categories.

Total family expenditure profiles. As noted in Figure 8, family total expenditures generally follow the socio-economic rank of the occupational category. All the occupations reach maximum total expenditures in the 45-54 age class, except for the semi-skilled families. The semi-skilled reach maximum expenditures in the 35-44 age class. In the under 25 age class, the professionals have lower total expenditures than the self-employed or clerical groups. The lower total expenditures for the professionals in the under 25 age class can be explained in fact by the professionals' preparation for their respective careers, such as law school, medical school, and graduate school.

The profiles also reveal that the self-employed decrease expenditures sharply between the 55-64 and 65 and over age classes. The decrease in total expenditures may be the result of a working capital problem in the business endeavors of the self-employed group. In other words, family income may be employed in maintaining the enterprise of the self-employed group. The professionals, by contrast, increase total expenditures slightly between the 55-64 and

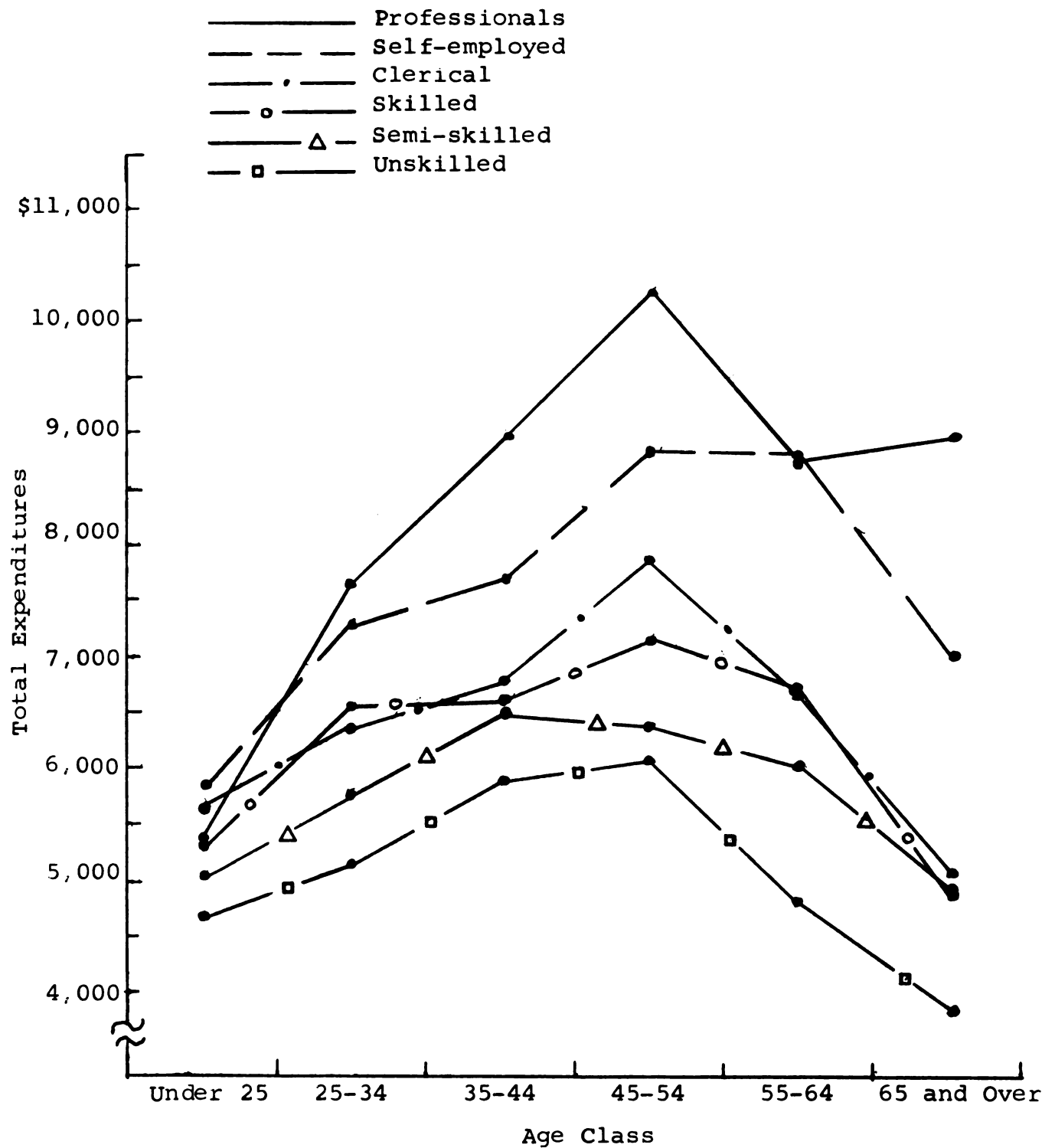


Fig. 8. Total family expenditure profiles by occupational category and family age class.

65 and over age classes. However, it is noted that the disposable income of professionals also increases.

Total food expenditure profiles. The profiles for total family food expenditures in Figure 9 reveal several diverse patterns. In the under 25 age class, the self-employed have the highest expenditures and are followed by the semi-skilled, professional, and clerical groups. In the 25-34 age class, the self-employed group again have the highest expenditures. The self-employed are followed by the professionals and skilled occupational category. The expenditure patterns follow the socio-economic ranking scale in the 35-44 age class, except for the skilled category which has higher expenditures than the clerical group. In the 45-54 age class, expenditures follow the ranking scale. Two diverse patterns are noted in the 55-64 age class: the self-employed spend more than the professionals and the skilled group spends more than the clerical group. In the 65 and over age class, the semi-skilled and unskilled families spend more than the clerical or skilled group.

Some of the variation in total food expenditures can be interpreted by examining selected occupational socio-economic characteristics. In the under 25 and 25-34 age classes, the self-employed families have larger families than the professionals. Further, the self-employed families have a higher average number of children under 18 years of age than do the professional group. The skilled families

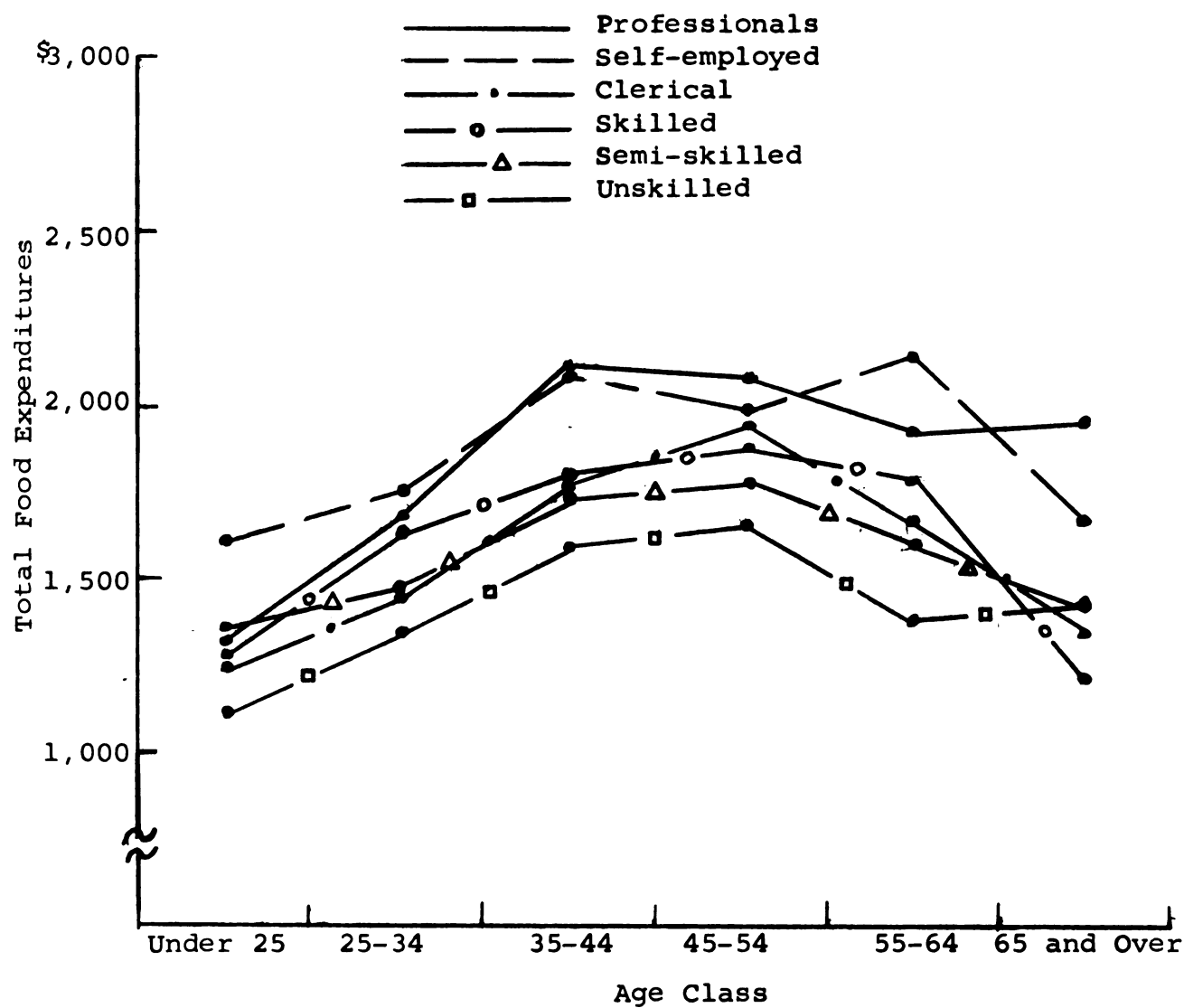


Fig. 9. Total family food expenditure profile by occupational category and family age class.

also have larger families in the 35-44 age class than the clerical category. In the 55-64 age class, the self-employed have larger family sizes than do the professionals. For the most part, it appears that expenditures for food are more dependent on family size and the number of children under 18 than on income.

The effect of the decreasing family size in the secondary age classes is especially noted in the clerical, skilled, semi-skilled, and unskilled groups.

Housing expenditure profiles. The profiles for total housing expenditures in Figure 10 reveal that the professional group increases total housing expenditures between the under 25 and 25-34 age classes. However, in the remaining age classes, expenditures are relatively constant. The self-employed group increases expenditures between the under 25 and 25-34 age classes and decreases expenditures between the 25-34 and 35-44 age classes. In the remaining age classes, total housing expenditures remain relatively constant. The clerical expenditures for housing remain relatively constant until the 65 and over age class, then they decrease. Housing expenditures for the skilled group increase between the under 25 and 25-34 age class, then gradually decrease in the remaining life cycle stages. The semi-skilled, by contrast, increase, then decrease expenditures in the family age classes. The unskilled decrease, increase, then decrease housing

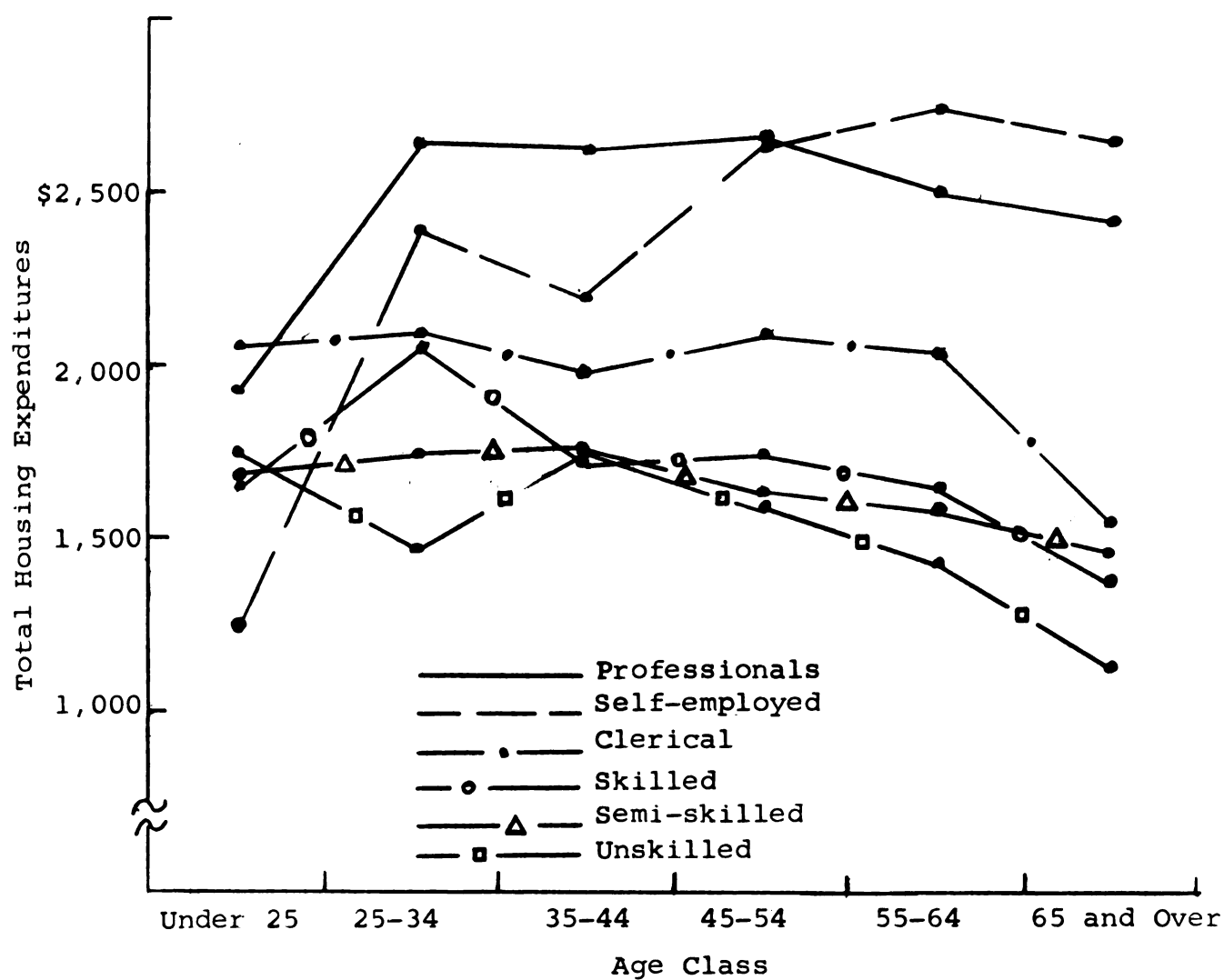


Fig. 10. Total family housing expenditure profiles by occupational category and family age class.

expenditures. For the most part, it appears that once the initial housing expenses have been made, the clerical, skilled, semi-skilled, and unskilled groups maintain a stable level for total housing expenditures.

Clothing expenditure profiles. As noted in Figure 11, the total clothing expenditures for all occupations, except the semi-skilled workers, reach maximum levels in the 45-54 age class. The semi-skilled workers reach maximum expenditures in the 35-44 age class. Interesting variations in the clothing profiles occur between the self-employed and professional categories. The self-employed have higher expenditures in every age class except in the 65 and over age class. The other occupations generally follow the socio-economic ranking scale.

Part of the variation in clothing expenditures between the self-employed and professionals can be explained by differences in family size. In every age class, except the 65 and over class, the self-employed have larger families. In the 65 and over age class average family size is the same for both the self-employed and professionals. Similarly, the self-employed families have more children under 18 in each age class. Therefore, it appears that average family clothing expenditures are fundamentally dependent upon family size, the number of children under 18, and the clothing requirements of each occupational group.

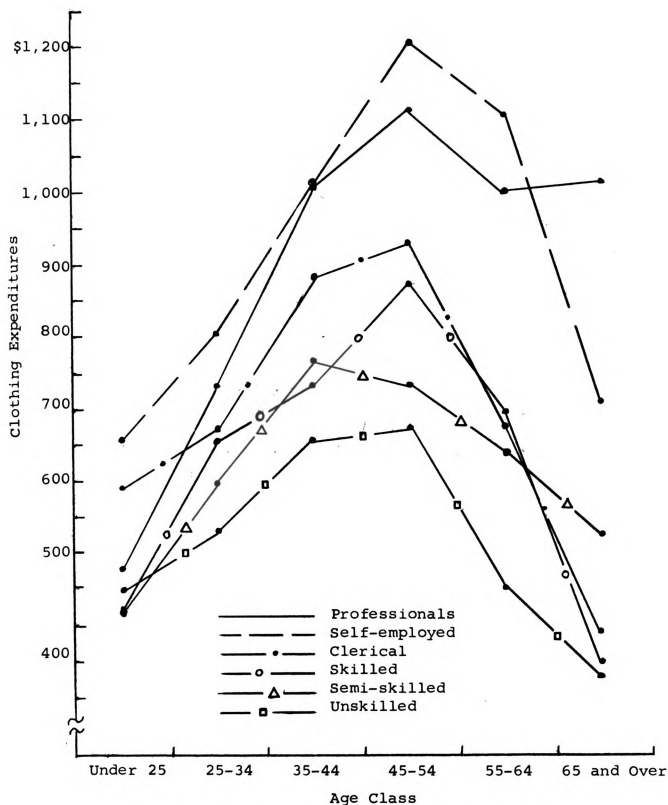


Fig. 11. Family clothing expenditure profiles by occupational category and family age class.

House furnishings and equipment expenditure profiles.

The expenditure profiles for house furnishings and equipment in Figure 12 reveal considerable variation among the occupational groups. Generally, higher expenditures are found in the lower ranking occupations. In the under 25 age class, the clerical and unskilled workers spend the most. Furthermore, families in the lower ranking occupations usually spend a higher proportion of their incomes on house furnishings and equipment in the primary age classes. The professionals initially increase their expenditures, decrease, increase, then gradually decrease expenditures. The self-employed group reaches maximum expenditures in the 55-64 age class. The skilled and clerical groups again maintain high expenditure levels in the 55-64 age class. All the occupations decrease expenditures in the 65 and over age class.

In part, the variations in house furnishings and equipment expenditures can be explained by the hypothesis that the lower ranking occupations generally involve house furnishings and equipment to a greater extent than other expenditures. As has been pointed out in prior research, house furnishings and equipment are perceived as indicators of status and mobility.

Automobile expenditure profiles. In many of the age classes in Figure 13, families in the lower ranking occupations spend absolutely and relatively more on

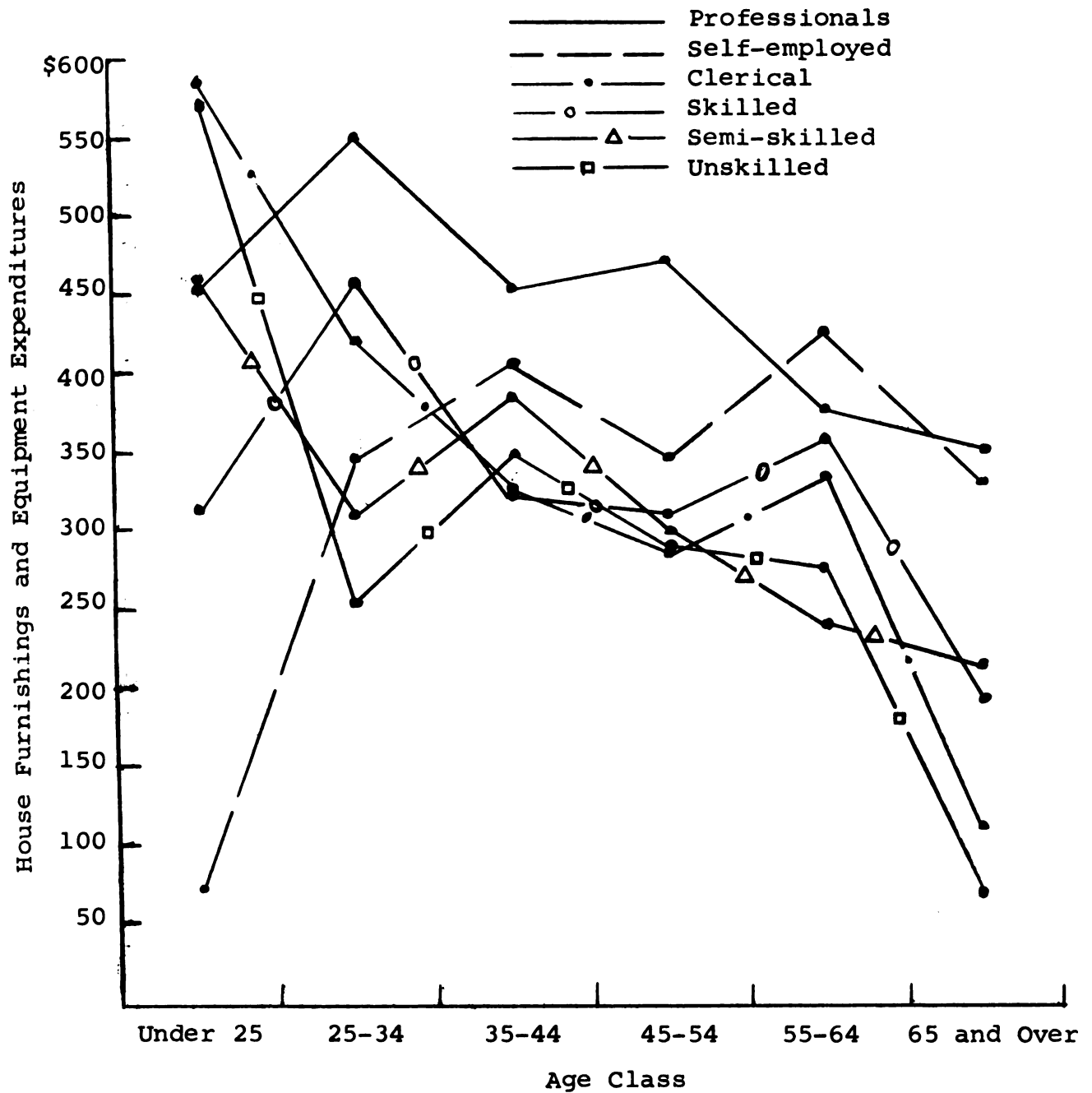


Fig. 12. Family house furnishings and equipment expenditure profiles by occupational category and family age class.

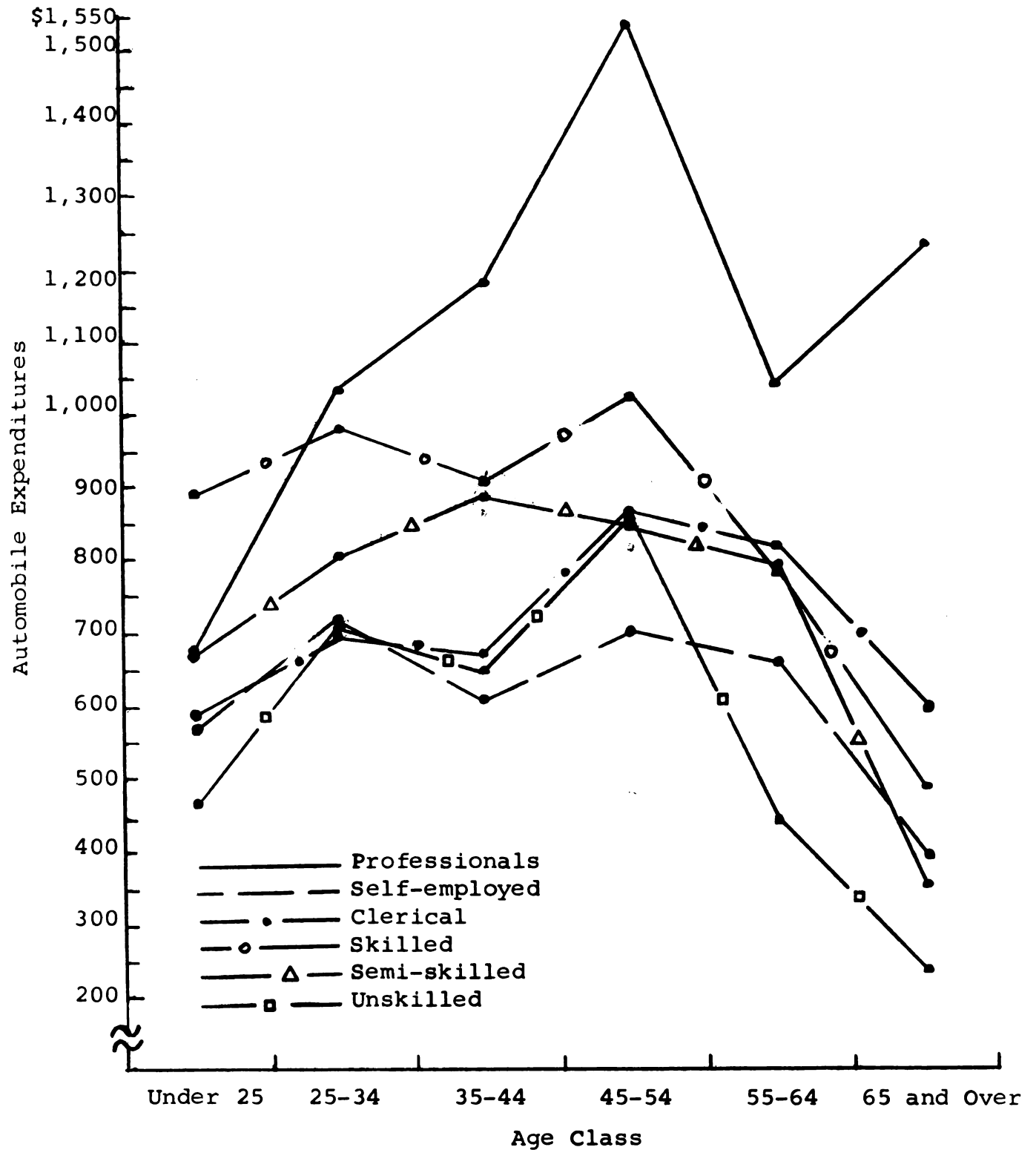


Fig. 13. Family automobile expenditure profile by occupational category and family age class.

automobiles than those in the higher ranking occupational categories. The professional, clerical, skilled, and unskilled groups reach maximum expenditure levels in the 45-54 age class. The self-employed reach maximum expenditures in the 25-34 age class. And the semi-skilled workers reach maximum expenditures in the 35-44 age class. Further, families in all the occupations except the professionals decrease automobile expenditures after the 45-54 age class. The professionals, by contrast, decrease, then increase automobile expenditures. The high relative and absolute expenditures for the lower ranking families also can be explained in terms of symbols of status and mobility.

Summary of Income--Expenditure Profiles

In summary, the most diverse disposable income patterns are found in the professional and self-employed occupational categories. The erratic income patterns were explained, in part, by the training required to enter the professional category. Further, the possible working capital problems are faced by families in the self-employed occupations in the older age classes. Families in the other occupations tended to exhibit parabolic disposable income patterns. Regarding the total expenditure profiles, families in most of the occupations reached maximum expenditures in the 45-54 age class. Generally, a decline in total expenditures was noted in the 55-64 and 65 and over age class. Variations in family total food expenditures were explained

by differences in the family size of the occupational categories. In effect, for most of the occupational groups, it appeared that family size was a more important determinant of food expenditures than was income. Total housing expenditures appeared relatively stable in the 25-34, 35-44, 45-54, and 55-64 age classes for all the occupations. Family expenditures for clothing appear to be similarly influenced by the expenditures for total food. That is, clothing expenditures in the clerical, skilled, semi-skilled and unskilled groups are fundamentally dependent upon family size and the number of children under 18. Several diverse profiles were noted in the expenditures for house furnishings and equipment. Families in the lower ranking occupations generally spend a higher proportion of income on house furnishings. Further, in the lower age classes they also spend absolutely more. These variations were explained in terms of the value placed on house furnishings as symbols of status. Similarly, the diverse patterns for automobile expenditures were explained in terms of the value of the automobile to families in the lower ranking occupations as symbols of status and mobility.

Analysis and Interpretation of Occupational Saving Profiles

Non-manual occupational saving profiles. Figure 14 reveals the unique saving profiles (as percentages of disposable income) for the professional, self-employed, and

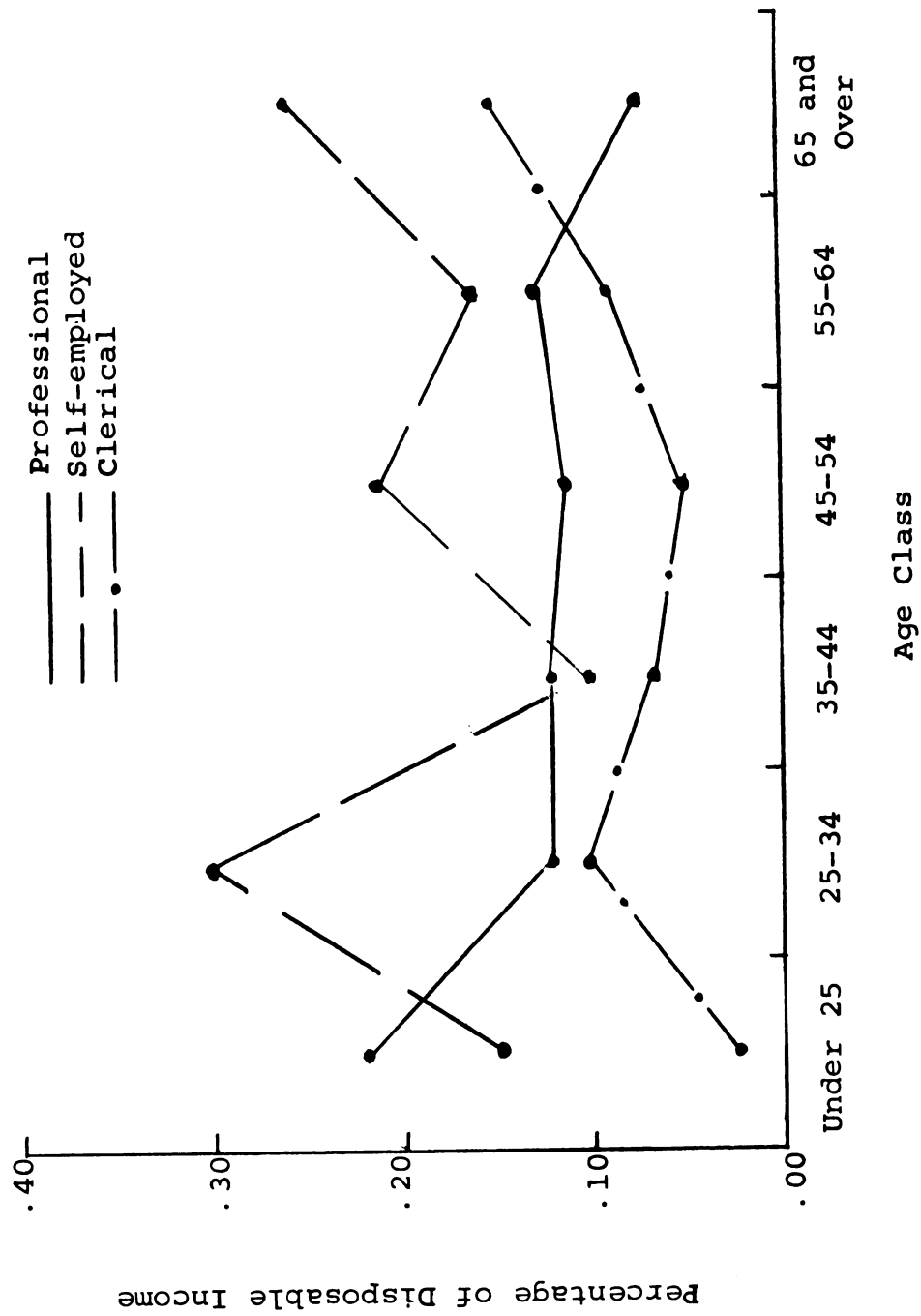


Fig. 14. Saving profiles for the professional, self-employed, and clerical families by percentage of disposable income.

clerical categories. The saving profile for the professional category reveals that savings decrease from the under 25 to the 25-34 age class, then remain relatively stable to the 55-64 age class, then decrease in the 65 and over age class. The self-employed saving profile increases sharply between the under 25 and 25-34 age classes, then decreases sharply between the 25-34 and 35-44 age classes. A sharp increase is noted between the 35-44 and 45-54 age classes. Finally, a slight decrease occurs between the 45-54 and 55-64 age classes and an increase between the 55-64 and over 65 age classes. The clerical saving profile reveals an initial increase in savings, a relatively stable savings level, and an increase in savings in the 65 and over age class.

The family saving patterns for professionals may be explained by two hypotheses: first, the need for savings has diminished since the number of dependents has decreased. Second, since average income increases the need for future savings decreases. Families in most of the other occupational groups experience declines in income, making saving more important. The regularity of the saving throughout the professional family's life stages may be explained in terms of the professional's expectations of his lifetime earning path.

As previously mentioned, savings can act as a "buffer" between income and consumption. For many occupations,

incomes vary more than consumption patterns. Therefore, when incomes fall, the families may decrease savings rather than consumption patterns. However, this pattern is not noted in the self-employed or clerical category. In both these occupational groups, disposable income decreases but family savings increase. The increase in family savings in the 65 years and over age class for the self-employed can be explained by the failure to place family income into the enterprise of the self-employed. Also, the demands for many household expenditures have decreased in the 65 and over age class. This explanation may also be true for the clerical group.

Manual occupational saving profiles. The saving profiles for the manual occupational categories in Figure 15 reveal several significant relationships. The only manual occupational category which shows consistent positive saving levels is the skilled group. The saving profile for skilled workers reveals a sharp increase in savings until the 35-44 age class. Between the 35-44 age class and 55-64 age class, savings remain somewhat stable. Savings decrease slightly between the 55-64 and 65 and over age classes. The semi-skilled saving profile reveals dissaving in the under 25 age class. Between the 25-34 and 45-54 age classes, saving levels increase. Saving levels then decrease and increase again in the 55-64 and 65 and over age classes. Unskilled families reveal dissaving in

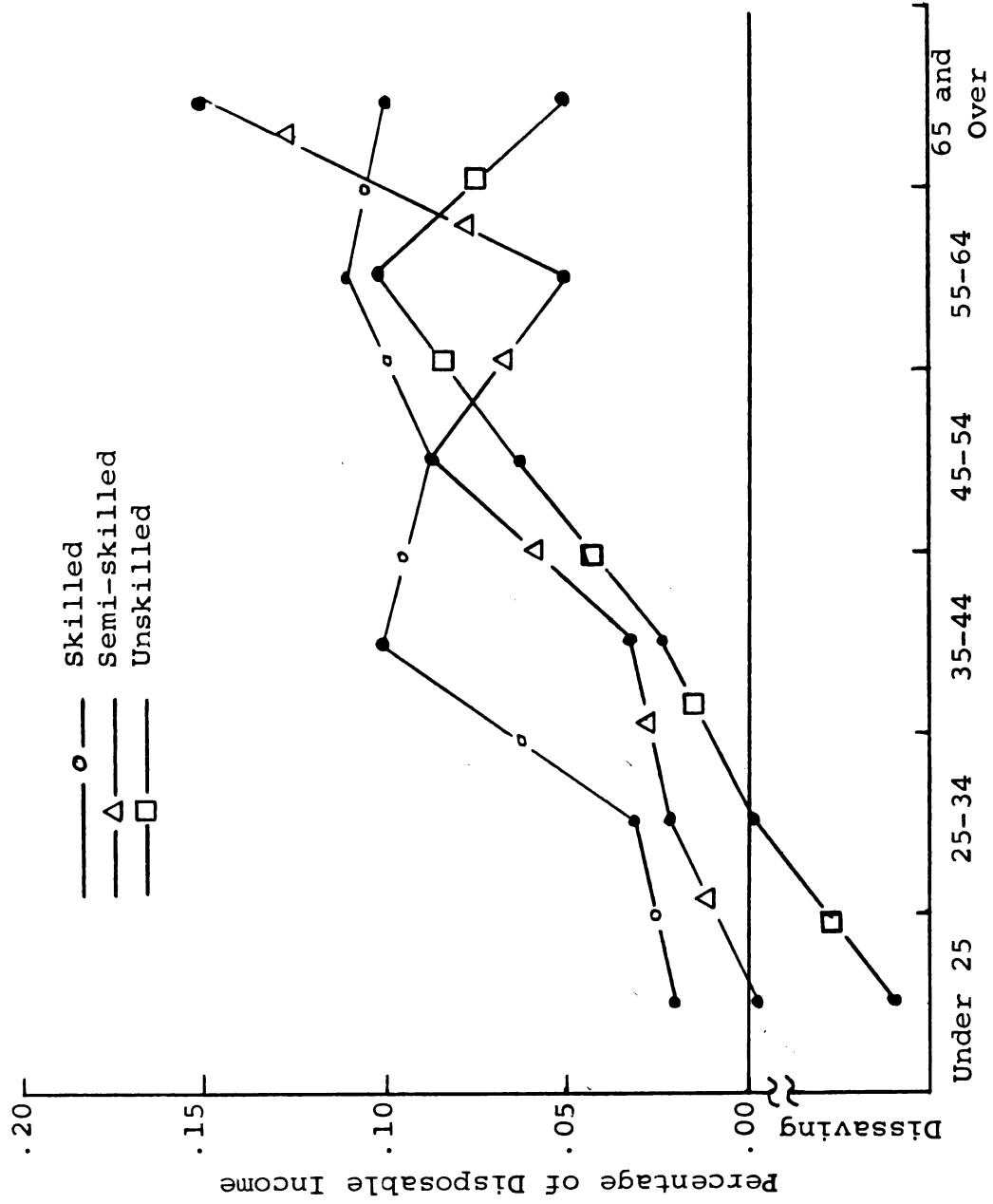


Fig. 15. Saving profiles for the skilled, semi-skilled, and unskilled families by percentage of disposable income.

both the under 25 and 25-34 age classes. Savings increase between the 35-44 and 55-64 age classes. Between the 55-64 and 65 and over age classes, the saving profile reveals that the percentage of disposable income devoted to savings decreases.

In the manual occupational groups it appears that fundamentally savings are a function of income and size of the family.

Summary of occupational saving profiles. In summary, the saving profiles for the non-manual and manual occupational categories demonstrate several diverse patterns. For the professional and self-employed categories there appears to be a low correlation between income and saving levels. Rather, saving levels are influenced by the specific occupation of the family and the perception of the family of what their lifetime earnings will be. As previously explained, the stable pattern of the saving profiles of the professionals reflect the professionals' expectations of their lifetime earning ability. Although the income of the professionals increases in the primary age classes, the percentage of income devoted to savings does not increase.

By contrast, the savings levels of the manual occupational categories generally follow their income profiles. When the income of an occupational category is low, savings also are relatively low.

Analysis of the Economic Profiles
of Each Occupational Category

Professional profiles. Figure 16 presents the disposable income and selected consumption profiles for professional families. Income increases sharply between the under 25 and 45-54 age classes. Then a decrease occurs in the 55-64 age class and an increase in the 65 and over age class.

Expenditures for total food reach a peak in the 35-44 age class, then remain relatively stable in the 55-64 and 65 and over age classes. By contrast, professional expenditures for total housing, clothing, and automobiles generally increase and reach a peak in the 45-54 age class. It is significant to note that expenditures for clothing and automobiles increase slightly in the 65 and over age class.

Self-employed profiles. The disposable income-expenditures profiles for the self-employed families reveal a different pattern than for the professional families. In Figure 17, the disposable income profiles initially increase, decrease, increase, reach a peak, then decrease. Unlike the professional families, expenditures for total food and total housing reach a peak in the 55-64 age class. However, clothing expenditures reach a peak in the 45-54 age class. Expenditures for automobiles, on the other hand, reach a peak in the 25-34 age class. In

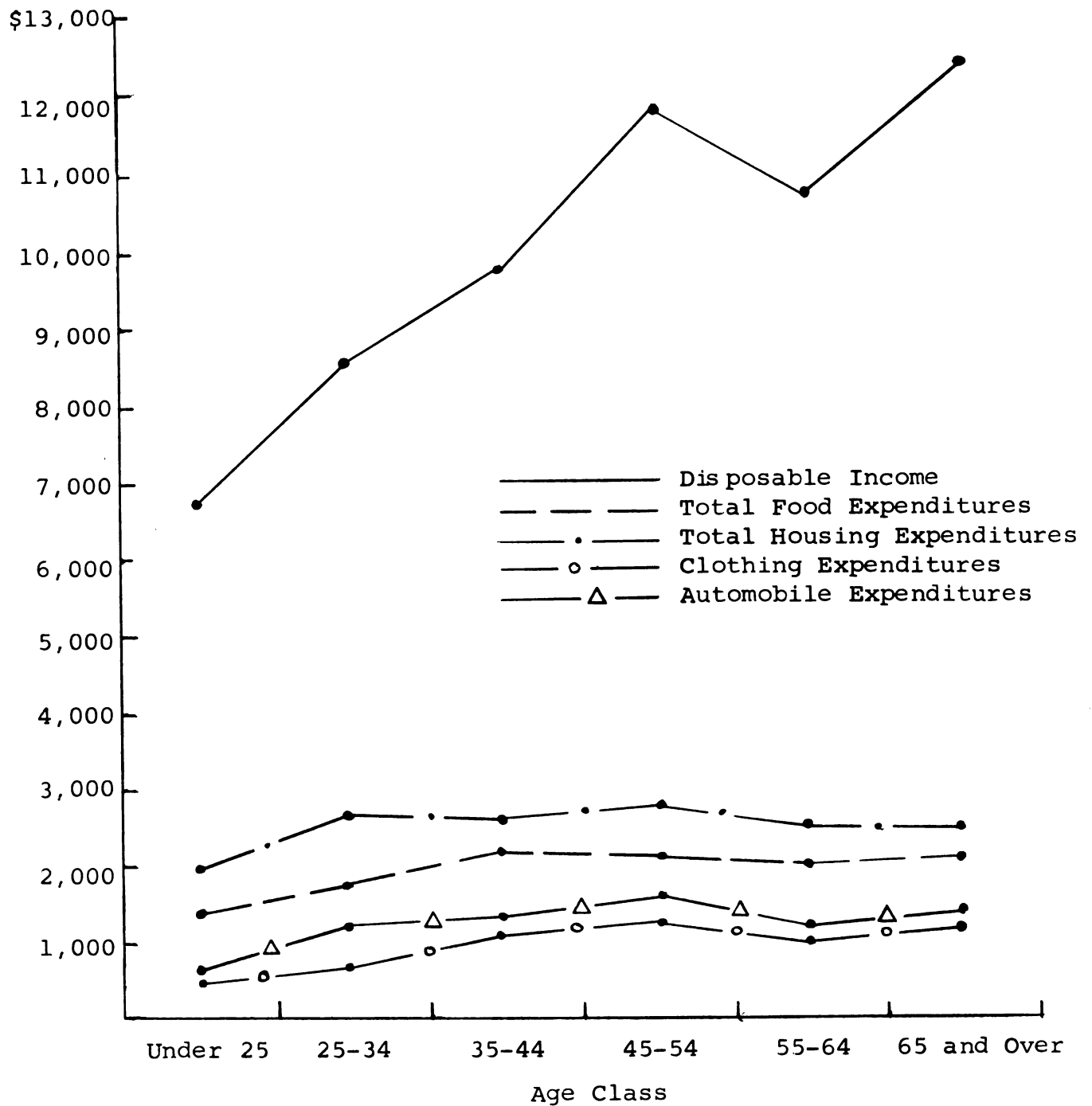


Fig. 16. Family disposable income and selected consumption profiles, professional families.

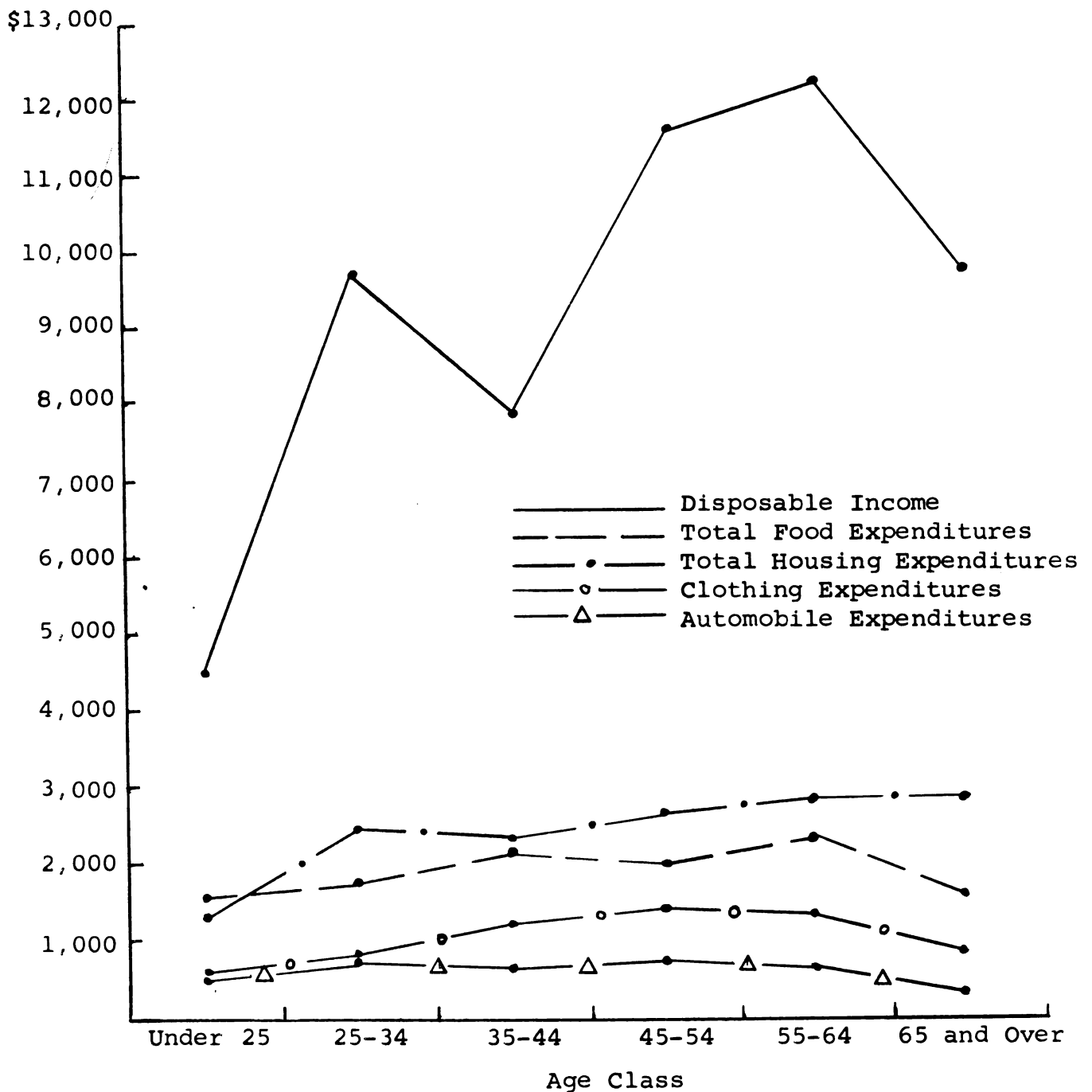


Fig. 17. Family disposable income and selected consumption profiles, self-employed families.

comparison to the professional workers, the self-employed spend much less on automobile expenditures. However, a similarity of expenditures exists for total food, total housing, and clothing.

Clerical profiles. The income-expenditure profiles in Figure 18 reveal that disposable income for the clerical families increase until the 45-54 age class, then decrease in the 55-64 and the 65 and over age classes. Expenditures for total food, clothing, and automobiles reach a peak in the 45-54 age class. Total housing expenditures, by contrast, reach a peak in the 25-34 age class. However, in all the age classes, total housing expenditures remain relatively constant, except in the 65 and over age class.

Skilled profiles. The disposable income profile presented in Figure 19 illustrates that maximum income levels for skilled families are not reached until the 45-54 age class. The profile also reveals that the incomes of skilled families do not vary absolutely or relatively as much as for families in the professional or self-employed categories. The profiles also reveal that expenditures for total food, total housing, clothing, and automobiles also remain relatively stable between the 25-34 and 55-64 age classes. Unlike those in the professional and self-employed categories, the skilled families reach maximum total housing expenditures in the 25-34 age class. This

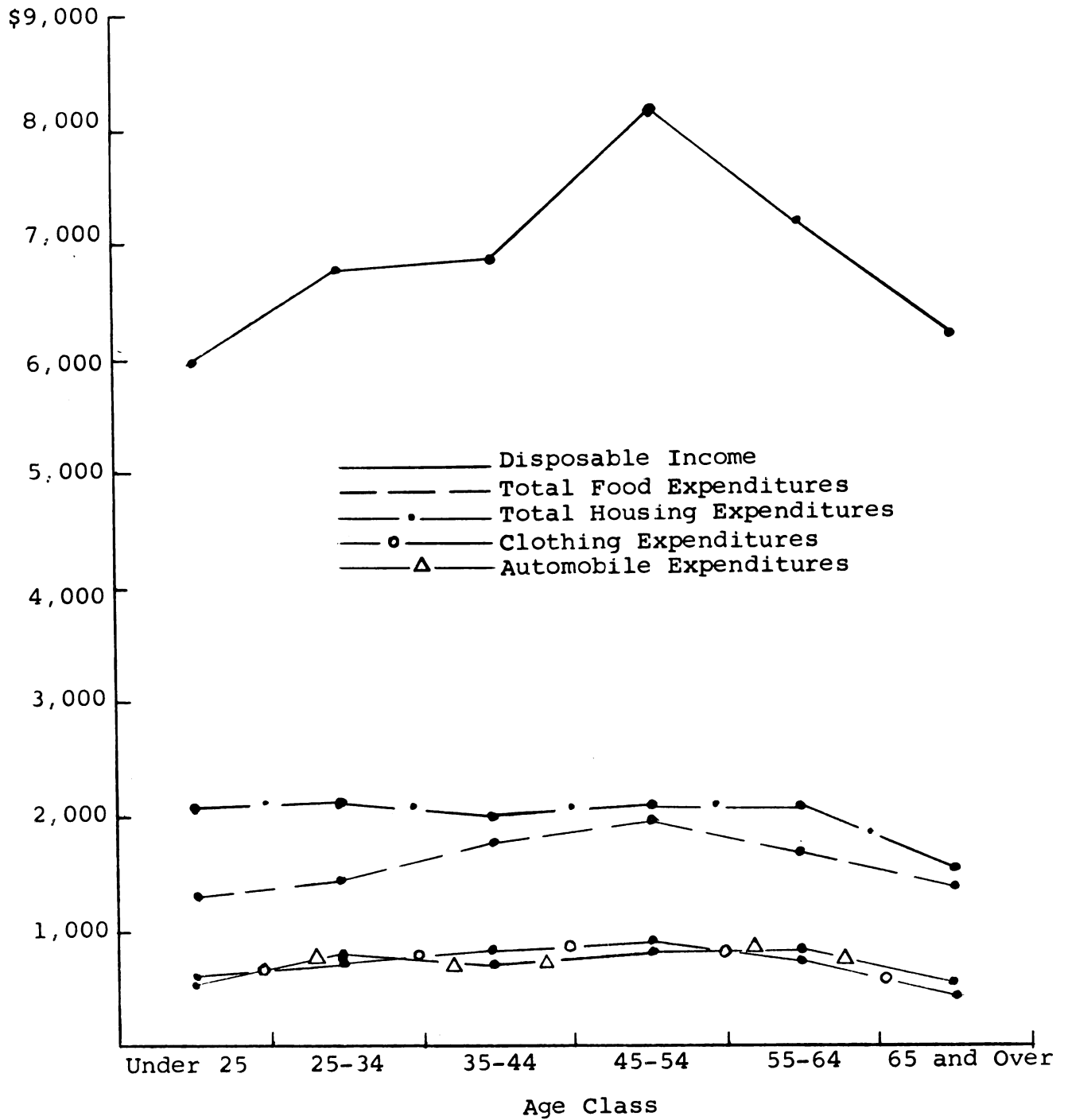


Fig. 18. Family disposable income and selected consumption profiles, clerical families.

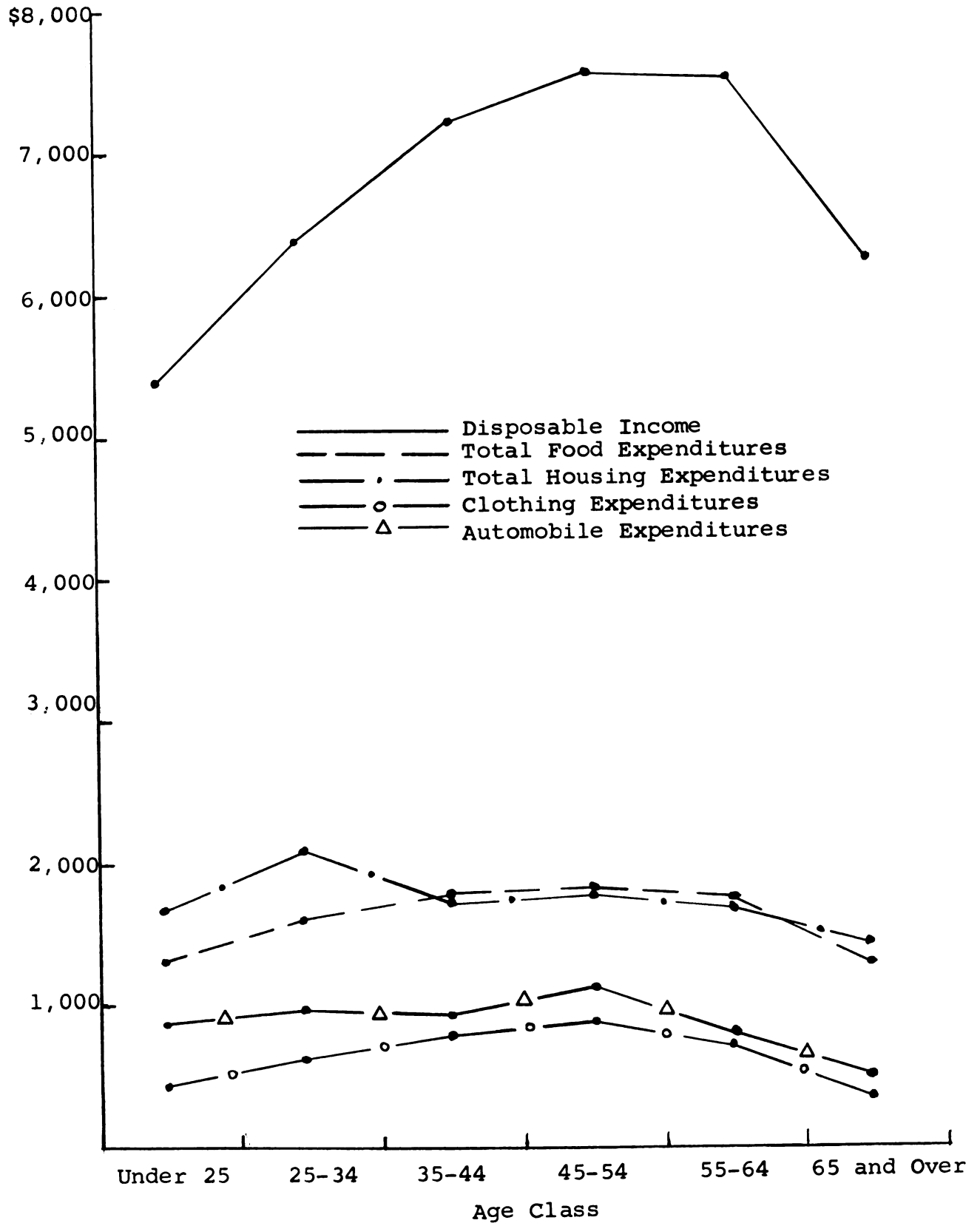


Fig. 19. Family disposable income and selected consumption profiles, skilled families.

may indicate that the skilled workers purchase a house and remain in the original house. Further, it may also indicate that maximum outlays for house furnishings and equipment are made in the 25-34 age class.

Semi-skilled profiles. The profiles presented in Figure 20 indicate that maximum disposable income levels for semi-skilled families are not reached until the 55-64 age class. And as found in the skilled income profiles, there is a relatively small variation in income levels between the 25-34 and 55-64 age classes. Maximum total food expenditures are found in the 45-54 age class. But maximum total housing, clothing, and automobile expenditures are found in the 35-44 age class. And like the relative income range, the expenditures for total food, total housing, clothing, and automobile expenditures are found between the 25-34 and 55-64 age classes.

Unskilled profiles. In Figure 21 the disposable income profiles for the unskilled families illustrate that the income levels do not vary as much as some of the other occupational groups. Specifically, disposable income levels increase until the 45-54 age class, then gradually decrease in the other occupational categories. Expenditures for total housing reach maximum levels in the 35-44 age class. But expenditures for total food, clothing, and automobiles do not reach maximum expenditures until the

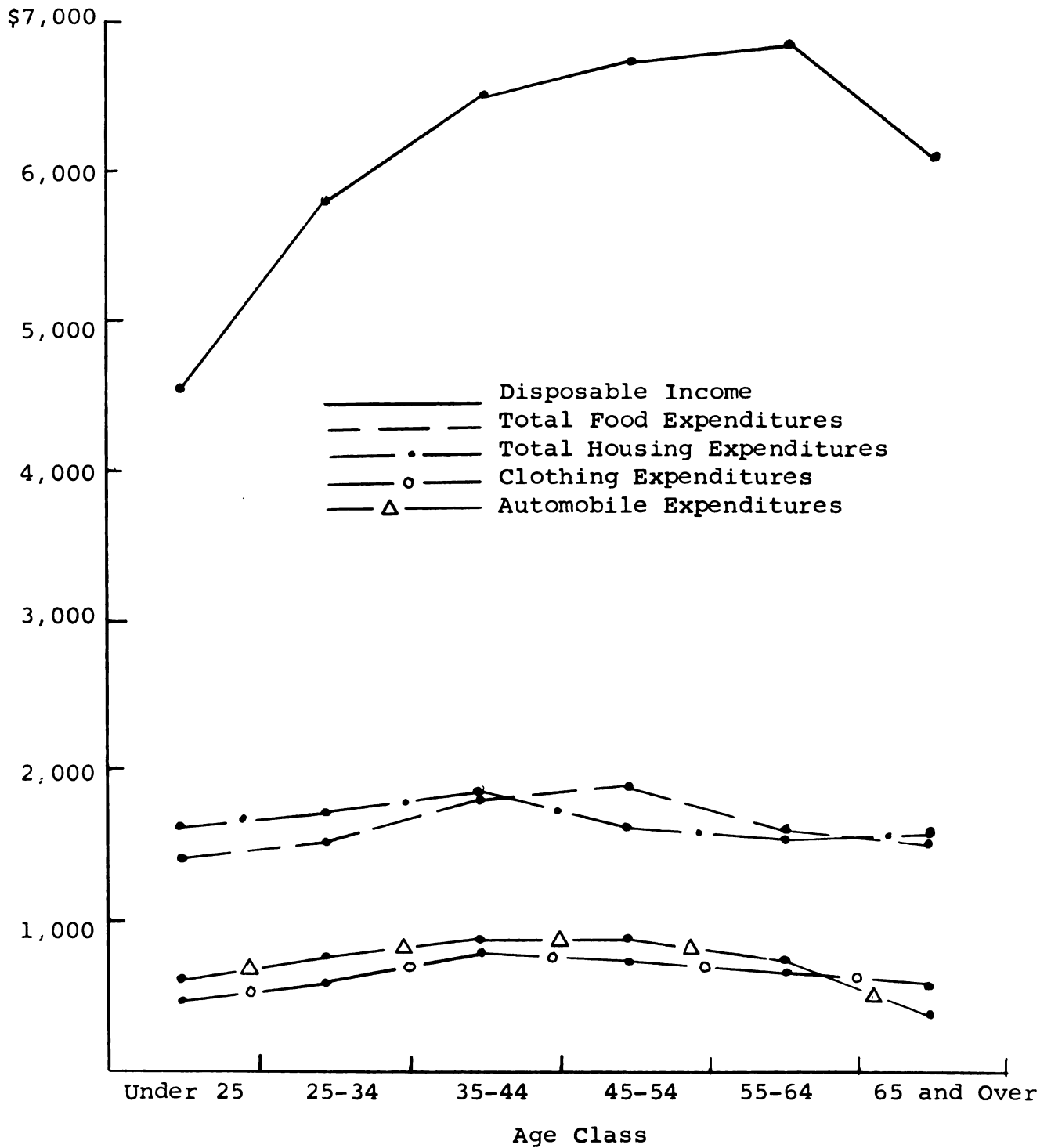


Fig. 20. Family disposable income and selected consumption profiles, semi-skilled families.

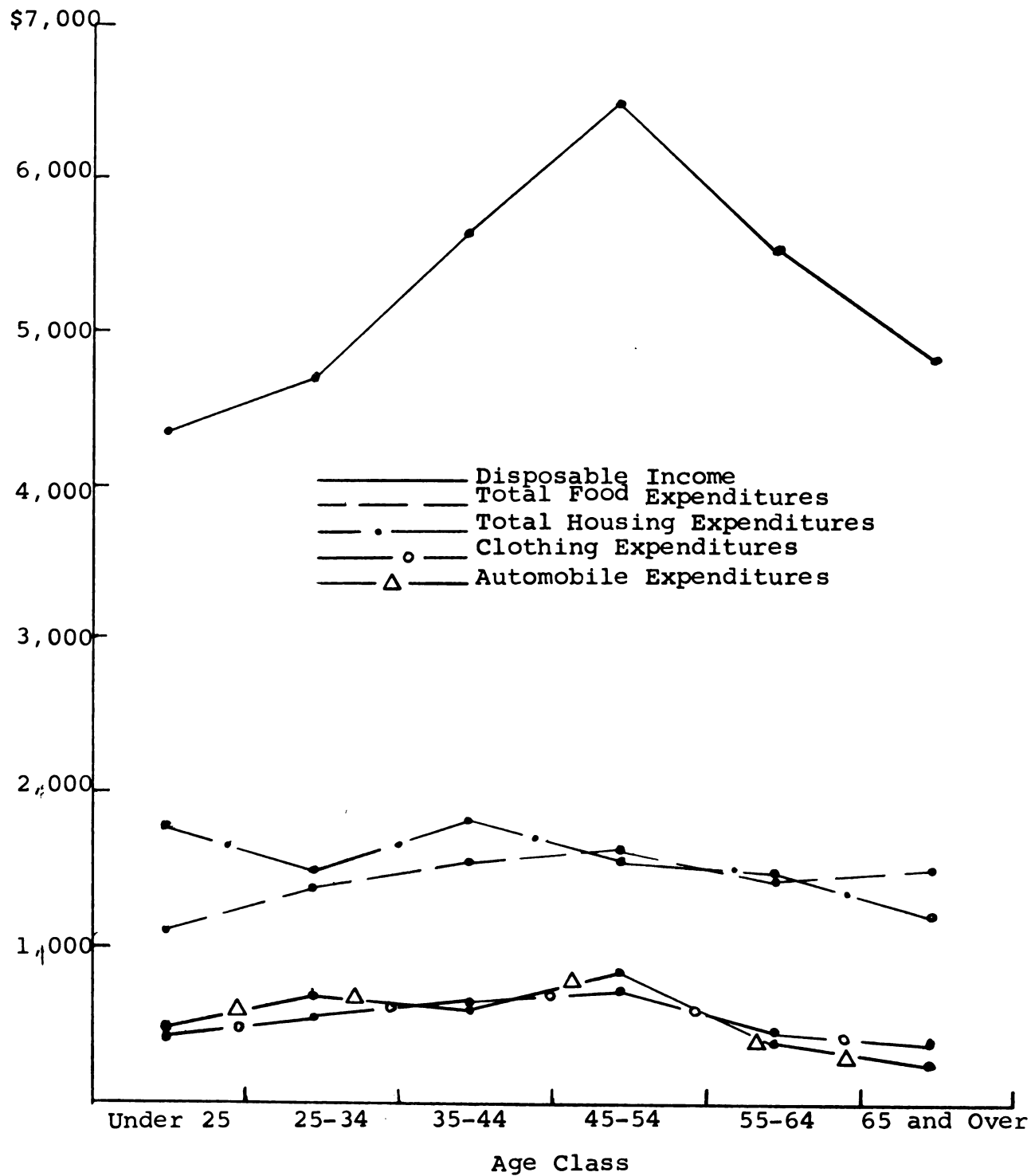


Fig. 21. Family disposable income and selected consumption profiles, unskilled families.

45-54 age class. Again it is significant to note the relatively stable level of expenditures between the 25-34 and 55-64 age classes.

Summary of specific occupational profiles. To summarize the specific economic profiles for each occupation, it appears that total expenditures, total housing, and clothing generally follow the income profiles. That is, families in each occupation relatively spend a similar amount for these items. Expenditures for automobiles, by contrast, do not follow the same relative relationship to the income profiles. In the automobile expenditure case, families in the manual occupational categories spend relatively more than the non-manual groups. Finally, it is important to note the erratic disposable income patterns, but relatively stable consumption patterns, of the self-employed families. The amount of income devoted to total food, housing, clothing, and automobiles does not vary greatly over the life stages of the self-employed group. This stable pattern tends to follow the tenets of the Permanent Income Hypothesis.

Comparison of the Occupational-Age Approach with
the Social Class, Family Life Cycle, and
Disposable Income Prediction Methods

This section examines and interprets the influence of age and occupation on family expenditure patterns. Moreover, since prior research has indicated that the occupation

variable is correlated with social class and that chronological age is correlated with the family life cycle, an examination of this congruency will be made. This section is divided into three parts. The first part examines the congruency of occupational expenditures with social class expenditure patterns. The congruency of life cycle analysis and chronological age classes are examined in the second section. The third part presents an evaluation of using disposable income as a predictor of specific expenditures.

Congruency of Occupation and Social Class Expenditure Patterns

Due to the general lack of intensive empirical research on social class expenditure patterns it is somewhat difficult to make strict comparisons between the influence of social class and occupational category on consumption patterns. Nevertheless, a few observations can be made regarding the congruency of social class and occupational expenditure patterns. To make the comparisons, however, it should be noted that only the aggregated occupational category can be employed since research is lacking on social class expenditure patterns disaggregated by age class.

Most of the research on social class expenditure patterns has illustrated differences in durable goods expenditure patterns, such as houses, household appliances, house furnishings, and automobiles. According to the

findings of Martineau, Warner, and Rainwater, notable differences occur in the expenditure patterns for these goods. Specifically, the findings indicate that the lower social classes usually spend more proportionately and sometimes more in absolute dollars than the upper social classes. However, empirical research on social class expenditure patterns for other categories of goods is lacking. Warner found, nevertheless, that the proportion of expenditures for food, clothing and shelter expenditures increases from the upper to the lower social classes. By comparing the prior research findings of expenditures by social class and the expenditures of the aggregated occupational categories¹ used in this study, several similarities in consumption patterns are noted.

The higher ranking occupational categories and social classes have similarities in socio-economic characteristics. Illustratively, the upper social classes and higher ranking occupational categories have higher educational attainments, higher incomes, and greater prestige than the lower ranking social classes and occupational categories.² Moreover, the higher ranking social classes

¹Aggregated occupational category implies that all the age classes are combined so that an average for the occupational group can be determined.

²Although occupational category usually is a primary determinant of social class placement, occupational category and social class are not synonymous.

and the higher ranking occupational categories both demonstrate higher total expenditures than the lower ranked social classes and occupational categories. But since both social class placement and occupational category are related to the income of the family head, it appears that in both social class and occupational expenditure patterns total family expenditures are closely correlated with income. Research on social class expenditures and the findings of this study on occupational expenditure patterns indicates that considerable variation does occur in the dollars expended on specific expenditure accounts. As indicated above, this variation has usually been most pronounced in expenditures for durable goods. A safe premise, then, is that other socio-economic and socio-psychological factors also affect expenditure patterns. Consequently, income alone as a predictor of expenditure patterns may not be very reliable as a predictor of many family expenditures. Although expenditures for durables generally do not follow the social class ranking, expenditures for "necessities" generally correspond to the social class and the occupational ranking scale. In the case of necessities, income also appears to be generally accurate in predicting expenditure patterns.

In many respects, the hierarchy of social class and occupational classification appears quite similar; however, there is considerable expenditure variation within

each occupational class. That is, when an occupational category is disaggregated into chronological age classes, considerable expenditure variations also are noted in the various life stages. These variations may cause inaccuracies in predicting expenditures. Consider the following example illustrating the amount of variation within an occupational category. In the example, skilled workers spend \$347 for house furnishings and equipment when all the age classes are combined.¹ Table 35 illustrates the variability in expenditures by age classes from the mean expenditures for the aggregated occupation (all age classes combined).²

TABLE 35

VARIABILITY IN HOUSE FURNISHINGS AND EQUIPMENT
EXPENDITURES BY AGE CLASS, SKILLED WORKERS

Occupational Age Classes	Dollar Variation from Mean Expenditures	Percent Variation from Mean Expenditures
Under 25	-\$ 39	-11%
25-34	+ 107	+31
35-44	- 17	- 5
45-54	- 37	-11
55-64	+ 11	+ 3
65 and over	- 155	-45

Source: Table 21.

¹Table 21.

²The variability in expenditures in Table 35 may also be due to statistical and data handling errors.

As illustrated in Table 35, there are significant variations in family expenditures within an occupational category. Similar variations also are likely to prevail in a social class stratum if the stratum is not disaggregated into age classes. However, such research on the within-stratum expenditure variation has been limited.

In summary, both aggregate social class and occupational category demonstrate similarities in both socioeconomic characteristics and expenditures. Research on expenditures by social class and occupational category also has indicated that income is not always the primary determinant of expenditures. Furthermore, the expenditure patterns of the disaggregated occupational classes demonstrate considerable variability.

Congruency of Chronological Age Analysis to Life Cycle Analysis

In recent years much research also has been conducted on family life cycle expenditure patterns and from this research several generalizations can be stated:

1. Income generally increases in each of the early life cycle stages; then, after reaching a peak, income declines. Frequently, the income peaks are reached before the household head reaches forty-five years of age.

2. The lowest incomes generally are found in the youngest and oldest life cycle stages.

3. Indications of general increases in family size

are given in most family life cycle analyses. The pattern is for family size to increase, then decrease.

4. The influence of all family earners generally is considered in estimating total family income. The number of family earners generally decreases with increases in the life cycle stage of the family.

5. Expenditures for durable goods by stage in the family life cycle generally increase sharply between the first and second stage, then gradually decrease over the remainder of the life cycle.

6. Family asset-liability patterns also increase until a peak is reached (usually the 45-54 or 55-64 age class), then gradually decrease with increases in family age.

In most cases the above generalizations also apply to chronological age analysis. In chronological analysis, the age of the family head is the independent variable. And when the analysis is employed, as in the case of the Bureau of Labor Statistics' research, changes in several socio-economic variables are reflected by increases in the age of the family head. For example, income generally increases and after reaching a peak, declines. As in life cycle research, the income peaks are usually found in the "middle age classes." In most instances, expenditures for durables initially increase, level off, then decrease. Family size and the number of family earners also increase,

then decrease approximately the same as found in family life cycle analysis. Finally, a similar family asset-liability pattern to that found in prior research on family life cycles prevails.

An over-aggregation problem, however, frequently exists in family life cycle research. Most of the research on family life cycles has dealt only with an aggregation of consumers, such as all occupational categories combined. In the aggregation process the variability of the different and unique socio-economic groups usually has been ignored. Variability in aggregated data can be illustrated by employing expenditure data from the present research. In Table 36, the average expenditures for house furnishings and equipment for the aggregate of all occupations will be compared to the average house furnishings and equipment expenditures for skilled families. In the analysis, both the absolute and percentage variability in the expenditures are illustrated.

TABLE 36

VARIABILITY IN HOUSE FURNISHINGS AND EQUIPMENT EXPENDITURES BETWEEN THE AVERAGE FOR ALL OCCUPATIONS AND SKILLED FAMILIES

Age Classes	Average Expen- ditures All Occupations ¹	Average Expen- ditures Skilled Families	Dollar Varia- bility	Percent Varia- bility
Under 25	\$406	\$308	\$-98	-24%
25-34	387	454	+67	+17
35-44	373	330	-43	-12
45-54	331	310	-21	- 6
55-64	333	358	+25	+ 8
65+	211	192	-19	- 9

¹Unweighted averages.

Source: Table 21.

As indicated by the data, considerable variations occur among the aggregated averages of all occupations and for the specific occupational category. In many cases variations in specific life cycle stages or age classes should be considered a weakness in employing only aggregated life cycle data. A similar weakness can also apply when the researcher uses chronological age classes which have not been disaggregated by "homogeneous" socio-economic characteristics.

Evaluation of Occupational Income as a Predictor of Specific Expenditures

Although the findings of this research reveal that each aggregated occupation (all age classes combined) appears to be a reliable indicator of total family expenditures, nevertheless, considerable variability in specific expenditure accounts occurs when each occupational group is disaggregated into specific chronological age classes. Since the variability of expenditures is present, certain limitations are placed on using occupational income to estimate expenditures for specific family expenditures within the various family life stages. In other words, the expenditure patterns for the aggregated occupation (all age classes combined) do not necessarily hold for the specific occupational age classes.

Specific age class variability can be illustrated by examining the income and expenditure patterns of all

occupational categories within a particular age class.

Table 37 illustrates the variability of family expenditures.

TABLE 37

ABSOLUTE RANKING OF DISPOSABLE INCOME AND SELECTED
EXPENDITURES FOR ALL OCCUPATIONS, 25-34 AGE CLASS

Expenditure Accounts	Profes- sionals	Self- Employed	Cler- ical	Skilled	Semi- Skilled	Un- Skilled
Disposable income	2	1	3	4	5	6
Total food	2	1	5	3	4	6
Food-away	2	1	3	6	4	5
Alcohol	2	4	6	1	5	3
Tobacco	6	4	5	2	1	3
House furnishings	1	4	3	2	5	6
Clothing	2	1	3	4	5	6
Recreation	2	1	4	3	5	6
Automobile	1	4	6	2	3	5
Personal care	2	1	3	4	5	6

Source: Ranking for disposable income data from Table 28; total food, Table 18; food-away, Appendix C; alcohol, Appendix C; tobacco, Appendix C; house furnishings, Table 21; clothing, Table 20; recreation, Appendix C; automobile, Table 22; and personal care expenditures, Appendix C.

In Table 37, the data reveal that in the 25-34 age class only two categories of goods, clothing, and personal care completely correspond to the ranking of disposable income in all the occupational groups. However, the correspondence of the occupations' income and specific expenditures is not as uncorrelated as the data indicate. The correspondence of occupational-income rank and specific expenditures can be examined more closely in Table 38. In the table, occupational rank and expenditure ranking

are compared to determine the differences in the ranking of expenditures by the various occupational categories.

Table 38 relates that there is some correlation between occupational-income rank and expenditures; however, complete correlation is absent. Therefore, it can be stated that income data when used alone must be interpreted with some reservations. In Table 38, the number of times each occupational category ranks first, second, third, fourth, fifth, or sixth in expenditures is indicated. In effect, Table 38 is an extension and summary of Table 37.

TABLE 38

SUMMARY OF DISPOSABLE INCOME-SELECTED EXPENDITURE
RANKINGS BY OCCUPATIONAL RANK, 25-34 AGE CLASS

Occupations ranked accord- ing to dispos- able income	Ranking of selected expenditure categories					
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6
Self-employed	5	0	0	4	0	0
Professional	2	6	0	0	0	1
Clerical	0	0	4	1	2	2
Skilled	1	3	2	2	0	1
Semi-skilled	1	0	1	2	5	0
Unskilled	0	0	2	0	2	5

Source: Table 37.

In Table 38, for example, the self-employed category ranks first in amount of disposable income. Although the self-employed have the highest disposable incomes, they do not always demonstrate the highest expenditures for each expenditure account. Of the nine expenditure categories,

the self-employed have the highest outlays in five of the accounts and they rank fourth in the remaining expenditures. Thus, disposable income rankings may not be an adequate predictor of individual expenditure accounts.

Implications of Findings for Market Delineation

There are two primary methods by which the occupation-age approach can be utilized in market delineation, purposes are: (1) to aid in locating prime market targets for the purposes of concentrating the marketing effort; and (2) for studying market dynamics.

Market Index Applications

The first method utilizes a percentage index and can be employed in two primary ways. First, it can aid in locating average family expenditure concentrations by the occupation-age matrix. Computing the expenditure concentrations is accomplished by converting the average family expenditures to index numbers and then delineating the desired markets. A modification of the first method is to introduce the number of families in a given market cell. The mean family expenditures are then multiplied by the number of families in the occupation-age cell. The resulting product estimates the potential absolute purchasing power for the occupation-age cell. If the researcher desires to compare the aggregate potential purchasing power of each occupational-age cell, he can then convert each

cell into an index of purchasing power. If the necessary data are available, both methods can be computed for a city, Standard Metropolitan Statistical Area, region, or for the national market. However, in computing the market cell estimates for a Standard Metropolitan Statistical Area, it must be made clear that the projections represent only potential expenditures. When the purchasing power potentials are computed for the desired occupational-age classes the results may be "validated" with sales estimates from the Department of Commerce. It is likely, however, that the market potential expenditures will be lower than the estimates of expenditures by the Department of Commerce. The disparity in estimates can be explained in two ways. First, most Standard Metropolitan Statistical Areas exert "drawing power" over consumers living outside the Standard Metropolitan Area. Hence, the "actual" estimates of the Department of Commerce are likely to be larger. Second, only about ninety to ninety-five percent of the population can be declared to be in a specific occupational category. Nevertheless, these "unclassified" consumers spend incomes for goods and services.¹

The aggregated potential method can be employed usefully as a benchmark for the marketing promotional effort,

¹The problem of the unclassified consumers can be reconciled partially by establishing one or more "unclassified" consumer groups. In many cases, it is possible to further disaggregate these consumers into retired and unemployed groups.

especially advertising, for a given prime market target. For example, if the computations for household durable goods reveal that expenditures are concentrated in the skilled and semi-skilled families where the household head is under 35 years of age, then the appropriate media can be directed toward the desired market concentration. The first approach of converting family expenditures into the cross-sectional indexes is illustrated in Table 39. The method has the advantage of allowing the researcher to compare expenditures on a relative basis. However, it also provides for the simultaneous comparison of expenditures by several different approaches. In Table 39 three different cross-sectional indexes are computed and compared for house furnishings and equipment expenditures.

The cross-sectional expenditure indexes facilitate the comparison of average expenditure differences among family age classes of an occupation, among identical family age classes of different occupations, and for expenditures for all age groups in all the occupations. The first step in constructing the index is determining average expenditures for each occupational category. The average expenditures for all age classes within an occupational category are given a base index value of 100. From the base index an index for each age class of each occupation is constructed for the specific expenditure. This is accomplished by dividing the specific expenditures in each age class by the

TABLE 39

PERCENTAGE EXPENDITURE INDEXES FOR HOUSE
FURNISHINGS AND EQUIPMENT OUTLAYS

	Under 25	25-34	35-44	45-54	55-64	65 and over
Professionals						
Across ^a	97	118	99	101	81	76
Within ^b	111	142	121	142	113	167
All ^c	126	153	126	131	105	99
Self-employed						
Across	19	91	108	92	113	88
Within	17	89	109	104	127	156
All	20	96	114	96	119	91
Clerical						
Across	173	122	95	82	97	34
Within	144	107	87	84	99	54
All	164	116	90	78	91	32
Skilled						
Across	95	131	95	89	103	55
Within	76	117	89	94	108	91
All	86	127	92	87	100	54
Semi-skilled						
Across	144	98	120	94	74	68
Within	112	80	101	90	71	102
All	127	86	106	83	66	61
Unskilled						
Across	188	83	116	94	92	21
Within	140	65	93	85	83	30
All	158	71	97	79	77	18

Source: Table 21.

^aPercentage index of expenditures for an occupation based on all age classes of the specific occupation (unweighted).

Index A =
$$\frac{\text{expenditures for an occupational age class}}{\text{average expenditures (all age classes) for the occupation}}$$

^bPercentage index of expenditures within a specific age class based on a specific age class for all occupations (unweighted).

Index B =
$$\frac{\text{expenditures for an occupational age class}}{\text{average expenditures (all age classes) for a specific age class}}$$

^cPercentage index of expenditures comparing each occupational age class with average expenditures of all age classes (unweighted).

Index C =
$$\frac{\text{expenditures for an occupational age class}}{\text{average expenditures for all occupations (all occupations and age classes combined (unweighted))}}$$

base expenditure level. The comparison of expenditures among the identical age groups of different occupations requires a similar computation, as does the calculation of an overall index of consumption for all the occupational-age classes.

In Table 39, the index percentages for house furnishings and equipment expenditures are presented by each occupational-age class.

The percentage expenditure index data in Table 39 reveal that in the professional group the highest relative expenditures are reached in the 25-34 age class. Highest relative expenditures for the self-employed group reach maximum levels in the 55-64 age class. The clerical families, by contrast, reach maximum expenditure levels in the under 25 age class. The skilled group, like the professionals, reach maximum expenditures in the 25-34 age class. The semi-skilled and unskilled groups reach maximum relative expenditures in the under 25 age class.

Relative expenditures for house furnishings and equipment within specific age classes of the occupations reveal a diverse pattern. In the under 25 age class the clerical group have the highest relative expenditures. The clerical category is followed by the unskilled, semi-skilled, professionals, skilled, and self-employed, respectively. By contrast, in the 25-34 age class, highest relative expenditures are found in the professional category.

Following the professional category are the skilled, clerical, self-employed, semi-skilled and unskilled. The ranking of expenditures in the 35-44 age class is highest for the professionals. Following the professionals are the self-employed, semi-skilled, unskilled, skilled, and clerical. In the 45-54 age class, the professionals have the highest relative expenditures. Following the professionals are the self-employed, skilled, semi-skilled, unskilled, and clerical. The self-employed, in the 55-64 age class, have the highest relative expenditures and are followed by the professionals, skilled, clerical, unskilled, and semi-skilled. In the 65 and over age class, the professionals have the highest expenditures and are followed by the self-employed, semi-skilled, skilled, clerical, and unskilled.

The percentage index of expenditures comparing each occupational-age class to average house furnishings and equipment expenditures reveals that the highest relative expenditures for all occupational-age classes are found in the clerical category in the under 25 age class. The second highest index is found in the unskilled group under 25 years. The third ranking relative expenditure index is found in the professional category in the 25-34 age class. Professionals in the 45-54 age class have the fourth highest relative expenditures. The fifth ranking relative expenditures are found in skilled and semi-skilled age classes in the 25-34 and under 25 age class, respectively.

Market Sector Dynamics

Another potential application of the occupation-age market delineation approach is to use the method in monitoring socio-economic changes in the market. The social class and occupational structure is changing continually. And as a consequence, the expenditure patterns of various socio-economic groups change. It is important for market researchers to be aware of such changes in directing their marketing programs. By observing the changes occurring in the market over a period of time an estimate of the future market composition can be made.

The occupation-age approach offers several potentially important advantages when used to monitor changes in markets. First, it allows the market researcher to note fundamental changes in the basic socio-economic groups which comprise the market. Second, the approach allows the market researcher to be cognizant of socio-economic changes within these consuming groups. Third, the approach aids the market researcher in predicting future changes in consumers and market patterns.

Depending upon the nature of the data available to the market researcher, the approach can be implemented relatively easily. To operationalize the approach, the researcher needs to know the number of families in each occupational-age class for two or more time periods. The researcher also needs an estimate of the mean family

expenditures for each occupational-age class in each time period for the particular expenditure being researched. For example, the problem could be to determine what changes, if any, have occurred in house furnishings and equipment expenditures by skilled families between 1950 and 1960-61. The 1950 market potential base could be estimated by using the U.S. Census of Population (1950) and the expenditure estimates from a source, such as the Wharton-Bureau of Labor Statistics' Study of Consumer Expenditures, Incomes, and Savings. The 1950 market potential base could then be estimated by multiplying the number of families in each desired age class (estimates from the Census of Population) by the estimates of family expenditures for the age classes (estimates from Study of Consumer Expenditures, Incomes, and Savings). Similarly, estimates for the 1960-61 time period can be computed from estimates of families in the 1960 Census of Population and from estimates of expenditures in the Bureau of Labor Statistics' 1960-61 Survey of Consumer Expenditures. Depending upon the available data, the potential expenditure bases for 1950 and 1960-61 can be estimated for cities, Standard Metropolitan Statistical Area, regions, or nationally. After computing the market potential base, the desired time periods, then, the absolute and percentage change in expenditures can be determined.

The market researcher also may want to determine

whether or not changes in expenditure patterns have occurred within several age classes over time. For example, the market researcher may desire to know whether the percentage of the purchases for house furnishings and equipment expenditures by families under 45 years has changed in a time period. To determine this, it would be necessary to sum the percentages of total house furnishings and equipment expenditures made by families in the age classes under 45 years. The resulting sum when compared to the 1950 base would be used to estimate these changes which have occurred in the expenditures. Finally, the researcher may want to compare the average change in expenditures in a family age class to the average change in expenditures for the aggregated occupation. In this case the average change for the occupation would be given an index of 100. Then the percentage change in the particular age class could be compared on a relative basis with the change in expenditures in the aggregate occupation.

Suggested Areas for Further Research

This study has attempted to evaluate one approach that can be used to examine consumer expenditure patterns and that potentially can aid in delineating consumer goods markets. As in all of the currently used market delineation methods, several improvements and refinements of this basic approach likely can be made. Several suggestions for additional research are suggested below:

First, research should be undertaken to determine as closely as possible the optimum occupational disaggregation necessary for purposes of market delineation. A criticism of employing only six occupational categories is that a possible overaggregation problem may occur. By determining as nearly as possible the occupations having both similar socio-demographic and family economic characteristics, the delineation process may be improved. In sum, a balance based on the economic feasibility of the method between over and under occupational aggregation should be sought.

Second, research should be undertaken to evaluate the use of only four family age classes instead of the six employed in this study. The findings of this study indicate that the most erratic expenditure patterns occur in the under 25 and 65 and over age class for many consumer expenditures. By contrast, expenditures follow more closely to the ranking of the occupations in the 25-34, 35-44, 45-54, and 55-64 age classes. Research employing only four age classes may desire to consider only the under 25, 25-44, 45-64, and 65 and over age classes. For some research purposes it may also be desirable to ignore the senior age classes for each occupation.

Third, a logical extension of the present research is to examine how specific products and brands change in importance to consumers in the different family life stages.

Such research could also include the study of brand loyalty by occupational category and age class.

Fourth, studies are suggested for determining the possible incongruity of the Permanent Income Hypothesis and aggregated occupational expenditure patterns. Such research would determine whether or not the hypothesis applies to all the specific occupational categories. The findings of this study indicate that the occupational categories do not always have expenditure patterns which correspond to the earning power of the families.

Fifth, the final area suggested for further inquiry is to investigate the effect of increasing "security" on occupational expenditure patterns. Increasing occupational security may lessen future family savings and, as a consequence, certain classes of products may increase in priority in the family budget.

APPENDICES

APPENDIX A

Socio-Economic Characteristics
of the Occupational Categories

Socio-Economic Characteristics
of the Occupational Categories

Considerable differences exist among the socio-economic characteristics of the families in the various occupational categories. In this section the findings relating to the following family socio-economic variables are discussed:

1. Average family disposable income
2. Average family size
3. Average education of family head
4. Average number of children under 18
5. Average number of full-time earners
6. Percent of nonwhite families in the occupational category
7. Percent home owners
8. Percent auto owners

The above family socio-economic characteristics are presented according to occupational rank and family age class.

TABLE 40

FAMILY SOCIO-ECONOMIC CHARACTERISTICS, PROFESSIONALS

SOCIO- ECONOMIC CHARACTER- ISTICS	Average	AGE CLASSES					
		PRIMARY			SECONDARY		
		Under 25	25-34	35-44	45-54	55-64	65 and Over
<u>Average</u>							
Disposable Income	\$10124	\$6699	\$8561	\$9880	\$11840	\$10760	\$12359
Family Size	3.6	2.8	3.7	4.1	3.8	2.6	2.6
Education	14.1	13.2	15.2	14.2	13.6	13.2	13.5
Children under 18	1.5	1.1	1.9	2.0	1.2	0.3	0.1
Full-time Earners	1.1	1.0	1.1	1.1	1.2	1.2	1.1
<u>Percent</u>							
Nonwhite families	3.1	7.7	2.7	2.8	3.6	2.9	0.0
Home owners	68.6	15.4	54.3	79.4	76.6	68.8	58.3
Auto owners	92.2	84.6	99.1	91.7	93.6	82.2	83.4

Professional Families

In Table 40 the family socio-economic characteristics of the professional occupational category reveal that the average disposable income level is not reached until the secondary age classes (45-54). Average family size reaches a peak in the 35-44 age class, then decreases through the secondary age classes. It is also noted that average educational attainment remains relatively constant throughout the age classes. The number of children under 18, like average family size, increases in the primary age classes, then decreases in the secondary age classes. A somewhat surprising finding, however, is that the number of full time earners increases slightly in the secondary age classes. The percentage of nonwhite families remains relatively constant in all the age classes except the under 25 category where a higher than average percentage of nonwhite families appears. The percentage of home owning families greatly increases in the primary age classes and slowly decreases in the secondary age classes. The percentage of auto owners in the professional categories increases substantially between the under 25 and 25-34 age class and remains relatively constant.

Self-employed Families

The self-employed category has somewhat different socio-economic characteristics than the professional category. The findings of the self-employed occupational

category are presented in Table 41. In the self-employed occupational category, maximum average family disposable income is reached in the same age class (45-54) as in the professional category. However, average income declines considerably between the 55-64 and 65 and over age class which contrasts with the professional category. Regarding family size, the self-employed begin their families at a younger life stage than the professionals. It should also be noted that average family size for all the age classes is higher in the self-employed group than in the professional group. Educational attainment is considerably lower in all the age classes. The self-employed family also tends to have more children under 18 in the primary age classes than the professional group. The average number of full time earners in each age class remains relatively constant. The percentage of nonwhite families in the various age classes differs considerably from the professional category. In the professional group, for example, there is a higher percentage of nonwhite workers in the primary age classes. By contrast, in the self-employed category there is a higher percentage of nonwhite families in the secondary age classes. The self-employed category also prefers to own homes more than the professional category; however, the professional group has a slightly higher percentage of families owning automobiles.

TABLE 41

FAMILY SOCIO-ECONOMIC CHARACTERISTICS, SELF-EMPLOYED

SOCIO- ECONOMIC CHARACTER- ISTICS	Average	AGE CLASSES					
		PRIMARY			SECONDARY		
		Under 25	25-34	35-44	45-54	55-64	65 and Over
<u>Average</u>							
Disposable income	\$10232	\$4444	\$9612	\$7892	\$11539	\$12139	\$9724
Family size	3.7	4.0	4.1	4.4	4.0	2.8	2.6
Education	11.4	10.0	12.9	11.6	12.1	10.2	8.8
Children under 18	1.5	2.0	2.2	2.4	1.4	0.4	0.1
Full-time earners	1.0	1.0	1.0	0.9	1.1	1.0	1.0
<u>Percent</u>							
Nonwhite families	4.1	0.0	0.0	4.7	6.8	5.1	0.0
Home owners	72.6	100.0	58.6	63.1	81.9	82.1	73.3
Auto owners	90.1	100.0	93.0	88.5	93.3	89.8	80.0

Clerical Families

The data for the clerical families in Table 42 reveal that average income for the category is not reached until the secondary age classes. Average income increases to the 45-54 year age class, then decreases in the succeeding age classes. The clerical category tends to have smaller families than self-employed or professional categories. Educational attainment of the clerical head is lower than the professional category but higher than the self-employed category. And the average number of full-time earners remains constant in the primary age classes but increases in the 45-54 age class. The percentage of nonwhite families in the clerical category contrasts with the self-employed category. A higher percentage of nonwhite families

appears in the primary age classes of the clerical category as contrasted to the self-employed primary age classes. Considerable differences exist in the clerical category regarding home ownership and auto ownership. In the clerical category (all age classes combined) only about one-half of the families are home owners. Further, only about three-fourths of the clerical category own automobiles.

TABLE 42

FAMILY SOCIO-ECONOMIC CHARACTERISTICS, CLERICAL

SOCIO-ECONOMIC CHARACTERISTICS	Average	AGE CLASSES					
		PRIMARY			SECONDARY		
		Under 25	25-34	35-44	45-54	55-64	65 and Over
<u>Average</u>							
Disposable income	\$7105	\$5951	\$6729	\$6850	\$8167	\$7288	\$6220
Family size	3.3	2.6	3.6	3.9	3.3	2.6	2.0
Education	12.2	12.8	13.7	12.3	11.7	10.8	10.7
Children under 18	1.2	0.6	1.7	2.0	0.9	0.2	0.0
Full-time earners	1.1	1.0	1.0	1.0	1.4	1.2	1.2
<u>Percent</u>							
Nonwhite families	7.1	11.8	7.4	10.0	5.8	3.9	0.0
Home owners	53.0	11.7	48.3	60.4	58.8	55.8	40.1
Auto owners	74.4	64.7	73.7	72.6	80.9	71.2	79.9

Skilled Families

In the manual working occupational categories different socio-economic variable relationships were found which differ significantly from the nonmanual occupational categories. Table 43 presents the data for the socio-economic characteristics of the skilled families.

TABLE 43

FAMILY SOCIO-ECONOMIC CHARACTERISTICS, SKILLED

SOCIO- ECONOMIC CHARACTER- ISTICS	AGE CLASSES						
	Average	PRIMARY			SECONDARY		
		Under 25	25-34	35-44	45-54	55-64	65 and Over
<u>Average</u>							
Disposable income	\$7104	\$5358	\$6379	\$7167	\$7688	\$7628	\$6227
Family size	3.8	3.1	4.5	4.3	3.7	2.9	2.2
Education	10.1	11.5	10.6	10.6	9.8	9.2	7.4
Children under 18	1.6	1.3	2.5	2.1	1.2	0.4	0.6
Full-time earners	1.0	0.9	0.9	0.9	1.1	1.1	0.8
<u>Percent</u>							
Nonwhite families	4.5	4.8	8.2	2.8	2.4	6.0	4.8
Home owners	64.8	14.2	48.8	73.5	71.2	71.4	66.8
Auto owners	87.0	95.3	92.9	90.9	81.7	84.6	66.8

For the skilled category average disposable income (all age classes combined) was approximately the same as for the clerical category. But the skilled workers do not surpass the clerical workers in disposable income until the 35-44 year old age class. The average family size (all age classes combined) of the skilled workers surpasses the clerical, self-employed, and professional groups. Further, the skilled working families reach maximum size at younger life stages than the clerical, self-employed, or professional categories. Average educational attainment is considerably lower than in the higher ranking occupational groups. Regarding the percentage of nonwhite families, the skilled worker category has fewer than the clerical group but more than either the self-employed or professional group. Home

and auto ownership are considerably higher in the skilled group than in the clerical category. As for family home ownership, both the skilled and clerical groups reach the highest percentage of families owning homes in the 35-44 age class. However, the highest percentage of skilled families owning automobiles is reached in the under 25 age class, which is higher than most of the other occupational groups.

Semi-skilled Families

The semi-skilled socio-economic characteristics are presented in Table 44.

TABLE 44

FAMILY SOCIO-ECONOMIC CHARACTERISTICS, SEMI-SKILLED

SOCIO- ECONOMIC CHARACTER- ISTICS	Average	AGE CLASSES					
		PRIMARY			SECONDARY		
		Under 25	25-34	35-44	45-54	55-64	65 and Over
<u>Average</u>							
Disposable income	\$6405	\$4543	\$5758	\$6586	\$6818	\$6861	\$6021
Family size	3.9	3.1	4.2	4.4	3.8	3.0	2.5
Education	9.3	10.7	10.5	9.9	8.7	8.1	5.3
Children under 18	1.6	1.5	2.3	2.2	1.3	0.5	0.3
Full-time earners	0.9	0.3	0.8	0.8	1.1	1.1	1.0
<u>Percent</u>							
Nonwhite families	18.3	6.7	25.2	19.1	17.6	13.1	7.1
Home owners	48.1	6.7	33.8	54.1	51.0	64.0	49.9
Auto owners	75.9	73.3	72.7	78.4	80.8	73.7	50.0

The disposable income of the semi-skilled families is considerably less than the disposable income of the

skilled occupational category. Similar to the skilled category, the semi-skilled workers reach the disposable income average in the 35-44 year age class, which is similar to the maximum income levels of the nonmanual occupational categories. Of all the occupational categories, the semi-skilled workers have the largest average family size. However, the educational attainment of the semi-skilled workers is lower than that of the other higher ranking occupational groups. The semi-skilled workers also have a much smaller average number of full-time earners in the primary age classes than do the other occupations. The findings also reveal a much higher distribution of nonwhite workers in the semi-skilled category than in any of the other higher ranking categories. Also, the percentage of families owning homes or autos is similar to the clerical category. Approximately one-half of the families own homes and about three-fourths of the families own automobiles.

Unskilled Families

The findings of the socio-economic characteristics of the unskilled families are presented in Table 45.

Average disposable income for all age classes in the unskilled occupational category is considerably less than for the other occupational groups. As in the skilled and semi-skilled occupational categories, the average disposable income level is not reached until the 45-54 age class. Similar average family size relationships, as found

in the skilled and semi-skilled groups, are also found in the unskilled categories. Average educational attainment for the unskilled workers is slightly less than for semi-skilled workers and less than for the skilled category by one year. The average number of children under 18 is less than in the semi-skilled and skilled category. However, the unskilled group has the highest percentage of nonwhites of any occupational category. As expected, the unskilled workers ranked lowest of all the occupations in the percent of home owners category. Moreover, the lowest percentage of families owning automobiles is found in the unskilled group.

TABLE 45

FAMILY SOCIO-ECONOMIC CHARACTERISTICS, UNSKILLED

SOCIO- ECONOMIC CHARACTER- ISTICS	Average	AGE CLASSES					
		PRIMARY			SECONDARY		
		Under 25	25-34	35-44	45-54	55-64	65 and Over
<u>Average</u>							
Disposable income	\$5513	\$4303	\$4671	\$5682	\$6495	\$5519	\$4798
Family size	3.6	3.2	3.9	4.1	3.7	2.8	2.3
Education	9.0	10.9	10.1	9.8	8.6	6.9	8.4
Children under 18	1.4	1.2	1.9	2.1	1.4	0.4	0.1
Full-time earners	0.9	0.8	0.8	0.9	1.0	1.0	0.9
<u>Percent</u>							
Nonwhite families	31.2	29.5	34.9	38.9	21.8	27.6	30.0
Home owners	40.9	5.9	27.2	39.0	55.1	49.5	50.0
Auto owners	62.1	52.9	66.7	65.6	69.7	49.5	50.0

APPENDIX B

Selected Historical Consumer
Budget Studies

TABLE 46

1874-75 MASSACHUSETTS EXPENDITURE SURVEY
CONSUMPTION PATTERNS OF FAMILIES AND WAGE EARNERS
IN 15 CITIES AND TOWNS BY INCOME CLASS

Demographic and Expenditure Items	Income Class					
	All Income Classes	\$300 and under \$450	\$450 and under \$600	\$600 and under \$750	\$750 and under \$1,200	\$1,200 and over
Number of families	397	6	52	143	188	8
Average family size	5.1	5.0	5.2	4.8	5.3	6.9
Average annual money income ¹	\$763	\$395	\$549	\$679	\$871	\$1,383
Percent of expenditures for current consumption	100.0	100.0	100.0	100.0	100.0	100.0
Subsistence ²	58.0	64.0	63.0	60.0	56.0	51.0
Clothing	14.0	7.0	10.5	14.0	15.0	19.0
Rent	16.0	20.0	15.5	14.0	17.0	15.0
Fuel	6.0	6.0	6.0	6.0	6.0	5.0
Sundry expenses	6.0	3.0	5.0	6.0	6.0	10.0

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¹At this period, Massachusetts was among the states where wage earners and clerical workers received incomes which were high relative to most states.

²Includes food, kerosene oil, and provisions commonly purchased in grocery stores. NOTE: Items may not add to totals because of rounding. Average expenditures for all categories except fuel by all income classes combined differ by a few dollars from those shown elsewhere in the source.

SOURCE: Derived from the Sixth Annual Report on the Statistics of Labor, Commonwealth of Massachusetts, Public Document No. 31 (Boston, 1875), Part IV, pp. 221-354, 441. From: U.S. Department of Labor, How American Buying Habits Change (Washington, D.C.: U.S. Government Printing Office, 1957), p. 35.

TABLE 47

1888-91 SURVEY OF CONSUMER EXPENDITURES
CONSUMPTION EXPENDITURE OF FAMILIES OF CITY WAGE AND CLERICAL
WORKERS OF 2 OR MORE PERSONS, BY INCOME CLASS

Demographic and Expenditure Items	Income Class									
	All Income Classes	Under \$200	\$200 and under \$400	\$400 and under \$600	\$600 and under \$800	\$800 and under \$1,000	\$1,000 and under \$1,200	\$1,200 and under \$1,450	\$1,450 and over	
Number of families	2,562	24	500	1,168	492	206	86	86		
Average family size	3.9	3.4	3.7	3.9	3.9	4.1	4.2	4.3		
Average annual money income	\$573	\$156	\$335	\$486	\$674	\$883	\$1,064	\$1,450		
Percent of expendi- tures for current consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Food	41.0	49.8	45.5	44.5	40.3	36.3	33.6	28.6		
Housing	15.0	15.5	14.9	15.3	15.6	15.5	14.4	12.6		
Fuel and light	6.0	7.7	7.2	6.5	5.6	5.0	4.3	3.0		
Clothing	15.4	12.9	14.0	14.7	16.0	16.0	17.2	15.7		
Sundries	22.7	14.2	18.5	18.9	22.5	27.2	30.5	40.1		

NOTE: Items may not add to totals because of rounding.

SOURCE: Derived from Sixth and Seventh Annual Reports of the Commissioner of Labor, Cost of Production: Iron, Steel, Coal, etc. (Washington, 1891, 1892), Part III. From U.S. Department of Labor, How American Buying Habits Change (Washington, D.C.: U.S. Government Printing Office, 1957), p. 32; U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957 (Washington, D.C.: U.S. Government Printing Office, 1960), p. 181.

TABLE 48

1901 CONSUMPTION EXPENDITURE STUDY OF "NORMAL FAMILIES"¹ IN PRINCIPAL
INDUSTRIAL CENTERS IN 33 STATES, BY INCOME CLASS

		Income Class											
		\$200 and under	\$300 and under	\$400 and under	\$500 and under	\$600 and under	\$700 and under	\$800 and under	\$900 and under	\$1000 and under	\$1100 and under	\$1200 and over	
Demographic	All												
and Expendi-	Income												
ture Items	Classes	\$200	\$300	\$400	\$500	\$600	\$700	\$800	\$900	\$1000	\$1100	\$1200	
Number of													
families	11,156	32	115	545	1676	2264	2336	2094	806	684	340	96	
Average													
family size	4.0	3.2	3.4	3.8	3.8	3.9	3.9	4.0	4.2	4.1	4.3	4.0	
Average money													
income	\$651	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	
Percent of													
expenditures													
for current													
consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Food	43.1	50.8	47.3	48.1	46.9	46.2	43.5	41.4	41.4	39.9	38.8	37.7	
Rent	18.1	16.9	18.0	18.7	18.6	18.4	18.5	18.2	17.1	17.6	17.5	16.6	
Fuel	4.6	6.7	6.1	6.0	5.5	5.1	4.6	4.1	3.9	3.8	3.8	3.6	
Light	1.1	1.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	
Clothing	13.0	8.7	8.7	10.0	11.4	12.0	12.9	13.5	13.6	14.4	15.1	14.9	
Sundries	20.1	15.6	18.8	16.1	16.5	17.2	19.4	21.6	23.0	23.2	23.7	26.1	

¹As defined for the survey, a "normal family" had a husband at work, a wife, not more than 5 children and none over age 14, no dependent, boarder, lodger, or servant; and had expenditures for rent, fuel, lighting, food, clothing, and sundries.

²Not available.

NOTE: Items may not add to totals because of rounding.

SOURCE: Cost of Living and Retail Prices of Food, Eighteenth Annual Report of the Commissioner of Labor (Washington, 1903), pp. 581, 592, 593. From: U.S. Department of Labor, How American Buying Habits Change (Washington, D.C.: U.S. Government Printing Office, 1957), p. 40.

TABLE 49

1917-19 CONSUMPTION EXPENDITURE STUDY OF WHITE WORKERS' FAMILIES WITH AT
LEAST ONE CHILD, IN CITIES OF ALL SIZES, BY INCOME CLASS

	Income Class									
	All Income Classes	Under \$900	and under \$1,200	and under \$1,500	and under \$1,800	and under \$2,100	and under \$2,500	and under \$2,500	and over	
Demographic and Expenditure Items										
Number of families	12,096	332	2,423	3,959	2,730	1,594	705	353		
Average family size	4.9	4.3	4.5	4.7	5.0	5.1	5.7	6.4		
Average money income	\$1,505	\$810	\$1,070	\$1,336	\$1,622	\$1,914	\$2,261	\$2,777		
Percent of expenditures for current consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Food	40.7	46.3	44.8	41.8	39.3	37.9	36.7	36.8		
Alcoholic beverages	.5	.5	.7	.6	.5	.4	.5	.7		
Tobacco	1.3	1.5	1.4	1.2	1.2	1.2	1.1	1.2		
Housing	13.8	15.2	14.8	14.6	14.3	14.0	12.8	11.2		
Fuel, light and refrigeration	5.5	7.1	6.3	5.9	5.4	5.3	4.8	4.4		
Household operation	2.7	2.2	1.4	2.6	2.8	3.1	3.1	2.7		
Furnishings and equipment	4.6	3.5	4.2	4.4	4.9	4.8	4.8	4.5		
Clothing	17.7	13.9	15.3	16.7	17.7	18.5	19.8	21.6		
Automobile	1.2	.1	.4	.7	1.2	1.9	2.6	2.5		
Other transportation	1.9	1.4	1.8	1.9	2.0	1.9	2.2	2.3		
Medical care	4.7	4.5	4.5	4.7	4.9	4.7	4.5	4.4		
Personal care	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.0		
Recreation	2.4	1.0	1.5	2.0	2.6	3.1	3.6	4.2		
Reading	.8	.7	.8	.8	.8	.8	.8	.7		
Education	.5	.5	.3	.4	.6	.7	.8	.9		
Miscellaneous	.7	.5	.7	.6	.8	.7	.9	.9		

NOTE: Items may not add to totals because of rounding.

SOURCE: Cost of Living in the United States, U.S. Bureau of Labor Statistics
Bulletin 357 (Washington, 1924). From: U.S. Department of Labor, How American Buying
Habits Change (Washington, D.C.: U.S. Government Printing Office, 1957), p. 42.

TABLE 50

1934-36 CONSUMPTION EXPENDITURE STUDY OF FAMILIES OF EMPLOYED
WORKERS IN CITIES OF 50,000 AND OVER, BY INCOME CLASS

	Income Class										
	\$500 and under	\$600 and under	\$900 and under	\$1200 and under	\$1500 and under	\$1800 and under	\$2100 and under	\$2400 and under	\$2700 and under	\$3000 and over	
Demographic and Expenditure Items											
Number of families	14,469	116	1,215	2,952	3,444	2,937	2,185	810	391	188	231
Average family size	3.6	3.1	3.2	3.4	3.5	3.6	3.8	4.0	4.3	4.4	4.8
Average annual money income after personal taxes ¹	\$1,518	\$550	\$775	\$1062	\$1348	\$1634	\$1928	\$2241	\$2507	\$2867	\$3450
Percent of expenditures for current consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food and alcohol	34.7	39.4	37.9	36.8	35.4	34.3	33.1	33.0	32.8	32.2	33.0
Housing	17.7	20.7	20.3	19.9	18.4	17.9	16.6	15.6	15.0	14.3	13.3
Fuel, light and re- frigeration	7.4	10.0	9.1	8.7	8.0	7.2	6.8	6.6	5.7	5.1	4.8
Household operation	4.0	3.1	3.6	3.5	3.7	4.0	4.3	4.4	4.4	4.6	4.6
Furnishings & equipment	4.1	2.0	3.4	3.6	4.1	4.4	4.3	4.3	4.2	3.2	3.6
Clothing	10.9	7.7	8.9	9.4	10.2	11.0	11.7	12.4	13.4	15.0	15.2
Automobile	5.9	1.4	2.4	3.7	5.5	6.3	7.6	7.8	7.0	7.6	6.9
Other transportation	2.6	2.7	3.0	2.7	2.5	2.5	2.4	2.5	2.8	3.0	3.7
Medical care	4.0	3.5	4.0	3.9	4.0	4.1	4.3	3.9	4.2	4.2	3.7
Personal care	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.3
Recreation, reading and tobacco	5.6	4.4	4.6	5.0	5.4	5.5	4.8	6.2	6.6	6.8	7.5
Education	.5	.3	.2	.4	.4	.4	.6	.7	.8	.7	.7
Miscellaneous	.5	2.8	.6	.4	.4	.4	.5	.5	.9	1.0	.7

¹Taxes deducted were poll, income and personal property, which averaged \$5 per family.
NOTE: Items may not add to totals because of rounding.

SOURCE: Money Disbursements of Wage Earners and Clerical Workers, 1934-36, Summary
Volume, U.S. Bureau of Labor Statistics Bulletin 638 (Washington, 1941), pp. 12, 22. From:
U.S. Department of Labor, How American Buying Habits Change (Washington, D.C.: U.S. Govern-
ment Printing Office, 1957), p. 44.

TABLE 51

1950 STUDY OF CONSUMER EXPENDITURES, INCOMES AND SAVINGS OF WAGE-EARNER
AND CLERICAL-WORKER FAMILIES IN CITIES OF 2,500 AND OVER, BY INCOME CLASS

	Income Class										
	\$1000 and under	\$2000 and under	\$3000 and under	\$4000 and under	\$5000 and under	\$6000 and under	\$7500 and under	\$10000 and over			
Demographic and Expenditure Items	All Income Classes	Under \$1000	Under \$2000	Under \$3000	Under \$4000	Under \$5000	Under \$6000	Under \$7500	Under \$10000	and over	
Number of families	7,007	64	498	1423	2180	1453	749	427	164	49	
Average family size	3.4	2.3	2.9	3.1	3.4	3.5	3.7	3.9	4.2	4.5	
Average money income ¹ after personal taxes	\$3,923	\$651	\$1629	\$2564	\$3487	\$4454	\$5434	\$6606	\$8394	\$13292	
Percent of expenditures for current consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Food	30.7	32.0	35.8	33.8	31.9	30.0	28.8	27.3	27.8	25.6	
Alcoholic beverages	1.8	.5	1.3	1.5	1.6	1.9	1.9	2.2	2.2	2.8	
Tobacco	2.0	1.7	2.6	2.4	2.0	2.0	1.8	1.7	1.8	1.2	
Housing	10.6	16.8	12.9	12.0	10.9	10.3	9.7	9.5	8.5	9.4	
Fuel, light & refrigeration	4.2	7.2	5.8	5.0	4.4	3.9	3.7	3.4	3.2	2.8	
Household operation	3.9	4.6	3.7	3.9	3.8	3.8	4.0	4.0	4.2	7.9	
Furnishings and equipment	7.1	5.1	6.1	6.9	6.8	7.5	7.4	7.5	6.1	7.8	
Clothing	11.5	7.7	10.2	10.2	10.8	11.5	12.3	13.3	14.3	15.4	
Automobile	12.1	6.4	6.8	8.8	11.8	12.7	14.0	14.4	14.7	9.7	
Other transportation	1.7	1.5	1.9	1.9	1.6	1.7	1.9	1.8	2.2	2.0	
Medical care	5.1	6.7	5.3	5.4	5.4	5.0	4.7	4.8	4.7	4.0	
Personal care	2.3	2.1	2.7	2.5	2.4	2.2	2.2	2.1	2.2	2.0	
Recreation	4.5	2.0	2.4	3.3	4.3	5.0	4.9	5.2	5.5	5.8	
Reading	.9	.8	.9	.9	.9	.9	.8	.8	.8	.8	
Education	.4	.1	.3	.3	.4	.5	.6	.6	.6	.8	
Miscellaneous	1.2	4.8	1.3	1.2	1.0	1.1	1.3	1.4	1.2	2.0	

¹Taxes deducted were Federal, state and local income tax, poll tax, and personal property tax.

NOTE: Items may not add to totals because of rounding.

SOURCE: Study of Consumer Expenditures, Incomes and Savings: Statistical Tables, Urban U.S.-1950, University of Pennsylvania, 1956), Volumes I, II, III, IX, X, table 16 in each volume. From: U.S. Department of Labor, How American Buying Habits Change (Washington, D.C.: U.S. Government Printing Office, 1957).

APPENDIX C

Other Selected Family Expenditures

Appendix C presents other findings of the research. Selected data from Tables 52 to 56 were used in Chapter V in Tables 37 and 38.

TABLE 52

FAMILY FOOD EXPENDITURES AWAY FROM HOME
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$466	\$415	\$308	\$337	\$486	\$539	\$501	\$563	\$707	
Self-employed	443	364	320	358	368	502	412	668	333	
Clerical	363	341	419	310	350	392	457	333	303	
Skilled	255	224	276	211	226	290	306	293	183	
Semi-skilled	256	261	266	223	294	249	262	241	177	
Unskilled	252	252	233	217	281	252	280	237	168	

TABLE 53

FAMILY ALCOHOL EXPENDITURES
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Average All Age Classes			Primary			Average Secondary Age Classes			
				Under 25	25-34	35-44				Secondary 65 and Over
Professional	\$149	\$143	\$67	\$120	\$168	\$158	\$174	\$138	\$124	
Self-employed	117	127	14	114	139	110	107	101	143	
Clerical	122	105	85	99	114	143	192	84	124	
Skilled	140	134	80	126	148	146	139	175	75	
Semi-skilled	132	118	95	112	126	149	171	105	157	
Unskilled	105	102	46	119	100	109	102	119	76	

TABLE 54

FAMILY TOBACCO EXPENDITURES
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$118	\$117	\$83	\$103	\$131	\$119	\$119	\$124	\$102	
Self-employed	106	120	0	106	132	95	114	93	44	
Clerical	117	111	120	111	109	125	158	90	97	
Skilled	128	124	120	139	114	132	135	142	77	
Semi-skilled	143	149	105	145	159	136	147	125	98	
Unskilled	105	130	46	119	100	123	102	119	76	

TABLE 55

FAMILY RECREATION EXPENDITURES
BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Average All Age Classes			Primary			Average Secondary Age Classes			
				Under 25	25-34	35-44				65 and Over
Professional	\$372	\$354	\$202	\$323	\$392	\$398	\$427	\$356	\$369	
Self-employed	329	334	1418	335	308	326	329	362	223	
Clerical	272	280	219	271	297	262	341	205	99	
Skilled	291	293	196	292	308	290	308	284	199	
Semi-skilled	215	233	212	227	241	193	202	200	92	
Unskilled	189	192	189	195	191	186	234	156	53	

TABLE 56

FAMILY PERSONAL CARE EXPENDITURES

BY OCCUPATIONAL SOCIO-ECONOMIC RANK AND AGE CLASS

SOCIO- ECONOMIC OCCUPATIONAL RANK	Age Classes									
	Primary					Secondary				
	Average All Age Classes	Average Primary Age Classes	Under 25	25-34	35-44	Average Secondary Age Classes	45-54	55-64	65 and Over	
Professional	\$216	\$204	\$154	\$183	\$225	\$232	\$241	\$225	\$199	
Self-employed	224	199	185	185	209	243	249	271	154	
Clerical	191	180	173	172	188	205	222	190	175	
Skilled	179	171	149	163	180	189	205	184	109	
Semi-skilled	176	173	119	158	193	180	191	166	158	
Unskilled	162	155	132	146	166	169	188	151	165	

APPENDIX D

Specific Steps in the Data Processing

Specific Steps in the Data Processing

Step I. Manual Data Transformation

The first step in preparing the raw data for computer analysis consisted of combining the 65-74 and 75 and over age class into one age class (65 years and over). This step involved weighting the expenditure data in the 65-74 and 75 and over age class by the number of sample families in each age class. Next, the expenditure data in each occupational-age class were multiplied by the number of sample families. The product of each occupational-age class was added together and divided by the sum of the families in each age class. This process was repeated for each of the nine Standard Metropolitan Statistical Areas.

Step II. Card Punching and Verification

The second phase consisted of placing the data for each Standard Metropolitan Statistical Area onto data processing cards. The original data from the computer print-outs and the transformed data from step I were placed on the data processing cards. Next, the data processing cards were placed in the card printer and the data on the cards were placed on computer print-outs. This process duplicated the original data as received from the Bureau of Labor Statistics. These print-outs were then checked visually against the original raw data for errors. In this step, as appeared in the original Bureau of Labor Statistics data, each occupational group's socio-economic characteristics

and expenditures for a specific family age class were given.

Step III. Intermediate Transformation

The third step in processing the data involved transforming each of the different occupational categories in specific age classes to specific occupational categories for each of the age classes. This process entailed placing the data for each occupational-age class from the nine Standard Metropolitan Statistical Areas onto computer print-outs. Each computer print-out revealed the expenditures for a specific occupational category in a specific age class from each Standard Metropolitan Statistical Area. The data for each occupational-age class of each Standard Metropolitan Statistical Area were then weighted by the number of sample families for the specific occupational category. The number of sample families was then multiplied by the family socio-economic characteristics and family expenditure accounts. The products of each occupational-age category of each Standard Metropolitan Statistical Area were then summed and divided by the number of sample families in the nine Standard Metropolitan Statistical Areas. The resulting weighted average represented the sample data for each occupational-age class used in the study.

Step IV. Final Transformation

The fourth step involved transferring the data for each of the age classes of an occupation onto computer

print-outs. In this step the resulting average expenditures for all age classes in each occupational category were computed. First, the number of sample families in each occupational-age class was multiplied by the family expenditure account in each occupation-age class. The resulting products of each age class were summed and divided by the total number of families. This resulted in the average expenditure data for each occupational-age class.

Step V. Computing Average Propensities to Consume

The fifth step entailed the computation of the average propensities to consume. The average propensity to consume was computed by dividing the average expenditure accounts by the average disposable income levels for each occupational-age class.

Step VI. Computation of Income Elasticities

The sixth step involved calculating the income-expenditure elasticities. An unrestricted Least Squares routine program was employed to estimate the relationships between the dependent variables, such as total expenditures, and disposable income levels. The first step involved placing each observation from each occupational-age class of each of the Standard Metropolitan Statistical Areas on data processing cards. The raw data were then read into the computer. Next, the data were converted by the computer into logarithms. The conversion of the data to logarithms

facilitates the Least Squares computations. The relationship between income and the dependent variables (expenditure accounts) is then estimated. The relationship between the independent and dependent variable is expressed as follows:

$$\text{Log (total expenditures)} = a + b (\text{log (income)})$$

The resulting regression coefficient is the elasticity between income and total expenditures. Also automatically computed is the standard error of the regression coefficient and the statistical significance of the regression coefficient.

Step VII. Computations of the Marginal Propensities to Consume

Step seven involved the calculation of the marginal propensities to consume. As in the calculation of the income elasticities, an Unrestricted Least Squares computer program was employed. The regression coefficient in this program represented the portion of a new level of income devoted to a specific expenditure account. Again, the standard error of the regression coefficient and the established significance level was also computed.

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