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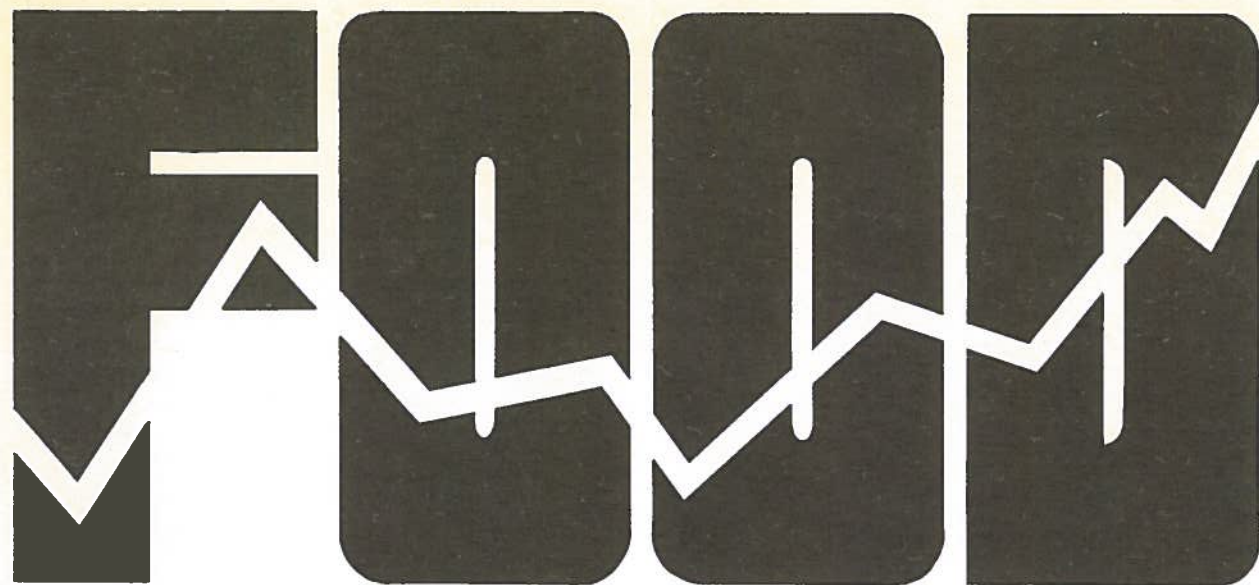
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EXPENDITURES BY UPPER INCOME FAMILIES

an Analysis of Their Changing Importance in the U.S. Food Market

Marguerite C. Burk

University of Minnesota
Agricultural Experiment Station

in cooperation with the U.S. Department of Agriculture

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CONTENTS

Page

Part I OVERVIEW

Chapter 1. Introduction and Summary.....	1
1.1 Research Objectives.....	1
1.2 Historical Changes in U.S. Food Expenditures	1
1.3 Identification of Problems for Research	2
1.4 Study of the Characteristics of Upper-Income Families.....	5
1.5 Measurement and Analytical Procedures.....	8
1.6 Selected Findings	9
1.7 Indications of Future Changes in the Food Market.....	11
1.8 Suggestions for Further Research.....	12
Chapter 2. Background and Plan for the Study	15
2.1 Comparison of Consumption by Upper-Income Families with Patterns for Families at Lower-Income Levels	15
2.2 Some Research Relevant to Forecasting Changes in Food Consumption	24
2.3 A Conceptual Framework for Analysis of Consumption Patterns..	29
2.4 Objectives and Hypotheses Used	31
2.5 The Operational Framework and Data Used for Food Analyses ...	34
Chapter 3. Socioeconomic Characteristics of Upper-Income Families ...	37
3.1 Introduction	37
3.2 Families with Disposable Income of \$10,000 or More	37
3.3 Variations with Family Income in Characteristics of Upper- Income Families in Minneapolis-St. Paul.....	39
3.4 Characteristics of Families at Different Levels of Per Capita Income	50
3.5 Family Characteristics at Different Stages in the Family Life Cycle	53

Part II FOOD-NONFOOD COMPETITION FOR DOLLARS OF UPPER-INCOME URBAN CONSUMERS

Chapter 4. Food-Nonfood Competition in Perspective.....	55
4.1 Historical Trends in Consumption Expenditures	55
4.2 Urban Food-Nonfood Ratios in 1960-61	59
4.3 BLS Data on Expenditures by Minneapolis-St. Paul Families.....	63
4.4 Earlier Statistical Analyses	64
4.5 Results of Multivariate Analyses of Historical Data	67
4.6 Analyses of 1955 and 1965 USDA Cross Section Data	70
4.7 Comparison of Time Series and U.S. Cross Section Data	75

	Page
Chapter 5. Food-Nonfood Competition Among Upper-Income Families in Minneapolis-St. Paul.....	76
5.1 Variations in Ratios with Family Income Level.....	76
5.2 High and Low Food Spenders in 1964	79
5.3 Statistical Relationships of Socioeconomic Factors with Family Expenditures	81
5.4 Analysis of Relationships with Week's Food, UPIF.....	85
5.5 Variations in Allocations with Per Person Income and Family Cycle.....	88
5.6 Alternative Models to Test Several Discontinuous Variables	91
Chapter 6. Other Analyses of Food Expenditures.....	103
6.1 Consistency in Patterns of Expenditures	103
6.2 Analysis Using Spending Levels.....	106
6.3 Study of Food Wants	112
Chapter 7. Summary of Analyses of the Competition between Food and Nonfood Expenditures	115
7.1 Analyses of Historical Trends and Cross Section Variations	115
7.2 Preliminary Evidence from UPIF Survey	116
7.3 Hypotheses Related to Income and Financial Characteristics	116
7.4 Hypotheses Related to Family Size and Composition	120
7.5 Hypotheses Related to Characteristics of the Husband.....	121
7.6 Hypotheses Related to Characteristics of the Wife	123
7.7 Unsatisfied Wants for Food.....	124
Part III COMPETITION FOR FOOD DOLLARS	
Chapter 8. Appraisal of Differences in Levels of Food Expenditures Indicated by Three Surveys	126
8.1 Sampling and Survey Procedures.....	126
8.2 Household Size and Family Size	128
8.3 Adjustments in 1961-62 Expenditure Data.....	128
8.4 Patterns of Eating at Home Versus Away From Home	130
8.5 Checks on 1965 HFCS Data	130
8.6 Conclusions Regarding Level.....	132
Chapter 9. The Competition among Food at Home, Away-from-home Eating, and Alcoholic Beverages	133
9.1 National Survey Data on Categories of Expenditures	136
9.2 Components of Expenditures by Minneapolis-St. Paul Upper-Income Families.....	137
9.3 Expenditures for Food Away from Home, Minneapolis-St. Paul Sample	143
9.4 1964 Expenditures for Alcoholic Beverages by UPIF	147

	Page
Chapter 10. Expenditures for Food Groups for Use at Home.....	154
10.1 U.S. Urban Families and Singles, 1965-66 HFC Survey	154
10.2 North Central Urban Data	154
10.3 Minneapolis-St. Paul Survey	157
Chapter 11. Expenditures for Meat, Poultry, Fish.....	185
11.1 Spring 1965 Survey Data for U.S. and North Central Households.....	185
11.2 Expenditures by Minneapolis-St. Paul Families	185
Chapter 12. Expenditures for Dairy Products	197
12.1 Postwar Changes in Purchases	197
12.2 1955 and 1965 Household Survey Data.....	200
12.3 Dairy Expenditures by Minneapolis-St. Paul Upper- Income Families.....	210
Chapter 13. Summary of Analyses of Competition among Foods.....	221
13.1 Expenditures for Major Food Groups.....	221
13.2 Meat, Poultry, and Fish Expenditures.....	224
13.3 Dairy Products	226
Chapter 14. Food Buying Patterns of Upper-Income Families in Minneapolis-St. Paul	229
14.1 Sources of Food.....	229
14.2 Shopping Practices	233
14.3 Purchases of Prepared Foods and Dishes	240
14.4 Sources of Food Information.....	243
14.5 Summary	245
Appendix A. Technical Notes for Tables 1.1 and 2.3	246
Appendix B. Appraisal of Sample for Survey of Upper-Income Families in Minneapolis-St. Paul.....	249
Appendix C. Measurement of Consumer Value Orientation	256
Appendix D. Schedules Used in the Survey of Consumption Patterns of Upper-Income Families, Minn- neapolis-St. Paul.....	265
Literature Cited.....	320

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1.1	Structure of the U.S. food market, as measured by household food expenditures, spring 1955 and 1965.....	4
2.1	Selected annual income and expenditure data for all U.S. urban families and single individuals and for several disposable income classes, 1950 and 1960-61, with comparisons	16
2.2	Average value of all food and major items used at home and expenditures for food and alcoholic beverages away from home in a week of spring 1955 and 1965 by U.S. urban families at several income levels, with comparisons.....	17
2.3	Shares of major foods in value of all food used at home in a week by U.S. urban families at comparable real income levels, spring 1955 and 1965	20
2.4	Shares of major foods in value of all food used at home in a week by North Central urban families in spring 1965.....	22
3.1	Selected social and economic characteristics of samples of all urban families with two or more persons sampled in U.S. and North Central Region in 1960-61, of all Minneapolis-St. Paul families (including single individuals) in 1963, and for those in each area having disposable money incomes of \$10,000 to \$15,000 and \$15,000 or more	40
3.2	Social and economic characteristics of upper-income families in Minneapolis-St. Paul comparable with Bureau of Labor Statistics data, by level of disposable family income in 1964	41
3.3	Indications of income mobility of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964.....	44
3.4	Social status and social mobility, as measured by Hollingshead Two-Factor Index of Social Position, of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964	46-47
3.5	Education and occupation of wife, stage in family life cycle, and family size of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964.....	48
3.6	Wives' average scores on Gordon interpersonal value measures and Consumer Value Orientation measures, upper-income Minneapolis-St. Paul families, by stage in family life cycle	51
3.7	Selected social and economic characteristics of upper-income families in Minneapolis-St. Paul, for quartiles based on level of disposable income per person in 1964....	52
3.8	Selected social and economic characteristics of upper-income families in Minneapolis-St. Paul, by stage in family life cycle	54

LIST OF TABLES

<u>Table</u>		<u>Page</u>
4.1	Personal consumption expenditures for major categories of goods and services in selected years, with comparisons	56
4.2	Personal consumption expenditures by type of product in 1958 dollars per capita	57
4.3	United States and North Central urban families of two or more persons: Selected family expenditure data for all families and upper-income families for 1960-61.....	60
4.4	North Central urban families and single consumers with \$10,000 to \$15,000 disposable income: Selected family expenditure data for 1960-61, by occupation of family head	61
4.5	North Central urban families and single consumers with \$10,000 to \$15,000 disposable income: Selected family expenditure data for 1960-61, by education of family head	62
4.6	Average disposable money income, family size, total expenditures, and food expenditures for all Minneapolis-St. Paul families and single consumers, by income in 1950 and 1963.....	65
4.7	Key data for \$10,000 to \$15,000 income group from U.S. Bureau of Labor Statistics and University of Minnesota surveys	66
4.8	Summary of least squares regressions for alternative measures of food expenditures per capita and selected socioeconomic factors, 1929 to 1941 and 1947 to 1966.....	68
4.9	Results of linear regressions for food expenditures per family and per person in a week and related socioeconomic factors--all U.S. and urban U.S. families and single individuals, spring 1955 and 1965	71-74
5.1	Averages and selected ranges for annual expenditures per family for food and selected nonfood items in 1964 upper-income Minneapolis-St. Paul families by level of disposable family income	78
5.2	Selected characteristics and expenditure data for upper-income Minneapolis-St. Paul families allocating to food low, medium and high proportions of total 1964 expenditures, by family income level in 1964	80
5.3	Summary of regression analyses of 1964 family food and nonfood expenditures, by category, and major socioeconomic factors, upper-income Minneapolis-St. Paul families	82
5.4	Summary of regression analyses of 1964 per person food and nonfood expenditures, by category, and major socioeconomic factors, upper-income Minneapolis-St. Paul families	84
5.5	Summary of regression analyses of food expenditures per family and per person by upper-income Minneapolis-St. Paul families in a week of April to July 1965.....	86

LIST OF TABLES

<u>Table</u>		<u>Page</u>
5.6	Averages for selected characteristics and expenditures per person for food and nonfood items in 1964 by upper-income Minneapolis-St. Paul families grouped by proportion of total expenditures allocated to food within per person income quartiles	89
5.7	Averages for selected characteristics and expenditures per person in 1964 by upper-income Minneapolis-St. Paul families grouped by proportion of total expenditures allocated to food within family life cycle stages	90
5.8	Alternative regression models--per person expenditures (in logarithms) for food at home in 1964, upper-income Minneapolis-St. Paul families	92-93
5.9	Alternative regression models--per person expenditures (in logarithms) for food away from home in 1964, upper-income Minneapolis-St. Paul families	95-96
5.10	Alternative regression models--per person expenditures for food as percent of total expenditures, 1964, upper-income Minneapolis-St. Paul families	98-99
5.11	Alternative regression models--per person expenditures (in logarithms) for all nonfood goods and services, in 1964, upper-income Minneapolis-St. Paul families ...	101-102
6.1	Average family size and percentages of sample means of expenditures per person for selected goods and services by upper-income Minneapolis-St. Paul families grouped first in thirds according to overall expenditures per person and then by per person income quartile in 1964.	104
6.2	Distribution by per person income quartiles, average family size, and percentages of sample means of expenditures per person for selected goods and services by upper-income Minneapolis-St. Paul families grouped first in thirds according to total expenditures per person in 1964, then by stage in family life cycle	105
6.3	Distribution by family life cycle stage and average family size and percentages of sample means of expenditures per person for selected goods and services by upper-income Minneapolis-St. Paul families grouped first in thirds according to food expenditures per person and then by per person income quartiles in 1964.....	107
6.4	Characteristics of low, medium, and high food spenders in a week, within family disposable income groups.....	109
6.5	Characteristics and selected average expenditures for low, medium, and high per person food spenders in year within per person income quartile.....	111
6.6	Characteristics and average expenditures for selected commodities by families classified by desire for additional money for food	113

LIST OF TABLES

<u>Table</u>		<u>Page</u>
8.1	Estimates of per person expenditures in a week for all food at home, meat, and dairy food groups by U.S. nonfarm families and single individuals in 1961-62, U.S. urban families and single individuals, and Minneapolis-St. Paul families, selected income groups	127
8.2	Estimated average per person expenditures for food in a week of spring 1955, adjusted to 1965 prices, and in spring 1965, all U.S. housekeeping households and urban only.....	131
9.1	Approximate per capita expenditures for food and alcoholic beverages and for major components, 1940, 1950, 1955, 1960, 1965, and 1967	134
9.2	Components of 1964 food and alcoholic beverage expenditures by upper-income Minneapolis-St. Paul families, by level of family income	138
9.3	Components of 1964 food and alcoholic beverage expenditures by Minneapolis-St. Paul families with incomes over \$10,000, by husband's occupation	139
9.4	Components of 1964 food and alcoholic beverage expenditures by Minneapolis-St. Paul families with incomes over \$10,000, by education of husband	141
9.5	Low, medium, and high family spenders for food at home in 1964 in relation to total food and beverage expenditures, Minneapolis-St. Paul families with incomes \$10,000 and over: Selected family characteristics and components of expenditures	142
9.6	Low, medium, and high family spenders for food away from home in 1964 in relation to total food and beverage expenditures, Minneapolis-St. Paul families with incomes \$10,000 and over: Selected family characteristics and components of expenditures	144
9.7	Variations in expenditures for and proportions of meals and snacks eaten away from home in a week of April to July, 1965 by members of upper-income families in Minneapolis-St. Paul, subdivided alternatively by number in family, family and per person disposable income, stage in family life cycle, and social position	146
9.8	Higher, lower, and nonspenders for alcoholic beverages in 1964 in relation to total food and beverage expenditures, Minneapolis-St. Paul families at three levels of income, selected family characteristics and components of expenditures.....	148
9.9	Average 1964 expenditures for food per person and for alcoholic beverages per adult in upper-income Minneapolis-St. Paul families grouped by per person income and stage in the family life cycle	150
9.10	Data from regression analyses of expenditures for alcoholic beverages per adult in 1964 (in cents) by upper-income families in Minneapolis-St. Paul	151-152

LIST OF TABLES

<u>Table</u>		<u>Page</u>
10.1	Expenditures for food groups and their shares in total expenditures for food at home in a week, family and per person averages, all U.S. urban families and upper-income groups, spring 1965.....	155
10.2	Expenditures for food groups and their shares in total expenditures for food at home in a week, family and per person averages, all North Central urban families and upper-income groups, spring 1965.....	156
10.3	Expenditures for food groups and their shares in total expenditures for food at home in a week, family and per person averages, upper-income Minneapolis-St. Paul families, by level of family income, April to July 1965...	159
10.4	Expenditures for food groups and their shares in total expenditures for food at home in a week, per person averages, upper-income Minneapolis-St. Paul families grouped by per person income in 1964, April to July 1965.....	160
10.5	Expenditures for food groups and their shares in total expenditures for food at home in a week, per person averages, upper-income Minneapolis-St. Paul families, April to July 1965, by stage in family life cycle.....	161
10.6	Selected characteristics and average expenditures per person for groups of foods for home use, in a week of April to July 1965, by upper-income Minneapolis-St. Paul families grouped by per person income and by level of total expenditures for food at home.....	164
10.7	Summary of regressions for family expenditures for food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families.....	166-170
10.8	Summary of regressions for per person expenditures for food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families.....	172-176
10.9	Summary of regressions for food group shares in total expenditure for food at home in a week of April to July 1965 by upper-income Minneapolis-St. Paul families.....	178-182
11.1	Meats, poultry, fish, and eggs--average value consumed per household and per person in a week of spring 1965 by U.S. urban families and single consumers, grouped by family income.....	186
11.2	Meats, poultry, fish, and eggs--average value consumed per household and per person in a week of spring 1965 by North Central urban families and single consumers, grouped by family income.....	187
11.3	Meats, poultry, fish, and eggs--average expenditure per household and per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more, by family income in 1964.....	188

LIST OF TABLES

<u>Table</u>	<u>Page</u>
11.4	Meats, poultry, fish, and eggs--average expenditure per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families, in quartiles based on average income per person 190
11.5	Summary of regression analyses of per family expenditures for meat, poultry, and fish in a week of April to July 1965, and related socioeconomic factors--upper-income Minneapolis-St. Paul families 191-192
11.6	Summary of regression analyses of per person expenditures for meat, poultry, fish in a week of April to July 1965 and related socioeconomic factors--upper-income Minneapolis-St. Paul families 193-194
12.1	Summary of regressions for per capita consumption of major dairy products, 1947 to 1967 198
12.2	Dairy products and margarine--average value consumed per household and per person in a week of spring 1965 by U.S. urban families and single consumers, grouped by family income..... 201
12.3 (1)	All United States households of two or more persons, spring 1955--summary of regression analyses for per person expenditures for dairy products..... 202
12.3 (2)	All United States households, spring 1965--summary of regression analyses for per person expenditures for dairy products..... 203
12.3 (3)	United States urban households of two or more persons, spring 1955--summary of regression analyses for per person expenditures for dairy products..... 204
12.3 (4)	United States urban households, spring 1965--summary of regression analyses for per person expenditures for dairy products..... 205
12.4	Dairy products and margarine--average value consumed per household and per person in a week of spring 1965 by North Central urban families and single consumers, grouped by family income 208
12.5	Dairy products and margarine--average expenditure per household and per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more persons, grouped by family income..... 209
12.6	Dairy products and margarine: Average expenditure per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more persons, in quartiles based on average income per person 211
12.7	Dairy products and margarine: Average expenditure per household and per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more persons, grouped by stage in family life cycle 212

LIST OF TABLES

<u>Table</u>	<u>Page</u>
12. 8	Summary of regressions for family expenditures for major dairy products in a week of April to July 1965 by upper-income Minneapolis-St. Paul families 213-215
12. 9	Summary of regressions for per person expenditures for major dairy products in a week of April to July 1965 by upper-income families in Minneapolis-St. Paul 216-218
14. 1	Average expenditures for food from alternative sources, by upper-income Minneapolis-St. Paul families in 1964, subdivided by family income 230
14. 2	Average household expenditures on different types of food buying during a survey week, by subgroups of respondents 231
14. 3	Frequency of grocery shopping, proportion of respondents in each subgroup by number of shopping trips, shopping days, and different stores 236
14. 4	Expenditures on shopping trips for each day of the week by upper-income Minneapolis-St. Paul families 239
14. 5	Proportions of total shopping trips and total shopping expenditures in a week in different types of stores by upper-income Minneapolis-St. Paul families 239
14. 6	Expenditures and shopping trips to selected store types in a week by upper-income Minneapolis-St. Paul families 239
14. 7	Family expenditures in a week of April to July 1965 for selected groups of fresh and processed foods and prepared dishes by upper-income Minneapolis-St. Paul families, by family disposable income and stage in family life cycle 241
14. 8	Relative importance of sources of food information reported by upper-income families in Minneapolis-St. Paul, spring 1965, by level of family disposable income 244
B. 1	Characteristics of families in initial 1965 sample and subsequent stages of interviewing upper-income families in Minneapolis-St. Paul .....250-252
C. 1	Loadings on nine factors obtained from wives' responses to the items of the CVO questionnaire 261
C. 2	Factor loadings for nine CVO factors on 38 items and eigenvalues for the factors 262
C. 3	Clusters from wives' responses to CVO 263

Part I OVERVIEW

Chapter 1. INTRODUCTION AND SUMMARY

This bulletin analyses the food buying patterns of upper-income, urban families and relates them to the overall trends and variations in U.S. food expenditures. Earlier research indicated that current consumption patterns of more affluent families may provide clues to future changes in U.S. food consumption. The analysis utilizes historical series, U.S. survey data, and information from a special study of upper-income families in the metropolitan area of Minneapolis-St. Paul.

Although about a seventh of U.S. urban families had after-tax incomes above \$10,000 in 1965, this is the first intensive analysis of the food consumption patterns of such families. It appraises the relative significance of a variety of social, economic, and psychological factors to variations in the rates of food expenditures.

1.1 Research Objectives

Specifically, this bulletin reports progress toward the following six objectives of the study of food expenditure patterns of upper-income, urban families:

1. To summarize historical trends relevant to food-nonfood competition and to the competition for food dollars.
2. To analyze cross section data from national surveys pertinent to competition between food and nonfood goods and services.
3. Using findings of earlier research, to develop a special survey of upper-income families that would provide a greatly expanded array of information regarding the socioeconomic and social psychological factors influencing food buying patterns.
4. To analyze food-nonfood competition and the competition for food dollars by identifying and measuring the effects of additional factors, guided by specific hypotheses.
5. To identify food-buying practices of upper-income families and to measure relationships of socioeconomic factors to them.
6. To relate analytical results from the survey of the upper-income families to national trends and variations in the food market.

1.2 Historical Changes in U.S. Food Expenditures

Prospects for U.S. demand for food seem bright when one looks only at the overall increase in U.S. total consumption expenditures for food. The total doubled between 1950 and 1968. Almost a third of the increase was required to feed the larger population that resulted from the postwar baby boom and the decline in the death rate. Food prices rose about a third, keeping pace with retail prices for all consumer goods and services. (See figure 1.1.) Real food expenditures per capita went up a little more than a fifth from 1950 to 1968, according to the U.S. Department of Commerce series in constant 1958 dollars.¹

¹ This series includes a rapidly declining amount of farm-home produced food and excludes business expenditures for food.

Practically all of this increase in real expenditures has been in purchases of food for home use because average outlays for meals and snacks have apparently increased no faster than their prices. The quantity of all food consumed per capita (including home produced), measured by the retail and farm level U.S. Department of Agriculture price-weighted indexes, has risen only about 5 percent. However the average quantities of food purchased and of food marketing services have gone up around 15 percent.

1.2.1 The U.S. Food Market

Expenditure data from the spring 1955 and 1965 Household Food Consumption Surveys by the U.S. Department of Agriculture provide the bases for appraisal of changes in the U.S. food market that lie behind these global indexes. Changes in the regional, urbanization, and income dimensions of the spring 1955 and 1965 U.S. food markets, as measured by household food expenditure data, are summarized in the percentages presented in table 1.1. The increased importance of the U.S. urban market is not at all surprising, but the urbanization shifts in the South and West are striking.

The impact of increased real incomes on the food market is demonstrated by the sharp decreases in the shares of the under \$3,000 and \$3,000 to \$6,000 income groups.² (See figure 1.2.) In 1965, about a tenth of the country's people were in urban households with incomes of \$10,000 or more, but they accounted for 15 percent of the nation's food sales. In contrast, the tenth of the population in urban households with incomes below \$3,000 spent only half as much for food for home use and meals, snacks, and beverages away from home.

1.2.2 Share of Consumer Dollars for Food

The share of consumer expenditures allocated to food declined from 24 percent of total expenditures in 1950 to 21.5 percent in 1961 and then to 19 percent in 1968. This trend is commonly ascribed to the rising level of incomes, permitting more discretionary spending. But there is evidence of relative decreases in the importance attached to food by families at comparable real income levels. Data from two Bureau of Labor Statistics surveys of urban incomes and expenditures (1950 and 1960-61) reveal a 10 percent decrease in the share of expenditures for food and beverages by families with real incomes comparable to \$10,000 or more in 1960-61.

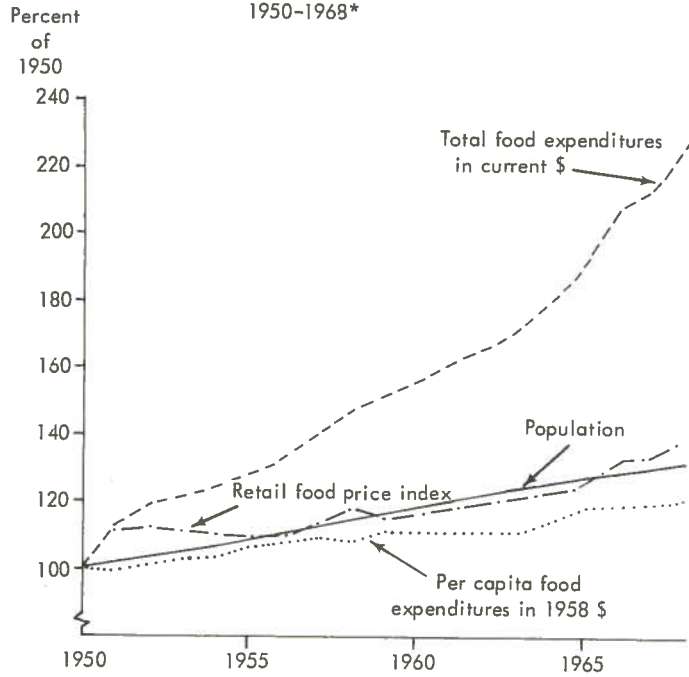
1.3 Identification of Problems for Research

These changes in the U.S. food market and findings from earlier research identify three types of problems in predicting future trends in U.S. food expenditures.

First, postwar trends have indicated decreasing consumer emphasis on food purchases. Despite higher expenditures per capita (measured in constant dollars) for food at home, the percentages of income and total expenditures have continued to decline. There are no clues as to the lower limit of this decline.

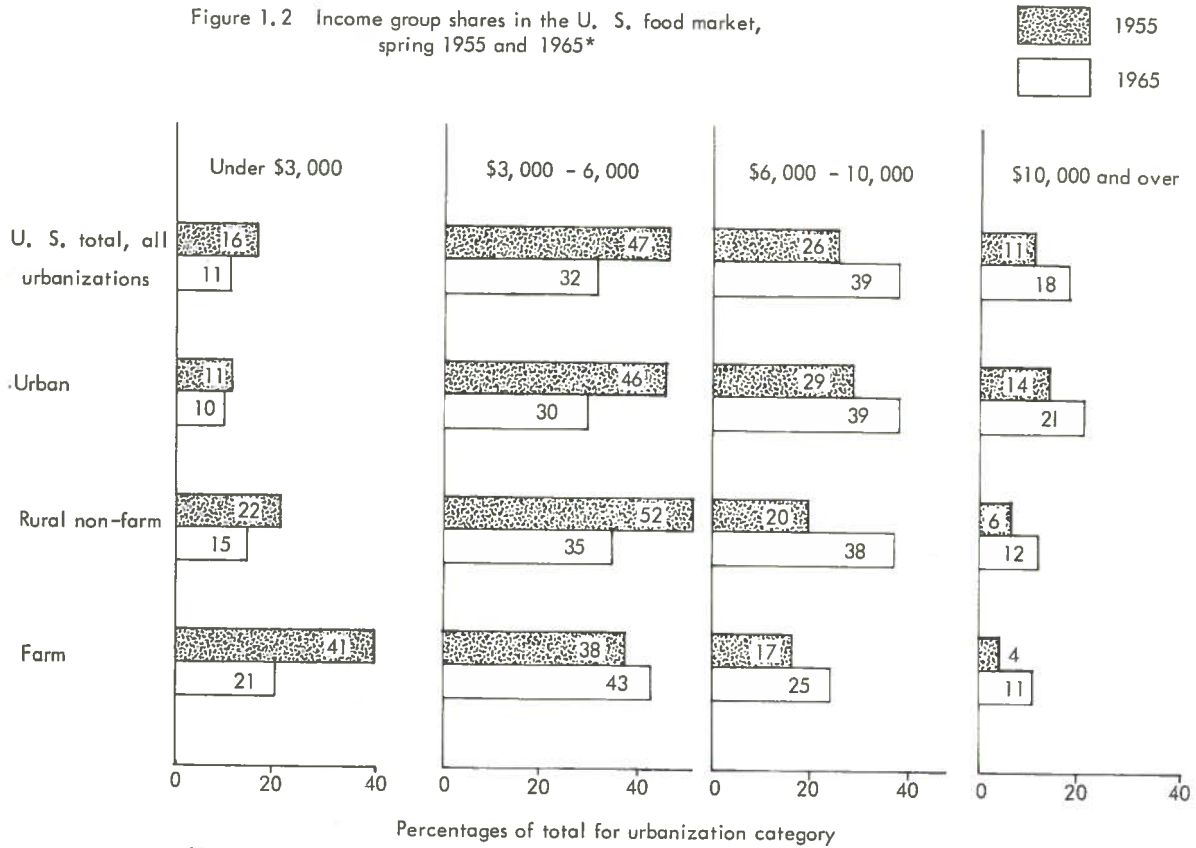
2 The method for deriving these data is described in Appendix A.

Figure 1.1 Trends in U. S. food expenditures, food prices, and population, 1950-1968*



* Data from the U. S. Departments of Commerce and Labor

Figure 1.2 Income group shares in the U. S. food market, spring 1955 and 1965*



*Data from table 1.1

Table 1.1 Structure of the U.S. food market, as measured by household food expenditures, spring 1955 and 1965¹ (in percentages)

Category	Total		Urban		Rural nonfarm		Farm	
	1955	1965	1955	1965	1955	1965	1955	1965
United States	100	100	69	73	24	22	7	5
By region	percent							
Northeast	31	29	77	78	20	21	3	1
North Central Region	32	28	69	71	22	22	9	7
South	24	28	55	64	34	29	11	7
West	13	15	74	88	21	9	5	3
	---as percentage of regional total---							
By disposable income, in 1964 dollars	---as percentage of urbanization total---							
Under \$3,000	16	11	11	10	22	15	41	21
\$3,000 to \$6,000	47	32	46	30	52	35	38	43
\$6,000 to \$10,000	26	39	29	39	20	38	17	25
\$10,000 and over	11	18	14	21	6	12	4	11

¹ Derived from U.S. Department of Agriculture's household food survey data on food expenditures for home use and on expenditures for food and beverages away from home and distribution of the sample population. Income data from 1955 survey converted to 1964 dollars and expenditure data to 1965 dollars.

It had been assumed that the decline was due to increases in real income. But analysis of data from cross section surveys reveals an actual decrease in the share allocated to food by families at comparable real income levels from one survey to another 10 years later. Little knowledge of reasons for this decrease existed. Most research had focused on the relationships of variations and changes in food expenditures to the key factors of income, degree of urbanization, regionality, and on family size.

Second, the predictive power of these key factors to explain historical changes seemed to be diminishing. At high levels of income and urbanization, there seemed to be little variation in average expenditures. Regional differences were disappearing as food marketing institutions developed. The need for information about the effects of other socioeconomic factors on food-nonfood competition and on the ways people spend their food dollars became obvious. Earlier research indicated the potential importance of income and social mobility, education, occupation, family life cycle, age composition, value orientation, and economic expectations of families.

Third, although considerable effort has gone into measuring concepts related to consumption and to the key factors identified above, as well as into measuring their relationships, the research findings have not been organized scientifically and no body of generalizations has emerged. If knowledge of food economics needed for prediction is to develop, careful specification and testing of hypotheses relevant to food-nonfood competition and to competition among food commodities and services must be undertaken. The elementary stage in the development of such knowledge is indicated by the original statements of 14 hypotheses in section 2.4, based on a review of earlier research.

1.4 Study of the Characteristics of Upper-Income Families Relevant to Explanation and Prediction of Food Demand

Urban, upper-income families have the higher incomes, occupational status, education, other socioeconomic characteristics, and expenditure patterns toward which many lower income families are striving or drifting. Thus, study of how their characteristics are related to their food expenditures is relevant to historical trends in the food market. Family size and age composition are particularly significant factors in variations of food expenditures. Upper-income families are larger on the average than all U.S. families, and a higher proportion of them have children under 18.

The general educational achievement of homemakers is presumed to affect their food buying practices and is presumed to be correlated with the education of their husbands. Over half of the families with incomes of over \$10,000 were headed by men who were educated beyond high school, according to data from the 1960-61 Consumer Expenditures and Income Survey. About a sixth of these upper-income husbands had gone beyond the college education. Not all of the heads of the families in upper-income families are highly educated or in professional and technical occupations. A substantial number of wage earners are found among the upper-income families, particularly in the \$10,000 to \$15,000 bracket. Significant proportions of the families in this income group are headed by persons in the clerical, sales, skilled, and semi-skilled occupations. A little less than a half of upper-income families in the U.S. urban areas were headed by men in the professional and managerial categories in 1960-61.

The conceptual framework developed to guide the overall study and especially the Minneapolis-St. Paul survey provides for analysis of rates of food expenditures, ratios of food expenditures to total consumer expenditures, patterns of expenditures among food commodities, and several types of food buying practices. The independent socioeconomic and sociopsychological variables used in the statistical analyses were measures of the family characteristics. These characteristics are classified in the conceptual framework as pertaining to structure and organization, current social placement, mobility history, economic situation, family value orientation, family life style, expectations, and attitudes.

1.4.1 Description of the Minneapolis-St. Paul Survey

The University of Minnesota Survey of the Consumption Patterns of Upper-Income Families was designed to provide (a) some comparisons with urban data from the 1960-61 U. S. Bureau of Labor Statistics Survey of Consumer Expenditures and Income at the national, regional, and Minneapolis-St. Paul (1964) levels and (b) additional information on the socioeconomic characteristics of upper-income families and their activities.

The data were collected by professional interviewers during a minimum of two personal interviews, mostly during April-July 1965, although a few schedules were not completed until early August. The sample of 257 cases was drawn from two area probability samples for the metropolitan area of Minneapolis-St. Paul, developed in 1964 and 1965 by the Research Department of the Minneapolis Star-Tribune. It included (a) two-person families with before-tax incomes in 1964 of \$8,000 or more and (b) families of three or more persons with before-tax incomes of \$10,000 or more.

All families were interviewed at least twice by professional interviewers, most of whom had worked on the Bureau of Labor Statistics survey in the spring of 1964. In the first interview background information was obtained and schedules were left with the family, relating to family financial matters and to the husband's characteristics and expenditures. At least a week later the interviewer returned to obtain these data, information on food purchases in the preceding 7 days, and supplementary information on the family.

After a comprehensive check by the central office on the completion of the schedules, the schedules moved through the usual process of editing, coding, card punching, and the running of frequency distributions. The frequency distributions and averages for subgroups of the families were used in the preliminary studies of the data reported in the Minnesota Farm Business Notes and in the

Journal of Consumer Affairs.³ These analyses are integrated with others reported herein to provide a comprehensive picture of the variations in food expenditures and buying practices of upper-income families and to examine some of the implications for agriculture and the food business of findings based on data from the Twin Cities survey and comparisons with national surveys.

A technical comparison of the characteristics of the cooperating and non-cooperating families based on the 1965 Minneapolis Star-Tribune data is reported in Appendix B. In comparison with noncooperators, the cooperating families had slightly higher incomes, the homemakers were somewhat younger and had had somewhat more education, and the children were slightly younger. But there was no significant difference in the number in the family, occupation of the head of the family, employment of the homemaker, place of residence in the metropolitan area, or in home ownership. In addition, comparison of data for the \$10,000 to \$15,000 income group of families in the University of Minnesota 1965 survey with those for the matching income group of 29 families from the Bureau of Labor Statistics 1964 survey in the metropolitan area revealed remarkable consistency in family size, money income after taxes, change in net worth, total expenditures for goods and services, and total food expenditures.

1.4.2 Characteristics of Upper-Income Families in Minneapolis-St. Paul

Most of the socioeconomic characteristics of upper-income families in Minneapolis-St. Paul (referred to as UPIF, Upper-Income Families) matched those of affluent families in other U.S. and North Central urban places. But the proportion of family heads employed in salaried professional, managerial, and official occupations in the sample was substantially greater than that found for the U.S. or North Central urban families in upper-income groups in 1960-61. The UPIF survey supplied information about a number of other characteristics, such as saving. According to the homemakers, 41 percent of the families were above-average savers, 43 percent were rated as average, and 15 percent were identified as below average.

To obtain information on income mobility, the homemakers were asked to compare their income situation in 1964 with what it had been 5 years earlier

³ Burk, Marguerite C. "Food Expenditures by Minneapolis-St. Paul Families: Variations and Implications," Minnesota Farm Business Notes, January 1966.

McCandless, Barbara J. "Expenditures for Meat, Poultry, and Fish by Upper Income Families in the Twin Cities," Minnesota Farm Business Notes, August 1966.

Thiele-Wittig, Maria and Burk, Marguerite C. "Food Shopping Practices of Upper Income Families in Minneapolis-St. Paul," Minnesota Farm Business Notes, June 1967.

Burk, Marguerite C. "On the Need for Investment in Human Capital for Consumption," The Journal of Consumer Affairs, Winter 1967, 1:2:123 to 138.

and what they expected it to be 5 years later. Seventy-one percent of the families had higher incomes in 1964 than 5 years earlier and 7 percent had smaller incomes. Others were either average or they were not families 5 years earlier. Comparable proportions of the homemakers expected increases in income by 1969.

Using the information on the husband's occupation and education, the Hollingshead Two-Factor Index of Social Position was calculated for each family. We found that 30 percent of our upper-income families were in the highly educated professional and executive group (Class I), about 50 percent were in Classes II and III, and 20 percent were in Classes IV and V, which include skilled and semi-skilled workers with high school education or less. Considerable upward social mobility had been experienced by our families as indicated by measurement of the social positions of fathers on both sides.

A variety of other data on the characteristics of the wives or homemakers in our families was obtained and used in the study. Half of them were in the 30 to 45 year age bracket. Almost two-thirds had received some formal education beyond high school. Only a third of these upper-income homemakers had engaged in market work at any time in 1964. Comparisons of scores on a special test of consumer value orientation, developed as part of this research, with income levels, stages in the family life cycle, and family social position revealed no patterns of interrelationships with these characteristics.

1.5 Measurement and Analytical Procedures

The guiding principle for the design and analyses of this study was to match earlier sets of data while exploring relationships of food expenditures to little used or new measures of socioeconomic factors.

1.5.1 Study Design

The U.S. Department of Commerce's estimates of food expenditures, total consumption expenditures, and disposable personal income serve as trend indicators. Characteristics of families relevant to variations in food expenditures and their rates of expenditures were drawn from national and regional surveys by the U.S. Bureau of Labor Statistics (BLS) and the U.S. Department of Agriculture (USDA). The University of Minnesota's survey of upper-income families in Minneapolis-St. Paul (UPIF) was taken a year after a special BLS sample survey of incomes and expenditures of all Minneapolis-St. Paul families and single individuals. The UPIF survey used several of the schedules developed by BLS, comparable interviewing procedures, and a number of the BLS professional interviewers.⁴

4 The author acknowledges the major contributions of BLS and USDA staffs in planning this study, the survey operations, and in supplying some supplementary data. However, the analyses and conclusions are the author's.

The study incorporates a substantial number of sociological and economic measures that are not used in national surveys by the Federal Government. Several had been developed by the Survey Research Center of the University of Michigan. For example, the Surveys of Consumer Finances include data on the saving characteristics of the family, changes in income from 5 years earlier and that expected 5 years later, and stages in the family life cycle. The Two-Factor Index of Social Position developed by Professor Hollingshead of Yale University is used to measure the combined effect of husband's occupation and education. Special measures of consumer value orientation and of actual food shopping practices of the family in a week form important components of the analyses.

1.5.2 Analytical Procedures

Analyses of historical and cross section relationships reported in this bulletin are based on extensive cross-tabulations of data and on linear regressions. In addition, factor analyses were used to develop the measures of consumer value orientation and to identify certain types of interrelationships that were later measured with regression techniques. Also, a reweighting procedure developed earlier by the author was used to appraise the changes occurring from one survey period to another.

1.6 Selected Findings

1. Food sales have increased in postwar years as families have moved from farms to urban areas, become more dependent on the commercial market, and received higher incomes. Per capita disposable income in real terms rose about 50 percent from 1950 to 1968. The increase of about 20 percent in food sales also reflects the fact that babies born in the immediate postwar years have moved into heavier food consuming stages.

2. The importance of upper-income families in the U.S. food market is indicated by the fact that the tenth of the population in 1965 who were members of urban families with incomes of \$10,000 or more accounted for 15 percent of the country's food sales.

3. Cross-tabulations of data on expenditures of upper-income families in Minneapolis-St. Paul revealed a considerable degree of consistency in patterns of outlays for all goods and services, for nonfood items, for all food, and for food at home only. Other tabulations showed a substantial association of variations in the major categories of the food expenditures in a week with those for the year.

4. Total food expenditures per person in a year by upper-income families are more responsive to income than analyses of U.S. urban cross section data for a week indicate. For each 10 percent variation in per person income, upper-income families in Minneapolis-St. Paul varied their food expenditures by 5 percent in the same direction. This finding comes from statistical analyses that took into account a number of positive and negative factors for which data are not available from the nationwide surveys. There was less variation in per person expenditures by upper-income families for food at home (3 percent with each 10 percent variation in income), but expenditures for food away from home in the year 1964 varied almost directly with income per person.

5. Current income was a much more important factor in variations in food expenditures than were income changes experienced in the preceding 5 years or changes expected over the next 5 years. The expectation of lower income in the next 5 years was a significant negative factor in variations in per person expenditures for food at home and away from home. For the latter, it was the most significant factor identified.

6. Family size and composition have greater influence on food expenditures for home use by upper-income families than does current income, but relatively less effect on away-from-home expenditures for food.

7. For food away from home, occupational differences are important, but social classes are even more significant. (For this study social class was measured with the Hollingshead index combining occupation and education of the husband.)

8. Below-average saving, as judged by the wife, was a significant positive factor in higher expenditures for food at home and away-from-home food in the home city, and in higher expenditures for nonfood goods and services.

9. The older age of the homemaker was a more important factor in variations in per person expenditures for food at home than was current income per person. Economizing homemakers spent significantly less for all food and for food at home whereas homemakers who were identified as reputation strivers spent significantly more. We measured economizing and reputation striving with a specially developed series of statements reflecting consumer value orientation.

10. Half of the upper-income homemakers participating in the survey in Minneapolis-St. Paul indicated no interest in having additional money for food. Of those who needed more money, about an equal percentage wanted more than \$7.50 per week as wanted less. Many of them were most interested in spending more for meats.

11. Among upper-income families in Minneapolis-St. Paul, per person expenditures for the meat, poultry, and fish group in a week of April-June 1965 varied 3 percent for each 10 percent variation in per person income, an income elasticity of .3. Per person income was a significant factor in variations in per person expenditures for red meats in total, pork, and poultry. Only the older age of the wife was a more significant factor in variations in outlays for these items. Reputation striving, the wife's older age, dissaving characteristics, and the proportion of dinners eaten away from home had stronger relationships to variations in per person beef expenditures than did income.

12. Income elasticities of upper-income family expenditures for dairy products were lower than those measured for all urban families in the United States and were not statistically significant. Household size was much more important than income. Among upper-income families the number of household members under 10 years of age was a statistically significant factor and of much greater importance than income in explaining variations in per person expenditures for whole milk.

13. The income elasticities of per person expenditures for fresh fruits, fresh vegetables, prepared dishes, and nonalcoholic beverages were all .4.

14. The degree to which a family dissaves, as measured by the opinion of the homemaker, is as important a factor as income in explaining variations in expenditures for meats and fresh fruits among upper-income families.

15. The age and education of the homemaker were not statistically significant in explaining variations in expenditures for dairy products as measured at the 10 percent level. But higher education of the homemaker was associated with lower expenditures per family at the 20 percent level. Economizing homemakers spent significantly less for cheese and butter, and reputation-striving homemakers significantly more for butter and all dairy products compared with homemakers in families comparable in other respects.

16. The older wives spent relatively more for cereals and bakery products, red meats, fresh fruits, and nonalcoholic beverages than young homemakers.

17. Measures of the consumer value orientation of the homemakers toward economizing and reputation striving had significant negative and positive effects, respectively, on food expenditures for home use and on expenditures for meats, processed vegetables, fats and oils, and nonalcoholic beverages.

1.7 Indications of Future Changes in the Food Market

Findings from this study have direct implications for the future food market of the United States. The outlook for the U.S. domestic food market is brightened by the finding that income has a somewhat greater effect on expenditures per person for food at home in the year and on the food share in total consumer expenditures than had been indicated by earlier analyses of a week's data from the USDA Household Food Consumption Surveys. Higher incomes would be particularly favorable to meats, fresh fruits and vegetables, nonalcoholic beverages, and prepared dishes. Increases in the incomes of families above the current median income level are not likely to raise future sales of fluid dairy products, but they might favor cheese sales.

The study's finding that the dissaving characteristics of families are as important for food spending as income indicates the importance of willingness to buy, noted for the durable goods market by George Katona of the Michigan Survey Research Center, but shown herein to be useful in appraising the market for foods. Dissaving characteristics are tied in with family life cycle stages. They turned out to be significant factors in variations in expenditures for meats, fresh fruits, and fresh vegetables.

The findings regarding the impact of older children and adults on food expenditures suggest the possibility of substantial increases in the consumer demand for food for home consumption in the near future as the postwar babies reach the heavy eating stage. This factor may explain the current stronger demand for meats. But declines in the proportion of the population under 10 years can be expected to lower average consumption of fluid milk per capita.

Present trends toward increases in the number of people employed in professional, technical, and managerial positions are likely to continue the upward trend in food expenditures away from home and the relative decrease in retail sales of food. The practice of charging substantial amounts of away-from-home food expenditures to business expenditures, however, complicates the analyses of both cross section and time-series data. The combination of higher ranking occupations and higher education of heads of the household (reflected in the measure of social position used in this study) contributes to higher food expenditures at home and away from home. Therefore, upward trends in these factors are an expansive element for the food market.

The evidence that older homemakers are the heavier food spenders is unfavorable to the future market for food. There is a real possibility that the lesser emphasis of the younger generation of homemakers on food may more than offset the favorable effect of rising income on consumer demand for meats, cereals, fresh fruits, potatoes, and nonalcoholic beverages. Increasing education and economy mindedness are both strong negative factors for butter consumption. The evidence of the strength of economy mindedness in the reduced food expenditures, especially for income-elastic foods, is a warning on the horizon if economic recession should reduce the incomes of these upper-income families.

1.8 Suggestions for Further Research

Based on the research experiences and the research results reported in this bulletin, three sets of suggestions for further research are made. One deals with exploratory studies that would develop new areas of knowledge related to the food expenditure patterns of the American people. The second has to do with analyses which might be made of existing data and forthcoming data. The third offers suggestions for changes in the national surveys related to food consumption and in the national time series.

1.8.1 Exploratory Studies

The differences in the level of the data on food expenditures obtained from the Bureau of Labor Statistics type of survey of food expenditures in a week and the value data of the U.S. Department of Agriculture's Household Food Consumption Survey indicate great need for a carefully planned, overlapping, exploratory study. The two survey approaches should be used concurrently for samples from the same population so that the biases and strengths of each may be more carefully identified.

It is obvious that the kinds of multidisciplinary analyses used in this bulletin for upper-income families might be adapted to study of the food buying behavior of low-income families. Information for many of the variables could be readily obtained from less educated families, but it is likely that somewhat different approaches would have to be devised for the other variables. The successes of this study with the new measures of consumer value orientation reinforce the argument that attitudinal measures need to be developed and incorporated in national surveys to study consumer response to particular kinds of foods and to the problems related to developing their markets. This would require a change in the attitudes of several Federal agencies toward sociological and psychological research.

1.8.2 Analyses

Many of the data from the Survey of the Consumption Patterns of Upper-Income Families in Minneapolis-St. Paul have not been utilized in this bulletin. A sociological analysis of the relevance of family life style to consumption patterns is now in progress.

The analyses of the relationships of socioeconomic factors to variations in expenditures for major food groups have identified a need for improved criteria for grouping foods--based on the role of each food or dish in the meals of American families and not on their agricultural origin.

We have tested differences in intercepts for some regression models, assuming that the slopes (the relationships between the dependent variables and the independent variables in the regression) are equal. Although this assumption is questionable for some relationships, computer programs were not available for simultaneous analyses of slope and intercept changes while using a large number of variables and many observations.

Comparison of the results of multivariate analyses of food expenditures in a week and in a year emphasizes the great need for multivariate analyses of individual observations from the kinds of surveys of consumer expenditures made by the Bureau of Labor Statistics and the U.S. Department of Agriculture in 1960-61. It seems particularly desirable that such analyses should involve the construction of sociological measures like the Hollingshead Index of Social Position from the usually available measures of occupation and education of the husband. Much more elaborate comparisons of the annual and the week's food data are needed to test further the hypotheses supported by the data from the upper-income survey for Minneapolis-St. Paul. Such multivariate analyses of data from the nationwide studies would have great importance for long-range projections of changes in consumption patterns and ways of living.

The analyses in this study have been designed to provide information pertinent to food marketing. Many of the same data and even the same analyses can be used in the study of family economic problems and in the development of consumer education programs.⁵

1.8.3 Changes Proposed for National Food Data

A major objective of this study has been to experiment with kinds of sociological and psychological variables not used in the nationwide surveys of consumer expenditures. The results indicate the desirability of adding such variables to national surveys of consumer expenditures. Particularly important is the need for additional data and more use of available information on the characteristics of homemakers. Knowledge of the relationships of consumer behavior to these sociological and psychological variables in addition to the usual economic variables is highly important for study of family economic

⁵ See "On the Need for Investment in Human Capital for Consumption," The Journal of Consumer Affairs, Winter 1967, 1:2:123 to 138.

problems experienced by low-income families, for development of improved estimates of the demand for food and other goods and services, and for the development of consumer education programs.

Data from cross section surveys and from the Department of Commerce's national income accounts are deficient in information on businessman's expenditures for food away from home. The obvious growth in this part of the food market has not been measured or analyzed.

Results of the analyses of these data from the upper-income survey concurrently with data from nationwide surveys emphasizes the desirability of supplying detailed data from the national surveys to qualified researchers who can explore areas of knowledge not currently within the interest of government agencies.

Chapter 2. BACKGROUND AND PLAN FOR THE STUDY

The study of upper-income families was based on the hypothesis that analysis of consumption patterns of urban upper-income families in 1965 could provide indications of the consumption rates of perhaps half of all U. S. families by 1985, or sooner. This hypothesis rests on indications that real incomes will continue to rise and that the consumer behavior of upper-income families influences that of middle-income families, especially as their incomes rise.

According to the U. S. Department of Agriculture survey data for spring 1965, 12 percent of all U. S. families had incomes of \$10,000 or more in 1964 and accounted for about 18 percent of the commercial food market of the country. Ten years earlier only 5 percent of American families had comparable real incomes and accounted for 11 percent of the market. (Derived from table 1.1.)

Data from the 1960-61 Urban Survey of Consumer Expenditures and Income made by the Bureau of Labor Statistics and the Surveys of Household Food Consumption by the U. S. Department of Agriculture, such as those summarized in tables 2.1 and 2.2, show that consumption of major commodities by upper-income families differs among food groups and food and nonfood categories from the rates of middle-income families. Analysis of such variations based on the nationwide surveys is complicated by problems in sampling the heterogeneity of families in this top income group and by lack of measures for a number of socioeconomic factors. Some of them apparently are quite closely related to variations in consumption among families with high discretionary income, that is, purchasing power above basic needs.

The first section of this chapter contains a brief description of how expenditures of families with incomes over \$10,000 have varied from those of lower-income groups, based on several sets of national survey data. This sets the stage for consideration in section 2.2 of the potential significance of upper-income families for forecasting the demand for food, in particular. Section 2.3 describes formulation of the conceptual framework. Next, the preliminary hypotheses that guided the analyses of the food consumption patterns of upper-income families are listed under the three key objectives. The last section describes the operational framework pertinent to this food study in terms of the measures used for major concepts and relationships.

2.1 Comparison of Consumption by Upper-Income Families with Patterns for Families at Lower-Income Levels

To avoid the complications of the significant shift in population from farm to nonfarm areas and the lack of rural data for 1950, cross sectional analyses in this bulletin are based primarily on data for urban families (including single individuals). Food-nonfood comparisons can be made only for 1950 and 1960-61, the periods surveyed by the U. S. Bureau of Labor Statistics. Detailed data on per person expenditures by nonfarm families and single individuals in a week of the first 6 months of 1961 and 1962 have been published by the U. S. Department of Agriculture.¹ Food commodity details are avail-

¹ See Table 113. Hiemstra, Stephen J. Food Consumption, Prices, and Expenditures. USDA, ERS, Agr. Econ. Report No. 138. July 1968.

Table 2.1 Selected annual income and expenditure data for all U.S. urban families and single individuals and for several disposable income classes, 1950 and 1960-61, with comparisons

Item	1950 ¹		1960-61 ²							
	All	Under \$3,000	\$4,000-5,000	\$7,500 or more	All	Under \$4,000	\$5,000-6,000	\$10,000-15,000	\$15,000 or more	\$10,000 or more
Percent of all units	100.0	37.3	16.9	5.9	100.0	32.4	13.1	7.7	2.4	10.1
Family size	3.0	2.3	3.4	3.9	percent number	2.2	3.4	4.0	3.7	3.9
Disposable money income	3,910	1,879	4,462	11,478	dollars	2,458	5,495	11,724	21,889	14,143
Money expenditures for current consumption	3,808	2,161	4,450	8,600	5,390	2,697	5,240	9,744	14,745	10,934
Average expenditure for	1,195	759	1,382	2,295	1,401	776	1,394	2,349	3,095	2,528
Food and beverages	774	518	848	1,774	1,311	800	1,277	2,105	3,590	2,458
Housing, utilities, and household operation	261	125	329	640	277	113	277	525	783	587
Furniture and equipment	437	208	509	1,191	558	219	517	1,157	1,813	1,314
Clothing and related services	510	210	639	1,213	793	272	809	1,596	2,101	1,719
Auto and other transportation	282	171	325	573	510	294	499	861	1,265	958
Personal and medical care	226	92	281	633	326	117	276	773	1,218	880
Recreation, reading, and education										
Percent of disposable income allocated to	30.6	40.4	31.0	20.0	percent	31.6	25.4	20.0	14.1	17.9
Food and beverages	19.8	27.6	19.0	15.5	22.2	32.5	23.2	18.0	16.4	17.4
Housing, utilities, and household operation	6.7	6.7	7.4	5.6	4.7	4.6	5.0	4.5	3.6	4.1
Furniture and equipment	11.2	11.1	11.4	10.4	9.4	8.9	9.4	9.9	8.3	9.3
Clothing and related services	13.0	11.2	14.3	10.5	13.4	11.1	14.7	13.6	9.6	12.1
Auto and other transportation	7.2	9.1	7.3	5.0	8.6	12.0	9.1	7.3	5.8	6.8
Personal and medical care	5.8	4.9	6.3	5.5	5.5	4.8	5.0	6.6	5.6	6.2
Recreation, reading, and education										

1 From Table 1.1, Vol. XVIII of University of Pennsylvania, Wharton School of Finance and Commerce, and Commerce, Study of Consumer Expenditures, Incomes and Savings, (1957). The Consumer Price Index rose 24 percent from 1950 to 1960-61.

2 From Table 1A, U.S. Bureau of Labor Statistics, Consumer Expenditures and Income, Urban United States, 1960-61, BLS Report No. 237-38, April 1964.

Table 2.2 Average value of all food and major items used at home and expenditures for food and alcoholic beverages away from home in a week of spring 1955 and 1965 by U.S. urban families at several income levels, all food and major foods, with comparisons¹

Item	Spring 1955 (excluding singles)				Spring 1965 (including singles)				Ratio to all - U.S. average for families with income of	
	Families of two or more persons, with disposable money income of				All families with disposable money income of					
	Less than \$3,000	\$4,000-5,000	\$5,000-6,000	\$6,000-10,000	Less than \$3,000	\$5,000-6,000	\$10,000 or more	Less than \$3,000		\$5,000-6,000	$10,000 or more
Average number of members in family	3.10	3.65	3.62	3.77	3.80	2/	2/	2/	2/	percent
All food--total per family ³ 4	21.16	31.98	33.86	38.88	53.46	18.08	34.16	52.51	53.3	100.6
For use at home ⁴	18.54	26.52	28.58	29.84	37.10	16.27	28.39	37.37	58.5	102.0
Bought ⁴	17.68	25.79	27.71	29.40	36.10	15.08	27.62	36.41	58.3	106.7
Not bought	.86	.73	.87	.40	1.00	1.18	.77	.96	60.2	39.3
Purchased away from home ³	2.62	5.46	5.28	9.04	16.37	1.81	5.77	15.15	29.6	94.4
Average household size in 21-meal equivalents	3.02	3.50	3.48	3.45	3.61	2.26	3.31	3.56	68.7	100.6
Value for food group from all sources for use at home, per household	2.57	4.19	4.27	4.25	5.23	2.06	3.79	4.68	56.7	104.4
Dairy products, excluding butter	2.87	4.59	4.76	4.87	6.12	2.21	4.08	5.15	56.2	103.8
Dairy products, including butter	.83	1.04	1.13	1.27	1.53	.60	1.00	1.18	60.6	101.0
Fats and oils including butter	.80	.86	.81	.76	.75	.72	1.00	1.03	69.2	96.1
Flour and cereal products	1.25	1.94	2.06	2.08	2.40	1.40	2.36	3.25	60.0	101.2
Bakery products	6.37	8.88	9.97	10.10	13.14	5.28	9.94	13.54	55.7	104.9
Meat, poultry and fish	.85	1.04	1.13	1.21	1.44	.63	.85	.93	74.1	100.0
Eggs	.54	.75	.83	.91	.95	.52	.81	.98	58.4	91.0
Sugar, sweets	3.53	5.05	5.43	6.09	7.70	3.19	5.29	7.41	59.0	97.9
Fruits and vegetables, total	1.97	2.68	2.95	3.28	4.55	1.59	2.55	3.89	58.0	93.0
Fresh	.40	.56	.56	.55	.67	.41	.72	.86	53.9	94.7
Potatoes and sweet potatoes	.67	.98	1.05	1.05	1.09	.63	1.10	1.12	63.6	111.1
Commercially canned	.10	.28	.29	.42	.60	.12	.23	.49	50.0	95.8
Commercially frozen	.24	.46	.47	.65	.71	.32	.59	.95	57.1	105.3
Commercially juices	.15	.09	.11	.14	.08	.12	.10	.10	109.1	90.9
Dried	1.03	1.51	1.65	1.69	2.00	1.08	1.83	2.33	61.3	104.0
Beverages, nonalcoholic	25.4	20.2	12.3	18.4	5.6	19.5	14.9	13.4		
Percentage distribution of all urban families and single individuals by income level ⁵										

1 Data from U.S. Department of Agriculture 1955 and 1965 Household Food Consumption Survey Reports No. 1, Food Consumption of Households in the United States (Dec. 1956, apparently Jan. 1968 respectively) and Food Consumption of Households in the United States, Spring 1965: A Preliminary Report (August 1967, ARS #62-16).

2 Not reported in Survey Report No. 1 for 1965.

3 Excluding value of meals away from home as guests or payment in kind. Total includes expenditures for alcoholic beverages consumed away from home.

4 Includes small expenditures for secondary families, boarders, and household help.

5 1955 data estimated by author from reported data for families of two or more persons classified by income and distribution of one-person families in 1960-61.

able for urban families and single individuals only from the spring 1955 and spring 1965 surveys of household food consumption by the U. S. Department of Agriculture.²

2.1.1 Urban Consumer Expenditures in 1950 and 1960-61

The income groups shown in table 2.1 are categorized in current dollars. Because of the 24-percent increase in the consumer price level between the two periods, the class limits are varied to permit comparisons for families with approximately the same real income, at low, middle, and upper-income levels. The necessary price adjustment becomes more clear if one adjusts the 1950 average disposable income as follows:

<u>Income group</u> <u>(1950 dollars)</u>	<u>1950 average income</u>		<u>1960-61 incomes</u>	
	<u>In 1950 \$</u>	<u>In 1960-61 \$</u>	<u>Group</u>	<u>Observed average, \$</u>
All urban families	3,910	4,848	All	5,906
Under \$3,000	1,879	2,330	Under 4,000	2,458
\$4,000 to \$5,000	4,462	5,333	5,000 to 6,000	5,495
\$7,500 or more	11,478	14,260	10,000 or more	14,143

Data in table 2.1 indicate a significant decrease in the share of disposable money income of upper-income families (\$7,500 or more in 1950, \$10,000 or more in 1960-61) allocated to food and beverages, two percentage points or 10 percent of the share, and a more than compensating increase in nonfood goods and services, from 55 percent to 59 percent. The residual obtained when one subtracts current expenditures from current income is a rough measure of "savings." They decreased from 25 percent of disposable income to 23 percent between the two periods. Within the nonfood goods and services category, the relative importance of housing, transportation, personal and medical care, and recreation, reading, and education increased significantly while the shares for furnishings and equipment and for clothing declined.

Examination of the percentages in the lower part of table 2.1 for middle and upper-income families reveals that the shares of disposable income allocated by middle and upper-income families to the categories of savings, food and beverages, and nonfood goods and services were more similar in 1960-61 than in 1950. The only significant variation from this closing of the gap arose from the greater increase in the share for housing allocated by middle-income families (19.0 to 23.2 percent) and by upper-income families (15.5 to 17.4 percent).

² Farm households made up 11 percent of the total U. S. housekeeping households in spring 1955 and 6 percent in spring 1965.

2.1.2 Values for Urban Food in Spring 1955 and 1965

When data from the U. S. Department of Agriculture surveys of household food consumption for 1955 and 1965 are adjusted for changes in prices, it appears that urban families with incomes of over \$10,000 (in 1964 dollars) actually reduced their food purchases by a tenth from spring 1955 to spring 1965, in terms of 1965 dollars (table 2.3).³ Much of the decrease was in away-from-home eating, for which the 18 percent decline apparently reflects in part consumer response to the 28-percent increase in the price of restaurant meals. There also may have been some shift in preference toward entertaining at home. The proportion of food away-from-home in the total value of family food for the week dropped from 32 percent to 29 percent. These changes for the upper-income group were slightly larger than comparable shifts indicated by the data for the middle-income group, that is, the \$5,000 to \$6,000 income group.

Again using 1955 data adjusted for changes in the prices of all goods and services (as measured by the Consumer Price Index) and retail prices for all food at home, we can identify some interesting shifts in the commodity shares of the value of food used at home from spring 1955 to spring 1965 (table 2.3). The shares of home food dollars of upper-income families allocated to dairy products excluding butter, fats and oils including butter, eggs, and fresh fruits and vegetables declined significantly. In contrast, the shares allocated to flour and cereals, bakery products, potatoes and sweetpotatoes, juices, and nonalcoholic beverages rose notably. Among these shifts only the decline in the share for dairy products and the increase for juices could have been predicted from the simple relationships of spring 1955 commodity shares to income.

Comparison of the commodity shares and the value of food at home for the middle and upper-income groups in 1955 and 1965 (measured in comparable dollars) reveals little change in these two sets of relationships for flour and cereal products, all the forms of fruits and vegetables, and non-alcoholic beverages. The shares allocated to dairy products excluding butter by the two income groups came closer together, with that for the upper-income group still below the middle-income share. Not only did the relative importance of expenditures for bakery products rise for both groups, but the greater increase for upper income families put its share above that for middle-income families. In contrast, the declines in the shares allocated to fats and oils and eggs by upper-income families were greater than those for middle-income groups so the two income groups moved further apart. For the meat, poultry, and fish group of foods, the share allocated by the middle-income group was virtually unchanged from 1955 to 1965, but the allocation by upper-income families rose slightly, from 35.2 to 36.2 percent.

3 The procedure used in making these estimates is described in Appendix A.

Table 2.3 Shares of major foods in value of all food used at home in a week by U.S. urban families at comparable real income levels, spring 1955 and 1965¹

Item	Spring 1955, families of two or more persons with disposable money incomes in 1964 dollars of		Spring 1965, all families with disposable money incomes in 1964 of	
	\$5,000 to 6,000	\$10,000 or more	\$5,000 to 6,000	\$10,000 or more
	percent			
Dairy products, excluding butter	15.1	14.1	13.3	12.5
Fats and oils, including butter	4.0	4.1	3.5	3.2
Flour and cereal products	2.9	2.0	3.5	2.8
Bakery products	7.3	6.5	8.3	8.7
Meat, poultry, and fish	34.7	35.2	35.0	36.2
Eggs	4.0	4.0	3.0	2.5
Sugars and sweets	2.9	2.7	2.9	2.6
Fruits and vegetables				
Fresh	10.2	12.3	9.0	10.4
Potatoes and sweet potatoes	2.0	1.8	2.5	2.3
Commercially canned	3.7	3.0	3.9	3.0
Commercially frozen	1.0	1.5	.8	1.3
Juices, total	1.6	2.0	2.1	2.5
Dried	0.3	0.3	.4	.3
Beverages, nonalcoholic	5.7	5.5	6.4	6.2
Other	4.6	5.1	5.3	5.5
	dollars			
Average value of food used, in 1965 dollars				
Total ²	37.00	58.50	34.16	52.51
At home	30.00	40.00	28.39	37.37
Away from home ²	7.00	18.50	5.77	15.15

1 Procedures used to adjust 1955 value data for income groups based on 1954 incomes to equivalent 1965 values for families within income class limits in terms of 1964 dollars are given in Appendix B. This table has been revised from a table published in the June 1968 issue of Minnesota Farm Business Notes to exclude expenditures for alcoholic beverages at home and to make corrections.

2 Total expenditures and expenditures for food away from home include expenditures for alcoholic beverages away from home, for which separate data are not reported.

2.1.3 North Central Urban Food Shares in Spring 1965

Total food expenditures per family by North Central urban families having disposable incomes of \$5,000 to \$6,000 were about 10 percent lower than the U. S. urban average for that group. Part of the difference arose from slightly smaller household size, but part was related to substantially smaller expenditures for meals and snacks away from home, as shown by comparing tables 2.3 and 2.4. These relationships between the U. S. and North Central averages were reversed for families with incomes of over \$10,000. For this income group North Central food expenditures in a week averaged about 3 percent higher and both the household size in 21-meal equivalents and the family size were larger than for comparable U. S. families.⁴

The shares of total expenditures for food at home allocated to major food groups by upper income families in the North Central Region differed from the U. S. shares for four groups. Higher proportions went to bakery products and potatoes. Meat, poultry, and fish items and eggs received smaller shares, but the average family expenditures were only slightly lower.

2.1.4 Factors Contributing

To study the effects of factors other than price on changes in food expenditures indicated by the USDA data, it was necessary to allow for changes in prices by increasing the 1955 data on value of purchased food for home use by 14 percent and expenditures for food and beverages away from home by 28 percent. The resulting estimates of expenditures per family member for all food in a week of spring 1955 can now be compared with data per family member calculated from the first 1965 survey report.⁵

4 Family size was not reported by income level, but the relatively higher expenditures away from home by North Central upper-income families indicate that family size was likely to be relatively larger.

5 Data used in the analysis were also adjusted to include one-person households and to convert 1954 incomes into 1964 dollars (using graphic methods). The analysis involved reweighting 1955 average food expenditures (in 1965 dollars) for each income group within each urbanization category by 1965 percentage distributions of the population among the income groups and urbanization categories. Procedures for making such estimates are described in section 4.4.4 of Measures and Procedures for Analysis of U. S. Food Consumption, by Marguerite C. Burk, USDA Agr. Handbook No. 206, June 1961.

Table 2.4 Shares of major foods in value of all food used at home in a week by North Central urban families in spring 1965

Item	All families	With disposable money income of			
		\$5,000 to 6,000	\$10,000 or more	\$10,000 to 15,000	\$15,000 or more
	percent				
Dairy products excluding butter	12.6	12.6	12.7	12.8	12.6
Fats and oils, including butter	3.5	3.6	3.2	3.3	3.1
Flour and cereal products	3.2	3.3	2.8	2.9	2.3
Bakery products	8.8	8.7	9.2	9.4	8.7
Meat, poultry, and fish	35.3	35.1	34.5	33.7	36.6
Eggs	2.8	3.0	2.2	2.3	2.1
Sugars and sweets	2.8	2.6	2.7	2.7	2.6
Fruits and vegetables, total	18.9	18.4	20.2	20.1	20.6
Fresh	9.1	8.4	10.6	10.2	11.9
Potatoes and sweet potatoes	3.1	3.3	2.9	3.0	2.5
Commercially canned	3.7	4.1	3.0	3.3	2.3
Commercially frozen	0.8	0.6	1.1	1.1	1.2
Juices, total	1.9	1.7	2.4	2.3	2.5
Dried	0.3	0.3	0.2	0.2	0.2
Beverages, nonalcoholic	6.6	7.0	6.7	6.6	7.0
Other	5.5	5.7	5.7	6.2	4.3
	dollars				
Average value of food used					
Total ¹	34.25	30.02	54.08	50.79	64.69
At home	27.67	25.97	37.94	36.96	41.13
Away from home ¹	6.58	4.05	16.14	13.83	23.56

¹ Total expenditures for food away from home include expenditures for alcoholic beverages away from home, for which separate data are not reported.

	<u>1955</u>	<u>1965</u>
All U. S.	<u>\$ 8.95</u>	<u>\$9.15</u>
Urban	\$10.40	\$9.80
Rural nonfarm	\$ 7.70	\$8.25
Farm	\$ 4.85	\$6.20

We would have expected the upward shift in real incomes and the increase in urbanization to have resulted in somewhat higher household food expenditures. An analysis based on combining the 1955 averages for each urbanization category with the 1965 percentage distributions of the population among the three categories (and vice versa) indicated that a 3-percent increase in expenditures would have been contributed by the changes in urbanization. A comparable reweighting of 1955 averages within each urbanization by the 1965 income-size distributions indicated a 6-percent increase due to income.

The critical fact here is the decrease in the average real expenditures for food by urban families all across the income scale. These decreases at each level of income were sufficient to offset the upward shift in incomes received by families from 1954 to 1964 (the years before the spring surveys). Except for urban households with incomes below \$4,000, the major part of the decrease was in expenditures for food away from home.

When additional reports with the 1965 survey data are published, such analyses can be carried further. If the Economic Research Service prepares 1965 cross section index numbers to match the retail price weighted time-series index (as was done in 1955), it will be possible to make a comprehensive analysis of changes in the regional, urbanization, and income dimensions of the markets for major commodities.

2.1.5 Some Implications for Research

Several of the changes in consumption patterns revealed by close examination of the data discussed above identify significant problems for research. Although the average real income for upper income families did not decline from 1950 to 1960-61, the share of such income allocated to food and beverages decreased from about 20 to 18 percent. A comparable reduction is indicated by average food purchases per upper-income family in spring 1955 and spring 1965. Although it is clear that the importance of food in upper-income families' budgets has been declining, intensive study of data from these two sets of surveys does not reveal why.

Similarly, the factors underlying the shifts in commodity shares of at-home food dollars cannot be ascertained from analysis of the two sets of household food consumption survey data. Although changes in food products marketed certainly entered in, the socioeconomic factors possibly related to changes in food demand of upper-income families need careful research.

2.2 Some Research Relevant to Forecasting Changes in Food Consumption

Extensive research on time series of consumption and income data, on cross section data like those used above, and on institutional changes has revealed the importance of both supply and demand factors to changes in U.S. food consumption. Although this study is concerned primarily with the demand side of consumption changes, we should note that supply changes such as changes in production coefficients in agriculture and marketing, technological innovations in the forms of new products, distribution changes, and sales promotion have been significant in changing consumer behavior. On the demand side economists frequently refer to changes in income, family size, age, degree of urbanization, technological changes, and changes in ways of living.

The key factors used in most food consumption analyses have been income, urbanization, regionality, and family size. As more of the population attains the level of real income now described as upper income (incomes of \$10,000 or more in 1964 dollars after taxes) and becomes urbanized, the importance of the first two factors as predictors of changes in consumption appears to be diminishing. Similarly, regional differences are expected to decrease. Therefore, we must examine much more intensively socioeconomic factors that appear to underlie the variations and changes in ways of living, commonly ascribed by economists to differences in tastes and preferences.

We need to understand the process of change in tastes and preferences. What factors bring about such changes? What kinds of people acquire the new tastes and preferences first? Major constraints on changes have been viewed as conservatism and limitations of finances and other resources. Research has indicated that the conducive conditions are higher levels of education, the status incentive, the achievement incentive, high receptivity to communication, extensive association with other people, and the incidence of those stages of the family life cycle characterized by mobility and availability of discretionary income. A larger proportion of higher-income than lower-income families accordingly may be expected to have these characteristics. For the whys of tastes and preferences we must turn to psychological and sociological research, particularly studies dealing with motivation, cognition, learning, and the sociology of the family.

2.2.1 Tastemaker Study

About 10 years ago the Opinion Research Corporation of Ridgewood, New Jersey, conducted a pilot study of America's tastemakers in a suburban area to test their strategy for predicting change in consumer behavior. They studied the high mobiles of the community. Their research with a sample of 105 households with incomes of over \$5,000 (in current dollars) yielded generally higher Early Product Adoption scores for higher-income families, but there was considerable variation within this group as well as within lower-income groups. The lowest scores on Early Product Adoption by the highest income families in this sample were roughly equal to the

highest scores of the lowest income families in their survey.⁶ Variations in the timing of adoption appeared to be closely related to travel, breadth of social contacts, and reading habits. The researchers described these as aspects of geographic, social, and intellectual mobility.⁷

At this point it is well to differentiate between the concept of tastemaker and the concept of tasteleader. The tastemaker originates styles and tastes or patterns of consumption for new products. The tasteleader influences the behavior of others. Sociologists have done far more research on tasteleaders than on tastemakers.

2.2.2 Community Studies

Variations in consumption patterns in relation to social class have been described in many sociological studies, especially those by the Lynds, Warner, and others.⁸ These researchers have found that social class is related to economic power, political or community power, and status. The many community studies that have been made reveal different ways of living among groups in a given community and apparently a close correlation between income and consumption. Warner in particular believes that consumption patterns are an important means of attaining higher social status. He has pointed out that such patterns are symbolic of social roles.

More recently a student of Warner's sociology, Pierre Martineau, has argued that an individual's consumption patterns actually symbolize his class position and affect his buying power more than does his income.⁹ This opens up a significant question as to whether consumption patterns are the result of income or whether income might be affected by the desire for certain consumption patterns. Moreover, social class is often measured by sociologists in terms of occupation and education, two of the major determinants of income.

If we follow Martineau's line of thinking, we should hypothesize that families having moderately high incomes because there are two earners may differ in social class from single-earner families. This would lead us to expect some differences in consumption patterns among upper-income families.

6 See page 64 of America's Tastemakers, Tastemaker Research Report No. 1, Princeton, New Jersey, April 1959.

7 Ibid., pp. 77 to 84.

8 Kornhauser, Ruth Rosner, "The Warner Approach to Social Stratification," Reinhard Bendix and Seymour Martin Lipset (eds.), Class, Status and Power: A Reader in Social Stratification, Glencoe, Ill., The Free Press, 1953, pp. 224 to 255.

9 Martineau, Pierre, "Social Class and Spending Behavior," J. Marketing, Vol. 23, October 1958, p. 121.

2.2.3 Importance of Mobility

Social mobility is commonly defined in terms of changes in income, education, and occupation. There are certainly many indications of an upward shift in income and of educational upgrading. Foote and Hatt have produced evidence that social mobility and economic advancement are functions of the access to education.¹⁰ Reissman's analysis of labor force data provides clear evidence of upward occupational mobility.¹¹

The significance of social mobility for the analysis of the tastemaker role of moderately high income families is indicated by the following quotation from Reissman:

"The great advantage of using money to effect a status rise, of course, is that economic goods know only price. In the market place they are free of any other encumbrances and available to any one who can pay the price. Most other channels by which the upwardly mobile might express their newly won status require time, training, and such inaccessible prerequisites as a proper family background and proper tradition. It is little wonder that families that have advanced economically turn their aspirations for commensurate social advance into the only channel open to them--purchasing consumer goods that they believe can do the job for them. The major drawback in this social logic, however, is that with income levels rising for large numbers of people the relative positions between them tend to remain unchanged. Here is an instance of one of the types mentioned earlier--where whole classes can move up, then individuals within a class cannot convert such gains to their own mobility advantage because the status ante has gone up for everyone."¹²

2.2.4 Values

Research on values that are significant for tastemaking has proceeded in several directions. First, without a class structure based on tradition, possession and demonstration of wealth have been used in the United States to demonstrate success in business. Conspicuous consumption to denote social differences has been identified by many observers, most vividly by Thorstein Veblen.¹³ In our society there is a close correlation between success and income, especially in terms of the close relationship between the high level of consumption and high status or prestige. Aspiration to

10 Foote, Nelson N., and Paul Hatt, "Social Mobility and Economic Advancement," Am. Econ. Rev., Vol. 43, May 1953, p. 376.

11 Reissman, Leonard, Class in American Society, Glencoe, Ill., The Free Press, 1959, p. 322.

12 Ibid., p. 326.

13 See chapter 4. Veblen, Thorstein, Theory of the Leisure Class, New York, The Modern Library, 1934.

higher class has become a prevailing value in the United States.¹⁴ A second direction of research has stressed the significance of conformity. Some anthropologists argue that the urge for conformity results from a combination of the generally held belief in democracy and the rather open American class structure. Kluckhohn found that "the cult of the average man means conformity to the standards of the current majority."¹⁵ Third, Vance Packard has popularized the findings of a number of sociologists who have pointed to the attempts of many people to convert their income gains from money into status by copying consumption patterns of the well-to-do.¹⁶

2.2.5 Want Creation

Most of the research on want creation has been carried on in connection with advertising. From "motivation research" we conclude that there are about four different broad sources of wants or ways in which wants are created. First is the search for new ways of satisfying old needs. Socially conscious people often search for symbols to differentiate themselves from people of lower social classes or for symbols to identify themselves with people above them.¹⁷ The second broad category is socially created new needs. These include wants derived from changes in customs and institutions. An example is increased leisure with the demand for boats, resulting from the shorter work week. A third category is psychological creation of new wants. Unfortunately, the psychologists have not told us very much yet about curiosity and the urge for variety in human experience. The fourth method of creation of wants is technical innovation. New products often begin as luxuries for the few and later become necessities for the many, as pointed out by Elizabeth Hoyt many years ago.¹⁸ In this category have been autos, air conditioners, radios, refrigerators, and television sets.

2.2.6 Innovation

A great many small marketing studies have dealt with the subject of new product adoption in recent years, but there have been few if any

14 Newcomb, Theodore M., Social Psychology, New York, Dryden Press, 1950, p. 232.

15 Kluckhohn, Clyde. Mirror for Man, Greenwich, Conn., Fawcett Pubs. Inc., 1961, p. 181.

16 Packard, Vance. The Status Seekers, New York, Pocket Books, Inc., 1961.

17 Barber, Bernard, and Lyle S. Lobel, "Fashion in Women's Clothes and the American Social System," Social Forces, Vol. 31, 1952, pp. 124 to 131.

18 See chapter 4. Hoyt, Elizabeth. Consumption in Our Society, New York, McGraw-Hill, 1938.

significant research studies on innovation, especially in consumer goods.¹⁹ The concept of innovation has a number of dimensions: first, motivation for innovation; second, factors favoring early adoption of innovation; third, factors favoring wide acceptance of innovation; and fourth, the identification and characterization of the innovators. Because much of the research on innovation has dealt with durable goods and has been relatively little in terms of food products, at this point it seems best to proceed without going into the details of fashions and other types of innovation.²⁰

2.2.7 Adoption and Diffusion Processes

Rogers, an eminent researcher on innovation, describes the adoption process in terms of an individual's mental processes and time lags from first hearing to final adoption.²¹ By diffusion process he refers to the spread of the new product or idea from its point of origin to ultimate users or adopters. Stages in the adoption process have been described as awareness, interest or seeking information, mental application or evaluation of the new process, trial, and finally adoption. Based on the standard deviations of the normal distribution, a number of researchers have grouped people regarding timing of their adoption of innovation as: the innovators--the top 2 1/2 percent; the early adopters--13 1/2 percent; the early majority--34 percent; the late majority--34 percent; and the laggards and nonadopters.²²

Based on an extensive review of research, Rogers identified these characteristics of early adopters: younger in age, higher social status, more favorable financial status, more cosmopolite, operate more specialized enterprises, tend to think more abstractedly and less rigidly, greater use of impersonal, cosmopolite and more sources of information--especially those closer to the origin of new ideas, and have more opinion leadership.²³ In contrast, the innovators are rarely influential leaders and are often viewed as deviants.²⁴ They are characteristically venturesome and less concerned about the respect of their peers.

19 Barnett, H. G. Innovation: The Basis of Cultural Change, New York, McGraw-Hill Book Company, Inc., 1953.

20 See pages 625 to 627. Burk, Marguerite C. "Development of a New Approach to Forecasting Demand," J. Farm Economics, 46:3:618 to 632, August 1964.

21 Rogers, Everett M. Diffusion of Innovations, New York, The Free Press, 1962, p. 76.

22 Ibid., p. 162.

23 Ibid., pp. 171 to 184.

24 Ibid., pp. 192 to 202.

2.2.8 Summary of Available Knowledge

In conclusion, here are the major knowns and unknowns about the role of upper-income families as potential tastemakers. Among the knowns is the considerable evidence that higher-income families are in the forefront of changes in tastes and preferences, especially for new products. Despite much research on how the process operates, we still know little about the whys of the process. Without knowledge of the whys we cannot evaluate how far this approach could be used to forecast demand. One step toward learning about the process of change is intensive study of the whys of variations in preference patterns at a given time for one group of families, such as those with relatively high incomes.

The significant unknowns include: (1) reliable knowledge of variations in consumption patterns of upper-income families and of the relationship of such variations to socioeconomic factors; (2) precise knowledge of the relationships of value orientations to consumer decision making on specific types of food and nonfood commodities and of the interrelationships among such sets of values; (3) documentation of the characteristics of families that are related to the process of innovation in consumption patterns for old and new products.

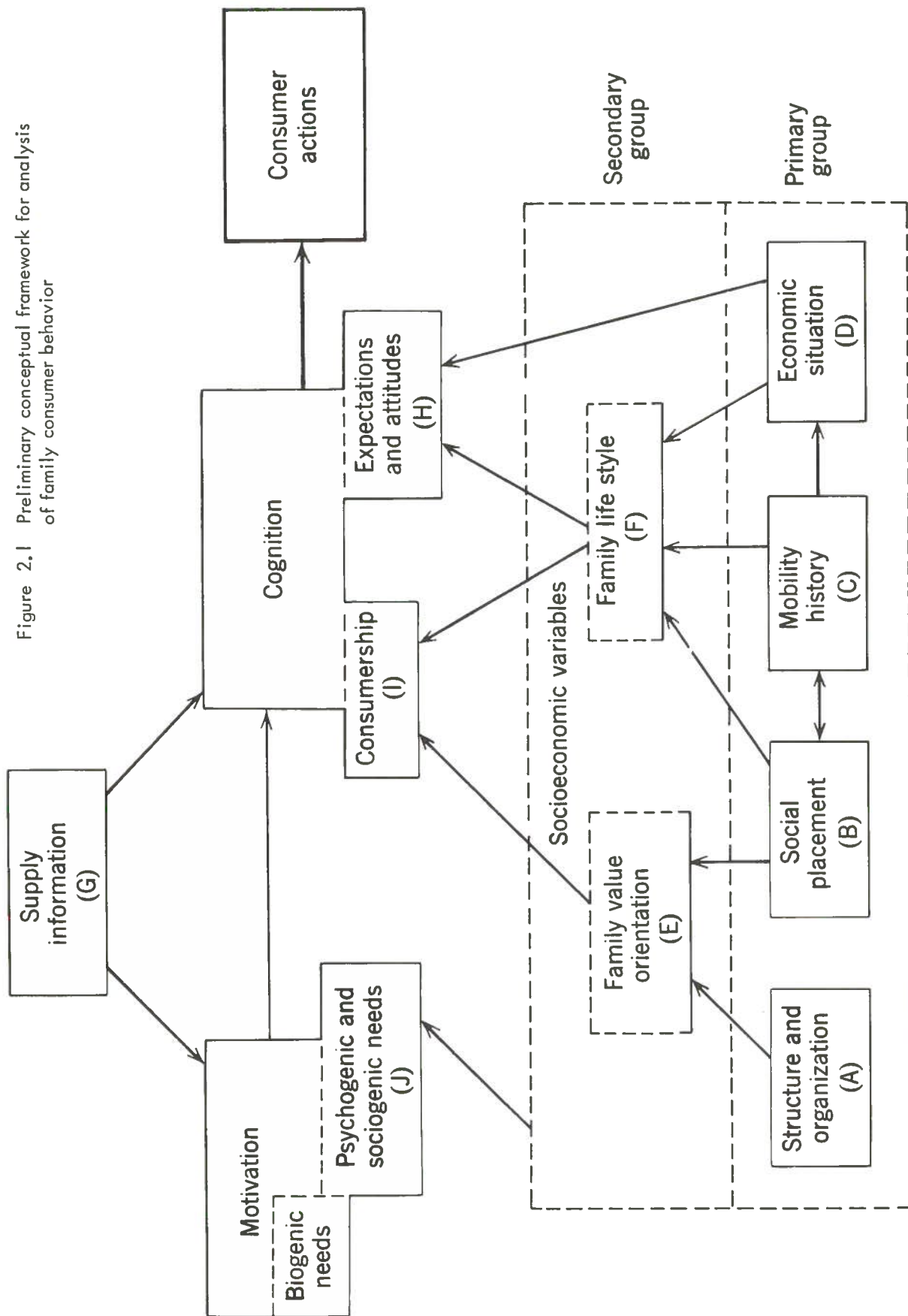
2.3 A Conceptual Framework for Analysis of Consumption Patterns

A conceptual framework is a diagrammatic presentation of clusters of interrelated but not necessarily interdefined concepts relating to a particular set of phenomena. Social scientists use conceptual frameworks or models to identify interrelationships such as those between socioeconomic factors and variations in consumption. Interrelationships among the socioeconomic factors are of interest and important, but here we are primarily concerned with identification and measurement of systematic relationships between food consumption behavior (as measured by variations in expenditures) and socioeconomic characteristics of families that reflect socioeconomic forces.

Food consumption behavior is a very complex concept. We may interpret it to mean the amount spent for particular foods or the quantities consumed. Or we may refer to consumer actions in terms of relationships of food expenditures to total expenditures or income or other socioeconomic factors, e. g., expenditures per person. In studying changes in consumption, economists make extensive use of relationships because they are much more stable than absolute levels of food consumption or food expenditures and help avoid technical problems arising from changes in prices.

The conceptual framework guiding this research on the consumption of upper-income families is given in figure 2.1. The major consumer actions that we will use as dependent variables are rates of expenditures for all foods and major components, relationships of food expenditures to total consumer expenditures, shares of food groups in total expenditures, and several types of food buying practices.

Figure 2.1 Preliminary conceptual framework for analysis of family consumer behavior



The primary group of socioeconomic characteristics used as independent variables in this research describe the social and economic situation of each family. The major categories matching the boxes in figure 2.1 are listed below.

- | | |
|--------------------------------|------------------------------|
| (A) Structure and organization | (B) Current social placement |
| 1. Size | 1. Education |
| 2. Ages | 2. Occupation |
| 3. Years since marriage | 3. Residence |
| 4. Life cycle stage | 4. Index of social position |
| (C) Mobility history | (D) Economic situation |
| 1. Occupation | 1. Income |
| 2. Residence | 2. Assets and liabilities |
| 3. Financial status | 3. Inventory of selected |
| 4. Education | major durables |

Two sociological variables form the secondary group of socioeconomic variables. They are measures of family value orientation (E) and family life style (F). Because they reflect combined effects of primary factors, they are called "intervening variables." But earlier research indicates that they may make independent contributions to observed variations in consumption.

A third category of factors related to consumption enters from the supply side (G in figure 2.1). The study was limited to one area so the market situation was substantially the same for all families in the sample. Therefore, we can treat it as a constant.

Another set of variables is formed by information on expectations and attitudes of families concerning their own financial outlook and the general outlook. Use of these variables permits us to compare our research findings with those of Mueller and Katona of the Michigan Survey Research Center. Such expectations and attitudes are not as pertinent to food consumption patterns as to those for durable goods. Therefore, we developed and used a measure of expectations in terms of the homemakers' ideas regarding unfulfilled wants for food.

Hypothesizing that there might be a special set of value orientations related to consumption, George Graen, the psychologist assisting on the project, developed a questionnaire to measure consumer value orientation. This is described in Appendix C.

2.4 Objectives and Hypotheses Used

This section lists the 14 major hypotheses that guided the analysis of food consumption behavior of upper-income families, as revealed by data on U. S. urban and North Central urban families and by the University of Minnesota survey in the Minneapolis-St. Paul metropolitan area. They are organized according to the three key objectives of this research. Sections

in chapters 4 to 14 and tables particularly relevant to each hypothesis are noted below the statements. Those referring to analyses of the data from the Survey of Consumption Patterns of Upper-Income Families in Minneapolis-St. Paul are identified as "UPIF." In the course of the research, many of these hypotheses were reformulated, especially those in sections 2.4.1 and 2. Chapters 7 and 13 contain the revised statements of 42 hypotheses and evidence pertinent to them. A number of others tested in the study are reported in chapters 4 to 6, 8 to 12, and 14.

2.4.1 To analyze food-nonfood competition for the dollars of upper-income families

Hypotheses:

1. Current family disposable income is related to current dollar outlays per family for major categories of goods and services, but adjustment for size of family will reveal greater influence of current income.

U. S. cross sections: Sec. 4.6 and table 10.1
UPIF: Secs. 5.2-5, 9.4, 11.2 and tables 5.1, 5.3, 5.4, 5.6, 5.8, 6.1, 9.9, 11.5, 11.6, 12.8, 12.9

2. Stage in the family life cycle is the second most influential factor for variations in food-nonfood expenditures.

UPIF: Secs. 5.3-5, 9.4.2, 10.3 and tables 5.7, 5.8-10, 6.3, 12.8-9

3. The occupation of the husband, education of the wife, and past income have significant effects on upper-income families' consumption patterns.

North Central urban: Sec. 4.2, and tables 4.4 and 4.5
UPIF: Secs. 5.2-5, 9.2; chapters 10-12; and tables 5.3-5, 5.8-10, 9.3-5

4. Consumer value orientation is related to variations in the emphasis placed on food.

UPIF: Chapters 5, 10, 11, 12; Secs. 6.2.1, 9.4; and tables 5.3-5, 5.8-10, 9.5, 10.7-9, 11.5-6, 12.8-9

5. Wants for food of upper-income families are well met so they tend to shift emphasis to nonfood goods and services.

UPIF: Secs. 6.2.1-3 and table 6.6

6. Variations with income in family and per person food expenditures exist even among upper-income families, measured in terms of dollars and percentage of income or total expenditures.

U. S. and North Central urban: Table 4.3

UPIF: Secs. 5.5, 6.1.2, 6.2.1, and tables 5.1-5, 9.2

7. Families are generally consistent in their food expenditure patterns although weekly food patterns may vary considerably.

UPIF: Secs. 5.4, 6.2.1, 10.3, 11.2, 12.3, and tables 5.3, 5.4, 10.3, 10.4

2.4.2 To analyze competition for food dollars of upper-income families

Hypotheses:

8. Within groups based on family current income, variations in food expenditures are related to the primary socioeconomic factors.

UPIF: Secs. 5.2, 9.3, chapter 10, and tables 5.3-4, 5.8-10, 6.4, 6.5, 10.7-9, 11.5-6, 12.8-9

9. The buying of food as meals and snacks is related to income per capita, the occupation of the husband and wife, and the consumer value orientation of the family.

UPIF: Secs. 8.3, 9.3, 14.1.3, and tables 5.3-4, 5.8-10, 9.3, 9.5, 9.6, 9.7, 14.2

10. Expenditures for meat are influenced by per capita income, family social position, and the consumer value orientation of the family.

U. S. urban and North Central urban: Secs. 9.4.1, 11.1, and tables 11.1 and 11.2

UPIF: Secs. 10.3, 11.2, and tables 10.7-9, 11.3-6

11. Expenditures for dairy products are primarily influenced by the presence of young children, the education of the wife, and per capita income.

U. S. urban: Sec. 12.2, tables 12.2-3

North Central urban: Table 12.4

UPIF: Sec. 10.3, 12.3, and tables 10.7-9, 12.5-9

- 2.4.3 To identify food-buying practices of upper-income families and to measure relationships of socioeconomic factors to them

Hypotheses:

12. Use of delivery services is related to family composition and size, social position, and income per capita.

Sec. 14.1.2 and table 14.2

13. Expenditures for prepared foods are related to income per capita, education and employment of the wife, family size and composition, and consumer value orientation.

Sec. 14.3 and table 14.7

14. Shopping practices vary with the age and employment of the wife, family social position, family composition, and family income.

Secs. 14.2, 14.4, and tables 14.1-6, 14.8

2.5 The Operational Framework and Data
Used for Food Analyses

The requirements for empirical analysis often force the researcher to use measures that do not match his theoretical concepts. As in all empirical research, we have experimented with alternative measures and alternative formulations of relationships among measures. This section identifies briefly the types of measures developed from the survey of upper-income families in Minneapolis-St. Paul for use as dependent variables and independent variables in the analyses reported in subsequent chapters. The sources of the data are also described. Wherever possible, the questions used in the schedules for this survey were taken from earlier surveys in order to compare the measures and relationships derived here for upper-income families with those from other studies.

2.5.1 Dependent Variables

The most important dependent variables used in this research on food buying patterns were measured by responses to the questionnaires developed by the Bureau of Labor Statistics and used in the 1960-61 survey of consumer expenditures to obtain (1) recall of expenditures for food at home and away from home in the preceding year and (2) recall of expenditures for major food categories in the preceding week. Based on the experience of our interviewers with upper-income families during the Minneapolis-St. Paul survey by the Bureau of Labor Statistics in 1964, we used the Bureau of Labor Statistics' Schedule C as a food record, leaving a copy to be filled in by each family. However, many homemakers simplified their operation by keeping the cash register tapes, noting the items, and filling out the schedule with the assistance of our interviewer during the second appointment.

Schedule C of the Bureau of Labor Statistics' survey also yields a measure of the number of people eating from family food supplies during the preceding week based on the number of meals.

Data on expenditures for several categories of nonfood commodities were also obtained by means of questions copied from Bureau of Labor Statistics schedules. However, the estimates of total nonfood expenditures were derived as residuals. Questions from the Bureau of Labor Statistics schedules were reworked to form a self-administered schedule to obtain data on 1964 disposable income and change in net worth. From these data we calculated estimates of total expenditures in 1964, subtracted food expenditures, and derived estimates of total nonfood expenditures (including gifts and contributions) in the year. About a fifth of the families supplied information only on their disposable income bracket. For them we used relationships calculated from detailed data submitted by other families to estimate total expenditures and nonfood expenditures.

A special schedule was developed (and pretested) to obtain some information on food buying practices in the preceding week. Included were questions on who shopped, kind of store, phone orders and whether delivered, time of shopping, total cost, use of credit, deliveries of dairy products and other types of food during the week, purchases of ready-to-eat foods outside grocery stores, evening and weekend meals eaten out, use of shopping lists, and sources of information for food shopping.

2.5.2 Independent Variables

As noted above, the estimates of income in the preceding year, 1964, were based primarily on questions drawn from the Bureau of Labor Statistics schedules. These schedules also supplied the questions used to obtain information regarding other aspects of the economic status of the family, such as husband's occupation, employment of wife in the preceding year and in the week of the survey, as well as changes in income and net worth in the preceding year. We adapted questions from the Michigan Survey Research Center's schedules to obtain information regarding changes in income in preceding years and on income and financial status expected for the subsequent year and 5 years later.

To obtain sociological data on the family, we used family composition questions on sex and age from the Bureau of Labor Statistics schedules. These provided the basis for categorizing the families according to the Survey Research Center's stages in the family life cycle (as well as the Duvall system). The Hollingshead Index of Social Position was calculated for each family. It is based on the husband's occupation and education.

Two types of family value measures were developed from schedules filled out by the husbands and the wives. One is the set of six measures of interpersonal values developed by Leonard V. Gordon, pertaining to support, conformity, recognition, independence, benevolence, and leadership. The other was the special measure of several dimensions of consumer value orientation, referred to above and developed by George Graen for this study. The questionnaire asks the respondent to think of her ideal product

and its characteristics. Then she rates 38 statements in terms of their importance for her ideal product.

Other questionnaires pertained to housing, inventory of durable goods, and leisure time activities, but they lie outside the scope of this report.

The total amount of interviewing time ran around 3 hours per respondent, compared with the 8-hour average for the Bureau of Labor Statistics survey of 1960-61. This time, of course, does not include the time spent by the respondent in preparing data for us on expenditures for food during the current week, on the family financial status, and in filling out the two sets of schedules on value orientation.

Chapter 3 SOCIOECONOMIC CHARACTERISTICS OF UPPER-INCOME FAMILIES

3.1 Introduction

Based on empirical studies by many researchers as well as theoretical knowledge of several social sciences, a number of social and economic characteristics of families have been identified as significant for certain expenditure patterns. This chapter provides a description of those characteristics of upper-income families known to be or hypothesized to be related to their expenditures for food and to the competition between food and nonfood commodities for consumer dollars. Characteristics for upper-income families in the urban United States and North Central Region are compared with those of all urban families and then with the characteristics of the upper-income family sample in Minneapolis-St. Paul. Because one of the objectives of the University of Minnesota study was to investigate additional socioeconomic factors possibly affecting food expenditures, we will examine supplementary characteristics for those families.

About 12 percent of United States and 11 percent of North Central urban families of two or more persons had disposable incomes of \$10,000 or more in 1960-61. In 1964 this proportion for the United States had increased to 14 percent, one out of seven families. As indicated by data in table 3.1, the United States urban sample in 1960-61 included 942 families with two or more persons having incomes after taxes of \$10,000 or more. Among them 24 percent were in the \$15,000 or more income category. The University of Minnesota sample included 174 cases with disposable incomes of \$10,000 or more in 1964, with 27 percent in the \$15,000 or more income group. The University of Minnesota sample included 83 cases with disposable income below \$10,000, among whom 23 were two-person families having before-tax incomes of less than \$10,000.

3.2 Families with Disposable Income of \$10,000 or More

Over the years the U.S. Bureau of Labor Statistics and the U.S. Department of Agriculture have developed a rather standard set of characteristics that are measured and reported for each family income group in their surveys.¹ A preliminary step in any analysis of expenditure patterns is to use such data to describe the socioeconomic status of the families. Then those characteristics are used as indicators of socioeconomic factors treated as independent variables in statistical analyses of variations in expenditures among families.

3.2.1 Social Characteristics of Upper-Income Families

Family size and age composition are particularly significant factors in variations in food expenditures. Data in table 3.1 clearly indicate that upper-income families are larger than all families. In the \$10,000 to \$15,000

¹ See Chapters 5 and 6, Burk, Marguerite C. Consumption Economics: A Multidisciplinary Approach, New York: John Wiley & Sons, 1968.

bracket, higher proportions have children under 18 years of age. Among urban United States and North Central families of two or more persons in 1960-61, a slightly smaller proportion in the \$10,000 to \$15,000 income group contained persons 65 years or older than did all urban families of two or more persons. But the highest income bracket had more families with older people. The average age of the head of the family in this bracket was also a little higher.

The education of the head of the family has both social and economic significance. Whereas almost a third of the United States and North Central urban families of two or more were headed by a person with eighth grade education or less, only 9 to 15 percent of the upper-income families had such a minimal education. Half of the heads of families with \$10,000 to \$15,000 income had some education beyond high school, and one-seventh had more than a college education. Heads of United States urban families in the \$15,000 or more bracket were even more highly educated, with 30 percent having over 16 years of formal education. A much smaller proportion of the top income North Central family heads had gone beyond college.

3.2.2 Economic Characteristics of Upper-Income Families

The economic importance of more than one earner in the family is indicated by the significantly higher average number of earners among upper-income families compared with all families. However, in the highest income bracket shown in table 3.1, the number of earners averaged slightly lower than for the \$10,000 to \$15,000 income group. Over three-fourths of the upper-income families were home owners in urban United States, the North Central Region, and in the Minneapolis-St. Paul metropolitan area in 1963.

By definition, upper-income families have higher money income than all families. So it is not surprising to find money income after taxes, or disposable money income, averaging almost \$12,000 for the \$10,000 to \$15,000 income group and over \$22,000 for the \$15,000 or more bracket. The spending and saving characteristics of upper-income families indicated by data in this table are in line with the usual patterns, with upper-income families spending less than their total incomes and having relatively higher expenditures for non-food goods and services than is the case for less affluent families.

The occupational data in the lower part of table 3.1 show that a third of the top income United States urban families were headed by self-employed persons and a half by salaried professional people, managers, or officials. Only a tenth of the heads of the United States urban and North Central urban families in the \$10,000 to \$15,000 income group were self-employed in 1960-61, and 42 to 43 percent were in the professional and managerial category. Significant proportions of families in the \$10,000 to \$15,000 bracket were headed by persons in the clerical and sales, skilled, and semi-skilled occupations. Quite obviously many of those families had more than one earner.

3.3 Variations with Family Income in Characteristics of Upper-Income Families in Minneapolis-St. Paul

The University of Minnesota survey occurred several years after the United States and North Central surveys by the Bureau of Labor Statistics, but only a year after the BLS survey of Minneapolis-St. Paul families and single individuals at all income levels. Also, the Minnesota survey included two-person households in the \$8,000 to \$10,000 or more before tax income bracket. Income taxes brought a number of the families in the \$10,000 or more before tax income bracket into the income group with disposable incomes below \$10,000. Families in this income bracket are not included in the two income groups in table 3.1, based on disposable income.

3.3.1 General Characteristics

Only instances in which the Minneapolis-St. Paul upper-income families (UPIF) vary significantly from the characteristics of United States and North Central urban upper-income families (BLS), discussed in the preceding section, will be noted here. The family sizes were larger among upper-income families in metropolitan Minneapolis-St. Paul, according to both the survey by the Bureau of Labor Statistics in 1963 and the University of Minnesota survey for 1964 (UPIF). Comparison of 1960 census data for urban U.S. and metropolitan Minneapolis-St. Paul families with incomes of over \$10,000 supported the sample data. A significantly smaller proportion of the Minneapolis-St. Paul families of two or more persons contained two people or three and four people in both the \$10,000 to \$15,000 income group and the \$15,000 or more group. Whereas 18 percent of the lower of these two income groups and 21 percent of the higher one in the Twin Cities had six or more people per family, only 13 percent and 14 percent, respectively, of all U.S. urban families were in this size category.

The University's sample also contained a larger proportion of families with children under 18 than the U.S. and North Central Region samples (tables 3.1 and 3.2). The heads of families in the Minneapolis-St. Paul metropolitan area were somewhat younger and had significantly more education than was found for the national and regional samples of the BLS.

Variations in average incomes, savings, total expenditures, and food and nonfood expenditures among Minneapolis-St. Paul upper-income families grouped by family disposable income matched those described earlier for all United States and North Central urban families in the \$10,000 to \$15,000 and \$15,000 and over income brackets (table 3.2).

Self-employment was relatively more frequent in the Minneapolis-St. Paul sample than in the United States or North Central urban sample of families in the \$10,000 to \$15,000 income group. Also, the proportion of family heads employed in salaried professional, managerial, and official occupations was substantially greater. Relatively half as many upper-income families in Minneapolis-St. Paul in this income bracket were headed by skilled and semi-skilled workers as in the United States and North Central urban areas in 1960-61. No unskilled principal wage earners were identified in our sample. The one widowed head of family in this survey was not employed outside her home.

Table 3.1 Selected social and economic characteristics of samples of all urban families with two or more persons sampled in U.S. and North Central Region in 1960-61, of all Minneapolis-St. Paul families (including single individuals) in 1963, and for those in each area having disposable money incomes of \$10,000 to \$15,000, and \$15,000 or more^{1/}

Item	Unit	All income levels				\$10,000 to 15,000				\$15,000 or more			
		United States urban	North Central urban	Mpls.-St. Paul 1963	United States urban	North Central urban	Mpls.-St. Paul 1963	United States urban	North Central urban	Mpls.-St. Paul 1963			
Sample data													
Number of cases	number	7,914	2,290	206	720	199	29	222	55	4			
Percent of total sample	percent	100.0	100.0	100.0	9.1	8.7	14.1	2.8	2.4	3.8			
Social characteristics													
Average family size in year	number	3.5	3.6	3.3	4.1	4.2	4.5	3.8	3.8	3.8			
Children under 18, percent having	percent	60	61	50	64	63	62	53	49	50			
Children under 18, average per family	number	1.4	1.5	1.4	1.5	1.5	1.9	1.1	0.9	1.3			
With persons 65 and over	percent	19	17	27	14	13	21	21	19	25			
Age of head in years	number	46	45	48	47	47	47	51	53	51			
Education of head by category ^{2/}													
8th grade or less	percent	32	31	26	11	15	3/	9	9	3/			
9 to 12 years	percent	45	46	36	40	36	3/	19	24	3/			
13 to 16 years	percent	19	18	31	35	35	3/	42	54	3/			
Over 16 years	percent	4	5	7	14	14	3/	30	13	3/			
Economic characteristics for year													
Full-time earners	number	0.9	0.9	0.8	1.4	1.5	1.4	1.2	1.3	1.0			
Home owners all year	percent	57	62	67	78	80	90	87	93	75			
Money income before income taxes	dollars	7,371	7,421	7,880	13,604	13,542	13,821	27,805	27,190	32,135			
Money income after taxes	dollars	6,500	6,670	6,858	11,811	11,813	11,668	22,266	22,167	25,790			
Total expenditures, including gifts, contributions, and insurance	dollars	6,638	6,501	6,820	11,116	10,706	10,669	17,784	17,072	15,225			
Food expenditures	dollars	1,451	1,399	1,305	2,186	2,099	2,027	2,808	2,620	2,341			
Nonfood expenditures	dollars	5,187	5,102	5,515	8,930	8,607	8,642	14,976	14,452	12,884			
Net change in assets and liabilities	dollars	207	377	413	843	1,260	1,302	4,719	5,506	10,558			
Proportion of heads in occupational category ^{2/}													
Self employed	percent	6	6	4	11	10	3/	33	28	3/			
Salaries professional officials	percent	18	17	21	43	42	3/	52	53	3/			
Clerical and sales workers	percent	13	12	15	12	13	3/	5	11	3/			
Skilled wage earners	percent	16	19	16	15	16	3/	3	4	3/			
Semiskilled wage earners	percent	14	16	10	9	10	3/	1	0	3/			
Unskilled	percent	13	11	12	4	3	3/	4/	0	3/			
In Armed Forces	percent	1	1	1	1	1	3/	0	0	3/			
Retired	percent	13	13	15	4	3	3/	4	4	3/			
Not working	percent	6	5	6	1	2	3/	2	0	3/			

1/ Data from U.S. Bureau of Labor Statistics, Survey of Consumer Expenditures, 1960-61. Consumer Expenditures and Income: Detail of Expenditures and Income. Urban United States, 1960-61 (Suppl. 3-Part A to BLS Report 237-38, July 1964) and Urban Places in North Central Region, 1960-61 (Suppl. 3-Part A to BLS Report 237-35, July 1964); Consumer Expenditures and Income, Minneapolis-St. Paul, Minnesota, 1963, BLS Report 237-81, July 1965.

2/ Data for families and single consumers from Consumer Expenditures and Income: Cross-Classification of Family Characteristics, Urban United States, 1960-61 (Suppl. 1.2-Part A to BLS Report 237-38, July 1964) and Urban Places in the North Central Region, 1960-61 (Suppl. 2-Part A to BLS Report 237-35, July 1964); Consumer Expenditures and Income, Minneapolis-St. Paul, Minnesota, 1963, Suppl. 1 to BLS Report 237-81, July 1965.

3/ Not available.

4/ Less than 1 percent.

Table 3.2 Social and economic characteristics of upper-income families in Minneapolis-St. Paul comparable with Bureau of Labor Statistics data, by level of disposable family income in 1964^{1/}

Item	Unit	Total sample	\$6,410 to 10,000	\$10,000 to 15,000	\$15,000 to 20,000	\$20,000 and over
<u>Sample data</u>						
Number of cases	number	257	83	127	30	17
Percent of total sample	percent	100	32	49	12	7
<u>Social characteristics for 1964</u>						
Average family size in 1964	number	4.4	3.9	4.6	4.8	4.4
Children under 18, percent having	percent	75	64	82	77	76
Children under 18, average per family	number	2.0	1.8	2.2	2.3	1.7
With persons 65 and over	percent	5	2	4	17	18
Age of head in years	number	43	41	42	47	46
<u>Education of husband, by category</u>						
8th grade or less	percent	5	11	3	0	6
9 to 12 years, total	percent	19	22	20	13	6
9 to 11 years	percent	5	6	4	7	0
12th grade	percent	14	16	16	6	6
13 to 16 years, total	percent	52	53	51	57	47
12 plus technical school	percent	9	13	8	3	0
1 to 3 years of college	percent	17	21	16	17	12
4 years of college	percent	26	19	27	37	35
Over 16 years, total	percent	24	14	26	30	41
One year more	percent	4	5	4	3	0
Masters or 2 years	percent	10	4	14	10	6
3 or more years	percent	10	5	8	17	35
<u>Economic characteristics for 1964</u>						
Full-time earners	number	1.4	1.4	1.4	1.2	1.4
Home owners all year	percent	84	82	84	87	94
Money income before income taxes ^{2/}	dollars	14,770	10,440	13,970	20,830	31,210
Money income after taxes ^{2/}	dollars	12,420	8,910	11,950	17,110	27,720
<u>Total expenditures, including gifts, contributions, and insurance</u>						
Food expenditures	dollars	11,120	8,370	10,790	15,000	22,230
Nonfood expenditures	dollars	2,170	1,830	2,140	2,740	3,080
Net change in assets and liabilities	dollars	8,950	6,540	8,650	12,260	17,150
Proportion of heads in occupational category	dollars	1,300	700	1,200	2,100	4,510
Self employed	percent	19	15	18	23	41
Salaried professionals, officials	percent	53	43	57	67	47
Clerical and sales workers	percent	9	10	11	7	...
Skilled wage earners	percent	11	19	8	3	...
Semiskilled wage earners	percent	7	12	5	...	6
Unskilled	percent	3/	1	...	...	...
Retired	percent	3/	...	1	...	...
Not working (widowed)	percent	3/	...	...	...	6

1/ Totals based on rounded data.

2/ Does not include other money receipts.

3/ Less than 1 percent.

One of the pieces of supplementary information about families obtained in the University of Minnesota survey had to do with the job-related training of the husbands after their formal schooling. Fifty-seven percent or 147 of the husbands had received some job-related training since finishing their regular schooling. For 51 of them, the on-the-job training had been paid for by their firms. Another 36 had taken noncollege business courses. Additional college education was obtained by 51 of the husbands, including 15 taking courses in general education without a degree objective, 7 who did undergraduate work toward their bachelor's degrees, and 29 doing graduate work. Among these 29, 14 did graduate work at the post master's level.

Two other sets of information from the upper-income survey in Minneapolis-St. Paul describe the financial characteristics of the families. The homemakers were asked to classify their families on a 5-point scale ranging from much above average to much below average savers. In the total sample, 14 percent rated their families as high savers, 27 percent as above-average but not high, 43 percent as average, and 15 percent as below-average savers. The ratings for the savings characteristics varied significantly with family income. About one-third of the families with incomes below \$10,000 were self-rated as above-average or high savers, compared with half of the families in the \$15,000 to \$20,000 income bracket and two-thirds of those in the \$20,000 and over income group.

The homemakers were also asked the degree to which they were satisfied with the financial status of their families. In the total sample, 29 percent were very satisfied with their financial status, 53 percent were well-satisfied, 9 percent were neutral, and 8 percent were not satisfied. Here, again, there were variations with income. In the lowest income group in our sample, 18 percent were very satisfied, 55 percent well-satisfied, 16 percent neutral, and 11 percent were not satisfied. Among families with income above \$15,000, 40 percent were very satisfied, 52 percent well-pleased, 4 percent neutral, and 4 percent dissatisfied with their economic situation.

3.3.2 Income Mobility

Since World War II, many economists have studied year-to-year variations in income and their relationships to variations in family expenditures. It is now generally agreed that expenditures vary less than income and seem to be related to some kind of longer range expectation of families regarding their purchasing power. But many aspects of income mobility are still being explored. The nationwide 1965 Survey of Consumer Finances by the Michigan Survey Research Center included a question regarding the change in income from 1963 to 1964 (the same years as those surveyed by the University of Minnesota's survey of upper-income families). Among the 834 families in the Michigan sample having family income before taxes of \$10,000 or more, 21 percent reported incomes a lot higher in 1964 than 1963, 43 percent a little

higher income, 24 percent approximately the same level, 7 percent a little lower, and 5 percent a lot lower. No data were available for other cases.²

Table 3.3 provides detailed percentage data on income mobility as estimated by the homemakers from 1963 to 1964, as well as from 1959 to 1964, the anticipated change from 1964 to 1965, and the change expected for the 5-year period from 1965 to 1970. We helped the respondents by suggesting that somewhat meant 5 percent and much referred to changes exceeding 25 percent. Out of our total sample, 63 percent reported higher incomes in 1964 than 1963, practically the same proportion as in the Survey Research Center's national study. The over \$20,000 income group had apparently experienced proportionally less change from the preceding year than had other groups of families in our survey. From 1959 to 1964, an even higher percentage had had increases in income, but a somewhat smaller proportion of the families in our lowest family income group in 1964 had shared in the income rise.

Looking ahead a year, half of the families expected higher incomes, with the top income group being a little less optimistic. Almost three-fourths of the upper-income families with 1964 disposable income below \$20,000 expected higher incomes by 1969, compared with only half of those having incomes already above \$20,000. However, the don't know response was much more frequent among the families in the highest income group.

We also asked the homemaker to tell us the average income earned by the husband in his first job and to indicate the year of his first job. Then we deflated (i. e., put into 1964 dollars) that income for comparison with the actual income reported by the husband for 1964. The deflated figure was then divided by the number of years between the time of the first job and 1964 to calculate the rate of increase in income in terms of deflated dollars per year since the first job. The percentages of the total sample and two income groups with specified deflated dollar increases per year follow.

Change in income per year	Total sample	Under \$10,000	\$15,000 or more
		income	income
		percent	
Decrease	6	8	0
Less than \$100	6	4	6
\$100 to \$299	18	36	2
\$300 to \$499	23	27	6
\$500 to \$999	29	15	36
\$1,000 to \$1,999	15	9	39
\$2,000 or more	3	1	11

² See page 24. Katona, George, Mueller, Eva, Schmiedeskamp, Jay, and Sonquist, John A. 1965 Survey of Consumer Finances, Monograph No. 42, Survey Research Center, Ann Arbor, Michigan: University of Michigan, 1966.

Table 3.3 Indications of income mobility of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964

Item	All families	\$6,410 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over
	percent				
1. 1964 income compared with 1959					
Much higher	38	29	41	47	41
Somewhat higher (5 to 25 percent)	33	30	35	37	35
About the same	7	12	6	3	0
Somewhat lower (5 to 25 percent)	5	6	6	0	6
Much lower	2	1	3	0	0
Not family in 1959	12	22	7	3	18
Don't know or missing data	3	0	2	10	
2. 1964 income compared with 1963					
Much higher	9	12	8	3	12
Somewhat higher	54	52	57	57	35
About the same	31	27	28	34	47
Somewhat lower	3	6	2	3	0
Much lower	1	2	1	0	0
Not family in 1963	1	1	2	0	0
Don't know or missing data	1	0	2	3	6
3. Anticipated 1965 income compared with 1964					
Much higher	5	5	6	0	0
Somewhat higher	45	46	47	40	29
About the same	40	38	38	43	59
Somewhat lower	5	6	4	7	0
Much lower	1	4	1	0	0
Don't know or missing data	4	1	4	10	12
4. Anticipated 1969 income compared with 1964					
Much higher	24	25	22	30	18
Somewhat higher	47	48	49	47	29
About the same	14	13	15	17	12
Somewhat lower	7	6	8	3	6
Much lower	3	3	3	0	17
Don't know or missing data	5	5	3	3	18

3.3.3 Social Mobility

In contrast with economists' focus on income mobility, sociologists are particularly interested in social mobility, both intergenerational and intragenerational. The generational data of table 3.4 provide indications of the social class distribution of the upper-income families we surveyed, for each income class, and those of their parental families. To measure social class, we used the Hollingshead Two-Factor Index of Social Position which weights the husband's education and occupational status. Class I includes the highly educated professional and executive group--30 percent of our sample. Classes II and III are successively less educated and in less high-ranking occupations, encompassing about 50 percent of our families. Among the upper-income families in our sample, 16 percent of the family heads were skilled workers with high school education, categorized in class IV. The remaining 5 percent of the families were headed by men with relatively less occupational skill and less education--class V.

According to data supplied by the respondents, only 5 percent of the husbands' families had been in class I, 19 percent in classes II and III, 46 percent in class IV, that is, in the group including skilled workers with high school education. Out of the remainder, 14 percent were in class V, and the wife was unable to supply information regarding the education of her father-in-law for the others. The maternal families appeared to rank a little higher, with 8 percent in social class I, 30 percent in social classes II and III, 40 percent in class IV, and 18 percent in class V. Data were unavailable for 4 percent.

3.3.4 Characteristics of the Wives

Half of the wives among the upper-income families were in the 30 to 45 year age bracket, two-thirds of the balance were above 45 years, and one-third below 30 years. Wives in the lower family income groups tended to be younger than in the upper part of the income range. But in 4 out of the 17 families having incomes above \$20,000, the wives were between 20 and 30 years old.

In the total sample, 30 percent of the wives had high school education or less, and 64 percent had had further formal education, including about 26 percent who were college graduates. Of this 26 percent, 6 percent had education beyond the bachelor's degree. Data in table 3.5 show that the level of educational achievement of the wife increased slightly with the level of family income.

Only one-third of the wives in the upper-income sample had engaged in market work in 1964. The proportion of wives employed varied conversely with level of family income. About one-tenth of the wives reported occupations in the professional, managerial, official category and 20 percent in the clerical and sales group. A substantial number of these wives were working in family businesses. The 45 percent of the wives in the \$6,400 to \$10,000 income group employed outside the home is probably biased upward by our eligibility criteria since we accepted two-person families with \$8,000 to \$10,000 before tax income but not larger families.

Table 3.4 Social status and social mobility, as measured by Hollingshead Two-Factor Index of Social Position, of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964

Hollingshead class, by generation	All	\$6,410	\$10,000	\$15,000	\$20,000
		to \$10,000	to \$15,000	to \$20,000	and over
percent					
A. Class I for present family	30	22	27	44	65
1. Husband's father					
Class I	13	5	9	15	37
Class II	8	0	12	15	0
Class III	14	17	17	0	18
Class IV	41	39	38	62	27
Class V	12	22	12	8	0
Don't know	12	17	12	0	18
2. Wife's father					
Class I	13	0	9	23	37
Class II	13	22	18	0	0
Class III	21	22	18	23	27
Class IV	37	39	32	46	36
Class V	15	17	23	0	0
Don't know	1	0	0	8	0
B. Class II for present family	27	22	30	33	23
1. Husband's father					
Class I	1	0	0	10	0
Class II	6	5	5	10	0
Class III	23	28	19	30	25
Class IV	44	39	45	50	50
Class V	7	0	13	0	0
Don't know	19	28	18	0	25
2. Wife's father					
Class I	7	6	3	20	25
Class II	9	0	10	20	0
Class III	24	50	18	10	0
Class IV	44	39	50	30	50
Class V	14	5	16	20	25
Don't know	2	0	3	0	0
C. Class III for present family	22	19	27	13	6
1. Husband's father					
Class I	4	0	3	25	0
Class II	3	13	0	0	0
Class III	18	12	23	0	0
Class IV	52	31	57	75	100
Class V	18	44	8	0	0
Don't know	5	0	9	0	0

Table 3.4 Social status and social mobility, as measured by Hollingshead Two-Factor Index of Social Position, of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964 - continued

Hollingshead class, by generation	All	\$6,410 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over
percent					
C. continued					
2. Wife's father					
Class I	7	6	9	0	0
Class II	7	13	6	0	0
Class III	27	31	26	0	100
Class IV	36	31	31	100	0
Class V	18	19	20	0	0
Don't know	5	0	8	0	0
D. Class IV for present family	16	28	13	10	0
1. Husband's father					
Class I	0	0	0	0	0
Class II	2	0	6	0	0
Class III	0	0	0	0	0
Class IV	60	65	63	0	0
Class V	14	13	12	33	0
Don't know	24	22	19	67	0
2. Wife's father					
Class I	5	0	12	0	0
Class II	5	9	0	0	0
Class III	10	4	19	0	0
Class IV	45	48	38	67	0
Class V	26	35	19	0	0
Don't know	9	4	12	33	0
E. Class V for present family	5	9	3	0	6
1. Husband's father					
Class I	0	0	0	0	0
Class II	0	0	0	0	0
Class III	0	0	0	0	0
Class IV	23	25	25	0	0
Class V	39	25	50	0	100
Don't know	38	50	25	0	0
2. Wife's father					
Class I	0	0	0	0	0
Class II	0	0	0	0	0
Class III	15	0	50	0	0
Class IV	46	50	50	0	0
Class V	31	38	0	0	100
Don't know	8	12	0	0	0

Table 3.5 Education and occupation of wife, stage in family life cycle, and family size of upper-income families in Minneapolis-St. Paul, by level of disposable family income in 1964

Item	All of sample	\$6,410 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over
Education of wife, by category					
8th grade or less	3	5	3	0	0
9 to 12 grades, total	27	35	24	23	18
9 to 11 grade	0	7	6	0	0
12th grade	21	28	18	23	18
13 to 16 years, total	64	57	66	70	70
12 + technical	16	17	17	17	0
1 to 3 years of college	28	24	28	37	41
Finished college	20	16	21	16	29
Over 16 years, total	6	3	7	7	12
One year more	2	0	2	4	0
Master's degree or 2 years	3	1	4	0	6
3 or more years	1	1	1	3	6
Other	<u>1</u>	1	0	0	0
Occupation of wife					
Professional, managerial, official	11	11	14	3	0
Clerical, sales	19	25	18	10	6
Skilled wage	<u>1</u>	0	1	0	0
Semi-skilled wage	3	5	2	0	0
Unskilled	1	4	1	0	0
Full-time homemaker	66	55	64	87	94
Family life cycle stage					
Head under 45	61	65	61	53	59
Youngest child under 6	39	41	39	37	29
Children 6 to 17	16	11	18	16	30
No children under 18	6	13	4	0	0
Head, 45 and over	39	35	39	47	41
Children under 18	20	13	25	24	18
No children under 18	19	22	14	23	23
Family size					
2.0 to 2.9 members	18	31	13	7	12
3.0 to 3.9 members	15	16	11	20	23
4.0 to 4.9 members	25	16	34	20	24
5.0 to 5.9 members	21	23	20	20	17
6.0 to 6.9 members	12	7	12	20	12
7.0 to 7.9 members	5	2	5	10	12
8.0 to 13.6 members	4	5	5	3	0

1 Less than 1 percent

3.3.5 Family Composition and Stage in Family Life Cycle

Three out of every four upper-income families in the Minneapolis-St. Paul sample included a husband, wife, and their own children. About two-thirds of the 14 percent of the sample cases having husband and wife only were in the lowest income group, again reflecting the eligibility criteria. Most of the people living in homes of upper-income families who were not members of the primary family were relatives.

A third of the families had two to four members. This size family was most frequent in the below \$10,000 category and in the above \$20,000 income group. Almost half of the families had four or five members and one-fifth included six or more people. The largest family in our sample reported an average of 13.5 members for the year of 1964.

Sociologists have various ways of categorizing families according to age composition. The data in table 3.5 and elsewhere in this bulletin are based on the system, developed by the Michigan Survey Research Center, which uses as criteria the age of the family head and the age of the youngest child. These data clearly indicate some inverse relationship between the age composition of families and the level of family income within the upper-income group.

Another system for categorizing families is in terms of the age of the oldest child such as that used by Duvall.³ The proportions of upper-income families in the several stages of the Duvall family life cycle are:

	<u>Percent</u>
Beginning families - - - - -	6
Families with very young and pre-school children - - -	14
Families with school age children through age 12 - - -	25
Families with teenagers - - - - -	26
Families in the launching period - - - - -	17
All children away from home - - - - -	10
Other - - - - -	2

3.3.6 Family Value Orientation

The schedule for the Survey of Interpersonal Values developed by Leonard V. Gordon was administered to both the husbands and wives as part of the study of upper-income families in Minneapolis-St. Paul.⁴ Many of the husbands refused to respond, and there appeared to be little relation between responses of husbands and wives. Therefore, we used only the wives' responses regarding the importance of 90 statements to their way of life. These were scored, using the standardized weights, in terms of six values: support, conformity, recognition, independence, benevolence, and leadership.

³ See chapter 1. Duvall, Evelyn Millis. Family Development, Second Edition. Philadelphia: J.B. Lippincott Company, 1962.

⁴ Published by Science Research Associates, Inc., Chicago, Illinois.

The wives' scores on the Gordon value measures were not closely related to variations in family income, social class, or even to stages in the family life cycle. There were slight tendencies for upper-income wives in relatively lower social classes to give more importance to support and conformity and less to independence and leadership. As data in table 3.6 show, there were no statistically significant patterns of relationship between the wives' scores on the Gordon value measures and stages in the family life cycle. But there is evidence of the tendencies toward greater emphasis on conformity and benevolence in the older stages and for younger homemakers without children to attach greater importance to independence and leadership.

Analysis of responses to the test of Consumer Value Orientation developed for this study revealed nine different aspects of Consumer Value Orientation: family orientation, innovation mindedness, economy mindedness, emphasis on availability, reputation striving, focus on taste, convenience orientation, function emphasis, and quality interest. None of the measures of consumer value orientation of wives varied significantly from one family income group to another, indicating the independence of Consumer Value Orientation from level of income. As the data in table 3.6 show, there was also little relationship between the wives' scores on the several measures of Consumer Value Orientation, and stage in the family life cycle, with the possible exception of the lower score on economy mindedness for younger wives without children at home.⁵

3.3.7 Dieting Activity

To study the degree to which food expenditures might be influenced by family members' being on diets, we asked several question about dieting. Out of 257 families in the sample, 58 reported one or more family members on a diet, with a higher proportion of the top two income brackets being on diets than was the case for the lower income groups. About one-half of the diets involved weight reduction. Out of 58 families with diets in operation, 15 were avoiding high-fat foods, 25 were concerned about high calorie intake, 12 were avoiding irritants, and the balance had special problems like food allergies.

3.4 Characteristics of Families at Different Levels of Per Capita Income

One of the objectives of the Minnesota study of upper-income families has been to examine economic characteristics which might explain significant proportions of observed variations in food expenditures. The most obvious alternative criterion for categorizing families is per person income, i. e., family income of each family divided by the average number of people in that family in the year. After applying this procedure to disposable money incomes to derive per person averages, the 257 families were grouped approximately into quartiles, as shown in table 3.7.

Even cursory review of this table reveals the impact of children and family size on per person income and expenditure patterns. The top two quartiles

⁵ The development of the Consumer Value Orientation measure is described in appendix C.

Table 3.6 Wives' average scores on Gordon interpersonal value measures and Consumer Value Orientation measures, upper-income Minneapolis-St. Paul families, by stage in family life cycle

Measure	All cases responding		Husband under 45			Husband 45 and over	
	Average score	Standard deviation	Youngest child under 6	Children 6 to 17	No children under 18 at home	Children under 18	No children under 18 at home
<u>Gordon measures</u> ¹							
1. Support	17.7	4.2	17.7	17.3	18.2	17.4	18.2
2. Conformity	17.0	5.8	14.6	17.6	17.2	18.6	19.6
3. Recognition	10.2	4.2	11.3	10.3	8.5	8.7	9.7
4. Independence	17.4	6.5	17.9	18.3	19.4	16.2	16.0
5. Benevolence	20.1	4.9	19.7	19.0	18.9	21.1	21.2
6. Leadership	8.2	5.8	9.2	7.5	9.8	7.7	6.0
<u>Consumer Value Orientation measures</u> ²							
1. Family	29.0	3.7	29.3	28.5	29.1	29.2	29.0
2. Innovation	2.9	4.0	2.3	2.2	2.2	3.2	4.7
3. Economy minded	15.5	3.2	15.9	14.9	13.6	16.1	15.4
4. Availability	20.7	2.8	21.3	20.6	20.2	20.0	20.5
5. Reputation striver	17.1	2.8	16.8	17.2	17.4	17.5	17.3
6. Taste	23.4	2.8	23.9	23.2	22.9	23.0	23.4
7. Convenience	30.1	3.8	30.8	29.8	29.2	30.0	29.9
8. Function	15.3	1.8	15.5	15.3	15.4	14.8	15.2
9. Quality	12.9	1.6	13.1	12.6	12.3	13.0	12.8

1 Developed using Survey of Interpersonal Values by Leonard V. Gordon, copyright by Science Research Associates, Inc., Chicago, Illinois.

2 Developed specially for this study of upper-income families.

Table 3.7 Selected social and economic characteristics of upper-income families in Minneapolis-St. Paul, for quartiles based on level of disposable income per person in 1964

Item	Unit	Total sample	\$800 to \$2,199	\$2,200 to \$2,899	\$2,900 to \$3,859	\$3,860 and above
<u>Sample data</u>						
Number of cases	number	257	66	64	63	64
Percent of total sample	percent	100	26	25	24	25
<u>Social characteristics</u>						
Average family size in 1964	number	4.4	6.2	4.6	3.8	2.8
Children under 18, percent having	percent	75	100	95	75	30
Children under 18, average per family	number	2.0	3.9	2.3	1.3	.6
With persons 65 and over	percent	5	0	3	6	15
Age of head in years	number	43	39	39	43	46
Education of husband by category	percent	5	5	3	8	6
8th grade or less	percent	19	21	11	16	27
9 to 12 years	percent	52	53	58	55	42
13 to 16 years	percent	24	21	28	21	25
Over 16 years	percent					
<u>Economic characteristics for 1964</u>						
Full-time earners	number	1.4	1.3	1.3	1.5	1.4
Home owners ¹ all year	percent	84	92	84	87	73
Per family						
Money income before taxes ²	dollars	14,770	12,060	13,900	14,620	18,570
Money income after taxes ²	dollars	12,420	10,400	11,720	12,470	15,130
Total expenditures, including gifts, contributions, insurance	dollars	11,120	9,650	11,070	11,080	12,730
Food expenditures	dollars	2,170	2,480	2,100	2,080	2,010
Nonfood expenditures	dollars	8,950	7,170	8,970	9,000	10,720
Net change in assets and liabilities	dollars	1,300	700	700	1,400	2,600
<u>Per person¹</u>						
Money income before taxes ²	dollars	3,360	1,940	3,020	3,850	6,630
Money income after taxes ²	dollars	2,820	1,680	2,550	3,280	5,400
Total expenditures	dollars	2,530	1,560	2,410	2,920	4,550
Food expenditures	dollars	490	400	460	550	720
Nonfood expenditures	dollars	2,040	1,160	1,950	2,370	3,830
Net change in assets and liabilities	dollars	300	100	100	400	900

1 Totals based on rounded data. Per person averages computed from family data using family size.

2 Does not include other money receipts.

contain all but one of the two-person families, apparently in the beginning and ending stages of the family life cycle. Comparison of variations in food expenditures with family income and with per person income indicates much closer relationship to per person income. Note also that nonfood expenditures per person in the top quartile averaged 3.3 times the average per person found in the lowest income quartile whereas food expenditures were only 1.8 times as large. But the differences among quartiles in net change in assets and liabilities, a rough measure of savings, are even greater.

3.5 Family Characteristics at Different Stages in the Family Life Cycle

The relationships of standard socioeconomic characteristics to stage in the family life cycle are illustrated by data in table 3.8. Family size and age composition are directly related to criteria used to categorize the families so variations in these measures are not surprising, nor is the variation in educational level of husbands among the stages. The younger men have significantly more education and so do their wives.

The lower average family income of families without children is influenced, again, by the inclusion of two-person families with before tax incomes below \$10,000. But the per person income and expenditure data given in the lower section of the table reveal the upper-income characteristics of these families. Not only do these adult families spend more for food per person, they also spend a lot more for nonfood goods and services and save more.

The economic contribution of the wife as a second earner in families with no children and with heads under 45 years of age is obviously significant. In this group, 7 out of the 16 husbands were employed in the occupational category of craftsmen and foremen, operatives, and service workers (44 percent). One-third of the husbands in the older families without children were in these occupations. In contrast, only one-seventh of the families with children were headed by men so employed.

Table 3.8 Selected social and economic characteristics of upper-income families in Minneapolis-St. Paul, by stage in family life cycle

Item	Unit	Total sample	Head under 45			Head, 45 and over	
			Youngest child under 6	Children 6 to 17	No children	Children under 18	No children under 18
<u>Sample data</u>							
Number of cases	number	257	100	42	16	52	47
Percent of total sample	percent	100	39	17	6	20	18
<u>Social characteristics</u>							
Average family size in 1964	number	4.4	5.2	4.6	2.0	4.8	2.7
Children under 18, percent having	percent	75	100	98	0	100	21
Children under 18, average per family	number	2.0	3.1	2.4	0	2.0	0.11
With persons 65 and over	percent	5	3	7	0	2	17
Age of head in years	number	43	35	40	29	50	57
Education of husband by category	percent	5	0	2	0	6	21
8th grade or less	percent	19	13	5	19	23	38
9 to 12 years	percent	52	51	76	69	50	30
13 to 16 years	percent	24	36	17	12	21	11
Over 16 years	percent						
<u>Economic characteristics for 1964²</u>							
Full-time earners	number	1.4	1.2	1.2	1.9	1.6	1.6
Home owners all year	percent	84	85	88	31	94	84
Per family income before taxes ³	dollars	14,770	14,630	16,380	11,170	15,010	14,580
Money income after taxes ³	dollars	12,420	12,270	13,670	9,320	12,750	12,280
Total expenditures, including gifts, contributions, insurance	dollars	11,120	11,030	12,040	7,110	12,010	10,980
Food expenditures	dollars	2,170	2,200	2,430	1,250	2,470	1,860
Nonfood expenditures	dollars	8,950	8,830	9,610	5,860	9,540	9,120
Net change in assets and liabilities	dollars	1,330	1,300	1,600	2,200	700	1,500
<u>Per person⁴</u>							
Money income before taxes ³	dollars	3,360	2,810	3,560	5,590	3,130	5,400
Money income after taxes ³	dollars	2,820	2,360	2,970	4,660	2,660	4,550
Total expenditures, including gifts, contributions, insurance	dollars	2,530	2,120	2,620	3,660	2,500	4,070
Food expenditures	dollars	490	420	530	630	510	690
Nonfood expenditures	other	2,040	1,700	2,090	2,930	1,990	3,380
Net change in assets and liabilities	other	300	200	400	1,100	200	600

1 Grandchildren for part of year.

2 Totals computed from rounded data.

3 Does not include other money receipts.

4 Computed from family data using family size.

Part II FOOD-NONFOOD COMPETITION FOR DOLLARS OF UPPER-INCOME URBAN CONSUMERS

Variations in the importance of food in family budgets are usually appraised in terms of the proportion of total expenditures allocated to food at different levels of income. This chapter begins with a review of historical changes in food-total expenditure relationships and of national and North Central urban patterns. It includes examination of factors affecting the food share of total expenditures, such as income, occupation, education, and family composition. The survey of consumption patterns among upper-income Minneapolis-St. Paul families provides data for exploration of food-nonfood expenditure relationships of families grouped according to several other types of characteristics.

Alternative approaches will be used to study the food-nonfood relationships. These will include tracing the variations in expenditures for food and selected nonfood categories with income, comparison of the percentages of total expenditures spent for food by different groups of families, statistical analysis of rates of food expenditures at home, away from home, and in total, and comparison of the characteristics of high and low food spenders.

Chapter 4. FOOD-NONFOOD COMPETITION IN PERSPECTIVE

To judge the significance of food-nonfood competition for the dollars of upper-income families, it is necessary to look both at historical trends in food-nonfood relationships and at variations in such relationships among urban families across the whole income range. Food's competition with other goods and services occurs in several stages. Two deductions occur, in effect, before consumers get their money to spend. Some of the returns to national output, described as Gross National Product, are withheld by corporations to build up business capital in the form of earnings not paid out. Through withholding of income taxes and corporate taxes, Federal and State governments siphon off dollars for public goods and services, including national defense. From table 4.1 we find that total personal consumption expenditures declined from 71 percent of Gross National Product in 1940 to 62 percent in 1967.

4.1 Historical Trends in Consumption Expenditures

The share of food expenditures in the Gross National Product has fallen from 17 percent in 1940 to 12 percent in 1967, and the food share of total consumption expenditures has declined from 23 percent in 1940 to 19 percent in 1967 (table 4.1). Concurrently, the share allocated to clothing and shoes fell from 10.5 percent in 1940 to 8.5 percent in 1967. Relative increases were recorded for expenditures for automobiles and other durable goods and for housing and medical care (figure 4.1).

Another way to appraise changes in consumer expenditures is to use the Department of Commerce's personal consumption expenditure data in constant 1958 dollars on a per capita basis, as in table 4.2. Such data show that per capita food expenditures (including farm home-produced food) went up about a fourth from 1940 to 1967, but expenditures for durable goods

Table 4.1 Personal consumption expenditures for major categories of goods and services in selected years, with comparisons¹

Category	1930		1940		1950		1960		1966		1967	
	Actual	Percent of total	Actual	Percent of total	Actual	Percent of total	Actual	Percent of total	Actual	Percent of total	Actual	Percent of total
Gross national product	90.4	pct.	99.7	pct.	284.8	pct.	503.7	pct.	747.6	pct.	789.7	pct.
Total expenditures	69.9	100.0	70.8	100.0	191.0	100.0	325.2	100.0	465.5	100.0	492.2	100.0
Durable goods	7.2	10.3	7.8	11.0	30.5	16.0	45.3	13.9	70.5	15.1	72.6	14.8
Automobiles and parts	2.2	3.1	2.7	3.8	13.1	6.9	20.1	6.2	30.4	6.5	30.4	6.2
Furniture and household equipment	3.9	5.6	3.9	5.5	14.1	7.4	18.9	5.8	29.8	6.4	31.4	6.4
Other	1.1	1.6	1.1	1.6	3.3	1.7	6.3	1.9	10.3	2.2	10.8	2.2
Nondurable goods	34.0	48.6	37.0	52.3	98.1	51.4	151.3	46.5	206.7	44.4	215.8	43.8
Food and alcoholic beverages	18.0	25.8	20.2	28.5	53.9	28.2	80.5	24.7	106.4	22.9	109.4	22.2
Food only	18.0	25.8	16.6	23.4	46.0	24.1	70.1	21.5	92.7	19.9	94.9	19.3
Clothing and shoes	8.0	11.4	7.4	10.5	19.6	10.3	27.3	8.4	39.8	8.5	42.1	8.5
Gasoline and oil	1.7	2.4	2.3	3.3	5.4	2.8	12.3	3.8	16.6	3.6	18.1	3.7
Other	6.3	9.0	7.1	10.0	19.2	10.1	31.2	9.6	43.8	9.4	46.2	9.4
Services	28.7	41.1	26.0	36.7	62.4	32.7	128.7	39.5	188.3	40.5	203.8	41.4
Rent or rental value of housing	11.0	15.7	9.4	13.3	21.3	11.2	46.3	14.2	67.3	14.5	70.9	14.4
Household operation	3.9	5.6	4.0	5.6	9.5	5.0	20.0	6.2	27.1	5.8	29.0	5.9
Transportation	2.2	3.2	2.1	3.0	6.2	3.2	10.8	3.3	13.6	2.9	15.0	3.0
Medical care, including insurance	2.1	3.0	2.2	3.1	6.6	3.5	14.7	4.5	24.2	5.2	27.1	5.5
Other	9.5	13.6	8.3	11.7	18.8	9.8	36.9	11.3	56.1	12.1	61.8	12.6
Recreation, included in above categories	4.0	5.7	3.8	5.4	11.1	5.8	18.3	5.6	28.6	6.1	30.6	6.2

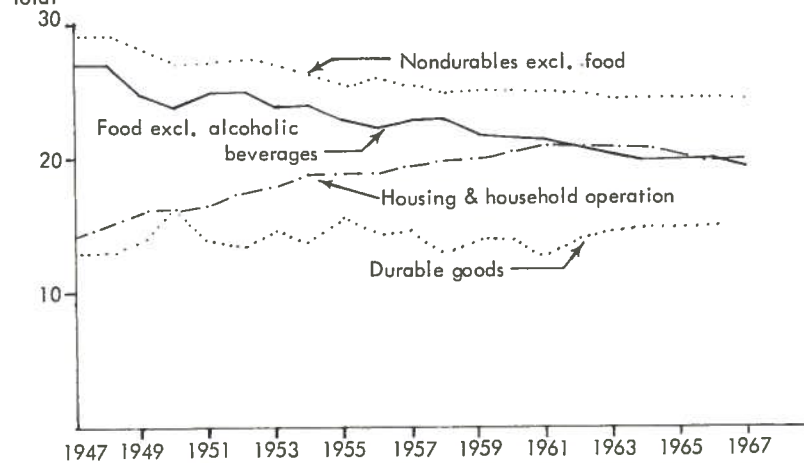
¹ Based on data in tables 2.3 and 2.5 of National Income and Product Accounts of the United States, the August 1966 Supplement to the Survey of Current Business and the July 1968 issue of the periodical.

Table 4.2 Personal consumption expenditures by type of product in 1958 dollars per capita¹

Item	1930	1940	1950	1960	1966	1967
Total expenditures	1,059	1,178	1,520	1,749	2,122	2,162
Durable goods	105	126	229	248	362	364
Automobiles and parts	38	51	105	111	157	153
Furniture and household equipment	54	62	100	103	154	159
Other	13	13	24	34	51	52
Nondurable goods	535	640	752	828	949	960
Food and beverages	291	369	417	447	482	485
Food	291	319	357	390	418	419
Clothing and shoes	133	135	144	147	183	183
Gasoline and oil	22	29	43	66	77	81
Other	89	107	148	168	207	211
Services	418	412	539	673	810	839
Rent or rental value of housing	113	117	177	248	308	315
Household operation	62	64	77	104	124	129
Transportation	34	34	56	56	58	61
Medical care, including insurance	37	38	59	76	94	97
Other	172	159	170	189	226	237
Recreation, major items included in above categories	25	36	45	51	78	82
Population - million	123.2	132.1	151.7	180.7	196.9	199.1

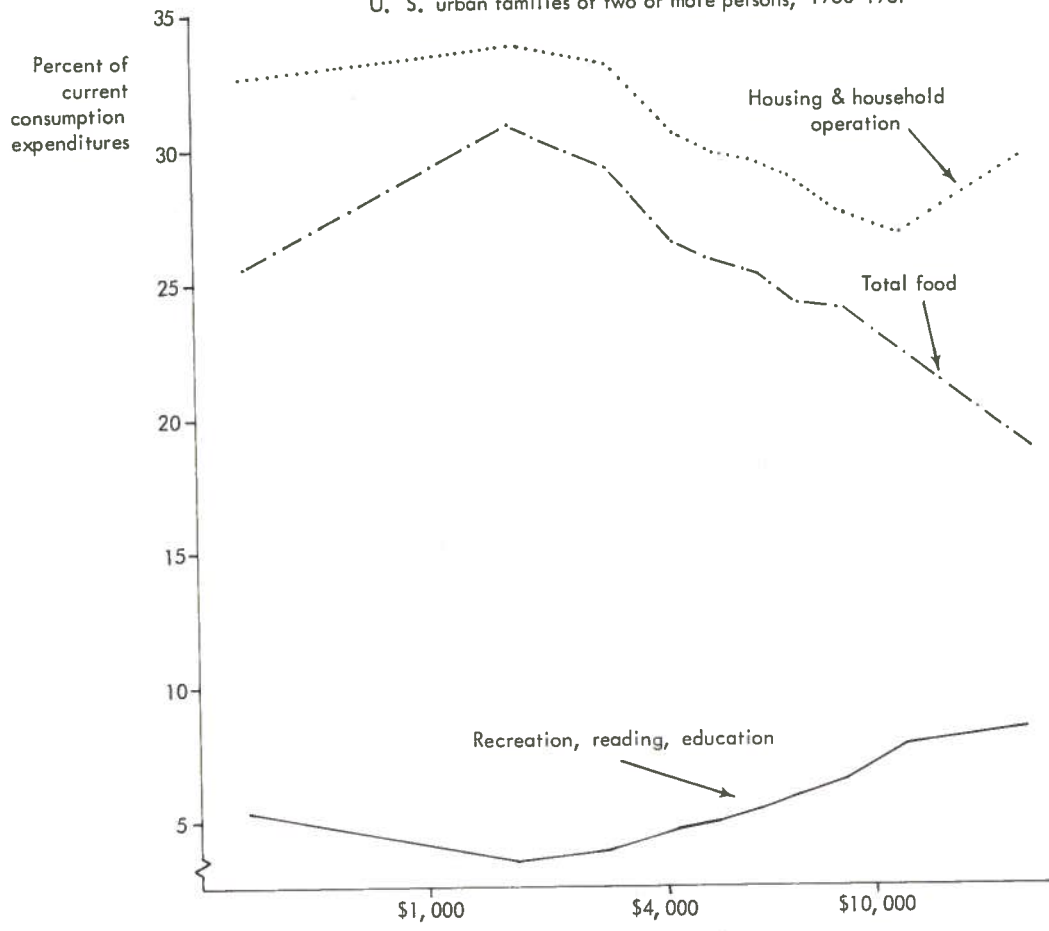
¹ Based on data in tables 2.6, 7.6, of National Income and Product Accounts of the United States, August 1966 Supplement to the Survey of Current Business and the July 1968 issue of that periodical.

Figure 4.1 Commodity shares in personal consumption expenditures, United States, 1947-67*



*Data from The National Income and Product Accounts of the United States, 1929-65, a supplement of the Survey of Current Business and the July 1968 issue of the Survey

Figure 4.2 Shares of selected commodity groups in expenditures by U. S. urban families of two or more persons, 1960-1961*



*Data from U. S. Bureau of Labor Statistics Survey of Consumer Expenditures and Incomes

tripled and average outlays for services doubled. The most significant factors in these changes were increased demand for personal automobiles, for better housing and household facilities, and for medical care.

Comparison of data from the U. S. surveys for 1941 and 1960-61, made by the Bureau of Statistics of the U. S. Department of Labor and by the U. S. Department of Agriculture, reveals that most of the increase in average real food expenditures came from the increase in real incomes and greater demand for food marketing services, related in part to increasing urbanization. In contrast, the demand for durable goods, housing, and medical care rose at most levels of real income.

4.2 Urban Food-Nonfood Ratios in 1960-61

Several different ways of examining the variations in upper income families' food and nonfood expenditures from the averages for all urban families in the United States and North Central Region are illustrated in table 4.3. Note that families with \$10,000 to \$15,000 incomes allocated about one-tenth less of their total expenditures to food than did all urban families. The food share dropped even more for the group of families with incomes of \$15,000 and over (figure 4.2). The relationships of urban North Central food expenditures to total expenditures were fractionally lower than U. S. ratios for all families and for the top income category. Expenditures both for food at home and away from home by the highest income group of families in the North Central Region ran lower than the all-U. S. top income category. The North Central group also spent somewhat less for nonfood goods and services but significantly more for education than the comparable U. S. group of families. Nonfood expenditures by the \$10,000 to \$15,000 income group of U. S. and North Central families were about four times as large as their food expenditures. Those by the \$15,000 and over income group were somewhat more than five times as large.

The relationships of food expenditures to occupation and education can be studied with data for North Central urban families in the \$10,000 to \$15,000 income group given in tables 4.4 and 4.5. From table 4.4 we find that family food expenditures were larger in the clerical and sales group. These families were larger so the per capita rate was no higher. However, they did spend a larger proportion of their food budget away from home. No other notable variation in food expenditures among the several categories of occupations was apparent. The relatively low nonfood expenditures by the self-employed category appear to be related to lower transportation expenditures. Either these people actually traveled less because of being closer to places of work or they were able to charge off their transportation expenditures to business expense. Note that the expenditures for transportation and recreation by skilled wage earners were relatively high and that the housing outlays by both skilled and semi-skilled workers were relatively low. To reach the upper income group, most of the wage earner families had to have two earners. This factor may account for their higher transportation costs.

Data in table 4.5 seem to indicate lower food expenditures by the most highly educated group of these North Central families. But this relationship is complicated by the higher proportion of children under 18 found among families in this category. The families with heads having had 13 to 16 years of

Table 4.3 United States and North Central urban families of two or more persons: Selected family expenditure data for all families and upper-income families for 1960-61¹

Item	Unit	U.S. urban average		North Central urban average			
		All income groups	\$10,000 to \$14,999	\$15,000 and over	All income groups	\$10,000 to \$14,999	\$15,000 and over
Estimated percent of all families	percent	100.0	9.1	2.8	100.0	8.7	2.4
Average family size	number	3.5	4.1	3.8	3.6	4.2	3.8
Family disposable income	dollars	6,600	11,811	22,266	6,670	11,813	22,167
As percentage of all-income average	percent	100.0	179.0	337.4	100.0	177.1	332.3
Expenditures for							
All goods and services ²	dollars	6,638	11,116	17,784	6,501	10,706	17,072
As proportion of income	percent	100.6	94.1	79.9	97.5	90.6	77.0
As percentage of all-income average	percent	100.0	167.5	267.9	100.0	164.7	262.6
Total food in year	dollars	1,451	2,186	2,808	1,399	2,099	2,620
As proportion of total expenditures	percent	21.9	19.7	15.8	21.5	19.6	15.3
Ratio to nonfood expenditures	percent	1:3.6	1:4.1	1:5.3	1:3.6	1:4.1	1:5.5
As percentage of all-income average	percent	100.9	150.7	193.5	100.0	150.0	187.3
For use at home	dollars	1,173	1,620	1,929	1,144	1,550	1,833
Away from home	dollars	278	566	879	255	549	787
As proportion of total food	percent	19.2	25.9	31.3	18.2	26.2	30.0
All nonfood goods and services	dollars	5,187	8,930	14,976	5,102	8,607	14,452
As percentage of all-income average	percent	100.0	172.2	288.7	100.0	168.7	283.3
Alcoholic beverages	dollars	95	186	270	97	173	204
Recreation	dollars	243	484	672	241	479	660
Reading, total	dollars	53	94	126	54	91	115
Education, total	dollars	70	200	428	67	167	583
Transportation, total nonbusiness	dollars	888	1,596	2,096	904	1,627	2,110
Women's winter coats, furs, jewelry ³ (for persons 16 years and older)	dollars	35	77	200	35	87	220
Men's suits and pants (for persons 16 years and older)	dollars	50	104	224	48	105	229

1 Data from BLS Survey of Consumer Expenditures 1960-61, Consumer Expenditures and Income, Detail of Expenditures and Income: Urban United States - Suppl. 3-Part A to BLS Report 237-38, July 1964 and Urban Places in the North Central Region, 1960-61, - Suppl. 3-Part A to BLS Report 237-35, July 1964. (Table 29C.)

2 Includes current consumption, personal insurance, gifts, and contributions.

Table 4.4 North Central urban families and single consumers with \$10,000 to \$15,000 disposable income: Selected family expenditure data for 1960-61, by occupation of family head

Item	Unit	All families and single consumers	Self-employed	Salaried professionals, officials	Clerical and sales	Wage earners	
						Skilled	Semi-skilled
Number of families in sample	number	202	21	83	25	32	21
Average							
Family size	number	4.1	4.1	4.0	4.8	4.2	3.8
Money income after taxes	dollars	11,696	11,958	11,789	11,761	11,681	11,468
Expenditures for							
All goods and services, insurance, gifts, and contributions	dollars	10,682	10,077	10,968	11,010	10,863	10,063
Total food in year	dollars	2,081	2,003	2,079	2,343	2,205	1,963
Per person	dollars	508	489	520	488	525	517
Ratio of food to nonfood expenditures	dollars	1:4.1	1:4.0	1:4.3	1:3.7	1:3.9	1:4.1
For use at home	dollars	1,537	1,434	1,532	1,606	1,661	1,586
Away from home	dollars	544	569	547	737	544	377
All nonfood goods and services	dollars	8,601	8,074	8,889	8,667	8,658	8,100
Alcoholic beverages	dollars	171	141	175	281	168	103
Housing, total ¹	dollars	2,526	2,494	2,630	2,843	2,236	2,170
Recreation	dollars	473	414	495	430	633	473
Reading	dollars	91	98	92	90	105	83
Education	dollars	165	155	174	161	171	156
Transportation	dollars	1,635	1,269	1,668	1,365	1,937	1,696
Clothing and services	dollars	1,170	1,397	1,068	1,139	1,244	1,351
Full-time earners	number	1.5	1.3	1.4	1.4	1.8	1.8
With children under 18	percent	62	74	69	63	57	50
Age of head	years	47	47	44	45	48	48
Education of head	years	13	13	15	13	11	10

¹ From tables 17a-e of U.S. Bureau of Labor Statistics Consumer Expenditures and Income: Cross-Classification of Family Characteristics, Urban Places in the North Central Region, 1960-61. BLS Report 237-35, Suppl. 2-Part A, July 1964.

² Including shelter, fuel, utilities, operations, house furnishings and equipment.

Table 4.5 North Central urban families and single consumers with \$10,000 to \$15,000 disposable income: Selected family expenditure data for 1960-61, by education of family head¹

Item	Unit	All families and single consumers	Years of education of family head			
			8 years or less	9 to 12 years	13 to 16 years	Over 16 years
Number of families in sample	number	202	30	72	71	27
Average						
Family size	number	4.1	4.2	4.1	4.0	4.3
Money income after taxes	dollars	11,696	11,095	11,753	11,715	12,144
Expenditures for						
All goods and services, insurance, gifts, and contributions	dollars	10,682	10,011	10,263	11,323	10,857
Total food in year	dollars	2,081	2,222	2,046	2,085	2,014
Per person	dollars	508	529	499	521	468
Ratio of food to nonfood expenditures	dollars	1:4.1	1:3.5	1:4.0	1:4.4	1:4.4
For use at home	dollars	1,537	1,738	1,515	1,459	1,587
Away from home	dollars	544	484	531	626	427
All nonfood goods and services	dollars	8,601	7,789	8,217	9,238	8,843
Alcoholic beverages	dollars	171	178	145	170	232
Housing, total ²	dollars	2,526	2,180	2,425	2,785	2,497
Recreation	dollars	473	537	450	458	502
Reading	dollars	91	89	80	94	117
Education	dollars	165	92	163	184	196
Transportation	dollars	1,635	1,501	1,630	1,804	1,359
Clothing and services	dollars	1,170	1,077	1,150	1,247	1,124
Full-time earners	number	1.5	1.7	1.6	1.4	1.2
With children under 18	percent	62	47	60	65	77
Age of head	years	47	54	48	44	44

1 From tables 17a-e of U.S. Bureau of Labor Statistics Consumer Expenditures and Income: Cross-Classification of Family Characteristics, Urban Places in the North Central Region, 1960-61. BLS Report 237-35, Suppl. 2-Part A, July 1964.

2 Including shelter, fuel, utilities, operations, house furnishings and equipment.

schooling spent about as much for food per capita as did the less educated, but spent substantially more for housing and transportation.

These data leave many unanswered questions about the relationships of food-nonfood expenditures to socioeconomic characteristics. In search of answers, we analyze information supplied by Minneapolis-St. Paul families. The first step is to check on expenditures by families in the metropolitan area at all income levels obtained in BLS surveys. Then we will examine the survey data for upper-income families in detail.

4.3 BLS Data on Expenditures by Minneapolis-St. Paul Families in 1950 and 1963

Food expenditures by Minneapolis-St. Paul families averaged \$1,305 per family in 1963, 22 percent above the 1950 average of \$1,070¹ (table 4.6). However, the change in food prices almost equalled this change in food expenditures. So average food expenditures in real terms (measured in dollars of equal purchasing power) were virtually the same.

In contrast, average family income in the Twin Cities after payment of income taxes rose about 30 percent in real terms. The average in current dollars increased by two-thirds, from \$4,108 in 1950 to \$6,858 in 1963. Comparison of the stability in food expenditures in real terms with this substantial increase in real income indicates that the average rate of food buying was not affected by increased consumer purchasing power.

The Twin Cities' experience over a 13-year period generally was comparable with the U. S. urban experience from 1950 to 1960-61. Moreover, the quantity index of per capita food consumption for the whole U. S. population was practically the same in 1960-61 as in 1950. This fact provides another check on the Twin Cities experience.

The proportion of food outlays in total expenditures by Minneapolis-St. Paul families for all goods and services (including contributions, gifts, and personal insurance) fell from 25 percent in 1950 to 19 percent in 1963. The comparable U. S. urban shift from 1950 to 1960-61 was a decline from 27 to 22 percent.

Additional information on expenditures for food in Minneapolis-St. Paul and comparisons with total expenditures are given in table 4.6. To make a rough allowance for the 27-percent increase in the all-U. S. Consumer Price Index, higher dollar income groups were combined for 1963 than for 1950. Higher prices reduced the real value of dollar incomes.

The proportion of total food expenditures allocated by Twin Cities families and single consumers to meals and snacks away from home also declined. The average share was 23 percent in 1950 but only 19 percent in 1963. A decrease occurred in all income groups. In 1950, average expenditures by Minneapolis-St. Paul families and single consumers for food at home were relatively low compared with averages for other metropolitan areas nearby. Perhaps these data were influenced by a disproportionately large number of single consumers in the sample.

¹ Based on surveys by the U. S. Bureau of Labor Statistics (BLS).

Table 4.6 Average disposable money income, family size, total expenditures, and food expenditures for all Minneapolis-St. Paul families and single consumers, by income in 1950 and 1963¹

Year and income group ²	Percent of sample	Disposable money income	Family size	Total expenditures for contributions, personal insurance, current consumption	Food expenditures			Total food expenditures as percent of	
					Total	For home use	Away from home	Income	Total expenditures
	percent	dollars	number		dollars			percent	percent
1950									
All families and single consumers	100	4,108	2.9	4,259	1,070	821	249	26	25
Below \$3,000 income	35	2,026	1.7	2,248	619	446	173	31	28
\$3,000 to 6,000 income	53	4,341	3.4	4,577	1,156	938	218	27	25
\$6,000 or more income	12	8,896	3.9	8,492	1,961	1,368	593	22	23
1963									
All families and single consumers	100	6,858	3.3	6,820	1,305	1,063	243	19	19
Below \$4,000 income	23	2,517	1.6	3,069	625	587	38	25	20
\$4,000 to 7,500 income	41	5,912	3.4	6,484	1,172	1,004	168	20	18
\$7,500 or more income	36	10,748	4.2	9,636	1,884	1,438	446	18	20

1 BLS data for 1950 published in Study of Consumer Expenditures, Incomes, and Savings, Vols. I, II, and III, Univ. of Pa. Wharton School of Finance and Commerce. BLS data for 1963 reported in Consumer Expenditures and Income, Minneapolis-St. Paul, Minnesota, 1963, BLS Report No. 237-81, July 1965.

2 Higher class limits are used for 1963 data to make a rough allowance for the increase in the general price level.

BLS data for all U.S. urban families indicate a slight increase in eating out from 1950 to 1960-61. But estimates of the U. S. Department of Commerce for U. S. consumption expenditures show a fractional decline in the share allocated to purchased meals and beverages from 1950 to 1963 -- 22 to 21 percent.²

The ratio of food expenditures to nonfood expenditures by Minneapolis-St. Paul families declined from 1:3.0 in 1950 to 1:4.2 in 1963. There was much less variation with income in this ratio in 1963 than in 1950.

The University of Minnesota Survey of Upper-Income Families in Minneapolis-St. Paul, made in 1965 (identified as UPIF), was designed to overlap key sections of the Bureau of Labor Statistics survey of Minneapolis-St. Paul families in 1964. The BLS survey covered a sample of 206 families and single consumers at all income levels in the Twin Cities area.

Comparison of the UPIF data for those families in the \$10,000 to \$15,000 income group reporting full financial information with the limited BLS data now available reveals remarkable consistency in key items (table 4.7). These items include family size, money income after taxes, change in net worth, total expenditures for goods and services including personal insurance and contributions, and total food expenditures. To keep down costs and to obtain supplementary information regarding families' socioeconomic characteristics and leisure-time activities, the UPIF survey covered only selected nonfood categories.

4.4 Earlier Statistical Analyses

Statistical analyses of food-nonfood competition have usually been made in terms of income-food relationships. Many statistical studies of such relationships have been reported, as for example those for a number of quantity and value measures of food.³ Least squares regressions based on cross section data for selected measures of food and income are summarized in table 4.4 of the same source. All of these utilized double logarithmic models. These analyses did not sort out a variety of socioeconomic factors which occur together with changes in income, except for the usual treatment of population and price factors.

Most statistical analyses of the factors related to food expenditures have been concerned with the effects of income, price, and family size on variations in food expenditures. No major analysis has apparently dealt directly with food-nonfood competition. Crockett's analysis of the 1950 urban food expenditure data⁴ explored a variety of socioeconomic factors potentially affecting

² Survey of Current Business, November 1965.

³ See tables 3.2 and 6.1. Burk, Marguerite C. Trends and Patterns in U. S. Food Consumption, USDA, ERS, Agri. Handbook No. 214, June 1961.

⁴ Crockett, Jean, "Demand Relationships for Food," pages 293-310, Volume I, of Friend, Irwin and Jones, Robert (Editors) Consumption and Savings, Proceedings of The Conference on Study of Consumer Expenditures, Incomes, and Savings, Philadelphia, Pennsylvania: University of Pennsylvania, 1960.

Table 4.7. Key data for \$10,000 to \$15,000 income group from U.S. Bureau of Labor Statistics and University of Minnesota surveys¹

Item	Unit	University of Minnesota 1964 data	
		BLS 1963 data	All families in group
Families in sample	number	29	127
Family size ²	number	4.5	4.6
Total food expenditures	dollars	2,027	2,140
Disposable money income	dollars	11,668	11,950
Change in net worth	dollars	1,302	1,163
Total expenditures ³	dollars	10,669	10,787

¹ See table 4.6 for sources and definitions.

² In full-year equivalents.

³ Including personal insurance, gifts and contributions, and current consumption. University of Minnesota data derived from disposable income and change in net worth.

food expenditures. Using grouped data, frequency weightings, and linear relationships in logarithms, she estimated the elasticity with family size to be .5, but her formulation led to including the factor of age composition of the household with family size. Crockett's analysis of the effect of the age of the head on food expenditures was complicated by the same family composition phenomenon, indicated by the fact that family-size elasticity rose steadily with age of the head of the family. She concluded that the relationship of age to the level of food expenditures was parabolic, not linear. Her analysis of food expenditures by families with self-employed heads indicated a lower income elasticity and somewhat higher family size elasticity than she found for other occupational groups.

Houthakker and Taylor have reported rather sophisticated analyses of the relationships between several categories of food expenditures and total consumption expenditures, using historical data of the Department of Commerce.⁵ These analysts related per capita expenditures for purchased food and for meals and snacks (as alternative dependent variables) to (a) such expenditures in the preceding year, (b) changes in total consumption expenditures per capita from the preceding year, and (c) the level of the preceding year's total consumption expenditures. For meals and snacks their analysis also incorporated the change in price and the level of the price in the preceding year. Based on the Department of Commerce's series of expenditure data, that had not yet been revised for the benchmarks obtained from the 1958 Census of Manufactures, these authors' calculations yielded income-expenditure elasticities they described as short run and long run. They reported the following shortrun elasticities: for purchased food, .56; for purchased meals, 1.52; for food furnished employees and inmates, 1.16; and for farm home production, .40. The longrun expenditure elasticity for purchased food was .69; for purchased meals, .78; and for food furnished employees and inmates, .92. Their projections with these elasticities indicate that they estimated that total food expenditures per capita in 1970 in constant dollars would average 17 percent higher than in 1961. This seems high because the actual level of per capita expenditures in 1967 in constant dollars was only 9 percent above the 1961 rate.

4.5 Results of Multivariate Analyses of Historical Data

Table 4.8 summarizes the results of linear regressions using four food measures derived from the Department of Commerce's revised time series of food expenditures and the most important socioeconomic factors for which measures are available.⁶ The independent factors selected on the basis of

⁵ See pages 61 and 62. Houthakker, H. S. and Taylor, Lester D. Consumer Demand in the United States, 1929-1970. Cambridge, Massachusetts: Harvard University Press, 1966.

⁶ Calculation of the series for food away from home from published "on-premise sales of food and beverages" involved the assumption that one-fourth of such sales were alcoholic beverages. Accordingly, the residual series for alcoholic beverages was treated as off-premise sales and subtracted from total food and beverage expenditures for off-premise consumption to obtain the estimates for off-premise food only.

Table 4.8 Summary of least squares regressions for alternative measures of food expenditures per capita and selected socioeconomic factors, 1929 to 1941 and 1947 to 1966

Variable and regression measure	1929 to 1941				1947 to 1966								
	Actual food expenditures in 1958 dollars and in logarithms		Ratio to total consumption expenditures (not logarithms)		Actual food expenditures in 1958 dollars and in logarithms		Ratio to total consumption expenditures (not logarithms)						
	Plus home produced food ²	Total expenditures only ²	Purchases for home use ³	Away from home ⁴	Food expenditures plus home produced ⁵	Food expenditures only ⁶	Plus home produced food ²	Total expenditures only ²	Purchases for home use ³	Away from home ⁴	Food expenditures plus home produced ⁵	Food expenditures only ⁶	
Arithmetic mean	2.4593	2.4243	2.3110	1.6438	.2425	.2520	2.5813	2.5703	2.4629	1.8249	.2222	.2297	.2222
R ²	.97	.97	.91	.92	.96	.97	.97	.98	.98	.92	.98	.99	.98
Standard error of estimate in logs	.0084	.0098	.0143	.0312	.0019	.0021	.0040	.0038	.0053	.0072	.0024	.0024	.0019
Independent variables													
1. Disposable income per capita in preceding year, 1958 dollars in logs (significance level)													
a. Arithmetic regression coefficient	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(1)	(1)	(1)	(1)	(5)	(1)	(1)
b. Beta, standardized coefficient	-.5967	-.6128	-.5340	1.0439	1.1367	-.0318	.6869	1.46	1.11	3.09	-.1273	-.1389	-.54
c. Partial correlation coefficient	.95	.85	.86	.72	1.08	-.21	1.71	.91	.87	.91	-.53	-.65	-.53
d. Income elasticity	.57	.52	.35	.32	.58	-.16	.90	.71	.78	1.38	-.23	-.27	-.27
2. Percent change in income from preceding year to current year													
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(1)	(10)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
b. Beta	-.17	-.16	-.10	-.31	-.71	-.34	-.24	-.20	-.18	-.47	-.70	-.12	-.63
c. Partial	-.39	-.35	-.14	-.43	-.84	-.64	-.77	-.78	-.75	-.80	-.65	-.65	-.65
3. Percent of population under 15 years													
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(2)	(10)	(5)	(n.s.)	(n.s.)	(n.s.)	(1)	(1)
b. Beta	-.27	-.25	-.15	-.21	-.25	-.76	.41	.35	.18	.05	.16	.16	.59
c. Partial	.42	.39	-.15	-.22	-.36	.79	.48	.51	.31	.04	.37	.74	.74
4. Percent of population on farms													
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)	(1)	(1)	(5)	(1)	(2)	(1)	(1)
b. Beta	-.40	-.46	-.08	-.56	1.19	-.95	1.22	.88	.60	2.66	.52	.89	.89
c. Partial	-.27	-.30	-.03	-.25	.60	-.57	.68	.65	.51	.76	.58	.67	.67
5. Ratio of retail food price index to CPI													
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(2)	(2)	(5)	(2)	(1)	(1)	(1)	(1)	(n.s.)
b. Beta	-.27	-.19	-.00	-.28	-.71	-.63	-.24	-.21	-.004	-.0006	.0003	.35	.04
c. Partial	-.47	-.36	-.00	-.33	.79	-.79	-.57	-.61	-.80	-.80	.87	.87	.13

1 U.S. Department of Commerce data excluding alcoholic beverages.

2 Includes food furnished.

3 Off-premises sales, excluding alcoholic beverages. (See footnote 40.)

4 On-premises sales, excluding alcoholic beverages estimated at one-fourth of total.

5 Percentage series derived from current dollars.

6 Percentage series derived from deflated dollars.

earlier research include the preceding year's disposable income per capita in constant 1958 dollars, the percentage change in such income from the preceding year to the current year, the percentage of the population under 15 years (which tends to behave like a trend variable), the proportion of the population living on farms, and ratios of alternative retail food price indexes to the Consumer Price Index (CPI). A relatively simple model was used, incorporating 1958 dollar data in logarithms. Separate regressions were run for 1929 to 1941 and 1947 to 1966.

The prewar analyses are unsatisfactory, as indicated by the lack of statistical significance of the factors at the 10 percent level. The arithmetic coefficients of current income are income elasticities of food expenditures, based on double logarithmic relationships. The postwar income elasticity of .7 for all food (including home produced) is generally in line with results of comparable analyses made by other researchers. Most of these postwar income coefficients are statistically significant. The percent-change-in-income variable demonstrates the tempering effect of habit on expenditure adjustments to current income, offsetting around 15 percent of its effect. The frequent nonsignificance and positive sign of the coefficients for percentage of population under 15 in the regressions with actual food expenditures as dependent variables apparently result from high intercorrelation. (The Durbin-Watson test was inconclusive.) Based on these data and analyses of cross section data, it appears that use of an age break at 10 years would have provided a better variable.

The positive sign for the farm population variable in the postwar regressions indicates the major contribution of the urbanization shift to higher dollar outlays for food, about one-third of the total positive force. The relationships between the beta coefficients for this variable and those for current income are generally consistent with results of the analysis of factors contributing to changes in expenditures utilizing a reweighting procedure, reported earlier in section 2.1.4.

The high income elasticity of expenditures for food away from home (1.4) conforms with economic expectations, but about a third of the income effect was offset by the effect of rapidly rising prices for commercially served meals and snacks.

The well-known depressing effect of higher income on the proportion of total expenditures allocated to food is demonstrated by the negative income elasticity derived from the regressions for the ratios of food to total expenditures, -.3 for the measure excluding home-produced food. But the decline in the relation of retail food prices to the Consumer Price Index tempered the effect of rising income on the share of the value of food consumed in total expenditures, as measured by the Department of Commerce series. When farm home production is excluded from the food series, the price effect is negligible, but the effect of the off-farm movement of the population helped greatly in resisting the relative decline in the food share. One wonders if these highly aggregated data are really adequate to reflect the fact that many new urban dwellers must spend a high proportion of their low incomes for food.

4.6 Analyses of 1955 and 1965 USDA Cross Section Data

Results of regressions for three categories of food expenditures in spring 1955 and 1965 by all U.S. housekeeping households and urban households are reported in table 4.9, on both family and per person bases. The total food expenditure measure is exclusive of home-produced food and expenditures for alcoholic beverages at home. Expenditures for food away from home include unidentified outlays for alcoholic beverages, but study of other sets of survey data indicated that such outlays appear to be offset by underreporting of away-from-home food. To include one-person households in the averages for each income group, the 1955 data were adjusted on the basis of 1960-61 BLS survey relationships. One component of the family-size measure is based on number of family members, not household size in 21-meals-at-home equivalents, because away-from-home expenditures were being studied concurrently. The average number of family members was multiplied by the percentage of total household meals at home that were eaten by family members 10 years and older to yield a measure combining family size and composition. For the analyses of per person expenditures, this variable compensates for the over-adjustment made in dividing total expenditures per family by the total number of family members, including very young children.

The linear regression model incorporated quantitative measures for expenditures and income in logarithmic form. (The income group averages for each variable were weighted by the proportion of the sample population in that group, either households or family members.) This model represents considerable technical improvement over the model used in table 4.4 of Trends and Patterns in U. S. Food Consumption.⁷ The coefficients of multiple determination (R^2) are high, as is usual for such grouped data, and the variables are generally significant.

4.6.1 Analysis for All-U. S. Households

The income elasticity of all food expenditures per family for all urbanization categories combined was about .3 in both 1955 and 1965. But the per person income elasticity dropped from .40 in 1955 to .16 in 1965. The family size-composition factor was more important than income, and its relative importance increased slightly from 1955 to 1965. The negative effect on family food expenditures of the percentage of the population of each income group living on farms was much greater in 1965 than 10 years earlier.

Variation in average family expenditures for food at home was slightly less responsive to variation in family income in 1965 (.2 income elasticity) than in 1955 (.3). On the per person basis, income elasticity declined from .4 to .04 between the two survey periods. The family size-composition factor was even more important relative to income in 1965 than in 1955. The percentage of family members living on farms had a significant negative effect on family expenditure for food at home in 1965 but not in 1955. However, it was not a statistically significant factor in per person expenditures in either year.

⁷ Burk, Marguerite C. Trends and Patterns in U. S. Food Consumption. USDA, ERS, Agri. Handbook 214, June 1961.

Table 4.9. Results of linear regressions for food expenditures per family and per person in a week and related socioeconomic factors -- all U.S. and urban U.S. families and single individuals, spring 1955 and 1965¹

Urbanization category, year, independent variables, and regression measures	Expenditures per family, 1965 dollars			Expenditures per person, 1965 dollars		
	All food	Food at home	Food away	All food	Food at home	Food away
I. All urbanization categories						
A. Spring 1955						
Arithmetic mean	2.4541	2.3589	1.7254	1.9349	1.8390	1.2060
R ²	.99	.98	.99	.98	.98	.99
Standard error of estimate	.0372	.0422	.0383	.0428	.0456	.0410
Independent variables						
1. Disposable income in logs (significance level) (per family for family, other per person)		(10)	(1)	(2)	(5)	(1)
a. Arithmetic regression coefficient and income elasticity	.3159	.2679	.4719	.4036	.3817	.4882
b. Beta, standardized coefficient	.52	.45	.58	.71	.73	.60
c. Partial correlation coefficient	.81	.72	.90	.83	.80	.89
2. Percent of family members on farms	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)	(10)
a. Arithmetic	-.0001	.0001	-.0008	.0003	.0007	-.0013
b. Beta	-.03	.03	-.29	.07	.18	-.22
c. Partial	-.09	.08	-.75	.22	.44	-.71
3. Average number 10 years of age and over per family	(1)	(1)	(1)	(5)	(5)	(5)
a. Arithmetic	.5013	.5537	.4041	.3550	.3679	.4000
b. Beta	.62	.70	.37	.39	.43	.30
c. Partial	.92	.92	.88	.78	.77	.82

¹ Based on U.S. Department of Agriculture Household Food Consumption Surveys. 1955 data adjusted to include one-person households, on basis of relationships derived from 1960-61 surveys of consumer expenditures by BLS and USDA. Means for 1965 income groups based on 1960-61 survey relationships. Family size data for 1965 estimated from appendix of Survey Report No. 1 and 1960-61 data.

Table 4.9 Results of linear regressions for food expenditures per family and per person in a week and related socioeconomic factors - all U.S. and urban U.S. families and single individuals, spring 1955 and 1965 - (continued)

Urbanization category, year, independent variables, and regression measures	Expenditures per family, 1965 dollars			Expenditures per person, 1965 dollars		
	All food	Food at home	Food away	All food	Food at home	Food away
I. All urbanization categories						
B. Spring 1965						
Arithmetic mean	2.3697	2.2818	1.5993	1.8216	1.7338	1.0509
R ²	.99	.99	.97	.99	.99	.97
Standard error of estimate	.0257	.0220	.0692	.0305	.0282	.0775
Independent variables						
1. Disposable income in logs (significance level) (per family for family, other per person)						
a. Arithmetic regression coefficient and income elasticity	.2767	.1890	.5839	.1555	.0378	.5650
b. Beta, standardized coefficient	.46	.33	.69	.26	.07	.67
c. Partial correlation coefficient	.93	.90	.89	.71	.26	.82
2. Percent of family members on farms						
a. Arithmetic	(5)	(5)	(5)	(n.s.)	(n.s.)	(10)
b. Beta	-.0010	-.0009	-.0027	-.0006	-.0004	-.0024
c. Partial	-.15	-.13	-.27	-.08	-.05	-.21
3. Average number 10 years of age and over per family						
a. Arithmetic	(1)	(1)	(5)	(1)	(1)	(10)
b. Beta	.8103	.9450	.4911	.8212	.9594	.5047
c. Partial	.63	.76	.27	.79	.95	.34
	.97	.98	.64	.95	.97	.58

1 Based on U.S. Department of Agriculture Household Food Consumption Surveys. 1955 data adjusted to include one-person households, on basis of relationships derived from 1960-61 surveys of consumer expenditures by BLS and USDA. Means for 1965 income groups based on 1960-61 survey relationships. Family size data for 1965 estimated from appendix of Survey Report No. 1 and 1960-61 data.

Table 4.9 Results of linear regressions for food expenditures per family and per person in a week and related socioeconomic factors - all U.S. and urban U.S. families and single individuals, spring 1955 and 1965¹ - (continued)

Urbanization category, year, independent variables, and regression measures	Expenditures per family, 1965 dollars in logarithms			Expenditures per person, 1965 dollars in logarithms		
	All food	Food at home	Food away	All food	Food at home	Food away
II. Urban households						
A. Spring 1955						
Arithmetic mean	2.4677	2.3625	1.7875	1.9552	1.8501	1.2750
R ²	.98	.98	.99	.99	.98	.99
Standard error of estimate	.0526	.0594	.0395	.0524	.0608	.0346
Independent variables						
1. Disposable income in logs (significance level) (per family for family, other per person)	(1)	(5)	(1)	(1)	(5)	(1)
a. Arithmetic regression coefficient and income elasticity	.3117	.2110	.6499	.3861	.2791	.7249
b. Beta, standardized coefficient	.45	.32	.82	.58	.44	.91
c. Partial correlation coefficient	.88	.74	.98	.88	.76	.98
2. Average number 10 years of age and over per family	(1)	(1)	(5)	(2)	(2)	(n.s.)
a. Arithmetic	.4375	.5233	.1746	.3032	.3322	.0785
b. Beta	.58	.71	.20	.43	.57	.09
c. Partial	.92	.93	.77	.81	.83	.48

¹ Based on U.S. Department of Agriculture Household Food Consumption Surveys. 1955 data adjusted to include one-person households, on basis of relationships derived from 1960-61 surveys of consumer expenditures by BLS and USDA. Means for 1965 income groups based on 1960-61 survey relationships. Family size data for 1965 estimated from appendix of Survey Report No. 1 and 1960-61 data.

Table 4.9 Results of linear regressions for food expenditures per family and per person in a week and related socioeconomic factors - all U.S. and urban U.S. families and single individuals, spring 1955 and 1965¹ - (continued)

Urbanization category, year, independent variables, and regression measures	Expenditures per family, 1965 dollars in logarithms		Expenditures per person, 1965 dollars in logarithms	
	All food	Food at home	All food	Food away
II. Urban households				
B. Spring 1965				
Arithmetic mean	2.3754	2.2840	1.8415	1.7500
R ²	.99	.99	.99	.99
Standard error of estimate	.0323	.0244	.0298	.0256
Independent variables				
1. Disposable income in logs (significance level) (per family for family, other per person)	(1)	(1)	(1)	(1)
a. Arithmetic regression coefficient and income elasticity	.3326	.2079	.1530	-.0149
b. Beta, standardized coefficient	.53	.35	.24	-.03
c. Partial correlation coefficient	.96	.94	.74	.13
2. Average number 10 years of age and over per family	(1)	(1)	(1)	(n.s.)
a. Arithmetic	.6709	.8506	.7422	.9325
b. Beta	.52	.70	.77	1.02
c. Partial	.95	.98	.96	.98

¹ Based on U.S. Department of Agriculture Household Food Consumption Surveys. 1955 data adjusted to include one-person households, on basis of relationships derived from 1960-61 surveys of consumer expenditures by BLS and USDA. Means for 1965 income groups based on 1960-61 survey relationships. Family size data for 1965 estimated from appendix of Survey Report No. 1 and 1960-61 data.

All three independent factors had significant effects on per family and per person expenditures for food away from home in both years, and their relationships did not change very much. On the family basis, income was a much stronger positive factor than the family size-composition variable, especially in 1965. Income elasticity of these expenditures was about .6 in spring 1965, both for family and per person expenditures. The negative effect of the proportion of the population living on farms was about half the positive effect of income for family expenditures, but only about a third of the effect of income on per person outlays for meals and snacks away from home.

4.6.2 Analyses for U. S. Urban Households

The effects of income and family size-composition on total family food expenditures by urban families were practically the same as for all U. S. families in 1955. In 1965 the family size-composition factor was a little less important for the urban category than for family expenditures in all urbanizations combined. The income elasticity of per person food expenditures was only .15 in 1965, less than half of the relationship for 1955. So income lost much of its importance to family age-composition from 1955 to 1965 as the postwar baby crop moved toward adult food requirements. For food at home income became a relatively insignificant factor in accounting for the variation in average food expenditures per person from one income level to another, dropping from .3 to -.0, but the income elasticity per family stayed at .2. In contrast, the importance of income to away-from-home food expenditures per family actually increased a little and per person income elasticity was practically unchanged at about .7 to .8 (Basic data used for 1955 were adjusted to include one person households in order to match the 1965 data.)

4.7 Comparison of Time Series and U. S. Cross Section Data

For a variety of reasons set forth elsewhere,⁸ relationships derived from time series are expected to differ from those calculated from static, one-time, cross section surveys. Even so, it is interesting to compare changes in relationships between two cross section survey periods and those indicated by analyses of time series data. The income elasticity of total food expenditures per capita over the 1947 to 1966 period was calculated to be .7, substantially higher than the .4 for the 1955 cross section and .2 for the 1965 cross section. The increasing proportion of family members 10 years and older and the decreasing proportion of the population living on farms helped shift the all-U. S. average upward. The impact of these factors on purchases of food for home use was apparently greater than on away-from-home expenditures in real terms. The intercept of the regression lines for at-home expenditures rose significantly from 1955 to 1965 for all U. S. households.

⁸ See section 4.5. Burk, Marguerite C. Influences of Economic and Social Factors on U. S. Food Consumption. Minneapolis: Burgess Publishing Co. July 1961.

Chapter 5 FOOD - NONFOOD COMPETITION AMONG UPPER-INCOME FAMILIES IN MINNEAPOLIS-ST. PAUL

We begin our study of food-nonfood competition for the dollars of upper-income Minneapolis-St. Paul families by recognizing the successively higher average family expenditures for food and nonfood items and for major components of food from one income group to the next, as in figure 5.1. More detailed information is given in table 5.1 in terms of dollar averages and some ranges in expenditures for food and several nonfood items. It is important to recall that there are concurrent variations in family size, distributions of families among several stages in the family life cycle, occupation of the husband, education of the wife, and other variables which are potentially significant to food and non-food competition.

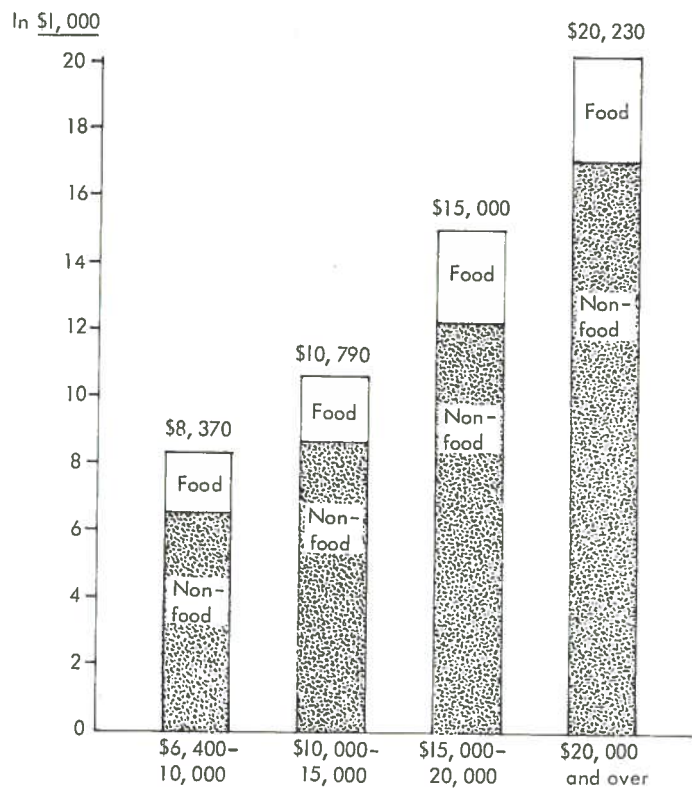
The data in table 5.1 are comparable with those for the U.S. and North Central urban families given in table 4.3 except for two differences in sample coverage and reporting: (a) the under \$10,000 disposable income group of UPIF families in Minneapolis-St. Paul is biased by the omission of households of three or more persons having gross incomes below \$10,000; and (b) the Bureau of Labor Statistics data on total nonfood expenditures were developed from detailed questions on expenditures whereas those of the Minneapolis-St. Paul study by the University of Minnesota were derived by residuals. The Minneapolis-St. Paul expenditures for auto transportation were estimated from mileage data and not from detailed questions such as those in the Bureau of Labor Statistics survey. 1

5.1 Variations in Ratios with Family Income Level

Comparing the data in table 5.1 with those in table 4.3, we find that food as a percentage of total expenditures of the \$10,000 to \$15,000 category amounted to 19.8 percent in Minneapolis-St. Paul, approximately the same as for all North Central urban families. Minneapolis-St. Paul families with incomes over \$15,000 had higher food expenditures than those in the North Central Region - 17.0 percent of total expenditures compared with 15.3 percent for the whole region. Most of the difference was in away-from-home food expenditures. This might reflect the fact that the Minneapolis-St. Paul data encompass only a metropolitan area whereas the North Central sample includes families living in nonmetropolitan areas with populations of 2,500 people or more. The ratio of food expenditures to nonfood expenditures of Minneapolis-St. Paul families in the \$10,000 to \$15,000 income group was 1:4.0, practically the same as for the North Central Region. The estimate of nonfood expenditures derived by residual method for Minneapolis-St. Paul families with incomes over \$15,000 appears to be somewhat low. This factor and higher away-from-home food expenditures make the ratio of food to nonfood expenditures by the Twin Cities families in the top income group come out to 1:4.9 compared with 1:5.5 for North Central urban families with incomes over \$15,000.

1 The BLS North Central urban sample apparently included 200 families with incomes in the \$10,000 to \$15,000 category and 55 cases in the \$15,000 and over income group. The metropolitan Minneapolis-St. Paul survey identified 127 cases in the \$10,000 to \$15,000 disposable income category and 47 cases with incomes over \$15,000.

Figure 5.1 1964 expenditures by upper-income families in Minneapolis-St. Paul, by family income level
 A. Food and nonfood



B. Food expenditures by place

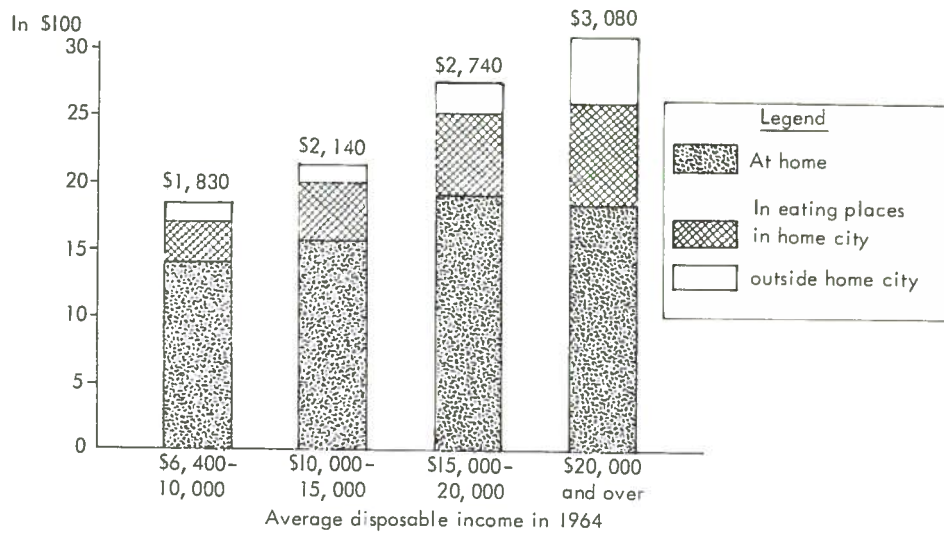


Table 5.1 Averages and selected ranges for annual expenditures per family for food and selected nonfood items in 1964 upper-income Minneapolis-St. Paul families by level disposable family income

Characteristics	Unit	All	Disposable family income				
			\$6,410 to \$10,000	\$10,000 to \$15,000	\$15,000 and over	\$15,000 to \$20,000	\$20,000 and over
Number of cases	number	257	83	127	47	30	17
Proportion of sample	percent	100	32	49	19	12	7
Family size	number	4.4	3.9	4.6	4.7	4.8	4.4
Family disposable income	dollars	12,420	8,910	11,950	19,850	17,110	24,720
Expenditures for							
All goods and services	dollars	11,120	8,370	10,790	16,880	15,000	20,230
As proportion of income	percent	89.6	93.9	90.3	85.0	87.7	81.8
High for such expenditures	dollars	30,000	24,240	16,870	30,000	21,320	30,000
Low for such expenditures	dollars	2,870	2,870	3,730	4,160	4,160	5,470
Total food in year	dollars	2,170	1,830	2,140	2,860	2,740	3,080
As proportion of total expenditures	percent	19.5	21.9	19.8	17.0	18.3	15.2
Ratio to nonfood expenditures		1:4.1	1:3.6	1:4.0	1:4.9	1:4.5	1:5.6
High for total food	dollars	5,270	3,680	5,270	5,190	4,350	5,190
Low for total food	dollars	600	650	850	600	600	1,640
For use at home	dollars	1,580	1,402	1,587	1,884	1,910	1,850
Away from home in home city	dollars	415	296	409	643	592	730
Outside home city	dollars	175	132	144	333	238	500
Total away from home	dollars	590	428	553	976	830	1,230
As proportion of total food	percent	27.2	23.4	25.8	34.1	30.3	40.1
All nonfood goods and services, average	dollars	8,950	6,540	8,650	14,020	12,260	17,150
High	dollars	26,070	22,970	15,100	26,070	19,120	26,070
Low	dollars	1,330	1,470	1,360	1,330	1,330	3,370
Alcoholic beverages	dollars	208	163	189	338	327	358
For use at home	dollars	129	101	116	213	214	211
Away from home in home city	dollars	62	44	60	100	83	131
Outside home city	dollars	17	18	13	25	30	16
Recreation - BLS items ¹ average	dollars	465	332	441	765	668	936
- total ² average	dollars	479	341	450	802	682	1,014
Reading	dollars	98	80	95	136	132	143
Education	dollars	234	149	201	473	413	579
Transportation - partial estimate ³	dollars	1,129	1,087	1,102	1,279	1,024	1,731
Women's coats, furs, jewelry (16 years and over only)	dollars	76	42	60	178	152	225
Men's suits and pants (16 years and over only)	dollars	111	76	101	202	172	256

1 Admissions, sport expenses, club dues and memberships, hobbies, toys and play equipment, records, musical instruments, and other miscellaneous recreation costs.

2 Includes BLS items plus boat and canoe rent and upkeep outside and in home city.

3 Auto transportation costs estimated from nonbusiness mileage times 7.5 cents; report on other transportation costs utilized BLS questions.

In the Minneapolis-St. Paul survey we used precisely the same questions as those used by the Bureau of Labor Statistics to obtain information on family expenditures for recreation, reading, and education. (Because of our primary interest in food-nonfood competition, we limited our questions on nonfood items to those categories with the highest income elasticity.) Comparison of expenditures for these nonfood items by the \$10,000 to \$15,000 group with those by families with incomes over \$20,000 revealed that recreation expenditures varied in proportion with disposable income. Variability in expenditures for education; women's coats, furs, and jewelry; men's suits and pants; and wages for household help exceeded the variability in income. In technical terms, their income elasticities were greater than one.

5.2 High and Low Food Spenders in 1964 within Family Income Groups

To investigate socioeconomic factors other than family income which are related to the amount of money spent for food, UPIF families within three income groups were subdivided into thirds based on the proportions of total expenditures allocated to food (see table 5.2).

The low food spending category includes families spending 5 to 15 percent of their total expenditures for food. The high category includes families allocating 23 percent or more of their total outlays for foods. The share of total expenditures allocated to food is generally higher at lower per person income levels, in larger families with a higher proportion of older children and adults, and in families with fewer full-time earners. The relationship of occupation to the emphasis given to food varies with level of income. Families of blue-collar workers were well-distributed across the thirds based on share of total expenditures going to food. In the below \$10,000 income group, a higher proportion of the total budget was allocated to food by white-collar than by blue-collar workers. In the \$10,000 to \$15,000 income group, clerical and sales workers again emphasized food, but a relatively smaller share of the family budget was allocated by families headed by men with occupations in the professional, managerial, and proprietary categories. Among families with incomes over \$15,000, there was even less emphasis on food by the families with heads in these higher ranking occupations. Because of interactions and coincidence, these relationships cannot be viewed as definitive.

Data in table 5.2 indicate that low food spenders per family in the lowest income group had virtually the same total expenditures as the high food spenders in the next highest income group, those with \$10,000 to \$15,000 incomes. Comparison of the characteristics of these two groups of families reveals that the low food spenders were much smaller families with less than half as many children, the wife was employed much more of the year, and transportation outlays were much higher. Half of the husbands were blue-collar workers compared with only 18 percent of the group of high food spenders having approximately the same total expenditures per family, but in the next higher income bracket.

Table 5.2 Selected characteristics and expenditure data for upper-income Minneapolis-St. Paul families allocating to food low, medium, and high proportions of total 1964 expenditures, by family income level in 1964¹

Characteristic or expenditure category	Unit	\$6,410 to \$10,000			\$10,000 to \$15,000			\$15,000 or more		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
Number cases in group	number	20	27	36	43	46	34	22	16	8
Family disposable income, average	dollars	8,840	9,080	8,830	12,000	12,090	11,730	21,170	18,720	18,960
Family size, average	number	2.9	4.0	4.4	3.9	4.4	5.4	4.0	4.6	5.9
Average income divided by family size	dollars	3,050	2,270	2,010	3,080	2,750	2,170	5,290	4,070	3,210
Family composition, average for										
Proportion under 7 years	percent	21	18	12	17	17	15	13	8	22
Proportion 7 through 15 years	percent	0	20	27	15	19	32	18	23	41
Proportion under 16 years	percent	21	38	39	32	36	47	31	31	63
Proportion 10 years and over	percent	79	74	81	77	76	74	82	82	65
Wife's employment in 1964 (higher code = more hours)	code	5.1	3.2	1.9	2.6	2.1	1.6	.2	.6	.4
No employment outside home	percent	30	52	72	53	65	76	91	88	88
Wife's education in years, average	number	13	13	13	14	14	13	15	14	14
Full-time earners, average	number	1.5	1.4	1.3	1.4	1.5	1.4	1.3	1.4	1.0
Proportions of husband's occupational category in food share group										
Professional, technical	percent	30	37	42	39	35	29	45	25	37
Managerial official, proprietor	percent	10	22	17	33	39	29	41	63	63
Clerical and sales	percent	10	7	17	12	13	24	5	6	..
Craftsman, operative, service, other	percent	50	34	24	16	13	18	9	6	..
Expenditures in 1964, average										
Total for goods, services, and contributions	dollars	9,310	8,950	7,410	11,710	11,140	9,360	19,440	16,660	11,910
Total food expenditures	dollars	1,080	1,750	2,310	1,550	2,170	2,750	2,400	3,200	3,460
For food at home	dollars	864	1,332	1,757	1,169	1,601	2,031	1,549	2,155	2,270
For food away from home										
In home city	dollars	160	311	359	294	429	520	530	765	696
Outside home city	dollars	62	103	193	88	143	197	323	283	492
Total nonfood	dollars	8,230	7,200	5,100	10,160	8,970	6,610	17,040	13,460	8,450
Alcoholic beverages, at home	dollars	81	96	115	97	126	119	209	221	182
Alcoholic beverages, away from home	dollars	46	53	78	62	67	74	101	142	119
Recreation, total	dollars	375	318	340	341	510	464	757	731	990
Reading	dollars	76	77	85	82	102	100	124	128	169
Education	dollars	48	120	227	187	246	179	321	625	643
Total recreation, reading, education	dollars	499	515	652	610	858	743	1,202	1,484	1,802
Monthly equivalent rental	dollars	141	146	197	161	161	169	239	224	226
Estimated transportation	dollars	1,418	906	1,038	1,043	1,121	1,172	1,345	1,230	1,360

¹ Sample divided into thirds; group with smallest proportion allocated to food had 5 to 15 percent; in group with highest proportion the food share ranges from 23 to 54 percent.

Generally speaking, similar relationships may be found by comparing the characteristics and expenditure patterns of the low food spenders in the \$10,000 to \$15,000 income group and the high food spenders in the \$15,000 and over group. These two groups of families averaged approximately the same in total expenditures in 1964, but disposable income of the higher income group was 50 percent greater.

Relationships between nonfood expenditures and food budget emphasis vary with the level of income. In the below \$10,000 income group, lower food spenders tend to spend less for education, reading, housing, and alcoholic beverages and more for recreation and transportation than do high food spenders. In the \$10,000 to \$15,000 income category, lower food spenders spent less for recreation and reading but more for nonfood items and services in total and for transportation. There was no significant difference in housing outlays. Among families with incomes over \$15,000, low food spenders spent more for nonfood items in total, but less for recreation, reading, and education. No significant variation in housing outlays was noted.

5.3 Statistical Relationships of Socioeconomic Factors with Family Expenditures

The socioeconomic factors measured by the independent variables in the regressions reported in table 5.3 were selected after considerable experimentation with alternative measures of the wide range of socioeconomic factors considered in the study of upper-income families in Minneapolis-St. Paul (UPIF). The annual expenditure data and disposable income were transformed into logarithms. Testing of logarithmic forms for several other variables indicated little variation in results from the arithmetic form. The coefficients of multiple determination (R^2) of these models were generally relatively high for individual observations.

5.3.1 Relationships to Food Expenditures

The .4 estimate for income elasticity of total UPIF food expenditures in 1964 is slightly higher than the .3 for U.S. urban families' food expenditures in a week of spring 1965, slightly more than one standard error apart. The family size and composition factors were handled separately in the UPIF models and were relatively more important than income, whereas the combined factor for the U.S. urban model reported in table 4.9 was about equal to income in importance. Also, the model for UPIF incorporates several additional variables which are probably mixed with income in the simpler U.S. models.

The UPIF estimate of income elasticity of 1964 family expenditures for food at home was .2, the same as that for a week's value of food purchased for use at home by U.S. urban families and single individuals in spring 1965. Family size was slightly more important for food at home than for all food expenditures. A larger number of full-time earners had the expected negative effect on expenditures for food at home. Reputation striving favored higher outlays.

As in the case of all-U.S. data, family size and age composition are much less significant factors in away-from-home food expenditures. Income alone has greater impact on such expenditures than the family size and age. Income

Table 5.3 Summary of regression analyses of 1964 family food and nonfood expenditures, by category, and major socioeconomic factors, upper-income Minneapolis-St. Paul families¹

Variable and regression measure	Section A. Food expenditures in logarithms					Section B. Nonfood expenditures in logarithms					
	Total food in \$10	Food at home	Food away from home			Total nonfood in \$10	Monthly equiv. rental value of home	Recreation	Reading	Education	Reading and education
			Total	In home city	Outside home city						
Arithmetic mean	2,3005	3,1604	2,5483	2,4729	1,8687	2,9145	2,2101	2,5734	1,9032	1,4859	2,2684
R ²	.47	.47	.24	.21	.15	.47	.24	.28	.18	.25	.30
Standard error of estimate	.1283	.1328	.2968	.3543	.6497	.1414	.1400	.2533	.2669	.9947	.3983
Independent variables											
1. Disposable income per family in logarithms (significance levels)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(1)
a. Arithmetic regression coefficient and income elasticity	.4354	.2197	.9369	1.1243	.8762	.9936	.4867	.9615	.5108	1.2601	.7100
b. Beta, standardized coefficient	.33	.16	.37	.38	.17	.68	.40	.43	.23	.14	.20
c. Partial correlation coefficient	.38	.20	.36	.35	.16	.67	.41	.42	.22	.15	.21
2. Family size	(1)	(1)	(1)	(n.s.)	(10)	(n.s.)	(n.s.)	(5)	(10)	(1)	(1)
a. Arithmetic	.0056	.0069	.0036	.0019	.0047	.0006	.0007	.0021	.0025	.0340	.0149
b. Beta	.57	.69	.19	.08	.12	.05	.08	.13	.16	.53	.57
c. Partial	.56	.63	.18	.06	.11	.05	.08	.13	.11	.39	.40
3. Percent of family members under 16 years	...	...	...	(n.s.)	...	(n.s.)	...	...	(2)	(1)	(1)
a. Arithmetic	...	...	...	.0005	...	-.0007	...	...	-.0027	-.0136	-.0095
b. Beta	...	...	...	.04	...	-.10	...	...	-.25	-.31	-.53
c. Partial	...	...	...	.03	...	-.10	...	...	-.16	-.23	-.36
4. Percent 10 years and older	(1)	(1)	(n.s.)	...	(1)	...	(n.s.)	(n.s.)	...	...	...
a. Arithmetic	.0015	.0016	.0007	...	.0059	...	.0003	.0005	...	...	...
b. Beta	.20	.21	.05	...	.20	...	.05	.04	...	...	...
c. Partial	.23	.23	.05	...	.18	...	.05	.04	...	...	...
5. Number full-time earners	...	(5)	...	...	...	...	(1)	...	(5)	...	(5)
a. Arithmetic	...	-.0033	...	...	...	...	-.0065	...	-.0068	...	-.0102
b. Beta	...	-.11	...	...	...	...	-.25	...	-.14	...	-.13
c. Partial	...	-.13	...	...	...	...	-.26	...	-.13	...	-.13
6. Husband's occupation (negative coding)	(n.s.)	(n.s.)	(5)	(10)	(n.s.)	...	...	(2)	(2)	(1)	(2)
a. Arithmetic	-.0057	.0012	-.0255	-.0267	.0264	...	...	-.0245	-.0290	-.1173	-.0452
b. Beta	-.06	.01	-.13	-.11	.06	...	...	-.14	-.17	-.17	-.16
c. Partial	-.07	.01	-.13	-.11	.06	...	...	-.15	-.15	-.17	-.16
7. Kind of saver (negative coding)	(n.s.)	(n.s.)	(10)	(5)	(5)	...	...	(n.s.)	(10)	...	...
a. Arithmetic	.0088	.0104	.0361	.0455	-.0945	...	...	.0185	.0292	...	...
b. Beta	.05	.06	.11	.12	-.14	...	...	.06	.10	...	...
c. Partial	.07	.08	.12	.13	-.14	...	...	.07	.11	...	...
8. Wife's education in years	...	...	(n.s.)	(n.s.)	(1)	...	...	...	(10)	(10)	(2)
a. Arithmetic	...	...	.0028	.0030	.0700	...	...	...	.0165	.0587	.0321
b. Beta	...	...	.02	.02	.22	...	...	...	.12	.11	.15
c. Partial	...	...	.02	.02	.20	...	...	...	.12	.11	.15
9. CVO economizer	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...	...	...
a. Arithmetic	-.0040	-.0023	-.0019	-.0017	-.0205	.0031	.0009	-.0060	...	...	...
b. Beta	-.07	-.04	-.02	-.01	-.09	.05	.02	-.06	...	...	...
c. Partial	-.10	-.05	-.02	-.02	-.10	.07	.02	-.07	...	...	...
10. CVO reputation striver	(n.s.)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...	...	...
a. Arithmetic	.0036	.0052	-.0034	-.0033	.0159	-.000	-.0006	.0077	...	...	...
b. Beta	.06	.08	-.03	-.02	.06	-.00	-.01	.07	...	...	...
c. Partial	.08	.11	-.03	-.03	.07	-.00	-.01	.08	...	...	...

1 Based on data for 252 cases with complete data.

elasticity for annual family expenditures of .9 was about the same as the .8 for all U.S. urban families in a week of spring 1965. Also, the total effects (positive and negative) of the husband's occupation, family saving characteristics, and, (for food expenditures outside the home city) the wife's education, were greater than family size. Lower ranking occupation tended to reduce expenditures for food away from home, but dissaving increased them.

Comparison of the income elasticities for family food expenditures in table 5.3 with those for per person expenditures in table 5.4 provides a test of the second hypothesis stated in section 2.4.1, to the effect that "adjustment for family size and other socioeconomic factors will reveal greater influence of income" than when family income and expenditures are used. Only the data for food at home support the hypothesis by revealing the .35 income elasticity to be more than one standard error (+ or - .05) above the .22 income elasticity for family data. For food away from home, the relationship of the income elasticities for home city and outside home city expenditures was reversed, but the reversal fell within one standard error.

The negatively coded measure of saving characteristics, based on the wife's evaluation, had a positive effect on food for home use and on meals and snacks in the home city, but a negative relationship to food expenditures outside the home city.

On a per person basis, the husband's lower ranking occupation became a significant positive factor for purchases of food for home use and a negative factor for expenditures for food away from home. In the per person model, we substituted husband's education in years for that of the wife, but, again, education was significant only for expenditures outside the home city.

The consumer value orientation measures for economizing and reputation striving had statistically significant negative and positive effects, respectively, on purchases of food for home use.

5.3.2 Factors Related to Nonfood Expenditures

The income elasticity of 1.0 for total UPIF nonfood expenditures per family is subject to statistical question because such expenditures were estimated as residuals from disposable income and changes in net worth. However, the data for individual nonfood categories in table 5.3, section B, were obtained directly. The high income elasticities for family expenditures for education and recreation are particularly notable.

Turning briefly to the regression results for per person expenditures (table 5.4), note the substantially higher coefficient of multiple determination for per person monthly equivalent rental value of the home, .51, compared with .24 on family basis. The income elasticity for per person value was much higher (more than one standard error), and the family-size-age adjustment factor had a negative relationship of statistical significance.

Additional education of the husband and a higher ranking husband's occupation had a positive effect on recreation and on reading and education (the converse of the negatively coded data for occupation in the table). This bulletin

Table 5.4 Summary of regression analyses of 1964 per person food and nonfood expenditures, by category, and major socioeconomic factors, upper-income Minneapolis-St. Paul families¹

Variable and regression measure	Section A. Food expenditures in logarithms					Section B. Nonfood expenditures in logarithms			
	Total food	Food at home	Food away from home			Total nonfood in \$10	Monthly equiv. rental value of home	Recreation	Reading and education
			Total	In home city	Outside home city				
Arithmetic mean	2.6980	2.5578	2.0531	1.8703	1.3354	2.3121	1.6054	1.9709	1.6650
R ²	.36	.22	.26	.19	.16	.64	.51	.35	.13
Standard error of estimate	.1373	.1412	.3034	.3576	.5407	.1434	.1586	.2529	.4212
<u>Independent variables</u>									
1. Disposable income per family in logarithms (significance levels)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(n.s.)
a. Arithmetic regression coefficient and income elasticity	.5279	.3543	.9505	.8514	1.0762	.8942	.7276	.9152	.2722
b. Standard error of regression coefficient	.0507	.0526	.1119	.1713	.1995	.0675	.0588	.0933	.2003
c. Beta, standardized coefficient	.60	.44	.53	.42	.36	.73	.63	.57	.12
d. Partial correlation coefficient	.55	.40	.48	.30	.33	.65	.62	.53	.09
2. Number of family members under 16 years	...	...	...	(n.s.)	...	(10)	...	...	(5)
a. Arithmetic	...	...	...	.0000	...	-.0000	...	...	-.0000
b. Beta	...	...	...	.03	...	-.09	...	...	-.18
c. Partial	...	...	...	.02	...	-.11	...	...	-.13
3. Number 10 years of age and older	(2)	(5)	(1)	...	(1)	...	(5)	(n.s.)	...
a. Arithmetic	.0000	.0000	.0000	...	.0001	...	-.0000	.0000	...
b. Beta	.14	.14	.17	...	.19	...	-.12	.08	...
c. Partial	.16	.13	.18	...	.18	...	-.15	.09	...
4. Number full-time earners	...	(5)	...	...	...	...	(1)	...	(n.s.)
a. Arithmetic	...	-.0036	...	...	...	...	-.0065	...	-.0007
b. Beta	...	-.14	...	...	...	...	-.18	...	-.01
c. Partial	...	-.14	...	...	...	...	-.22	...	-.01
5. Husband's occupation (negative coding)	(n.s.)	(5)	(10)	(2)	(n.s.)	(n.s.)	(n.s.)	(10)	(5)
a. Arithmetic	.0014	.0108	-.0199	-.0321	.0018	.0024	.0070	-.0173	-.0332
b. Beta	.01	.12	-.10	-.15	.01	.02	.06	-.10	-.13
c. Partial	.02	.13	-.12	-.15	.01	.03	.07	-.12	-.13
6. Kind of saver (negative coding)	(10)	(5)	(n.s.)	(10)	(2)	...	...	(n.s.)	...
a. Arithmetic	.0166	.0200	.0084	.0426	-.0841	...	...	.0192	...
b. Beta	.10	.13	.02	.11	-.15	...	...	.06	...
c. Partial	.12	.14	.03	.12	-.16	...	...	.08	...
7. Husband's education in years	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)	(1)	(1)
a. Arithmetic	.0002	-.0010	.0045	.0037	.0106	.0018	.0008	.0076	.0146
b. Beta	.01	-.04	.08	.06	.11	.05	.02	.15	.20
c. Partial	.01	-.04	.09	.06	.12	.08	.03	.18	.20
8. CVO economizer	(5)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...
a. Arithmetic	-.0065	-.0052	-.0079	-.0040	-.0160	.0010	-.0006	-.0068	...
b. Beta	-.12	-.10	-.07	-.03	-.09	.01	-.01	-.07	...
c. Partial	-.14	-.11	-.08	-.03	-.09	.02	-.01	-.08	...
9. CVO reputation striver	(n.s.)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...
a. Arithmetic	.0044	.0060	-.0005	-.0028	.0097	.0012	.0000	.0095	...
b. Beta	.07	.11	-.00	-.02	.05	.01	.00	.08	...
c. Partial	.09	.12	-.00	-.02	.05	.02	.00	.10	...

1 Based on data for 252 cases with complete data.

is primarily concerned with food expenditures, so no further discussion of the nonfood regressions summarized in the tables seems warranted.

5.4 Analysis of Relationships with Week's Food Expenditures, UPIF

Table 5.5 reports data from linear regression analyses of a week's food expenditures by upper-income families in Minneapolis-St. Paul (UPIF) in April to July 1965 per family and per person in semi-logarithmic form and per person in double logarithmic form (i. e., both expenditures and income in logarithms). Somewhat smaller proportions of the variations in each category of food expenditures in a week were explained by the selected socioeconomic factors than those for annual food expenditures. Per person food expenditures varied much more in a week than in the year 1964.

5.4.1 Family Expenditures

The regressions for total family food expenditures in a week yielded a lower income elasticity, .27, (almost one standard error apart but derived from a semi-logarithmic model instead of one in double logarithms) than the .43 for the year and an indication that income is relatively much less important in a short time period than in a year. The week's income elasticity equalled that for all U.S. urban families (.3). There was little difference between the year and week in the effects of family size and composition. However, economizing and reputation striving characteristics of the wife evidenced somewhat more importance in variations in the week's total food expenditures.

For food at home, the income elasticity of family expenditures in a week (-.1) was lower than the annual elasticity (.2), but the difference was not statistically significant. The family size and age composition factors were more important than income and so were the wife's age and her economizing and reputation striving. (The wife's age was omitted from the annual model because of low significance.)

As in the annual model, income was the most important factor in explaining the week's variations in family expenditures for food away from home. The income elasticity of 1.1 for the week was within one standard error of the .9 elasticity for the annual expenditures, and of .8 for all U.S. urban families and single consumers. The age makeup of the family, and the wife's reputation striving had statistically significant but smaller effects than income.

5.4.2 Food Expenditures Per Person

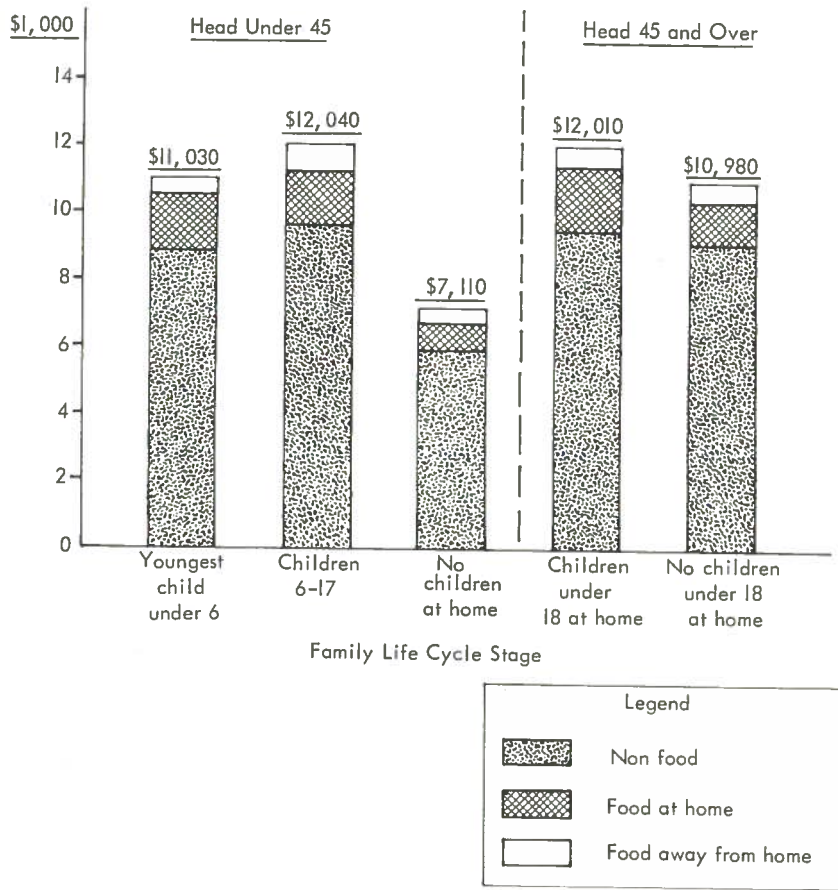
The small size and statistical insignificance of the age adjustment factor in the per person food regressions appears to indicate that dividing overall food expenditures by the number of family members in a week gives a reasonably useful measure of per person expenditures for all food purchased for use at home and for meals and snacks away from home. The income elasticity for all food expenditures per person in a week based on the semi-logarithmic form is .39, to be compared with .32 for the double logarithmic form for the week, significantly lower than the elasticity of .53 for the year 1964.

Table 5.5 Summary of regression analyses of food expenditures per family and per person by upper-income Minneapolis-St. Paul families in a week of April to July 1965¹

Variable and regression measure	Per family, in dollars			Per person, in dollars			Per person in logarithms	
	Total food	Food at home	Food away	Total food	Food at home	Food away	Total food	Food at home
Arithmetic mean	39.49	27.54	11.92	9.88	6.75	3.11	.9948	.8293
R ²	.33	.39	.14	.22	.21	.13	.18	.13
Standard error of estimate	17.70	12.06	13.19	5.36	3.18	4.28	.2313	.2485
<u>Independent variables</u>								
1. Disposable income in logarithms (significance levels)	(1)	(n.s.)	(1)	(1)	(n.s.)	(1)	(1)	(n.s.)
a. Arithmetic regression coefficient	24.99	-5.80	30.77	8.99	1.33	7.64	.3197	.0765
b. Beta, standardized coefficient	.15	-.05	.29	.29	.07	.33	.25	.06
c. Partial correlation coefficient	.16	-.06	.27	.26	.07	.27	.21	.05
d. Income elasticity	.27	-.09	1.12	.39	.09	1.07	.32	.08
2. Family members in survey week	(1)	(1)	(n.s.)	...	...	...	...	...
a. Arithmetic	6.09	5.75	.35	...	...	...	...	...
b. Beta	.51	.67	.04	...	...	...	...	...
c. Partial	.46	.58	.04	...	...	...	...	...
3. 10 years and older, measure and significance level	percent of family members			number per family				
	(1)	(2)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	.21	.12	.09	.00	-.00	.00	.0015	.0000
b. Beta	.23	.19	.15	.01	-.06	.06	.07	.00
c. Partial	.19	.16	.11	.01	-.06	.05	.06	.00
4. Number of full-time earners	(20)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.36	-.18	-.18	-.07	-.02	-.05	-.0011	.0002
b. Beta	-.10	-.07	-.08	-.07	-.04	-.06	-.03	.00
c. Partial	-.10	-.07	-.07	-.06	-.04	-.05	-.02	.00
5. Husband's occupation (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.31	.29	-.60	-.00	.15	-.15	-.0042	.0048
b. Beta	-.03	.03	-.08	-.01	.08	-.06	-.03	.03
c. Partial	-.03	.04	-.07	-.00	.07	-.06	-.03	.03
6. Kind of saver (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	.99	.40	.59	.40	.27	.13	.0095	.0155
b. Beta	.05	.03	.04	.07	.08	.03	.04	.06
c. Partial	.06	.03	.04	.07	.08	.03	.04	.06
7. Wife's education in years	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.27	.30	-.57	-.10	.06	-.16	.0017	.0088
b. Beta	-.03	.04	-.09	-.04	.04	-.08	.01	.07
c. Partial	-.03	.05	-.08	-.04	.04	-.07	.01	.07
8. Wife's age in years	(n.s.)	(5)	(n.s.)	(1)	(1)	(n.s.)	(5)	(1)
a. Arithmetic	.09	.21	-.13	.11	.11	-.01	.0038	.0058
b. Beta	.04	.15	-.09	.18	.34	-.02	.16	.23
c. Partial	.04	.14	-.08	.17	.30	-.02	.14	.20
9. Wife's work in survey week	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(20)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.20	.15	-.35	.06	.14	-.08	.0044	.0066
b. Beta	-.03	.03	-.07	.03	.11	-.05	.05	.07
c. Partial	-.03	.03	-.06	.02	.10	-.04	.04	.06
10. CVO economizer	(2)	(1)	(n.s.)	(2)	(1)	(n.s.)	(1)	(2)
a. Arithmetic	-.92	-.68	-.24	-.26	-.18	-.09	-.0153	-.0128
b. Beta	-.14	-.14	-.05	-.14	-.16	-.06	-.19	-.15
c. Partial	-.16	-.17	-.06	-.15	-.17	-.06	-.20	-.16
11. CVO reputation striver	(1)	(1)	(5)	(1)	(2)	(5)	(1)	(2)
a. Arithmetic	1.41	.76	.65	.38	.18	.20	.0150	.0144
b. Beta	.18	.14	.13	.18	.14	.12	.16	.15
c. Partial	.21	.17	.14	.19	.15	.13	.18	.16

¹ Based on 252 cases.

Figure 5.2 1964 expenditures by upper-income families in Minneapolis-St. Paul, by stage in the family-life cycle



The .32 elasticity for the week is slightly higher than the .15 income elasticity reported in table 4.9 for all U.S. urban families. The difference is greater than one standard error, and may arise from differences in the number of independent factors used in the two models. The UPIF analysis took account of wife's age and reputation striving which, like income, had statistically significant, positive effects on food expenditures. It also included the negative effects of the number of full-time earners in the family, the husband's occupation, and the economizing bent of the wife. Thus, it appears possible that the response of food expenditures per person to the preceding year's income is somewhat greater, at least in the range above average income, than indicated by the .15 income elasticity for U.S. urban food expenditures per person.

The income elasticity of food expenditures per person for use at home among upper-income families in Minneapolis-St. Paul (UPIF) was statistically insignificant at .1 and quite consistent with the .04 elasticity for all U.S. urban families. But the week's elasticity was significantly lower than the .35 for 1964. The UPIF analysis indicates that wife's age had the greatest effect on such expenditures, followed by the CVO measures for economizing and reputation striving.

The regression results for food expenditures away from home per person in a week were consistent with those for 1964 expenditures. The income elasticity for the week was 1.1 (based on semi-logarithmic form) compared with .95 for the year (double logarithm). The two factor, double logarithmic model for U.S. urban expenditures per person in spring 1965 yielded an income elasticity of .8. In the UPIF model, reputation striving had a significant positive effect and several statistically insignificant factors had negative effects: number of full-time earners, lower ranking husband's occupation, additional years of education for the wife, her work in survey week, and her economizing characteristic. (A double logarithmic model could not be used for the week because a few families did not report any expenditures for food away from home in the week.)

5.5 Variations in Food-Nonfood Allocations with Per Person Income and Family Life Cycle

The characteristics and average expenditures of the groups of upper-income Minneapolis-St. Paul families based on (a) per person income and (b) the proportion of total expenditures allocated to food, presented in table 5.6, form much the same patterns as those for food spender groups within family income levels. The data emphasize the impact of children in the 7 to 15 year category on food budgets. Families with relatively low food spending per person had substantially higher total expenditure and nonfood expenditures per person. In the first and third quartiles, the wives in families in the lower food spending groups had had more years of formal schooling, on the average. Again, spending for food away from home varies much more with income than do purchases of food for home use.

For table 5.7 and figure 5.2 the families were re-sorted to group them by the Michigan Survey Research Center's stages in the family life cycle. Within these stages, the rate of food spending was closely related to size of family and ages of the children. Except in families without children whose heads were

Table 5.6 Averages for selected characteristics and expenditures per person for food and nonfood items in 1964 by upper-income Minneapolis-St. Paul families grouped by proportion of total expenditures allocated to food within per person income quartiles

Item	Per person income Share for food			\$800 to \$2,199			\$2,200 to \$2,899			\$2,900 to \$3,859			\$3,860 and over		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Number of cases in group	6	24	35	22	22	18	24	22	17	33	21	8	33	21	8
Family size in 1964, average	5.5	5.9	6.6	4.4	4.7	4.6	3.8	4.0	3.5	2.9	2.7	2.5	2.9	2.7	2.5
Family composition, average for Proportion under 7 years	39	24	20	29	20	9	18	15	9	5	3	11	5	3	11
Proportion 7 through 15 years	19	28	40	15	31	29	12	11	22	9	9	9	9	9	9
Proportion under 16 years	58	52	60	44	51	38	30	26	31	14	12	20	14	12	20
Proportion 10 years and over	56	68	67	64	66	84	78	80	83	93	93	85	93	93	85
Full-time earners, average	1.6	1.4	1.2	1.2	1.2	1.5	1.6	1.6	1.2	1.4	1.4	1.4	1.4	1.4	1.4
Wife's education in years, average	15	13	13	14	14	14	14	14	13	14	14	14	14	14	14
Index of social position (higher number = lower position)	2.3	2.6	2.3	2.0	1.9	2.6	2.4	2.6	2.6	2.5	2.6	2.1	2.5	2.6	2.1
Average expenditures in 1964	1,900	1,780	1,530	2,790	2,490	2,120	3,240	3,070	2,320	5,240	4,420	2,790	5,240	4,420	2,790
Total for goods, services, contributions ²	250	350	500	330	470	590	430	610	660	630	840	830	630	840	830
Total food expenditures ²	195	278	396	258	351	425	320	465	472	432	511	489	432	511	489
For food at home	56	76	105	69	121	168	113	141	191	200	327	345	200	327	345
Away from home	47	57	72	55	89	108	84	111	119	124	241	289	124	241	289
In home city	9	19	33	14	32	60	29	30	72	76	86	56	76	86	56
Outside home city	1,650	1,430	1,030	2,460	2,020	1,530	2,810	2,460	1,660	4,610	3,580	1,960	4,610	3,580	1,960
Total nonfood ²	31	54	59	36	69	57	60	66	62	77	71	59	77	71	59
Alcoholic beverages, at home	13	24	32	35	40	36	23	39	46	48	82	62	48	82	62
Alcoholic beverages, away from home	11	21	22	34	28	27	20	36	35	37	62	51	37	62	51
In home city	2	3	10	1	12	9	3	3	11	11	10	11	11	10	11
Outside home city	79	70	70	61	111	107	111	100	138	210	253	170	210	253	170
Recreation, total	17	15	17	20	20	23	21	27	29	38	45	38	38	45	38
Reading	43	40	34	39	68	57	37	47	116	53	85	45	53	85	45
Education	139	125	121	120	199	187	169	174	283	301	383	253	301	383	253
Total recreation, reading, education	23	28	32	38	41	40	42	39	53	76	68	63	76	68	63
Monthly equivalent rental	216	187	200	238	213	302	346	320	269	497	402	482	497	402	482
Estimated transportation															

1 Sample divided into thirds, group with smallest proportion allocated to food had 5 to 15 percent; in group with highest food share the allocation ranged from 23 to 54 percent.

2 Computed from data in tens of dollars.

Table 5.7 Averages for selected characteristics and expenditures per person in 1964 by upper-income Minneapolis-St. Paul families grouped by proportion of total expenditures allocated to food within family life cycle stages¹

Item	Unit	Family life cycle stage Share for Food ²						Head under 45						Head 45 and over					
		Youngest child under 6			Children 6 to 17			No children at home			Children under 18			No children under 18 at home					
		Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High			
Number of cases in group	number	30	33	34	10	16	15	6	6	4	18	17	21	17	17	7			
Family size in 1964, average	number	4.3	5.0	6.3	4.4	4.7	4.7	2.0	2.0	2.2	4.6	4.7	2.5	4.7	3.1	2.2			
Family composition, average for	percent																		
Proportion under 7 years	percent	43	37	31	5	7	0	0	0	0	5	4	0	3	0	0			
Proportion 7 through 15 years	percent	10	18	33	31	41	46	0	0	0	23	28	0	29	0	0			
Proportion under 16 years	percent	53	55	64	36	48	46	0	0	0	28	32	0	32	0	0			
Proportion 10 years and over	percent	50	53	55	86	75	86	100	100	100	92	91	100	94	100	100			
Full-time earners, average	number	1.1	1.2	1.2	1.2	1.1	1.2	1.7	1.8	2.2	1.6	1.5	1.6	1.5	1.6	1.1			
Wife's education in years, average	number	14	14	14	15	14	13	13	14	13	14	13	13	13	12	12			
Index of social position (higher number = lower position)	code	1.6	2.1	2.1	1.8	2.1	2.3	4.2	2.3	2.5	2.4	2.5	3.1	2.6	3.4	3.9			
Average expenditures in 1964	dollars	3,420	2,270	1,670	3,530	2,860	1,950	3,950	3,940	2,250	3,170	2,140	4,980	2,650	4,030	2,870			
Total for goods and services, and contributions ²	dollars	410	440	490	420	550	590	480	720	690	430	660	610	540	770	860			
Total food expenditures ²	dollars	282	332	381	321	390	387	385	419	446	316	422	433	422	498	617			
For food at home	dollars	130	105	113	99	163	199	94	301	244	118	115	172	115	271	247			
Away from home	dollars	102	81	77	69	129	139	71	258	187	85	81	90	81	185	174			
In home city	dollars	28	24	36	30	34	60	23	43	57	33	34	82	34	86	73			
Outside home city	dollars	3,010	1,830	1,180	3,110	2,310	1,360	3,480	3,220	1,560	2,740	2,110	4,370	1,480	3,260	2,010			
Total nonfood ²	dollars	74	55	67	68	87	68	54	81	43	38	68	51	68	53	32			
Alcoholic beverages, at home	dollars	52	25	36	29	37	50	21	41	54	19	46	32	46	83	39			
Alcoholic beverages, away from home	dollars	46	21	28	26	30	41	11	35	38	17	34	24	34	75	26			
In home city	dollars	6	4	8	3	7	9	10	6	16	2	12	8	12	8	13			
Outside home city	dollars	104	91	96	134	99	113	150	309	120	103	106	200	105	200	108			
Recreation	dollars	19	19	20	30	26	20	36	59	33	23	20	38	26	33	32			
Reading	dollars	27	32	27	72	35	64	1	21	34	54	90	59	82	118	155			
Education	dollars	150	142	143	236	160	197	187	389	187	180	216	297	213	351	295			
Total recreation, reading, education	dollars	43	35	35	55	44	40	74	58	44	61	38	70	43	57	76			
Monthly equivalent rental	dollars	273	255	235	215	209	303	615	429	395	275	189	583	189	418	330			
Estimated transportation	dollars																		

1 Sample divided into thirds, group with smallest proportion allocated to food had 5 to 15 percent, in group with highest food share from

23 to 54 percent.

2 Computed from data in tens of dollars.

under 45 years, higher spenders tended to be in relatively higher social positions, based on the Hollingshead Two-Factor Index (husband's education and occupation). Families with higher shares for food generally had lower total expenditures. Because this analysis does not reveal concurrent effects of income variations, it provides relatively little new information. Therefore, multivariate statistical analyses are reported in the next section.

5.6 Alternative Models to Test Several Discontinuous Variables

The procedures developed in recent years to analyze the explanatory power of discontinuous variables are applied in tables 5.8 through 5.11 to study the relationships of family life cycle stages, social classes, and occupational categories to variations in 1964 per person expenditures by UPIF for food at home, food away from home, nonfood goods and services, and the percentage of total expenditures allocated to food. The regression models use double logarithmic form for current income and for food and nonfood expenditures. All involve the assumption that the relationships of the independent variable being tested to the dependent variable do not vary among categories (i. e., the slopes) but that the levels do vary. (This assumption simplifies the computer work and expedites exploratory but not definitive research on the problem.)

5.6.1 Per Person Expenditures for Food at Home

Data for five models for this analysis are in table 5.8. The coefficients for the first three factors provide highly significant indications of the relative importance of current income to current food expenditures in comparison with past income experiences and future expectations. The income elasticities are about .25 except for models 2 and 3, which do not include family cycle stages as separate variables so their effect appears to be combined with income.

The hypothesis of many researchers that expenditure adjustments lag behind current income changes is supported by the significant positive regression coefficients for change in income in the last 5 years (since decreases in income received higher scores). In effect, they tell us that families having less family income in 1964 than in 1959 spent more for food at home per person than would be expected on the basis of their current income and all other factors entering into the regression model. However, this income change variable was less important in explaining the variations in at-home food expenditures than was current income.

Similarly, it is often hypothesized that families expecting lower income in the future try to cut back on current expenditures, such as those for food. This hypothesis is also supported by the significant negative coefficients for expected change in income to 1969, for which higher scores indicated the expectation of lower incomes.

The CVO economizer variable was a significant negative factor in those regression models incorporating stages in the family life cycle. But the CVO reputation striver measure achieved statistical significance in only one model, number 3, which omitted both family cycle stages and social classes. The negatively coded measure for saving characteristics, with highest scores for those dissaving the most, was significant only in model number 3.

Table 5.8 Alternative regression models - per person expenditures (in logarithms) for food at home in 1964, upper-income Minneapolis-St. Paul families

Independent variable and regression measure	Model number				
	1	2	3	4	5
Mean in logarithms	2.5578	2.5578	2.5578	2.5578	2.5578
R ²	.29	.25	.25	.29	.29
Standard error of estimate	.1358	.1390	.1401	.1360	.1363
<u>Independent variables</u>					
1. Disposable income per person in logarithms (significance levels)	(1)	(1)	(1)	(1)	(1)
a. Arithmetic regression coefficient and income elasticity	.2451	.3722	.3548	.2552	.2502
b. Beta, standardized coefficient	.30	.46	.44	.31	.31
c. Partial correlation coefficient	.24	.39	.37	.26	.23
2. Change in income since 1959	(1)	(1)	(1)	(1)	(1)
a. Arithmetic	.0285	.0266	.0263	.0279	.0280
b. Beta	.18	.16	.16	.17	.17
c. Partial	.20	.18	.18	.19	.19
3. Change in income expected to 1969	(1)	(5)	(5)	(1)	(1)
a. Arithmetic	-.0300	-.0231	-.0213	-.0306	-.0306
b. Beta	-.19	-.15	-.13	-.19	-.19
c. Partial	-.19	-.15	-.14	-.20	-.20
4. CVO economizer	(10)	(n.s.)	(n.s.)	(10)	(10)
a. Arithmetic	-.0054	-.0040	-.0042	-.0051	-.0051
b. Beta	-.11	-.08	-.08	-.10	-.10
c. Partial	-.12	-.09	-.09	-.11	-.11
5. CVO reputation striver	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)
a. Arithmetic	.0051	.0043	.0055	.0043	.0043
b. Beta	.09	.08	.10	.08	.08
c. Partial	.10	.09	.11	.09	.09
6. Kind of saver (negative coding)	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)
a. Arithmetic	.0099	.0141	.0151	.0088	.0088
b. Beta	.06	.09	.10	.06	.06
c. Partial	.07	.10	.11	.06	.06
7. Number members 10 years and over	(n.s.)	(10)	(10)	....	(n.s.)
a. Arithmetic	-.0000	.0000	.0000	....	-.0000
b. Beta	-.00	.11	.11	....	-.01
c. Partial	-.00	.11	.11	....	-.01

Table 5.8 Alternative regression models - per person expenditures (in logarithms) for food at home in 1964, upper-income Minneapolis-St. Paul families - (continued)

Independent variable and regression measure	Model number				
	1	2	3	4	5
8. Family life cycle stage					
Head under 45					
Youngest child under 6					
Beta	(n.s.)	....	....	(n.s.)	(n.s.)
Children 6 to 17	-.04	....	....	-.05	-.05
Beta	(n.s.)	....	....	(n.s.)	(n.s.)
No children (omitted)	.05	....	....	.04	.04
Head 45 and over					
Children under 18					
Beta	(n.s.)	....	....	(n.s.)	(n.s.)
No children under 18	.17	....	....	.16	.16
Beta	(2)	....	....	(2)	(2)
Beta for all stages	.25	....	....	.24	.24
	....	....	....	....	.27
9. Family social position (negative coding)					
(1) Class I (highest)		(10)	....	(n.s.)	(n.s.)
Beta	....	-.23	....	-.09	-.09
(2) Class II		(n.s.)	....	(n.s.)	(n.s.)
Beta	....	-.11	....	-.01	-.01
(3) Class III		(n.s.)	....	(n.s.)	(n.s.)
Beta	....	-.12	....	-.05	-.05
(4) Class IV		(n.s.)	....	(n.s.)	(n.s.)
Beta	....	-.11	....	-.09	-.09
Beta for all classes	....	....	....	....	-.08
10. Husband's occupation					
(1) Professional, technical					
Beta	....	....	(n.s.)	....	....
(2) Managerial, official, proprietary					
Beta	....	....	-.17	....	....
(3) Clerical					
Beta	....	....	-.12	....	....
(4) Sales					
Beta	....	....	(n.s.)	....	....
(5) Craftsman, foreman					
Beta	....	....	-.06	....	....
(6) Operative					
Beta	....	....	-.05	....	....
(7) Service (omitted)					
Beta	....	....	-.02	....	....
Beta for all occupations	....	....	-.05	....	....
	....	....	-.10	....	....

The significance of the stages in the family life cycle was compared with that of the continuous age-composition variable, number of family members 10 years and over, by comparing models 2 and 5.² The statistical test for this indicated that family life cycle stages do not add significantly to the explanation of variations in food expenditures when used concurrently with the number of family members 10 and over. However, as noted above, the use of these stages did appear to affect the estimate of income elasticity. Conversely, comparison of sums of squares of the residuals for models 4 and 5 indicated that the age-size factor was not a statistically significant addition to variables explaining variations in expenditures if stages in the family life cycle and social classes were being included. The beta or normalized regression coefficient for the set of stages in the family life cycle was almost as large as the beta coefficient for current income, indicating the major importance of family life cycle in explaining variations in food expenditures at home.³ Expenditures of families without children are significantly higher.

Comparison of the sums of squares of residuals in models 1 and 5, excluding and including family social position, as measured by Hollingshead's Two-Factor Index based on weighting husband's education and occupation, yielded evidence that family social classes are a significant set of variables for food at home. The beta coefficient for the set is small and negative, indicating the minor net depressing effect of lower social position on food at home when other factors are taken into account. Because the index of family social position represents a combination of occupation and education, models 2 and 3 were compared. The results indicated a significant difference in that social classes explain more of the variation in food expenditures at home than do occupational categories. But their beta coefficients were practically the same. The higher negative coefficients for occupational groups including professional, managerial, and proprietary men reflect their pattern of eating away from home more often.

5.6.2 Per Person Expenditures for Food Away From Home

As noted earlier, the income elasticity of away-from-home expenditures (around 1.0) runs significantly higher than that for at-home expenditures (table 5.9). Current income is much more important than the age factor, but the income elasticity is slightly lower when the age factor is omitted. Change in income in the last 5 years was an insignificant factor, but the expectation of lower income in the following 5 years had a significant negative effect on food expenditures away from home. In fact, it was the most important negative factor used in the models.

2 The test of significance used is described in pages 18 to 20 of Ben-David, Shaul and Tomek, William G. Allowing for Slope and Intercept Changes in Regression Analysis, A. E. Res. 179, Department of Agricultural Economics, Cornell University Agricultural Experiment Station, Ithaca, N. Y., Nov. 1965.

3 Computed using the procedure described by Morgan on pages 104 to 105 of Kosobud, Richard F. and Morgan, James N. (editors) Consumer Behavior of Individual Families Over Two and Three Years. Monograph No. 36. Survey Research Center, University of Michigan, Ann Arbor, Mich. 1964.

Table 5.9 Alternative regression models - per person expenditures (in logarithms) for food away from home in 1964, upper-income Minneapolis-St. Paul families

Independent variable and regression measure	Model number					
	1	2	3	4	5	6
Mean in logarithms	2.0476	2.0476	2.0476	2.0476	2.0476	2.0476
R ²	.35	.32	.31	.34	.32	.32
Standard error of estimate	.2982	.2999	.3017	.2964	.2987	.2980
<u>Independent variables</u>						
1. Disposable income per person in logarithms (significance levels)	(1)	(1)	(1)	(1)	(1)	(1)
a. Arithmetic regression coefficient and income elasticity	.9422	1.0298	.8824	.9830	.9697	1.0600
b. Beta, standardized coefficient	.52	.57	.49	.54	.53	.58
c. Partial correlation coefficient	.36	.40	.39	.46	.45	.49
2. Change in income since 1959	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	.0010	.0009	.0026	.0005	.0032	-.0015
b. Beta	.00	.00	.01	.00	.01	-.00
c. Partial	.00	.00	.01	.00	.01	-.00
3. Change in income expected to 1969	(5)	(5)	(5)	(5)	(5)	(5)
a. Arithmetic	-.0447	-.0508	-.0502	-.0438	-.0465	-.0495
b. Beta	-.13	-.14	-.14	-.12	-.13	-.14
c. Partial	-.13	-.15	-.15	-.13	-.14	-.15
4. CVO economizer	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.0056	-.0056	-.0064	-.0057	-.0059	-.0054
b. Beta	-.05	-.05	-.06	-.05	-.05	-.05
c. Partial	-.06	-.06	-.07	-.06	-.06	-.06
5. CVO reputation striver	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.0030	-.0014	-.0012	.0025	-.0040	-.0012
b. Beta	-.02	-.01	-.01	-.02	-.03	-.01
c. Partial	-.03	-.01	-.01	-.02	-.04	-.01
6. Kind of saver (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	.0104	.0057	.0047	.0105	.0069	.0059
b. Beta	.03	.02	.01	.03	.02	.02
c. Partial	.03	.02	.02	.04	.02	.02
7. Number members 10 years and over	(n.s.)	(5)	....	(1)	(2)	(1)
a. Arithmetic	.0000	.0000	....	.0000	.0000	.0001
b. Beta	.12	.15	....	.16	.16	.19
c. Partial	.10	.13	....	.17	.16	.20

Table 5.9 Alternative regression models - per person expenditures (in logarithms) for food away from home in 1964, upper-income Minneapolis-St. Paul families - (continued)

Independent variable and regression measure	Model number					
	1	2	3	4	5	6
8. Family life cycle stage						
Head under 45	(n.s.)	(n.s.)	(n.s.)	....	....	....
Youngest child under 6						
Beta	-.02	.03	.01	....	....	....
Children 6 to 17	(n.s.)	(n.s.)	(n.s.)	....	....	....
Beta	.05	.08	.12	....	....	....
No children (omitted)						
Head 45 and over	(n.s.)	(n.s.)	(n.s.)	....	....	....
Children under 18	.04	.06	.14	....	....	....
Beta	(n.s.)	(n.s.)	(n.s.)	....	....	....
No children under 18	.00	.05	.07	....	....	....
Beta	.07	....	....	....	....	....
Beta for all stages						
9. Family social position (negative coding)						
(1) Class I (highest)	(n.s.)	(2)	(2)	(n.s.)	....	(1)
Beta	.29	.32	.33	.31	....	.32
(2) Class II	(n.s.)	(1)	(1)	(n.s.)	....	(1)
Beta	.31	.40	.41	.33	....	.41
(3) Class III	(10)	(1)	(1)	(10)	....	(1)
Beta	.31	.41	.40	.33	....	.42
(4) Class IV	(2)	(1)	(1)	(2)	....	(1)
Beta	.35	.30	.29	.36	....	.31
(5) Class V (omitted)						
Beta for all classes	.19	....	....	....	....	....
10. Husband's occupation						
(1) Professional, technical	(n.s.)	....	....	(n.s.)	(n.s.)	....
Beta	.08	....	....	.07	.07	....
(2) Managerial, official, proprietary	(n.s.)	....	....	(n.s.)	(n.s.)	....
Beta	.22	....	....	.21	.25	....
(3) Clerical	(n.s.)	....	....	(n.s.)	(n.s.)	....
Beta	.05	....	....	.05	.08	....
(4) Sales	(n.s.)	....	....	(n.s.)	(n.s.)	....
Beta	.12	....	....	.11	.14	....
(5) Craftsman, foreman	(n.s.)	....	....	(n.s.)	(n.s.)	....
Beta	-.06	....	....	-.06	.01	....
(6) Operative	(n.s.)	....	....	(n.s.)	(n.s.)	....
Beta	.04	....	....	.04	-.05	....
(7) Service (omitted)						
Beta for all occupations	.21	....	....	....	....	....

The signs of the coefficients for the CVO economizer measure and that for kind of saver (really dissaver) were as expected, but the coefficients were not statistically significant.

The age-composition adjustment factor (number of family members 10 years and older) had a statistically significant (at 5 percent or less) positive effect in four out of the five models in which it was used. In fact, comparison of models 2 and 3 indicated that it was a highly significant addition to model number 2 even when the stages in the family cycle were included. On the other hand, elimination of the family life cycle set in model 4, compared with model 1, revealed that the family life cycle set of variables is not a statistically significant set for food away from home.

Although occupation is one of the two factors entering into the Hollingshead index of social position, a statistical test of the sums of squares of the residuals for models 4 and 5 supported the hypothesis that social classes are an important set of factors in addition to occupational categories, probably representing interaction. Similarly, comparison of data for models 1 and 2 showed that the occupational categories are statistically significant at the 1 percent level.

Several of the social classes had significant relationships to expenditures for meals and snacks. The beta coefficients for the sets of social classes and occupational categories are .19 and .21, respectively, slightly larger than that for the age-composition factor.

5.6.3 Food Expenditure Share in Total Expenditures

Current income was the most important factor in variations in the food share of expenditures by upper-income Minneapolis-St. Paul families in 1964 (table 5.10). Its negative effect followed Engel's law. But the lag effect of lower income in 1964 than that of 5 years earlier had a significant positive effect on the percent of total expenditures going to food.

Expected income change, kind of dissaver, and the two CVO measures had insignificant effects measured at the 10 percent level, but in the expected directions. However, the CVO economizing factor was significant at the 20 percent level.

The age-composition adjustment factor was positive in effect, but not significant. Statistical test of the difference between sums of squares of residuals for models 1 and 4 indicated that this factor is not important if stages in the family life cycle are used ($F = .1$). But when models 1 and 2 were compared, the family life cycle set was not significant ($F = 1.1$) if the age-composition factor was used. The beta coefficient for the set of family life cycle stages was computed for model 4, and the $-.18$ was the next largest figure to the beta coefficient for current income.

By comparing models 1 and 3, the effect of the set of social classes was found to be statistically significant at the 1 percent level. The beta coefficient calculated from model 1 was larger than that for change in income since 1959, but much smaller in magnitude than the negative effect of current income. A rather tenuous comparison of models 2 and 5 did not indicate a real difference

Table 5.10 Alternative regression models - per person expenditures for food as percent of total expenditures, 1964, upper-income Minneapolis-St. Paul families

Independent variable and regression measure	Model number				
	1	2	3	4	5
Mean of dependent variable	20.28	20.28	20.28	20.28	20.28
R ²	.24	.23	.22	.24	.23
Standard error of estimate	7.82	7.83	7.88	7.81	7.85
<u>Independent variables</u>					
1. Disposable income per person in logarithms (significance levels)	(1)	(1)	(1)	(1)	(1)
a. Arithmetic regression coefficient	-22.2317	-17.2390	-21.2186	-22.9030	-18.7984
b. Beta, standardized coefficient	-.49	-.38	-.47	-.51	-.42
c. Partial correlation coefficient	-.34	-.33	-.35	-.39	-.35
d. Income elasticity	-.48	-.40	-.45	-.49	-.40
2. Change in income since 1959	(10)	(5)	(5)	(10)	(5)
a. Arithmetic	1.0387	1.0526	1.1289	1.0466	1.1308
b. Beta	.12	.12	.13	.12	.13
c. Partial	.12	.13	.13	.13	.14
3. Change in income expected to 1969	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.5422	-.4315	-.6495	-.5393	-.2947
b. Beta	-.06	-.05	-.07	-.06	-.03
c. Partial	-.06	-.05	-.07	-.06	-.03
4. CVO economizer	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.2212	-.2315	-.2554	-.2249	-.2518
b. Beta	-.08	-.08	-.09	-.08	-.09
c. Partial	-.09	-.09	-.10	-.09	-.10
5. CVO reputation striver	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	.0864	.0914	.1303	.0875	.1197
b. Beta	.03	.03	.04	.03	.04
c. Partial	.03	.03	.05	.03	.04
6. Kind of saver (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.3383	-.1834	-.2280	-.3427	-.1523
b. Beta	-.04	-.02	-.03	-.04	-.02
c. Partial	-.04	-.02	-.03	-.04	-.02
7. Number members 10 years and over	(n.s.)	(n.s.)	(n.s.)	....	(n.s.)
a. Arithmetic	.0002	.0005	.0003	....	.0005
b. Beta	.03	.08	.04	....	.08
c. Partial	.02	.08	.03	....	.08

Table 5.10 Alternative regression models - per person expenditures for food as percent of total expenditures, 1964, upper-income Minneapolis-St. Paul families - (continued)

Independent variable and regression measure	Model number				
	1	2	3	4	5
8. Family life cycle stage					
Head under 45					
Youngest child under 6	(n.s.)	....	(n.s.)	(n.s.)	....
Beta	-.20	....	-.15	-.20	....
Children 6 to 17	(n.s.)	....	(n.s.)	(n.s.)	....
Beta	-.06	....	-.02	-.05	....
No children (omitted)					
Head 45 and over					
Children under 18	(n.s.)	....	(n.s.)	(n.s.)	....
Beta	-.08	....	-.05	-.07	....
No children under 18	(n.s.)	....	(n.s.)	(n.s.)	....
Beta	.01	....	.01	.02	....
<u>Beta</u> for all stages	....	....	....	-.18	....
9. Family social position (negative coding)					
(1) Class I (highest)	(n.s.)	(n.s.)	....	(n.s.)	....
Beta	.08	-.02	....	.08	....
(2) Class II	(10)	(n.s.)	....	(10)	....
Beta	.22	.15	....	.22	....
(3) Class III	(n.s.)	(n.s.)	....	(n.s.)	....
Beta	.13	.08	....	.13	....
(4) Class IV	(n.s.)	(n.s.)	....	(n.s.)	....
Beta	.03	.02	....	.03	....
(5) Class V (omitted)					
<u>Beta</u> for all classes	.16	....	....	....	....
10. Husband's occupation					
(1) Professional, technical	....	....	....	....	(n.s.)
Beta	....	....	....	....	.09
(2) Managerial, official, proprietary	....	....	....	....	(n.s.)
Beta	....	....	....	....	.18
(3) Clerical	....	....	....	....	(n.s.)
Beta	....	....	....	....	.15
(4) Sales	....	....	....	....	(n.s.)
Beta	....	....	....	....	.11
(5) Craftsman, foreman	....	....	....	....	(n.s.)
Beta	....	....	....	....	.10
(6) Operative	....	....	....	....	(n.s.)
Beta	....	....	....	....	-.01
(7) Service (omitted)					
<u>Beta</u> for all occupations	....	....	....	....	-.15

between the explanation of the variation in the ratio achieved by using social classes instead of occupational categories. But tests of alternative models are needed for definitive results.

5.6.4 Nonfood Expenditures Per Person

The high coefficients of multiple determination and the high income elasticities of the models for nonfood expenditures in table 5.11 are influenced by the residual method used to estimate such expenditures, as mentioned earlier. However, a number of relationships revealed by the table are notable. Although the negative effect of the expectation of lower income in 1969 was not statistically significant at 10 percent, it was at the 20 percent level. Families identified by the homemaker as less than average savers spent significantly more for nonfood goods and services than families comparable in other respects.

In the two models for which an age break at 16 years was used, the number of adults proved to be a significant positive factor. Comparison of models 3 and 4 indicated that the number of family members 10 years and older is not a significant addition to a model including the family life cycle stages. The positive effects of three stages of the cycle were statistically significant. The beta coefficient for the set of family cycle stages was calculated at .11, about the same as that for the dissaver factor.

Comparison of the sums of squares of the residuals for models 3 and 5 and for 2 and 7 provided some evidence that family social position was not a significant factor. However, the comparison was somewhat clouded by the use of a different age factor in models 5 and 7. The beta coefficient for the set of social classes, calculated for model 3, was $-.08$, probably not significant. In contrast, the statistical test of the sums of squares of the residuals for models 1 and 3 supported the hypothesis that the set of categories for husband's occupation is significant in explaining variations in nonfood expenditures. Judging from the statistical significance of the regression coefficients for the clerical group, that occupation for the head of the family was particularly significant for nonfood expenditures.

Table 5.11 Alternative regression models - per person expenditures (in logarithms) for all nonfood goods and services, in 1964, upper-income Minneapolis-St. Paul families

Independent variable and regression measure	Model number						
	1	2	3	4	5	6	7
Mean in logarithms	2.3121	2.3121	2.3121	2.3121	2.3121	2.3121	2.3121
R ²	.67	.66	.66	.66	.66	.66	.66
Standard error of estimate	.1418	.1431	.1429	.1426	.1424	.1421	.1423
<u>Independent variables</u>							
1. Disposable income per person in logarithms (significance levels)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
a. Arithmetic regression coefficient and income elasticity	1.0131	.9946	1.0277	1.0242	1.0157	1.0222	1.0261
b. Beta, standardized coefficient	.83	.81	.84	.84	.83	.84	.84
c. Partial correlation coefficient	.66	.73	.67	.72	.78	.73	.78
2. Change in income since 1959	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.0022	-.0053	-.0027	-.0027	-.0057	-.0029	-.0070
b. Beta	-.01	-.02	-.01	-.01	-.02	-.01	-.03
c. Partial	-.01	-.04	-.02	-.02	-.04	-.02	-.05
3. Change in income expected to 1969	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.0127	-.0081	-.0125	-.0125	-.0128	-.0147	-.0138
b. Beta	-.05	-.03	-.05	-.05	-.05	-.06	-.06
c. Partial	-.08	-.05	-.08	-.08	-.08	-.09	-.09
4. CVO economizer	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.0009	.0005	-.0005	-.0006	.0010	-.0004	.0013
b. Beta	-.01	.01	-.01	-.01	.01	-.00	.02
c. Partial	-.02	.01	-.01	-.01	.02	-.01	.03
5. CVO reputation striver	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	.0017	.0012	.0013	.0013	.0003	.0009	-.0001
b. Beta	.02	.01	.01	.02	.00	.01	-.00
c. Partial	.03	.02	.03	.03	.01	.02	-.00
6. Kind of saver (negative coding)	(10)	(5)	(10)	(10)	(10)	(10)	(10)
a. Arithmetic	.0179	.0197	.0167	.0167	.0163	.0161	.0168
b. Beta	.08	.08	.07	.07	.07	.07	.07
c. Partial	.12	.14	.12	.12	.11	.11	.12
7. Number members 10 years and over	(n.s.)	(n.s.)	(n.s.)	....	(5)*	....	(10)*
a. Arithmetic	-.0000	-.0000	.0000	....	.0000	....	.0000
b. Beta	-.01	-.00	.01	....	.09	....	.08
c. Partial	-.01	-.01	.01	....	.14	....	.13

* Number 16 years and over.

Table 5.11 Alternative regression models - per person expenditures (in logarithms) for all nonfood goods and services, in 1964, upper-income Minneapolis-St. Paul families - (continued)

Independent variable and regression measure	Model number						
	1	2	3	4	5	6	7
8. Family life cycle stage							
Head under 45							
Youngest child under 6	(10)	....	(10)	(10)	....	(10)	....
Beta	.19	....	.18	.18	....	.17	....
Children 6 to 17	(n.s.)	....	(n.s.)	(n.s.)	....	(n.s.)	....
Beta	.09	....	.08	.09	....	.08	....
No children (omitted)							
Head 45 and over							
Children under 18	(5)	....	(5)	(5)	....	(10)	....
Beta	.16	....	.16	.16	....	.15	....
No children under 18	(2)	....	(5)	(5)	....	(2)	....
Beta	.17	....	.15	.15	....	.16	....
Beta for all stages	....	....	.11	....	....	....	....
9. Family social position (negative coding)							
(1) Class I (highest)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	....	....
Beta	.11	.07	-.04	-.04	-.02	....	....
(2) Class II	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	....	....
Beta	.05	.00	-.11	-.11	-.10	....	....
(3) Class III	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	....	....
Beta	.13	.08	-.02	-.02	-.02	....	....
(4) Class IV	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	....	....
Beta	.14	.11	-.01	-.01	-.02	....	....
(5) Class V (omitted)							
Beta for all classes	....	....	-.08	....	....	....	....
10. Husband's occupation (negative coding)							
(1) Professional, technical	(n.s.)	(n.s.)	....	....	....	(n.s.)	(n.s.)
Beta	-.14	-.12	....	....	....	-.17	-.13
(2) Managerial, official, proprietary	(n.s.)	(n.s.)	....	....	....	(n.s.)	(n.s.)
Beta	-.14	-.09	....	....	....	-.16	-.12
(3) Clerical	(5)	(10)	....	....	....	(5)	(10)
Beta	-.14	-.13	....	....	....	-.14	-.12
(4) Sales	(n.s.)	(n.s.)	....	....	....	(n.s.)	(n.s.)
Beta	-.12	-.09	....	....	....	-.11	-.07
(5) Craftsman, foreman	(n.s.)	(n.s.)	....	....	....	(n.s.)	(n.s.)
Beta	-.15	-.13	....	....	....	-.12	-.11
(6) Operative	(n.s.)	(n.s.)	....	....	....	(n.s.)	(n.s.)
Beta	-.01	.01	....	....	....	-.03	-.01
(7) Service (omitted)							
Beta for all occupations	-.14	....	....	....	....	....	....

Chapter 6. OTHER ANALYSES OF FOOD EXPENDITURES

This chapter reports several exploratory analyses of food expenditures. The first section investigates the consistency of expenditures for several types of goods and services. The second compares characteristics of high, medium, and low food spenders. The last section summarizes the homemakers' responses to questions about their wants for additional food money.

6.1 Consistency in Patterns of Expenditures

Consistency in ways families spend their money may be studied either by measuring covariation in expenditures for several kinds of goods and services for individual families (as with statistical correlation techniques) or by comparing averages for groups of families. The latter approach reveals general relationships more clearly by avoiding complications arising from variability among individual cases.

6.1.1 Procedure Used

To identify high, medium, and low spenders for each major category of goods and services, we used the following procedures. For the total sample of upper income families, average 1964 expenditure per person for each category was computed by dividing the total expenditure of all families in the sample by the total number of family members in full-year equivalents as reported in our survey. Per person expenditures on each type of consumer goods were measured for each family by dividing the reported family expenditure by its family size. The next step was to relate the per person expenditures for each family to the sample average for each category. The cases in the sample were then divided into high, medium, and low thirds based on the three sets of expenditure ratios--(a) for all goods and services, (b) for food expenditures, and (c) for nonfood expenditures. Then these thirds were subdivided among quartiles based on income per person for one analysis and among stages in the family life cycle for another analysis.

6.1.2 Relationships with Overall Expenditures

Let us look first at the consistency of patterns of expenditures for all goods and services within the per person income quartiles (table 6.1). Within these groups we find that total expenditures per person varied inversely with family size, i. e., the lower the family size the higher the average expenditure. But the relationship was not completely general and strong. Expenditures per person for all goods and services varied quite consistently with expenditures for nonfood items, for all food combined, and for food at home. In the cases of expenditures for rental value of housing and transportation, the patterns were generally consistent in that higher expenditures for these items were found in families with higher total expenditures. In the next to the highest per person income group, there were inconsistencies. Expenditures for recreation, reading, education, alcoholic beverages, and food away from home were inconsistent in relationships with expenditures for all goods and services.

Within each stage in the family cycle, data in table 6.2 reveal that the pattern of expenditures for all goods and services was often inconsistent with

Table 6.1 Average family size and percentages of sample means of expenditures per person for selected goods and services by upper-income Minneapolis-St. Paul families grouped first in thirds according to overall expenditures per person and then by per person income quartiles in 1964

Item	Fourth and lowest quartile		Third quartile		Second quartile		First and highest quartile		
	Low	Medium	Low	High	Low	Medium	High	Medium	
Number of cases	52	13	12	47	8	32	23	13	49
Average family size, number	6.3	5.2	4.9	4.5	3.5	3.9	3.5	3.0	2.7
Average percentage of sample mean of expenditures in 1964 for	Percentage of sample mean								
All goods and services	59	83	62	97	64	111	139	112	205
All food	79	96	86	94	105	109	118	119	155
Food at home	86	99	90	94	100	109	125	109	136
Food away from home	62	76	70	95	131	100	111	160	201
In home city	53	114	79	88	88	130	71	109	216
Out of home city									
All nonfood goods and services	54	80	56	98	54	111	145	110	218
Alcoholic beverages at home	94	106	94	96	79	89	130	79	130
Alcoholic beverages away from home									
In home city	79	79	93	113	174	106	72	93	181
Out of home city	115	193	20	80	58	75	53	185	115
Recreation	60	83	88	97	105	115	88	131	219
Reading	64	86	103	97	96	128	100	142	196
Education	44	162	30	118	28	165	75	112	115
Monthly equivalent rental	66	92	88	101	111	102	119	128	194
Transportation	72	85	85	93	86	136	117	158	184

Table 6.2 Distribution by per person income quartiles, average family size, and percentages of sample means of expenditures per person for selected goods and services by upper-income Minneapolis-St. Paul families grouped first in thirds according to total expenditures per person in 1964, then by stage in family life cycle

Item	Youngest child under 6			Head under 45			Head 45 and over						
	Children 6 to 17			Children under 18			No child at home						
	Low	Medium	High	Low	Medium	High	Low	Medium	High				
Number of cases	44	38	18	15	19	8	6	9	12	29	11	13	32
Percentage distribution among per person income quartiles													
First and highest	0	8	28	7	5	50	83	89	0	0	55	31	81
Second	4	24	44	20	37	50	17	11	8	28	36	54	19
Third	14	55	22	20	58	0	0	0	25	48	9	8	0
Fourth and lowest	82	13	6	53	0	0	0	0	67	24	0	7	0
Average family size, number	6.3	4.4	3.8	4.7	4.8	4.0	2.0	2.0	5.6	4.7	3.7	3.1	2.4
Average percentage of sample mean of expenditure in 1964 for													
All goods and services	57	98	174	64	102	188	108	168	63	98	166	113	197
All food	77	88	131	93	105	141	129	127	88	107	137	114	154
Food at home	85	89	122	87	103	132	117	112	97	107	141	113	141
Food away													
In home city	58	93	168	115	102	198	176	200	75	96	136	111	159
Out of home city	58	69	125	85	132	90	124	87	46	126	108	127	240
All nonfood goods and services	53	100	185	57	102	199	104	178	57	96	174	113	208
Alcoholic beverages at home	104	109	134	100	118	180	70	132	48	84	133	40	96
Alcoholic beverages away													
In home city	97	107	170	108	103	150	121	82	61	88	81	125	160
Out of home city	157	85	52	98	60	108	138	125	40	161	34	95	116
Recreation	70	102	121	82	109	126	152	223	63	99	155	99	202
Reading	71	99	121	78	124	155	161	238	85	109	118	105	187
Education	34	71	52	48	153	80	72	6	63	161	162	284	135
Monthly equivalent rental	70	101	140	99	98	177	148	171	70	93	161	124	183
Transportation	68	110	138	116	78	98	192	204	62	96	113	174	192

variations in expenditures for subcategories of items for the third stage of the family life cycle. (This includes families with heads under 45 years of age without children.) For the other stages in the family life cycle, per person expenditures for all goods and services varied inversely with family size; but directly with social status and with total nonfood expenditures, with expenditures for all food, at-home food, and away-from-the-home-city food, for alcoholic beverages at home, for recreation and reading, and with monthly rental value of housing. The pattern of expenditures for all goods and services was inconsistent with those for education, food out-of-the-home-city, and transportation.

6.1.3 Relationships with Food Expenditures

Food expenditures per person within per person income quartiles varied directly with stage in family cycle, with size of the family (except in the middle income groups), with total expenditures for goods and services, with expenditures for recreation, education, food at home, food away from home, and monthly rental value of housing (table 6.3). There was little relationship between the pattern of expenditures for food and for all nonfood goods and services combined. The food expenditure patterns appeared to be inconsistent with variations in social status, employment of the wife, and with expenditures for reading, transportation, and alcoholic beverages.

6.1.4 Relationships with Nonfood Expenditures

There were few high spenders for nonfood goods and services in the lowest per person income quartile and few low spenders in the highest income quartile. Nonfood expenditures varied consistently with family size in the two lower per person income quartiles but not in the two higher quartiles. As noted earlier, nonfood expenditures varied consistently with expenditures for all goods and services. Equivalent rental value of the home per person was consistent in its variation with the level of nonfood expenditures in the lowest and the highest income quartiles but not in the middle range. The detailed data reveal frequent inconsistencies between variations in nonfood expenditures per person and expenditures for recreation, reading, education, food away from home, transportation, and alcoholic beverages.

6.2 Analysis Using Spending Levels

Another type of analysis of the rates of food expenditures by upper-income families in Minneapolis-St. Paul (UPIF) was concerned with variations in family food expenditures in a week and another with per person rates of expenditures for food in the year 1964. This approach involved comparisons of the characteristics of special groupings of families and of their expenditure patterns for subcategories of items. Variations in the components of total food and beverage expenditures in a year are analyzed in part III.

6.2.1 Three Levels of Family Expenditures for All Food in a Week

For this analysis we used 20 percent below and above the average food expenditure by all families in the sample as dividing lines to form three groups of families. Then we compared their characteristics and expenditure patterns.

Table 6.3 Distribution by family life cycle stage and average family size and percentages of sample means of expenditures per person for selected goods and services by upper-income Minneapolis-St. Paul families grouped first in thirds according to food expenditures per person and then by per person income quartiles in 1964

Item	Fourth and lowest income quartile			Third quartile			Second quartile			First and highest quartile		
	Low spenders	Medium		Low	Medium		Low	Medium		Low	Medium	
		High	High		High	High		High	High			
Number of cases	43	14	9	28	25	11	12	30	21	6	14	44
Family life cycle stage	100	100	100	100	100	100	100	100	100	100	100	100
Proportion of families in group												
Head under 45												
Youngest child under 6	72	50	45	57	56	9	33	44	9	33	7	11
Children 6 to 17	7	21	22	21	20	27	17	23	24	0	21	7
No children	0	0	0	0	0	0	25	0	0	17	22	21
Head, 45 and over												
Children under 18	19	29	33	22	20	64	25	13	29	0	14	9
No children under 18 and other	2	0	0	0	4	0	0	20	38	50	36	52
Average family size, number	6.4	5.8	5.2	4.5	4.6	4.4	3.4	3.9	3.6	3.3	3.0	2.6
Average percentage of sample mean of expenditures in 1964 for												
All goods and services	61	69	79	93	98	102	104	117	119	133	160	195
All food	66	98	168	70	100	138	76	102	147	74	101	173
Food at home	73	96	191	72	102	131	84	98	154	74	98	148
Food away from home	51	104	93	59	92	156	58	118	124	56	102	242
In home city	39	97	139	39	105	155	51	98	140	101	121	235
Out of home city												
All nonfood goods and services	60	62	57	100	97	94	111	121	112	148	174	201
Alcoholic beverages at home	80	125	118	69	93	142	117	85	119	38	117	128
Alcoholic beverages away												
In home city	64	109	94	109	93	135	57	136	81	41	71	204
Out of home city	31	280	360	40	132	178	29	54	101	290	48	133
Recreation	53	87	94	74	108	117	106	103	105	186	164	212
Reading	64	84	106	104	92	93	103	103	136	92	126	213
Education	56	54	142	63	79	227	20	97	194	84	84	126
Monthly equivalent rental	62	70	144	96	96	111	100	103	124	164	135	198
Transportation	64	108	84	89	95	103	141	128	104	310	181	159

Among the low food spenders (those spending 80 percent or less of mean food expenditure in a week by the total sample), 92 percent had disposable incomes below \$15,000 whereas 67 percent of the high spenders (120 percent or more of the mean) were in these income groups. Because of the influence of family size, substantially larger proportions of the families in higher per person income quartiles were among the low spenders than in the high spending group. In other words, smaller families tend to have higher per person incomes and lower family food expenditures.

Tabulation of the characteristics of these three sets of families did not provide clear-cut indications as to what other factors might be closely related to these variations in level of family food expenditures. The influences of income, family size, and types complicate such an overall approach so the three spender categories were subdivided alternatively by family income and by stages in the family life cycle.

From the subsort of high, medium, and low spenders according to level of family income came the data shown in table 6.4. Within each of these three income groups, average family food expenditure varied inversely with per person income category whereas family size was larger among families at relatively higher level of food expenditures. (Family size in 1964 was used here as an approximation of the family size in the week rather than the household size based on meals at home in the week because total food expenditures include meals away from home.)

The relationship between stage in the family life cycle and family expenditure for food is complicated by the presence of older children. The criteria used for the Michigan Survey Research Center's family life cycle stages were the age of the youngest child and the age of the head of the household. In table 6.4 you will note a very substantial increase in the proportions of children in the 7 to 15 age group at successively higher levels of food expenditures within each of the three income groups. The relationships of several characteristics of the wife to levels of food expenditures are irregular, probably because of interrelationships with family composition. Higher food spenders tended to be less satisfied with their financial status and rated themselves as lower savers.

As in the preceding section on consistency of expenditure patterns, an analysis of these data reveals substantial association in variations among several categories of food expenditures in the year and week. Within each family income group the high food spenders in a week spent about 75 percent more for all food at home and away from home in 1964, on the average, than the low food spenders. The variations among the three food spender groups for a week in average 1964 expenditures for meals and snacks away from home were greater than were their average expenditures for food at home.

In response to questions about how the respondents might spend a few more dollars if they were available for food, only meat received much interest. Among families with income below \$10,000, the high food spenders had greater desire to spend more for meat than the low spenders. In contrast, low food spenders within the \$15,000 and over income group of families generally wished to buy more meat, but the high spenders did not. When asked how

Table 6.4 Characteristics of low, medium, and high food spenders in a week, within family disposable income groups¹

Item	Unit	\$6,410 to \$10,000			\$10,000 to \$15,000			\$15,000 and above		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
Number of cases	number	41	28	14	52	41	32	8	16	23
Family size in 1964	number	3.4	4.1	5.2	4.0	4.5	5.6	3.6	4.6	5.1
Family life cycle stage, proportion of total in group										
Head under 45										
Youngest child under 6	percent	37	32	72	40	42	34	38	50	22
Children 6 to 17	percent	2	29	...	19	17	19	12	19	26
No children	percent	20	7	7	8	2	...	...	...	...
Head, 45 and over										
Children under 18	percent	12	14	14	17	22	41	...	6	39
No children under 18 and other	percent	29	18	7	16	17	6	50	25	13
Proportion of family members										
Under 7 years, average	percent	16	16	17	20	16	12	15	23	7
7 to 15 years, average	percent	10	23	31	15	22	30	15	18	30
Under 16 years, average	percent	26	39	48	35	38	42	30	41	37
10 years or older, average	percent	80	79	71	75	77	77	80	66	86
Wife's age in years, average	number	38	39	39	38	40	42	47	40	44
Wife's years of schooling, average	number	13	13	14	14	14	13	15	14	14
Average 1964 expenditures for										
All nonfood	dollars	6,880	6,170	6,030	8,510	9,070	8,080	13,060	13,490	14,640
Total food	dollars	1,520	1,800	2,810	1,710	2,060	2,950	1,980	2,770	3,240
Food for use at home	dollars	1,180	1,370	2,110	1,260	1,510	2,200	1,400	1,870	2,060
Average expenditure in a week for										
Total food	dollars	20.60	38.10	67.50	23.50	38.40	67.30	15.40	38.00	66.70
Food at home	dollars	16.90	30.00	47.40	18.50	28.50	41.40	11.30	22.30	40.20
Food away from home	dollars	3.70	8.10	20.10	5.00	9.90	25.90	4.10	15.70	26.50

¹ Families spending less than 80 percent of sample average for week classified as low; medium-80 to 120 percent of average; high-120 percent or more.

much additional money would be required to buy the amount and quality of food they felt their families would like, the high spenders in the lowest income group wanted to increase their food expenditures by about \$6 whereas the low spenders would require about \$2.50. Variations within the other income groups in felt needs for additional food money did not appear to be significantly related to the level of family food expenditures.

Analysis of the scores made by the homemaker respondents on several different value measures revealed one particularly interesting variation with level of family food expenditures. Among homemakers in families with less than \$15,000 incomes, those in the low spender category ranked themselves lower on interest in leadership whereas wives in the low spender category of the \$15,000 or more income group scored substantially higher than wives spending much more for food.

Examination of the characteristics and expenditure rates for low, medium, and high family food spenders within each stage of the family life cycle revealed little new information regarding factors related to variations in family food expenditures. The low spenders had a higher proportion of children under 7 and the high spenders had more children in the 7 to 15 age group. A consistent relationship between higher food spending and higher score on the Consumer Value Orientation measure for reputation striving was revealed. Need for more food money was most strongly felt by homemakers with husbands under 45 years and some older children and least strongly by older families without children. Homemakers in families with older children were much more taken with the idea of having a larger budget for meats than were other homemakers.

6.2.2 Per Person Spender Categories For Food in Year

This approach uses (a) annual data to avoid week-to-week variations in food expenditures and (b) per person averages to make an approximate adjustment for variations in the number of people to be fed. Families within each per person income quartile were subdivided into three spender categories. Because of the small number of observations in the low spender category of the two highest quartiles, they are omitted from table 6.5. The dividing lines for the three spender categories in table 6.5 were \$350 and \$700 per person.

Data in this table and others not published support most of the findings of the preceding analyses and provide additional insights into characteristics of high and low food spenders. Low spenders per person for food tend to have lower family incomes, younger heads and wives, and more young children. The low spenders tended to be more satisfied with their financial status and more often regarded their families as average or better savers than did the high spenders. The level of per person expenditure for food varied directly with spending for all goods and services, especially in the lowest and highest per person income quartile. Spending for recreation, reading, education, and average monthly rental value of housing were closely related to the level of food expenditures per person. Generally speaking, a higher proportion of food away from home was related to the higher level of total food expenditures.

Table 6.5 Characteristics and selected average expenditures for low, medium, and high per person food spenders in year within per person income quartiles¹

Item	Per person income			\$800 to \$2,199			\$2,200 to \$2,899			\$2,900 to \$3,859			\$3,860 and over		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Number of cases	27	35	4	17	41	5	17	48	12	31	30	12	48	31	30
Family income category ²	1.9	2.0	2.5	2.8	2.8	3.4	2.8	2.7	3.3	2.9	3.9	3.3	2.7	2.9	3.9
Family size in 1964, number	6.2	6.0	5.8	4.5	4.7	4.0	4.5	3.9	3.5	3.0	2.6	3.5	3.0	3.0	2.6
Family life cycle stage, proportion of total in group															
Head under 45	70	57	75	59	49	...	59	33	17	13	13	17	33	13	13
Youngest child under 6, percent	11	14	...	18	24	20	18	19	25	10	10	25	19	10	10
Children 6 to 17, percent	...	...	...	...	...	...	...	6	...	29	13	...	6	29	13
No children, percent	15	29	25	23	24	80	23	23	17	13	7	17	23	13	7
Head, 45 and over	4	...	...	...	3	...	...	19	41	35	57	41	19	35	57
Children under 18, percent															
No children under 18 and other, percent	26	18	15	27	18	0	27	14	5	4	5	5	14	4	5
Proportion of family members based on rounded data	30	34	30	15	25	20	15	13	14	10	5	14	13	10	5
Under 7 years, average percent	56	52	45	42	43	20	42	27	19	14	10	19	27	14	10
Under 16, average percent	58	64	75	59	66	94	59	78	87	91	92	87	78	91	92
10 years or older, average percent	2.2	.7	.5	1.1	1.5	1.8	1.1	2.9	1.4	3.8	2.8	1.4	2.9	3.8	2.8
Wife's employment in 1964, code ³	1,500	1,600	2,300	2,300	2,500	2,400	2,300	2,900	3,000	3,900	5,400	3,000	2,900	3,900	5,400
Expenditures per person in 1964	1,200	1,200	1,200	2,000	2,000	1,600	2,000	2,300	2,300	3,300	4,400	2,300	2,300	3,300	4,400
All goods and services, dollars	100	120	240	120	180	200	120	170	330	250	380	330	170	250	380
Nonfood total, dollars	21	26	65	35	35	44	35	37	50	57	82	50	37	57	82
Monthly rental value of housing dollars	240	340	900	220	360	520	220	370	600	390	560	600	370	390	560
Food at home ⁴	40	110	150	60	120	210	60	130	180	150	390	180	130	150	390
Food away from home ⁴ dollars	83	125	185	71	96	98	71	97	109	69	102	109	97	69	102
Percentage of sample average for food expense in week ⁴ dollars															
Desire for more food money, proportion of cases in group	33	40	75	53	56	60	53	50	75	48	90	75	50	48	90
None or no response, percent	26	23	...	35	24	20	35	31	8	36	7	8	31	36	7
\$1 to \$7.50 per week, percent	41	37	25	12	20	20	12	19	17	16	3	17	19	16	3
\$7.50 or more per week, percent															

¹ Low food spenders - under \$350 per person, medium - \$350 to \$699, high \$700 and over.

² Code 1 = under \$10,000; 2 = \$10,000 to \$15,000; 3 = \$15,000 to \$20,000; 4 = \$20,000 and over.

³ Based on hours and weeks, 1 is low, 9 is full-time - all year.

⁴ Computed from rounded data.

6.3 Study of Food Wants

The study of food wants is based on the characteristics and expenditure patterns of families categorized by responses to two types of questions. The homemakers were asked how much additional money was needed per week to buy the amount and quality of food the family would like. They were also asked the degree to which they agreed and disagreed with the statement that if they had a few more dollars to spend for food, they would buy more and better quality of meat, dairy products, bakery products, etc. These product groups were identified and scaled separately.

Based on the amount of additional food money needed, the families were divided into three groups (table 6.6). The first category included those who did not reply to the question, probably because of lack of interest, and those who indicated no more money was needed. Slightly over half of the cases were in this category. The second category included those who said they needed more money but no more than \$7.50 additional per week for their family. A fourth of the cases were in this group. The remaining cases indicated that they would need more than \$7.50 per week to meet the food wants of their families. There appeared to be some relationship between the desire for more food money and the level of per person income, but not with the level of family income. Homemakers wanting more food money more frequently had younger and larger families and slightly less education. The amount of additional money needed did not form significant relationships with any of the value measures. Additional needs for food money seemed to be related to the strength of the desire to spend more for meat. Only in the group with substantial money needs was there much interest expressed in buying more poultry, dairy products, or bakery products and mixes.

The amount of supplementary money needed for food was inversely related to the amount spent on meat per family, but was not significantly related to family expenditures for all foods or for other food groups. However, the homemakers not interested in additional food money had spent more per person for most of the food groups and for all food (at home and away from home) in the preceding week than had those wanting more food money. Among those needing larger food budgets, the only significant difference between those requiring \$7.50 or more per week and those with smaller monetary needs appeared to be that those wanting larger increases were already spending more for the meat, poultry, and fish group and for prepared dishes than the homemakers with smaller additional needs.

Homemakers in families spending over \$700 per person for food generally expressed little need for more food money (table 6.5). About a third of the homemakers in the lowest income quartile and half of those in the next to lowest income group said that no more money was needed for food. The low and medium food spenders in the lowest income quartile reported need to spend substantially more money for food to meet their families' wants than was the case for homemakers in other income and food spending groups. In regard to the desire to spend more for the several kinds of food, these upper-income homemakers generally expressed much more desire to buy larger quantities and better quality meats than dairy or bakery products. Also there was some tendency for the lower food spenders per person to place greater emphasis on buying more meats than the high food spenders did. Only

Table 6.6 Characteristics and average expenditures for selected commodities by families classified by desire for additional money for food¹

Item	Unit	No reply or no more money needed	Less than \$7.50 more per week	\$7.50 or more needed per week
Number of cases	number	138	64	53
Proportion with per person income of				
\$800 to \$2,199	percent	19	23	47
\$2,200 to \$2,899	percent	25	27	21
\$2,900 to \$3,859	percent	25	28	21
\$3,860 and over	percent	31	22	11
Household size in week, 21-meal equivalents ²	number	3.4	3.2	4.1
Family life cycle stage, proportion of total in group				
Head under 45				
Youngest child under 6	percent	37	37	45
Children 6 to 17	percent	14	16	24
No children	percent	6	11	2
Head, 45 and over				
Children under 18	percent	19	22	23
No children under 18 and other	percent	24	14	6
Proportion of family members 10 years and over	percent	76	75	71
Wife's schooling in years	number	13.7	13.8	13.1
Total food expenditures in 1964	dollars	2,200	1,800	2,200
Expenditures for food at home in 1964	dollars	1,600	1,300	1,600
Proportion of group having week's food expenditure in relation to mean of				
150 percent or more	percent	20	9	13
120 to 149 percent	percent	10	8	19
80 to 119 percent	percent	34	30	36
50 to 79 percent	percent	24	33	26
Under 50 percent	percent	12	20	6
Average family expenditure for food at home in week for				
Dairy products except butter	dollars	4.00	3.49	4.36
Butter and other fats and oils	dollars	1.24	.92	1.27
Eggs	dollars	.54	.46	.71
Cereal products	dollars	3.41	2.96	4.07
Beef	dollars	4.41	2.56	3.42
Pork	dollars	2.16	1.95	2.44
Total red meat	dollars	8.00	5.27	6.76
Meat, poultry, and fish total	dollars	8.86	6.37	8.70
All fruits and vegetables	dollars	5.40	4.12	5.32
All prepared dishes	dollars	1.98	1.40	1.99
Average expenditure per person (21-meal equivalents) for food at home in week for ²				
Dairy products except butter	dollars	1.03	.98	.95
Butter and other fats and oils	dollars	.31	.26	.28
Eggs	dollars	.13	.12	.13
Cereal products	dollars	.89	.84	.88
Beef	dollars	1.27	.74	.84
Pork	dollars	.60	.61	.60
Total red meat	dollars	2.15	1.59	1.66
Meat, poultry, and fish total	dollars	2.56	1.90	2.10
All fruits and vegetables	dollars	1.53	1.18	1.21
All prepared dishes	dollars	.53	.38	.44
All food for home use	dollars	7.67	6.22	6.54
Average expenditure per household member in a week for ³				
Meals and snacks away from home	dollars	2.99	2.38	2.00
All food at home and away	dollars	9.93	8.20	8.08

1 Based on responses to question: In total how much additional money per week would it require to buy the amount and quality of foods you feel your family would like?

2 Household size in 21-meal equivalents calculated from total meals eaten at home divided by 21.

3 Computed using head count of household members in week.

in the second quartile from the top did the high spenders express any interest in buying more dairy products if they were to have more food money.

Analysis of the responses regarding the desire to spend more money for meats revealed that slightly over one-third of these homemakers had no interest in spending more for meats, one-half would like to spend more, and one-fifth said they did not need to spend more for meats. Analysis of the characteristics of families grouped according to the homemakers' desires to spend more for meats revealed few significant relationships. Of those disagreeing with the need to spend more, two-thirds were in families whose per person incomes put them above the median. Almost two-thirds of those agreeing that they wanted to spend more were in the lower half when families were grouped on the basis of per person income. If homemakers wanted more food money, they were likely to want to spend more for meat. Those who would buy more or better quality meats tended to have already spent substantially more per person for meats, all foods, and meals eaten out in the preceding week.

The responses to the question regarding the desire to spend more for dairy products indicated that only one-sixth of the homemakers would buy more dairy products if they had a few dollars more of food money. One-half clearly would spend no more for dairy products. The other homemakers were undecided or made no response. Those currently buying all the dairy products they wanted tended to be in the higher income and education categories, and half expressed no need for additional food money. This group of families was already spending somewhat more for food than those in which the homemakers agreed that they would like to buy more dairy products if they had a larger food budget. Among those wanting to buy more dairy products, we found slightly larger households, a higher proportion of family members in the 7 to 15 age category, more concurrent interest in spending more for meats. Half of these homemakers could make use of \$7.50 or more per week of additional food money.

Only one-fifth of the homemakers expressed interest in spending more for bakery products and mixes if they had a larger food budget. Out of this group, 40 percent placed their additional food budget requirements at \$7.50 or more, but 25 percent did not think they needed any more food money. Those who wished to spend more for bakery products and mixes were already higher spenders for cereal products per household than the average. The desire to spend more for this food group did not seem to be related to any of the socioeconomic characteristics measured in our study.

Chapter 7. SUMMARY OF ANALYSES OF THE COMPETITION BETWEEN FOOD AND NONFOOD EXPENDITURES

Agricultural leaders have long been concerned about the decreasing share of food in total U.S. consumer expenditures, but they have been reassured by the steady increase in aggregate and per capita food expenditures. Food businessmen have banked on increases in the eating-place market and in the sales of prepared foods. The increases in food sales have come from the population shifts from farms to urban areas, from the upward movement on the income scale, from shifts in age composition as postwar babies have been growing up. But there are obvious limits to the continuation of these favorable factors. Moreover, postwar survey data on consumer expenditures and characteristics of upper-income families provide hints that such families may be starting to cut back on food expenditures.

7.1 Analyses of Historical Trends and Cross Section Variations

A regression analysis taking into account historical changes in farm population, age composition, and retail food prices and real income as factors related to the value of all food purchased by consumers, home-produced by farmers and furnished inmates and employees yielded an income elasticity of .7 for the period 1947 to 1966. This means that for each 10 percent increase in real income per capita, food expenditures (including the value of home-produced food) rose 7 percent. Excluding food home produced and furnished, the income elasticity of on-premise sales by eating places was 1.4 and that for off-premise or retail food sales was .8. A substantial share of the upward thrust of income was offset by the rise in prices of food eaten away from home, which was much larger than the increase in retail food store prices. The off-farm movement contributed strongly to higher average food expenditures and to supporting the food share in total expenditures (table 4.8).

Analyses of cross section data for all urbanization categories from the spring 1955 and 1965 Household Food Consumption Surveys indicate no change in income elasticity of food expenditures per family (.3) between the two periods. But the income elasticity of per person expenditures declined from .4 to .2. Family size and age composition became slightly more important compared with income. The income elasticity of per person expenditures for food at home was only .04 in 1965 while that for food away from home was .6. Family size and composition was more important for food at home than income. but the opposite relationship was identified for food away from home. Income elasticity of per person expenditures by U.S. urban households for all food categories was measured at .15 for 1965. There was no measurable response to income in expenditures for food at home. The income elasticity of expenditures for meals and snacks was .8 (table 4.9).

Comparison of these statistical results indicates the historical importance of population shifts and changes in the ways of living to the postwar increases in real food expenditures.

7.2 Preliminary Evidence from UPIF Survey

Cross-tabulations of UPIF expenditures and family characteristics against income per person revealed that the food share in total expenditures by upper-income families was lower in the higher per person income quartiles, in smaller families, in those with a smaller proportion of older children and adults, and in families with more full-time earners. The relationship of the food share to occupation varied with the level of income. In the \$6,400 to \$10,000 income bracket, white-collar families spent more for food out of their total expenditures than did the blue-collar families. In the \$10,000 to \$15,000 income group, clerical and sales families spent relatively more for food than the professional and managerial families. Among families with incomes over \$15,000, those in higher ranking occupations appeared to spend a smaller share on food.

In the \$6,400 to \$10,000 group, lower food spenders spent less on alcoholic beverages, education and reading, and housing but more on recreation and transportation than the high food spenders. Lower food spenders with family incomes over \$10,000 spent less on recreation and reading but more on nonfood goods and services in total than did the families who were high spenders for food.

Within per person income quartiles, per person expenditures for all goods and services varied consistently with expenditures for nonfood items, all food categories combined, and food at home. Cross-tabulations showed substantial association in the variations among several categories of food expenditures in 1964 and in the week for which respondents supplied detailed expenditure data. To be specific, within each family income group, high food spenders in the week spent about 75 percent more for all food at home and away from home in 1964, on the average, than the low food spenders. Expenditures for meals and snacks varied more than variations in expenditures for food at home.

Multivariate analyses of these relationships are summarized and related to specific hypotheses in the following sections.

7.3 Hypotheses Related to Income and Financial Characteristics

7.3.1 Income elasticity of food expenditures among upper-income families in Minneapolis-St. Paul (UPIF) is slightly less than that for all U.S. urban families across all levels of income, both per family and per person.

The response of UPIF family expenditures for all food in a week of April to July 1965 to variations in family income in 1964 was the same as the relationship measured for all U.S. urban families and single individuals (.3). But the .4 income elasticity of 1964 UPIF family expenditures was slightly higher than the U.S. urban elasticity for a week (tables 4.9, 5.3, 5.5).

The income elasticity of .32 derived from multivariate analysis of UPIF expenditures per person for all food in a week and a number of socioeconomic characteristics is significantly higher than the .15 elasticity for all U.S. urban families and single individuals in spring 1965. The difference may arise from the use of additional, statistically significant factors with positive and negative effects. But it is also possible that the response of food expenditures per person to the

preceding year's income per person is slightly greater among UPIF in Minneapolis-St. Paul than indicated by the .15 income elasticity for U.S. urban families (tables 4.9 and 5.5).

Expenditures per person for food at home in a week by UPIF were not responsive to variations in 1964 income per person (.1 income elasticity, not statistically significant). This finding was quite consistent with the .04 income elasticity for the per person value of purchased food consumed at home by U.S. urban households (tables 4.9 and 5.5).

In a week during Spring 1965 away-from-home food expenditures per person by U.S. urban households had an income elasticity of .8, based on the double logarithmic form. The comparable income elasticity for UPIF was 1.1 but the UPIF model was based on semi logarithmic form and incorporated a number of additional variables with negative effects, though statistically insignificant (tables 4.9 and 5.5).

7.3.2 Current family disposable income is related to current dollar outlays per family for major categories of goods and services, but adjustment for family size and other socioeconomic factors reveals greater influence of income on expenditures per person.

Comparison of income elasticities for family food expenditures reveals that only the UPIF data for expenditures for food at home support the hypothesis. The .35 income elasticity for per person expenditures was more than one standard error above the .22 income elasticity computed from family data (tables 5.3 and 5.4).

The income elasticity of monthly rental value of housing per person was much higher than the family relationship. (The difference exceeded one standard error, tables 5.3 and 5.4.)

7.3.3 Income elasticity of food expenditures in a week is approximately equal to that for a year, but variability is greater.

The regression model for UPIF total family food expenditures in a week yielded a lower income elasticity (.27) than that for the year (.43). But the elasticities were barely within the range of one standard error. Other regression measures indicated that income is relatively much less important in a short time period than in a year. The week's income elasticity for family food expenditures at home was also lower than that for annual expenditures, but the difference was not statistically significant.

The response of total food expenditure per person in a week to income was measured at .39, using a double logarithmic model and .32 with a semi-logarithmic form, significantly lower than the .53 for the year 1964, based on the double logarithmic relationship. The elasticities for at-home expenditures per person in the week (.1) and year (.35) were also significantly different. Comparable relationships for away-from-home food were 1.1 (semi-logarithmic) and .95 (double logarithmic), within the range of sampling error.

A smaller proportion of the variation in each category of UPIF food expenditures in a week was explained by the socioeconomic factors used in the models than those for annual food expenditures (tables 5.3, 4, and 5).

7.3.4 The relationship of income to food expenditures for home use and for meals and snacks differs as much among upper-income families as it does for all U.S. urban families.

The following sets of income elasticities support the hypothesis.

<u>Table Reference</u>	<u>Measure</u>	<u>Regression model</u>	<u>Income elasticity</u>	<u>Standard error</u>
A. <u>Family expenditures and income</u>				
Table 4.9	U.S. urban, 1965 spring week, at home	double log	.21	.03
	away	double log	.84	.11
Table 5.5	UPIF week, at home	semi-log	-.09	.10
	away	semi-log	1.12	.26
Table 5.3	UPIF annual, at home	double log	.22	.07
	away	double log	.94	.16
B. <u>Per person expenditure and income</u>				
Table 4.9	U.S. urban, 1965 spring week, at home	double log	-.01	.04
	away	double log	.77	.16
Table 5.5	UPIF week, at home	semi-log	.09	.09
	away	semi-log	1.07	.24
Table 5.4	UPIF annual, at home	double log	.35	.05
	away	double log	.95	.11

7.3.5 Current income is the most important factor in the food share of total expenditures, even among upper-income families.

In the statistical analysis of the ratio of food expenditures to total expenditures in 1964 by upper-income families in Minneapolis-St. Paul, the negative effect of higher income per person in 1964 was much more important than any other factor, as measured by both the beta coefficients and the partial correlation coefficients (table 5.10).

7.3.6 Expenditures per person for food by upper-income families are less responsive to variations in income than are expenditures for a number of categories of nonfood goods and services.

The income elasticity of per person food expenditures in 1964 (UPIF) was .5, significantly lower than that for all nonfood goods and services (.9), for the monthly equivalent rental value of the home (.7), and for recreation (.9), but higher than the elasticity for per person expenditures for reading and education combined (table 5.5).

7.3.7 Current expenditures for food, even by upper-income families, are influenced by family experiences with changes in income during the last few years, not just by current income.

Using the wife's evaluation of the degree to which the family's income had changed from 5 years earlier as the measure for income change, regression analysis yielded a significant positive regression coefficient for per person expenditures for food at home in 1964. Much more than average increase was coded 1 on a 5-point scale and much more than average decrease as 5. Thus the positive coefficient indicated that decreases in income had a lagged effect, i. e., they raised current food expenditures. But this income change factor was much less important in explaining variations in at-home food expenditures than was current income (table 5.8).

Similarly, the lag effect of lower income in 1964 than in 1959 had a significant positive effect on the food share of total expenditures. But it was an insignificant factor in variations in away-from-home expenditures per person in 1964 (tables 5.9 and 5.10).

Change in income from 5 years earlier did not have a significant effect on total nonfood expenditures per person (table 5.11).

7.3.8 Current expenditures for food, even by upper-income families, are influenced by the families' expectations regarding future income changes in addition to their recent and current income situation.

This hypothesis is supported by statistical analyses of per person UPIF expenditures for food at home and for away-from-home food in 1964. The wife's indication of her expectation of much lower income by 1969 was coded as 5 on a 5-point scale and an expectation of much higher income as 1. The negative coefficients for this variable were statistically significant at the 5 percent level. In fact, the expectation of lower income was the most significant negative factor in the regression model for per person expenditures for food away from home (tables 5.8 and 5.9).

A comparable hypothesis for nonfood expenditures was tested, but the negative coefficient for expected lower income was significant only at the 20 percent level (table 5.11).

7.3.9 Upper-income families who view themselves as below average savers tend to spend more for food than do families comparable in other socioeconomic characteristics.

The saving characteristic of the family was measured by the wife's evaluation on a 5-point scale of her family's saving pattern, with the much above average saver coded as 1 and the much below average saver as 5. In regression analyses of 1964 UPIF per person expenditures for food at home and for meals and snacks in the home city, this measure had a significant positive effect. It had a negative relationship to food expenditures outside the home city. But in the alternative models testing the contribution to explanation of variations in at-home food expenditures of the discontinuous variables for family life cycle, social class, and occupation of the husband, the saving factor was statistically significant only in the model in which stages in the family life cycle and social classes were not included (tables 5.4 and 5.8).

A comparable analysis for nonfood expenditures indicated that below average savers tend to spend significantly more for nonfood goods and services than higher savers, even when the discontinuous variables were used (table 5.11).

7.4 Hypotheses Related to Family Size and Composition

7.4.1 Family size and composition are as important a factor in food expenditures by upper-income families as current income.

Family size and composition were relatively more important in both the annual and the week's food expenditures per upper-income family than was income. This was particularly true for expenditures for food at home (tables 5.3 and 5.5).

7.4.2 For food expenditures away from home, family size and composition are less important than income.

The size and age makeup of the family had much less effect on UPIF food expenditures away from home per family than current income. But the effect of one or the other family characteristic was statistically significant (tables 5.3 and 5.5).

7.4.3 Family cycle stages have greater explanatory power with respect to food expenditures than does an age composition factor alone.

Based on a statistical comparison of the results of alternative regression models for analysis of per person expenditures for food at home by upper-income families in 1964, the set of stages in the family life cycle did not add significantly to the explanation of variations in such expenditures when they were used concurrently with the number of family members 10 years and over. But they did appear to lower significantly the income elasticity. The effect of the set of stages on this food expenditure measure was almost as large as the effect of current income, based on their beta coefficients (table 5.8).

In a comparable analysis of UPIF per person expenditures for food away from home in 1964, the set of family life cycle stages was not a statistically significant factor when used concurrently with the number of family members 10 years and over. But this measure of age composition was statistically important even when stages in the family life cycle were included in the model (table 5.9).

The age composition factor and the set of family life cycle stages proved to be substitutes for each other in models for analysis of the ratio of food expenditures to total expenditures by upper-income families in 1964. When the age factor was omitted, the set of family life cycle stages was next to income in its effect on the food share (table 5.10).

7.5 Hypotheses Related to Characteristics of the Husband

7.5.1 Apart from the effects of income, it is hypothesized that occupational status of the husband has a varying effect on expenditures for food at home and away from home and for different categories of nonfood goods and services.

Occupation of the husband, measured by a continuous variable with the lowest code number representing professional and technical occupations, had no net effect on total food expenditures per person in 1964 by upper-income families, but it had a significant positive effect on expenditures for home use and a significant negative effect on food away from home in the home city (table 5.4). Its relationships to the separate categories of food expenditures in the week were not statistically significant (table 5.5).

The negative influences of lower occupational status on 1964 expenditures by upper-income Minneapolis-St. Paul families for recreation, reading, and education were statistically significant at the 2 percent level and relatively quite important (table 5.3).

7.5.2 For some commodities, differences in relationships to specific occupational categories require treatment of occupation as a discontinuous rather than continuous variable.

Six occupational categories were used in a regression model for per person expenditures for food at home in 1964, under the assumption that their relationships to these expenditures do not vary but their levels do. None had a significant relationship. A statistical test indicated that the set of categories was significantly less important in explaining variations in expenditures for food at home than the set of social classes (table 5.8).

Comparison of alternative models for analysis of per person expenditures for food away from home in 1964 indicated that the use of occupational categories significantly improves the explanatory power of the model (table 5.4 and models 1 and 2 of table 5.9).

Whereas the model for UPIF nonfood expenditures per person in 1964 using occupation as a continuous variable indicated a negligible effect of occupation, a statistical test of models including and excluding six categories supported

the hypothesis that the set of occupational categories is a significant factor in explaining variations in these expenditures (tables 5.4 and 5.11).

- 7.5.3 Variations in social position even among upper-income families, as measured by the Hollingshead index which weights husband's occupation and education, have significant effects on expenditures for food at home and away from home.

Statistical analysis of the contributions of the set of social classes in alternative regression models for per person expenditures for food at home by upper-income families supported the hypothesis that they are a significant set, with negative signs. Social classes were also significant for away-from-home expenditures, but positive in effect (tables 5.8 and 5.9).

Social classes as a set of variables had a significant positive influence on the ratio of food expenditures to total expenditures in 1964 by upper-income families in Minneapolis-St. Paul, but their effect was much smaller in magnitude than the negative effect of higher current income (table 5.10).

- 7.5.4 Because the Hollingshead measure of social class rests in part on occupational differences, the two factors will not have independent effects on food expenditures.

Social classes as a set explained much more of the variation in per person expenditures for food at home in 1964 by upper-income families than did the use of the set of occupational categories in an alternative model (table 5.8).

Statistical tests of the sums of squares of the residuals from multiple linear regression models for UPIF per person expenditures for food away from home in 1964 supported the hypothesis that they have significant, independent effects on such expenditures (table 5.9).

- 7.5.5 Because the wife in upper-income families does most of the shopping, relationship of husband's education to expenditure patterns will be indirect, through its correlation with her education.

In several alternative models used to study the relationships of socioeconomic factors to food expenditures at home and away from home, the wife's education measured by years of schooling had a statistically significant relationship (positive) only for family expenditures for food outside the home city. For this category the highly significant relationship of the wife's education was more important than that for current income (table 5.3). The husband's education was used in the model for per person expenditures for food outside the home city, but its beta coefficient was substantially smaller than that for income and was statistically significant only at the 10 percent level (table 5.4).

Whereas the wife's education in years was an insignificant factor in recreation expenditures according to some preliminary tests not reported herein, the husband's education was a highly significant, positive factor in per person expenditures in 1964 (table 5.4).

The wife's education had a significant effect on family expenditures for reading and education. Although the husband's education was not tested in an alternative model for family expenditures, it was a highly significant factor in UPIF per person expenditures for reading and education in 1964 (tables 5.3 and 5.4).

7.6 Hypotheses Related to Characteristics of the Wife

7.6.1 Older wives tend to place more emphasis on food in their families' expenditure patterns.

Wife's age in years had a highly significant positive effect on total food expenditures per person in a week and on expenditures for food at home. For food at home its influence was greater than that of income (table 5.5).

The wife's age was not tested as a separable variable in the models for 1964 expenditures per person for food at home, but the two stages of the family life cycle in which the husband is 45 years or over had substantially greater and positive relationships to such expenditures than did those with younger heads (table 5.8).

7.6.2 Expenditures for food for use at home are lower if the wife works more outside the home because the family spends more for food away from home.

The wife's outside employment in the survey week had a positive effect on per person expenditures for food at home for that week, but it was statistically significant only at the 20 percent level (table 5.5).

In a regression model for 1964 per person expenditures at home, not reported in table 5.4, the wife's employment in 1964 was a negative but nonsignificant factor. This is consistent with the negative and statistically significant relationship of the number of full-time earners to annual expenditures per person for food at home. But it is not consistent with the finding from the model for the week's data.

The employment of the wife was a nonsignificant negative factor in explaining per person expenditures for food away from home in a week (table 5.5). Regression analyses of 1964 expenditures for food away from home, not reported herein, indicated that neither the number of full-time earners nor the outside employment of the wife was a statistically significant factor in such expenditures.

7.6.3 Upper-income families in which the homemakers have more than average education spend less for food and place more emphasis on such goods and services as reading and education.

The wife's education was a significant factor in food expenditures only for those made outside the home city. But her education had a significant positive relationship to higher expenditures per family for reading and education (table 5.3).

7.6.4 Although they have above average incomes, some homemakers are strongly oriented towards economizing, and this value reduces their food expenditures.

Consumer value orientation of the wife toward economizing had a highly significant negative relationship to the week's expenditure for all food and for food at home. Its effect was equal in importance for total food to the positive effect of income (table 5.5).

The economizing orientation of the homemaker had a negative effect on per person expenditures for food at home in 1964, which was significant at the 10 percent level (table 5.8). This value orientation was not significant for expenditures for food away from home (table 5.9).

7.6.5 Homemakers who place a high value on buying name brands and products with the best reputations are higher than average spenders for food and other goods and services.

The consumer value orientation of the wife toward reputation striving had a significant relationship to higher expenditures for food at home and away from home in the survey week (table 5.5).

In the several models tested for explanatory power with respect to per person expenditures for food at home in 1964, the reputation striving factors achieved significance at the 10 percent level only in the model that omitted both family life cycle stages and social classes but included the set of occupational categories (table 5.8).

The measure of reputation striving used in this study was not a significant variable in the several models used for total nonfood expenditures and for expenditures for several nonfood categories (tables 5.3, 5.4, and 5.11).

7.7 Unsatisfied Wants for Food

The wants of upper-income families for food are generally well satisfied so they shift emphasis in their spending patterns toward nonfood goods and services.

The analyses of the ratio of food expenditures to total 1964 expenditures by upper-income families in Minneapolis-St. Paul indicated that there is a highly significant negative relationship between income and the share of food in total expenditures (table 5.10).

Although the information obtained from the respondents about their need for more food money has not been subjected to rigorous statistical tests, cross tabulations reported in this bulletin indicate that half of the upper-income homemakers did not need any more food money or were not sufficiently interested in the question to reply. Low and medium level spenders for food in the year having per person incomes in the lowest quartile indicated the greatest need for more food money. Among the respondents who would like to have more food money, half needed less than \$7.50 per week in addition to their family food budget, and half wanted more than \$7.50.

Additional needs for food money appeared to be related to the strength of the desire to spend more for meats. Two-thirds of the homemakers expressing an interest in spending more for meats were in families with per person incomes below the median for this sample of upper-income families. But many of these women were already high spenders for meats, for all food at home, and for meals eaten out.

Only a sixth of the homemakers in the survey of upper-income families evidenced any interest in buying more dairy products if they had a few more food dollars. Those who wanted to buy more dairy products tended to have larger families and more children in the 7 to 15 year age bracket. Half of them indicated that they could make use of \$7.50 or more per week of additional food money.

One-fifth of the respondents would spend more for bakery products and mixes if they had a larger food budget. On the average, they were already higher spenders for these products.

Part III COMPETITION FOR FOOD DOLLARS

Chapter 8 APPRAISAL OF DIFFERENCES IN LEVELS OF FOOD EXPENDITURES INDICATED BY THREE SURVEYS

The three sets of data on expenditures for food at home in a week from different surveys used in this bulletin differ in level. Data in table 8.1 from the BLS-USDA Survey of Consumer Expenditures and Income cover expenditures in the 7 days preceding interviews in the first 6 months of 1961 and 1962 as recalled by nonfarm housekeeping families and single consumers. They are per person averages based, apparently, on number of family members in the household during the survey week.¹ The Survey of Upper-Income Families in Minneapolis-St. Paul provided data on expenditures in a week of April to July preceding the second round of interviews. Respondents' recall was aided by cash register tapes and notes kept by the respondents for use in the interviews. The USDA Household Food Consumption Survey data on food purchased by urban households pertain to the purchased parts of the value of food used in the week preceding the interview, as recalled by the respondents when the interviewer used a comprehensive list of items and asked for quantities and values.

Differences among the three sets of data might be expected to arise from: sampling variations, differences in time periods and population groups, and differences in interview procedures for obtaining expenditure data and income data used for classification of families. Each of these is considered below.

8.1 Sampling and Survey Procedures

Sampling for the 1960-61 and the 1965 Federal surveys was directed by the top sampling experts of the Federal Government in the agencies directly responsible, assisted by the specialists in the Bureau of the Census. The sample for the University of Minnesota, as described in Appendix B, was taken from two area probability samples. The characteristics of upper-income urban families in the BLS and University of Minnesota surveys have already been compared, in chapter 3, and the remarkable consistency of several categories of expenditure data for Minneapolis-St. Paul is indicated by table 4.7 and the discussion in section 4.1.4. Some information about the characteristics of families sampled in the 1965 USDA survey is compared with census data in the appendix of Survey Report No. 1, but most of the relevant data have not yet been published. However, the USDA staff supplied data on age composition (under 16 years) of household members eating meals at home in North Central urban families that match very closely age composition data from the University of Minnesota survey.

¹ The week's food expenditure data on the family basis were published by the National Industrial Conference Board in Linden, Fabian (editor), Expenditure Patterns of the American Family, 1965. Per person averages were calculated by U.S. Economic Research Service and published in table 113 of Hiemstra, Stephen J. Food Consumption, Prices and Expenditures, USDA, Economic Research Service, Agr. Econ. Report No. 138, July 1968.

Table 8.1 Estimates of per person expenditures in a week for all food at home, meat and dairy food groups by U.S. nonfarm families and single individuals in 1961-62, U.S. urban families and single individuals, and Minneapolis-St. Paul families, selected income groups

Survey and income group	Total expenditures for food at home	Meat, poultry, fish		Dairy products excluding butter
		Total	Red meats only	
dollars				
A. BLS-USDA Survey of Consumer Expenditures				
U.S. nonfarm families and single individuals, 1961-62				
1. As reported in current dollars, per family member ¹				
All households	6.62	2.12	1.68	.96
\$10,000 to \$15,000 income group	7.53	2.50	2.01	1.08
\$15,000 or more	8.27	2.88	2.25	1.18
2. Adjusted for food price and income changes and to exclude rural nonfarm, per family member ²				
All households	7.60	2.40	1.90	1.00
\$10,000 to \$15,000	8.00	2.55	2.10	1.10
\$15,000 or more	9.10	3.05	2.40	1.20
B. USDA Household Food Consumption Survey, Spring 1965				
U.S. urban families and single individuals, per person, based on 21-meal equivalents ³				
All households	8.41	2.93	2.40	1.10
\$10,000 to \$15,000	9.96	3.54	2.89	1.30
\$15,000 or more	10.97	4.09	3.36	1.34
C. University of Minnesota Survey, Minneapolis-St. Paul families, April to June, 1965, per person based on 21-meal equivalents ⁴				
\$10,000 to \$15,000	6.92	2.10	1.71	1.08
\$15,000 or more	7.32	2.08	1.72	1.08
Adjusted to match USDA shares for food at home				
\$10,000 to \$15,000	7.10	....	....	....
\$15,000 or more	8.05	....	....	....

1 Per person data for before tax groupings from table 113, Hiemstra, Stephen J., Food Consumption, Prices, and Expenditures, USDA, ERS, Agr. Econ. Report No. 138, July 1968. Urban data not available separately.

2 Adjustments based on 11 percent change in income in 1958 dollars, income elasticities from Hiemstra (ibid., table 112) and from regressions for commodities reported later in this chapter, retail price changes indicated by BLS price indexes, and ratios of nonfarm to urban expenditure levels derived from spring 1965 USDA Household Food Consumption Survey Data.

3 From Household Food Consumption Survey Report No. 1, excluding alcoholic beverages, and per person averages based on household sizes in 21-meal equivalents.

4 Per person data calculated with household sizes in 21-meal equivalents.

The interview procedures used by BLS and the University focused much more attention on obtaining income data than did the USDA survey which asked for placement in an income group. But the USDA survey emphasized the obtaining of detailed quantity information on foods used in the preceding week in order to evaluate diets, with less emphasis on price and value data. Three checks on the levels of USDA data are described below. In brief, they indicate an upward bias in per person averages derived from the reported household data.

The USDA and Minnesota families are grouped by after-tax income for reported data whereas the BLS-USDA data were summarized by the National Industrial Conference Board in terms of before-tax income and required the adjustment described below. This problem affects only income group averages, not the all-income area averages, of course.

8.2 Household Size and Family Size

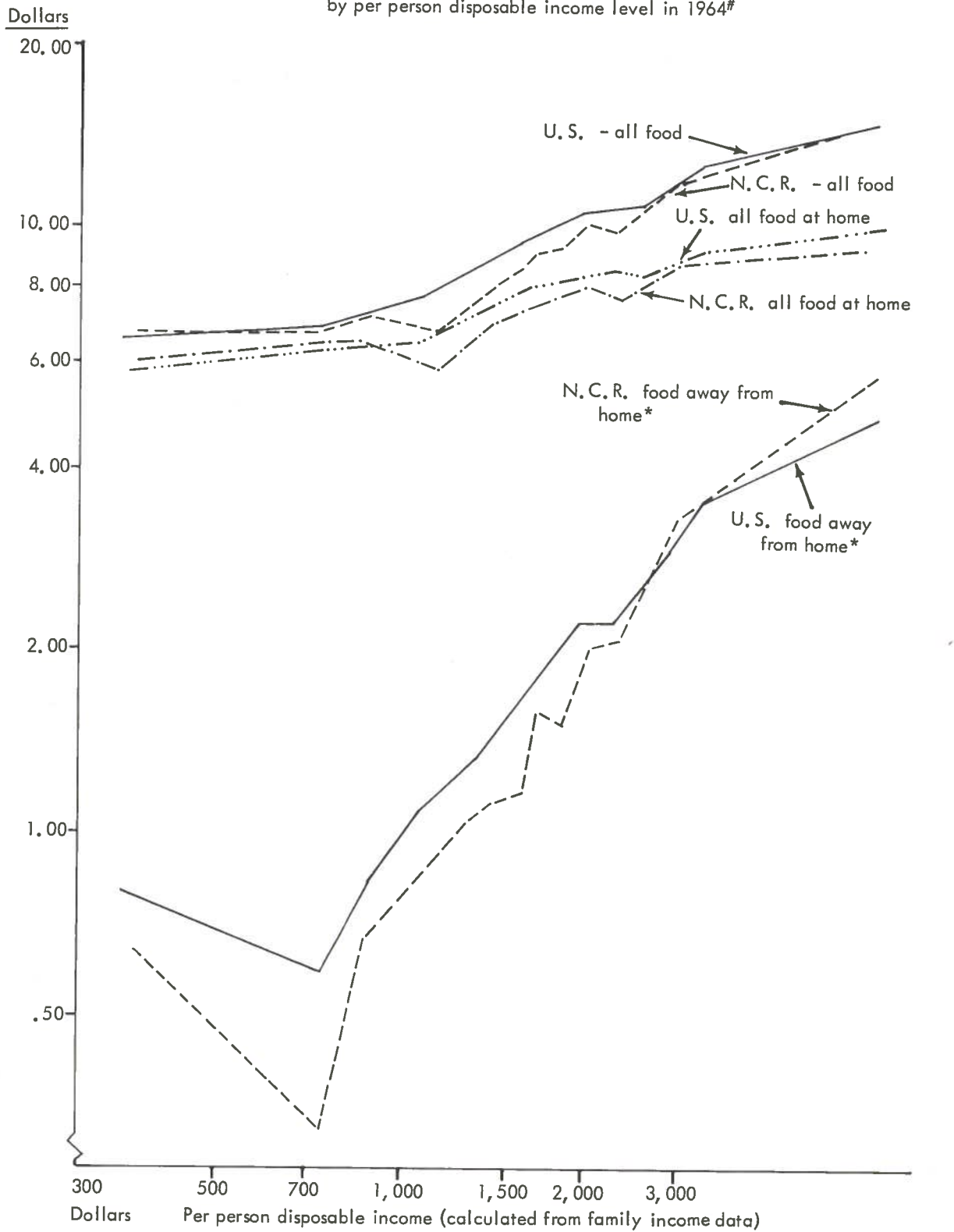
As yet no information on the average numbers of family members present in the household during the survey week and being fed both from the at-home food supply and by expenditures for food away from home is available from the USDA survey. Therefore, at-home food expenditures per person by UPIF in Minneapolis-St. Paul are also on the basis of 21-meal equivalents, commonly called household sizes. The NICB family sizes, used in the Economic Research Service's computations of per person averages and reported in table 113 of Hiemstra's Food Consumption, Prices, and Expenditures, are not described in the NICB publication.

8.3 Adjustments in 1961-62 Expenditure Data

To make the 1961-62 data conceptually comparable with the 1965 USDA data in table 8.1 adjustments were needed to shift the income to after-tax basis, to allow for the change in real income from 1960-61 to 1964, to take the price increases into account, and to adjust from nonfarm coverage to urban. The group average expenditures for the before-tax income breaks were plotted against average money income after taxes for each group. Then the expenditures at each point where average income after tax for urban families in the \$10,000 to \$15,000 and the \$15,000 and over groups intersected the expenditure line were read from the chart. The adjustments in the all-household averages from nonfarm to urban only were made as a last step, based on the USDA 1965 relationships.

Average income per capita in 1958 dollars rose 11 percent from 1961 to 1964, according to the Department of Commerce. Hiemstra's income elasticity for food at home derived from the 1960 to 1961 urban data was .4 (ibid., table 112). Applying this to the 11 percent, we would expect a 5 percent increase in average urban expenditures for food at home. The average for the \$10,000 to \$15,000 group does not need adjustment because the shift of families into and out of the group takes care of the change in income, but a slightly smaller increase was used for the top, open ended income group. Although many consumers probably did not adjust their food expenditures upwards as prices rose, for lack of evidence the several sets of expenditure data were increased by the percentages indicated by changes in the BLS retail price indexes. These varied from no change in dairy prices to 5 percent for all food at home.

Figure 8.1 Per person expenditures for food in a week of spring 1965, United States and North Central urban families and single individuals, by per person disposable income level in 1964[#]



* Includes alcoholic beverage expenditures away from home
[#] Data derived from USDA 1965-66 Household Food Consumption Survey Reports 1 and 3

8.4 Patterns of Eating at Home Versus Away From Home

Some differences in family food patterns between the North Central Region and all-U.S. do exist, as indicated by data from the Household Food Consumption Survey (HFCS) but they are not major. It is quite possible that differences between food patterns in a metropolitan area like Minneapolis-St. Paul and those for all urban families in a region may be greater than between North Central and U.S. averages, but data are not available for comparisons.

No at-home versus away-from-home breakdown is available for the week's data from 1961-62 surveys, but BLS data for a year (partly 1960 and partly 1961, but excluding alcoholic beverages) for U.S. urban families and single individuals indicate 26 percent for away-from-home food out of total food expenditures by the \$10,000 to \$15,000 income group and 31 percent by the \$15,000 and over income group. The shares allocated by these two income groups for meals, snacks, and alcoholic beverages in a week of spring 1965 were 28 and 33 percent, based on HFCS Report No. 1. The UPIF data matching the HFCS are 30 and 39 percent. If the at-home shares of the Minneapolis-St. Paul families are raised to the 72 and 67 percent levels indicated by the HFCS, the average expenditures per person for UPIF become \$7.10 and \$8.05. A substantial part of the increase should go to dinner main-dish items like meat, poultry, and fish, but no allocation has been attempted.

The adjusted estimates of expenditures for food at home by upper-income families in Minneapolis-St. Paul are about a dollar below the adjusted U.S. urban upper-income estimates derived from BLS data. The remaining difference must be attributed to larger and younger families in the Minneapolis-St. Paul area and in the UPIF sample, to the 5 to 10 percent difference between North Central and U.S. average patterns, (see figure 8.1) to some difference in seasons covered (April to July vs. January to June), to sampling errors, and to adjustment errors.

8.5 Checks on 1965 HFCS Data

The HFCS average of \$8.41 for U.S. urban households is 11 percent above the adjusted BLS figure. The U.S. all-urbanization average value of purchased food used at home per family member given in table 8.2 (\$7.39) was multiplied by 52 to derive an annual total of \$384. This total is 9 percent above the 1965 per capita average expenditure for purchased food for off-premise consumption (\$353).

The value of purchased meat consumed at home per person in urban families according to HFCS was \$2.40, 26 percent above the adjusted BLS figure for expenditures (table 8.1). No U.S. meat expenditure data are estimated by the Departments of Commerce or Agriculture. But the quantity of meat consumed per person from all sources estimated from HFCS multiplied by 13 weeks yields an estimate of 43.7 pounds. This figure is 22 percent above the USDA estimate of per capita disappearance on a retail weight basis in April to June 1965. (Ibid., table 33)

Table 8.2 Estimated average per person expenditures for food in a week of spring 1955, adjusted to 1965 prices, and in spring 1965, all U.S. housekeeping households and urban only ¹

Category	1955	1965	1965 as percent of 1955
	dollars	dollars	percent
All urbanizations			
Total food expenditures ²	8.96	9.14	102
Away from home ²	1.89	1.75	93
For use at home	7.07	7.39	104
Urban			
Total food expenditures	10.40	9.81	94
Away from home ²	2.26	1.99	88
For use at home	8.14	7.82	96

¹ Basic data on food purchases from U.S. Department of Agriculture surveys in spring 1955 and spring 1965. Data for 1955 adjusted to 1965 price level using Bureau of Labor Statistics price series for food at home and away from home, computed on basis of number of family members in survey week.

² Includes alcoholic beverages not reported separately. Earlier research indicated that such outlays may compensate for tendency of the homemaker to under-report snacks purchased by other family members.

The HFCS estimate of the value of dairy products excluding butter purchased per urban consumer, shown in table 8.1, is only 10 percent above the adjusted BLS figure. Comparison of the HFCS quantity of fresh whole milk consumed per person times 13 and adjusted from quarts to pounds, yielded an estimate of 67.4 pounds, only 2 percent above the USDA disappearance figure reported in table 35 of Hiemstra's bulletin.

8.6 Conclusions Regarding Level

Data presented above indicate that the value of purchased food consumed at home as measured by HFCS is consistently high, perhaps 10 to 20 percent above data based on national aggregates for disappearance into civilian distribution and on sales data. Comparison of the UPIF data for Minneapolis-St. Paul with U.S. upper-income data and expenditures derived from BLS-USDA surveys indicates the possibility of under-estimation on the UPIF data. But the HFCS per person averages for North Central urban families and single individuals in the two highest income groups run 5 to 10 percent lower than those of the comparable U.S. income groups. (See section 10.2.) Extensive graphic analysis and the results of regression analyses reported in Part II support the hypothesis that the differences among the sets of survey data are in level and not in relationships to income and family composition. Therefore, we can proceed with study of the relationships of expenditures to socioeconomic factors and a comparison of the results of analyses based on data from the University of Minnesota survey and on the U.S. urban data from the 1965-66 USDA Household Food Consumption Survey.

Chapter 9. THE COMPETITION AMONG FOOD AT HOME, AWAY-FROM-HOME EATING, AND ALCOHOLIC BEVERAGES

To analyze competition for food dollars, the first step is to subdivide aggregates of food and beverage expenditures. One way is to follow the Department of Agriculture's procedure by regarding alcoholic beverages as somewhat different commodities from food. The Department of Commerce's statistics subdivide personal consumption expenditures for food and beverages into (a) off-premise sales of food and alcoholic beverages; (b) on-premise sales of food and alcoholic beverages; (c) food furnished employees and inmates, and (d) farm home production. (The Department of Commerce data do not include business expenditures for food or beverages.) The Department of Commerce also publishes separate data for total food expenditures and total alcoholic beverages. The food expenditure data must be subdivided further to exclude the value of home-produced foods consumed by farm families because home production has a different trend and a different relationship to income than do the series for food commodities that are sold. There has long been a problem in breaking the alcoholic figures between on-premise and off-premise. The procedure developed by the USDA statisticians for the Department of Agriculture's National Food Situation was used here. One-fourth of on-premise food sales was allocated to alcoholic beverages and the residual for alcoholic beverages was subtracted from the off-premise sales of food and beverages in order to approximate food sales only. ¹

Reports on the Department of Agriculture's Survey of Household Food Consumption include alcoholic beverages with meals and snacks away from home because of the problem of getting separate figures from the respondent families. However, for at-home food a breakdown is published so that one can subtract the alcoholic beverage figure from total food expenditures. The U.S. Bureau of Labor Statistics surveys and the University of Minnesota survey of upper-income families provide separate food and alcoholic beverage data on annual and a week's expenditures for at-home consumption, away-from-home in the home city, and out-of-home city expenditures.

In 1967 expenditures per capita for food measured by Department of Commerce data in current dollars (including farm-home production and excluding business expenses) were half again as large as they had been in 1950. But they were only about one-seventh higher in terms of dollars of equal purchasing power, the 1958 dollar series in table 9.1. The estimates for purchases of meals and snacks and for purchases of food for home use (i. e., the sales for off-premise use) in table 9.1 indicate that most of the increase in food expenditures was for food at home, when adjustments are made for the increases in prices from 1950 to 1967. In 1958 dollars, about one-fifth of consumers' expenditures for food have been for meals and snacks in recent years. Expenditures for alcoholic beverages have been accounting for about one-fifth of total outlays for food and alcoholic beverages. These expenditures rose from \$92 to about \$113 per adult, in constant 1958 prices, from 1950 to 1967. (See section 4.5 for the multivariate analysis of these changes.)

¹ See table 3, page 7, USDA, National Food Situation, May 1968.

Table 9.1 Approximate per capita expenditures for food and alcoholic beverages and for major components, 1940, 1950, 1955, 1960, 1965, and 1967

Category	1940	1950	1955	1960	1965	1967
	dollars					
Personal consumption expenditures for food (including farm home food and food furnished, excluding business expenditures) ¹						
In current dollars	125	303	351	388	441	477
In 1958 dollars - total	319	357	381	390	412	419
In 1958 dollars - excluding farm home production ²	299	345	371	383	408	415
Estimated purchases of meals and snacks, on premise ³						
In current dollars	22	55	63	74	77	88
In 1958 dollars	54	68	69	70	66	68
Estimated purchases of food for off-premise consumption ⁴						
In current dollars	93	229	271	308	353	370
In 1958 dollars	226	263	287	306	329	329
Expenditures for alcoholic beverages per civilian of voting age ⁵						
In current dollars	43	81	90	97	114	125
In 1958 dollars	77	94	92	96	107	113

1 Department of Commerce series, from The National Income and Product Accounts of the United States, 1929-1965, 1966 Supplement of Survey of Current Business and Survey of Current Business, July 1968.

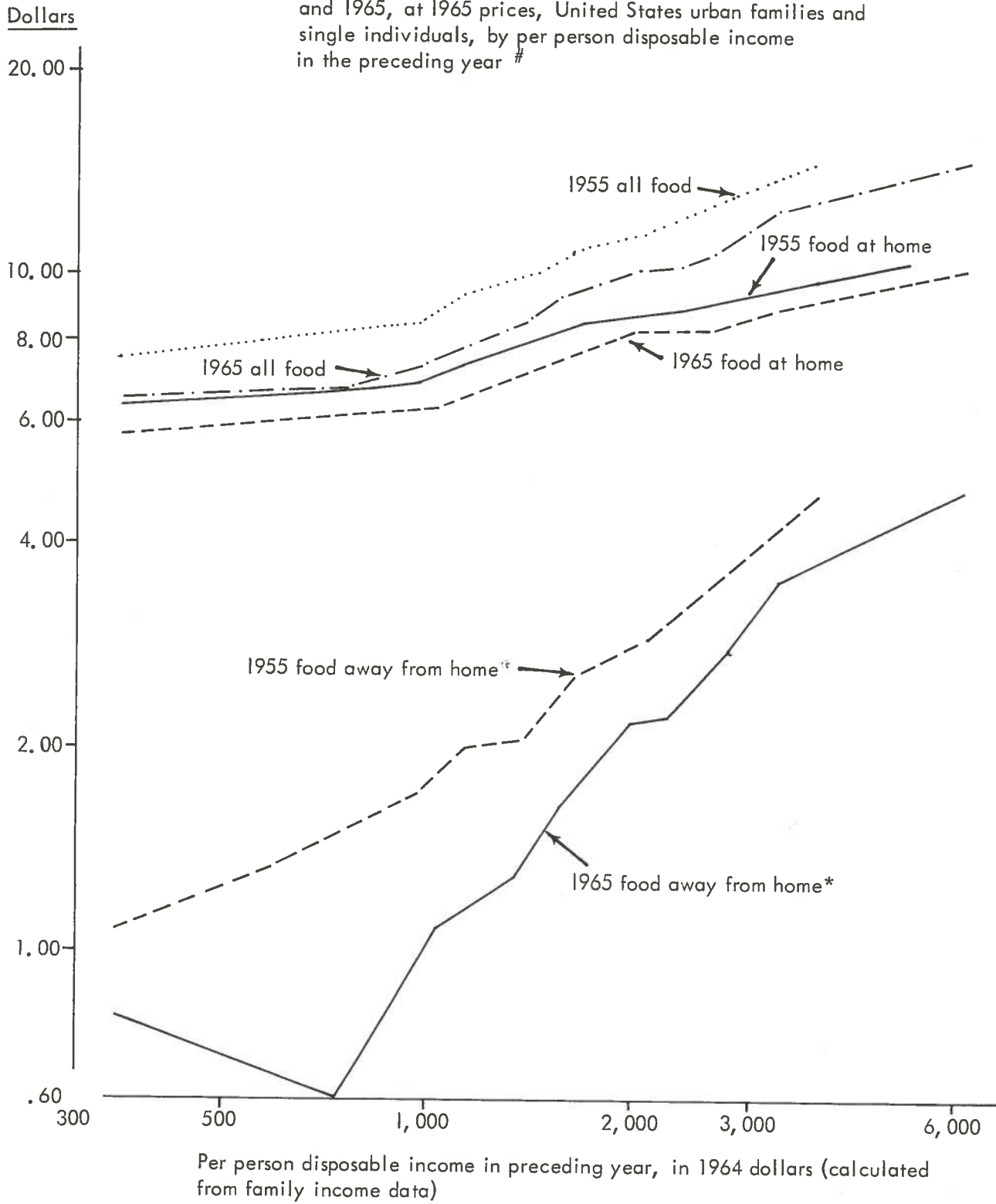
2 Farm home production deflated by U.S. Department of Agriculture series on farm value of market basket.

3 Food estimated at three-fourths of purchased meals and alcoholic beverages. (See footnote on table 3, National Food Situation, May 1968). Series beginning 1955 deflated to 1958 dollars using BLS retail price index for food away from home, for earlier years using retail price index for food at home.

4 Estimated by subtracting residual expenditures for alcoholic beverages (total alcoholic beverages minus one-fourth of expenditures for meals and beverages) from Department of Commerce series on food and beverages.

5 Aggregate data from the source in the first footnote divided by civilian population of voting age which is 21 years in most states. Population data from Statistical Abstract of the United States, 1967, table No. 532.

Figure 9.1 Per person expenditures for food in a week of spring 1955 and 1965, at 1965 prices, United States urban families and single individuals, by per person disposable income in the preceding year #



*Includes alcoholic beverage expenditures away from home

#Data derived from USDA Household Food Consumption Survey Report No. 1 for spring 1955 and 1965

From 1955 to 1965, the years of the two nationwide household food consumption surveys by the U.S. Department of Agriculture, U.S. per capita expenditures for food at home went up about 15 percent in real terms, whereas the purchases of meals and snacks declined slightly (table 9.1). These data include food purchases by nonhousekeeping households (i. e., less than 10 meals at home in a week) and exclude meals and snacks purchased on business expense accounts.

9.1 National Survey Data on Categories of Expenditures

To compare data from the USDA food surveys made in the springs of 1955 and 1965, it is necessary to convert the 1955 data to 1965 prices and to adjust them for one-person households (table 8.2). The adjusted data indicate a smaller rate of increase in food purchases for home use by housekeeping households than the Department of Commerce time series show, as well as some decrease in away-from-home food outlays. The differences between the USDA surveys and the Department of Commerce time series arise from some differences in population groups covered, approximations required to convert estimates in both sets to comparable dollars and to exclude alcoholic beverages, the use of survey data for spring only (because other seasons were not sampled in 1955), and errors in both sets of data. But the two sets of data clearly indicate that average expenditures for food away from home did not rise in response to the 23 percent increase in real income per capita from 1955 to 1965. The increase in purchases for home use, including the much discussed purchases of convenience food with built-in maid services, was substantially less than expected.

The upward shift in real incomes and the increase in urbanization would have led us to expect a somewhat higher average expenditure for food per person. The rural-urban population shift should have resulted in a 3 percent increase in average food expenditures from 1955 to 1965. A further 6 percent rise in food expenditures would have been expected from the upward shift in the distribution of the population among family income groups.²

The effects of higher incomes and the rural-urban shift were offset by the changes in the relationship of urban family expenditures to income shown in figure 8.2. Except for those urban households with incomes below \$4,000, the larger part of the decrease was in expenditures for food away from home. Apparently, urban families at each level of real income reduced their eating out in response to the increased cost of restaurant meals (figure 9.1).

The 1965 shares of total food purchases for on and off-premise consumption allocated to expenditures for food away from home as measured by the Department of Commerce data in table 9.1 and by the USDA survey data for all urbanizations in table 8.2 are practically the same, 18 and 19 percent, respectively.

The 1960-61 Bureau of Labor Statistics survey of expenditures by U.S. urban families and single consumers indicated a 21 percent allocation of the average food budget to meals and snacks away from home. As shown earlier in table 4.3, families of two or more persons allocated a slightly smaller share to eating out. U.S. and North Central urban families and single consumers with incomes in the range of \$10,000 to \$15,000 spent 26 percent of food outlays in the forms

² See section 2.1.4.

of purchased meals and snacks (table 4.4). Away-from-home expenditures by North Central urban consumer units headed by clerical and sales personnel were substantially larger (averaging 31 percent) than those by other occupational groups. Such expenditures by semi-skilled wage earners were relatively much smaller. Similar variations in expenditures for alcoholic beverages are shown by data in the same table.

North Central urban families and single consumers in the \$10,000 to \$15,000 income group which were headed by people with some college or technical training beyond high school (13 to 16 years of schooling) spent 30 percent of their food money for meals and snacks in 1960-61, substantially more than those headed by men (or women) with over 16 years of schooling (table 4.5). The spending pattern for alcoholic beverages is reversed, with outlays by families whose heads had had the most education much greater than those by other families.

9.2 Components of Expenditures by Minneapolis-St. Paul Upper-Income Families

Minneapolis-St. Paul families with incomes above \$10,000 allocated about the same amount of money for food at home in 1964 as did urban North Central families in 1960-61. The outlays for food away from home and alcoholic beverages by the \$10,000 to \$15,000 income group in the two areas were about equal, but Minneapolis-St. Paul families with incomes above \$15,000 spent substantially more for food away from home and for alcoholic beverages. The larger outlays may reflect the response of families with high discretionary income to the greater degree of urbanization and less response to prices.

The dramatic differences among income groups in expenditures for food away from home and for alcoholic beverages, even for these upper-income families, are revealed by their frequency distributions in table 9.2. Among families in Minneapolis-St. Paul having incomes after taxes in the \$6,410 to \$10,000 range, less than 10 percent spent \$1,000 and over for meals and snacks eaten out whereas about half of them spent less than \$400. In contrast, about a tenth of the families with incomes of \$20,000 and over spent less than \$400 and half spent over \$1,000 in 1964. These data in dollar terms illustrate the income elasticity of .95 for family expenditures for food away from home reported in section 5.4. One sixth of the Minneapolis-St. Paul families in the sample with incomes below \$10,000 spent practically no money for alcoholic beverages, but all of the top income group reported some expenditures.

Data in the lower part of table 9.2 indicate the frequencies with which specified shares of total food and beverage expenditures occurred. For example, half of the families with incomes below \$15,000 allocated 70 percent or more of their food and beverage outlays to food for home use and 20 percent or more to food away from home. Purchases of food for home use took less than 70 percent of food and beverage expenditures by more than two-thirds of the families with incomes over \$15,000.

Variations in expenditures for food away from home and for alcoholic beverages among Minneapolis-St. Paul families in the \$10,000 to \$15,000 income group, subdivided by the occupation of the head (table 9.3), do not reveal the higher expenditures by clerical and sales families indicated by the BLS data for

Table 9.2 Components of 1964 food and alcoholic beverage expenditures by upper-income Minneapolis-St. Paul families, by level of family income

Item	Unit	\$6,410 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and above
Number of cases	number	83	125	30	17
Average family size, persons	number	3.9	4.6	4.8	4.4
Total food and beverage expenditures, average	dollars	1,990	2,330	3,070	3,440
Food at home, average	dollars	1,400	1,590	1,910	1,850
Food away from home, average	dollars	430	550	830	1,230
All alcoholic beverages, average	dollars	160	190	330	360
Proportion of families spending for					
All food and beverages	percent	14	20	43	53
\$3,000 and over	percent	22	40	51	41
\$2,000 to \$3,000	percent	39	28	3	6
\$1,500 to \$2,000	percent	25	12	3	0
Less than \$1,500	percent				
Food away from home	percent	6	10	30	53
\$1,000 and over	percent	40	51	53	35
\$400 to \$1,000	percent	54	39	17	12
Less than \$400	percent				
All alcoholic beverages	percent	4	4	27	12
\$500 and over	percent	25	26	30	41
\$250 to \$500	percent	55	63	40	47
\$6 to \$250	percent	16	7	3	0
0 or less than \$6	percent				
Proportion of total food and beverage expenditures allocated to					
Food for home use, average for group	percent	71	68	63	54
70 percent and over	percent	53	51	33	18
55 to 70 percent	percent	36	31	40	41
Less than 55 percent	percent	11	18	27	41
Food away from home, average	percent	21	24	27	36
30 percent and over	percent	20	29	34	59
20 to 30 percent	percent	35	34	43	29
Less than 20 percent	percent	45	37	23	12
In home city, average	percent	15	18	19	21
Outside home city, average	percent	6	6	8	12
Alcoholic beverages, average	percent	8	8	10	10
20 percent and over	percent	7	8	10	6
10 to 20 percent	percent	31	26	46	24
1 to 9 percent	percent	46	57	37	70
None	percent	16	9	7	0

Table 9.3 Components of 1964 food and alcoholic beverage expenditures by Minneapolis-St. Paul families with incomes over \$10,000, by husband's occupation

Item	Unit	\$10,000 to \$15,000 income			\$15,000 and over
		Professional, technical, managerial	Clerical, sales	Craftsman, operative, service	
Number of cases	number	87	19	19	42
Average family size, persons	dollars	4.4	4.6	4.6	4.6
Total food and beverage expenditures, average	dollars	2,370	2,310	2,190	3,280
Food at home, average	dollars	1,600	1,610	1,500	1,900
Food away from home, average	dollars	560	530	560	1,030
Alcoholic beverages, average	dollars	210	170	130	350
Proportion of families spending for					
All food and beverages	percent	20	16	21	51
\$3,000 and over	percent	39	58	27	45
\$2,000 to \$3,000	percent	28	15	42	2
\$1,500 to \$2,000	percent	13	11	10	2
Less than \$1,500	percent				
Food away from home	percent	10	5	11	43
\$1,000 and over	percent	51	69	37	45
\$400 to \$1,000	percent	39	26	52	12
Less than \$400	percent				
All alcoholic beverages	percent	6	5	0	21
\$500 and over	percent	27	21	21	36
\$250 to \$500	percent	61	69	63	41
\$6 to \$250	percent	6	5	16	2
0 or less than \$6	percent				
Proportion of total food and beverage expenditures allocated to					
Food for home use, average	percent	67	70	71	60
70 percent and over	percent	49	42	63	24
55 to 70 percent	percent	31	42	21	43
Less than 55 percent	percent	20	16	16	33
Food away from home, average	percent	24	23	24	30
30 percent and over	percent	28	31	26	48
20 to 30 percent	percent	35	32	37	38
Less than 20 percent	percent	37	37	37	14
In home city, average	percent	18	18	16	20
Outside home city, average	percent	6	5	8	10
Alcoholic beverages, average	percent	9	7	5	10
20 percent and over	percent	10	5	0	7
10 to 20 percent	percent	27	32	21	41
1 to 9 percent	percent	55	58	63	50
None	percent	8	5	16	2

1 Only two cases in clerical, sales occupations, and three cases in craftsman, operative, and service occupations.

North Central families in 1960 to 1961, (table 4.4). Instead, expenditures by the professional and managerial group were slightly larger. The proportions of low spenders for food away from home and for alcoholic beverages among families of craftsmen, operators, and service workers are much higher than for other occupational categories. This table also reveals the sharp increase in average expenditure for each of the three food and beverage categories related to successively higher average income among families headed by the professional, technical, and managerial men.

We turn next to the relationships of food and beverage expenditures to the education of the husband within two upper income groups, indicated by data in table 9.4. Within both income groups, note that families with heads having had over 16 years of schooling spent less for each food and beverage category-- food at home, food away from home, and alcoholic beverages--than did families headed by men with schooling beyond high school but not beyond college. Both the averages and the distributions support this conclusion. Moreover, out of the lower total food and beverage outlays, smaller shares were allocated to food away from home and alcoholic beverages by the group having the heads with the most schooling, compared with the next ranking group. These findings suggest that less importance is attached to food and more to nonfood goods and services by the educated elite. But multivariate analyses are necessary to take other factors into account, such as those considered in section 4.5.

Another analytical approach used in this study of food expenditures of upper-income families was to divide the families in each income group into thirds on the basis of the shares of food and beverage expenditures allocated to major components. Data for families grouped by shares going to food at home in table 9.5 provide further evidence of the effect of family size on at-home food outlays. The wives of families allocating higher shares to food at home scored slightly higher on the economizing and reputation striving measures of Consumer Value Orientation, probably for opposite reasons.

The sharp competition between eating at home and away from home is revealed in the center section of table 9.5 by the distributions of families among ranges of dollars spent for meals and snacks within each third. Almost three-fourths of the high food-at-home spenders with incomes in the \$10,000 to \$15,000 bracket reported expenditures of less than \$400 for food away from home whereas only one-eighth of the low food-at-home spenders had such small meal and snack expenditures. Among families with incomes over \$15,000 and relatively low at-home food spending, about three-fourths spent over \$1,000 away from home, and none spent less than \$400.

The bottom section of the table illustrates again the competition between expenditures for food at home and those for alcoholic beverages, but comparison of the variations within the two income groups shows how higher family income tempers the competition. The high food-at-home spenders in the \$10,000 to \$15,000 income group allocated 3 percent of their food and beverage total to alcoholic beverages compared with the 14 percent share for low spenders; the shares for the \$15,000 and over income group were 8 percent and 15 percent, respectively.

Table 9.4 Components of 1964 food and alcoholic beverage expenditures by Minneapolis-St. Paul families with incomes over \$10,000, by education of husband

Item	Unit	\$10,000 to \$15,000			\$15,000 and over		
		9 to 12 years	13 to 16 years	16 years and over	9 to 12 years	13 to 16 years	16 years and over
Number of cases	number	25	63	33	5	24	16
Average family size, persons	number	4.5	4.4	4.8	3.6	4.7	4.6
Total food and beverage expenditures, average	dollars	2,380	2,450	2,100	3,220	3,440	2,890
Food at home, average	dollars	1,570	1,650	1,510	1,980	1,930	1,780
Food away from home, average	dollars	610	580	450	920	1,110	850
Alcoholic beverages, average	dollars	200	220	140	320	400	260
Proportion of families spending for							
All food and beverages	percent	28	20	12	40	58	31
\$3,000 and over	percent	24	51	37	60	38	56
\$2,000 to \$3,000	percent	40	21	30	0	4	6
\$1,500 to \$2,000	percent	8	8	21	0	0	6
Less than \$1,500	percent						
Food away from home	percent	20	8	3	40	46	31
\$1,000 and over	percent	36	60	49	40	46	50
\$400 to \$1,000	percent	44	32	48	20	8	19
Less than \$400	percent						
All alcoholic beverages	percent	12	5	0	0	25	19
\$500 and over	percent	16	32	18	60	33	25
\$250 to \$500	percent	60	55	82	40	42	50
\$6 to \$250	percent	12	8	0	0	0	6
0 or less than \$6	percent						
Proportion of total food and beverage expenditures allocated to							
Food for home use, average	percent	68	67	73	62	58	64
70 percent and over	percent	44	44	67	60	21	25
55 to 70 percent	percent	28	37	24	20	33	56
Less than 55 percent	percent	28	19	9	20	46	19
Food away from home, average	percent	24	24	21	28	31	28
30 percent and over	percent	36	30	18	20	58	31
20 to 30 percent	percent	28	37	37	40	25	56
Less than 20 percent	percent	36	33	45	40	17	13
In home city, average	percent	18	18	16	18	21	18
Outside home city, average	percent	6	6	5	10	10	10
Alcoholic beverages, average	percent	8	9	6	10	11	8
20 percent and over	percent	8	11	0	0	13	6
10 to 20 percent	percent	24	30	24	60	42	31
1 to 9 percent	percent	52	49	76	20	45	57
None	percent	16	10	0	20	0	6

Table 9.5. Low, medium, and high family spenders for food at home in 1964 in relation to total food and beverage expenditures, Minneapolis-St. Paul families with incomes \$10,000 and over, selected family characteristics and components of expenditures

Item	Unit	\$10,000 to \$15,000			\$15,000 and over		
		Low	Medium	High	Low	Medium	High
Number of cases	number	43	41	41	15	15	17
Average family size, persons	number	3.8	4.5	5.1	4.2	4.9	4.6
Percent with heads 45 and over	percent	30	42	44	60	33	41
Percent of family members, 10 years and over	percent	76	73	71	81	69	76
Years of schooling, wife, average	years	13.7	14.1	13.3	14.1	14.7	13.9
Years of schooling, husband, average	years	14.5	15.1	15.1	15.6	16.7	14.4
Wife's score on CVO economizer measure	number	15.0	16.0	15.7	14.3	15.2	15.1
Wife's score on CVO reputation striver measure	number	16.3	16.6	17.0	17.0	17.0	18.0
Total food and beverage expenditures, average	dollars	2,470	2,220	2,300	3,740	3,030	2,880
Food at home, average	dollars	1,310	1,530	1,920	1,620	1,900	2,100
Food away from home, average	dollars	810	540	310	1,560	890	550
Alcoholic beverages, average	dollars	350	150	70	560	240	230
Proportion of families spending for							
All food and beverages							
\$3,000 and over	percent	26	12	22	67	47	29
\$2,000 to \$3,000	percent	42	46	32	33	46	59
\$1,500 to \$2,000	percent	23	32	29	0	0	12
Less than \$1,500	percent	9	10	17	0	7	0
Food away from home							
\$1,000 and over	percent	23	5	0	73	33	12
\$400 to \$1,000	percent	65	61	27	27	60	53
Less than \$400	percent	12	34	73	0	7	35
All alcoholic beverages							
\$500 and over	percent	14	0	0	46	7	12
\$250 to \$500	percent	51	22	2	27	46	29
\$6 to \$250	percent	35	68	86	27	40	59
0 or less than \$6	percent	0	10	12	0	7	0
Proportion of total food and beverage expenditures allocated to							
Food for home use, average	percent	52	70	84	44	63	73
70 percent and over	percent	0	54	100	0	0	76
55 to 70 percent	percent	47	46	0	0	100	24
Less than 55 percent	percent	53	0	0	100	0	0
Food away from home, average	percent	34	23	13	41	30	19
30 percent and over	percent	63	22	0	87	47	0
20 to 30 percent	percent	30	56	17	13	53	47
Less than 20 percent	percent	7	22	83	0	0	53
In home city, average	percent	26	17	9	25	19	14
Outside home city, average	percent	8	6	4	16	11	5
Alcoholic beverages, average	percent	14	7	3	15	7	8
20 percent and over	percent	16	7	0	27	0	0
10 to 20 percent	percent	56	20	2	40	40	35
1 to 9 percent	percent	28	63	81	33	53	59
None	percent	0	10	17	0	7	6

9.3 Expenditures For Food Away From Home, Minneapolis-St. Paul Sample

Because the general patterns of variations in expenditures for meals and snacks away from home and their relationships to family income, occupation, and education have been described earlier, we will be concerned here with the characteristics of high, medium, and low spenders for food away from home (table 9.6).

9.3.1 Variations in Annual Data

The relatively high spenders for meals and snacks tended to have smaller families and wives who scored slightly higher on the Gordon leadership measure. Within the \$10,000 to \$15,000 income group, in high spender families the wives scored lower on the Consumer Value Orientation measure for economizing, and a substantially higher proportion of the husbands were in the managerial and proprietary group.

Next, let us look at the proportions of families within the three subgroups of each of the income brackets spending less than \$400, \$400 to \$1,000 and \$1,000 or more for food away from home in table 9.6. Note the substantial difference between the two income groups in the proportions spending less than \$400, i. e., 86 percent of the low spenders among the \$10,000 to \$15,000 income group and 40 percent for the low spending group within the \$15,000 and over bracket. Also, 70 percent of the high spenders in the \$10,000 to \$15,000 income group spent \$400 to \$1,000 compared with only 20 percent of the group with incomes over \$15,000.

Comparing the shares allocated to meals and snacks within and outside the Twin Cities area by the low and high spenders, we find that the home-city share for the high spenders was slightly more than three times that of the low spenders among the \$10,000 to \$15,000 income group, but slightly less than twice the low spender share in the higher income group. In contrast, the variability of food expenditures outside the Twin Cities was significantly greater for the \$15,000 and over income families. They apparently traveled more and spent more for meals for family members in schools outside of the Twin Cities area.

9.3.2 Variation in Away-From-Home Food Expenditures in Survey Week

Family food expenditures during the week for which the detailed food expenditure data were reported by each family varied much more than annual expenditures. In the \$10,000 to \$15,000 income group, families spending less than 80 percent of the sample average allocated only \$5 on the average for food away from home in the week compared with their 1964 average of about \$9 per week. Those from the same income group reporting the week's food expenditures 20 percent or more above the sample mean had average away-from-home expenditures of \$26, twice their weekly average during 1964. The variability in at-home expenditures for food in the survey week was much less and closer to the variability in average weekly expenditures for 1964. These patterns were generally followed by families in the income groups above and below the \$10,000 to \$15,000 income range.

Table 9.6. Low, medium, and high family spenders for food away from home in 1964 in relation to total food and beverage expenditures, Minneapolis-St. Paul families with incomes \$10,000 and over, selected family characteristics and components of expenditures

Item	Unit	\$10,000 to \$15,000			\$15,000 and over		
		Low	Medium	High	Low	Medium	High
Number of cases	number	42	40	43	15	17	15
Average family size, persons	number	5.0	4.4	4.0	4.5	5.2	4.0
Percent with heads 45 and over	percent	40	40	35	47	35	53
Percent of family members, 10 years and over	percent	69	72	79	79	68	80
Years of schooling, wife, average	number	13.6	13.7	13.9	13.9	14.6	14.3
Years of schooling, husband, average	number	15.0	15.2	14.5	13.9	16.8	15.6
Wife's score on Gordon leadership measure	number	7.0	9.4	8.5	6.1	7.2	7.7
Wife's score on CVO economizer measure	number	15.5	16.6	14.6	14.5	15.1	15.0
Wife's score on CVO reputation striver measure	number	16.5	16.8	16.5	17.7	17.0	17.4
Percent of husbands in occupation group							
Professional and technical	percent	48	30	26	27	53	27
Managerial and proprietary	percent	24	37	44	46	41	73
Clerical	percent	2	3	0	7	6	0
Sales	percent	9	15	16	0	0	0
Other	percent	17	15	14	20	0	0
Total food and beverage expenditures, average	dollars	2,300	2,250	2,440	2,910	3,110	3,600
Food at home, average	dollars	1,870	1,550	1,340	2,110	1,910	1,660
Food away from home, average	dollars	260	520	880	520	870	1,530
In home city eating places, average	dollars	180	410	660	400	590	920
Outside home city, average	dollars	80	110	220	120	280	610
Alcoholic beverages, average	dollars	170	180	220	280	330	410
Proportion of families spending for							
All food and beverages							
\$3,000 and over	percent	17	18	26	33	41	67
\$2,000 to \$3,000	percent	35	40	44	54	53	33
\$1,500 to \$2,000	percent	31	32	21	13	0	0
Less than \$1,500	percent	17	10	9	0	6	0
Food away from home							
\$1,000 and over	percent	0	0	28	7	29	80
\$400 to \$1,000	percent	14	70	70	53	65	20
Less than \$400	percent	86	30	2	40	6	0
All alcoholic beverages							
\$500 and over	percent	5	5	5	13	24	27
\$250 to \$500	percent	14	25	37	47	29	26
\$6 to \$250	percent	76	60	51	40	41	47
0 or less than \$6	percent	5	10	7	0	6	0
Proportion of total food and beverage expenditures allocated to							
Food for home use, average	percent	82	69	55	73	62	47
70 percent and over	percent	90	58	5	80	6	0
55 to 70 percent	percent	8	40	46	20	70	27
Less than 55 percent	percent	2	2	49	0	24	73
Food away from home, average	percent	11	23	36	18	28	42
30 percent and over	percent	0	0	84	0	29	100
20 to 30 percent	percent	0	90	16	40	71	0
Less than 20 percent	percent	100	10	0	60	0	0
Food in home city eating places, average	percent	8	18	27	14	19	25
20 percent and over	percent	0	43	84	13	65	73
10 to 20 percent	percent	29	52	9	67	17	20
1 to 10 percent	percent	71	5	7	20	18	7
Food outside home city, average	percent	3	5	9	4	9	17
10 percent and over	percent	2	15	37	7	29	53
1 to 10 percent	percent	88	70	63	73	71	47
Less than 1 percent	percent	10	15	0	20	0	0
Alcoholic beverages, average	percent	7	8	9	9	10	11
20 percent and over	percent	12	5	7	0	12	13
10 to 20 percent	percent	9	30	40	53	35	27
1 to 9 percent	percent	69	55	46	40	47	60
None	percent	10	10	7	7	6	0

9.3.3 Who Eats Meals Where?

In a week of spring 1955, members of U.S. urban families bought and ate away from home an average of 4.8 meals per family.³ Ten years later upper-income Minneapolis-St. Paul families purchased twice as many meals away from home, on the average, but the number varied from 5.7 for those with incomes of \$6,400 to \$10,000 to 14.9 meals for the \$15,000 to \$20,000 group. Factors related to variations in expenditures and eating out by family members were investigated by special tabulations summarized in table 9.7.

Data in the first section of the table show that the relative importance of away-from-home food expenditures generally decreased with increasing family size. Based on information from respondents reporting separate data, in families of two to six persons, males over 15 years (men) accounted for about two-thirds of such food expenditures. Females over 15 (women) and children bought about equal shares of the balance. In households of three or more members, men ate about a tenth of their breakfasts away from home (including a few not eating breakfasts). In the larger households, men had 40 percent or more of their lunches and 17 percent of their dinners from nonhousehold food supplies. Women and children ate almost all of their breakfasts at home. Having few young children, the women in small households went out to lunch more frequently. In contrast, the presence of older children in the larger households contributed to their eating a higher proportion of their lunches away from home.

Section B of table 9.7 has comparable average data on meals for families in the sample grouped by family income. Those families with incomes over \$15,000 spent 39 percent of their food money for meals away from home, a substantially larger share than for lower income families. According to reported data, there was relatively little variation with income in the shares of total expenditures made by the three groups of family members with the exception of the substantially higher proportion of total outlays made by children in the \$15,000 to \$20,000 family income group. This probably can be traced to the relatively high proportion of 7 to 15-year-old children in that group. Shares of meals eaten out by men and children varied with level of income.

Variations among per person income quartiles in the importance of away-from-home food expenditures in the week's total food outlays exhibited much the same relationship to average income per person as did the averages by family income level. Men's shares in these outlays were about the same, but the shares of women and of children varied with income in opposite directions. Families in the lower per person income quartiles have more children so their share in away-from-home food outlays is larger. With more children, women in these families eat out less. For these reasons the proportions of away-from-home meals in the totals did not vary consistently with income.

The importance of age composition of families to the eating place market is indicated by data in section D of table 9.7. Younger families with young children

³ See table 5.1. Burk, Marguerite C. Trends and Patterns in U.S. Food Consumption, op.cit.

Table 9.7. Variations in expenditures for and proportions of meals and snacks eaten away from home in a week of April to July, 1965 by members of upper income families in Minneapolis-St. Paul, subdivided alternately by number in family, family and per person disposable income, stage in family life cycle, and social position

Category	Number of cases	Shares of expenditures for meals and snacks reported as made by ²		Meals not eaten from household supplies as shares of total meals ³																
		Males 16 and over		Females 16 and over		Males 16 and over		Females 16 and over												
		percent	number	percent	number	percent	number	percent	number											
A. Number of family members in survey week																				
Two	40	34	64	36	17	37	15	26	10	16	10	24	16	24	10	24	16	24	10	24
Three	38	29	66	17	19	33	15	24	10	17	15	14	14	9	9	14	14	9	9	14
Four	148	29	64	17	26	46	17	13	17	17	17	13	9	9	9	21	21	9	9	21
Five, six or more	25	24	55	19	26	40	17	9	17	40	17	9	13	9	9	21	21	9	9	21
B. Family income in 1964																				
\$6,400 to \$10,000	83	23	68	21	11	31	11	15	8	15	8	15	15	8	8	15	15	8	8	15
\$10,000 to \$15,000	125	30	68	18	14	44	18	18	8	44	18	18	18	8	8	25	25	8	8	25
\$15,000 to \$20,000	30	39	53	24	23	54	20	18	14	54	20	18	31	14	14	31	31	14	14	31
\$20,000 and over	17	39	65	23	12	53	23	17	18	53	23	17	28	18	18	28	28	18	18	28
C. Per person income quartiles, 1964																				
\$800 to \$2,199	66	22	63	13	24	37	15	13	8	37	15	13	20	8	8	20	20	8	8	20
\$2,200 to \$3,199	63	26	65	14	21	47	17	10	7	47	17	10	26	7	7	26	26	7	7	26
\$3,200 to \$4,199	63	38	64	25	11	40	16	22	11	40	16	22	26	11	11	26	26	11	11	26
\$4,200 to \$5,199	63	37	68	27	5	45	19	23	9	45	19	23	24	9	9	24	24	9	9	24
\$5,200 and over	63	37	68	27	5	45	19	23	9	45	19	23	24	9	9	24	24	9	9	24
D. Family life cycle stage																				
Husband under 45 years	99	28	70	13	17	48	17	11	10	48	17	11	17	10	10	17	17	10	10	17
Youngest child under 6	42	31	59	14	27	55	21	15	10	55	21	15	41	10	10	41	41	10	10	41
Children 6 and over	42	31	59	14	27	55	21	15	10	55	21	15	41	10	10	41	41	10	10	41
No children under 18 at home	16	37	55	45	...	44	18	46	12	44	18	46	...	12	12	...	...	12	12	...
Husband 45 and over	52	34	62	25	13	37	17	14	8	37	17	14	26	8	8	26	26	8	8	26
Children under 18 at home	52	34	62	25	13	37	17	14	8	37	17	14	26	8	8	26	26	8	8	26
No children under 18 at home	46	31	68	31	...	27	12	25	9	27	12	25	...	9	9	...	...	9	9	...
E. Social class based on Hollingshead index																				
Class I (highest)	76	29	65	15	20	47	17	9	9	47	17	9	21	9	9	21	21	9	9	21
Class II	69	36	59	25	16	49	22	21	11	49	22	21	30	11	11	30	30	11	11	30
Class III	55	33	74	14	12	52	19	16	6	52	19	16	22	6	6	22	22	6	6	22
Class IV	42	20	62	33	5	24	10	18	6	24	10	18	15	6	6	15	15	6	6	15
Class V	13	9	56	37	7	6	6	19	7	6	6	19	9	7	7	9	9	7	7	9

1 Derived from group averages. Food away from home includes alcoholic beverages and tips.
 2 Based only on expenditures for meals and snacks reported separately for family members.
 3 Total expenditures for food eaten at home and lunch-sum or global estimates by respondents. Varying amounts not subdivided, averaging about one-third of including some meals skipped and eaten out as guests, a few received as pay, and much larger numbers bought away from home.

allocated 28 percent of their food expenditure to meals and snacks away from home whereas the average share for those without children was 37 percent. Older families with children, mostly 7 to 15 years of age, spent almost \$15 per family for meals and snacks, 34 percent of total food outlays in the week. For older families without children, both the average expenditure and the percentage dropped. There was some variation in men's shares of total expenditures calculated from reported data with higher shares for younger husbands having young families and of the older husbands without children at home. The presence of young children clearly restricted away-from-home eating by women.

By regrouping data for families in the sample according to the Hollingshead index of social position (see the fifth section of table 9.7), we can investigate the relationship of away-from-home eating to social class. Because about a third of the members of the families in social class I were under 10 years of age, slightly less of their food expense was for meals and snacks away from home than was the case for the next two classes. In Classes II and III only a fifth of family members were that young and 36 and 33 percent, respectively, of total expense was for eating out. Men with higher ranking occupations and more education ate lunch and dinner away from home much more frequently than those with the characteristics of the two lowest social classes among upper-income families. (See section 5.3.1.) The presence of a higher proportion of young children in the highest social class and very little outside employment of homemakers are reflected in the significantly lower percentage of women's lunches away from home compared with other social classes.

Patterns of eating evening and weekend meals away from home are analyzed later in section 14.1.3.

9.4 1964 Expenditures for Alcoholic Beverages by Upper-Income Families, Minneapolis-St. Paul

Because variations in the shares of total food and beverage expenditures allocated to alcoholic beverages have already been discussed at some length we are concerned here (1) with the characteristics of families spending different amounts for alcoholic beverages and (2) with variations in expenditures per adult which occurred concurrently with variations in per person income and in family life cycle stage.

9.4.1 Characteristics of Spender Groups for Alcoholic Beverages

Comparison of the characteristics of the nonspenders with those of the lower spenders and of the higher spenders for alcoholic beverages (measured in terms of the shares of total 1964 expenditures for food and beverages allocated to alcoholic beverages given in table 9.8) reveals some notable differences. Nonspenders were relatively more frequent in the group with less than \$10,000 income than at higher income levels. Looking intensively at the \$10,000 to \$15,000 income group, we find that the nonspenders had larger families and were older; had somewhat less education; the wives ranked lower on the Gordon measure for recognition but higher on the economizing measure of Consumer Value Orientation. A higher proportion of the husbands in households not buying alcoholic beverages were in the lower ranking occupations, and a higher proportion of the homemakers

Table 9.8. Higher, lower, and nonspenders for alcoholic beverages in 1964 in relation to total food and beverage expenditures, Minneapolis-St. Paul families at three levels of income, selected family characteristics and components of expenditures¹

Item	Unit	\$6,400 to \$10,000			\$10,000 to \$15,000			\$15,000 and over ²	
		None	Lower	Higher	None	Lower	Higher	Lower	Higher
Number of cases	number	13	36	34	11	59	55	23	22
Average family size, persons	number	3.8	4.2	3.6	5.3	4.8	3.9	4.8	4.5
Percent with heads 45 and over	percent	31	36	35	64	41	31	39	45
Percent of family members, 10 years and over	percent	70	74	79	88	72	72	73	75
Years of schooling, wife, average	number	13.6	13.1	12.9	12.5	13.7	13.9	14.5	14.1
Years of schooling, husband, average	number	14.6	15.8	13.5	12.8	15.3	14.9	15.7	15.5
Wife's score on Gordon recognition measure	number	10.7	10.2	10.2	8.7	10.1	10.0	10.4	11.1
Wife's score on CVO economizer measurement	number	15.8	16.2	15.8	16.3	15.9	15.0	15.0	14.5
Wife's score on CVO reputation striver measure	number	17.8	17.2	17.0	17.5	16.8	16.2	17.8	17.0
Percent of husbands in occupation group									
Professional and technical	percent	46	39	32	9	43	31	52	18
Managerial and proprietary	percent	8	28	9	55	25	42	39	73
Clerical	percent	15	5	6	0	2	2	0	4
Sales	percent	0	0	12	9	15	12	0	0
Other	percent	31	28	41	27	15	13	9	5
Percent needing none or little more food money	percent	38	56	44	73	56	60	74	68
Total food and beverage expenditures, average	dollars	1,550	2,070	2,080	2,760	2,190	2,400	3,170	3,370
Food at home, average	dollars	1,240	1,560	1,300	2,230	1,640	1,400	1,980	1,840
Food away from home, average	dollars	310	420	480	530	470	650	1,030	980
Alcoholic beverages, average	dollars	0	90	300	0	80	350	160	550
Proportion of families spending for									
All food and beverages									
\$3,000 and over	percent	8	17	15	27	19	20	48	50
\$2,000 to \$3,000	percent	7	25	23	37	33	47	48	45
\$1,500 to \$2,000	percent	31	41	38	18	33	26	4	5
Less than \$1,500	percent	54	17	24	18	15	7	0	0
Food away from home									
\$1,000 and over	percent	0	3	12	0	8	13	48	32
\$400 to \$1,000	percent	23	50	35	64	43	58	43	50
Less than \$400	percent	77	47	53	36	49	29	9	18
All alcoholic beverages									
\$500 and over	percent	0	0	9	0	0	11	0	45
\$250 to \$500	percent	0	3	59	0	0	58	22	50
\$6 to \$250	percent	0	97	32	0	100	31	78	5
0 or less than \$6	percent	100	0	0	100	0	0	0	0
Proportion of total food and beverage expenditures allocated to									
Food for home use, average	percent	81	75	63	79	75	58	64	56
70 percent and over	percent	85	69	26	91	71	20	26	27
55 to 70 percent	percent	7	28	53	9	27	40	52	28
Less than 55 percent	percent	8	3	21	0	2	40	22	45
Food away from home, average	percent	19	20	22	21	21	27	31	28
30 percent and over	percent	15	22	21	18	25	35	43	41
20 to 30 percent	percent	23	34	41	46	29	38	48	32
Less than 20 percent	percent	62	44	38	36	46	27	9	27
In home city, average	percent	14	14	16	16	15	21	20	19
Outside home city, average	percent	5	6	6	5	6	6	11	9
All alcoholic beverages, average	percent	0	5	15	0	4	15	5	16
20 percent and over	percent	0	0	18	0	0	18	0	18
10 to 20 percent	percent	0	0	76	0	0	60	0	82
1 to 10 percent	percent	0	100	6	0	100	22	100	0
None	percent	100	0	0	100	0	0	0	0

1 Families reporting alcoholic beverage expenditures divided approximately within income groups approximately into halves based on share of such expenditures in total food and beverage outlays.

2 Excluding two cases reporting no alcoholic beverage expenditures.

reported needing very little if any more food money. On the average, zero outlay for alcoholic beverages was compensated for by higher expenditures for food at home.

Next, we compare characteristics and expenditures of higher spenders with those for lower spenders on alcoholic beverages, lower in terms of the relationship to total food and beverage outlays. Higher beverage spenders had smaller families. In families with incomes above \$10,000, wives in the higher spender group scored lower on the Consumer Value Orientation measures for economizing and for reputation striving than the lower spenders. Higher spenders with incomes below \$15,000 spent more for food away from home as well as beverages. Their outlays for alcoholic beverages averaged three to four times the average for their income group. In contrast, they spent a smaller proportion for food at home.

9.4.2 Variations With Per Person Income and Family Cycle Stage

For the total sample of upper income families, about three-fifths of the alcoholic beverage money was spent for beverages at home and about two-fifths for beverages away from home. In terms of expenditures per adult, alcoholic beverage expenditures by the top income quartile were substantially higher but did not vary as much from the average for the lowest group as was the case for food expenditures per person. The greatest variation in alcoholic beverage expenditures compared with income was found to be for beverages away from home but in the Twin Cities (see table 9.9).

The data in the lower part of table 9.9 reveal surprisingly little variation in total alcoholic beverage expenditures per adult except that they ran somewhat lower in older families with children. Younger families spent relatively more for alcoholic beverages for home use. Older families without children reported slightly larger expenditures per adult away from home, especially in Twin Cities eating and drinking places.

9.4.3 Multivariate Analysis of UPIF Expenditures for Alcoholic Beverages

The linear regression models reported in table 9.10 used average 1964 expenditures per adult for alcoholic beverages in dollars as the dependent variable, income per person in logarithms, and codes for other independent variables. After some experimentation, a dummy variable was incorporated to handle users vs. nonusers and to serve as a proxy for attitude toward the use of alcoholic beverages. This factor is the most important variable in explaining variations in expenditures for alcoholic beverages, even more important than income.

The income elasticity of total expenditures per adult among users is slightly less than the income elasticity of total food expenditures per person (table 5.4). Away-from-home expenditures for these beverages, as reported, are substantially less responsive to variations in income than away-from-home food outlays.

Table 9.9. Average 1964 expenditures for food per person and for alcoholic beverages per adult in upper income Minneapolis-St. Paul families grouped by per person income and stage in the family life cycle

Category	Number of cases	Total food expenditures per person	Total	Alcoholic beverages per adults		
				For home use	In home city	Away from home Outside home city
All families, average	252	540 ¹	100	61	32	7
Grouped by per person income						
\$800 to \$2,199	65	420	83	55	21	7
\$2,200 to \$2,899	62	460	91	54	30	7
\$2,900 to \$3,859	63	560	98	63	30	5
\$3,860 and over	62	730	130	73	47	10
Grouped by stage in family life cycle						
Husband under 45	97	450	102	65	31	6
Youngest child under 6	42	534	115	75	33	7
Children 6 to 17	16	620	88	61	27	10
No children under 18 at home						
Husband 45 and over	52	540	83	52	23	8
Children 1 to 17	45	710	101	49	43	9
No children under 18						

¹ Computed from data in tens of dollars. Simple average of averages which does not take into account differences in family size. Total aggregate of expenditures (based on 257 families) divided by total number of family members in the sample yields an average of \$497.

Table 9.10. Data from regression analyses of expenditures for alcoholic beverages per adult in 1964 (in cents) by upper income families in Minneapolis-St. Paul

Variable and regression measure	Total expenditure with husband's occupation as		Expenditure		Ratio of expenditures for alcoholic beverages to total food and beverage expenditures
	Continuous variable	Discontinuous variable	For use at home	Away from home	
Mean of dependent variable ¹	102	102	61	41	.14
R ²	.11	.13	.10	.07	.16
Standard error of estimate	110	110	70	69	.11
<u>Independent variables</u>					
1. Disposable income per person in logarithms (level of significance)					
a. Arithmetic regression coefficient	(1)	(1)	(5)	(5)	(n.s.)
b. Beta, standardized coefficient	103.80	104.15	53.43	50.32	-.0465
c. Partial correlation coefficient	.18	.18	.14	.14	-.08
d. Income elasticity	.18	.18	.15	.14	-.08
	.44	.44	.38	.53	-.14
2. Kind of saver (negative coding)					
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	6.63	7.73	5.80	.83	.0071
c. Partial	.06	.07	.08	.01	.06
	.06	.07	.09	.01	.07
3. CVO economizer					
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-2.99	-3.08	-.95	-2.04	-.0022
c. Partial	-.09	-.09	-.04	-.09	-.06
	-.09	-.09	-.04	-.10	-.07
4. CVO reputation striver					
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)
b. Beta	.69	.58	-.88	1.57	-.0044
c. Partial	.02	.02	-.04	.07	-.12
	.02	.02	-.04	.07	-.13
5. Husband's education					
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-1.24	-.82	-.86	-.39	-.0014
c. Partial	-.07	-.04	-.07	-.03	-.07
	-.07	-.04	-.07	-.03	-.07
6. Husband's occupation					
a. Arithmetic	(n.s.)	...	(n.s.)	(n.s.)	(n.s.)
b. Beta	-5.36	...	-4.50	-.86	-.0070
c. Partial	-.08	...	-.10	-.02	-.10
	-.08	...	-.10	-.02	-.10

Table 9.10. Data from regression analyses of expenditures for alcoholic beverages per adult in 1964 (in cents) by upper income families in Minneapolis-St. Paul - continued

Variable and regression measure	Total expenditure with husband's occupation as		Expenditure		Ratio of expenditures for alcoholic beverages to total food and beverage expenditures
	Continuous variable	Discontinuous variable	For use at home	Away from home	
7. Users-nonusers (nonuser as base)	(1)	(1)	(1)	(2)	(1)
a. Arithmetic	102.35	100.78	60.45	41.91	.1500
b. Beta	.24	.23	.22	.16	.34
c. Partial	.24	.24	.22	.16	.35
8. Husband's occupation					
(1) Professional, technical	...	(20)	...	...	...
Beta36	...	...	...
Partial09	...	...	...
(2) Managerial, official, proprietary	...	(20)	...	...	...
Beta42	...	...	...
Partial10	...	...	...
(3) Clerical	...	(n.s.)	...	...	...
Beta11	...	...	...
Partial06	...	...	...
(4) Sales	...	(n.s.)	...	...	...
Beta17	...	...	...
Partial06	...	...	...
(5) Craftsman, foreman	...	(n.s.)	...	...	...
Beta18	...	...	...
Partial06	...	...	...
(6) Operative	...	(20)	...	...	...
Beta21	...	...	...
Partial09	...	...	...
(7) Service (omitted)
Beta for the set14	...	...	...

1 The mean is affected by omission of observations for the bases for the dummy variables.

Other independent variables used in the models are not statistically significant at the 10 percent level, although their signs are in the expected directions. Coefficients for three of the occupational categories--professional, managerial, and operative--used in an alternative model for total alcoholic beverage expenditures were positive and achieved statistical significance at the 20 percent level.

Chapter 10. EXPENDITURES FOR FOOD GROUPS FOR USE AT HOME

There are several ways of looking at competition for food dollars. One is to examine shares allocated by families to the major food groups. Another is to study variations in average expenditures by groups of families subdivided by socioeconomic characteristics. Or these characteristics may be used as measures of underlying socioeconomic factors and related to food shares or expenditures in multiple regression analyses. Each of these approaches is used below.

10.1 U.S. Urban Families and Singles, 1965-66 HFC Survey

The 1965-66 Household Food Consumption Survey by the U.S. Department of Agriculture provides the most recent data on distribution of U.S. urban consumer expenditures for food at home among commodity groups. Comparison of data in table 10.1 for all urban families and for upper income families reveals only minor variations in the shares of commodity groups in food expenditures for home use. Upper-income families spent relatively less for potatoes and for fats and oils and relatively more for meat, poultry, fish; fresh fruit and vegetables; and nonalcoholic beverages.

Average expenditures per household are given in table 10.1, but substantial variations in household size (measured in equivalent persons based on 21 meals at home in a week) make the comparison of per person average expenditures more meaningful. Expenditures by upper-income families for most food groups in the table were higher than the all-U.S. urban averages. Outlays for nonalcoholic beverages; meats, poultry, and fish; and fresh fruits and vegetables were more responsive to variations in family income than were other food groups. Data are not yet available from the 1965 survey to measure variations with factors other than urbanization, regionality, and income. Differences in level have already been discussed in chapter 8.

10.2 North Central Urban Data

Food expenditures by the urban \$10,000 to \$15,000 income group in the North Central Region averaged somewhat less per person than those for comparable U.S. families in a week of spring 1965 (tables 10.2 and 10.1). The only notable difference in food group shares was the lower North Central share for meat, poultry, and fish (figure 10.1). Families with incomes of \$15,000 or more in the North Central Region were also larger than the all-U.S. group and they spent slightly less money for food at home. But their purchases of foods for home use were quite comparable with the U.S. averages for the highest income group in total and in distribution among food groups. Average expenditures per person for the meat, poultry, and fish group by the North Central families in the \$10,000 to \$15,000 and \$15,000 and over income groups were 5 to 10 percent smaller than the comparable U.S. averages, accounting for over half of the difference in expenditures per person for all food at home.

Table 10.1. Expenditures for food groups and their shares in total expenditures for food at home in a week, family and per person averages, all U.S. urban families and upper-income groups, spring 1965^{1/}

Food group	All households			Family averages \$10,000 to \$15,000 income group			Per person averages			
	Amount	Share in total	percent	Amount	Share in total	percent	\$15,000 and over group		All households	
							Amount	Share in total	Amount	Share in total
	dollars	percent	percent	dollars	percent	percent	dollars	percent	dollars	percent
Total expenditure for food at home	26.58	100	100	34.76	100	100	41.37	100	8.41	100
Dairy products excluding butter	3.47	13	13	4.54	13	12	5.06	12	1.10	13
Dairy products including butter	3.76	14	14	4.97	14	14	5.64	14	1.19	14
Fats and oils including butter	.92	4	3	1.12	3	3	1.35	3	.29	3
Cereals and bakery products	3.25	12	12	4.12	12	11	4.49	11	1.03	11
Meat, poultry, and fish	9.27	35	36	12.34	36	37	15.44	37	2.93	37
Eggs	.81	3	3	.90	3	2	1.00	2	.26	2
Sugars, sweets	.74	3	2	.85	2	3	1.16	3	.23	3
All fruits and vegetables	4.97	19	19	6.69	19	21	8.42	21	1.57	21
Fresh fruits and vegetables	2.34	9	9	3.29	9	12	4.66	12	.73	12
Potatoes and sweet potatoes, total	.69	3	2	.85	2	2	.87	2	.22	2
Commercially canned fruits and vegetables	1.00	4	3	1.11	3	3	1.11	3	.32	3
Commercially frozen fruits and vegetables	.26	1	1	.45	1	1	.57	1	.08	1
Juices, fruit and vegetables	.59	2	3	.89	3	3	1.14	3	.19	3
Dried fruits and vegetables	.09	2/	2/	.10	2/	2/	.07	2/	.03	2/
Nonalcoholic beverages	1.69	6	6	2.17	6	6	2.53	6	.53	6
Soups and other mixtures	.83	3	4	1.22	4	4	1.00	4	.26	4
Other (identified)	.60	2	2	.83	2	2	.91	2	.19	2
Household size, number in 21-meal equivalents	3.16			3.49			number		3.16	
Number of cases in sample	4,356			414			138		...	
									3.49	3.77
								

1 From USDA, ARS, Food Consumption of Households in the United States, Spring 1965. Household Food Consumption Survey 1965-66 Report No. 1.
 2 Less than 1 percent.

Table 10.2. Expenditures for food groups and their shares in total expenditures for food at home in a week, family and per person averages, all North Central urban families and upper-income groups, spring 1965^{1/}

Food group	Family averages				Per person averages				
	All households		\$10,000 to \$15,000 income group		\$15,000 and over group		All households		
	Amount	Share in total	Amount	Share in total	Amount	Share in total	Amount	Share in total	
	dollars	percent	dollars	percent	dollars	percent	dollars	percent	
Total expenditure for food at home	26.85	100	36.21	100	40.12	100	8.11	9.45	10.31
Dairy products excluding butter	3.47	13	4.71	13	5.19	13	1.05	1.23	1.34
Dairy products including butter	3.83	14	5.20	14	5.90	15	1.16	1.36	1.52
Fats and oils including butter	.95	4	1.21	3	1.30	3	.29	.32	.33
Cereals and bakery products	3.27	12	4.47	12	4.50	11	.99	1.17	1.16
Meat, poultry, and fish	9.49	35	12.29	34	14.64	37	2.87	3.21	3.76
Eggs	.76	3	.84	2	.85	2	.23	.22	.22
Sugars, sweets	.73	3	.95	3	1.01	3	.22	.25	.26
All fruits and vegetables	4.94	18	7.07	19	8.38	21	1.49	1.85	2.15
Fresh fruits and vegetables	2.27	8	3.44	10	4.79	12	.69	.90	1.23
Potatoes and sweet potatoes	.84	3	1.10	3	1.02	3	.26	.29	.26
Commercially canned fruits and vegetables	1.01	4	1.20	3	.95	2	.30	.31	.24
Commercially frozen fruits and vegetables	.22	1	.40	1	.48	1	.07	.11	.12
Juices, fruit and vegetable	.52	2	.85	2	1.04	3	.16	.22	.27
Dried fruits and vegetables	.08	2/	.08	2/	.10	2/	.02	.02	.03
Nonalcoholic beverages	1.76	7	2.38	7	2.52	6	.53	.62	.65
Soups and other mixtures	.86	3	1.35	4	.99	2	.26	.35	.25
Other	.62	2	.95	3	.73	2	.18	.25	.19
Household size, number in 21-meal equivalents	3.31		3.83		3.89		3.31	3.83	3.89
Number of cases	1,187		130		40		...	...	...

1/ From USDA, ARS, Food Consumption of Households in the North Central, Spring 1965. Household Food Consumption Survey 1965-1966, Report No. 3, July 1968.
 2/ Less than 1 percent.

10.3 Minneapolis-St. Paul Survey

Consider first the variations in expenditures for food groups with family income. Table 10.3 shows that the sample restriction to two-person families with less than \$10,000 before-tax income resulted in a substantially smaller share of food dollars allocated to dairy products by the lowest after-tax income group than that by the next higher income group that included many more children. Based on the data given in the table for the families with \$10,000 to \$15,000 incomes and those with \$20,000 and over, somewhat lower shares were allocated by the top income group to dairy products, nonalcoholic beverages, and potatoes and sweet potatoes (indicated by unrounded data). These families made substantially larger allocations for fresh fruits and vegetables and for prepared dishes. Per person expenditures calculated from the household averages by dividing them by household size were remarkably similar for the \$10,000 to \$15,000 group and the \$15,000 and over income group.

Comparison of commodity shares for food expenditures by upper-income families in Minneapolis-St. Paul (table 10.3) with those for North Central urban affluent families (table 10.2) reveals several differences. The Minneapolis-St. Paul families spent a slightly larger proportion of their at-home food money for dairy products, fresh fruits and vegetables (other than potatoes), but much less for meat, poultry, and fish and for potatoes and sweet potatoes than did the North Central families (figure 10.1).

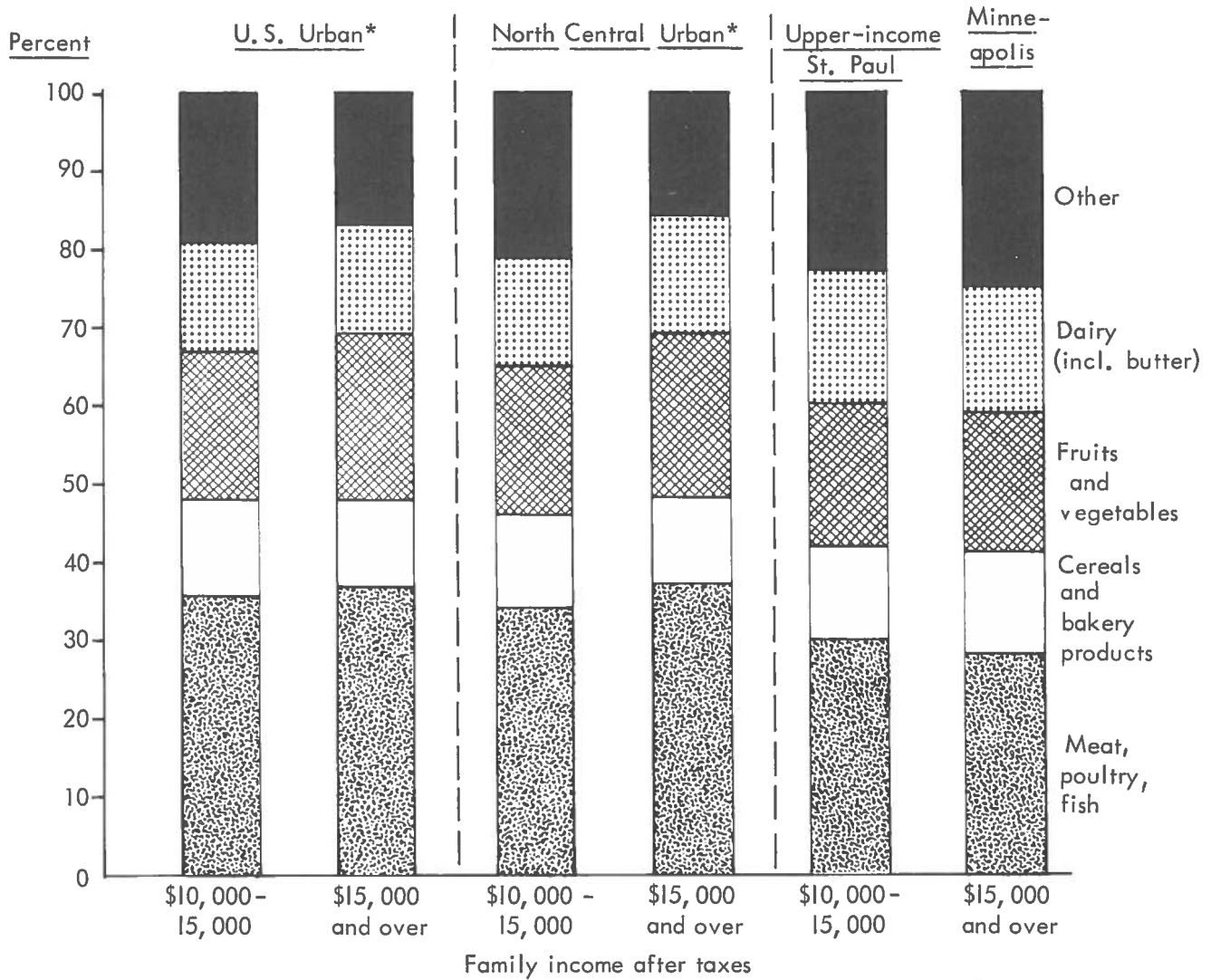
10.3.1 Per Person Expenditures

Among the data in table 10.4 are simple averages of per person rates of food expenditures that were calculated for individual families within the per person income quartiles. The shares allocated to food computed from these averages for the bottom quartile and the top quartile vary substantially more than those based on averages computed from family expenditures for the family income groups. But we find much the same patterns--the highest income group allocating smaller shares than the lowest income group for dairy products, fats and oils, cereals and bakery products, eggs, and sugar and sweets and larger shares for meat, poultry, and fish; fruits and vegetables; and non-alcoholic beverages.

The averages for total expenditures for food at home and for commodity groups also vary more among families grouped by per person income than on the family income basis. Whereas family expenditures by the \$6,400 to \$10,000 income group for meat, poultry, and fish averaged about \$8, and those by the \$20,000 and over family group averaged \$8.62, families in the top income quartile spent \$3.09 per person for meat, poultry, and fish compared with \$1.78 for the bottom group. Part of this variation was obviously related to differences in family size and in age composition. Therefore, we turn next to variations in expenditures for major food groups with stage in the family life cycle.

Per person expenditures for food at home for families classified in family life cycle stages according to the Michigan Survey Research Center's categories (combining age of the husband and age of the youngest child) are given in table 10.5. These data clearly demonstrate how young children reduce average

Figure 10.1 Shares of food groups in expenditures for food at home in a week of spring 1965 by urban upper-income families in the United States, North Central Region, and Minneapolis-St. Paul, by income level



*Data for purchased food used by families and single individuals, derived from U. S. Department of Agriculture Household Food Consumption Survey Reports 1 and 3

Table 10.3. Expenditures for food groups and their shares in total expenditures for food at home in a week, family and per person averages, upper-income Minneapolis-St. Paul families, by level of family income, April to July 1965/1

Food group	Family averages for families with income of \$6,410 to \$10,000						Family averages for families with income of \$10,000 to \$15,000						Family averages for families with income of \$15,000 to \$20,000						Family averages for families with income of \$20,000 and over						
	Amount		Share in total		Amount		Share in total		Amount		Share in total		Amount		Share in total		Amount		Share in total		Amount		Share in total		
	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	
Total expenditures for food at home	26.49	100	27.69	100	29.26	100	28.99	100	29.26	100	28.99	100	29.26	100	28.99	100	29.26	100	28.99	100	29.26	100	28.99	100	
Dairy products excluding butter	3.34	13	4.31	16	4.32	15	4.55	16	4.32	15	4.55	16	4.32	15	4.55	16	4.32	15	4.55	16	4.32	15	4.55	16	
Dairy products including butter	3.86	15	4.83	17	4.78	16	4.97	17	4.78	16	4.97	17	4.78	16	4.97	17	4.78	16	4.97	17	4.78	16	4.97	17	
Fats and oils including butter	1.26	5	1.16	4	1.28	4	1.36	5	1.28	4	1.36	5	1.28	4	1.36	5	1.28	4	1.36	5	1.28	4	1.36	5	
Cereals and bakery products	3.44	13	3.41	12	3.76	13	3.98	14	3.76	13	3.98	14	3.76	13	3.98	14	3.76	13	3.98	14	3.76	13	3.98	14	
Meat, poultry, and fish	7.98	30	8.40	30	8.31	28	8.14	28	8.31	28	8.14	28	8.31	28	8.14	28	8.31	28	8.14	28	8.31	28	8.14	28	
Eggs	.64	2	.56	2	.59	2	.56	2	.59	2	.56	2	.59	2	.56	2	.59	2	.56	2	.59	2	.56	2	
Sugars, sweets	.90	3	.85	3	.86	3	.80	3	.86	3	.80	3	.86	3	.80	3	.86	3	.80	3	.86	3	.80	3	
All fruits and vegetables	4.92	19	5.09	18	5.47	19	4.70	16	5.47	19	4.70	16	5.47	19	4.70	16	5.47	19	4.70	16	5.47	19	4.70	16	
Fresh fruits and vegetables																									
Including potatoes and sweet potatoes	2.76	11	2.96	11	3.50	12	2.95	10	3.50	12	2.95	10	3.50	12	2.95	10	3.50	12	2.95	10	3.50	12	2.95	10	
Excluding potatoes and sweet potatoes	2.51	10	2.59	10	3.27	11	2.73	9	3.27	11	2.73	9	3.27	11	2.73	9	3.27	11	2.73	9	3.27	11	2.73	9	
Fruits	1.31	5	1.50	5	1.86	6	1.45	5	1.86	6	1.45	5	1.86	6	1.45	5	1.86	6	1.45	5	1.86	6	1.45	5	
Vegetables including potatoes and sweet potatoes	1.45	6	1.46	5	1.64	5	1.50	5	1.64	5	1.50	5	1.64	5	1.50	5	1.64	5	1.50	5	1.64	5	1.50	5	
Vegetables excluding potatoes and sweet potatoes	1.20	5	1.09	4	1.41	5	1.28	4	1.41	5	1.28	4	1.41	5	1.28	4	1.41	5	1.28	4	1.41	5	1.28	4	
Potatoes and sweet potatoes	.25	1	.37	1	.23	1	.22	1	.23	1	.22	1	.23	1	.22	1	.23	1	.22	1	.23	1	.22	1	
Commercially processed fruits and juices																									
Commercially processed frozen fruits and juices	.88	4	.68	2	.59	2	.56	2	.59	2	.56	2	.59	2	.56	2	.59	2	.56	2	.59	2	.56	2	
Commercially processed vegetables including potatoes and sweet potatoes but excluding frozen	.41	1	.50	2	.48	2	.45	1	.48	2	.45	1	.48	2	.45	1	.48	2	.45	1	.48	2	.45	1	
Commercially processed vegetables including potatoes and sweet potatoes but excluding frozen	.60	2	.60	2	.41	1	.26	1	.41	1	.26	1	.41	1	.26	1	.41	1	.26	1	.41	1	.26	1	
Commercially frozen vegetables but excluding frozen	.27	1	.35	1	.49	2	.48	2	.49	2	.48	2	.49	2	.48	2	.49	2	.48	2	.49	2	.48	2	
Commercially frozen fruits and juices	1.45	6	1.55	6	1.59	5	1.84	6	1.59	5	1.84	6	1.59	5	1.84	6	1.59	5	1.84	6	1.59	5	1.84	6	
Nonalcoholic beverages	1.85	7	1.74	6	2.39	8	2.24	8	2.39	8	2.24	8	2.39	8	2.24	8	2.39	8	2.24	8	2.39	8	2.24	8	
Prepared dishes, total	.57	2	.44	2	.30	1	.29	1	.30	1	.29	1	.30	1	.29	1	.30	1	.29	1	.30	1	.29	1	
Soups, baby and junior foods, not frozen	.97	4	.98	4	1.61	6	1.64	6	1.61	6	1.64	6	1.61	6	1.64	6	1.61	6	1.64	6	1.61	6	1.64	6	
Other dishes, not frozen	.31	1	.32	1	.48	2	.31	1	.48	2	.31	1	.48	2	.31	1	.48	2	.31	1	.48	2	.31	1	
Frozen dishes																									
Total expenditures for food away from home ^{2/}	7.94	...	11.92	...	18.98	...	18.83	...	18.98	...	18.83	...	18.98	...	18.83	...	18.98	...	18.83	...	18.98	...	18.83	...	
Per person averages based on number family members in survey week																									
For food away from home ^{2/}																									
For food at home																									
Household size, number in 21-meal equivalents	3.7	...	4.0	...	4.0	number	4.2	...	4.0	number	4.2	...	4.0	number	4.2	...	4.0	number	4.2	...	4.0	number	4.2	...	
Number of cases in sample	83	...	125	...	47	...	30	...	47	...	30	...	47	...	30	...	47	...	30	...	47	...	30	...	

1/ Per person data computed using family averages for income group and matching household sizes, except as noted.

2/ Includes expenditures for alcoholic beverages and tips.

Table 10.4 Expenditures for food groups and their shares in total expenditures for food at home in a week, April to July 1965, per person averages, upper-income Minneapolis-St. Paul families grouped by per person income in 1964

Food group	All families		In families with per person income of				Share in total percent			
	Amount dollars	Share in total percent	\$800 to \$2,199		\$2,200 to \$2,899			Amount dollars	Share in total percent	
			Amount dollars	Share in total percent	Amount dollars	Share in total percent				
Total expenditure for food at home	7.57	100	6.53	100	6.65	100	7.73	100	9.41	100
Dairy products excluding butter	1.04	14	.96	15	1.04	16	1.03	13	1.15	12
Dairy products including butter	1.18	16	1.11	17	1.15	17	1.17	15	1.34	14
Fats and oils including butter	.32	4	.32	5	.30	4	.33	4	.34	4
Cereals and bakery products	.92	12	.87	13	.91	14	.91	12	1.00	11
Meats, poultry, and fish	2.34	31	1.78	27	1.97	30	2.56	33	3.09	33
Eggs	.16	2	.17	3	.14	2	.14	2	.18	2
Sugars, sweets	.23	3	.25	4	.22	3	.21	3	.24	3
All fruits and vegetables	1.42	19	1.21	18	1.16	17	1.39	18	1.92	20
Fresh fruits and vegetables, total	.83	11	.68	10	.72	11	.77	10	1.15	12
Fruits	.41	5	.33	5	.39	6	.36	5	.54	6
Vegetables, total ^{1/}	.42	6	.34	5	.33	5	.41	5	.61	6
Commercially processed, total	.59	8	.53	8	.44	7	.62	8	.77	8
Fruits and juices, total	.34	5	.31	5	.25	4	.38	5	.40	4
Vegetables, total	.25	3	.22	3	.19	3	.24	3	.37	4
Nonalcoholic beverages	.45	6	.33	5	.39	6	.43	6	.64	7
Prepared dishes, total	.52	7	.45	7	.39	6	.58	8	.64	7
Soups, baby and junior foods, not frozen	.11	2	.12	2	.11	2	.14	2	.06	1
Other dishes, not frozen	.31	4	.25	4	.20	3	.32	4	.47	5
Frozen dishes	.10	1	.08	1	.08	1	.12	2	.11	1
Household size, number in 21-meal equivalents	3.9		5.7		4.1		3.3		2.5	
Number of cases	255		66		63		63		63	

^{1/} Including potatoes and sweet potatoes

Table 10.5 Expenditures for food groups and their shares in total expenditures for food at home in a week, per person averages, upper-income Minneapolis-St. Paul families, April to July 1965, by stage in family life cycle

Food group	Youngest child under 6				Head under 45 years				Children under 18 at home				Head 45 and over				No children under 18 at home				
	Amount		Share in total		Amount		Share in total		Amount		Share in total		Amount		Share in total		Amount		Share in total		
	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	
Total expenditures for food at home	6.03	100	7.44	100	10.08	100	8.19	100	10.08	100	8.19	100	9.41	100	10.08	100	8.19	100	9.41	100	
Dairy products excluding butter	.99	16	1.05	14	1.08	11	1.08	11	1.08	11	1.08	13	1.10	12	1.08	11	1.08	13	1.10	12	
Dairy products including butter	1.09	18	1.22	16	1.44	14	1.44	15	1.44	14	1.44	15	1.23	13	1.24	15	1.24	15	1.23	13	
Fats and oils including butter	.25	4	.38	5	.59	6	.38	5	.59	6	.38	4	.29	3	.59	6	.38	4	.29	3	
Cereals and bakery products	.80	13	.90	12	.92	9	.90	12	.92	9	.90	12	1.11	12	.92	9	1.00	12	1.11	12	
Meat, poultry, and fish	1.70	28	2.24	30	3.33	33	2.60	32	3.33	33	2.60	32	3.20	34	3.33	33	2.60	32	3.20	34	
Eggs	.15	2	.15	2	.20	2	.17	2	.20	2	.15	2	.15	2	.17	2	.15	2	.15	2	
Sugars, sweets	.20	3	.29	4	.17	2	.29	4	.17	2	.29	4	.24	3	.17	2	.24	3	.24	3	
All fruits and vegetables	1.08	18	1.38	19	2.13	21	1.38	19	2.13	21	1.38	19	1.81	19	2.13	21	1.52	19	1.81	19	
Fresh fruits and vegetables, total	.62	10	.80	11	1.07	11	.89	11	1.07	11	.89	11	1.13	12	1.07	11	.89	11	1.13	12	
Fruits	.33	5	.39	5	.41	4	.46	5	.41	4	.46	5	.53	6	.41	4	.46	5	.53	6	
Vegetables, total	.29	5	.41	6	.66	7	.41	6	.66	7	.41	5	.60	6	.66	7	.43	5	.60	6	
Commercially processed, total	.46	8	.58	8	1.06	10	.58	8	1.06	10	.58	8	.68	7	1.06	10	.63	8	.68	7	
Fruits and juices, total	.25	4	.33	4	.56	5	.33	4	.56	5	.33	4	.41	4	.56	5	.41	5	.36	4	
Vegetables, total	.21	4	.25	4	.50	5	.25	4	.50	5	.25	4	.22	3	.50	5	.22	3	.32	3	
Nonalcoholic beverages	.26	4	.37	5	.91	9	.37	5	.91	9	.37	5	.53	6	.91	9	.53	6	.65	7	
Prepared dishes, total	.44	7	.50	7	.52	5	.50	7	.52	5	.50	7	.57	7	.52	5	.57	7	.64	7	
Soups, baby and junior foods, not frozen	.14	2	.08	1	.04	1/	.08	1	.04	1/	.04	1/	.11	1	.04	1/	.11	1	.09	1	
Other dishes, not frozen	.22	4	.31	4	.36	4	.31	4	.36	4	.31	4	.44	5	.36	4	.44	5	.44	5	
Frozen dishes	.08	1	.11	2	.12	1	.11	2	.12	1	.11	2	.11	1	.12	1	.11	2	.11	1	
Household size, number in 21-meal equivalents	4.9																				2.4
Number of cases	99																				46
			3.8		1.6		4.2		1.6		52		2.4		1.6		52		1.6		
			42		16		42		16		42		46		16		42		16		

1/ Less than 1 percent.

expenditures per person within families. Among commodity groups, note the higher shares for dairy products in households with young children, and lower shares for meat, poultry, and fish and for fruits and vegetables (figure 10.2).

To study the patterns of a week's food spending by low, medium, and high spenders for food, per person, within the per person income quartiles, we identified families with food expenditures during the week of under \$6, \$6 to \$9, \$9 and over (table 10.6). These data show that families spending under \$6 per person were generally larger in size and the wives' hours of employment outside their homes averaged less for the three highest quartiles (probably related to having younger children). Also, lower spenders tended to have slightly higher social position.

Within the income quartiles, the shares of at-home expenditures allocated to dairy products and to the meat, poultry, and fish group varied the most. In the lowest quartile, low food spenders allocated 19 percent of their home food money to dairy products and high spenders 11 percent. The same two groups spent 25 percent and 30 percent, respectively, for meat, poultry, and fish. In the top income quartile, 16 percent of the food expenditures by the low spenders went to dairy products and 21 percent to meat, poultry, and fish. But high spenders allocated 11 percent to dairy products and 36 percent to the meat items.

Accordingly, it appears that some of the socioeconomic factors favoring the demand for dairy products work to the disadvantage of the meat group. Detailed analyses of expenditures for these two food groups will identify these factors and measure their effects on expenditures.

10.3.2 Introduction to the Multivariate Analyses

Tables 10.7, 10.8, and 10.9 report findings from different approaches used to analyze statistically the effects of socioeconomic factors on the actual levels of expenditures for 13 major food groups, per family and per person, and on their shares of total expenditures for food for home use. The variables used in the models for these regressions were identified after considerable testing of a larger array. Some statistically nonsignificant variables were retained in order to show their relative importance. Use of substitute and complementary food groups raised the explanatory power of the models, particularly for dairy products, cereals and bakery products, red meats, fats and oils, sugars and sweets. Primarily the statistically significant relationships will be noted. With a few exceptions the 10 percent level was used as the cut-off point for significance, using a two-tail t test.

Disposable incomes per family and per person were transformed into common logarithms, but the expenditure data had to be kept in dollars or cents because of the frequency of no expenditures for a food group by an individual family. Therefore, the income elasticities are based on the semi-logarithmic form.¹

¹ Computed by multiplying the regression coefficients by .4343 to convert them to natural logarithms and then dividing by the means of the dependent variables.

Figure 10.2 Shares of food groups in expenditures for food at home by upper-income families in Minneapolis-St. Paul, by stage in the family life cycle in a week of April-July 1965

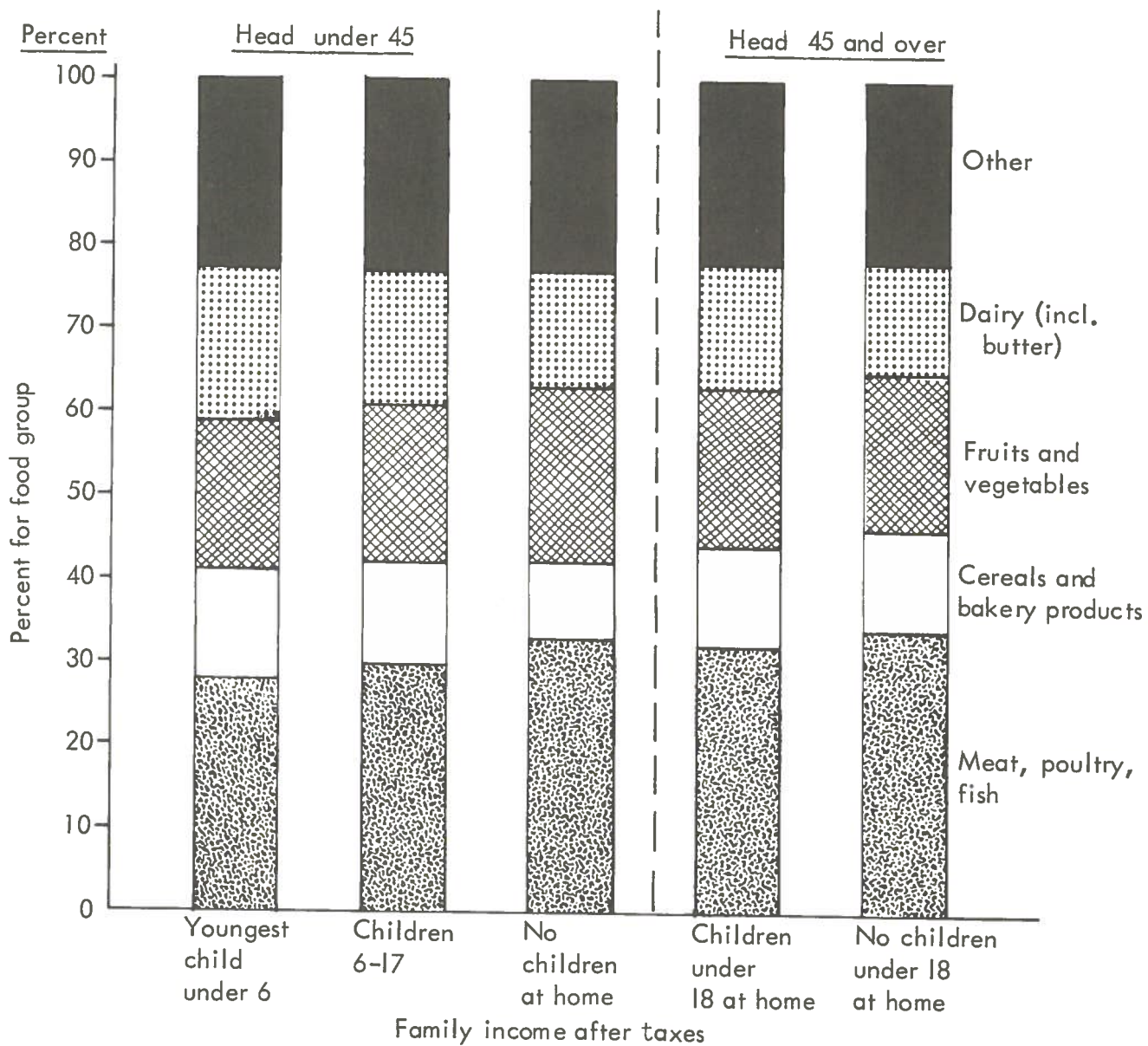


Table 10.6 Selected characteristics and average expenditures per person for groups of foods for home use, in a week of April to July 1965, by upper-income Minneapolis-St. Paul families grouped by per person income and by level of total expenditure for food at home

Characteristic and food group	Per person income-spender group		\$800 to \$2,199				\$2,200 to \$2,699				\$2,900 to \$3,859				\$3,860 and over			
	Under \$6	100	dollar	percent	dollar	percent	dollar	percent	dollar	percent	dollar	percent	dollar	percent	dollar	percent	dollar	percent
Total expenditure for food at home	4.34	100	11.85	100	7.19	100	10.71	100	7.47	100	11.85	100	3.97	100	7.74	100	13.25	100
Dairy products, excluding butter	.88	19	1.27	11	1.05	15	1.37	13	1.08	14	1.35	11	.63	16	1.02	13	1.45	11
Butter	.20	5	.37	3	.37	5	.51	5	.48	7	.64	5	.55	14	.71	9	1.41	11
Cheeses and bakery products	.65	14	1.38	12	1.58	22	1.38	13	2.26	30	4.34	37	.83	21	2.36	30	4.72	36
Meat, poultry, and fish	1.13	25	1.91	17	2.23	31	2.90	27	1.69	23	3.48	29	.68	17	2.06	26	4.11	31
Red meats	.94	21	1.56	14	1.72	24	2.29	21	1.41	19	2.66	23	.15	4	.16	2	.43	3
Poultry	.14	3	.29	3	.11	2	.24	2	.16	2	.20	2	...	...	.14	2	.18	1
Fish	.05	1	.22	2	.11	2	.19	2	.17	2	.19	2	.09	2	.16	2	.23	2
Eggs	.17	4	.28	4	.14	2	.33	3	.21	3	.32	3	.19	5	.15	2	.33	2
Sugars, sweets	.68	15	2.57	22	1.27	18	1.85	17	1.31	18	2.02	17	.69	17	1.68	22	2.68	20
All fruits and vegetables	.44	10	1.26	11	.83	12	1.03	10	.73	10	1.32	11	.29	12	1.05	13	1.75	12
Fruits and vegetables, total	.25	5	.39	5	.45	7	.47	5	.35	5	.70	6	.25	6	.56	7	.79	6
Vegetables	.19	4	.40	6	.38	5	.82	7	.58	8	.90	8	.20	5	.67	9	1.13	8
Commercially processed, total	.24	5	.59	9	.24	3	.46	4	.21	3	.54	5	.06	2	.39	5	.57	4
Fruits and juices, total	.14	3	.33	5	.20	3	.36	3	.18	2	.36	3	.14	3	.28	4	.56	4
Vegetables, total 1/	.10	2	.26	5	.41	6	.83	8	.18	2	.67	6	.17	4	.65	8	.85	6
Alcoholic beverages	.24	5	.38	5	.34	5	.63	6	.29	4	.77	6	.47	12	.47	6	.88	7
Prepared dishes, total	.32	7	.94	8	.32	4	.63	6	.29	4	.77	6	.47	12	.47	6	.88	7
Soups, baby and junior foods, and dishes, not frozen	.11	3	.10	1	.07	1	.17	2	.09	2	.15	1	.02	1	.03	1	.11	1
Other dishes	.15	3	.21	3	.20	3	.31	3	.14	2	.47	4	.06	2	.34	4	.62	5
Frozen dishes	.06	1	.08	1	.07	1	.15	1	.06	1	.15	1	.07	2	.10	1	.15	1
Household size, 21-meal equivalents, number	6.1		5.8		4.3		4.3		3.9		3.0		3.0		2.5		2.2	
Index of social position, code (lower number = higher position)	2.3		2.6		2.1		2.5		2.1		2.8		1.9		2.8		3.1	
Wife's employment in year, code (lower number = fewer hours and days)	1.4		1.1		1.1		2.2		2.7		2.7		1.4		4.6		3.1	
Number of costs	36		18		24		12		24		21		13		22		28	

1/ Includes potatoes and sweet potatoes.
2/ Less than 1 percent.

10.3.3 Food Group Expenditures per Family

The level of income in the preceding year was an important factor in explaining variations in expenditures per family only for dairy products and prepared dishes (but only at the 20 percent level)(table 10.7). The model for dairy products excluding butter explained 60 percent of the variation in such expenditures. The most important relationship was to household size, followed by expenditures for cereals and nonalcoholic beverages. Egg expenditures were positively associated with expenditures for the cereal group and for meat, poultry, and fish. The relationship to household size and the income elasticity of $-.2$ were not statistically significant.

Slightly less than half of the family to family variations in expenditures for cereal and bakery products was explained by use of 13 factors, only three of which were statistically significant at the 10 percent level. These were larger household size, older age of wife, and higher level of expenditures for meat, poultry, and fish--all having positive effects. More years of education for the wife, her economizing interests, and lower ranking social position had negative but not statistically significant influences. The higher the proportion of dinners out, the larger the expenditure for cereals and bakery products seemed to be, but the relationship was not of statistical significance.

The income elasticity of family expenditures for red meats and for the whole meat, poultry, and fish group was $-.1$, but nonsignificant. The high negative relationship of red meats to their substitutes, poultry and fish combined, contributed to the relatively high R^2 for these meats. Variations in expenditures for red meats and for the meat, poultry, and fish group were strongly influenced by household size. The percent of the household 16 years and older, the wife's older age, and her reputation striving were other positive factors.

Fresh fruit expenditures varied a fifth as much as income did from family to family. Larger households and dissavers were significantly higher spenders for fresh fruits. Surprisingly, fresh fruit and processed fruits were positively related, but the relationship was not statistically significant. The income elasticity for processed fruits (after the effects of other factors were taken into account) was $-.3$. The degree of dissaving was negatively related (but not significantly) to purchases of these processed foods. A higher percentage of young children in the household stimulated such buying.

Only a fourth of the variation in family expenditures for fresh or processed vegetables was associated with the socioeconomic factors and even with each other. The income elasticity of fresh vegetables including potatoes was much lower than that for fresh fruits, but it was not statistically significant. Fresh vegetable expenditures were significantly related to household size, proportion of the household members 10 years and older, and to processed vegetable expenditures. The significant positive interrelationships between fresh and processed vegetables seem to tell us that people who spend a lot for fresh vegetables also spend heavily for processed vegetables. It appears likely that these food groups aggregate individual products with differing consumer demands so that their relationships to some of the socioeconomic factors are offsetting.

Table 10.7A Summary of regressions for family expenditures for seven food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
Arithmetic mean in cents	398	58	346	706	819	149	117
R ²	.60	.18	.45	.48	.21	.19	.11
Standard error of estimate	159	54	189	543	545	120	130
Independent variables							
1. Disposable income per family in 10\$ and in logarithms (significance level)	(20)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic regression coefficient	126.73	-31.65	-31.43	-192.54	-152.00	75.62	-77.83
b. Beta, standardized coefficient	.07	-.08	-.02	-.03	-.03	.08	-.08
c. Partial correlation coefficient	.09	-.07	-.02	-.04	-.03	.08	-.08
d. Income elasticity	.14	-.24	-.04	-.12	-.08	.22	-.31
2. Family income change since 1959 (negative coding)	...	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetic	...	...	...	-16.09	-9.26	...	...
b. Beta	...	...	...	-.02	-.02	...	...
c. Partial	...	...	...	-.03	-.02	...	...
3. Change in family income expected to 1969 (negative coding)	...	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetic	...	...	...	-28.02	-36.55	...	...
b. Beta	...	...	...	-.04	-.06	...	...
c. Partial	...	...	...	-.04	-.06	...	...
4. Household size in 21-meal equivalents	(1)	(n.s.)	(1)	(1)	(1)	(1)	(1)
a. Arithmetic	7.35	.42	7.48	15.86	16.05	2.34	2.14
b. Beta	.55	.13	.56	.40	.50	.33	.29
c. Partial	.52	.10	.49	.35	.35	.28	.24
5. Age composition, identification (significance level)	(n.s.)	Percent 10 and over	(n.s.)	Percent 16 and over	Percent 10 and over	(n.s.)	Percent 10 and over
a. Arithmetic	.47	(n.s.)	(n.s.)	(10)	(10)	(n.s.)	(1)
b. Beta	.05	.16	-.09	4.34	4.27	.27	1.49
c. Partial	.05	.07	-.01	.16	.19	.05	.27
		.05	-.01	.12	.12	.04	.19

Table 10.7A Summary of regressions for family expenditures for seven food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families - (continued)

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
6. Catholic or not	...	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetic	...	...	...	-8.61	-7.53	...	...
b. Beta	...	...	...	-.01	-.01	...	...
c. Partial	...	...	...	-.01	-.01	...	...
7. Family social status	(20)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	13.69	-4.08	-9.33	-1.88	-4.00	2.11	-6.28
b. Beta	.07	-.09	-.05	-.00	-.01	.02	-.06
c. Partial	.08	-.07	-.05	-.00	-.01	.02	-.05
8. Wife's age in years	(n.s.)	(n.s.)	(10)	(2)	(5)	(n.s.)	(n.s.)
a. Arithmetic	-.94	.06	2.83	10.39	10.02	1.45	-.60
b. Beta	-.04	.01	.12	.15	.17	.11	-.05
c. Partial	-.05	.01	.12	.16	.15	.10	-.04
9. Wife's education in years	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	6.29	2.52	-9.29	29.36	24.75	3.26	1.35
b. Beta	.06	.09	-.08	.09	.09	.05	.02
c. Partial	.08	.09	-.09	.10	.09	.05	.02
10. Wife's work in survey week	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)
a. Arithmetic	-.19	.15	5.28	2.79	2.98	-5.87	-1.70
b. Beta	-.00	.01	.06	.01	.01	-.12	-.03
c. Partial	-.00	.01	.07	.01	.01	-.12	-.03
11. Degree of saving (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)	(n.s.)
a. Arithmetic	12.64	-1.90	2.07	53.28	55.64	15.96	-9.89
b. Beta	.05	-.03	.01	.07	.09	.13	-.08
c. Partial	.08	-.04	.01	.10	.10	.13	-.08

Table 10.7A Summary of regressions for family expenditures for seven food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families - (continued)

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
12. CV0 economizer	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.89	.11	-4.39	-16.97	-16.16	2.56	-3.16
b. Beta	-.01	.01	-.06	-.07	-.08	-.06	-.08
c. Partial	-.02	.01	-.06	-.10	-.09	.06	-.07
13. CV0 reputation striver	(20)	(n.s.)	(n.s.)	(2)	(2)	(n.s.)	(n.s.)
a. Arithmetic	4.89	-2.17	3.58	30.57	30.05	-.24	3.42
b. Beta	.05	-.11	.04	.12	.14	-.01	.07
c. Partial	.08	-.10	.05	.15	.15	-.01	.07
14. CV0 convenience	...	(n.s.)	(n.s.)	...	...	(n.s.)	(n.s.)
a. Arithmetic	...	-.45	.32	...	...	2.17	1.14
b. Beta	...	-.03	.01	...	...	-.07	-.03
c. Partial	...	-.03	.01	...	...	.06	.03
15. Expenditure for another food group: identification (significance level)	Cereal products	Meat group		Poultry, fish		Processed fruits	Fresh fruit
a. Arithmetic	(1)	(10)		(1)		(n.s.)	(n.s.)
b. Beta	.24	.05		-.88		-.09	.11
c. Partial	.25	.23		-.60		.10	.11
	.28	.19		-.62		.10	.10
16. Expenditure for another food group: identification (significance level)	Nonalcoholic beverage	Meat group	Meat group				
a. Arithmetic	(1)	(10)	(1)				
b. Beta	.20	.01	.10				
c. Partial	.12	.14	.25				
	.17	.13	.28				
17. Percent of dinners eaten out	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	...	-5.16	119.48	466.25	443.12	98.27	41.15
b. Beta	...	-.01	.06	.08	.09	-.09	.04
c. Partial	...	-.01	.07	.10	.09	.09	.04

Table 10.7B. Summary of regressions for family expenditures for six more food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families

Variable and regression measure	Vegetables		All prepared dishes	Fats and oils	Sugar and sweets	Non-alcoholic beverages
	Fresh	Processed				
Arithmetic mean in cents	147	91	186	120	87	151
R ²	.24	.24	.15	.34	.29	.15
Standard error of estimate	112	120	171	89	78	137
<u>Independent variables</u>						
1. Disposable income per family in 10\$ and in logarithms (significance level)						
a. Arithmetic regression coefficient	(n.s.)	(n.s.)	(20)	(n.s.)	(n.s.)	(n.s.)
b. Beta, standardized coefficient	28.33	-37.74	140.80	-46.74	21.58	-55.17
c. Partial correlation coefficient	.03	-.04	.11	-.06	.03	-.05
d. Income elasticity	.03	-.04	.10	-.06	.03	-.05
	.08	-.18	.33	-.17	.11	-.16
2. Household size in 21-meal equivalents						
a. Arithmetic	(1)	(1)	(1)	(2)	(n.s.)	(1)
b. Beta	2.35	2.29	3.49	1.21	.05	2.43
c. Partial	.35	.32	.36	.21	.01	.31
	.29	.27	.30	.17	.01	.27
3. Percent 10 years and over						
a. Arithmetic	(1)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(1)
b. Beta	1.16	-.04	.34	.55	-.21	1.66
c. Partial	.23	-.01	.05	.13	-.06	.28
	.17	-.01	.03	.11	-.05	.20
4. Wife's age in years						
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	.25	.94	.11	-.42	-.16	1.16
c. Partial	.02	.07	.01	-.04	-.02	.08
	.02	.06	.01	-.04	-.02	.07
5. Wife's education in years						
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)	(n.s.)
b. Beta	-4.57	4.43	-3.08	-.80	5.64	-.14
c. Partial	-.08	.07	-.04	-.02	.13	-.00
	-.08	.07	-.03	-.02	.14	-.00
6. Wife's work in survey week						
a. Arithmetic	(n.s.)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-1.23	5.81	-3.59	-.36	-3.18	-2.73
c. Partial	-.03	.12	-.05	-.01	-.10	-.05
	-.03	.11	-.05	-.01	-.10	-.05
7. Degree of saving (negative coding)						
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-3.11	-5.75	1.98	-8.75	-1.60	2.89
c. Partial	-.03	-.04	.01	-.09	-.02	.02
	-.03	-.05	.01	-.10	-.02	.02
8. CVO economizer						
a. Arithmetic	(n.s.)	(5)	(n.s.)	(5)	(10)	(n.s.)
b. Beta	-3.68	-6.01	-4.44	-4.35	-3.46	-4.97
c. Partial	-.10	-.15	-.08	-.13	-.13	-.11
	-.09	-.13	-.07	-.13	-.12	-.10

Table 10.7B. Summary of regressions for family expenditures for six more food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families - continued

Variable and regression measure	Vegetables		All prepared dishes	Fats and oils	Sugar and sweets	Non-alcoholic beverages
	Fresh	Processed				
9. CVO reputation striver		(10)	(n.s.)	(5)	(n.s.)	(5)
a. Arithmetic	.51	5.17	6.06	5.12	.80	7.62
b. Beta	.01	.11	.10	.14	.03	.15
c. Partial	.01	.11	.09	.15	.03	.14
10. CVO convenience		(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	1.63	-1.29	4.35	.44	-1.11	2.34
b. Beta	.05	-.04	.10	.02	-.05	.07
c. Partial	.05	-.03	.08	.02	-.04	.05
11. Expenditure for another food group, identification (significance level)	Processed vegetables	Fresh vegetables		Eggs	Cereals	
a. Arithmetic	(1)	(1)	...	(5)	(1)	...
b. Beta	.23	.26	...	.23	.16	...
c. Partial	.24	.25	...	.13	.43	...
	.24	.24	...	.14	.36	...
12. Expenditure for another food group, identification (significance level)	...	...	...	Cereals	Nonalcoholic beverages	...
a. Arithmetic	...	...	...	(1)	(n.s.)	...
b. Beta	...	...	...	.09	.06	...
c. Partial	...	...	...	.20	.09	...
	...	...	...	.17	.09	...
13. Expenditure for another food group, identification (significance level)	...	...	...	Processed vegetables		...
a. Arithmetic	...	...	...	(n.s.)	...	...
b. Beta	...	...	...	.04	...	...
c. Partial	...	...	...	.05	...	...
	...	...	...	.05	...	...
14. Expenditure for another food group, identification (significance level)	...	...	...	All prepared dishes		...
a. Arithmetic	...	...	...	(1)	...	...
b. Beta	...	...	...	.12	...	...
c. Partial	...	...	...	.20	...	...
	...	...	...	.21	...	...
15. Family social position (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)
a. Arithmetic	-3.06	-2.14	9.53	1.49	9.93	-5.84
b. Beta	-.03	-.02	.06	.02	.13	-.05
c. Partial	-.03	-.02	.05	.02	.12	-.04
16. Percent of dinners eaten out	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(20)	(n.s.)
a. Arithmetic	9.20	-6.66	68.96	-9.69	-57.60	-9.09
b. Beta	.01	-.01	.05	-.01	-.08	-.01
c. Partial	.01	-.01	.05	-.01	-.08	-.01

The income elasticity for processed vegetables was $-.2$, but statistically not significant. Household size, wife's work in the survey week, and reputation striving had positive effects on expenditures for processed vegetables, but an economizing tendency of the wife was definitely a negative element.

Although significant only at the 20 percent level, the income elasticity of family expenditures for all prepared dishes was $.3$. Household size was more important for such expenditures. Reputation striving did not appear as a significant factor until the 20 percent level, and relationship to the CVO convenience measure was slightly less significant than that. But the individual effects of these value orientation measures were almost as large as the effect of income.

The factors measured in the regression model for fats and oils explained a third of the variation in family expenditures for these products (including butter). The income elasticity of this food group was $-.2$, but statistically nonsignificant. The socioeconomic factors with significant effects were the positive effects of household size and reputation striving and the negative influence of the CVO measure of the economizing orientation of the wife. Otherwise, the important relationships were with expenditures for eggs, cereals, and prepared dishes (including frozen French fries)--all positive in effect.

Family expenditures for sugars and sweets were positively affected by additional education of the wife and by lower ranking family social position. These two findings seem inconsistent since the wife's education tends to be closely correlated with that of the husband, one component of the Hollingshead measure of social position. A higher percentage of dinners eaten out by the family in the survey week was negatively related to expenditures for sugars and sweets, but the relationship was significant only at the 20 percent level. Cereal expenditures were complementary with family expenditures for sugars and sweets, but no other variable was statistically significant. The significant factors in the regression model for nonalcoholic beverage expenditures were the household size, percentage of the household members 10 years and older, and the wife's reputation striving characteristic.

10.3.4 Per Person Expenditures²

The identification and measurement of relationships of socioeconomic characteristics and other food groups relevant to variations in per person expenditures for particular food groups were most successful for red meats and least successful for processed fruits and prepared dishes. Probably the major importance of the set of regression analyses reported in table 10.8 is its clarification of relationships between per person expenditures and income. Whereas there appeared to be a negative consumer response in family expenditures for meats with higher family income, this set of regressions indicates a statistically significant income elasticity of $.3$ for per person expenditures for red meats and for total meat, poultry, and fish expenditures. For eggs the income elasticity for per person expenditures becomes fractionally positive

² Per person averages calculated using household sizes, 21 meals at home equivalent to one person.

Table 10.8A. Summary of regressions for per person expenditures for seven food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families¹

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry fish	Fruits	
						Fresh	Processed
Arithmetic mean in cents	104	15	92	193	233	41	33
R ²	.20	.09	.16	.22	.21	.11	.03
Standard error of estimate	48	14	53	146	159	36	37
<u>Independent variables</u>							
1. Disposable income per person in logarithms (significance level)	(n.s.)	(10)	(n.s.)	(5)	(1)	(1)	(5)
a. Arithmetic regression coefficient	26.52	1.00	-23.52	127.34	166.48	36.70	33.46
b. Beta, standardized coefficient	.10	.01	-.08	.15	.18	.19	.18
c. Partial correlation coefficient	.09	.01	-.07	.14	.17	.18	.14
d. Income elasticity	.11	.03	-.11	.28	.31	.39	.44
2. Family income change since 1959 (negative coding)	...	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetic	...	...	...	-2.07	-.01	...	...
b. Beta	...	...	...	-.01	-.00	...	...
c. Partial	...	...	...	-.01	-.00	...	...
3. Change in family income expected to 1969 (negative coding)	...	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetic	...	...	...	3.31	-4.82	...	...
b. Beta	...	...	...	.02	-.03	...	...
c. Partial	...	...	...	.02	-.03	...	...
4. Age composition, identification (significance level)	(n.s.)	Number 10 and over (n.s.)	(n.s.)	Number 16 and over (n.s.)	Number 16 and over (n.s.)	Number 10 and over (10)	Number 10 and over in logs
a. Arithmetic	.00	.00	-.00	-.01	-.00	31.51	.15
b. Beta	.06	.04	-.02	-.03	-.01	...	.12
c. Partial	.05	.04	-.02	-.03	-.01	...	...
5. Catholic or not	...	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetic	...	...	...	-.36	-2.67	...	...
b. Beta	...	...	...	-.00	-.01	...	...
c. Partial	...	...	...	-.00	-.01	...	...

Table 10.8A. Summary of regressions for per person expenditures for seven food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families - continued

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
6. Family social status							
a. Arithmetic	(5)	...	...	(n.s.)	(n.s.)	...	(n.s.)
b. Beta	-5.92	...	...	2.43	4.63	...	.84
c. Partial	-.14	...	...	.02	.03	...	.03
	-.15	...	...	.02	.03	...	.03
7. Wife's age in years							
a. Arithmetic	...	...	(1)	(1)	(1)	(2)	(n.s.)
b. Beta	...	...	1.07	3.58	3.98	.60	-.06
c. Partial	...	...	.19	.23	.23	.16	-.02
	...	...	.18	.21	.21	.16	-.01
8. Wife's education, identification (significance level)		Actuals (10)		Actuals (n.s.)			
a. Arithmetic	...	...	...	(n.s.)	(n.s.)	...	...
b. Beta	...	.73	...	1.35	5.24	...	...
c. Partial	...	.11	...	.02	.06	...	...
	...	.11	...	.02	.06	...	...
9. Wife's work in survey week							
a. Arithmetic	...	...	...	(10)	(n.s.)	(10)	...
b. Beta	...	...	...	6.88	5.91	-1.67	...
c. Partial	...	...	...	.12	.09	-.12	...
	...	...	...	.12	.09	-.12	...
10. Degree of saving (negative coding)							
a. Arithmetic	(n.s.)	...	(n.s.)	(5)	(5)	(2)	(n.s.)
b. Beta	.91	...	.60	21.81	23.32	5.93	-1.28
c. Partial	.02	...	.01	.14	.13	.16	-.04
	.02	...	.01	.14	.14	.16	-.03
11. CVO economizer							
a. Arithmetic	...	...	...	(2)	(10)	...	(n.s.)
b. Beta	...	...	...	-7.66	-6.42	...	-.58
c. Partial	...	...	...	-.15	-.11	...	-.05
	...	...	...	-.16	-.12	...	-.05

Table 10.8A. Summary of regressions for per person expenditures for seven food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families¹ - continued

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
12. CV0 reputation striver							
a. Arithmetic	(n.s.)	...	(n.s.)	(1)	(1)	...	...
b. Beta	1.27	...	.59	9.08	9.72	...	...
c. Partial	.07	...	.03	.16	.15	...	...
	.07	...	.03	.17	.17	...	...
13. CV0 convenience							
a. Arithmetic	...	(10)	...	...	...	...	...
b. Beta	...	-.41	...	...	...	...	...
c. Partial	...	-.11	...	...	...	...	...
	...	-.11	...	...	...	...	...
14. Expenditure for another food group, identification (significance level)							
a. Arithmetic	Cereal products	(1)	...	...	...	Processed fruit (n.s.)	Fresh fruit (n.s.)
b. Beta	(1)	.04	...	...	...	.01	-.00
c. Partial	3.24	.17	...	...	...	.01	-.00
	.35	.16	...	...	...	.01	-.00
	.34		...	...	...
15. Expenditure for another food group, identification (significance level)							
a. Arithmetic	Nonalcoholic beverages	(10)	Meat, poultry, fish	Poultry, fish	(10)	...	...
b. Beta	(10)	.13	(1)	(n.s.)	(1)	...	...
c. Partial	.12	-.11	.10	.20	.20	...	...
	.11	-.11	.31	.07	.07	...	...
		-.11	.17	.07	.07	...	...
16. Percent of week's dinners eaten out							
a. Arithmetic	...	...	...	(n.s.)	(10)	...	...
b. Beta	...	...	...	83.88	155.44	...	...
c. Partial	...	...	...	.06	.11	...	...
	...	...	...	.07	.11	...	...

¹ Per person averages based on household sizes, 21 meals at home equivalent to one person.

Table 10.8B. Summary of regressions for per person expenditures for six more food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families¹

Variable and regression measure	Vegetables		All prepared dishes	Fats and oils	Sugar and sweets	Non-alcoholic beverages
	Fresh	Processed				
Arithmetic mean in cents	41	25	51	32	23	44
R ²	.18	.12	.07	.19	.13	.11
Standard error of estimate	32	33	50	25	23	44
<u>Independent variables</u>						
1. Disposable income per person in logarithms (significance level)	(2)	(n.s.)	(5)	(n.s.)	(n.s.)	(5)
a. Arithmetic regression coefficient	36.75	13.75	50.64	-6.28	1.18	38.87
b. Beta, standardized coefficient	.20	.08	.19	-.04	.01	.16
c. Partial correlation coefficient	.15	.06	.14	-.05	.01	.14
d. Income elasticity	.39	.24	.43	-.08	.22	.38
2. Age composition, identification (significance level)	(n.s.)	Number under 16 (n.s.)		Number 10 and over (n.s.)		
a. Arithmetic	-.00	.00	.00	...	.00	.00
b. Beta	-.10	.03	.01	...	.02	.00
c. Partial	-.08	.02	.00	...	.02	.00
3. Wife's age in years	...	(n.s.)	...	(n.s.)	...	(2)
a. Arithmetic	...	.03	...	-.14	...	.75
b. Beta	...	.01	...	-.05	...	.17
c. Partial	...	.01	...	-.05	...	.15
4. Wife's education in years	Actuals (1)		In logs (n.s.)		Actuals (n.s.)	
a. Arithmetic	-2.66	...	-57.26	-.98	...	...
b. Beta	-.16	...	-.08	-.08	...	...
c. Partial	-.17	...	-.08	-.08	...	...
5. Wife's work in survey week	...	(2)	(n.s.)	...	...	...
a. Arithmetic	...	1.91	-.24	...	...	...
b. Beta	...	.15	-.01	...	...	...
c. Partial	...	.15	-.01	...	...	...
6. CV0 economizer	...	(10)	...	(5)	...	(10)
a. Arithmetic	...	-1.32	...	-1.12	...	-1.51
b. Beta	...	-.12	...	-.13	...	-.10
c. Partial	...	-.12	...	-.13	...	-.11
7. CV0 reputation striver	...	...	(5)	...	(n.s.)	(2)
a. Arithmetic	...	...	2.44	...	.02	2.49
b. Beta	...	...	.13	...	.00	.15
c. Partial	...	...	.13	...	.00	.15

Table 10.88. Summary of regressions for per person expenditures for six more food groups in a week of April to July 1965, upper-income Minneapolis-St. Paul families¹ - continued

Variable and regression measure	Vegetables		All prepared dishes	Fats and oils	Sugar and sweets	Non-alcoholic beverages
	Fresh	Processed				
8. CVO convenience	(n.s.)	...	...	...
a. Arithmetic	1.05	...	...	...
b. Beta08	...	...	...
c. Partial07	...	...	...
9. Expenditure for another food group, identification (significance level)	Processed vegetables (1)	Fresh vegetables (1)	...	Eggs (1)	Nonalcoholic beverages (n.s.)	...
a. Arithmetic	.24	.22	...	.32	.01	...
b. Beta	.24	.26	...	.17	.02	...
c. Partial	.25	.22	...	.17	.02	...
10. Expenditure for another food group, identification (significance level)	Cereals (1)	Cereals (1)	...
a. Arithmetic08	.15	...
b. Beta17	.36	...
c. Partial17	.33	...
11. Expenditure for another food group, identification (significance level)	Processed vegetables (n.s.)	...	...
a. Arithmetic08	...	...
b. Beta10	...	...
c. Partial10	...	...
12. Expenditure for another food group, identification (significance level)	All prepared dishes (1)	...	...
a. Arithmetic10	...	...
b. Beta19	...	...
c. Partial20	...	...

¹ Per person averages based on household sizes, 21 meals at home equivalent to one person.

(.03) and statistically significant compared with the nonsignificant -.2 for family expenditures noted above.

The income elasticities for fresh vegetables and fresh and processed fruits are .4 and statistically significant. In contrast with the nonsignificant elasticity of -.2 for family expenditures for nonalcoholic beverages, the income elasticity of per person expenditures for these beverages is .4 and statistically significant.

Other significant positive relationships with per person expenditures were: (a) degree of dissaving with purchases of meat, poultry, and fish and of fresh fruits; (b) older age of wife for cereals and bakery products; for the meat, poultry, and fish group; fresh fruits, and nonalcoholic beverages; (c) additional years of education of the wife for egg expenditures; (d) wife's working more hours in survey week on expenditures for red meats and for processed vegetables; (e) reputation striving and percent of dinners eaten out--for the meat, poultry, and fish group. Because the weighting system for the Hollingshead index of social position yields a higher number for lower social position (i. e., negative coding), the negative relationship of this factor to expenditures for dairy products must be interpreted to mean that higher social position was a significant factor in higher expenditures for dairy products.

Statistically significant negative factors for per person expenditures for particular food groups identified by the regression analyses were: (a) additional wife's education for fresh vegetables (including potatoes); (b) her work in survey week for fresh fruits; (c) the economizing bent of the wife for the meat group, processed vegetables, fats and oils, and nonalcoholic beverages.

As in the regressions for family expenditures, we tested the relationships of possible complementary and substitute food groups to expenditures for other foods. Expenditures per person for cereal and bakery products were positively related to expenditures for dairy products, fats and oils, eggs, and sugars and sweets. This result probably reflects such complements as breakfast cereals and milk, toast and eggs, bread and butter, and flour and sugar for home baking. The relationship between dairy products and nonalcoholic beverages probably indicates frequent consumption of beverages as well as the coffee and cream combination. The heavy use of fats in frying may explain the relationship of fat and oil expenditures to eggs and to prepared dishes, but eggs and fats are also important ingredients in home-baked items.

10.3.5 Shares of Food Groups in Total Expenditures for Food at Home

Somewhat different sets of variables are used in the final models for analysis of factors entering into the shares of total food expenditures allocated to particular food groups (table 10.9). The age composition factors were generally the same as for the models for per person expenditures, and the logarithms of per person incomes were included. Some food groups were added to those in the per person models, based on additional experimentation with the family expenditure models. Because of concurrent variations in total food expenditures, the coefficients of multiple determination, R^2 , which measure the explanatory power of the models, are generally lower than for the comparable

Table 10.9A. Summary of regressions for food group shares in total expenditure for food at home in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - seven food groups

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
Arithmetic mean	.16	.02	.13	.24	.28	.06	.04
R ²	.11	.08	.19	.41	.10	.05	.04
Standard error of estimate	.09	.03	.09	.15	.13	.06	.04
Independent variables							
1. Disposable income per person in logarithms (significance level)							
a. Arithmetic regression coefficient	(n.s.)	(n.s.)	(5)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta, standardized coefficient	-.0341	-.0038	-.0805	.0656	.0551	.0279	.0163
c. Partial correlation coefficient	-.07	-.02	-.16	.07	.08	.10	.08
d. Income elasticity	-.06	-.02	-.14	.07	.06	.09	.06
	-.09	-.07	-.27	.12	.08	.21	.18
2. Age composition, identification (significance level)							
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-.0000	-.0000	-.0000	-.0000	.0000	...	-.0000
c. Partial	-.05	-.01	-.08	-.03	.05	...	.12
	-.04	-.01	-.07	-.03	.04	...	.10
3. Wife's age in years (significance level)							
a. Arithmetic	(10)	...	(1)	(10)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-.0013	...	.0020	.0021	.0015	-.0004	-.0003
c. Partial	-.14	...	.22	.12	.12	-.08	-.07
	-.12	...	.20	.12	.10	-.08	-.06
4. Wife's education, identification (significance level)							
a. Arithmetic	(n.s.)	(n.s.)	Actuals	(5)	(n.s.)	...	...
b. Beta	.0008	-.0008	...	.0102	.0042	...	...
c. Partial	.02	-.05	...	.12	.07	...	...
	.02	-.05	...	.13	.06	...	...

Table 10.9A. Summary of regressions for food group shares in total expenditure for food at home in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - seven food groups - continued

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
5. Wife's work in survey week							
a. Arithmetic	(10)	...	...	(n.s.)	(n.s.)	(n.s.)	...
b. Beta	-.0043	...	...	-.0009	-.0003	-.0019	...
c. Partial	-.13	...	...	-.01	-.01	-.09	...
	-.12	...	...	-.02	-.01	-.09	...
6. Degree of saving (negative coding)							
a. Arithmetic	(n.s.)	...	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)
b. Beta	-.0009	...	-.0063	.0093	.0154	.0054	-.0023
c. Partial	-.01	...	-.07	.05	.12	.10	-.06
	-.01	...	-.07	.06	.12	.09	-.06
7. CVO economizer							
a. Arithmetic	(5)	...	...	(n.s.)	(n.s.)	...	(n.s.)
b. Beta	.0040	...	...	-.0028	-.0012	...	-.0003
c. Partial	.14	...	...	-.05	-.03	...	-.02
	.14	...	...	-.06	-.03	...	-.02
8. CVO reputation striver							
a. Arithmetic	(n.s.)	...	(n.s.)	(10)	(10)	...	...
b. Beta	-.0032	...	-.0022	.0066	.0058	...	...
c. Partial	-.10	...	-.06	.10	.12	...	...
	-.10	...	-.07	.13	.12	...	...
9. CVO convenience							
a. Arithmetic	(n.s.)	...	...	...	...	...	...
b. Beta	-.0006	...	...	...	...	...	...
c. Partial	-.06	...	...	...	...	...	...
	-.07	...	...	...	...	...	...
10. Expenditure for another food group, identification (significance level)							
a. Arithmetic	Cereal products	Cereal products		Poultry and fish		Processed fruit	Fresh fruit
b. Beta	(5)	(1)		(1)		(2)	(2)
c. Partial	-.0116	-.0753	...	-21.3814	...	-.2163	-.1126
	-.12	-.21	...	-.57	...	-.15	-.16
	-.13	-.20	...	-.59	...	-.15	-.16

Table 10.9A. Summary of regressions for food group shares in total expenditure for food at home in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - seven food groups - continued

Variable and regression measure	Dairy excluding butter	Eggs	Cereal and bakery products	Red meats	Meat, poultry, fish	Fruits	
						Fresh	Processed
11. Expenditure for another food group, identification (significance level)							
a. Arithmetic	...	Meat, poultry, fish (1) -.0685	...	...	...	...	...
b. Beta	...	-.27	-.2662	...	...	...	...
c. Partial	...	-.25	-.37	...	...	...	...
12. Family social position (negative coding)							
a. Arithmetic	(n.s.)	...	...	(5)	(n.s.)	...	(n.s.)
b. Beta	-.0033	...	...	.0182	.0102	...	-.0004
c. Partial	-.04	...	...	.12	.09	...	-.01
13. Percent of dinners eaten out							
a. Arithmetic	(n.s.)	...	...	(5)	(n.s.)	...	...
b. Beta	-.0451	...	...	.1622	.1000	...	...
c. Partial	-.06	...	...	.11	.09	...	...
14. Change in family income since 1959 (negative coding)							
a. Arithmetic	...	...	...	(2)	(2)	...	...
b. Beta	...	...	...	-.0331	-.0304	...	...
c. Partial	...	...	...	-.13	-.17	...	...
15. Change expected in family income by 1969 (negative coding)							
a. Arithmetic	...	...	...	(20)	(10)	...	...
b. Beta	...	...	...	-.0199	-.0253	...	...
c. Partial	...	...	...	-.07	-.12	...	...
	...	...	...	-.09	-.13	...	...

Table 10.98. Summary of regressions for food group shares in total expenditures for food at home in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - six more food groups

Variable and regression measure	Vegetables		All prepared dishes	Fats and oils	Sugar and sweets	Non-alcoholic beverages
	Fresh	Processed				
Arithmetic mean	.05	.03	.07	.04	.03	.06
R ²	.04	.04	.03	.05	.01	.01
Standard error of estimate	.04	.04	.06	.04	.03	.05
<u>Independent variables</u>						
1. Disposable income per person in logarithms (significance level)						
a. Arithmetic regression coefficient	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta, standardized coefficient	.0205	.0182	.0417	-.0175	-.0178	.0123
c. Partial correlation coefficient	.10	.09	.13	-.09	-.11	.05
d. Income elasticity	.16	.25	.09	-.09	-.10	.04
2. Age composition, identification (significance level)						
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-.0000	.0000	.0000	...	-.0000	.0000
c. Partial	-.08	.11	.11	...	-.04	.02
	-.06	.07	.07	...	-.03	.02
3. Wife's age in years						
a. Arithmetic	...	(n.s.)	...	(n.s.)	...	(n.s.)
b. Beta	...	.0001	...	-.0003	...	.0003
c. Partial	...	.03	...	-.09	...	.05
4. Wife's education, identification (significance level)						
a. Arithmetic	Actual (5)	...	In logs (10)	Actual (n.s.)	...	...
b. Beta	-.0024	...	-.1082	-.0005	...	...
c. Partial	-.13	...	-.12	-.03	...	...
	-.12	...	-.12	...	...	...
5. Wife's work in survey week						
a. Arithmetic	...	(n.s.)	(n.s.)	...	...	...
b. Beta	...	.0013	-.0004	...	...	...
c. Partial	...	.09	-.02	...	...	...
6. CVO economizer						
a. Arithmetic	...	(5)	...	...	...	(n.s.)
b. Beta	...	-.0018	...	...	...	-.0005
c. Partial	...	-.15	...	...	...	-.03
	...	-.14	...	...	...	-.03
7. CVO reputation striver						
a. Arithmetic	...	...	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	...	...	.0010	-.0008	-.0002	.0007
c. Partial	...	...	.04	-.06	-.02	.04
	...	...	.04	-.06	-.02	.04

Table 10.9B. Summary of regressions for food group shares in total expenditures for food at home in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - six more food groups - continued

Variable and regression measure	Vegetables		All prepared dishes	Fats and oils	Sugar and sweets	Non-alcoholic beverages
	Fresh	Processed				
8. CVO convenience	(n.s.)	...	...	...
a. Arithmetic0018	...	...	...
b. Beta11	...	...	...
c. Partial10	...	...	...
9. Expenditure for another food group, identification (significance level)	Processed vegetables (n.s.)	Fresh vegetables (n.s.)	...	Cereal products (5)	...	...
a. Arithmetic	.0267	.0068	...	-.0570	.0134	...
b. Beta	.02	.01	...	-.14	.04	...
c. Partial	.03	.01	...	-.14	.04	...
10. Expenditure for another food group, identification (significance level)	Eggs (n.s.)	Nonalcoholic beverages (n.s.)	...
a. Arithmetic0012	-.0169	...
b. Beta00	-.03	...
c. Partial00	-.02	...
11. Expenditure for another food group, identification (significance level)	Processed vegetables (n.s.)	...	...
a. Arithmetic	-.0796	...	...
b. Beta	-.08	...	...
c. Partial	-.08	...	...
12. Expenditure for another food group, identification (significance level)	All prepared dishes (n.s.)	...	...
a. Arithmetic	-.0163	...	...
b. Beta	-.03	...	...
c. Partial	-.03	...	...

regression models reported for family and per person expenditures for individual food groups. The addition of other food groups would have raised the R^2 s since the sum of the variations for shares of individual food groups would be 100 percent.

The results reported in table 10.9 provide useful indications of the directions in which the major socioeconomic factors influence the shares of individual food groups in total expenditures for food at home.

Higher income per person tends to be reflected in increased shares of food dollars allocated to red meats, fresh fruits and vegetables, processed vegetables, prepared dishes, and beverages. But higher incomes are unfavorable to the shares for dairy products (excluding butter), eggs, cereal and bakery products, fats and oils, sugars and sweets, and processed fruits. The income elasticities of the shares of food groups in at-home food expenditures are reported in table 10.9. Only the -.3 for cereals and bakery products was statistically significant.

Below average increases in family income from 5 years earlier and expectation of lower incomes 5 years later both significantly discouraged expenditures for meats, but had relatively minor influence on other food groups for which they were tested in earlier models. Lower family social position was related to relatively higher expenditures for red meats, but to lower expenditures for dairy products excluding butter.

Although not statistically significant, there are indications in the regression results that a larger number of household members aged 10 years and over reduces the food expenditure shares for dairy products excluding butter, cereal and bakery products, and sugars and sweets, but this age composition factor tends to raise the share for the total meat, poultry, and fish group. A larger number under 16 years encouraged expenditure for processed vegetables and prepared dishes but depressed expenditure for fresh vegetables.

The older age of the wife proved to be significantly related to a smaller share of food money allocated to dairy products excluding butter and to larger shares for cereals and bakery products and red meats. When other factors were taken into account, more education for the wife tended to increase the share for red meats (significant at 10 percent level), but lower than that for fresh vegetables and prepared dishes.

Economy-minded wives allocated larger shares of lower food expenditures to dairy products, but smaller shares to red meats and processed vegetables. Those homemakers for upper-income families who viewed their families as less than average savers spent relatively more of their money for food at home for meat, poultry, and fish, and for fresh fruits but less for cereals and bakery products and processed fruits.

The wives who indicated greater reputation striving interests, according to our measure of consumer value orientation (CVO), tended to allocate higher percentages of their money to red meats, prepared dishes, and beverages, but smaller shares to dairy products, fats and oils, and the cereal and bakery product group.

Homemakers who stressed convenience in the CVO test appeared to reduce their allocation to eggs and increase that for prepared dishes. Wives who were employed outside their homes tended to spend a smaller share for dairy products excluding butter.

The only explanation for the significant positive relationship between the higher share spent for red meats and higher percentage of meals eaten out is that people who are big spenders for red meats at home also eat out frequently.

The roles of shares allocated to other food groups in lower shares for specified groups are quite different from the relationships among actual expenditures reported above. The regressions using percentages of total food outlays for each food group as dependent variables revealed that higher shares allocated to cereal and bakery products were related to significantly lower shares for dairy products, eggs, and fats and oils. The substitutability in meals among these foods is stressed by this measure. The competition between red meats and poultry and fish; between the meat, poultry, and fish group and eggs and cereals; and between fresh and processed fruits was demonstrated by the significance of the regression coefficients for the foods used as independent variables.

Chapter 11 EXPENDITURES FOR MEAT, POULTRY, AND FISH

Next is the study of variations in expenditures for the meat, poultry, and fish group of foods. The U. S. and North Central urban data are from the 1965-66 Household Food Consumption Survey and represent the values of those purchased foods consumed by the families and single individuals in a week of spring 1965. The Minneapolis-St. Paul data are expenditures in a week of April to July 1965 by husband and wife families of two or more persons (with two exceptions). As discussed earlier, the latter set of data are at a lower level than data for the U. S. and North Central urban families and single consumers.¹

11.1 Spring 1965 Survey Data for U. S. and North Central Households

Values of purchased meat, poultry, and fish consumed in a week by U. S. urban families varied greatly with level of income, but differences in the number of persons eating at home accounted for part of the variation. This factor may have resulted in a third of the difference between the \$4.92 average for the under \$3,000 group and the \$15.44 for the \$15,000 and over income group shown in table 11.1. Expenditures for beef and lamb (defined as money value of purchased foods) varied the most among the main-dish items listed in the table.

Among families with disposable incomes of over \$10,000, beef accounted for about half of the total outlays for meat, poultry, and fish. Pork was less than half as important as beef in the total expenditures. Expenditures for poultry and fish together were almost as large as for pork.

Purchases of red meats by low-income, North Central, urban families and single consumers averaged larger than the U. S. urban average for the under \$3,000 income group (table 11.2). But expenditures for these meats per person by the two upper-income groups were slightly smaller in the North Central Region. More was spent for pork and less for beef. Fish was much less popular among upper-income families in this region than for the whole country.

11.2 Expenditures by Minneapolis-St. Paul Families

Average expenditure per family for meat, poultry, and fish and for major items varied little among UPIF subgroups when the groupings are based on family income, as in table 11.3. Beef accounted for slightly less than half of the meat, poultry, and fish total and pork for slightly over a fourth. Beef was fractionally less important and pork more important for Minneapolis-St. Paul families than for U. S. urban households of approximately the same income level.

¹ The spring 1965 average for quantity of meat consumed per household divided by the average household size and multiplied by 13 to obtain a quarterly estimate came out around a fourth higher than the U. S. Department of Agriculture's estimate of consumption in the second quarter of 1965, based on disappearance data. The spring 1955 household average yielded an estimate for 1955 only 5 percent above the disappearance figure.

Table 11.1 Meats, poultry, fish, and eggs - average value consumed per household and per person in a week of spring 1965 by U.S. urban families and single consumers, grouped by family income¹

Item	All households						Disposable money income per family in 1964														
	Per household		Per person		Under \$3,000		Per household		Per person		\$3,000 to \$10,000		Per household		\$10,000 to \$15,000		Per household		Per person		
	dollars	percent ⁵	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	
Total meat, poultry, and fish, bought only ²	9.27	826	2.93	80	4.92	80	2.18	9.85	2.90	12.34	82	3.54	15.44	82	3.54	15.44	82	3.54	15.44	82	4.10
Red meats, bought only ²	7.59	42	2.40	35	3.91	35	1.73	8.10	2.38	10.07	46	2.89	12.68	46	2.89	12.68	46	2.89	12.68	46	3.36
Beef ³	4.03	2	1.28	1	1.85	1	.82	4.23	1.24	5.77	2	1.65	7.79	2	1.65	7.79	2	1.65	7.79	2	2.07
Veal ³	.18	2	.06	27	.07	27	.03	.20	.06	.25	22	.07	.25	22	.07	.25	22	.07	.25	22	.84
Pork ³	2.30	24	.73	2	1.45	2	.64	2.47	.73	2.76	22	.79	3.17	20	.79	3.17	20	.79	3.17	20	.16
Lamb ³	.18	2	.06	2	.09	2	.04	.16	.05	.34	3	.10	.59	4	.10	.59	4	.10	.59	4	.45
Total poultry ³	1.10	11	.35	14	.73	14	.32	1.14	.34	1.40	11	.40	1.68	10	.40	1.68	10	.40	1.68	10	.38
Chicken ³	.99	10	.31	13	.70	13	.31	1.03	.38	1.20	9	.34	1.43	9	.34	1.43	9	.34	1.43	9	.41
Fish ³	.74	8	.23	9	.49	9	.22	.75	.22	1.03	8	.30	1.56	10	.30	1.56	10	.30	1.56	10	.27
Eggs, bought	.81	..	.26	..	.59	..	.26	.86	.25	.90	..	.26	1.00	..	.26	1.00	..	.26	1.00	..	
Household size, 21-meal equivalents, number of persons		3.16		2.26		2.26					3.40			3.49		3.49				3.77	
Number of cases ⁴		4,356		800		800					2,759			414		414				138	

1 From USDA, ARS, Food Consumption of Households in the United States, Spring 1965. Household Food Consumption Survey 1965-66. Report No. 1. February 1968.

2 Bought only, but includes variety meat and lunch meat.

3 Money value includes small amounts of home produced.

4 Total includes 245 cases not classified by income.

5 As percent of all sources.

6 As percent of bought only.

Table 11.2 Meat, poultry, fish, and eggs - average value consumed per household and per person in a week of spring 1965 by North Central urban families and single consumers, grouped by family income

Item	All households			Disposable money income per family in 1964								
	Under \$3,000			\$3,000 to \$10,000		\$10,000 to \$15,000		\$15,000 and over				
	Per household	Per person	Percent all sources	Per household	Per person	Per household	Per person	Per household	Per person			
Total meat, poultry, and fish, bought only ²	9.49	2.87	845	5.44	2.40	835	9.80	2.79	12.29	3.21	14.64	3.76
Red meats, bought only ²	8.01	2.42	43	4.51	1.99	34	8.32	2.37	10.14	2.65	12.44	3.20
Beef ³	4.18	1.26	1	2.02	.89	1	4.33	1.23	5.47	1.43	7.42	1.91
Veal ³	.14	.04	1	.05	.02	1	.16	.05	.20	.05	.19	.05
Pork ³	2.58	.78	26	1.81	.80	14	2.61	.74	3.08	.80	3.79	.97
Lamb ³	.09	.03	1	.06	.03	1	.09	.03	.11	.03	.11	.03
Total poultry ³	1.04	.31	11	.66	.29	11	1.06	.30	1.44	.38	1.60	.41
Chicken ³	.95	.29	10	.82	.27	11	.97	.28	1.23	.32	1.55	.40
Fish ³	.55	.17	6	.45	.20	8	.53	.15	.78	.20	.61	.16
Eggs, bought	.76	.23	..	.55	.24	..	.80	.23	.84	.22	.85	.22
Household size, 21-meal equivalents, number of persons	3.31			2.27			3.51			3.83		
Number of cases ⁴	1187			179			767			130		
										3.89		
										40		

1 From USDA, ARS, Food Consumption of Households in the North Central, Spring 1965. Household Food Consumption Survey 1965-66, Report No. 3, July 1968.
 2 Bought only. Includes variety meat and lunch meat.
 3 Money value includes small amount home produced.
 4 Total includes 71 cases not classified by income.
 5 As percent of bought only.

Table 11.3 Meats, poultry, fish, and eggs - average expenditure per household and per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more, by family income in 1964

Item	All upper-income families		Disposable money income per family in 1964						\$20,000 and over	
	Per household	Per person	Per household	Per person	Per household	Per person	Per household	Per person	Per household	Per person
	dollars	dollars	dollars	dollars	dollars	dollars	dollars	dollars	dollars	dollars
	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent
Total meat, poultry, and fish	8.25	2.11	2.16	2.10	8.32	2.08	8.14	1.94	8.62	2.33
Red meats	6.80	1.74	1.81	1.71	6.90	1.72	6.96	1.66	6.78	1.83
Beef	3.78	.97	1.01	.94	3.80	.95	3.67	.87	4.04	1.09
Veal	.08	.02	.03	.02	.08	.02	...	...	.21	.06
Pork	2.21	.57	.57	.55	2.43	.61	2.80	.67	1.77	.48
Lamb	.17	.04	.05	.05	.14	.04	.06	.01	.28	.08
Total poultry	.97	.25	.23	.27	.91	.23	.62	.15	1.42	.38
Chicken	.79	.20	.18	.22	.71	.18	.52	.12	1.05	.28
Fish	.48	.12	.12	.12	.51	.13	.56	.13	.42	.11
Eggs	.59	.15	.17	.14	.59	.15	.56	.13	.65	.18
Household size, 21-meal equivalents, number of persons	3.9	3.9	4.0	4.0	4.0	4.0	4.2	3.7	3.7	3.7
Number of cases	255	83	125	47	30	17	...	...	...	...

1 Total includes small expenditures for specialty items not classified by kind of meat.

Another analysis of meat, poultry, and fish expenditures by upper-income families was made using (a) subdivision of families by level of per person income (family income divided by family size) and (b) the per person averages calculated for each family by dividing household expenditures by the household size, given in table 11.4. This table reveals substantial relationships between per person income and per person expenditures for meat, poultry, and fish. Surprisingly enough, pork purchases varied more with income than beef, but at a substantially lower level. Expenditures for poultry were substantially higher among families in the quartile with incomes of \$2,900 to \$3,859 per person. Fish purchases varied relatively little. Egg expenditures by the lowest quartile were slightly larger than those by families in the middle range of upper-income families.

Expenditures for meat, poultry, and fish by upper-income families of Minneapolis-St. Paul in a week of April-June 1965 were analyzed both on a per family and per person basis. In addition to the usual measures of income in the preceding calendar year, household size, and age composition, the linear regressions reported in tables 11.5 and 11.6 incorporated measures of several characteristics of the wives. They are the CVO economizing and reputation striving measures, the wives' appraisal of their families' saving characteristics, identification of Catholics versus non-Catholics, proportion of dinners eaten out, and for subgroups, alternative foods within this food group. The analysis of per person rates of expenditures took into account per person income in the preceding year and a combined household size and age composition variable (the number of household members 16 years and over) to study residuals left after calculation of the per person rates.

The coefficients of multiple determination (R^2) for per family and per person regressions indicate that the models were relatively good except for poultry. In effect, the R^2 value of .21 for the meat, poultry, and fish group says that the variety of new variables used in our analysis helped to explain one fifth of the variation in expenditures for this food group among the families in our sample. The significance of these variables becomes clear from the nonsignificance for the analysis of variations in family expenditures with relatively current family income, measured by disposable income in the preceding year. Despite the statistical insignificance of several factors such as change in income, past and expected, and religion, several such variables were retained in the final model for inspection by the reader. A number of other possible variables were tested, evaluated as insignificant, and excluded from the models reported here. Fish expenditures were not analyzed separately because of the small number of households reporting such expenditures.

11.2.1 Expenditures for Food Group and for Red Meats

Results of the regressions reported in table 11.5 indicate that neither current income, change in income in the last 5 years, or expected change in the next 5 years was a significant explanatory factor in variations in family expenditures for all foods in the group or for red meats only. The major parts of the variation were related positively to household size and age composition.

Table 11.4 Meat, poultry, fish, and eggs - average expenditure per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families, in quartiles based on average income per person

Item	All upper-income families	Disposable income per person							
		\$800 to \$2,199		\$2,200 to \$2,899		\$2,900 to \$3,859		\$3,860 and over	
		Amount dollars	Percent of total percent	Amount dollars	Percent of total percent	Amount dollars	Percent of total percent	Amount dollars	Percent of total percent
Total meat, poultry, and fish	2.34	100	1.97	100	2.56	100	3.09	100	
Red meats ^{1/}	1.95	83	1.67	85	2.01	78	2.69	87	
Beef	1.09	47	.88	45	1.08	42	1.56	50	
Veal	.03	1	.02	1	.01	2/	.05	2	
Pork	.64	27	.58	29	.74	29	.84	27	
Lamb	.05	2	.05	2	.03	1	.06	2	
All poultry	.27	11	.18	9	.41	16	.28	9	
Chicken	.22	9	.18	9	.34	13	.21	7	
Fish	.13	6	.12	6	.14	6	.13	4	
Eggs	.16	...	.14	...	.14	...	.18	...
Household size, 21-meal equivalents, number of persons	3.9	5.7	4.1	3.3	2.5				
Number of cases	255	66	63	63	63				

1/ Total includes small expenditures for speciality items not classified by kind of meat.

2/ Less than 1 percent.

Table 11.5 Summary of regression analyses of per family expenditures for meat, poultry, and fish in a week of April to July 1965, and related socioeconomic factors - upper-income Minneapolis-St. Paul families

Variable and regression measure	Meat, poultry, fish	Total red meat	Beef	Pork	Poultry
Arithmetic mean in cents	819	706	375	219	97
R ²	.21	.48	.22	.14	.11
Standard error of estimate	545	543	351	214	150
<u>Independent variables</u>					
1. Disposable income per family in \$10, in logarithms (significance level)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic regression coefficient	-152.00	-192.54	-320.41	96.32	82.59
b. Beta, standardized coefficient	-.03	-.03	-.11	.06	.07
c. Partial correlation coefficient	-.03	-.04	-.10	.05	.06
d. Income elasticity	-.08	-.12	-.37	.19	.37
2. Family income change since 1959 (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-9.26	-16.09	-11.52	-8.54	4.73
b. Beta	-.02	-.02	-.03	-.04	.03
c. Partial	-.02	-.03	-.03	-.04	.03
3. Family income change expected to 1969 (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)
a. Arithmetic	-36.55	-28.02	3.26	-12.04	-22.08
b. Beta	-.06	-.04	.01	-.05	-.14
c. Partial	-.06	-.04	.01	-.05	-.13
4. Household size in 21-meal equivalents	(1)	(1)	(1)	(n.s.)	(5)
a. Arithmetic	16.05	15.86	10.31	.06	1.63
b. Beta	.50	.40	.49	-.00	.19
c. Partial	.35	.35	.35	-.00	.13
5. Percent of household 16 years and over	(10)	(10)	(2)	(n.s.)	(n.s.)
a. Arithmetic	4.27	4.34	3.82	-.98	.92
b. Beta	.19	.16	.26	-.12	.16
c. Partial	.12	.12	.16	-.07	.09
6. Catholic or not	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-7.53	-8.61	11.15	-11.04	-2.42
b. Beta	-.01	-.01	.03	-.04	-.01
c. Partial	-.01	-.01	.03	-.04	-.01
7. Family social status	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-4.00	-1.88	-32.19	13.31	3.03
b. Beta	-.01	-.00	-.10	.07	.02
c. Partial	-.01	-.00	-.09	.06	.02
8. Extent of wife's employment in survey week	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	2.98	2.79	3.14	3.97	-4.40
b. Beta	.01	.01	.02	.05	-.08
c. Partial	.01	.01	.02	.04	-.07

Table 11.5 Summary of regression analyses of per family expenditures for meat, poultry, and fish in a week of April to July 1965, and related socioeconomic factors - upper-income Minneapolis-St. Paul families - (continued)

Variable and regression measure	Meat, poultry, fish	Total red meat	Beef	Pork	Poultry
9. Wife's age in years	(5)	(2)	(n.s.)	(10)	(n.s.)
a. Arithmetic	10.02	10.39	3.92	3.06	-.47
b. Beta	.17	.15	.10	.14	-.03
c. Partial	.15	.16	.09	.12	-.03
10. Wife's education in years	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)
a. Arithmetic	24.75	29.36	20.62	-10.88	2.92
b. Beta	.09	.09	.12	-.10	.04
c. Partial	.09	.10	.11	-.10	.04
11. Kind of saver (negative coding)	(n.s.)	(n.s.)	(5)	(n.s.)	(n.s.)
a. Arithmetic	55.64	53.28	48.49	.25	3.13
b. Beta	.09	.07	.13	.00	.02
c. Partial	.10	.10	.13	.00	.02
12. CVO economizer	(n.s.)	(n.s.)	(n.s.)	(1)	(5)
a. Arithmetic	-16.16	-16.97	-2.66	-14.67	6.53
b. Beta	-.08	-.07	-.02	-.20	.13
c. Partial	-.09	-.10	-.02	-.21	.13
13. CVO reputation striver	(2)	(2)	(n.s.)	(10)	(n.s.)
a. Arithmetic	30.05	30.57	12.52	9.53	1.03
b. Beta	.14	.12	.09	.12	.02
c. Partial	.15	.15	.10	.12	.02
14. Percent of week's dinners eaten out	(n.s.)	(n.s.)	(2)	(n.s.)	(n.s.)
a. Arithmetic	443.12	466.25	509.14	-197.58	91.76
b. Beta	.09	.08	.16	-.11	.07
c. Partial	.09	.10	.16	-.10	.07
15. Expenditure for another food - identification, (significance level)		Poultry, fish	Pork	Beef	Red meat
a. Arithmetic		(1)	(1)	(1)	(2)
b. Beta		-.88	.28	.10	.04
c. Partial		-.60	.16	.18	.17
		-.62	.17	.17	.16

Table 11.6 Summary of regression analyses of per person expenditures for meat, poultry, and fish in a week of April to July 1965, and related socioeconomic factors - upper-income Minneapolis-St. Paul families

Variable and regression measure	Meat, poultry, fish	Total red meat	Beef	Pork	Poultry
Arithmetic mean in cents	233	193	107	64	27
R ²	.21	.22	.19	.20	.07
Standard error of estimate	159	146	105	67	45
<u>Independent variables</u>					
1. Disposable income per person, in logarithms (significance level)	(1)	(5)	(n.s.)	(5)	(10)
a. Arithmetic regression coefficient	166.48	127.34	42.92	61.41	35.59
b. Beta, standardized coefficient	.18	.15	.07	.16	.15
c. Partial correlation coefficient	.17	.14	.07	.15	.13
d. Income elasticity	.31	.28	.17	.27	.57
2. Family income change since 1959 (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.01	-2.07	.10	-3.71	.29
b. Beta	-.00	-.01	.00	-.05	.01
c. Partial	-.00	-.01	.00	-.05	.01
3. Change in family income expected to 1969 (negative coding)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)
a. Arithmetic	-4.82	3.31	5.93	-4.77	-6.76
b. Beta	-.03	.02	.05	-.07	-.15
c. Partial	-.03	.02	.05	-.06	-.13
4. Number of household members 16 years and over	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-.00	-.01	-.00	-.00	.00
b. Beta	-.01	-.03	-.01	-.03	.08
c. Partial	-.01	-.03	-.01	-.03	.07
5. Catholic or not	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	-2.67	-.36	-.60	-1.32	-1.69
b. Beta	-.01	-.00	-.00	-.02	-.03
c. Partial	-.01	-.00	-.00	-.02	-.03
6. Family social status	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	4.63	2.43	-3.23	3.59	1.18
b. Beta	.03	.02	-.03	.06	.03
c. Partial	.03	.02	-.03	.05	.03
7. Extent of wife's employment in survey week	(n.s.)	(10)	(n.s.)	(n.s.)	(n.s.)
a. Arithmetic	5.91	6.88	4.07	1.83	-.84
b. Beta	.09	.12	.10	.07	-.05
c. Partial	.09	.12	.10	.07	-.05

Table 11.6 Summary of regression analyses of per person expenditures for meat, poultry, and fish in a week of April to July 1965, and related socioeconomic factors - upper-income Minneapolis-St. Paul families - (continued)

Variable and regression measure	Meat, poultry, fish	Total red meat	Beef	Pork	Poultry
8. Wife's age in years	(1)	(1)	(2)	(n.s.)	(n.s.)
a. Arithmetic	3.98	3.58	1.95	.67	.03
b. Beta	.23	.23	.18	.09	.01
c. Partial	.21	.21	.16	.08	.01
9. Wife's education in years	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)
a. Arithmetic	5.24	1.35	5.17	-4.08	1.68
b. Beta	.06	.02	.10	-.12	.08
c. Partial	.06	.02	.09	-.12	.07
10. Kind of saver (negative coding)	(5)	(5)	(5)	(n.s.)	(n.s.)
a. Arithmetic	23.32	21.81	16.28	3.63	2.46
b. Beta	.13	.14	.15	.05	.05
c. Partial	.14	.14	.15	.05	.05
11. CVO economizer	(10)	(2)	(n.s.)	(1)	(10)
a. Arithmetic	-6.42	-7.66	-1.03	-5.31	1.65
b. Beta	-.11	-.15	-.03	-.23	.11
c. Partial	-.12	-.16	-.03	-.24	.11
12. CVO reputation striver	(1)	(1)	(5)	(n.s.)	(n.s.)
a. Arithmetic	9.72	9.08	5.12	2.46	.32
b. Beta	.15	.16	.12	.09	.02
c. Partial	.17	.17	.13	.10	.02
13. Percent of week's dinners eaten out	(10)	(n.s.)	(5)	(10)	(10)
a. Arithmetic	155.44	83.88	123.83	-67.17	46.23
b. Beta	.11	.06	.13	-.11	.12
c. Partial	.11	.07	.13	-.11	.12
14. Expenditures for another food, identification, (significance level)		Poultry, fish	Pork	Beef	Red meat
a. Arithmetic		(n.s.)	(2)	(2)	(n.s.)
b. Beta		.20	.25	.10	.01
c. Partial		.07	.16	.16	.04
		.07	.16	.16	.04

Preliminary tabulations of meat expenditures by level of wife's education for families in each of the family income groups seemed to show that meat expenditures decreased at the higher levels of education. The multivariate analysis revealed that when other variables interrelated with wife's education were taken into account, additional years of education had a small positive effect on family expenditures for all foods in this group and for red meats alone, but it was not statistically significant. But the wife's older age and her reputation striving characteristic strongly encouraged higher family expenditures for meats.

The use of poultry and fish expenditures as an independent variable in the regression model for red meats contributed to explanation of the higher proportion of the total variation in per person expenditures for red meats (48 percent).

The conclusion drawn from study of table 11.4 that per person income is closely related to per person meat expenditures is supported by the coefficients for disposable income and the income elasticities reported in table 11.6. The income elasticities for the food group and for red meats, computed from the regression coefficients for the semi-logarithmic model, are both about .3. The wife's age in years had a greater positive effect than income. Less important but statistically significant positive factors were the wife's reputation striving, the degree to which she regarded her family as dissavers, and the proportion of dinners eaten out. The latter relationship seems to mean that people who eat more dinners out also spend more for meats. Expenditures for red meats were materially reduced by the economizing characteristic of some wives.

11.2.2 Beef Expenditures

Family expenditures for beef were not significantly related to family income level or to income changes, but they were positively related to household size, percentage of household members 16 years and older, kind of dissaver, the wife's education, the percentage of dinners away from home during the week, and pork expenditures.

Expenditures for beef per person varied 2 percent with each 10 percent variation in income per person, but the regression coefficient was not statistically significant. Division of family expenditures by number of household members in 21-meal equivalents provides a satisfactory measure of average rate of expenditures per person, as indicated by the insignificance of the coefficient for the age composition factor in the beef regression model. The statistical significance of two measures of the wife's characteristics, her reputation striving and older age, seems to highlight the major importance of her role in determining beef purchases. The degree of dissaving was another favorable factor for beef. The positive relationship with pork expenditures and dinners eaten out carried through to the per person regressions.

11.2.3 Pork Expenditures

The greater significance of per person income in explaining variations in pork purchases than beef is a surprising result of our analyses, but the

statistical validity of the beef figure was low. The regression model yielded an income elasticity of .3 for pork expenditures per person. The relationships of several factors to pork expenditures were negative in contrast with their positive coefficients for the beef model. The negative factors of statistical significance for pork expenditures per person were wife's higher education, her economizing, and the percentage of dinners eaten away from home in the week. The relationship of pork expenditures to beef expenditures was positive and significant at the 2 percent level. The wife's older age and her reputation striving had significantly positive relationships to pork expenditures per family, but they were not statistically significant for per person expenditures at the 10 percent level.

11.2.4 Poultry Expenditures

The socioeconomic factors used in our regression models for poultry expenditures per family and per person explained about 10 percent of the variation in such expenditures. Although the income elasticity of family expenditures for poultry came out at .4, it was not statistically significant because of the high degree of variability. In contrast, the expectation of lower income 5 years later was significantly related to lower poultry outlays. The facts that economizing wives and larger households stressed poultry purchases emphasize the economy characteristics of poultry in the view of upper-income homemakers.

The results of the regression for per person poultry expenditures include a significant positive effect of 1964 income per person and a negative effect of the expectation of less income 5 years later of equal magnitude. The income elasticity for poultry expenditures per person was .6, which was surprisingly high. Percentage of dinners eaten out was the only other significant factor, having a positive relationship.

Chapter 12 EXPENDITURES FOR DAIRY PRODUCTS

Postwar changes in the consumption of dairy products have varied among commodities and between commercial and noncommercial distribution. Decreasing farm home production has shifted consumers to purchases of fluid milk and butter, but per person consumption of all dairy products (including butter) in fluid milk equivalents has declined. The retail-price-weighted index of the quantity of dairy products consumed from all sources (excluding butter) is at about the same level now as it was in 1950. Retail prices of dairy products rose 38 percent from 1950 to 1967.

Per capita sales of fluid whole milk measured in pounds were relatively high in the mid-1950's, but in the last several years they have been running 5 to 10 percent lower than in 1950. Consumption of butter and evaporated milk per capita have continued their postwar down-trends. Increasing quantities of cheese and frozen desserts, other than ice cream, and nonfat dry milk have been consumed in recent years. ¹

12.1 Postwar Changes in Purchases

Regression analyses of U.S. per capita purchases of dairy products reported in table 12.1 reveal the importance of relative prices, income level, and the makeup of the population. The average purchases of fluid whole milk have been depressed by the increases in fluid milk prices relative to all food prices and particularly by the increasing proportion of the nonwhite population in the total. However, they have been supported by higher average real income, the higher proportion of the population under 15, and the declining percentage of the population on farms. The income elasticity for the 1950 to 1967 period was .4. A third of the favorable effect of higher incomes was offset by relatively higher fluid milk prices.

Increases in per capita purchases of low fat fluid milk have been strongly influenced by per capita income, but depressed by the higher proportion of the population under 15. The high income elasticity (1.0) probably included a substantial trend effect. Other factors used in the model reported in table 12.1 were not statistically significant.

Regression results for fluid milk and cream from all sources are reported in the table for comparison.

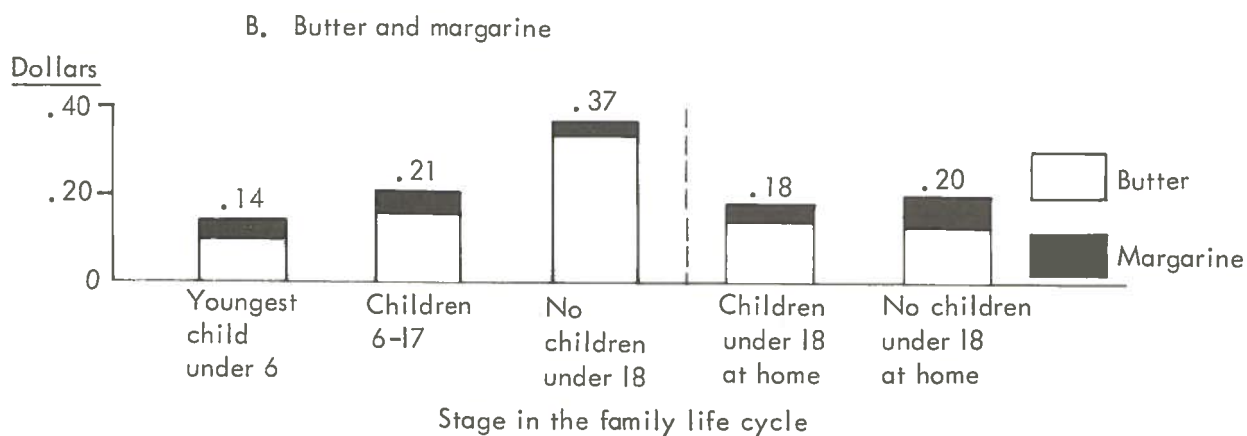
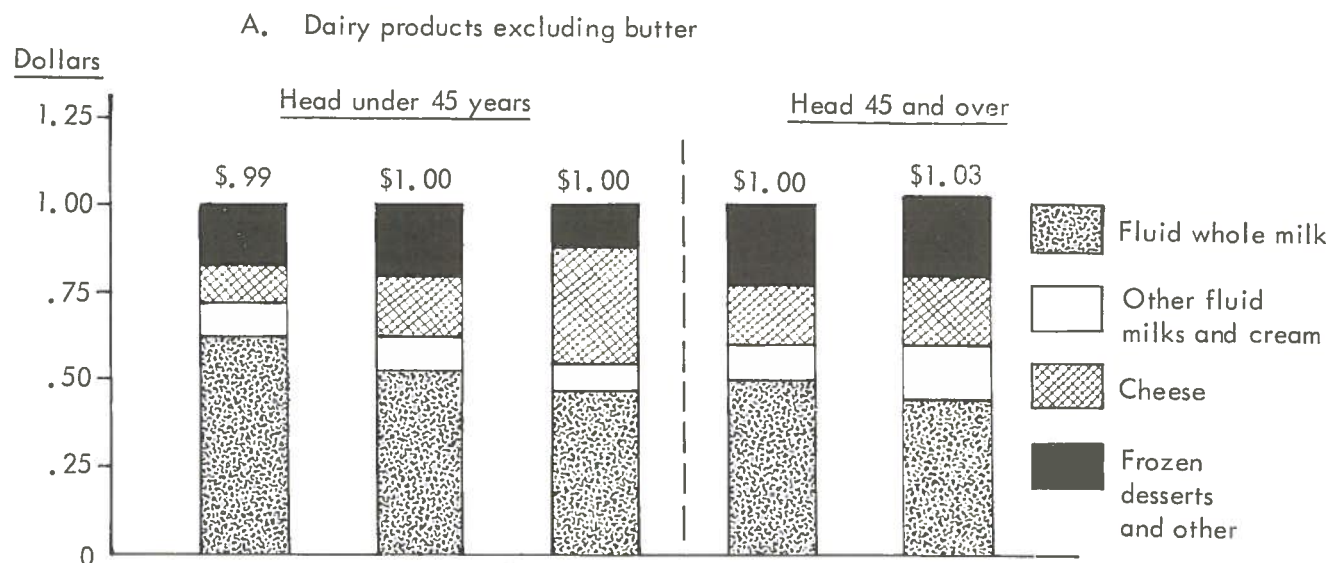
Factors related to changes in per capita butter purchases identified by earlier research were included in the statistical analysis in table 12.1. The significant negative relationship with income and nonsignificant positive relationships with time or trend factor and margarine consumption are the reverse of what one would expect. But the effects of butter-margarine price ratio (highly significant) and the deflated price of butter (testing nonsignificant) were negative and logical. The decline in the proportion of the population living on farms had a favorable effect on butter purchases, according to our statistical analysis.

¹ Technical Bulletin 268, Consumption of Dairy Products: An Analysis of Trends, Variability, and Prospects, University of Minnesota Agricultural Experiment Station. 1969.

Table 12.1 Summary of regressions for per capita consumption of major dairy products, 1947 to 1967

Variable and regression number	Per capita quantities in logarithms						
	1950 to 1967, purchased only			Butter		Cheese, whole and part whole milk	
	Fluid whole milk and cream, all sources pound	Fluid whole milk pound	Low fat milks 1/10 pound	1/10 pound	1/10 pound	1/10 pound	Frozen desserts, product weight 1/10 pound
Aithmetic mean (in logarithms)	2.5196	2.4409	2.3778	.8306	.9122	1.3778	
R ²	.99	.95	.99	.98	.96	.96	
Standard error of estimate	.0044	.0050	.0131	.0098	.0145	.0134	
Independent variables							
1. Disposable income per capita of preceding year, 1958 dollars in logarithms (significance level)	(1)	(1)	(1)	(2)	(n.s.)	(n.s.)	
a. Arithmetical regression coefficient and income elasticity	.36	.39	.96	-.66	-.33	.29	
b. Beta, standardized coefficient	.57	.92	.38	-1.72	-.35	.27	
c. Partial correlation coefficient	.70	.69	.68	-.65	-.33	.25	
2. Price ratio, identification (significance level)	(1)	(1)	(n.s.)	(1)	(n.s.)	(n.s.)	
a. Arithmetical	-.36	-.41	.19	-.08	-.13	.19	
b. Beta	-.16	-.31	.02	-.47	-.03	.28	
c. Partial	-.66	-.67	.15	-.82	-.11	.27	
3. Percent of population under 15 years	(1)	(1)	(1)	...	(1)	(n.s.)	
a. Arithmetical	.02	.02	-.03	...	-.02	.01	
b. Beta	1.07	1.56	-.34	...	-.72	.24	
c. Partial	-.90	.91	-.74	...	-.63	.24	
4. Percent of population living on farms	(1)	(n.s.)	(n.s.)	(20)	(5)	(n.s.)	
a. Arithmetical	.01	.01	-.01	.02	-.01	.01	
b. Beta	1.22	1.09	-.36	2.05	-1.05	.37	
c. Partial	.74	.43	-.30	.45	-.50	.19	
5. Percent of population nonwhite	(1)	(2)	(n.s.)	...	(10)	(10)	
a. Arithmetical	-.09	-.09	.03	...	.11	.15	
b. Beta	-1.16	-1.77	.08	...	.91	1.12	
c. Partial	-.75	-.63	.07	...	.47	.44	
6. Time (in years)	...	...	(n.s.)	(n.s.)	...	...
a. Arithmetical	...	...	.01	.01	...	...
b. Beta	...	...	.44	.44	...	...
c. Partial	...	...	.27	.26	...	...
7. Margarine consumption (in logarithms)	...	...	...	(n.s.)	...	...
a. Arithmetical	...	...	...	.02	...	...
b. Beta	...	...	...	.08	...	...
c. Partial	...	...	...	.07	...	...
8. Price of butter (deflated)	...	...	...	(n.s.)	...	...
a. Arithmetical	...	...	...	-.07	...	...
b. Beta	...	...	...	-.71	...	...
c. Partial	...	...	...	-.18	...	...

Figure 12.1 Expenditures per person for dairy products and margarine, in a week of April-July 1965, by upper-income families in Minneapolis-St. Paul, by stage in the family life cycle



Household size in 21 meal equiv.	4.9	3.8	1.6	4.2	2.4
Pct. of household 16 years and over	42	56	100	69	100

Income per capita in the preceding year did not prove to be a statistically significant factor for per capita consumption of cheese (whole and part whole milk) or for frozen desserts in the 1947 to 1967 period. However, the income elasticity of cheese is estimated at $-.3$ and that for frozen desserts $+.3$. The increased proportion of nonwhites in the population seems to be favoring higher consumption of both sets of products. But the higher percentage under 15 years and the declining proportion on farms are significant negative factors for cheese and positive (not significant) for frozen desserts. The decline in the retail price of ice cream in relation to the overall retail food price index favored increased consumption, but ups and downs in ice cream prices made the coefficients non-significant statistically.

12.2 1955 and 1965 Household Survey Data

To go further in analysis of the factors related to changes and variations in the consumption of dairy products, we turn to expenditure data from cross section surveys, especially for the urban population and for upper-income families. Average expenditures per family and per person for dairy products, including and excluding butter, by U.S. urban families and single consumers were higher at successively higher levels of income in spring 1965 (table 12.2). The share allocated to fresh fluid milk by families with incomes above \$10,000 was slightly lower than that of middle-income families, being offset by the shift to other fresh fluid milks and cream. The positive effect of income on expenditures for frozen milk desserts and butter shows up on both the family and per person income bases. Margarine expenditures were practically the same across all income groups.

12.2.1 All Urbanizations

For comparison with the results of the statistical analyses of historical changes in per capita consumption of dairy products, table 12.3 contains data from comparable linear regression analyses of all U.S. and urban U.S. household expenditures taken from the 1955 and 1965-66 USDA Household Food Consumption Surveys. Let us consider first the data for all urbanizations (combined) for the two spring periods. The income elasticities for the money value per person of dairy products (including and excluding butter) from all sources dropped significantly to $.2$, but the decline for purchased products was not sufficient to change the rounded figure from $.3$. The family size and age composition factor (the average number of household members 10 years and over) continued to be more important than income. The negative effect on purchases of the proportion of the population on farms became insignificantly positive.

The regressions for the value of fluid milk and cream from all sources (per person) revealed a major decline from 1955 to 1965 in the income elasticity, from $.6$ to $.3$, and an increase in the relative importance of the number of children under 10 in explaining variations among income groups. The percentage of the population on farms became an insignificant factor compared with income and age composition. The relationships of these socioeconomic factors to the per person quantity of fluid whole milk consumed changed in much the same ways as those for all fluid milk and cream. The income elasticity for the per person quantity dropped to $.2$ for all U.S. households. The relationships of these factors to consumption of milk fat excluding butter were comparable with those for fluid milk.

Table 12.2 Dairy products and margarine - average value consumed per household and per person in a week of Spring 1965 by U.S. urban families and single consumers, grouped by family income¹

Item	All households				Under \$3,000				Disposable money income per family in 1964				\$15,000 and over			
	Per household		Per person		Per household		Per person		Per household		Per person		Per household		Per person	
	dollars	percent ⁴	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent	dollars	percent
Expenditures for dairy products	3.47	..	1.10	..	3.73	..	1.10	..	4.54	..	1.30	..	5.06	..	1.34	..
Excluding butter	3.76	..	1.19	..	4.03	..	1.19	..	4.97	..	1.42	..	5.64	..	1.50	..
Including butter	1.80	51	.57	49	1.99	53	.59	49	2.21	49	.63	46	2.36	46	.63	46
Fresh fluid whole milk ²	.22	6	.07	7	.20	5	.06	8	.38	8	.11	8	.41	8	.11	8
Other fresh fluid milks ²	.12	4	.04	3	.12	3	.04	3	.20	5	.06	5	.26	5	.07	5
Fluid cream, including sour, half and half (excluding substitutes)	.16	5	.05	7	.18	5	.05	7	.14	3	.04	3	.08	2	.02	2
Canned milks	.06	2	.02	3	.06	2	.02	3	.04	1	.01	1	.08	2	.02	2
Frozen milk desserts	.49	14	.16	13	.51	14	.15	14	.69	15	.20	17	.88	17	.23	23
Cheese, including cheese spreads, but excluding cottage, cream	.44	13	.14	12	.47	13	.14	13	.61	14	.17	14	.64	13	.17	13
Cottage and cream cheeses ²	.19	5	.06	6	.19	5	.06	6	.24	5	.07	7	.34	7	.09	9
Expenditures for table spreads	.51	575	.16	47	.53	57	.16	47	.67	64	.19	64	.80	72	.21	72
Butter ²	.29	435	.09	53	.30	43	.09	53	.43	36	.12	36	.58	28	.15	28
Margarine	.21		.07		.23		.07		.24		.07		.22		.06	
Household size, 21-meal equivalents, number of persons ³	3.16															
Number of cases ³	4,356															
		2-26		800		3-40		2,759		3-49		414		3-77		138

¹ From USDA, ARS, Food Consumption of Households in the United States, Spring 1965. Household Food Consumption Survey 1965-66. Report No. 1, February 1968.

² Money value includes small amounts of home produced.

³ Total includes 245 cases not classified by income.

⁴ Percentage of total value of dairy products from all sources.

⁵ Percentage of total expenditures for table spreads.

Table 12.3(1) All United States households of two or more persons, spring 1955 - summary of regression analyses for per person expenditures for dairy products¹

Variable and regression measure	Money value per person in logarithms						Quantity per person in logarithms								
	All including butter		All except butter		Fluid milk and cream, all sources		Fluid whole milk		Frozen desserts		Whole or part whole milk cheese		Milk fat except butter		
	dollars	dollars	dollars	dollars	dollars	dollars	quart	quart	quart	quart	quart	quart	quart	quart	
Weighted mean, in logs ²	1.1557	1.0860	1.1048	1.0350	.9316	1.5237	.5585	.3200	.6768	.3636	.91	.91	.0911	.98	.98
R ²	.0445	.0398	.0469	.0425	.0842	.0987	.0406	.0573	.0911	.0318	.0911	.0911	.0911	.0318	.0318
Standard error of estimate	.0445	.0398	.0469	.0425	.0842	.0987	.0406	.0573	.0911	.0318	.0911	.0911	.0911	.0318	.0318
<u>Independent variables</u>															
1. Disposable income per person in logs (significance level)															
a. Arithmetic regression coefficient and income elasticity	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)
b. Beta, standardized coefficient	.3214	.3277	.2900	.3006	.6198	.5457	.2086	.1545	.5513	.5405	.58	.58	.66	.84	.84
c. Partial correlation coefficient	.37	.36	.32	.32	.66	.54	.23	.17	.58	.84	.58	.58	.66	.91	.91
2. Number of household members, age group specified															
a. Arithmetic	10 and over (2)	10 and over (1)	10 and over (2)	10 and over (1)	Under 10 (n.s.)	Under 10 (n.s.)	10 and over (1)	16 and over (2)	Under 10 (n.s.)	10 and over (1)	Under 10 (n.s.)	Under 10 (n.s.)	Under 10 (n.s.)	Under 10 (n.s.)	10 and over (n.s.)
b. Beta	.0001	.0001	.0001	.0001	.0002	.0002	.0001	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0000
c. Partial	.78	.88	.82	.91	.46	.55	.98	.92	.52	.92	.52	.52	.72	.10	.10
3. Percent of population on farms															
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)	(5)
b. Beta	.0325	-.0274	.0261	-.0325	.1032	.0913	-.0312	.0076	.0910	.0888	.64	.64	.69	.92	.92
c. Partial	.45	-.43	.36	-.46	.73	.66	-.47	.09	.69	.91	.69	.69	.91	.91	.91
4. Margarine, pounds in logs															
a. Arithmetic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(n.s.)
b. Beta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2349
c. Partial	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.43

1 Data from USDA Household Food Consumption Survey, 1955.
 2 Averages for each income group were weighted by the proportion of its population in U. S. total.

Table 12.3(2) All United States households, spring 1965 - summary of regression analyses for per person expenditures for dairy products¹ - (continued)

Variable and regression measure	Money value per person in logarithms				Quantity per person in logarithms							
	All including butter		All except butter		Fluid milk and cream, all sources		Frozen desserts		Whole or part whole milk cheese		Milk fat except butter	
	All sources	Bought	All sources	Bought	dollars	dollars	quart	quart	pound	pound	pound	pound
Weighted mean in logs ²	.9430	.9062	.9091	.8723	.6997	1.2403	.4754	.1751	.3936	-.0428		
R ²	.96	.97	.96	.97	.92	.92	.96	.97	.92	.99		
Standard error of estimate	.0534	.0531	.0561	.0571	.0828	.0887	.0613	.0550	.0852	.0368		
Independent variables												
1. Disposable income per person in logs (significance level)												
a. Arithmetic regression coefficient and income elasticity	.1692	.2642	.1632	.2650	.2737	.2451	.3017	.1367	.2498	.1954		
b. Beta, standardized coefficient	.30	.41	.29	.41	.46	.39	.48	.23	.42	.34		
c. Partial correlation coefficient	.65	.80	.62	.78	.71	.64	.80	.56	.66	.84		
2. Number of household members, age group specified												
a. Arithmetic	10 and over	10 and over	10 and over	10 and over	Under 10	Under 10	10 and over	16 and over	Under 10	10 and over		
b. Beta	.0002	.0002	.0002	.0002	.0004	.0004	.0002	.0003	.0004	.0002		
c. Partial	.73	.65	.73	.64	.56	.63	.57	.83	.59	.61		
3. Percent of population on farms												
a. Arithmetic	.89	.89	.88	.87	.73	.77	.83	.91	.74	.85		
b. Beta	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)		
c. Partial	.0391	.0159	.0517	.0308	.1093	.0940	.0537	-.0562	.1030	-.1442		
4. Margarine, pounds in logs												
a. Arithmetic	.05	.02	.07	.04	.14	.11	.06	-.07	.13	-.18		
b. Beta	.19	.08	.23	.14	.33	.27	.22	-.25	.30	-.68		
c. Partial	...	...	...	...	...	...	...	...	...	(n.s.)		
		
		
		
		

Table 12.3(3) United States urban households of two or more persons, spring 1955 - summary of regression analyses for per person expenditures for dairy products¹ - (continued)

Variable and regression measure	Money value per person in logarithms				Quantity per person in logarithms							
	All including butter		All except butter		Fluid milk and cream, all sources		Frozen desserts		Whole or part whole milk cheese		Milk fat except butter	
	All sources	Bought	All sources	Bought	dollars	dollars	quart	quart	quart	quart	quart	pound
Weighted mean in logs ²	.9211	.9170	.8714	.8661	.6850	1.2717	.3334	.3334	.0953	.4321	.1163	
R ²	.98	.99	.98	.99	.91	.90	.99	.99	.98	.89	.98	
Standard error of estimate	.0347	.0339	.0359	.0351	.0928	.1025	.0350	.0350	.0360	.0980	.0370	
Independent variables												
1. Disposable income per person in logs (significance level)	(1)	(1)	(2)	(1)	(5)	(10)	(1)	(1)	(10)	(n.s.)	(2)	
a. Arithmetic regression coefficient and income elasticity	.2251	.2300	.2031	.2132	.3300	.2918	.2578	.1293	.1293	.2452	.3827	
b. Beta, standardized coefficient	.30	.31	.27	.28	.41	.35	.33	.18	.18	.32	.64	
c. Partial correlation coefficient	.90	.90	.87	.88	.76	.69	.92	.75	.75	.64	.89	
2. Number of household members, age group specified	10 and over	10 and over	10 and over	10 and over	Under 10	Under 10	10 and over	10 and over	16 and over	Under 10	10 and over	
a. Arithmetic	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(n.s.)	
b. Beta	.79	.79	.82	.81	.69	.73	.77	.88	.88	.75	.38	
c. Partial	.98	.98	.98	.98	.89	.90	.98	.98	.98	.89	.37	
3. Margarine, pounds in logs	...	...	...	...	...	...	...	...	...	...	(n.s.)	
a. Arithmetic	...	...	...	...	...	...	...	...	...	...	.1061	
b. Beta	...	...	...	...	...	...	...	...	...	...	.14	
c. Partial	...	...	...	...	...	...	...	...	...	...	.17	

Table 12.3(4) United States urban households, spring 1965 - summary of regression analyses for per person expenditures for dairy products¹ -(continued)

Variable and regression measure	Money value per person in logarithms						Quantity per person in logarithms							
	All including butter		All except butter		Fluid milk and cream, all sources		Fluid whole milk		Frozen desserts		Whole or part whole milk cheese		Milk fat except butter	
	All sources	Bought	All sources	Bought	dollars	dollars	quart	quart	quart	quart	pound	pound	pound	pound
Weighted mean in logs ²	.7843	.7756	.7508	.7402	.5379	1.0775	.3044	.0267	.2284	.2053	.97	.0542		
R ²	.98	.98	.98	.97	.96	.96	.97	.99	.96	.97	.99	.96		
Standard error of estimate	.0406	.0442	.0438	.0473	.0618	.0622	.0503	.0306	.0568					
Independent variables														
1. Disposable income per person in logs (significance level)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
a. Arithmetic regression coefficient and income elasticity	.1780	.2145	.1629	.2010	.2919	.2590	.2638	.1470	.2530	.3564				
b. Beta, standardized coefficient	.31	.36	.29	.33	.49	.41	.42	.27	.43	.56				
c. Partial correlation coefficient	.80	.83	.75	.79	.87	.84	.85	.84	.85	.88				
2. Number of household members, age group specified	10 and over	10 and over	10 and over	10 and over	Under 10	Under 10	10 and over	16 and over	Under 10	10 and over	Under 10	Under 10	10 and over	10 and over
a. Arithmetic	.0003	.0003	.0003	.0003	.0006	.0007	.0002	.0003	.0006	.0002	.0006	.0006	.0002	.0002
b. Beta	.73	.68	.75	.70	.58	.66	.62	.78	.64	.50	.64	.50	.50	.50
c. Partial	.95	.94	.95	.94	.90	.92	.92	.98	.92	.67	.92	.67	.67	.67
3. Margarine, pounds in logs	...	...	...	...	...	...	...	...	...	...	...	...	...	(n.s.)
a. Arithmetic	...	...	...	...	...	...	...	...	...	...	...	...	...	-.0187
b. Beta	...	...	...	...	...	...	...	...	...	...	...	...	...	-.01
c. Partial	...	...	...	...	...	...	...	...	...	...	...	...	...	-.04

¹ Data from USDA Household Food Consumption Survey, 1965.

² Averages for each income group were weighted by proportion of its population in U.S. total.

Comparing the regression coefficients for frozen desserts based on the 1955 and 1965 survey data for all urbanization categories, we find that the income elasticity of per person quantity consumed rose to .3 and became statistically significant. The importance of the average number of household members 10 years and over declined in relation to the income factor and the negative effect of the proportion living on farms disappeared.

The relationships of income (.1 elasticity) and age factor to the quantity of whole and part-whole milk cheeses consumed did not change from spring 1955 to spring 1965. Farm population became a negative but statistically nonsignificant factor in variations in cheese consumption.

For butter, the income elasticity dropped from .5 to .2 and became less significant than the presence of additional household members 10 years and older. As in the case of cheese, the percentage of the population on farms assumed negative importance, perhaps because of the greater relative importance of the southern farm population in the total and its relatively low level of butter consumption. Margarine consumption continued to be a statistically nonsignificant factor in cross section variations in butter consumption.

12.2.2 Urban Households

Comparison of the several types of coefficients reported in table 12.3 for U.S. urban households in spring 1955 and spring 1965 reveals little change in the income elasticities for dairy products or in the relative importance of the age factor compared with the effect of income on consumption per person. There was no significant difference between the response of money value of all dairy products per person, including and excluding butter, to variations in per person income. The income elasticity was generally .2 for both combinations of dairy products. It was slightly higher (.25 to .3) for the average money value of fluid milk and cream consumed per person and for the quantities of fluid whole milk, milk fat excluding butter, and frozen desserts. For cheese the income elasticity stayed at about .15 and for butter near .35. Margarine consumption became a slightly negative factor, but without statistical significance.

12.2.3 Comparison with Time-Series Relationships

The U.S. cross section data on food consumption by all urbanizations combined differ from the coverage of the time series by covering only one season and at-home consumption only and by reflecting variations among population groups in two specified time periods instead of changes from year to year in the U.S. averages. Even so, some insights can be gained from comparing the relationships of consumption to major socioeconomic factors reported in tables 12.1 and 12.3.

The income elasticity for fluid whole milk consumption per person in spring 1965 across income groups in all urbanizations combined was close to that for per capita consumption of all fluid milk and cream combined in the period 1947 to 1967, .25 compared with .4. In both analyses, the age makeup of the population was a more important positive factor than income. The major trend factors reducing purchases of fluid whole milk were not reflected in the cross section

data (for which a racial breakdown is not reported). The decreasing proportion of the population on farms had a positive effect on consumption of purchased whole milk whereas the relative increase in the nonwhite population had a negative effect.

Both the income elasticities and the relative importance of age composition for consumption of frozen desserts were quite similar. The time-series analysis of butter consumption and the cross section regressions for butter from all sources yield evidence of substantial changes in consumption relationships to income.

The income elasticity of cheese consumption was indicated by historical data to be $-.3$, but the coefficient was not statistically significant. In contrast, the cross section data yield a significant but small positive income elasticity, about $.15$. Both types of analyses show the negative influence on consumption of whole and part-whole milk cheese of the population on farms and the positive effect of a higher proportion of adults.

12.2.4 North Central Urban Expenditures for Dairy Products

Data from the spring 1965 survey by the USDA indicate that expenditures for dairy products for home use by North Central urban families and single consumers averaged practically the same as the all-U.S. average per household and per person (tables 12.4 and 12.2). The percentages of total expenditures for food at home allocated to major dairy products were very similar in the two areas except for a smaller share spent for canned milk and slightly more for fresh fluid milks by North Central households. Although the \$10,000 to \$15,000 income group of households in the North Central Region bought a little less fluid whole milk and a little more of other fresh fluid milks than the comparable U.S. group, the average shares for the highest income were about reversed. Despite the historical emphasis on butter consumption and antipathy toward margarine, by 1965 the North Central Regions upper-income families spent only a fraction more for butter than all urban U.S. families in their income bracket.

Comparison of expenditures for dairy products by upper-income families in Minneapolis-St. Paul (UPIF) with those in the whole region (NCR) (tables 12.4 and 12.5) will show that the UPIF average expenditures for all dairy products ran 10 to 15 percent lower than the NCR averages. Some factors entering into this difference were discussed in Chapter 8. The key factors for dairy products are hypothesized to be (a) the lower level of milk consumption in the metropolitan area compared with less costly and less densely populated areas and (b) the greater emphasis of the USDA survey approach on obtaining detailed food data. The size of the sample for all urban families with incomes over \$10,000 in the North Central Region was approximately the same as that for the UPIF sample. The age composition of the two samples of families were quite similar for age groups under 16.

Although average expenditures for dairy products by UPIF were lower than NCR upper-income families, the share of home food dollars was slightly higher. UPIF families were a little larger. Expenditures per person for fluid whole milk in the families with incomes of \$10,000 or more were about the same. The UPIF families spent somewhat less for other fresh fluid products, frozen desserts, cheese, and butter.

Table 12.4 Dairy products and margarine - average value consumed per household and per person in a week of spring 1965 by North Central urban families and single consumers, grouped by family income/

Item	All households				Disposable money income per family in 1964									
	Per household		Per person		Under \$3,000				\$3,000 to \$15,000				\$15,000 and over	
	dollars	Percent of all sources	dollars	Percent of all sources	dollars	Percent of all sources	dollars	Percent of all sources	dollars	Percent of all sources	dollars	Percent of all sources	dollars	Percent of all sources
Expenditures for dairy products	3.44	....	1.90	....	3.57	....	4.66	....	1.21	....	5.18	....	1.33	....
Excluding butter	3.80	....	2.07	....	3.94	....	5.15	....	1.34	....	5.89	....	1.51	....
Including butter	1.78	52	.99	50	1.92	53	2.14	53	.56	46	2.53	46	.65	49
Fresh fluid whole milk ^{2/}	.24	7	.17	8	.20	6	.46	6	.12	10	.37	10	.10	7
Other fresh fluid milk ^{2/}	.15	4	.09	4	.15	4	.21	4	.05	4	.31	4	.08	6
Fluid cream, including sour, half and half (excluding substitutes)	.10	3	.06	3	.11	3	.17	3	.04	4	.04	4	.01	1
Canned milks	.03	1	.02	1	.02	1	.03	1	.01	1	.12	1	.03	2
Dry milks	.51	15	.26	13	.53	15	.73	15	.19	16	.84	16	.22	16
Frozen milk desserts	.43	12	.25	13	.45	13	.66	12	.17	14	.70	14	.18	14
Cheese, including cheese spreads, but excluding cottage, cream cottage and cream cheese ^{2/}	.22	6	.16	8	.22	6	.26	6	.06	5	.28	5	.07	5
Expenditures for table spreads	.57	....	.33	....	.59	....	.76	....	.20	....	.87	....	.22	....
Butter ^{2/}	.36	635	.17	525	.37	635	.49	635	.13	645	.71	645	.18	815
Margarine	.21	375	.16	485	.22	485	.27	375	.06	365	.17	365	.04	195
Household size, 21-meal equivalents, number of persons	3.31		2.27		3.51		3.83		3.83		3.89		3.89	
Number of cases 3/	1,187		179		767		40		130		40		40	

1/ From USDA, ARS, Food Consumption of Households in the North Central, Spring 1965. Household Food Consumption Survey 1965-66. Report No. 3, July 1968.

2/ Money value includes small amounts home produced.

3/ Total includes 71 cases not classified by income.

4/ Percentage of total value of dairy products from all sources.

5/ Percentage of total expenditures for table spreads.

Table 12.5 Dairy products and margarine - average expenditure per household and per person in a week of April 1 to July 1965 by upper-income Minneapolis-St. Paul families of two or more persons, grouped by family income

Item	Disposable money income per family in 1964														
	All upper-income families			\$6,400 to \$10,000			\$10,000 to \$15,000			\$15,000 and over			\$20,000 and over		
	Per household	Per person	Share in total	Per household	Per person	Share in total	Per household	Per person	Share in total	Per household	Per person	Share in total	Per household	Per person	Share in total
dollars	dollars	percent/	dollars	dollars	percent/	dollars	dollars	percent/	dollars	dollars	percent/	dollars	dollars	percent/	
Expenditures for dairy products	4.00	1.03	100	3.34	.90	100	4.31	1.08	100	4.55	1.05	100	3.90	1.00	100
Including butter	4.51	1.16	....	3.86	1.04	....	4.83	1.21	....	4.97	1.15	....	4.45	1.14	....
Fresh fluid whole milk	2.26	.58	57	1.82	.49	54	2.58	.64	60	2.17	.50	48	2.10	.55	54
Other fresh fluid milks (including half and half)	.24	.06	6	.21	.06	6	.26	.07	6	.24	.06	6	.25	.06	6
Fluid cream, including sour (excluding substitutes)	.17	.04	4	.12	.03	4	.21	.05	5	.11	.03	2	.25	.06	6
Total processed dairy products excluding butter	1.33	.34	33	1.19	.32	36	1.26	.32	29	1.77	.44	41	1.30	.33	34
Frozen milk desserts	.56	.14	14	.53	.14	16	.52	.13	12	.83	.19	18	.49	.12	13
Cheese, including cheese spreads but excluding cottage, cream	.41	.10	11	.32	.09	10	.39	.10	9	.60	.15	14	.39	.10	10
Cottage and cream cheeses	.18	.05	4	.14	.04	4	.17	.04	4	.30	.07	7	.30	.08	8
Other (including canned, dried)	.18	.05	4	.20	.05	6	.18	.05	4	.16	.04	4	.12	.03	3
Expenditures for table spreads	.69	.18	77	.71	.19	77	.68	.17	76	.67	.17	77	.67	.17	77
Butter	.51	.13	77	.52	.14	73	.52	.13	76	.47	.12	70	.42	.10	64
Margarine	.18	.05	26	.19	.05	27	.16	.04	24	.20	.05	30	.24	.06	38
Household size, 21-meal equivalents, number of persons	3.9			3.7			4.0		number	4.0		number	4.2		number
Number of cases	255			83			125		47			30			17

1/ Percentage of total value of dairy products from all sources.

2/ Percentage of total expenditures for table spreads.

12.3 Dairy Expenditures by Minneapolis-St. Paul Upper-Income Families

Average expenditures per family for dairy products excluding butter varied with level of family income among upper-income families in Minneapolis and St. Paul. Much of the variation disappeared when differences in family size were taken into account (table 12.5). Expenditures for fresh fluid whole milk averaged substantially higher among families in the \$10,000 to \$15,000 income group than for other groups. In contrast, the \$15,000 to \$20,000 group spent substantially more for processed dairy products, especially frozen milk desserts and cheese.

Outlays for table spreads averaged practically the same for all income groups, but families in the \$15,000 to \$20,000 income group spent less for butter and more for margarine than those in the other income groups.

When upper-income families are grouped by per person income, as in table 12.6, some variation in per person expenditures for dairy products with level of per person income reappears. Most of this variation is due to increased expenditures for processed dairy products, which more than offset the lower expenditures for fluid milk.

12.3.1 Variations with Stage in Family Life Cycle

Data in table 12.7 reveal the crosscurrents in the relationships of expenditures for dairy products with family size and age composition. Families with children under 18, and more particularly, those with children under 6, spent more money for fluid milk per person, whereas adult families bought more fluid cream and processed dairy products. The adult families with heads under 45 also bought significantly more butter per person. These variations are shown in figure 12.1.

12.3.2 Multivariate Analysis of UPIF Expenditures for Dairy Products

The regression models reported in tables 12.8 and 12.9 explain much higher proportions of the variations in family expenditures for dairy products than in per person expenditures (except for butter). However, inclusion of some statistically insignificant factors would have raised slightly the coefficients of multiple determination (R^2) for the per person regressions. Because the latter set of regressions was less satisfactory, the following discussion is based primarily on the regressions for family expenditures for dairy products reported in table 12.8.

Comparison of the results of the analyses for dairy products including and excluding butter given in the table reveals no major differences in relationships of the two overall measures to the socioeconomic variables studied. Income proved to be a significant factor only at the 20 percent level. The UPIF income elasticity based on semi-logarithmic form was close to .1 for per family and per person expenditures, lower than the .2 calculated for per person expenditures by all U.S. urban families in spring 1965 (table 12.9). Household size was the most important factor for dairy expenditures by UPIF as it was for all U.S. urban families. Both the standardized beta and the partial correlation coefficients for upper-income

Table 12.6 Dairy products and margarine - average expenditure per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more persons, in quartiles based on average income per person

Item	All upper-income families		Disposable income per person				Share in total	percent/	dollars	Share in total	percent/	dollars	Share in total	percent/	dollars	Share in total	percent/
	Amount per person	Share in total	\$800 to \$2,199	\$2,200 to \$2,899	\$2,900 to \$3,859	\$3,860 and over											
Expenditures for dairy products																	
Excluding butter	1.05	100	.96	1.04	1.03	1.15	100	1.03	1.04	100	1.03	1.15	100	1.15	100	100	100
Including butter	1.19	...	1.11	1.15	1.17	...	...	1.17	1.15	...	...	1.33	...	1.33	...	...	...
Fresh fluid whole milk	.56	53	.58	.61	.55	61	61	.55	.61	59	.55	.50	53	.50	44	44	44
Other fresh fluid milk (including half and half)	.07	7	.06	.05	.07	6	6	.07	.05	5	.07	.10	7	.10	9	9	9
Fluid cream including sour (excluding substitutes)	.05	5	.03	.04	.05	3	4	.05	.04	4	.05	.06	5	.06	4	4	4
Total processed dairy products, excluding butter	.37	35	.29	.33	.36	30	32	.36	.33	32	.36	.49	35	.49	43	43	43
Frozen milk desserts	.15	14	.13	.14	.15	14	13	.15	.14	13	.15	.16	15	.16	14	14	14
Cheese, including cheese spreads, but excluding cottage cheese	.12	11	.07	.13	.09	7	13	.09	.13	13	.09	.18	8	.18	16	16	16
Cottage and cream cheeses	.05	5	.04	.04	.06	4	4	.06	.04	4	.06	.08	6	.08	7	7	7
Other (including canned, dried)	.05	5	.05	.02	.06	5	2	.06	.02	2	.06	.07	6	.07	6	6	6
Expenditure for table spreads	.19	...	.19	.16	.20	...	...	.20	.16	...	.20	.24	...	.24	...	...	...
Butter	.14	682/	.15	.11	.14	792/	692/	.14	.11	692/	.14	.19	702/	.19	702/	792/	792/
Margarine	.05	322/	.04	.05	.06	212/	312/	.06	.05	312/	.06	.05	302/	.05	302/	212/	212/
Household size, 21-meal equivalents, number of persons	3.9			number 4.1								3.3			2.5		
Number of cases	255		66	63								63			63		

1/ Percentage of total value of dairy products from all sources.

2/ Percentage of total expenditures for table spreads.

Table 12.7 Dairy products and margarine - average expenditure per household and per person in a week of April to July 1965 by upper-income Minneapolis-St. Paul families of two or more persons, grouped by stage in family life cycle

Item	All households			Youngest child under 6			Head under 45 years 6 to 17 years			Children under 18 at home			Head 45 and over no children under 18 at home		
	Per house- hold	Per person	Share in total	Per house- hold	Per person	Share in total	Per house- hold	Per person	Share in total	Per house- hold	Per person	Share in total	Per house- hold	Per person	Share in total
Expenditures for dairy products	4.00	1.03	100	4.86	.99	100	4.06	1.00	100	1.75	1.00	100	4.35	1.00	100
Excluding butter	4.51	1.16	...	5.33	1.09	...	4.72	1.34	...	2.35	1.34	...	4.96	1.14	...
Including butter	2.26	.58	57	3.09	.63	64	2.17	.53	53	.82	.47	47	2.24	.51	51
Fresh fluid whole milk	.24	.06	6	.29	.06	6	.19	.05	5	.02	.01	1	.25	.06	6
Other fresh fluid milks, including half and half	.17	.04	4	.17	.03	3	.19	.05	5	.13	.07	7	.18	.04	4
Fluid cream including soured (excluding substitutes)	1.33	.34	33	1.31	.27	27	1.50	.37	37	.78	.45	45	1.68	.39	39
Total processed dairy products, excluding butter	.56	.14	14	.61	.12	13	.53	.13	13	.14	.08	8	.74	.17	17
Frozen milk desserts	.41	.10	11	.40	.08	8	.39	.10	10	.45	.26	26	.49	.11	11
Cheese, including cheese spreads, excluding cottage, cream	.18	.05	4	.16	.03	3	.30	.07	7	.11	.06	6	.21	.05	5
Cottage and cream cheese	.18	.05	4	.14	.03	3	.28	.07	7	.08	.05	5	.24	.06	6
Other (including canned, dried)	.69	.18	742	.66	.14	712	.86	.21	772	.65	.37	922	.79	.18	772
Expenditures for table spreads	.51	.13	742	.47	.10	712	.66	.16	772	.60	.34	82	.61	.14	772
Butter	.18	.05	262	.19	.04	292	.20	.05	232	.05	.03	82	.18	.04	232
Margarine															
Household size, 21-meal equivalents, number of persons	3.9			4.9			3.8			1.6			4.2		
number of cases	255			99			42			16			52		

1 Percent of total value of dairy products from all sources.
 2 Percent of total expenditures for table spreads.

Table 12.8 Summary of regressions for family expenditures for major dairy products in a week of April to July 1965 by upper-income Minneapolis-St. Paul families

Variable and regression measure	Total dairy		All fresh products	Fresh fluid whole milk	Home delivered whole milk	Cheese	Frozen desserts	Butter
	Including butter	Excluding butter						
Arithmetic mean in cents	449	398	266	227	116	58	56	51
R ²	.61	.60	.53	.52	.27	.12	.22	.12
Standard error of estimate - cents	172	159	144	141	162	61	62	63
<u>Independent variables</u>								
1. Family income in logarithms (significance level)								
a. Arithmetic regression coefficient	(20)	(20)	(n.s.)	(n.s.)	(2)	(10)	(n.s.)	(n.s.)
b. Beta, standardized coefficient	135.17	126.73	60.10	43.23	228.98	60.83	16.29	-2.03
c. Partial correlation coefficient	.07	.07	.04	.03	.16	.13	.03	-.00
d. Income elasticity	.09	.09	.05	.04	.16	.12	.03	-.00
	.13	.14	.10	.08	.86	.46	.13	.00
2. Household size in 21-meal equivalents								
a. Arithmetic	(1)	(1)	(1)	(1)	(1)	(10)	(2)	(1)
b. Beta	7.80	7.35	7.14	7.04	3.58	.56	.66	1.10
c. Partial	.53	.55	.65	.66	.36	.16	.18	.31
	.51	.52	.53	.53	.33	.11	.16	.27
3. Percent of household in specified age group								
	10 and over	Under 10 years	16 and over	10 and over	Under 10 years	10 and over	Under 10 years	
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(15)
b. Beta	.62	.47	.26	.09	.92	.27	-.04	-.39
c. Partial	.05	.05	.03	.01	.12	.11	-.01	-.14
	.06	.05	.02	.01	.09	.07	-.01	-.10
4. Extent of wife's employment in survey week								
a. Arithmetic	(20)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...
b. Beta	-.69	-.19	.37	1.47	-2.01	-.27	1.20	...
c. Partial	-.01	-.00	.00	.02	-.03	-.01	.05	...
	-.01	-.00	.01	.02	-.03	-.01	.05	...
5. Wife's age in years								
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-1.64	-.94	.50	-.09	.20	-.17	.40	-.28
c. Partial	-.06	-.04	.03	-.00	.01	-.03	.06	-.04
	-.07	-.05	.02	-.00	.01	-.02	.05	-.04

Table 12.8 Summary of regressions for family expenditures for major dairy products in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - Continued

Variable and regression measure	Total dairy		All fresh products	Fresh fluid whole milk	Home delivered whole milk	Cheese	Frozen desserts	Butter
	Including butter	Excluding butter						
6. Wife's education in years								
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(5)	(5)	(20)
b. Beta	3.67	6.29	-5.05	-5.62	4.49	4.55	4.46	-3.03
c. Partial	.03	.06	-.05	-.06	.05	.15	.14	-.10
	.04	.08	-.07	-.07	.05	.14	.14	-.09
7. Kind of saver (negative coding)								
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...
b. Beta	10.40	12.64	7.65	11.30	12.70	1.23	1.66	...
c. Partial	.04	.05	.04	.06	.07	.02	.02	...
	.06	.08	.05	.08	.08	.02	.03	...
8. CVO economizer								
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(10)
b. Beta	-2.57	-.89	.63	-1.91	-2.69	-1.75	-.11	-2.34
c. Partial	-.03	-.01	.01	-.03	-.05	-.09	-.01	-.11
	-.05	-.02	.01	-.04	-.05	-.09	-.01	-.11
9. CVO reputation striver								
a. Arithmetic	(10)	(20)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...
b. Beta	7.04	4.89	4.22	3.76	-.74	.47	1.48	...
c. Partial	.07	.05	.06	.05	-.01	.02	.06	...
	.11	.08	.08	.07	-.01	.02	.07	...
10. Family social position (negative coding)								
a. Arithmetic	(n.s.)	(20)	(5)	(10)	(n.s.)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-9.98	-13.69	-19.19	-16.99	3.63	3.64	1.12	.94
c. Partial	-.05	-.07	-.12	-.11	.02	.07	.02	.02
	-.06	-.08	-.13	-.12	.02	.06	.02	.01
11. Expenditures for nonalcoholic beverages								
a. Arithmetic	(1)	(1)	(20)	(n.s.)	(1)	(n.s.)	(1)	...
b. Beta	.32	.20	.09	.08	.21	.04	.11	...
c. Partial	.17	.12	.06	.06	.16	.08	.23	...
	.24	.17	.08	.08	.17	.08	.24	...
12. Expenditures for another food group								
a. Arithmetic	(1)	(1)	(n.s.)	(n.s.)	...	Meat, poultry, fish	Fresh fruit	Margarine
b. Beta	.27	.24	.04	.04	...	try, fish	fruit	(1)
c. Partial	.25	.25	.05	.05	...	(5)	(n.s.)	-.40
	.29	.28	.05	.05	...	.02	.05	-.21
					...	.15	.10	-.21
					...	.14	.10	-.21

Table 12.8 Summary of regressions for family expenditures for major dairy products in a week of April to July 1965 by upper-income Minneapolis-St. Paul families - Continued

Variable and regression measure	Total dairy		All fresh products	Fresh fluid whole milk	Home delivered whole milk	Cheese	Frozen desserts	Butter
	Including butter	Excluding Butter						
13. Expenditures for another food group							Pastry (1)	
a. Arithmetic26	...
b. Beta19	...
c. Partial21	...
14. Family life cycle								
Head under 45	(n.s.)	(n.s.)	...	...	...	...
(1) Children under 6	-.09	-.06	...	...	...	...
Beta	-.04	-.03	...	...	...	...
Partial	(n.s.)	(n.s.)	...	...	...	...
(2) Children 6 to 17	-.13	-.10	...	...	...	...
Beta	-.09	-.07	...	...	...	...
Partial
(3) No children (omitted)
Head 45 and over	(n.s.)	(n.s.)	...	...	...	...
(4) Children under 18	-.16	-.14	...	...	...	...
Beta	-.10	-.08	...	...	...	...
Partial	(n.s.)	(n.s.)	...	...	...	...
(5) No children under 18 at home	-.10	-.08	...	...	...	...
Beta	-.05	-.04	...	...	...	...
Partial	-.10	-.10	...	...	...	...
Beta coefficient for set

Table 12.9 Summary of regressions for per person expenditures for major dairy products and for the dairy share of expenditures for food at home in a week of April to July 1965 by upper-income families in Minneapolis-St. Paul

Variable and regression measure	Share for dairy excluding butter	Total dairy		All fresh products	Fresh fluid whole milk	Cheese	Frozen desserts	Butter
		Including butter	Excluding butter					
Arithmetic mean in 10 cents except for share	.16	11.83	10.40	6.78	5.64	1.68	1.44	1.43
R ²	.11	.21	.20	.07	.08	.12	.03	.19
Standard error of estimate, 10 cents except for share	.09	5.30	4.84	4.24	3.79	1.83	1.91	1.83
<u>Independent variables</u>								
1. Per person income in logarithms, significance level								
a. Arithmetic regression coefficient	(n.s.)	(5)	(n.s.)	(n.s.)	(n.s.)	(1)	(n.s.)	(n.s.)
b. Beta, standardized coefficient	-.0341	4.10	2.20	1.41	-.35	2.18	-.58	-.15
c. Partial correlation coefficient	-.07	.13	.08	.06	-.02	.22	-.06	-.01
	-.06	.13	.07	.05	-.01	.19	-.05	-.01
2. Number of household members 10 and over								
a. Arithmetic	(n.s.)	(n.s.)	...	...	...	(n.s.)	...	(n.s.)
b. Beta	-.0000	.00	...	...	...	.00	...	-.00
c. Partial	-.05	.06	...	...	...	.08	...	-.00
	-.04	.06	...	...	...	.08	...	-.00
3. Number of household members under 10 years								
a. Arithmetic	...	...	(n.s.)	(15)	(10)	...	(n.s.)	...
b. Beta	...	...	-.00	.00	.00	...	-.00	...
c. Partial	...	...	.02	.12	.14	...	-.07	...
	...	...	.01	.09	.11	...	-.06	...
4. Family life cycle stage								
Head under 45 years	...	...	...	...	...	...	...	(1)
Youngest child under 6	...	...	...	...	...	...	...	-.56
Beta	...	...	...	...	...	...	...	(1)
Children 6 to 17	...	...	...	...	...	...	...	-.31
Beta	...	...	...	...	...	...	...	...
No children (omitted)	...	...	...	...	...	...	...	...
Head 45 and over	...	...	...	...	...	...	...	(1)
Children under 18	...	...	...	...	...	...	...	-.36
Beta	...	...	...	...	...	...	...	(1)
No children under 18	...	...	...	...	...	...	...	-.42
Beta	...	...	...	...	...	...	...	...
Beta for all stages	...	...	...	...	...	...	...	-.28

Table 12.9 Summary of regressions for per person expenditures for major dairy products and for the dairy share of expenditures for food at home in a week of April to July 1965 by upper-income families in Minneapolis-St. Paul - Continued

Variable and regression measure	Share for dairy excluding butter	Total dairy		All fresh products	Fresh fluid whole milk	Cheese	Frozen desserts	Butter
		Including butter	Excluding butter					
5. Wife's age in years								
a. Arithmetic	(10)	...	...	...	...	...	(n.s.)	...
b. Beta	-.0013	...	...	...	...	...	.02	...
c. Partial	-.14	...	...	...	...	...	.09	...
	-.12	...	...	...	...	...	.08	...
6. Wife's education in years								
a. Arithmetic	(n.s.)	...	...	(n.s.)	(n.s.)	...	...	...
b. Beta	-.0008	...	...	-.05	-.09	...	...	...
c. Partial	-.02	...	...	-.03	-.05	...	...	...
	-.02	...	...	-.02	-.04	...	...	...
7. Wife's work in survey week								
a. Arithmetic	(10)	...	...	...	...	...	...	...
b. Beta	-.0043	...	...	...	...	...	...	...
c. Partial	-.13	...	...	...	...	...	...	...
	-.12	...	...	...	...	...	...	...
8. Kind of saver (negative coding)								
a. Arithmetic	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	(n.s.)	...	(n.s.)
b. Beta	-.0009	.16	.10	.10	.28	.04	...	.04
c. Partial	-.01	.03	.02	.02	.07	.02	...	.02
	-.01	.03	.02	.02	.07	.02	...	.02
9. CV0 economizer								
a. Arithmetic	(5)	...	...	(n.s.)	(n.s.)	(10)	(n.s.)	(10)
b. Beta	.0040	...	...	.01	-.05	-.06	-.04	-.07
c. Partial	.14	...	...	.01	-.04	-.10	-.07	-.11
	.14	...	...	.01	-.04	-.11	-.07	-.12
10. CV0 reputation striver								
a. Arithmetic	(n.s.)	(5)	(n.s.)	(n.s.)	(20)	...	(n.s.)	(2)
b. Beta	-.0032	.24	.13	.11	.11	...	.05	.11
c. Partial	-.10	.11	.07	.07	.08	...	.07	.15
	-.10	.13	.07	.07	.08	...	.07	.16
11. Family social position (negative coding)								
a. Arithmetic	(n.s.)	(n.s.)	(5)	(10)	(5)	(n.s.)	(n.s.)	(n.s.)
b. Beta	-.0033	-.32	-.58	-.47	-.48	.06	-.10	.16
c. Partial	-.04	-.07	-.13	-.13	-.15	.04	-.06	.10
	-.04	-.07	-.14	-.12	-.13	.04	-.06	.09

Table 12.9 Summary of regressions for per person expenditures for major dairy products and for the dairy share of expenditures for food at home in a week of April to July 1965 by upper-income families in Minneapolis-St. Paul - Continued

Variable and regression measure	Share for dairy excluding butter	Total dairy		All fresh products	Fresh fluid whole milk	Cheese	Frozen desserts	Butter
		Including butter	Excluding butter					
12. Expenditures for nonalcoholic beverages			(10)	(n.s.)				
a. Arithmetic	...	...	.14	.02	.03	...	...	...
b. Beta	...	...	.12	.02	.03	...	...	...
c. Partial	...	...	.12	.02	.03	...	...	...
13. Expenditures for another food group		Cereal and bakery products				Meat, poultry, fish	Fruit and pastry	Margarine
a. Arithmetic	(5)	(1)	(1)	(1)	(5)	(1)	(n.s.)	(1)
b. Beta	-.0116	.42	.33	.14	.10	.02	.03	-.42
c. Partial	-.12	.40	.35	.18	.14	.18	.07	-.20
	-.13	.41	.34	.17	.14	.18	.07	-.21
14. Percent of dinners eaten out	(n.s.)	...	...	...	...	...	...	...
a. Arithmetic	-.0451	...	...	...	...	...	...	...
b. Beta	-.06	...	...	...	...	...	...	...
c. Partial	-.06	...	...	...	...	...	...	...

expenditures indicate that about half of the variation in total dairy expenditures per family was due to the number of people in the household. The complementary relationships of dairy products to nonalcoholic beverages and cereal products are shown in the regression results. Several characteristics of the wife, whether she was a reputation striver or not, and her appraisal of the saving characteristic of the family were relatively minor factors in expenditure variations from family to family.

12.3.3 Fresh Fluid Dairy Products

As in the case for all dairy products combined, income is not an important factor in variations in family expenditures for fresh fluid whole milk, but household size is. Lower ranking social positions (as measured by the Hollingshead index based on occupation and education of the husband) had a significant negative effect on fluid milk expenditures. Reputation striving was a positive factor, though not statistically significant.

The model used for home delivered whole milk used fewer variables than that for all fresh fluid milk and resulted in a lower R^2 . Although the income elasticity of family purchases of such milk was relatively high, .9, it was still only half as important as household size. A higher proportion of the household members being under 10 years also tended to raise expenditures for home delivered milk.

The relationships of socioeconomic factors to expenditures for all fresh fluid milks were substantially the same as for fluid whole milk. We used a set of dummy variables for different stages in the family life cycle in the regressions reported. The beta coefficient for this set of variables was -.10 for expenditures per person for fresh fluid whole milk, indicating that its effect on expenditures was about the same as the negative influence of lower social position. Comparison of regression results for models based on per person averages using family life cycle stages as an alternative for the age composition factor indicated that the differences in explanatory power were minor.

12.3.4 Manufactured Products

Income was almost as important a factor in cheese expenditures as household size. The income elasticity of per person expenditures for cheese by upper-income families in Minneapolis-St. Paul was close to .6, compared with the U. S. urban income elasticity of quantity consumed per person of .15 for spring 1965. The quantity measure excludes variations in prices paid, which vary considerable with income level. Cheese expenditures were significantly and positively related to additional years of education of the homemaker. The relatively high positive relationship of cheese expenditures to expenditures for meat, poultry, and fish is difficult to interpret. One may surmise that both types of expenditures are probably related to unmeasured socioeconomic or attitudinal factors.

Frozen Desserts

Only 22 percent of the variation in family expenditures was explained by factors introduced into the regression model. Household size, wife's education and concurrently high expenditures for pastry emerged as the factors statistically significant at 10 percent or less.

Butter

Household size was the major positive factor in family expenditures for butter. Factors with negative effects and significant at 20 percent or higher levels for family expenditures were the greater proportion of household members below 10 years of age, more education and greater interest in economizing on the part of the wife, and the rate of expenditure for margarine. The regression coefficient for the latter factor was significant at the 1 percent level.

A different model was used for butter expenditures per person. It revealed the major contributions of the CVO reputation striving measure and family life cycle stages to explanation of variations in butter expenditures. The income elasticity reported in table 12.9 is $-.1$ and nonsignificant. An earlier model without family life cycle stages and reputation striving yielded an income elasticity of $.3$, quite close to the $.4$ elasticity for the quantity of butter consumed per person by U.S. urban households in spring 1965. This provides a good example of the problems involved in trying to appraise the relationship of income to expenditures when data for potentially important factors are not available.

Chapter 13 SUMMARY OF ANALYSES OF COMPETITION AMONG FOODS

The Department of Commerce series on per capita consumer expenditures for food indicate that most of the 14 percent increase from 1950 to 1967 in outlays for food, measured in real terms, was in food purchased for off-premise consumption, that is, for home use. There was little change in sales for on-premise consumption by eating places, measured in 1958 dollars. Comparison of the several sets of national survey data indicates a smaller increase in average food purchases for home consumption than the Commerce data do. Moreover, they indicate some decrease in real expenditures per person for food away from home by housekeeping households. In view of much higher income elasticity of away-from-home eating calculated from several sets of cross section survey data, one must conclude that relatively higher prices for restaurant meals and changes in the ways of living have had a strong depressing effect on the eating-place market for food. The analyses developed for this bulletin provide little information on factors underlying the apparent change in the level of relationship between away-from-home food expenditures and income.

The competition between alcoholic beverages and food expenditures is difficult to measure because of the substantial number of nonspenders for alcoholic beverages and inadequate reporting of expenditures. A dummy variable incorporated in the analysis to serve as a proxy for attitude toward alcoholic beverages turned out to be the most important single factor in explaining variations in expenditures per adult for alcoholic beverages, even more important than income. Among users, the income elasticity of reported expenditures per adult was slightly less than that for total food expenditures per family in 1964 (tables 9.10 and 5.4). The substantially lower income elasticity for alcoholic beverages purchased away from home than for food raises serious question regarding the adequacy of the data as reported. But this problem has plagued consumer surveys for many years.

The contributions of this study to knowledge of factors relating to expenditures for major food groups by upper-income families are summarized here in terms of tests of specific hypotheses. These are presented in three sets: (1) expenditures for 13 food groups, (2) expenditures for items within the meat, poultry, and fish group, and (3) expenditures for major dairy products.

13.1 Expenditures for Major Food Groups

13.1.1 Variations in per person average expenditures for food groups among U.S. urban family income levels provide reliable indications of income elasticities of per person expenditures for those food groups among upper-income families, even when other socioeconomic factors are taken into account.

The average values of purchased meat, poultry, and fish; fresh fruits and vegetables; and nonalcoholic beverages consumed per person in a week of spring 1965 by U.S. urban families with incomes above \$10,000 varied more from the U.S. urban average than those for other food groups. The following data for income elasticities of per person expenditures for these food groups by upper-income families in Minneapolis-St. Paul (UPIF) in a week of April

to July 1965 and their levels of statistical significance support the hypothesis:

meat, poultry, and fish	.31 (1)
fresh vegetables	.39 (2)
nonalcoholic beverages	.38 (5)
fresh fruits	.39 (1)

Separate data on prepared dishes are not given in this bulletin's tables with U.S. urban family data. The income elasticity of UPIF expenditures per person for this food group was .43, significant at the 5 percent level (table 10.8).

13.1.2 Families who are less-than-average savers are likely to spend relatively more for food groups that are more income elastic.

A negatively coded measure of the saving characteristic of the upper-income families, based on the wife's evaluation, was a statistically significant factor (at the 10 percent level) in higher family expenditures only for beef and fresh fruits. The relationships of this factor to expenditures for fresh vegetables, prepared dishes, and nonalcoholic beverages were insignificant (tables 10.7 and 11.5). The kind of saver factor was not included in the regression models for per person expenditures for all the food groups, but for red meats, the whole meat group, and fresh fruits this factor was even more significant than in the family expenditure models. Moreover, for these three food groups the degree of saving factor had as much positive influence as income per person (table 10.8).

13.1.3 The use of per person averages for expenditures for most food groups, with household sizes based on 21-meal-at-home equivalents, takes adequate account of variations in number of people fed from the home food supply. Exceptions will be foods consumed disproportionately by particular age groups or at meals with higher percentages of absentees.

After considerable experimentation with alternative measures of possible residual effects of age composition on per person expenditures, three different forms were developed from household size and age composition data and used in the models reported in table 10.8. The number of household members under 10 appeared to be more significant for per person expenditures for dairy products excluding butter, but its relationship was minor and statistically insignificant (table 12.9). For the total meat, poultry, and fish group; red meats; fresh and processed vegetables; and prepared dishes the age adjustment factor was either number under or over 16, also having nonsignificant relationships to per person expenditures. The number of household members 10 years and over was insignificant for sugars and sweets and for nonalcoholic beverages, but in a logarithmic form it was negatively related to expenditures for processed fruits. No age adjustment factor was found to be significant for fresh fruits or fats and oils (table 10.8).

13.1.4 Upper-income families with lower social position will spend relatively more for meats, cereals, and sweets than families with higher social status.

The Hollingshead measure of social position was not significantly related to family expenditures for meats or cereals, but lower ranking social position was positively related to expenditures for sugars and sweets (significant at the 10 percent level). Its relationship to dairy products was negative, but achieved significance only at the 20 percent level (table 10.7).

13.1.5 Because the homemaker is the principal meal planner and food shopper even in upper-income families, her age, education, consumer value orientation, and market work influence expenditures for particular food groups but in different ways.

a. The older age of the homemaker had a favorable influence on higher expenditures per person for cereals, red meats, the whole meat group, fresh fruits, and nonalcoholic beverages. It also influenced significantly the allocation of larger shares of the food budget to the meat and the cereal and bakery product groups, but a smaller share for dairy products.

b. Above average education measured in years had a significant positive relationship to higher expenditures per family for sugars and sweets, to per person expenditures for eggs, and to a higher share of the food total for red meats. But more education was negatively related to per person expenditures for fresh vegetables including potatoes and to the shares for these products and prepared dishes.

c. Economizing orientation of the homemaker had a significant negative effect on either family or per person expenditures for red meats, processed vegetables, fats and oils, sugars and sweets, and nonalcoholic beverages. In contrast, the share of food dollars allocated to dairy products excluding butter was positively related to economy mindedness of the homemaker.

d. Homemakers with a higher score on the CVO test for reputation striving reported significantly higher expenditures (either per person or per family) for red meats; the whole meat, fish, and poultry group; processed vegetables; prepared dishes; fats and oils; and nonalcoholic beverages.

e. The convenience orientation of the homemaker, as measured by a CVO test, was a significant negative factor in variations in per person expenditures for eggs. It was significant for purchases of prepared dishes only at the 20 percent level.

f. The wife's employment in market work during the survey week had a significant negative effect on expenditure for fresh fruits and a positive relationship to red meat and processed vegetable expenditures. It was a significant negative factor in the share of total expenditures for food at home allocated to dairy products excluding butter (tables 10.7, 8, and 9).

13.1.6 Expenditures for foods that are consumed primarily in dinner meals by upper-income families are lower in families eating higher percentages of their dinner meals away from home.

The relationship of the percentage of family members' dinners eaten away from home during the survey week to family expenditures for food groups was

significant and positive only for beef. At the 20 percent level it achieved negative significance for sugars and sweets. This factor had a significant and positive relationship to per person expenditures for beef, poultry, and the total food group. But its relationship to pork expenditures was negative (tables 10.7 and 8, 11.5 and 6).

13.1.7 Expenditures for food groups that are complementary to consumption of a given food group have a positive relationship to expenditures for that group, but those which are substitutes have a negative relationship.

Two approaches were used to test these hypotheses. Expenditures for potential complements and substitutes were included in the regression models for either or both family expenditures and per person expenditures for the food groups. Because only one negative relationship appeared among these highly aggregated food groups, the shares of total food expenditures for home use allocated to these potential complements and substitutes were introduced as independent variables into regression models for the share of the food group being analyzed.

As reported in tables 10.7 and 8, higher expenditures for the cereal group had significant positive relationships to expenditures for dairy products (excluding butter), eggs, fats and oils, sugars and sweets. Higher meat, poultry, and fish expenditures had a favorable influence on expenditures for eggs and cereal products. Expenditures for nonalcoholic beverages were a positive factor in the regression model for dairy expenditures. Processed vegetables had a positive relationship to expenditures for fresh vegetables, and vice versa. In contrast, an obvious substitute within the meat, poultry, and fish group -- poultry and fish expenditures -- was a highly significant negative factor in the explanation of variations in family expenditures for red meats.

In the regression analyses of the shares of at-home food dollars allocated by upper-income families to particular food groups, most of the positive relationships became negative (table 10.9). A higher share allocated to cereal products was related to lower shares for dairy products, eggs, and fats and oils. Relatively higher expenditure for meat, poultry, and fish was related negatively to eggs and cereals. The same reversal in relationship appeared for fresh and processed fruits. But the negative relationship of poultry and fish to red meats was repeated in the share analysis.

These apparent inconsistencies probably arise from over-aggregation of heterogeneous food items within the food groups.

13.2 Meat, Poultry, and Fish Expenditures

13.2.1 Although expenditures per upper-income family for red meats and the meat, poultry, and fish group as a whole vary little with family income, adjustment for the effects of family size and other socioeconomic factors may reveal that per person income has a significant relationship with per person expenditures for these foods.

The relationship of UPIF family income to family expenditures was not statistically significant for any of the major items in the meat, poultry, and

fish group, for the total group, or for red meats. But per person income was a significant factor in variations in per person expenditures for the whole meat group, for red meats, pork, and poultry. The income elasticities of per person expenditures for these foods by upper-income families in Minneapolis-St. Paul in a week of April to July 1965 were: meat, poultry, and fish, .3; all red meats, .3; beef, .2; pork, .3; and poultry, .6 (tables 11.5 and 6).

13.2.2 Income is not as important a factor in per person expenditures for meat as some other socioeconomic factors.

In the regression analyses of per person expenditures by UPIF for the total meat, poultry, and fish group and red meats, the relative importance of 1964 income per person was exceeded only by the wife's age. Income was also important in variations in per person expenditures for pork and poultry, but not for beef. Reputation striving, wife's age, dissaving, and dinners out were all more important than income in relation to beef expenditures per person. In the case of poultry, the positive effect of current income was equal to the negative effect of expected lower income 5 years later (table 11.6).

13.2.3 Meat expenditures represent a large part of expenditures for food at home, and UPIF annual food expenditures are related to income mobility. Therefore, income mobility may be expected to bear a significant relationship to meat expenditures even in a week.

The degree of change in family income from 1959 to 1964 was not significantly related to family expenditures for any of the major meat items. Although the expectation of lower income 5 years later (1969) was not a significant factor in expenditures for red meats, it had a statistically significant negative relationship to poultry expenditures per person (tables 11.5 and 6).

13.2.4 Upper-income families that are less than average savers spend relatively more for food. Therefore, they may be expected to be above-average spenders for meat, per person.

The degree of dissaving was a statistically significant positive factor in explaining variations in per person expenditures for beef, total red meats, and the whole meat group, but not for pork or poultry. For beef this factor exceeded income in relative importance (table 11.6).

13.2.5 Adults in upper-income families reportedly prefer more and higher-priced meats than their children, whose preferences for hamburgers and hot dogs have often been noted. Therefore, meat expenditures per person in upper-income families with a higher proportion of older children and adults are higher than in families with relatively more younger children.

The number of household members 16 years and over had no significant relationship to per person expenditures for major categories of meats or for poultry. Therefore, the hypothesis is rejected (table 11.6). Another set of regressions incorporated a 10-year-and-over age factor, but it too was not significant.

13.2.6 Because the homemaker is the principal meal planner and shopper, her characteristics and consumer value orientation affect the amount spent for meat per person.

Older homemakers among those in UPIF families spent significantly more per person for beef, total red meat, and the whole meat, poultry, and fish group. This factor had the largest positive influence on expenditures per person for these foods of any socioeconomic factors tested in the models reported in table 11.6 or in the preliminary models not reported in this bulletin.

The preliminary cross-tabulations of data on meat expenditures and wife's education indicated a negative relationship. But the multivariate analyses revealed a nonsignificant positive relationship of wife's education measured in years to beef expenditures per person and a statistically significant negative relationship to pork expenditures. For total meat expenditures per person and per family this factor did not achieve significance at the 10 percent level.

Wives in upper-income families who worked more hours for pay spent significantly more money for total red meats than those not working or working fewer hours, but similar in other respects. The positive relationship of this factor to beef expenditures and the negative relationship to poultry expenditures were not statistically significant at the 10 percent level.

The consumer value orientation of the homemaker toward economizing was a significant negative factor in explaining variations in per person expenditures for pork, total red meat, and the total group. But it had a positive relationship per person to expenditures for poultry. In contrast, reputation striving wives spent significantly more money per person for beef, red meats, and the whole group of foods (table 11.6).

13.2.7 Meats are reputedly high status items so upper-income families unable to achieve social recognition in other ways are higher spenders for meat.

Regression models for expenditures for the major items and for the total meat, poultry, and fish group reveal no significant relationships with family social position treated as a continuous variable. However, analyses using social classes as discontinuous variables are needed for definitive conclusions.

13.3 Dairy Products

13.3.1 The response of per person expenditures by upper-income families for dairy products to variations in per person income is less than for U. S. urban families across all levels of income.

The income elasticity of the value of purchased dairy products consumed per person by U. S. urban families and single individuals in a week of spring 1965 was .2 for all dairy products including and excluding butter. The comparable figure for all fluid whole milk and cream was .3 (table 12.3(4)). Among upper-income families in Minneapolis-St. Paul the income elasticities for these categories were between -.1 and +.15, but not statistically significant except for total dairy including butter (table 12.9).

13.3.2 Income is not an important factor in upper-income families' expenditures for dairy products.

Household size is a far more important factor than income or any other single factor in variations in family expenditures for fresh dairy products and for total dairy products including and excluding butter. In fact, household size can explain half the variation in such expenditures. Only for home-delivered whole milk and cheese was income a significant factor in family expenditures. For these foods, the income elasticities were .9 and .5, respectively (table 12.8).

13.3.3 The number of young children in the family has a disproportionate effect on consumption and expenditures for fluid whole milk.

Both the beta coefficient and the partial correlation coefficient for number of household members under 10 years of age were larger than those for per person income in the regression model for the quantity of fluid whole milk consumed per person in a week of spring 1965 by U. S. urban households grouped by level of family income (table 12.3(4)). Among upper-income families in Minneapolis-St. Paul, the relationship of number of household members under 10 years of age to per person expenditures for fresh fluid whole milk was statistically significant, and the beta and partial correlation coefficients were much larger than for the insignificant relationship of income to fluid milk expenditures (table 12.9).

13.3.4 Because of widespread knowledge among more educated homemakers of the importance of calcium in the diet and the calcium contribution of dairy products (excluding butter), the saving characteristics of upper-income families are not related to their expenditures for major dairy products.

The saving characteristic of the family, as evaluated by the wife on a five point scale, did not have a significant relationship to variations in family or per person expenditures for dairy products among upper-income families in Minneapolis-St. Paul.

13.3.5 Because most educated homemakers know about the importance of calcium in the diet and the significant contributions of dairy products other than butter to the average person's calcium supply, the several characteristics of homemakers in upper-income families and their consumer value orientations have little relationship to expenditures for dairy products other than butter.

Although family social position was measured for this study by the Hollingshead index in terms of husband's occupation and education, it may also be considered as a characteristic of the wife. Lower ranking social position had a significant negative relationship to family and per person expenditures for fresh dairy products and fluid whole milk by upper-income families in Minneapolis-St. Paul (tables 12.8 and 9).

Age and education of the homemaker were not significant factors in variations in family and per person expenditures for major dairy products, measured at the 10 percent level. But higher education of the wife was associated with lower expenditures per family for butter when the significance is raised to 20 percent (table 12.8).

Among these upper-income homemakers, those who stressed economy spent significantly less for cheese and butter. Reputation striving was a significant positive factor in total dairy expenditures including butter, but not for the total excluding butter at the 10 percent level of significance. This factor was included in the per person model for butter and was the most important positive element in the regression equation.

The wife's employment in market work during the survey week was not a significant factor for variations in expenditures for dairy products.

Chapter 14 FOOD BUYING PATTERNS OF UPPER-INCOME FAMILIES IN MINNEAPOLIS-ST. PAUL

Upper-income families obtain their food supplies from many of the same sources as middle-income families: grocery stores, specialty stores, delicatessens, farmers, bulk food purchases from wholesalers, prepared dishes from caterers, meals and snacks in different places, and a few raise some of their own fruits and vegetables. This chapter describes and analyzes these food buying practices. It also provides some data on variations in expenditures for prepared and ready-to-eat foods and on sources of food information used by upper-income families.

14.1 Sources of Food

In the Part III discussion of competition for food dollars, we considered variations with family income in the shares of total food expenditures going for meals and snacks, from 23 percent for the under \$10,000 group of families to 39 percent for the over \$20,000 group (table 9.7). Here we focus attention on major categories of sources of food for home use and on the occasions and places where meals and snacks are consumed in the home city. (The "home city" refers to the Twin Cities for all families in the sample except a few living in small towns in the metropolitan area, table 14.1.)

14.1.1 Purchases for Home Use

The impact of away-from-home eating falls adversely on the purchase of food from grocery stores. Whereas upper-income families with incomes below \$15,000 spent two-thirds of their food money in grocery stores, the average share for families with higher incomes drops to 60 percent or less. Families in the \$10,000 to \$20,000 income range bought much more food in bulk from distributors, probably because of their larger size and lower income per person, than did families in our upper-income sample with incomes above and below this range. The group of families with incomes over \$20,000 spent less for delivered food and in specialty stores than did other groups, but they had relatively fewer children at home than did the \$10,000 to \$20,000 income families. They also obtained much more food from caterers, on the average.

14.1.2 Phone Orders, Deliveries, and Use of Credit in the Survey Week¹

As part of our investigation of food buying practices, we asked respondents about the use of particular marketing services by each family during the week surveyed. Only 5 homemakers in our sample of 257 had ordered food supplies by telephone, with 2 doing so twice. Also, only six families financed their groceries on credit, except for the regular home deliveries. Data on expenditures for food bought in specified ways during the survey week are summarized in table 14.2.

During the week, 44 percent of the respondent households had food delivered to their home. The number of deliveries ranged from one to six, the average was 2.8. More than half of the households with deliveries averaged three

¹ Most of this section was developed by Maria Thiele-Wittig.

Table 14.1. Average expenditures for food from alternative sources, by upper-income Minneapolis-St. Paul families in 1964, subdivided by family income

Source of food	Total sample		Family disposable income							
	Amount	Percent of total	\$6,400 to \$10,000		\$10,000 to \$15,000		\$15,000 to \$20,000		\$20,000 and over	
			Amount	Percent of total	Amount	Percent of total	Amount	Percent of total	Amount	Percent of total
Number of cases	257	100	83	100	125	100	30	100	17	100
Total food expenditures	2,172	100	1,830	100	2,140	100	2,739	100	3,083	100
Purchased for use at home	1,582	73	1,402	77	1,587	74	1,908	70	1,848	60
In grocery stores	1,389	64	1,220	67	1,400	65	1,667	61	1,654	54
Outside grocery stores	193	9	182	10	187	9	241	9	194	6
Bulk food purchases	26	1	15	1	28	1	47	2	19	1
Catered food	19	1	12	1	14	1	26	1	81	3
Deliveries and in speciality stores	148	7	155	8	145	7	168	6	94	3
Meals and snacks in home city	415	19	296	16	409	19	593	22	733	24
Board away from home	2	1/	0	0	4	1/	0	0	0	0
Meals at work	181	8	117	6	195	9	248	9	269	9
Meals at school	45	2	33	2	45	2	70	3	54	2
Other meals away	145	7	99	5	125	6	237	9	375	12
Between meal snacks	42	2	47	3	40	2	38	1	35	1
Meals and snacks outside home city	175	8	132	7	144	7	238	8	502	16
Value of food raised for home use	3	...	4	...	4	...	1	...	4	...

1/ Less than 1 percent.

Table 14.2. Average household expenditures on different types of food buying during a survey week, by subgroups of respondents

Income and life cycle category	Shopping trips	Deliveries		Ready to eat food purchases		Evening and weekend meals out	
		Total sample	Households with deliveries	Total sample	Households with such purchases	Total sample	Households with such meals
Total sample	29.41	1.61	3.62	.55	3.30	4.01	9.45
Family income							
\$ 6,410 to \$ 9,999	28.82	.93	2.77	.44	2.83	2.31	7.10
\$10,000 to \$14,999	28.96	1.71	3.74	.44	2.95	3.84	9.39
\$15,000 to \$19,999	31.36	2.63	4.65	1.24	5.33	5.75	10.79
\$20,000 and over	32.18	2.30	3.56	.70	(2.98) ¹	10.45	12.69
Per person income							
\$ 800 to \$2,199	36.61	2.30	4.30	.54	2.98	2.80	9.24
\$ 2,200 to \$2,899	28.79	1.77	3.15	.26	2.82	2.45	5.80
\$ 2,900 to \$3,859	27.45	1.47	3.70	.80	3.85	5.22	9.96
\$ 3,860 and over	24.51	.85	2.73	.61	2.80	5.62	12.40
Family life cycle							
Husband under 45 years	30.68	2.23	3.97	.42	2.64	3.45	8.42
Youngest child under 6	32.53	1.68	3.53	1.13	5.95	4.98	10.46
Children 6 to 17 years	20.87	...	...	.16	(1.31) ¹	3.53	8.08
No children under 18 at home							
Husband over 45 years	32.16	1.89	3.64	.60	1.65	5.44	10.47
Children under 18	23.75	.43	1.85	.39	2.28	2.90	9.75
Adult family members							

dollars

¹ Parentheses indicate values based on fewer than five observations.

deliveries during the week. Timing over the week was well spaced with no particular concentration on any day. Size of total deliveries varied from \$0.42 to \$15.54 and averaged \$3.62 per household and \$1.31 per delivery.

Eighty-two percent of the households with deliveries had only dairy products delivered. Eggs and fruits and vegetables were delivered to a few households. Due to the predominance of dairy product deliveries, the companies performing the deliveries were mainly dairy firms. Almost all of the deliveries reported were standing orders and were charged on a periodic basis.

Incidence of deliveries was found to be strongly related to family life cycle stages with children, as indicated by frequency tabulations and confirmed by a regression analysis for this variable. The regression analysis revealed a significant positive effect of household size. Frequency tabulations and a regression in actual dollars pointed to a positive relationship between expenditures on deliveries and income. Among households using deliveries, the income effect relationship to expenditures was negative. Inconsistencies between these findings and the high income elasticity for truck-delivered fluid whole milk indicate the need for further analyses of delivered milk to take careful account of family life cycle stages.

14.1.3 Meals Eaten Out

The higher income families within our sample spent substantially more for meals at work, meals in the home city not associated with work or school, and for meals and snacks outside the home city during 1964. Outlays for these other meals in the home city and those outside the home city by families with incomes of \$20,000 or more averaged almost four times as much as those by families in the \$6,400 to \$10,000 group (table 14.2). In contrast, purchases of snacks in the home city by the most affluent group were somewhat smaller, on the average, than those by the least affluent families in our sample, probably reflecting greater concern for weight control. However, the differentiation between a meal and a snack is so imprecise that the data on snacks can be only indicative.

To obtain more understanding of factors involved in nonwork and nonschool connected meals away from home, we asked a number of questions about evening and weekend meals eaten out during the week for which food buying was reported. These included the type of restaurant patronized, the number of family members and others involved, the costs, and the occasion for eating out.

One or more evening or weekend meal was eaten out during the survey week by 42 percent of the upper-income families. More than 60 percent of these had one meal out, about a fourth had two meals out, and a few respondents had even more, up to seven meals. On an average, about three family members participated. Expenditures for such evening and weekend meals ranged from \$0.25 to \$50.00 per family and averaged \$9.45 per family and \$5.99 per meal. At about 20 percent of these meals the bill was paid for guests as well. Two-thirds of these meals were eaten out during the week, and only one-third on the weekend. Thus there appeared to be no pattern of eating out specifically on weekends.

Occasions named for eating out were varied. One-fourth of the respondents mentioned convenience as the reason, an expected finding for a sample of upper-income families. About another fourth named work-related occasions; about 20 percent named entertaining and celebrations; and little more than 10 percent each named group dinners and banquets or traveling out of town. In more than one-third of the cases places for eating out were medium to high-priced restaurants; in another fourth meals were eaten in low to medium-priced restaurants or cafeterias. Supper clubs and night clubs were mentioned by just above 10 percent of these families, and a similar proportion used drive-ins. A little less than 10 percent of the meals were consumed in food services for employees or in schools.

The proportion of families eating evening and weekend meals away from home in the week surveyed was much higher at higher family income levels: 33 percent in \$6,400 to \$10,000 group, 41 percent in \$10,000 to \$15,000 range, 53 percent for families in \$15,000 to \$20,000 group, and 82 percent for those having incomes of \$20,000 or more. Average expenditures for all families in an income group (including those who did not go out to eat) varied from \$2.31 for the under \$10,000 group to \$10.45 for the highest income group. But these averages reflect differences in the size of families and of number eating out. For those eating out, per person expenditures in the week averaged \$2.08 for the under \$10,000 bracket, \$2.42 for the \$10,000 to \$15,000 group, \$2.46 for the \$15,000 to \$20,000 group, and \$3.10 for the \$20,000 and over group.

Regression analysis supported the conclusion that the effect of income is positive and significant both for the probability of evening and weekend meals out and for expenditures on such meals among respondents reporting use of this food service. The income elasticity is 0.7 for households having such meals. The probability of evening and weekend meals eaten out is positively affected by position in the life cycle stage in which the husband is 45 years or older and the family has children under 18, but negatively by the position in the life cycle stage which contains the older households of adult members. Social position also has a significantly positive effect on expenditures for evening and weekend meals away from home.

About three-fifths of the families reporting such meals also had deliveries or purchases of ready-to-eat food outside grocery stores, or both. Apparently, families who are heavy users of one type of food marketing services are more likely to use other types as well.

14.2 Shopping Practices ²

Most studies of food shopping patterns have obtained data by asking homemakers to identify their typical shopping frequency, the types of stores usually patronized, and the usual extent of the husbands' participation in shopping. In contrast, we used structured questions to obtain data on actual practices in the preceding week. These were:

1. The frequency of shopping trips defined by the number of stores actually visited in a week.

² This section was prepared by Maria Thiele-Wittig with the assistance of Marguerite C. Burk.

2. The actual times of these shopping trips over the week and during the day.
3. The amounts spent on the grocery shopping expeditions.
4. The family member or members doing the actual shopping.
5. Types of retail food stores visited.

In our analysis, we examined the relationships of several socioeconomic factors to the shopping patterns of each family in the week preceding the interview.

14.2.1 Objectives and Hypotheses

The objectives of this part of our study of food buying patterns of upper-income families were: (1) to identify major variations in shopping practices and their interrelationships, (2) to investigate relationships of these variations to major socioeconomic factors such as income, family size and type, social status, and education, and (3) to consider the marketing implications of these patterns and relationships.

Our general hypothesis was that shopping practices are affected by four technical and socioeconomic factors: (1) the availability and proximity to retail outlets with differing quality and service characteristics (only one aspect of which we measured) and the employment of the wife which may widen the access to shopping facilities but limit shopping time, (2) family size and composition, (3) family economic status, and (4) family values and life style.

We hypothesized that upper-income families would be less constrained by income than by time and energy, so that they would use marketing services in order to economize on time and energy spent on food buying and preparation. Accordingly, we expected the number of shopping trips to be negatively related to income and that purchases of ready-to-eat foods, deliveries, and restaurant meals would be substituted. Because we defined each visit to a store as a shopping trip, we expected that these families might make several shopping trips but only on 1 or 2 days during the week.

14.2.2 The Data on Shopping

For each grocery shopping trip made during the week, the respondent told us the day, the name of the store, who went, if delivered, whether phoned in, time of day, total costs (including nonfood purchases), and whether charged. We aggregated each of the several types of data (e.g., numbers of trips and days and expenditures) obtained from each family and computed percentages, such as the percentage of respondent's total food expenditures made in trips on Saturday, the proportion of total trips made by the wife, or made to each type of store.

Our analyses involved the study of averages and frequency distributions of trips and expenditures made to major types of stores by different family members on different days or times of day, and the use of factor analysis and regression analysis to identify and measure the relationships of such activities and expenditures to a wide range of socioeconomic factors.

In brief, the upper-income families surveyed in Minneapolis-St. Paul in spring 1965 averaged between three and four shopping trips to acquire their week's food supply. They spread these shopping trips over 2 or 3 days and went to two or three different stores.

Only one-fifth of all trips were made as second or third trips on a particular day. Less than one-third of all trips in the week were repeat trips to a particular store. Shopping frequency varied from 1 to 11 trips. There was much less concentration of shopping than we expected (table 14.3).

14.2.3 Expenditures, Frequency, and Timing of Shopping Trips

Total expenditures on shopping trips to food stores, including nonfood purchases, averaged \$29.41 per family. These upper-income families spent, on an average, somewhat less than \$10 per shopping trip.

Small shopping trips with expenditures of less than \$2.50 were frequent, representing about one-third of all shopping trips. But less than one-tenth of all shopping trips showed expenditures of \$25 or above. Although more than half of the upper-income families made one or more trips of the described small size, only about one-fourth spent \$25 or more on one trip.

There was no clear relationship between incidence of shopping of specified trip sizes and income. However, average expenditures per shopping trip were strongly influenced by household size and varied inversely with shopping frequency.

Shopping frequency was related primarily to household size and less significantly to the wife's incidence and extent of gainful employment or age. Members of large households shopped more often than the average and employed homemakers shopped less often. Shopping frequency increased with age of the wife in the lower age range. However, shopping frequency diminished with age among older women.

We found relatively minor variations in the distribution of shopping trips during the parts of the day: 28 percent before noon, 24 percent from noon to 3 p.m., 30 percent from 3 to 6 p.m., and 18 percent after 6 p.m.

Factors related to the time of shopping were: stage in the family life cycle, social placement³, and incidence and extent of the wife's employment. Morning and evening shoppers differed most in these characteristics. Shopping in the late afternoon appeared to be a convenient practice for families with varied characteristics, the only one in common tending to be smaller household size.

Morning shopping was significantly associated with higher social placement. Families with children, especially young children, were likely to shop in the morning and families without children tended to shop in the late afternoon or evening. Wives employed part or full time were the major evening shoppers.

³ Measured by the Hollingshead index of social position which is based on the husband's years of schooling and the ranking of his occupation.

Table 14.3. Frequency of grocery shopping, proportion of respondents in each subgroup by number of shopping trips, shopping days, and different stores

Income and life cycle category	Shopping trips				Shopping days				Different stores					
	1	2	3	4	5 to 11	1	2	3	4	5 to 7	1	2	3	4 to 7
	percent				percent				percent					
Total sample	13	23	25	18	21	18	30	27	16	9	25	36	20	19
Family income														
\$ 6,410 to \$ 9,999	16	24	22	17	21	21	31	27	18	3	25	39	16	20
\$ 10,000 to \$14,999	13	21	26	20	20	18	32	25	16	9	23	39	20	18
\$ 15,000 to \$19,999	10	17	27	16	30	13	17	33	17	20	30	27	20	23
\$20,000 and over	6	35	23	18	18	12	29	35	12	12	29	18	35	18
Per person income														
\$ 800 to \$2,199	8	18	18	23	33	17	21	23	26	13	14	38	17	31
\$ 2,200 to \$2,899	14	14	33	20	19	17	23	36	17	7	25	37	27	11
\$ 2,900 to \$3,859	16	22	30	16	16	17	40	27	9	7	30	25	22	23
\$ 3,860 and over	14	36	17	14	19	20	36	24	12	8	31	42	14	13
Family life cycle														
Husband under 45														
Youngest child under 6	11	17	26	23	23	18	24	29	21	8	19	39	17	25
Children 6 to 17 years	9	19	29	24	19	10	26	38	14	12	24	36	17	23
No children under 18 at home	38	44	..	6	12	44	38	12	6	..	44	44	6	6
Husband over 45														
Children under 18	12	19	27	11	31	13	35	21	19	12	27	27	27	19
Adult family members	13	34	23	15	15	21	38	26	9	6	30	36	26	8

More of the week's trips were made on Friday and Saturday than on other weekdays. But one-fifth of the families reported some shopping in the early part of the week and a comparable number shopped in the middle of the week.

Average expenditure per trip increased successively from Sunday to Friday and declined slightly on Saturday (table 14.4). Half of the week's groceries was bought on Friday or Saturday.

Families of medium size and whose heads were under 45 years of age shopped more in the early part of the week than other families. In these families, the wife often was employed part time and shopping frequency was relatively low. Moreover, higher social position and a high level of education of the wife apparently were associated with shopping early in the week.

Large, young families with full-time homemakers were frequent shoppers. Although they spread their shopping over most parts of the week, they tended to shop heavily in the middle of the week.

Older families, which were generally of smaller size, usually had the lowest shopping frequency and timed their shopping for Friday. Relatively few wives in these families were employed. If the wife was employed or the household was larger, Saturday shopping was more frequent.

14.2.4 Who Shops?

The wife, either alone or with other family members, generally took the major responsibility for grocery shopping. She was involved in about three-fourths of all shopping trips. These trips usually constituted the major part of the family's shopping.

The husband was involved in only one-fourth of all shopping trips. Trips by the husband alone generally were supplementary trips. If both the husband and wife shopped, they tended to do most of the week's shopping together. Children were involved in one-fourth of the shopping trips, usually with a parent.

Family composition greatly determined the identity of the shopper. The family's position in the family life cycle also apparently affected the incidence of shopping by different family members. In families with young children, the wife normally took children along on at least some shopping trips. In families with no children at home, joint shopping by husband and wife was more likely.

High social position practically precluded shopping by the husband, reflecting perhaps the long hours worked by men in professional and managerial positions.

14.2.5 Where They Shop

Upper-income families were heavy users of chainstores. But they also made some purchases at smaller, independent grocery stores and bakeries and dairy stores. Table 14.5 provides details on proportions of trips and of expenditures in major types of stores used by these Minneapolis-St. Paul families in a week.

About 40 percent of the families shopped at independent grocery stores (other than Hove's or Lunds, two local firms identified separately⁴) at least once during the week; almost as many families shopped at a Red Owl store. One-fourth visited bakery or dairy stores.

As shown in table 14.6, total and average expenditures in the store types popular among the upper-income families varied considerably. Red Owl stores received heavy patronage, but shoppers at Hove's and Lunds spent more per family in those stores than did shoppers in other types of stores.

Shoppers at supermarkets in discount houses spend an average of almost \$17 but they had the lowest average number of trips to the same stores, 1.2. Thus, they showed an average trip size of almost \$14--the largest for all groups compared. Apparently, most shoppers using a discount supermarket went there only once during the week. In contrast, most shoppers who patronized Hove's and Lunds made more than one trip to these stores during the week.

Choices among types of stores were moderately influenced by the family's social position (measured by occupation and education of the husband), the wife's employment, and the family's position in the family life cycle. Compared to other families, patrons of discount stores tended to rank lower in occupational and educational levels, have lower incomes, belong to larger families, and have relatively low per person food expenditures. Wives of these families also had somewhat lower educational levels. Many of the wives were employed part time.

Characteristics of patrons of the two independent supermarkets specializing in high quality lines tended to be quite different from characteristics of discount store shoppers. Patrons of the two independent stores were in the highest social positions, had higher incomes, and were in relatively small households and the husbands had predominantly managerial or professional occupations. Few wives were gainfully employed. These families tended to do the least shopping outside their major stores.

14.2.6 Implications

We examined relationships between variations in shopping practices of upper-income families and their socioeconomic characteristics to see if they indicate possible trends in future demand for marketing services. The likelihood of smaller households and increased participation of married women in the labor force probably will lead to greater concentration of shopping in terms of trip sizes and number of trips and to heavier shopping outside of regular business hours.

Use and expectations regarding price specials late in the week may have added to the concentration of shopping on those days and to more frequent shopping. Consumers may have to choose between shopping at less crowded times or taking advantage of price specials. Their compromise may be an increase in the number of trips, as indicated by the higher correlation between number of trips and number of different stores visited. But additional trips are inefficient in checkout time and in consumer time.

⁴ These multiunit supermarkets are generally regarded as emphasizing high quality lines.

Table 14.4. Expenditures on shopping trips for each day of the week by upper-income Minneapolis-St. Paul families

Day	Proportion of total expenditures ¹	Average expenditures ²	Average trip size ³
	percent	dollars	
Sunday	1	2.72	2.28
Monday	9	6.77	5.79
Tuesday	10	8.01	6.93
Wednesday	14	10.04	8.06
Thursday	15	10.70	8.98
Friday	26	14.63	11.81
Saturday	25	14.68	10.28

- 1 Total expenditures of all respondents combined.
 2 Average expenditures of respondents who did any shopping on the respective day.
 3 Average expenditures per shopping trip on the respective day.

Table 14.5. Proportions of total shopping trips and total shopping expenditures in a week in different types of stores by upper-income Minneapolis-St. Paul families

Store type	Proportion of total shopping trips	Proportion of total expenditures
	percent	
Grocery chainstores		
Red Owl (regional chain)	17	22
National Food, Del Farm (regional chain)	4	6
Kroger (national chain)	4	6
National Tea (national chain)	1	1
Applebaum's (local chain)	3	4
Country Club (local chain)	4	5
Penny's (local chain)	6	8
Cooperative and voluntary affiliated stores		
Super Valu (voluntary)	6	7
Big Ten, IGA, etc. (voluntary)	3	3
Fairway, Super Fair (cooperative)	2	2
Supermarkets in discount house	5	9
Independent grocery stores		
Hove's, Lunds	6	8
Grocery stores	20	13
Bakeries and dairy stores	11	2
Other stores	7	4
Missing data	1	..
Total	100	100

Table 14.6. Expenditures and shopping trips to selected store types in a week by upper-income Minneapolis-St. Paul families

Store type	Total expenditures	Families shopping	Average expenditures	Total trips	Average trip size	Average trips
	dollars	number	dollars	number	dollars	number
Red Owl	1,651	95	17.37	146	11.31	1.5
Super Valu	513	35	16.65	53	9.68	1.5
Discount supermarkets	651	39	16.68	47	13.84	1.2
Hove's, Lunds	632	32	19.75	57	11.09	1.8
Bakeries, dairies	165	66	2.50	100	1.65	1.5
Grocery stores	1,011	102	9.91	175	5.78	1.7
Penny's	573	36	15.92	52	11.02	1.4

Older families had more experienced shoppers. Because they tended to shop heavily on Friday, they probably wanted to take advantage of the end-of-week specials. Moreover, Friday and Saturday shopping probably was related to some extent to weekly or bi-weekly paydays. The higher incomes of families in higher social positions permitted them to ignore weekend specials.

Some firms carry price specials over into the early part of the following week to induce some families to shift their shopping time. Greater emphasis on this promotional strategy might reduce congestion and increase retailing efficiencies.

Possibilities for reducing store hours appear minimal. Increased employment of homemakers probably will increase the need for evening store hours. However, stores must be open in the morning for shopping by families with children.

As incomes rise and more people achieve higher occupational positions and education, the demand for stores with high quality products should increase.

14.3 Purchases of Prepared Foods and Dishes

Two different approaches were used to obtain data on purchases of prepared foods by upper-income families in Minneapolis-St. Paul. As part of the detailed information on food buying in a week the respondents reported their expenditures for major food commodities in fresh and processed forms and for prepared dishes. Some analyses of these data have been discussed in chapter 10. We also asked respondents about ready-to-eat foods purchased outside grocery stores--including the name of the store, day of the week, kind of food, how many served, cost of the order, and whether phoned in or charged. These two sets of data are used below to provide more information about the purchase of food marketing services by upper-income families.

14.3.1 Variations in Fresh and Processed Food Purchases

Although some dairy products are obviously prepared foods or prepared dishes, they are not considered here to avoid repeating an earlier discussion in chapter 12. In considering the data presented in table 14.7, one must keep in mind the fact that an upper-income homemaker will often buy prepared foods in one week for use at a later time, particularly processed foods with relatively long shelf life. For a substantial sample of households, we may assume that average purchases equal average use, but we lack data on variations in purchases and use needed to check the assumption. Also, the data in the table are in terms of average purchases per household and the household sizes vary among income groups and by stage in the family life cycle. The household sizes in terms of 21-meal equivalents are given at the end of the table.

The heterogeneity of the cereal group of foods is revealed by the variability in the average purchases with level of income and with family life cycle among individual foods in the group. Only the expenditures for pastry and sweet goods show considerable variation with income. Therefore, the -.04 income elasticity reported in table 10.7A is not surprising. Purchase of ready-to-eat cereals, sweet goods, and bread items were substantially higher in the family life cycle stages with children.

Table 14.7 Family expenditures in a week of April to July 1965 for selected groups of fresh and processed foods and prepared dishes by upper-income Minneapolis-St. Paul families, by family disposable income and stage in family life cycle¹

Item	Total sample	Family disposable income in 1964				Stage in family life cycle				
		dollars				dollars				
		\$6,400 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over	Youngest child under 6 (I)	Children 6 to 17 (II)	No children under 18 at home (III)	Children under 18 at home (IV)	No children under 18 at home (V)
Cereal products, total	3.48	3.44	3.41	3.98	3.38	3.98	3.56	1.47	3.96	2.51
Flours	.11	.15	.10	.02	.14	.10	.13	.11	.14	.08
Cornmeal, cornstarch, grits, hominy, rice, oats, wheat cereals (to cook) and other	.10	.11	.11	.04	.11	.10	.09	.03	.18	.08
Macaroni, spaghetti, noodles	.09	.10	.09	.07	.06	.10	.13	.03	.09	.05
Prepared flour mixes	.32	.32	.33	.28	.44	.33	.40	.01	.47	.21
Ready-to-eat cereals	.58	.59	.71	.57	.34	.85	.52	.18	.51	.26
Bread, rolls, and crackers	1.22	1.22	1.18	1.49	1.07	1.39	1.18	.53	1.33	1.01
Cakes, pies, pastries, cookies, doughnuts, and other bakery products	1.06	.95	1.03	1.37	1.22	1.11	1.11	.61	1.24	.81
Meats, total	6.80	6.70	6.83	6.96	6.78	6.46	6.54	4.91	8.53	6.44
Fresh, frozen, smoked, (all but prepared and canned)	5.59	5.60	5.52	5.86	5.57	5.25	5.19	3.94	7.21	5.45
Prepared and canned meats	1.21	1.10	1.31	1.10	1.21	1.21	1.35	.97	1.32	.99
Fruits, total	2.70	2.60	2.67	2.46	3.76	2.77	2.72	1.47	3.51	2.04
Fresh	1.50	1.31	1.49	1.45	2.59	1.60	1.48	.59	1.88	1.20
Frozen fruits and juices	.47	.41	.50	.45	.52	.40	.50	.42	.73	.32
Other processed fruits and juices	.73	.88	.68	.56	.65	.77	.74	.46	.90	.52
Vegetables (including potatoes), total	2.40	2.31	2.41	2.24	4.08	2.40	2.59	1.94	2.59	2.18
Fresh	1.49	1.45	1.46	1.50	1.88	1.41	1.60	1.13	1.76	1.38
Frozen	.35	.27	.35	.48	.52	.35	.41	.47	.50	.49
Other processed vegetables	.56	.59	.60	.26	.68	.64	.58	.34	.33	.31
Prepared dishes, total	1.88	1.85	1.74	2.24	2.65	2.05	1.92	.87	2.24	1.49
Not frozen	1.54	1.55	1.42	1.93	1.86	1.72	1.52	.66	1.81	1.22
Frozen	.45	.57	.44	.29	.31	.69	.29	.07	.48	.20
Soups, baby and junior foods	1.09	.98	.98	1.64	1.55	1.03	1.23	.59	1.33	1.02
Other	.34	.30	.32	.31	.79	.33	.40	.21	.43	.27
Household size, number in 21-meal equivalents	3.9	3.7	4.0	4.2	3.7	4.9	3.8	1.6	4.2	2.4
Number of cases	255	83	125	30	17	99	42	16	52	46

¹ Excluding two cases not providing food expenditure data for the week.

In the meat group, family expenditures for prepared and canned meats varied irregularly from one income level to the next. Taking into account the smaller household sizes of the lowest and highest income groups among these upper-income families, one finds little relationship to income. Families headed by men under 45 years and having no children purchased substantially more prepared and canned meats per person than did other groups.

The analytical problems raised by aggregating different forms of processed foods are demonstrated by comparing the expenditures by the lowest and highest income groups for frozen fruits and juices and for other processed fruits. Both fresh and processed fruit expenditures per person had an income elasticity of .4 that was statistically significant (table 10.8B). Families with children are heavy purchasers of canned and dried fruits as well as fresh fruits.

The variability in purchases of processed vegetables, including potatoes and sweetpotatoes, from one income group to the next is reflected in the statistical nonsignificance of the .2 income elasticity for per person expenditures for this group of items. Purchases of the frozen vegetables are much more responsive to variations in income. On a per person basis, the families of young adults (Stage III) are the biggest buyers of processed vegetables.

The cross-tabulation of expenditures for prepared dishes against income indicates the relationship measured by the income elasticity of .3 to .4 derived by regression analysis and reported in tables 10.7 and 10.8. The use of an age-composition factor in the multivariate analysis sharpened the income-expenditure relationship. Expenditures for frozen prepared dishes by families with incomes over \$20,000 were much higher than those by lower income families. The variation in purchases of soups and baby and junior foods with stage in the family life cycle is dramatic. It is reflected in the statistical significance of the variable "percent of household members under 16" for family expenditures for prepared dishes identified in an alternative model to that reported in table 10.7A.

14.3.2 Ready-to-Eat Foods from Specialty Shops and Eating Places⁵

As part of the investigation of food buying practices, we asked the homemakers in our upper-income sample if their families had purchased any ready-to-eat foods outside grocery stores to be eaten at home in the preceding week. As examples, we mentioned dairy items, pizza, sandwiches, hamburgers, meat or chicken, and meals of various ethnic origins.

Only 17 percent of the upper-income families reported ready-to-eat food purchases, and they made from one to five such purchases. The mean value for frequency was 1.2 for those buying. Expenditures for ready-to-eat food ranged from \$0.66 to \$17.80. Households who made such purchases spent on an average \$3.30 on ready-to-eat food and \$2.83 per purchase (table 14.2). With respect to timing, the pattern showed an almost equal distribution among the weekdays.

5 This section was developed by Maria Thiele-Wittig.

Hamburgers were purchased in about half of the cases. Foreign foods, pizza, chicken, meat or fish were represented in much smaller proportions. About 30 percent of these purchases were made at hamburger stands, 23 percent at drive-ins, 10 percent at restaurants. The remainder occurred in pizza houses, delicatessens, or other stores. The number of persons served with ready-to-eat food varied from 1 to 17, most commonly 4 people were served. The overall average expenditure per person served came to \$0.76. About one-third of these orders were phoned in. Only in one instance was such an order charged.

Incidence of ready-to-eat food purchases was slightly larger in families having children between the ages 6 to 17. Our frequency tabulations also indicated a positive relationship to income, which was confirmed by regression analysis. The association with stages in the family life cycle did not yield statistically significant coefficients.

Expenditures on ready-to-eat food purchases appeared to have a positive relationship to income according to the frequency tabulations. Whereas the incidence of ready-to-eat food purchases did not vary greatly among life cycle stages with children and that of older families without children at home, expenditures on such purchases were highest in younger families with older children. The regression analysis for this variable identified a positive effect of income and household size and a negative relationship to the wife's formal education. The wife's age and stages in the family life cycle showed no statistically significant relationship.

14.4 Sources of Food Information

Data on sources of food information used by homemakers in the upper-income families participating in the Minneapolis-St. Paul survey in April to July 1965 is based on their identification of sources from a list of 10 sources plus an other category and their ranking of the sources by relative importance. From their responses, we calculated the data reported in table 14.8.

Most of these homemakers obtained information about food by actually shopping in stores, but only 4 percent reported use of information supplied by sales people in those stores. Newspaper ads and store flyers were also important sources of food information and relatively much more significant than TV or radio.

The tabulations by income level in table 14.8 reveal some significant variations in use of alternative sources of information. A higher proportion of homemakers in families with incomes over \$20,000 reported making some use of practically every source than did those homemakers with less income. Especially notable is the 35 percent figure for information obtained from people other than sales people, compared with the smaller percentages reported for other income groups. This is consistent with the communications hypothesis that the most educated and affluent families tend to be more gregarious and receive a heavy flow of information from other people. But this most affluent group of homemakers relied much more heavily on the food information obtained during their own shopping expeditions. The only sources identified as first in importance by any of these homemakers were their own shopping (76 percent), newspaper ads (18 percent), and store flyers (6 percent).

Table 14.8 Relative importance of sources of food information reported by upper-income families in Minneapolis-St. Paul, spring 1965, by level of family disposable income

Income group	Actual shopping in stores	News-paper ads	Store flyers	Coupons in mail	Other people than sales	T.V.	Maga-zine ads	News-paper and magazine ads	Radio	Sales people	Not elsewhere specified
Total sample	85	59	34	27	23	18	13	7	4	4	6
Percent reporting use	51	31	9	0	1/	1	1	1/	0	0	3
First importance	20	17	14	9	7	5	2	2	1/	2	2
Second importance	10	7	8	11	9	6	3	3	1	1	1
Third importance											
Disposable family income in 1964											
\$6,400 to \$10,000	82	53	34	35	20	13	6	7	0	4	6
Percent reporting use	48	39	7	0	0	1	0	0	0	0	2
First importance	17	7	15	16	6	5	1	1	0	4	2
Second importance	15	3	10	9	9	3	0	2	0	0	2
Third importance											
\$10,000 to \$15,000	87	62	34	24	26	20	13	7	5	3	5
Percent reporting use	50	27	12	1	2	1	1	1	0	0	3
First importance	22	21	15	6	5	4	3	2	0	2	2
Second importance	10	9	5	12	10	7	2	3	1	1	0
Third importance											
\$15,000 to \$20,000	80	60	33	17	13	20	17	0	3	7	17
Percent reporting use	50	37	0	0	0	0	4	0	0	0	10
First importance	20	20	16	0	3	7	3	0	0	4	4
Second importance	7	3	14	14	3	13	7	0	3	0	0
Third importance											
\$20,000 and over	94	65	35	24	35	18	35	18	18	6	0
Percent reporting use	76	18	6	0	0	0	0	0	0	0	0
First importance	18	23	11	6	17	6	0	6	6	0	0
Second importance	0	12	6	18	6	0	17	12	0	6	0
Third importance											

1/ Less than 1 percent.

In contrast, only half of the homemakers in the other income groups identified their actual shopping as being their most important source of food information, and they attached much more importance to newspaper ads than did the most affluent homemakers. Newspaper and magazine articles were much less important sources for the homemakers with incomes below \$20,000 than for those in the top income group. The limited variation with income in the rankings giving coupons in the mail as a source of information is somewhat surprising. None of the homemakers gave them first ranking and one-fifth ranked them second or third in importance.

14.5 Summary

Upper-income families vary widely in their sources of food and their use of food marketing services. Those with incomes below \$15,000 spent two-thirds of their food money in grocery stores compared with the 60 percent or less spent by families with incomes above \$15,000. In general, upper-income families made little use of deliveries except for milk and rarely used telephone orders or credit. These families patronized all kinds of food stores and eating places.

Average expenditures per shopping trip by upper-income families to food stores amounted to somewhat less than \$10. Shopping frequency was related to the size of the household. The homemaker in these upper-income families did most of the shopping and was a substantial patron of chainstores. Heavy shoppers in discount stores tended to rank lower in occupational and educational levels, had less income, larger families, and spent less for food per person. Patrons of the two independent high quality stores in area were in the highest social position, with higher incomes, smaller households, and the husbands were most likely to be in managerial and professional occupations.

These upper-income families purchased a wide variety of ready-to-eat foods, ranging from the very popular hamburgers to the use of caterers for elaborate formal affairs. There was far more variability in their shopping practices than expected, as well as many similarities with the food practices of middle class families. There was substantial variation with income both in eating away from home and in the purchases of prepared foods. But other factors such as the stages in the family life cycle, the occupation of the husband, and the current activities of the family were very important in shopping patterns during a particular week.

Families in the sample with incomes over \$20,000 reported use of a wide range of sources for their food information, but they relied most heavily on their own shopping around. Less affluent families among these upper-income families attached more importance to newspapers and store flyers and less to newspapers and magazine articles as sources of food information than did homemakers in the highest income bracket.

Appendix A TECHNICAL NOTES FOR TABLES 1.1 AND 2.3

In order to compare data from surveys at different points in time, it is usually necessary to make adjustments for changes in prices. Graphic procedures were used to make such adjustments as part of the computations underlying the data in tables 1.1 and 2.3. Descriptions of these computations and procedures are given below.

A.1 Shares in U. S. Food Market, Table 1.1

To develop estimates of 1955 shares in the U. S. food market from data available in the 1955 Household Food Consumption Survey that would be comparable with 1965 data, three types of adjustments were necessary. First, the data by income level in the 1965 reports cover one-person households along with those of two or more persons whereas only households of two or more were classified by income in the 1955 reports. Food expenditures of one-person households average higher than per person averages of larger households so the 1955 averages required upward adjustments. Second, the 1955 average expenditures in current 1955 food prices had to be converted to the 1965 food price level. Third, because of inflation, the class limits for the income groups, based on 1954 incomes, needed to be adjusted backward to 1964 equivalents in purchasing power.

Average 1955 per person values of food purchased to be consumed at home and expenditures for food and beverages away from home by households of two or more persons in income groups within urbanization categories were taken from table 3.16 of Burk, Measures and Procedures.¹ These expenditure data were adjusted upward to include one-person households using relationships derived from food expenditure data obtained in the 1960-61 Surveys of Consumer Expenditures and Income by the U. S. Bureau of Labor Statistics (BLS) and U. S. Department of Agriculture. Comparable adjustments were made in average incomes to include the one-person families.

Adjusted estimates of the average value of purchased food consumed at home in a week of spring 1955 by households in each income group were converted to 1965 prices by multiplying them by 1.14, the ratio of the BLS retail price index for food at home in 1965 to that for 1955. Average expenditures per person for food and beverages away from home by each income group in spring 1955 were raised 28 percent, the increase in the BLS price index for meals in eating places.

Next, the estimates of average value of at-home food and away-from-home food outlays in 1965 prices for each income class with limits in 1954 dollars had to be shifted backwards to dollars equivalent in purchasing power to those of the 1964 income groups. The adjusted average expenditures per person were plotted on double logarithmic paper against average per person income in 1954 dollars, handling data for food at home and away from home for each urbanization separately. Smoothed curves were drawn connecting these points.

¹ Burk, Marguerite C. Measures and Procedures for Analysis of U. S. Food Consumption, USDA, Agr. Handbook 206, 1961.

To adjust the average income of each income group for the 15.5 percent increase in consumer prices from 1954 to 1964, each average income was multiplied by 86.6 percent. The points at which these adjusted average incomes intersected the expenditure curves identified the averages for food expenditures in 1965 prices for the families and single individuals within income class limits matching the 1964 groups.

A distribution of family members for the 1955 data by level of income measured in 1964 prices was developed in several steps. The total number of family members in households of two or more persons was calculated from data in tables 1 and 2 of 1955 Household Food Consumption Survey Report No. 1. A distribution of the members in one-person households among these income groups was estimated from the 1960-61 distributions of such households taken from reports in the USDA-BLS Survey of Consumer Expenditures and Income, 1960-61. By adding the two populations for each income group and dividing by the grand total, a percentage distribution was developed based on class limits in 1954 dollars. The graphic procedure used to derive the distribution of family members by level of family income within each urbanization category to comparable real income groups in terms of 1964 prices is described in section 4.1.4 of Burk, Ibid.

The percentage distributions of the total sample population within each urbanization category among income groups with class limits in equivalent 1964 dollars were used to combine the totals for each income group of the adjusted estimates of value of purchased food consumed at home and expenditures for food away from home. Aggregate values for the four income groups shown in table 1.1 thus derived were then divided by the total for entire population in that urbanization category to obtain the percentage shares reported in the table.

The regional distributions for 1955 were taken from pages 8 and 9 of Agricultural Marketing, November 1956.

Estimates of income group shares in the 1965 food market were developed from (a) household average data published in Food Consumption of Households in the United States, Spring 1965² and regional data in Food Consumption of Households in the United States, Spring 1965: A Preliminary Report,³ and (b) the distributions of sample families for the United States by income and urbanization given in table 1 and by region and urbanization calculated from data on page 206 of the spring 1965 United States report. Expenditures for alcoholic beverages for use at home were subtracted from the average values of food purchased for use at home, and the estimates for food only were added to the total for food and beverages away from home. Value aggregates obtained by multiplying these average dollar data per household (for each income group in the U.S. and for the four regions) by the percentage distributions form the bases for the income, urbanization, and regional shares of the 1965 food market reported in table 1.1.

2 Household Food Consumption Survey 1965-66. Report No. 1, January 1968.

3 USDA, ARS 62-16, August 1967.

A. 2 Commodity Shares in the U.S. Urban Food Expenditures, Table 2.3

As indicated in the heading for the spring 1955 data in table 2.3, the commodity shares by income level pertain to families of two or more and were not adjusted to include one-person households. At the middle and upper-income levels there are relatively few single-person families.

Commodity shares were calculated by dividing the value of commodities in each group consumed at home by the total value of all commodities (excluding alcoholic beverages) as reported for urban households in each income group in Food Consumption of Households in the United States, Spring 1955.⁴ For comparison with 1965 survey data, it was necessary to adjust the averages for income groups based on 1954 dollars to income groups with class limits matching 1964 purchasing power. A graphic procedure was used for each commodity group. The percentages of money value for all food at home allocated to each food group in spring 1955 were plotted on the vertical, arithmetic scale of semilog paper against average family income (on the logarithmic scale) for the income groups with disposable money incomes over \$4,000 (in 1954 dollars). The average incomes for each group were calculated in terms of 1964 dollars, and the food shares were moved horizontally to the new average income points. Points were connected and the lines smoothed slightly into curves. Then the 1954 average incomes for the two income groups in table 2.3 were used as the means for the income groups with class limits in terms of 1964 dollars. At the point where these means intersected the new curves, the percentages for the groups with \$5,000 to \$6,000 incomes and \$10,000 or more were read off the chart and inserted into table 2.3.

A. 3 1955 Food Expenditures by U.S. Urban Households at 1965 Prices, Table 2.3

The 1955 estimates of average value of food consumed by the income groups shown in table 2.3 in terms of 1965 dollars were derived graphically, using the following procedure: Data from 1955 Household Food Consumption Survey Report No. 1 on values of food at home and away from home per family (excluding expenditures for alcoholic beverages for home use) were plotted (on vertical axis) against average 1954 disposable income per family for each income group above \$4,000 (on horizontal axis) on double log paper. Then the average incomes in 1954 dollars were converted to 1964 dollars, using the 15.5 percent increase in the Consumer Price Index. Vertical lines were drawn at the new average levels. The spring 1955 averages for the two sub-categories of money value of food for each income group were adjusted to 1965 dollars using the changes in their price indexes noted above. These were plotted on the chart at the 1964 dollar equivalents for incomes. Then the points at which the 1965 dollar value lines intersected lines drawn vertically from the income midpoints for the \$5,000 to \$6,000 and over \$10,000 income groups (identified originally in 1954 dollars but now treated as 1964 dollars) provide the estimates of 1965 dollar equivalents for the 1955 data on money value of food, given in the lower part of table 2.3.

⁴ Op. cit. Data for spring 1965 were taken from Household Food Consumption Survey, 1965-66, Report No. 1.

Appendix B APPRAISAL OF SAMPLE FOR SURVEY OF UPPER-INCOME FAMILIES IN MINNEAPOLIS-ST. PAUL¹

The sample for the survey of upper-income families in Minneapolis-St. Paul consists of two subsamples drawn from two area probability samples developed by the Research Department of the Minneapolis Star and Tribune Co. for its surveys in 1964 and 1965. The criteria for the selection of the subsamples from the lists of respondents on sample surveys by the Star and Tribune were a favorable response to the question regarding the willingness to cooperate with the University in a research project, before-tax income of \$8,000 or more in the preceding year, and husband-wife family of two persons for families with incomes below \$10,000, and of two or more persons for those with incomes above \$10,000. The initial sample for the upper-income survey included 132 names from the spring 1964 survey by the Minneapolis Star and Tribune and 189 from the 1965 survey (table B.1). About 80 percent of each subsample completed the interviewing process, providing 257 sets of schedules.

B.1 Source of the Sample

The Minneapolis Star and Tribune's universe was defined as all Minneapolis-St. Paul households (occupied dwelling units) in the Standard Metropolitan Statistical Area (SMSA). The SMSA includes sections of Anoka, Dakota, Hennepin, Ramsey, and Washington Counties. In cities having a population of 2,500 or more, the sampling statistician specified the census tracts, the blocks and the number of interviews to be obtained from each block, while households at which the interviews were to be conducted were dependent upon the number of occupied dwelling units in each block. In the cities of Minneapolis and St. Paul every eighth household was contacted. If the interviewers could not find the respondents or they were not in the age range specified, they went to the adjacent household. The only quota assigned was the age of homemaker for which the distribution was based on census data. Interviewers made one call back per household.

To be eligible for the Minneapolis Star and Tribune's survey, respondents had to be females who were 18 years of age or more and who were responsible for the majority of the buying decisions in the household. The household had to have separate cooking facilities. Accordingly, people living in boarding houses and rooming houses were not included. One-third of the interviews for the survey by the Minneapolis Star and Tribune were conducted on evenings or weekends. From the 1,670 cases at all income levels in all family types in the survey by the Minneapolis Star and Tribune in spring 1964 came a list of 132 families who agreed to cooperate and who apparently had incomes and family characteristics which made them eligible for the University of Minnesota's survey. This list was used for the first round of interviewing which began in mid-April 1965.

¹ The statistical analysis and preliminary draft for this appraisal were prepared by Barbara J. McCandless under the general direction of W. Keith Bryant. Their assistance and that of several members of the Minneapolis Star and Tribune staff in the development of data used in this analysis are gratefully acknowledged.

Table B1. Characteristics of families in initial 1965 sample and subsequent stages of interviewing upper-income families in Minneapolis-St. Paul¹

Characteristics	Total Star-Tribune sample		Non-cooperators		Initial agreement		Completed		Cooperators		Early refusal		Later refusal		Other reasons ³	
	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent
Total	369	100	180	100	189	100	152	100	9	100	12	100	5	100	11	100
1. Residence																
Minneapolis	81	22	48	27	33	17	26	17	2	22	2	17	...	...	3	27
Suburban																
Hennepin County	146	38	72	40	74	39	59	39	2	22	8	67	1	20	4	37
Ramsey County	36	10	15	8	21	11	16	11	3	34	1	8	1	20	...	...
St. Paul	63	17	24	14	39	21	34	22	1	11	1	8	...	...	3	27
Anoka County	17	5	8	4	9	5	6	4	...	...	...	...	2	40	1	9
Dakota County	13	4	5	3	8	4	8	5	...	...	...	...	...	...	...	...
Washington County	13	4	8	4	5	3	3	2	1	11	...	...	1	20	...	...
2. Number in family																
2 persons	80	21	45	25	35	19	28	18	1	11	1	8	1	20	4	37
3 persons	54	15	29	16	25	13	22	14	...	...	1	8	...	...	2	18
4 persons	81	22	38	21	43	23	36	25	5	56	1	8	1	20	...	...
5 persons	76	21	32	18	44	23	34	22	3	33	4	34	...	...	3	27
6 persons	48	13	22	12	26	14	17	11	...	...	4	34	3	60	2	18
7 persons	18	5	10	6	8	4	7	5	...	...	1	8	...	...	...	...
8 persons or more	12	3	4	2	8	4	8	5	...	...	...	...	...	...	...	...
3. Income of family																
\$8,000 to \$9,999	32	9	22	12	10	5	9	6	...	...	...	...	...	...	1	9
\$10,000 to \$14,999	246	66	111	62	135	72	107	69	9	100	9	75	3	60	7	64
\$15,000 and over	91	25	47	26	44	23	36	25	...	...	3	25	2	40	3	27
4. Residence tenure ⁴																
Owner	328	89	158	88	170	90	133	88	9	100	12	100	5	100	11	100
Renter	40	11	21	12	19	10	19	12	...	...	...	...	...	...	...	...

Table B1. Characteristics of families in initial 1965 sample and subsequent stages of interviewing upper-income families in Minneapolis-St. Paul - (continued)

Characteristics	Total		Non-cooperators		Cooperators				Other reasons ³					
	Star-Tribune sample	number	number	percent	Initial agreement	Completed	Ineligible ²	Early refusal	Later refusal	Other reasons				
	number	percent	number	percent	number	percent	number	percent	number	percent				
5. Occupation of head of family														
Professional	115	31	49	27	66	35	6	67	4	33	1	20	5	46
Managerial	112	30	53	30	59	31	2	22	6	51	2	40	2	18
Clerical	52	14	30	17	22	12	...	...	1	8	1	20	1	9
Foremen and crafts-men	63	17	33	18	30	16	...	...	1	8	1	20	3	27
Operatives	18	5	8	4	10	5	...	...	...	...	...	...	...	...
Service workers	2	1	0	0	2	1	1	11	...	...	...	...	...	...
Others ⁵	7	2	7	4	0	0	...	...	...	...	...	...	...	...
6. Homemaker's occupation ⁴														
Full-time homemaker	265	72	134	75	131	68	5	56	11	92	4	80	9	82
Professional	29	8	10	6	19	10	2	22	...	...	...	...	...	...
Managerial	5	1	4	2	1	1	1	11	...	...	...	...	...	...
Clerical and sales	51	14	23	13	28	15	1	11	1	8	1	20	1	9
Craftsmen and foremen	4	1	0	0	4	2	...	...	...	...	...	...	1	9
Operatives	7	2	4	2	3	2	...	...	...	...	...	...	...	...
Domestic	1	...	0	0	1	1	...	...	...	...	...	...	...	...
Service	6	2	4	2	2	1	...	...	...	...	...	...	...	...
7. Number of hours worked per week by homemaker ⁶														
No hours	265	72	134	76	131	68	5	56	11	92	4	80	9	82
1 to 19	26	7	13	7	13	7	1	11	...	...	...	...	1	...
20 to 39	30	8	12	7	18	10	2	22	1	8	...	...	1	9
40 or more	43	12	17	10	26	14	1	11	...	...	1	20	1	9

Table B1. Characteristics of families in initial 1965 sample and subsequent stages of interviewing upper-income families in Minneapolis-St. Paul - (continued)

Characteristics	Total Star-Tribune sample		Non-cooperators		Initial agreement		Completed		Ineligible ²		Early refusal		Later refusal		Other reasons ³	
	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent
8. Age of homemaker in years																
Under 30	60	16	21	12	39	21	33	22	3	33	...	...	2	40	1	9
30 to 39	110	30	47	26	63	32	49	32	3	34	5	42	1	20	5	46
40 to 49	121	33	65	36	56	30	43	28	1	11	6	50	2	40	4	36
50 to 59	53	14	31	17	22	12	21	14	1	11	...	...	...	...	...	...
60 or more	25	7	16	9	9	5	6	4	1	11	1	8	...	...	1	9
9. Number of years of education of homemaker																
1 to 8	20	5	10	5	10	5	6	4	2	22	2	17	...	...	3	28
9 to 11	23	6	14	8	9	5	6	4	1	11	...	...	...	...	2	18
12	134	37	75	42	59	30	48	31	...	...	6	51	2	40	2	18
13	38	10	18	10	20	11	14	9	1	11	2	16	1	20	2	18
14 to 15	81	22	34	19	47	25	39	26	4	45	1	8	1	20	2	18
16	61	17	24	13	37	20	32	21	1	11	1	8	1	20	2	18
17	12	3	5	3	7	4	7	5	...	...	...	...	...	...	...	...
10. Age of youngest member in family																
Under 3 years	65	18	27	15	38	20	30	20	4	45	...	...	1	20	3	28
3 to 5	70	19	27	15	43	23	35	23	2	22	4	34	1	20	1	9
6 to 8	57	15	27	15	30	16	24	16	...	...	3	26	1	20	2	18
9 to 11	20	5	12	7	8	4	6	4	...	...	1	8	...	...	1	9
12 to 14	28	8	15	8	13	7	11	7	...	...	1	8	1	20	...	...
15 to 17	21	6	11	6	10	5	9	6	...	...	1	8	...	...	...	...
18 to 20	19	5	12	7	7	4	6	4	...	...	1	8	...	...	...	...
No one under 21	89	24	49	27	40	21	31	20	3	33	1	8	1	20	4	36

1 Based on data from the Research Department, Minneapolis Star-Tribune, Minneapolis-St. Paul, April and May 1965.
 2 Family income was too low, or household contained only one person.
 3 Circumstances made interview or completion of interview impossible, such as illness, family on vacation, etc.
 4 Missing data for one family in total Star-Tribune sample.
 5 Includes four laborers, two farmers, and one retired.
 6 Missing data for five families in total Star-Tribune sample and one family in initial agreement and in completed interview.

All interviewing for the survey was done by eight professional interviewers who had participated in special training sessions and who used schedules revised after a pretest. Initial contacts with the homemakers was by letter from the Department of Agricultural Economics, outlining the objectives of the study. Then each interviewer telephoned for appointments with cases assigned to her. The second sample for the survey came from the 1965 survey of the Minneapolis Star and Tribune which covered 2,000 households in the SMSA. Interviewing of these families began late in May, as soon as their names and characteristics were available from the MST survey. Most of the interviewing of both sets of cases were completed by the end of June, but a few carried over into July and the first week of August.

B.2 Analysis of the 1965 Subsample

Necessary data were available in 1965 only from the 1965 sample of the Minneapolis Star and Tribune to analyze the characteristics of eligible cooperators and noncooperating families. Out of the 2,000 households surveyed in 1965, 385 met the income and family size criteria for the upper-income survey by the University of Minnesota. Through oversight 16 families did not respond to questions regarding willingness to cooperate so they were omitted from the sample analysis, leaving a total of 369 eligible cases. Of this number 189 indicated in the Minneapolis Star and Tribune's survey their willingness to cooperate with the University, and 180 were classified as noncooperators at the outset. When our interviewers contacted them, another 12 refused outright to participate, 9 were found to be ineligible, and 11 were unable to complete interviewing for several kinds of family-related reasons, and 5 refused to complete participation after initial starts. Out of 189 starters, 152 cooperated completely, and 37 were counted as cooperating but did not complete the schedules.²

The Minneapolis Star and Tribune's survey obtained information regarding a number of socioeconomic characteristics relevant to analysis of variations in family expenditures. The Research Department of the Minneapolis Star and Tribune made the following sets of data available for cooperators and noncooperators for this appraisal: residence, occupation of the husband and wife, number of hours worked by the wife, family size, presence of children and age of the youngest child, education and age of homemakers, and before-tax income category for the preceding year.

The following hypotheses were tested by comparing the characteristics of cooperating and noncooperating families drawn from the 1965 sample:

1. Area of residence in metropolitan area does not differ significantly between cooperators and noncooperators.
2. Kind of residence does not differ significantly.
3. Occupation of head of household does not differ significantly.
4. Number in family does not differ significantly.
5. Age of youngest person in family does not differ significantly.

² Comparable data for the 1964 sample were 132 initial agreements, 4 initial refusals, 6 later refusals, 8 failures to complete for other reasons or because they could not be located, and 9 found to be ineligible.

6. Presence of children in the family does not differ significantly.
7. Age of homemaker does not differ significantly.
8. Number of years of education of homemaker does not differ significantly.
9. Proportion of full-time homemakers and those in the labor force does not differ significantly.
10. The number of hours the homemaker works per week does not differ significantly.
11. The annual income of the family does not differ significantly.
12. The occupation of the homemaker does not differ significantly.

Analysis of variance was used to test for differences between cooperators and noncooperators for the following continuous variables: number in family, age of youngest family member, age and number of years of education by homemaker, and number of hours worked weekly by the homemaker.

There were no significant differences between cooperators and noncooperators in the number in the family or in the number of hours worked by the homemaker. The average number of persons in the 189 cooperating families was 4.3, whereas it was 4.0 for the noncooperating families. The homemakers in the two groups of families who were employed outside their homes worked about the same number of hours per week (30), but 30 percent of the cooperating homemakers were employed compared with 24 percent of the noncooperators.

The youngest child in cooperating families was significantly younger. The homemakers were younger and better educated than those in noncooperating families. The average ages of the youngest child were 6.3 years for cooperators and 7.9 for noncooperators. Comparable averages for homemakers' ages were 39.5 and 43.1 years and their years of schooling were 13.4 and 12.9, respectively. These differences were significant at the 5 percent level or less.

For discrete variables, that is, those that are classifications, the Chi-square test was used to evaluate the differences between cooperators and noncooperators. This test was applied to area of residence, whether the dwelling was owned or rented, occupations of the homemaker and of the head of the household, and the income class for the family's 1964 income before taxes. No significant differences were found for five of these variables, but incomes of cooperating households ran significantly higher than for noncooperators. Differences in these variables are shown in table B.1.

In sum, the families of the homemakers who initially agreed to cooperate in the University of Minnesota's survey differed to a statistically significant degree from cooperators in age of youngest child, age and education of the homemaker, and in before-tax income. Fortunately, each of these variables can be and has been treated as a continuous variable in the multivariate analyses used in this bulletin to study expenditure patterns.

B.3 Other Relevant Data

The incidence of the socioeconomic factors used to appraise the sample and of other factors pertinent to food expenditure patterns among other groups of upper-income families is reported and discussed in sections 3.2 and 3.3. Section 4.3 provides a comparison of overlapping sets of data from the University of

Minnesota and the U.S. Bureau of Labor Statistics surveys for 1964 and 1963, respectively. Differences among the levels of a week's food expenditures indicated by the BLS urban surveys, the 1965 USDA Household Food Consumption Survey, and the University of Minnesota survey are appraised in chapter 8.

Appendix C MEASUREMENT OF CONSUMER VALUE ORIENTATION

Measurement of consumer value orientation is based on the psychology of cognition, available knowledge of consumer behavior, and procedures developed by psychologists for measurement of attitudes. This part of the study of the consumer behavior of upper-income families was developed by two young psychologists, George Graen and Ram K. Gupta.¹ The text of this appendix owes much to the descriptive materials they developed. It provides a brief introduction to some of the theoretical ideas underlying the measure; describes how it was developed and field tested and how the responses were scored. It also includes a discussion of some relationships among the components, with other value measures, and with socioeconomic characteristics of upper-income families.

C.1 Rationale Underlying the Construction of the CVO Measure

Graen's development of the CVO instrument was based on a number of ideas from cognitive theory in psychology. Consumer value orientation refers to the basic behavior pattern formed from past experiences and reflects the rather stable attitudes guiding consumer behavior. For our purposes, an attitude is defined as a predisposition or set to react in a positive or negative manner toward an object, where the object is capable of invoking feelings of likes or dislikes. An attitude is said to have cognitive, affective, and response tendency as its crucial components. The cognitive component consists of the beliefs of the individual about the object of attitude. Within the cognitive component are information beliefs, criteria beliefs, and evaluative beliefs. Information beliefs are the information about the object that the individual accepts as valid. Criteria beliefs are precepts regarding the favorableness or unfavorableness of the properties of the attitude objects. Evaluative beliefs involve the assigning of favorable or unfavorable properties to the objects.

The second major component of attitudes is the affective component. It consists of the emotions, connotations, or feeling tones that are associated with the object of attitude. The object is felt to be troublesome or rewarding or to one's liking or disliking. It is this component of attitudes that gives them a hyperactive, motivated appearance.

The third component of attitudes is the response tendency. It consists of an inclination to respond or to act in a positive or negative manner toward the object, the response or action being guided by the cognitive and affective components.

Studies on measuring attitudes are usually concerned with evaluating strengths of beliefs. In this study our concern is with those beliefs which serve as criteria for consumer purchases. We have assumed that an individual holds consistent, interrelated sets of criteria beliefs for objects within

¹ George Graen developed the survey instrument. Ram K. Gupta analyzed the responses and assisted in preparation of this appendix. Gupta is preparing a technical analysis of the measure, to be reported elsewhere. He is now assistant professor of psychology, University of Alberta.

homogeneous functional areas of consumer behavior. Because of our interests in family expenditures, we focus on cognitive criteria beliefs relevant to acquisition of family consumer goods. We seek to determine individuals' typical sets of criteria beliefs toward properties of consumer goods and to relate them to variations in expenditures.

We hypothesize that criteria beliefs include those common to the culture, those characteristic of certain reference groups, and those unique to an individual or to a family. The cultural criteria beliefs are the properties on which there is consensus within a culture as to their degree of desirability or undesirability. An example is the property of practicality that is sought as a favorable characteristic in many kinds of consumer goods. The group criteria beliefs have a much narrower range of consensus, being restricted primarily to the reference groups of a particular family. One example might be to regard the property of a low price as favorable. Unique criteria beliefs are those that an individual has acquired in his unique experiences. These may not be verbalized by the individual, but he may be able to say when an object is perceived as possessing the property.

Graen's construction of the CVO measure followed the usual procedures for constructing an attitude scale. He drew on his experience in measuring employee attitudes related to job satisfaction and on attitude measurement theory and procedures.²

In developing an attitude scale, the experimenter writes a set of statements in clear, concise, and straightforward language. Each statement represents a continuum which may have five, seven, or some other odd number of values or locations, ranging from the least to the most favorable ends of the continuum. The statements are supposed to constitute a random sample from a given domain or universe of attitude items. When a person attaches a quantitative value to a statement, he is generally not aware of the objectives of the experimenter.

When a random sample of N persons reacts to n such items or statements, the $n \times N$ total number of responses can be reduced to a $n \times n$ square and symmetrical matrix of correlations. When the interest of the experimenter is to identify the fundamental or basic dimensions represented in the correlation matrix, he would normally factor analyze the latter appropriately. When the interest is limited to such "dimensions" only and does not extend to the uniqueness of each of the statements, a very good method of analysis is what is known as principal axis factoring after inserting SMC's, that is, squared multiple correlations in the diagonal cells of the matrix.³ When this is done, the result is an $r \times r$ matrix of raw factors, where r is less than n . The raw factor matrix is then subjected to varimax, that is, variance maximization rotation in order

2 See Fishbein, Martin. Readings in Attitude Theory and Measurement. New York: John Wiley & Sons, 1967. The section by Rensis Likert, "The Method of Constructing an Attitude Scale," (pages 90 to 95) provides a good introduction to the subject.

3 See page 153. Cooley, William W. and Lohnes, Paul R. Multivariate Procedures for the Behavioral Sciences. New York: John Wiley & Sons, 1962.

to get a matrix of factor loadings for each of the n variables on each of the r factors. Such factors are called common factors and give a reasonably good idea about basic dimensions represented in the actual responses.⁴

C.2 Empirical Procedures Used

At the outset, Graen hypothesized that several types of consumer value orientation existed, including personal criteria beliefs regarding different categories of goods and a more general set of attitudes. His preliminary instrument included sets of statements regarding characteristics of entertainment appliances, characteristics that might determine the choice between two possible brands of television sets, characteristics of prepared mixes for casseroles in general, those related to making a choice between two brands of prepared noodle mixes, and statements regarding the characteristics and attitudes involved in buying consumer products in general. A five point scale was provided for the respondents to evaluate the degree of importance they attached to each of the statements.

To test this preliminary instrument, we chose blocks within the Twin Cities having high incomes according to census data, and selected names from a directory. We mailed out questionnaires with a covering letter explaining in a general way our reasons for studying consumer preferences. After several rounds of followup letters we obtained 123 usable schedules filled out by the wives. Data from these schedules were punched into cards for computer analysis.

Processing of the preliminary sets of data involved use of the varimax form of factor analysis and testing the reliability of the coefficient obtained in this analysis, using the Hoyt Interval Consistency Reliability Test. Graen eliminated the general test of consumership on the grounds that it was too general for our purpose and had low reliability. Then he pulled out the statements which had formed seven factors from the set related to entertainment appliances and the sets of statements forming two factors which were developed from the set on prepared mixes. The choices were made on the basis of higher reliability of the statements.

The factors identified and described by Graen and the statements with high loadings that were included in Schedule E, the final CVO instrument, are:

1. Family--This measure of family consumer orientation reflects the importance of making purchases that will satisfy and benefit the entire family. Family orientation will contribute to differences in the consumption patterns for products designed for family use. (5, 15, 25, 34)

2. Innovation--A measure of consumer leadership orientation that is comprised of being among the first in one's group to buy a novel product. Its major aspect is being a pacesetter in one's reference group. Leadership orientation will contribute to differences in the consumption patterns for new products. (1, 7, 11, 17, 21, 30)

⁴ The basic reference we consulted was Harman, Harry H. Modern Factor Analysis. Chicago: The University of Chicago Press, 1960.

3. Economy--This measure of consumer price orientation reflects attitudes of seeking products that are the lowest priced, on special sale, or bargain buys. Price orientation will lead to differences in the consumption patterns for high and low priced products. (8, 18, 27, 36)

4. Availability--A measure of market knowledge orientation of consumers that consists of knowledge as to location of the sources of supply, quantity of supply, and ease of acquisition for products. Market knowledge will contribute to differences in the consumption patterns for scarce products. (2, 12, 22, 31)

5. Reputation--This measure of consumer security orientation consists of seeking products that have established brand names that one can trust to be reliable. Security orientation will lead to differences in the consumption patterns for unfamiliar products and to emphasis on status items. (10, 20, 29, 38)

6. Taste--This measure of consumer independence orientation is comprised of making one's own purchasing decisions based primarily upon one's personal evaluation of the alternative products. Taste orientation will lead to differences in the consumption patterns for idiosyncratic products. (4, 14, 24, 33)

7. Convenience--The measure of time-and laborsaving consumer orientation is comprised of seeking time-and laborsaving items that will make work easier and leave more time for other activities. Time-and laborsaving orientation will contribute to differences in the consumption patterns for convenience products. (9, 19, 28, 37)

8. Function--This measure of the practicality aspect of consumer orientation, includes buying products that are practical in terms of performing a useful function in an efficient manner. Practicality orientation will lead to differences in the consumption patterns for products that are designed to serve a specific function. (6, 16, 26, 35)

9. Quality--The measure of consumer status orientation is made up of holding the quality of one's goods from falling below a specific, high level and endeavoring to raise this level to the highest one can afford. Status orientation will contribute to differences in the consumption patterns for status products. (3, 13, 23, 32) (This factor overlapped "taste" and was technically weak. Therefore, it will receive only passing reference in the following discussion.)

C. 3 The CVO Instrument

The CVO instrument (Schedule E) is a questionnaire designed for self-administration. It consists of 38 statements related to the characteristics of an "ideal product." The respondent is asked to evaluate each statement on a seven point scale, ranging from critically unimportant to critically important. In the survey of upper-income families, separate copies of the questionnaire were given to the husband and to the wife to fill out. Many more wives completed the schedule (250) than husbands. A preliminary test revealed that the responses of the husbands had low correlation with those of their wives. Because we had almost complete coverage for the wives, we used the wives' responses in the statistical analyses reported in this bulletin.

An attempt was made to identify the constructs or factors represented in the responses. For this purpose, SMC's (squared multiple correlations) were inserted in the diagonal cells of the correlation matrix yielded by the responses, the matrix was subjected to principal axis factoring, and the resulting raw factor matrix was rotated, using the varimax or variance-maximization criterion. Eleven factors were extracted, nine of which were used for calculating factor scores. The loadings on the selected nine factors for each of the 38 items of the questionnaire are given in table C.1, for wives' responses.

Similar tables⁵ of factor loadings were obtained for the responses of husbands and also those of wives and husbands considered as a single group.

The tables were inspected for the numerical size of the loadings. For factor I, for example, the items were arranged in terms of their loadings - items with very high loadings coming first and considered as belonging to that factor. As soon as a substantial drop in the size of the loadings was noticed, it was taken as a signal that the remaining items did not belong to factor I. Items under each of the remaining eight factors were treated similarly.

Items allotted to each of the nine factors in the case of the three samples (a) husbands and wives, (b) wives only, and (c) husbands only - are given in table C.2 where eigenvalues as well as factor loadings are included. The percentage column next to that captioned eigenvalues gives the percentage of each eigenvalue explained by the items included in the factor concerned.

It will be recalled that factor analytic techniques operate on correlation matrices. We were curious whether the results of factor analysis could be validated through the use of some other method of multivariate analysis applicable to variance-covariance matrices instead of correlation matrices. One such method is that by Loevinger⁶ called the method of homogeneous keying or simply cluster analysis. According to Fruchter, one of the differences between cluster and factor analyses is that "in the former each variable as a unit usually is placed in a cluster, whereas in the latter, different portions of the variance of a variable may be assigned to different factors."⁷ In other words, cluster analysis attempts to assign items to sub-tests on an all or none basis whereas factor analysis takes apart the variance or communality of an item into components representing various factors. Loevinger regarded the two techniques as complementary rather than competitive processes. In fact, while comparing her procedure of cluster analysis with factor analysis, she regarded the former as a more direct technique for objectively defining psychological characteristics.

5 These tables are not given here due to space limitations and to avoid repetition.

6 Loevinger, Jane. "A Systematic Approach to the Construction and Evaluation of Tests of Ability," Psychological Monograph, 1947, 61(4), pp. 1 to 49.

7 Fruchter, B. Introduction to Factor Analysis, New York, D. Van Nostrand Co., 1954, p. 12.

Table C.1 Loadings on nine factors obtained from wives' responses to the items of the CVO questionnaire

Factors	I	II	III	IV	V	VI	VII	VIII	IX
Item number	Family	Innovation	Economy	Availability	Reputation striving	Taste striving	Convenience	Function	Quality
1	-.203	.471	-.001	-.043	.069	.042	.047	-.031	-.056
2	-.014	-.027	.034	.641	.036	.063	.052	-.039	-.122
3	.085	-.004	.055	.205	-.194	.231	.007	-.269	-.081
4	.084	-.143	-.015	.171	-.021	.568	.042	-.224	.033
5	.759	.000	-.024	.065	-.131	.064	-.045	-.169	-.004
6	.282	-.125	.064	.083	.057	.084	-.201	-.463	.130
7	.019	.716	.104	.035	-.029	-.082	-.020	.072	-.064
8	-.043	.061	.691	-.113	-.117	.067	-.200	-.128	-.078
9	.076	-.071	.099	.056	-.087	.002	-.681	-.226	-.026
10	.041	.029	-.068	.036	-.793	-.006	-.118	-.046	-.074
11	-.029	.580	-.010	-.139	-.001	-.032	.036	-.075	.049
12	.027	-.128	.052	.668	-.065	.113	-.241	-.159	.123
13	.055	-.343	.028	.133	-.261	.279	-.125	-.241	.256
14	.086	-.065	-.161	.016	-.094	.624	-.061	-.131	-.008
15	.762	-.111	.109	.038	-.193	.065	-.162	-.039	.068
16	.286	-.033	-.079	.066	-.025	.116	-.209	-.385	.052
17	.086	.715	.062	-.008	-.096	-.017	.055	.073	.054
18	.070	.213	.584	.077	.126	-.022	-.059	.030	.012
19	.141	-.029	.059	.049	-.052	.057	-.784	-.070	.025
20	.076	.120	-.042	-.070	-.756	-.050	-.023	.109	.076
21	-.037	.791	.093	-.071	.001	-.128	.036	.027	.089
22	.065	-.072	-.002	.720	-.091	.071	-.016	-.034	.097
23	.031	.074	.015	.163	-.060	.305	-.051	-.122	.470
24	.013	-.097	-.024	.074	.077	.642	-.142	.097	.132
25	.823	.044	.041	.055	-.000	.051	-.131	-.047	.024
26	.268	-.017	.130	-.010	.037	-.061	-.444	-.272	.027
27	.089	-.012	.572	.072	.017	-.064	-.141	.086	.139
28	.040	-.029	.119	.019	.001	.120	-.762	.082	.082
29	.166	.169	.018	.031	-.331	-.009	-.008	-.029	.135
30	-.061	.701	.117	-.113	-.055	-.096	.021	.054	-.057
31	.043	-.067	.075	.626	.128	.111	-.098	.042	.183
32	.090	-.068	.202	.155	-.206	.228	-.087	-.001	.494
33	.065	-.019	.137	.100	.050	.500	-.052	.047	.198
34	.731	-.081	.102	-.023	-.045	.111	-.137	-.080	-.005
35	.226	-.162	.019	.055	-.005	.222	-.252	-.184	.008
36	.061	.116	.719	.083	.091	-.041	-.039	-.026	.056
37	.140	-.025	.127	.104	-.023	.100	-.804	.016	.015
38	.117	-.091	-.048	.010	-.571	.089	.012	-.104	.150

Table C.2 Factor loadings for nine CVO factors on 38 items and eigenvalues for the factors

Factor name and spouse	Eigenvalues	Percent explained	Item number and coefficient						
			34	15	5	25	...	...
Family									
Husbands and wives	2.671	87.1	.74	.76	.77	.78	...	...
Wives	2.867	82.3	.73	.76	.76	.82	...	...
Husbands	2.955	83.4	.77	.80	.81	.76	...	...
Innovation									
Husbands and wives	2.715	90.8	.79	.67	.65	.61	.59	.50	
Wives	3.075	88.0	.79	.70	.72	.72	.58	.47	
Husbands	2.362	92.4	.80	.60	.57	.50	.59	.51	
Economy									
Husbands and wives	1.964	87.2	.72	.67	.62	.60	...	...
Wives	1.904	86.9	.72	.69	.58	.57	...	...
Husbands	2.330	81.2	.72	.70	.65	.68	...	...
Availability									
Husbands and wives	2.127	88.8	.78	.66	.66	.64	...	...
Wives	2.042	86.8	.72	.67	.63	.64	...	...
Husbands	2.450	84.7	.86	.64	.71	.65	...	...
Reputation									
Husbands and wives	1.811	91.7	.79	.76	.54	.41	...	...
Wives	1.964	90.3	-.76	-.79	-.57	-.33	...	...
Husbands	2.025	89.5	-.80	-.75	-.60	-.50	...	...
Taste									
Husbands and wives	1.589	68.9	.61	.58	.50	.37	...	...
Wives	1.866	73.3	.62	.64	.57	.50	...	...
Husbands	.797	67.0	.48	.15	.53	.01	...	...
Convenience									
Husbands and wives	2.490	80.0	.74	.74	.69	.65	...	...
Wives	2.927	78.1	-.80	-.78	-.76	-.68	...	...
Husbands	1.981	79.3	-.74	-.62	-.57	-.56	...	...
Function									
Husbands and wives	1.216	73.4	.57	.50	.45	.34	...	...
Wives	.898	51.3	-.46	-.38	-.27	-.18	...	...
Husbands	1.731	79.7	-.67	-.59	-.52	-.46	...	...
Quality									
Husbands and wives	.754	64.5	.48	.39	.28	.16	...	...
Wives	.806	71.9	.49	.47	.20	.13	...	...
Husbands	1.632	55.0	-.50	-.51	-.41	-.47	...	...

Gupta applied, therefore, Loevinger's technique and got the results given in table C. 3 for the responses of wives.

Table C. 3 Clusters from wives' responses to CVO¹

Cluster	Items	Reliability of cluster
I Family	5, 15, 25, 34	. 862
II Innovation	7, 17, 21, 30	. 828
III Economy	8, 18, 27, 36	. 843
IV Availability	2, 12, 22, 31	. 765
V Reputation	10, 20, 38	. 750
VI Taster	4, 14, 24, 33	. 686
VII Convenience	9, 19, 28, 37	. 850

¹ Computed by Ram K. Gupta, using Loevinger's technique of Homogeneous Keying on a desk calculator. He has now developed a computer program at the University of Alberta, Edmonton, Canada, for IBM 360.

A comparison of the items of the first seven factors (table C. 2) and those of the seven clusters (table C. 3) shows remarkable similarity between the results given by the two techniques of multivariate analyses. The fact that clusters 8 and 9 could not be extracted can be explained by the presence of eigenvalues less than unity for the wives' responses on factors VIII and IX. When a factor has a low eigenvalue, the factor is not supposed to be clear-cut or stable and should, therefore, be discarded.

To calculate factor scores, the response of each individual to each item was multiplied by the factor loadings for that item on the nine factors. Such scores were used in all subsequent analyses.⁸

C. 4 Relationship among CVO Measures and with Other Measures

As part of an exploratory factor analysis, simple correlations among the CVO measures, with the Gordon value scales, and with some of the socioeconomic measures were calculated. The correlations among family, taste, quality, convenience, and function scores were quite high. Availability was closely correlated with taste, function, and quality. Taste associated with convenience, function, and quality (a factor that we recognize as weak). Innovation and economizing had low

⁸ Rotated factors may have high negative or positive loadings for the various statements, with the negative sign causing no difference in meaning. Therefore, the negative sign from the scores was ignored for the sake of convenience.

correlations with the other CVO measures and appeared to be relatively independent. Therefore, for later correlation analyses, scores on innovation, economizing, convenience, reputation striving, and taste striving were used as key measures of consumer value orientation.

The CVO measures had relatively little correlation with the Gordon value measures. This is interpreted to indicate that the two sets of value measures are concerned with different domains. For example, the CVO family measure was negatively correlated with the Gordon independence measure (having a simple correlation of $-.14$, and with benevolence $(+.14)$). The economizing measure was negatively correlated with independence $(-.13)$, and positively with recognition $(+.14)$. Reputation striving had about the same order of negative correlation with conformity, positive correlation with independence and with leadership, but all were less than $.15$. The convenience measure was positively correlated with conformity $(.16)$ and slightly less negatively correlated with leadership.

None of the CVO measures had a simple correlation with socioeconomic measures amounting to more than $.2$. Some examples follow. Innovation was associated slightly with wife's age $(.18)$. It had lower positive correlations with the monthly rental value of the home and income per person. Its correlation with family size was low and negative. The economizing measure had simple correlations of $-.1$ with hours worked by the wife and $-.16$ with per person income. The availability measure had negative correlations of $.1$ with wife's age and $.16$ with per person income, but a positive correlation with kind of saver.

In the early stages of the analysis, the author was greatly concerned about the lack of correlation between the consumer value orientation measures and other socioeconomic factors. Eventually came awareness that the independence of the CVO measures indicated that they were evaluating characteristics not reached by other socioeconomic factors. So the remarkable independence of the five measures selected for correlation analysis became an asset rather than a liability. The independence of these factors is also discussed in section 3.3.6 of the text. All of these five consumer value orientation measures were tested in some regression models. The three which appeared to be particularly valuable were reputation striving, economizing, and convenience. In the final runs reputation striving and economizing were most useful in explaining variations in food expenditures in general and expenditures for specific types of foods.

Appendix D SCHEDULES USED IN THE SURVEY OF CONSUMPTION
 PATTERNS OF UPPER-INCOME FAMILIES
 MINNEAPOLIS-ST. PAUL

Copies of the survey schedules are included here for reference use and for possible use in other surveys. A copy of the schedule for the Gordon value scale is not included because it is copyrighted. Several other schedules were used in the interviews, but data from them are not relevant to this food bulletin.

<u>Schedule</u>	<u>Identification</u>
A	Family Record
B - c (1)	1964 Recreation, etc. in Home City
B - c (2)	1964 Recreation, etc. outside Home City
B - e (1)	1964 Food outside Home City
B - e (2)	1964 Food in Home City
C	7-day Food, Selected Personal Supplies
E	Consumer Value Orientation
F	Financial Worksheets
G	Food Buying Practices
H	Housing
I	Family History

STUDY OF CONSUMPTION PATTERNS IN MINNEAPOLIS-ST. PAUL AREA

Conducted by the Department of Agricultural Economics,
University of Minnesota, Spring 1965

Assignment No. _____ Interviewer _____

Name _____ First Appointment _____

Address _____ FAMILY RECORD _____

Second Appointment _____

Telephone No. _____ Follow-up _____

1. Did you live in this metropolitan area throughout 1964? Yes _____ No _____
2. IF NO, ASK: In what locality did you live? _____
3. Was its population over 2,500? YES _____ NO _____
4. IF NO, ASK: How close to a city was it? _____ MILES.
5. IF MOVED IN 1964 OR 1965: When did you move to the Twin Cities? _____

NOTES:

THIS SHEET WILL BE REMOVED FROM YOUR FILE WHEN THE FILE IS COMPLETE.
YOUR NAME WILL NOT BE AVAILABLE THEREAFTER.

STUDY OF CONSUMPTION PATTERNS
IN MINNEAPOLIS-ST. PAUL AREA, SPRING 1965

(1) How many people live here, counting children, infants, servants, roomers and so on? _____

FULL-AND PART-YEAR MEMBERSHIP

HOUSEHOLD MEMBERSHIP AND DESCRIPTION (2A)	(3) Relation- ship to other members -notations	(4) Sex M=1 F=2	(5) Age on birth- day in 1964	(6)* A) Marital Status		(7) Was everyone living together as a household during all of 1964? Yes No	(7e)* During rest of year lived with		(7f)* Financially independent during rest of year?(7f)* YES NO
				B) Year Married			Total	Away	
				A	B					(b)	(c)	(d)	(e)
1. HUSBAND									
2. WIFE									
3. CHILD									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
(2B) Did anyone live with you in 1964 who is not here now?					YES NO				
11.									
12.									

DO NOT ASK QUESTIONS ABOUT ROOMERS, BOARDERS, OR SERVANTS LISTED UNDER 2B.

(7f) Paid for food, rent, and clothing with own money

(7e) Code for "lived with"

- P - Parents
- S - Spouse
- A - Alone
- I - Institution, military, abroad
- N - Newborn or deceased
- O - Other

(6)* ASK MARITAL STATUS AS OF DECEMBER 31, 1964 FOR ALL PERSONS OVER 14.

CONT'D

Members' identification from A-2	EDUCATION		OCCUPATION AND WORK STATUS IN 1964 -- number weeks				Other, ENTER CODE OR SPECIFY*
	(8) Highest grade completed		(9) Working for pay (or on paid vacation) as:		Retired	Going to school	
	Year in grade school (a)	Above grade school Code*8b (b)	Occupation (a)	IF FULL-TIME ALL YEAR. ENTER FT. IF NOT FULL-TIME, ENTER HOURS PER WEEK AND NO. WEEKS (b)			
	(a)	(b)	(a)	(b)	(b)	(c)	(d)
1. HUSBAND							
2. WIFE							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							

(8b) EDUCATION CODE

- 1 - 1-3 yrs. H.S.
- 2 - 4 yrs. H.S.
- 3 - H.S. + tech. tr.
- 4 - 1-3 yrs. college
- 5 - 4 yrs. college
- Over 4 yrs. college
- 6 - One year
- 7 - M.S. or 2 yrs. Prof. degree
- 8 - or 3 yrs. or more

(10d) EXAMPLES OF NONPAY STATUS

- 1 - Looking for work or on lay-off from job
- 2 - On unpaid absense from work, as for strike, unpaid vacation
- 3 - Ill, disabled, unable to work

SUPPLEMENT FOR CONSUMER UNIT DETERMINATION
 (for use with members financially independent of principal
 unit during part of 1964) AND NOTES

Relationship to head of principal unit (ENTER LINE NO. AND NOTE FOR RELATIONSHIP FROM A-2	(11) ASK OF RESPONDENT FOR PRINCIPAL UNIT -- In financial matters did you consider _____ part of your family or as a separate family in 1964? (CHECK) Part of family Separate (a) (b)		(12) Consumer unit number	(13) ASK OF HEAD FOR THE POTENTIAL CONSUMER UNIT: Were you financially independent last year? That is, did you pay for your food, rent, and clothing with your own money? Yes No IF NO, What items did you pay for yourself?															
				(a)	(b)	(c)	(d)	(e)	(f)										
				Food	Rent	Clothing	None												

SUMMARY NOTES (FOR LATER USE BY INTERVIEWER)

ITEM (a)				Total Expenditures in 1964
RECREATION—				
Spectator Admissions:				
1. Movies, indoor:				
OFFICE USE				
Number of admissions		0371-713		
Adults.....				
Children.....				
TOTAL.....				2300
TOTAL.....				3712-714
				\$.....
2. Movies, drive-in.....				
3. Spectator sports.....				
4. Concerts, plays, and other admissions.....				
				3713-715
Participant Sport:				
5. Dues for membership in athletic clubs.....				
6. Fees for indoor sports (bowling, billiards, etc.).....				
7. Fees for outdoor sports (golf course, tennis courts, etc.).....				
8. Hunting and fishing equipment and licenses.....				
9. Other sports equipment (excluding athletic uniforms and shoes).....				
				3714-712
Club Dues and Membership:				
10. Social and recreational clubs.....				
11. Other (excluding union dues and insurance premiums).....				
				3715-717
Hobbies:				
12. Cameras.....				
13. Other photographic equipment (films, etc.).....				
14. Collections (coins, stamps, albums, etc.).....				
15. Electronic instrument and amateur radio (except Hi-Fi sets and components).....				
16. Crafts (woodworking, model building, etc., excluding general purpose tools).....				
17. Pets (purchase, supplies, licenses, etc., excluding food).....				
18. Other hobbies.....				
				3716-713
Toys and Play Equipment:				
19. Dolls and accessories.....				
20. Stuffed toys and infants' toys.....				
21. Tricycles.....				
				3716-726
22. Wagons, skates, sleds, etc.....				
23. Mechanical toys.....				
24. Games and puzzles.....				
25. Children's playground goods and playground equipment.....				
26. Other toys and equipment (Specify).....				
27. Lump sum expenditures (to be used only when respondent is unable to itemize toy expenditures).....				

Schedule B-c (1) RECREATION, READING, AND EDUCATION IN HOME CITY

ITEM	Total Expense in 1964
47. Records and music supplies.....	\$ _____
48. Musical instruments purchased.....	\$ _____
49. Boat and canoe rent and upkeep (Include expense in and outside the home city area but exclude purchases of new or used boats.)	\$ _____
50. Is anyone in your family a member of a book club? YES _____ (1), NO _____ (2), DON'T KNOW _____ (9) IF YES, ASK: Which one (s) _____?	

NOTES

Schedule B-c (2) RECREATION, READING, AND EDUCATION
OUTSIDE YOUR HOME CITY AREA

ITEM	Net expense of family in 1964 (dollars)	For office use only
		<u>Col</u>
<u>Recreation:</u>		
1. Movies, theater and other expenditures	\$ _____	_____
2. Fishing, hunting and other sports	_____	_____
3. Other recreation expenses	_____	_____
4. SUBTOTAL (1-3)	_____	_____
<u>Reading:</u>		
5. Reading expenses away from home city (excluding school)	_____	_____
<u>School expenses:</u>		
6. Tuition and fees	_____	_____
7. Books and supplies	_____	_____
8. Fraternities, sororities (excluding room and board)	_____	_____
9. Other school expenses (excluding room and board)	_____	_____
10. SUBTOTAL (6-10)	_____	_____

NOTES:

Schedule B-e (1) EXPENSES FOR FOOD AND BEVERAGES IN 1964
 while temporarily OUT OF YOUR HOME CITY
 (e.g. outside your former home city or
 this Metropolitan Area)

Item	List net expense of family (exclude business expense)				Family total Dollars
	Notations for individuals			OPTIONAL	
	FMI	FM2	FM3		
1. Meals in restaurants, board, etc. (include students' ex- penses away at school, <u>ex- clude</u> all alcoholic beverages)	\$ _____	_____	_____		_____
2. Provisions (include only expenses outside your home city)	\$ _____	_____	_____		_____
3. Snacks, ice cream, soft drinks, etc.	\$ _____	_____	_____		_____
4. Beer, liquor and wine	\$ _____	_____	_____		_____
5. TOTAL (1-4)	\$ _____	_____	_____		_____

(2) FOOD AND ALCOHOLIC BEVERAGES IN HOME CITY, AND CLEANING

ITEM (a)	TOTAL IN 1964	ITEM No.
-------------	------------------	-------------

1. Did you prepare meals at home during 1964? Yes No. If no, skip questions 6 through 9(a).

If yes, did at least 1 family member regularly eat at least 10 meals per week at home, or in the form of lunches carried from home?
 Yes No.

Did any family member receive meals as pay (or at no cost) on the job? Yes No.

If yes, who were they? Family member(s) No. _____

How many meals per week? _____

Number of weeks in 1964 _____

How much were the meals worth? _____

Did your family share its food expenses with another family? Yes No.

F.M. No.
23
1214-721
OFFICE USE
2300
3110-717

4

6

7h

FOOD BOUGHT TO BE EATEN AT HOME OR FOR LUNCHES CARRIED FROM HOME

On the average how much do you usually spend at the grocery store \$_____ per week month _____ (other)

What other expenditures for food did you make that are not included in the amount spent in grocery stores?

ITEM	INCLUDED IN ITEM 6		IF NO, SOURCE OF PURCHASE	USUAL EXPENSE PER		
	Yes	No		Week	Month	Other
(a) Milk				\$.....	\$.....	\$.....
(b) Other dairy products						
(c) Eggs						
(d) Bread and other bakery products						
(e) Meats, poultry, and fish						
(f) Fresh fruits and vegetables						
(g) Other food items (Specify)						
.....						
.....						
(h) TOTAL				\$.....	\$.....	\$.....

3. The total of 6 plus 7 is \$_____ per _____ 1964. Did you in _____ spend more or less than this usual amount at certain times of the year?
 (Interviewer: Enter amount more or less per week, per month, or other period.)

OCTOBER THROUGH DECEMBER			JULY THROUGH SEPTEMBER			APRIL THROUGH JUNE			JANUARY THROUGH MARCH		
More	Wk.		More	Wk.		More	Wk.		More	Wk.	
Less	Mo.	\$.....	Less	Mo.	\$.....	Less	Mo.	\$.....	Less	Mo.	\$.....
	Other			Other			Other			Other	
About the same.....			About the same.....			About the same.....			About the same.....		
Don't know.....			Don't know.....			Don't know.....			Don't know.....		
\$.....			\$.....			\$.....			\$.....		

8

NOTES: _____

ITEM (a)		TOTAL IN 1964						ITEM No.	
CLEANING SUPPLIES, PAPER SUPPLIES, PET FOOD, TOBACCO, ALCOHOLIC BEVERAGES, AND PERSONAL CARE SUPPLIES								OFFICE USE	
								2300	
9. (a) Does the amount spent in grocery stores (Item 6) include any of the following non-food items?		(b) How much did you spend for these items in 1964?						3261-714	9
	YES	NO	BOUGHT IN GROCERY STORES			BOUGHT IN OTHER STORES			
			USUAL EXPENSE		TOTAL BY EXPENSE (e)	USUAL EXPENSE		TOTAL BY EXPENSE (h)	
			Week (c)	Month (d)		Week (f)	Month (g)		
10. Laundry supplies (soaps, detergents, bleach, starch, etc.)			\$	\$	\$	\$	\$	\$	10
11. Cleaning supplies (cleaners, polishes, scouring pads, sprays, sponges, waxes, etc.)									11
12. Household paper supplies (napkins, tissue, towels, wax paper, foil, paper cups and plates, etc.)									12
13. Pet foods									13
14. Tobacco:								3811-717	14
(a) Cigarettes								\$	(e)
(b) Cigars									(f)
(c) Tobacco, pipe and chewing, snuff									(g)
(d) Pipes, lighters, smokers' supplies									(h)
(e) TOTAL	x x	x x	x x x x x	x x x x x	\$	x x x x x	x x x x x	\$	
15. Alcoholic beverages (to be served at home or carried from home):									15
(a) Beer, ale, malt beverages									(e)
(b) Liquors (whiskey, gin, rum, etc.)									(f)
(c) Wines									(g)
(d) TOTAL	x x	x x	x x x x x	x x x x x	\$	x x x x x	x x x x x	\$	
16. Personal care supplies:								3621-716	16
(a) Toilet soaps								\$	(e)
(b) Dental needs (tooth-brushes, toothpaste, powder, mouth washes, etc.)									(f)
(c) Razors and blades									(g)
(d) Shavers, electric; shaver repair			x x x x x	x x x x x		x x x x x	x x x x x		(h)
(e) Shaving preparations and toiletries									(i)
(f) Cleansing tissues									(j)
(g) Face powder			x x x x x	x x x x x		x x x x x	x x x x x	\$	(k)
(h) Face and skin creams			x x x x x	x x x x x		x x x x x	x x x x x		(l)
(i) Shampoos, rinses, sprays and other hair and scalp preparations									(m)
(j) Home permanent kits and supplies			x x x x x	x x x x x		x x x x x	x x x x x		(n)
(k) Hair brushes, combs, clippers, nets, hairpins and other hair care equipment			x x x x x	x x x x x		x x x x x	x x x x x		(o)
								3621-725	

NOTES:

(2) FOOD AND ALCOHOLIC BEVERAGES IN HOME CITY AND CLEANING

ITEM (a)	TOTAL IN 1964								ITEM No.	
	OFFICE USE									
	2300									
	3621-733									
	YES	NO	BOUGHT IN GROCERY STORES			BOUGHT IN OTHER STORES				
			USUAL EXPENSE		TOTAL SY EXPENSE (e)	USUAL EXPENSE		TOTAL SY EXPENSE (h)		
			Week (c)	Month (d)		Week (f)	Month (g)			
CLEANING SUPPLIES, PAPER SUPPLIES, PET FOOD, TOBACCO, ALCOHOLIC BEVERAGES, AND PERSONAL CARE SUPPLIES—Continued										
Personal care supplies—Con.										
(l) Sanitary supplies.....										16
(m) Other cosmetics, toiletries and personal care items (nail polish, deodorants, perfumes, colognes, bath salts, lipstick, rouge, lotions, etc.).....									\$.....	(l)
(n) TOTAL.....	x x	x x	x x x x x	x x x x x	\$.....	x x x x x	x x x x x	\$.....		(m)
Other non-food items: (Specify).....										17
TOTAL (10+11+12+13+14(e)+15(d)+16(n)+17).....	x x	x x	x x 1964	x x x x x	\$.....	x x x x x	x x x x x	\$.....	\$.....	18
Did you make any large or bulk purchases of food in 1964, such as fruits, meats, or vegetables for home canning, home freezer, etc., which are not reported above? <input type="checkbox"/> Yes <input type="checkbox"/> No.										
If Yes, specify items bought and amount spent in 1964.....										
Did you purchase any prepared foods or beverages in 1964 (not included in items 6 or 7) from carry-out shops, caterers, delicatessens, etc., for parties, weddings or other occasions? <input type="checkbox"/> Yes <input type="checkbox"/> No.										
If Yes, how much did you spend?.....										
1964										
TOTAL AT-HOME FOOD EXPENDITURES IN / (for editor).....										
FOOD BOUGHT AND CONSUMED AWAY FROM HOME IN HOME CITY BY FAMILY MEMBERS LIVING AT HOME										
Board (unless reported in Section C).....										
Meals in cafeterias, restaurants and other eating places outside the home.....										
(a) At work:										
Family member No.			23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>					
			3121-711	3121-711	3121-711					
Total expense.....			\$.....	\$.....	\$.....					
(b) At school:										
Family member No.			23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>					
			3121-711	3121-711	3121-711					
Total expense.....			\$.....	\$.....	\$.....					
(c) Other meals away from home: Excludes <input type="checkbox"/> alcoholic beverages.....										
Includes <input type="checkbox"/>										
(d) Alcoholic beverages in bars, cocktail lounges, restaurants and taverns (not included above).....										
(e) TOTAL.....										
Between-meals foods (candy, coffee, ice cream, snacks, soft drinks, etc.).....										
TOTAL (items 24, 25(e) and 26).....										

ITEM (a)	TOTAL IN 1964	ITEM No.
	2300	

30. If family GAVE gifts to persons outside the family of the items below, how much was spent?

(a) Food.....	\$.....	30(a)
(b) Candy.....		(b)
(c) Cigarettes, cigars, tobacco, smokers' supplies.....		(c)
(d) Alcoholic beverages.....		(d)
(e) Personal care items.....		(e)
(f) Household supplies.....		(f)
(g) Total question 30.....	\$.....	(g)

4212-736
\$.....
1299-733

FOOD RAISED FOR FAMILY USE

31. Did the family raise any food for its own use? Yes No . If yes, ask items 32-35.

32. How much would this food have cost if bought in a store?..... 32

33. How much did the family spend for supplies (e.g., seed, plants, feed, baby chicks, fertilizers, etc.), excluding expenses reported in H-17..... \$..... 33

34. Did the family sell any home produced food to others? Yes No .

35. If yes, how much did the family receive?..... 35

If respondent indicated in items 14 and 15 that he purchased tobacco, or alcoholic beverages to be served at home or carried from home, record answer to questions below.

LAST PURCHASE

36. When did any member of the family last buy the items listed below, and how much did the family spend for them?

DATE	USE)	OFFICE	AMOUNT SPENT	
(a) Coffee (except instant).....	0811-801		\$.....	36 (
(b) Cigarettes.....	0881-801			(
(c) Beer or ale.....	0882-801			(
(d) Whiskey, gin, brandy, or other liquor.....	802			(
(e) Wine.....	803			(

Interviewer: Enter date question 36 was completed.....
 Month / Day / Year

NOTES:

.....

.....

.....

.....

.....

.....

Conducted by the Department of Agricultural Economics,
University of Minnesota, Spring 1965

CITY

ADDRESS

.....

C

(For editor)

CITY	SCHEDULE NO.	CARD NO.
		MASTER 41 DETAIL 42

FOOD AND BEVERAGES, PERSONAL CARE AND HOUSEHOLD SUPPLIES AND TOBACCO ITEMS PURCHASED IN A 7-DAY PERIOD

Fill in this questionnaire only if at least one family member regularly eats at least 10 meals a week at home or carried from home

FOOD AND BEVERAGES, PERSONAL CARE AND HOUSEHOLD

I. FAMILY AND CONSUMER UNIT COMPOSITION DURING PAST 7 DAYS; NUMBER OF MEALS EATEN AT HOME OR HOME DURIN

From _____ (Date) Through _____ (Date)

Relationship to head of family (a)	Relationship to other members (b)	MACHINE TAB. CODE		OFFICE USE (d)	Sex Male-1 Female-2 (e)	Age on birth-day during SY (f)	NUMBER OF MEALS FROM FAMILY FOOD SUPPLIES (g)		
		Section	Item				Breakfast	Lunch	Dinner (Supper)
Head (husband if present)		01	0041	001					
		02		001					
		03		001					
		04		001					
		05		001					
		06		001					
		07		001					
		08		001					
		09		001					
		10		001					
Other persons living here, not family members									
		11	0041	001					
		12		001					
		13		001					
Persons, not living here, who had one or more meals from family food supplies in past 7 days									
		14	0041	001					
		15		001					
		16		001					
Total	x x x x x x x	x x	0041	000					

- Did your family share its food expenses with another family during the past 7 days? Yes 1 No
- Is the housewife working outside the home? Yes 1 No
IF "YES," how many hours did she work during this 7-day period? _____ Hou
- Do you own a home freezer or rent a frozen food locker? Yes 1 No
IF "YES," did you make any large purchases for storage during the past 7 days? Yes 1 No
List the item numbers from section II for such purchases _____

II. RECORD OF EXPENDITURES FOR FOOD

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	PRICE		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
EXAMPLE: Milk, evaporated.....	x x x	x x x		14 1/2 oz. ca.	6	2 (for)	\$0.35	\$ 1.05
MILK, CREAM, AND ICE CREAM	3100	111					\$	\$
1. Evaporated and condensed milk.....		112						
2. Fresh milk, bought in stores.....		113						
3. Fresh milk, delivered.....		114	x x x	x x x	x x x x	x x x	x x x x	
4. Half and half, buttermilk, skim milk, and chocolate milk.....		118	x x x	x x x	x x x x	x x x	x x x x	
5. Malted milk, and other prepared milk powders.....		215						
6. Powdered milk.....		221						
7. Powdered cream.....		222						
8. Cream: sweet, sour, and whipping cream.....		228						
9. Ice creams, sherbets, ice milk, popsicles, etc.....		229	x x x	x x x	x x x x	x x x	x x x x	
10. Other milk, cream, and ice cream.....								
CHEESE	3200	338						
11. American cheese, other solid cheese.....		339						
12. Cheese spreads.....		348						
13. Cottage cheese, other soft cheese.....								
X.....								
X.....								
14. Subtotal (1-13).....	3000	900	x x x	x x x	x x x x	x x x	x x x x	\$
EGGS	5300	110					\$	\$
15. Eggs.....								
FLOUR	1110	118					\$	\$
16. White flour, all purpose.....		119	x x x	x x x	x x x x	x x x	x x x x	
17. Cake flour, whole wheat flour, soybean and other flour.....								
PREPARED FLOUR MIXES	1120	111						
18. Biscuit and roll mix.....		112						
19. Cake mix.....		113						
20. Muffins, gingerbread, etc.....		114						
21. Pancake and waffle mix.....		115						
22. Pie mix and fillings.....		116	x x x	x x x	x x x x	x x x	x x x x	
23. Other prepared flour mixes.....								
READY-TO-EAT BREAKFAST CEREALS	1130	111						
24. Cornflakes.....		112						
25. Wheat cereals.....		113	x x x	x x x	x x x x	x x x	x x x x	
26. Other ready-to-eat cereals (rice, bran, etc.).....								
X.....								
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section (b)	Item (b)				No. of units in price	Amount	
CEREAL PRODUCTS								
Bread crumbs, cracker meal and prepared stuffings.....	1140	118	x x x	x x x	x x x x	x x x	x x x x	\$.....
Cornmeal.....		119					\$.....	
Cornstarch, rice flour, and other thickening.....		128	x x x	x x x	x x x x	x x x	x x x x	
Cerits and hominy.....		129						
Macaroni, spaghetti, noodles, etc.....		138	x x x	x x x	x x x x	x x x	x x x x	
Rice (Specify kind).....		139						
Rolled oats (oatmeal).....		141						
Wheat cereals (cooked).....		142						
Other cereals (barley, etc.).....		143	x x x	x x x	x x x x	x x x	x x x x	
BAKERY PRODUCTS								
Plain rolls, biscuits and muffins (baked or partially baked).....	1200	118						
Soda crackers (including saltines).....		121						
Other crackers.....		122						
White bread.....		131						
Whole and cracked wheat bread.....		132						
Other bread (rye, pumpernickel, french, etc.).....		133						
Cake, pies, pastry (ready-to-eat).....		141	x x x	x x x	x x x x	x x x	x x x x	
Cookies (Specify kind).....		142						
Coughnuts.....		143						
Sweet rolls, coffee cake, etc.....		144	x x x	x x x	x x x x	x x x	x x x x	
Other bakery products.....		149	x x x	x x x	x x x x	x x x	x x x x	
Subtotal (16-46).....	1000	900	x x x	x x x	x x x x	x x x	x x x x	\$.....
(FRESH AND FROZEN)								
Round steak.....	2113	111					\$.....	\$.....
Flloin steak.....		112						
Other steak.....		113						
Beef liver.....		129						
Round beef (hamburger).....		139						
Roast (chuck).....		141						
Roast (rib).....		142						
Other roast (rump, brisket, etc.).....		143						
Other beef (corned, dried, soupbone).....		199	x x x	x x x	x x x x	x x x	x x x x	

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
VEAL (FRESH AND FROZEN)								
57. Calves liver.....	2123	129					\$.....	\$.....
58. Cutlet, steak, chops.....		210						
59. Roast.....		240						
60. Stew meat, and other veal.....		299	x x x	x x x	x x x x	x x x	x x x x	
PORK (FRESH AND FROZEN)								
61. Chops (center cut).....	2133	114						
62. Chops (end cut).....		115						
63. Ham, fresh, whole and half.....		143						
64. Sausage, fresh.....		169						
65. Loin roast.....		242						
66. Other fresh pork (liver, spareribs, etc.).....		299	x x x	x x x	x x x x	x x x	x x x x	
PORK, SMOKED OR CURED								
67. Bacon.....	2134	171						
68. Ham, slices.....		245						
69. Ham, whole and half.....		343						
70. Picnics (shoulder).....		344						
71. Salt pork (bellies, jowls, fatbacks).....		372						
72. Other pork (butts, Canadian bacon, etc.).....		499	x x x	x x x	x x x x	x x x	x x x x	
LAMB (FRESH AND FROZEN)								
73. Chops (loin).....	2143	114						
74. Chops (rib).....		115						
75. Leg.....		140						
76. Other lamb (breast, shoulder, stewing, patties, shank, etc.).....		199	x x x	x x x	x x x x	x x x	x x x x	
VARIETY MEATS								
77. Cold cuts (bologna, salami, boiled ham, etc.).....	2154	159	x x x	x x x	x x x x	x x x	x x x x	
78. Frankfurters.....		168						
79. Smoked sausage.....		169						
80. Tongue, heart, kidney, tripe, brains, etc.....	2153	199						
81. Rabbit, game, and other meat (fresh, frozen, or smoked).....	2156	199	x x x	x x x	x x x x	x x x	x x x x	
CANNED MEATS								
82. Ham.....	2135	143						
83. Pressed ham.....		144						
84. Other canned meat (vienna sausage, deviled ham, potted meat).....	2155	199	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								
X.....								
X.....								
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
POULTRY								
HICKEN (FRESH)								
35. Fryers and broilers, cut-up or whole.....	2211	111					\$	\$
36. Parts (sold separately) breasts, thighs, wings, liver, etc.....		112						
37. Other chicken, cut-up or whole.....		199						
HICKEN (FROZEN)								
38. Breasts, thighs, legs, wings, backs, etc. (boxed, packaged).....	2212	112						
39. Whole chicken.....		211						
URKEY								
40. Turkey, fresh or frozen.....	2223	110						
OTHER POULTRY								
41. Duck, goose, guinea, cornish hens, etc. (fresh or frozen).....	2233	110	x x x	x x x	x x x x	x x x	x x x x	
POULTRY (CANNED)								
42. Chicken and other poultry, canned.....	2235	110	x x x	x x x	x x x x	x x x	x x x x	
FISH AND SEAFOOD (FRESH OR FROZEN)								
43. Fish, whole.....	2313	101						
44. Fillets and steak.....		102						
45. Shell fish (shrimp, crab, lobster, scallops, oysters, clams, etc.).....		103	x x x	x x x	x x x x	x x x	x x x x	
FISH (CANNED)								
46. Tuna.....	2315	104						
47. Salmon.....		105						
48. Other canned fish (sardines, oysters, etc.).....		106	x x x	x x x	x x x x	x x x	x x x x	
OTHER FISH AND SEAFOOD								
49. Fish, cured and smoked.....	2314	107	x x x	x x x	x x x x	x x x	x x x x	
50. Other fish and seafood.....	2316	109	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								
1. Subtotal (48-100).....	2000	900	x x x	x x x	x x x x	x x x	x x x x	\$
FRESH FRUITS								
51. Apples.....	4111	118					\$	\$
52. Bananas.....		119						
53. Berries (Specify).....		126						
54. Grapefruit.....		131						
55. Grapes.....		148						
56. Lemons and limes.....		232						
57. Melons.....		249						
58. Oranges.....		333						
59. Peaches.....		358						
60. Pears.....		359						
61. Tangerines and other citrus fruits.....		434	x x x	x x x	x x x x	x x x	x x x x	
62. Other fresh fruit.....		999	x x x	x x x	x x x x	x x x	x x x x	
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE (b)		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price (f)		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
FROZEN FRUITS								
114. Strawberries.....	4112	121					\$.	\$.
115. Peaches.....		158						
116. Berries (other than strawberries).....		226						
117. Other frozen fruits (Specify).....		999	x x x	x x x	x x x x	x x x	x x x x	
CANNED FRUITS								
118. Apples, apple sauce.....	4113	118						
119. Fruit cocktail and segments.....		129						
120. Peaches.....		158						
121. Pears.....		159						
122. Pineapples.....		179						
123. Other canned fruits.....		999	x x x	x x x	x x x x	x x x	x x x x	
FRUIT JUICES, FRESH								
124. Orange juice.....	4121	133						
125. Other (Specify).....		999	x x x	x x x	x x x x	x x x	x x x x	
FRUIT JUICES, FROZEN								
126. Grape juice.....	4122	148						
127. Lemonade.....		232						
128. Mixed fruit juice (Specify).....		269						
129. Orange juice.....		333						
130. Pineapple juice.....		379						
131. Other fruit juices (Specify).....		999						
FRUIT JUICES, CANNED OR BOTTLED								
132. Apple juice.....	4123	118						
133. Grape juice.....		148						
134. Mixed fruit juices (Specify).....		169						
135. Orange juice.....		233						
136. Pineapple juice.....		279						
137. Other juices.....		999	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
VEGETABLE JUICES, CANNED OR BOTTLED								
138. Mixed vegetable juices.....	4223	158					\$	\$
139. Tomato juice.....		178						
140. Other vegetable juices.....		199						
FRESH VEGETABLES								
141. Asparagus.....	4211	119						
142. Beets.....		129						
143. Broccoli, brussels sprouts.....		130						
144. Cabbage.....		133						
145. Carrots.....		138						
146. Cauliflower.....		234						
147. Celery.....		239						
148. Corn, sweet.....		248						
149. Cucumbers.....		249						
150. Lettuce, head or leaf.....		251						
151. Lima or kidney beans.....		321						
152. Onions, dry.....		359						
153. Peas.....		424						
154. Potatoes, white.....		461						
155. Snap beans, green or wax.....		522						
156. Spinach, kale, or other cooking greens.....		570						
157. Sweet potatoes, yams.....		662						
158. Tomatoes.....		678						
159. Turnips and rutabagas.....		735						
160. Other salad greens.....		752	x x x	x x x	x x x x	x x x	x x x x	
161. Other fresh vegetables (squash, radishes, peppers, zuchini, okra, etc.).....		999	x x x	x x x	x x x x	x x x	x x x x	
FROZEN VEGETABLES								
162. Asparagus.....	4212	119						
163. Broccoli.....		131						
164. Brussels sprouts.....		132						
165. Corn, cut.....		148						
166. Green beans.....		222						
167. Lima beans.....		321						
168. Mixed vegetables (peas and carrots, succotash, etc.).....		358						
169. Peas.....		424						
170. Spinach.....		471						
171. Other frozen vegetables.....		999	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (e)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)					(f)		
VEGETABLES, CANNED OR BOTTLED								
172. Asparagus.....	4213	119					\$.....	\$.....
173. Beets.....		129						
174. Corn, cream style or whole kernel.....		148						
175. Lima and kidney beans.....		221						
176. Peas, green.....		224						
177. Potatoes, white or sweet.....		260						
178. Snap beans, green or wax.....		322						
179. Tomatoes.....		378						
180. Other canned vegetables (Specify).....		999	x x x	x x x	x x x x	x x x	x x x x	
DRIED FRUITS, VEGETABLES								
181. Beans, peas, lentils, corn for popping.....	4214	120						
182. Prunes.....	4114	168						
183. Raisins.....	4114	248						
184. Other dried fruits.....	4114	999	x x x	x x x	x x x x	x x x	x x x x	
185. Other dried vegetables.....	4214	999	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								
186. Subtotal (102-185).....	4000	900	x x x	x x x	x x x x	x x x	x x x x	\$.....
SOUPS								
187. Chicken soup, canned.....	5103	110					\$.....	\$.....
188. Tomato soup, canned.....		178						
189. Vegetable soup, canned.....		258						
190. Other canned soups.....		299						
191. Frozen soups.....	5102	299						
192. Dried soups.....	5104	299						

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
PREPARED OR PARTIALLY PREPARED DISHES, CANNED, BOTTLED, PACKAGED, BULK								
93. Baked beans.....	5213	158					\$.....	\$.....
94. Chicken with noodles, chicken a la king, etc.....		159	x x x	x x x	x x x x	x x x	x x x x	
95. Chili con carne.....		168	x x x	x x x	x x x x	x x x	x x x x	
96. Chow mein, chop suey.....		169	x x x	x x x	x x x x	x x x	x x x x	
97. Coleslaw and other prepared salads.....		178	x x x	x x x	x x x x	x x x	x x x x	
98. Corned beef hash.....		179						
99. Enchiladas, tamales, etc.....		188	x x x	x x x	x x x x	x x x	x x x x	
00. Sauerkraut.....		189						
01. Spaghetti with sauce or meat balls.....		281						
02. Other prepared dishes (Spanish rice, macaroni and cheese, instant mashed potatoes, etc.) (Specify).....		282	x x x	x x x	x x x x	x x x	x x x x	
93. Potato chips.....		360						
04. Corn chips, popped corn and other snacks.....		448	x x x	x x x	x x x x	x x x	x x x x	
05. Prepared dishes and dinners carried out of restaurants.....		529	x x x	x x x	x x x x	x x x	x x x x	
PREPARED OR PARTIALLY PREPARED DISHES (FROZEN)								
06. Fish sticks.....	5212	118						
07. Meat, poultry, or fish pies.....		119						
08. Prepared dinners.....		138						
09. Fruit, berry, and cream pies.....		231						
10. Other desserts.....		232	x x x	x x x	x x x x	x x x	x x x x	
11. French fried onions.....		249						
12. French fried potatoes, puffs, or patties.....		260	x x x	x x x	x x x x	x x x	x x x x	
13. Other frozen prepared dishes (Specify).....		329	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)					(f)		
FATS AND OILS								
214. Butter.....	5400	111					\$	\$
215. Lard.....		112						
216. Margarine.....		113						
217. Other shortening.....		114						
218. French and other salad dressings.....		121						
219. Mayonnaise and cooked dressings.....		122						
220. Peanut butter.....		139						
221. Salad and cooking oils.....		149						
222. Other fats and oils.....		159	x x x	x x x	x x x x	x x x	x x x x	
SUGAR AND OTHER SWEETS								
223. Candy.....	5500	111						
224. Chewing gum.....		112						
225. Icing, fudge mixes, etc.....		113						
226. Jellies, jams, preserves, apple butter, etc.....		118						
227. Molasses, honey, etc.....		119						
228. Pudding and gelatin mixes.....		129						
229. Sugar, brown.....		221						
230. Sugar, white, granulated, cube, powdered, etc.....		222						
231. Syrup, corn or maple.....		231						
232. Syrup, chocolate and other flavored.....		232						
233. Other sweets (glazed fruits, etc.).....		239	x x x	x x x	x x x x	x x x	x x x x	
COFFEE, TEA								
234. Cocoa.....	5610	139						
235. Coffee, in bags.....		141						
236. Coffee, in cans.....		142						
237. Coffee, instant (powdered).....		143						
238. Cereal beverages (coffee substitutes).....		149						
239. Tea in bags or leaves.....		151						
240. Tea concentrates.....		152						
NONALCOHOLIC BEVERAGES								
241. Cola drinks.....	5620	161						
242. Ginger ale.....		162						
243. Other carbonated drinks.....		163						
244. Noncarbonated fruit drinks, liquid or concentrate.....		171						
245. Other noncarbonated drinks.....		172						
X.....								
X.....								

II. RECORD OF EXPENDITURES FOR FOOD—Continued

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
BABY AND JUNIOR FOODS								
46. Cereals.....	5700	118					\$.....	\$.....
47. Puddings.....		119						
48. Soups.....		129						
49. Strained and chopped fruits.....		221						
50. Strained and chopped meats.....		222						
51. Strained and chopped mixtures.....		223						
52. Strained and chopped vegetables.....		224						
53. Other prepared baby foods including formula ingredients (Specify).....		339	x x x	x x x	x x x x	x x x	x x x x	
OTHER FOODS								
54. Baking powder, soda, yeast.....	5800	131	x x x	x x x	x x x x	x x x	x x x x	
55. Extracts, flavors.....		132	x x x	x x x	x x x x	x x x	x x x x	
56. Olives.....		141						
57. Relishes, pickles.....		142						
58. Salt, spices, seasonings, and other condiments.....		151	x x x	x x x	x x x x	x x x	x x x x	
59. Tomato catsup, chili paste, other sauces and gravies.....		152	x x x	x x x	x x x x	x x x	x x x x	
60. Nuts, in shell.....	5800	211						
61. Nuts shelled.....		212						
62. Other food items (Specify).....		169	x x x	x x x	x x x x	x x x	x x x x	
X.....								
X.....								
53. Subtotal (15+187 through 262).....	5000	900	x x x	x x x	x x x x	x x x	x x x x	\$.....
54. Total (14+47+101+186+263).....	0000	900	x x x	x x x	x x x x	x x x	x x x x	\$.....
ALCOHOLIC BEVERAGES								
35. Beer and ale.....	6100	169					\$.....	\$.....
36. Blended whisky.....		171						
37. Bourbon or Scotch whisky, straight rye.....		172						
38. Gin, rum, brandy, cordials, vodka.....		189						
39. Wines.....		198						
70. Other alcoholic beverages (Specify).....		199						
X.....								
X.....								
71. Total (265-270).....	6000	900	x x x	x x x	x x x x	x x x	x x x x	\$.....

III. PERSONAL CARE AND HOUSEHOLD SUPPLIES

ITEM (a)	MACH. TAB. CODE		OFFICE USE (c)	Size of unit bought (d)	Number of units bought (e)	Price		Amount spent (Exclude tax) (g)
	Section	Item				No. of units in price	Amount	
	(b)								(f)
PERSONAL CARE SUPPLIES	7100	110					\$	\$
		121	x x x	x x x	x x x x	x x x	x x x x	
		122	x x x	x x x	x x x x	x x x	x x x x	
		131	x x x	x x x	x x x x	x x x	x x x x	
		132	x x x	x x x	x x x x	x x x	x x x x	
6. Face powder.....		141	x x x	x x x	x x x x	x x x	x x x x	
7. Face creams, skin creams, and lotions.....		142	x x x	x x x	x x x x	x x x	x x x x	
8. Shampoos, rinses, sprays, and other hair preparations.....		151	x x x	x x x	x x x x	x x x	x x x x	
9. Home permanent kits.....		152	x x x	x x x	x x x x	x x x	x x x x	
10. Hairbrushes, combs, nets, pins, etc.....		153	x x x	x x x	x x x x	x x x	x x x x	
		158	x x x	x x x	x x x x	x x x	x x x x	
12. Deodorants, perfumes, colognes, bath salts, etc.....		243	x x x	x x x	x x x x	x x x	x x x x	
13. Lipstick, rouge, nail polish, etc.....		244	x x x	x x x	x x x x	x x x	x x x x	
TOBACCO								
32. Cigarettes.....	8200	111						
33. Cigars.....		112						
34. Other tobacco.....		113						
35. Smokers' supplies (pipes, lighters, etc.).....		114	x x x	x x x	x x x x	x x x	x x x x	
FOOD FOR PETS								
36. Biscuits, pellets or meal.....	8100	111						
37. Canned.....		112						
X.....								
X.....								

IV. SUPPLEMENT FOR SCHEDULE C

A. There has been some talk about the way people feel about the quality and quantities of foods they eat. Would you tell me how you feel about this?

Suppose you had a few dollars more to spend each week for food. How would you spend it? CIRCLE ONE NUMBER FOR EACH OF THE 9 STATEMENTS.

	Strongly agree	Agree	Unde- cided	Dis- agree	Strongly disagree	Office use
1. I would buy more or better red meats	1	2	3	4	5	
2. I would buy more or better vegetables	1	2	3	4	5	
3. I would buy more or better dairy products	1	2	3	4	5	
4. I would buy more or better fruits	1	2	3	4	5	
5. I would buy more or better poultry products	1	2	3	4	5	
6. I would buy more or better fish and seafoods	1	2	3	4	5	
7. I would buy more or better party foods and beverages	1	2	3	4	5	
8. I would buy more or better bakery goods and mixes ..	1	2	3	4	5	
9. I would buy more or better prepared frozen foods ...	1	2	3	4	5	

B. In total, how much additional money per week would it require to buy the amount and quality of foods you feel your family would like?

Please
~~HAND CARD TO RESPONDENT AND CIRCLE CODE FOR RESPONSE~~

- 1 Don't need to spend any more
- 2 Under \$2.50
- 3 \$ 2.50 - 4.99
- 4 \$ 5.00 - 7.49
- 5 \$ 7.50 - 9.99
- 6 \$10.00 - 14.99
- 7 \$15.00 - 19.99
- 8 \$20.00 or more

Schedule E CONSUMER VALUE ORIENTATION

Think of your ideal product. What characteristics does it have? How important is each of these characteristics? To help you answer these questions, below is a list of things some people consider before buying a product. Most of these things are important for some products and unimportant for others. Given this list, you are to indicate how important or unimportant each of these items is in the make-up of your ideal product.

- * Read each statement carefully.
- * Decide how important or unimportant the characteristic is in your ideal product.

.....If you would never include it under any circumstances, circle the number under CRITICALLY UNIMPORTANT (CU).

.....If it is VERY UNIMPORTANT, circle the number under (VU).

.....If it is UNIMPORTANT, circle the number under (U).

.....If you do not know or cannot decide or if it is neither UNIMPORTANT nor IMPORTANT, circle the number under NEITHER (N).

.....If it is IMPORTANT, circle the number under (I).

.....If it is VERY IMPORTANT, circle the number under (VI).

.....If you would include it under any circumstances, circle the number under CRITICALLY IMPORTANT (CI).

PLEASE DO THIS FOR ALL ITEMS.

HOW IMPORTANT IS IT THAT . . .	Critically Unimportant Very Unimportant Unimportant Neither Important Very Important Critically Important						
	CU	VU	U	N	I	VI	CI
1. It's not the same as my friends.....	1	2	3	4	5	6	7
2. It's easy to find.....	1	2	3	4	5	6	7
3. Its quality is about the same as our other goods.....	1	2	3	4	5	6	7
4. It seems right to me.....	1	2	3	4	5	6	7
5. It's for the whole family.....	1	2	3	4	5	6	7
6. It performs a useful function.....	1	2	3	4	5	6	7
7. I am among the first to buy.....	1	2	3	4	5	6	7
8. It's on "special" sale.....	1	2	3	4	5	6	7
9. It's a labor saving item.....	1	2	3	4	5	6	7
10. It's a name brand product.....	1	2	3	4	5	6	7
11. None of my friends have tried it yet.....	1	2	3	4	5	6	7
12. It's handy when I need to buy it.....	1	2	3	4	5	6	7
13. The quality level should be high.....	1	2	3	4	5	6	7
14. It somehow is just right for me.....	1	2	3	4	5	6	7
15. It will benefit the entire family.....	1	2	3	4	5	6	7
16. It accomplishes a particular function.....	1	2	3	4	5	6	7
17. It reflects our position in the community	1	2	3	4	5	6	7
18. It has the lowest price tag.....	1	2	3	4	5	6	7
19. It will make work easier.....	1	2	3	4	5	6	7

HOW IMPORTANT IS IT THAT . . .	Critically Unimportant Very Unimportant Unimportant Neither Important Very Important Critically Important						
	CU	VU	U	N	I	VI	CI
20. It has an established name.....	1	2	3	4	5	6	7
21. I am the first in my group to try it.....	1	2	3	4	5	6	7
22. It's readily available for purchase.....	1	2	3	4	5	6	7
23. It's of our quality level.....	1	2	3	4	5	6	7
24. It fits with my personal tastes.....	1	2	3	4	5	6	7
25. It appeals to the whole family.....	1	2	3	4	5	6	7
26. It is practical.....	1	2	3	4	5	6	7
27. Its price is lower than its competitors'..	1	2	3	4	5	6	7
28. It gives me time for other things.....	1	2	3	4	5	6	7
29. It's an old standby product.....	1	2	3	4	5	6	7
30. My neighbor has one.....	1	2	3	4	5	6	7
31. I know where to find it.....	1	2	3	4	5	6	7
32. It's the highest quality we can afford....	1	2	3	4	5	6	7
33. I make up my own mind.....	1	2	3	4	5	6	7
34. It has value for the family.....	1	2	3	4	5	6	7
35. It performs the job efficiently.....	1	2	3	4	5	6	7
36. It's a bargain buy.....	1	2	3	4	5	6	7
37. It's a time saving product.....	1	2	3	4	5	6	7
38. I can trust the name.....	1	2	3	4	5	6	7

Schedule F. FINANCIAL WORKSHEETS (FOR RESPONDENT'S USE ONLY)

This series of worksheets is provided for you to work out the figures on income and change in net worth. These data are needed to classify your family by economic status and to estimate indirectly your family's expenditures for nonfood goods and services. These worksheets will not be collected by the interviewer, but she will ask for the subtotals. She will insert the subtotals in two other worksheets to derive total income and total change in net worth and a few separate figures. Only these total figures will be collected and identified by schedule number. We guarantee that these data, like all other information supplied by your family, will be kept completely confidential and anonymous.

The subtotals the interviewer will request are boxed and marked with a letter and line number matching her summary worksheet.

INDEX TO WORKSHEETS

	<u>Page</u>
A. Wages and salaries.....	1
B. Earnings from unincorporated business or profession.....	2
C. Investment in unincorporated business or profession.....	2
D. Money income from specified other sources such as interest, dividends, pensions.....	3
E. Personal taxes and occupational expenses paid directly.....	4
F. Change in investment in automobiles owned in 1964 primarily for family use.....	4
G. Receipts from rental property, from roomers and boarders, or as rent-free use of dwelling.....	5
H. Change in investment in dwelling and other real estate.....	6
I. Sales of miscellaneous items and change in bills outstanding from Jan. 1 to Dec. 31, 1964.....	7
J. Changes in other family savings and debts - parts I and II.....	8
J. Changes in savings, cont'd: Stock and bond transactions.....	9

A. WAGES AND SALARIES (Obtain from W-2 forms for 1964)

(a)	(b)	(c)	(d)
Identify each family member	Insert 1964 wages and salaries before any deduction	Federal and state income taxes withheld	Union dues and assessments withheld
(1) Husband	\$	\$	\$
(2) Wife	(M-10)\$	\$	\$
(3)			
(4)			
(5)			
(6)			
Totals	(K-1) \$	(K-2) \$	(K-3) \$

B. EARNINGS FROM UNINCORPORATED BUSINESS OR PROFESSION

If no one in family owned a business or had a private professional practice in 1964 -- skip this section.

ITEM	Family member (initials)			Total for all family members
1. If you practiced a profession, what were your net earnings in 1964, before personal income taxes? If loss, insert minus sign.....	\$ _____	\$ _____	\$ _____	\$ _____
2. If you owned and operated a business, what were your total <u>net</u> profits in 1964, before personal income taxes? If net loss, insert minus sign.....	\$ _____	\$ _____	\$ _____	\$ _____
3. If you owned a business or farm which you did <u>NOT</u> operate, what was your share of the profits in 1964? If net loss, insert minus sign.....	\$ _____	\$ _____	\$ _____	\$ _____
4. Totals for items 1-3 (Mark + or -).....	\$ _____	\$ _____	\$ _____	\$ _____

If profit (K-4)
If loss (K-5)

C. INVESTMENTS IN UNINCORPORATED BUSINESS OR PROFESSION

If no one in the family had investments in an unincorporated business, farm, or profession skip this section.

People increase their investments in business or profession by buying all or any part of a business, such as land, property, buildings, equipment, cars, etc.; improving business property; building up inventories, accounts receivable, and cash reserve; decreasing mortgages, business debts and accounts payable.

People decrease their investments in business or profession by selling all or any part of a business such as land, property, buildings, equipment, cars, etc.; decreasing inventories, accounts receivable, and cash reserve; increasing mortgages, business debts, and accounts payable.

ITEM	Family member (initials)			Total for all family members
1. If your investments in business or profession December 31, 1964, were larger than on January 1, 1964, how much was the increase?.....	\$ _____	\$ _____	\$ _____	(L-1) \$ _____
2. If your investments in business or profession on December 31, 1964, were smaller than on January 1, 1964, how much was the decrease?.....	\$ _____	\$ _____	\$ _____	(L-2) \$ _____

D. MONEY INCOME IN 1964 FROM OTHER SOURCES (as specified)

Insert total amounts received by each family member from each source listed below.

ITEM	Family member (initials)			Total for family
1. Interest received from bonds, savings accounts, mortgages, loans. (Include interest received on property sold in 1964).....	\$ _____	\$ _____	\$ _____	\$ _____
2. Dividends received from stocks and cooperatives.....	\$ _____	\$ _____	\$ _____	\$ _____
RECEIPTS BASED ON MILITARY SERVICE:				
1. Mustering out pay, bonuses, war insurance refunds, unemployment insurance.....	\$ _____	\$ _____	\$ _____	\$ _____
1. Dependency allotments from persons in Armed Forces, (Exclude deductions from family member's pay.).....	\$ _____	\$ _____	\$ _____	\$ _____
2. Veterans' pensions and compensation (retirement, survivor, and service-connected disability pay), and allowances received by family members in Armed Forces.....	\$ _____	\$ _____	\$ _____	\$ _____
3. Gifts of cash received from other persons <u>not</u> in family.....	\$ _____	\$ _____	\$ _____	\$ _____
4. Unemployment insurance benefits (not connected with military service).....	\$ _____	\$ _____	\$ _____	\$ _____
5. Social security benefits (old age and survivors' insurance).....	\$ _____	\$ _____	\$ _____	\$ _____
6. Other public pensions and retirement pay, including railroad retirement, Civil Service - Federal, State, and local; and workmen's compensation....	\$ _____	\$ _____	\$ _____	\$ _____
7. Private pensions and retirement pay from former private employer, labor unions, and other private sources....	\$ _____	\$ _____	\$ _____	\$ _____
1. Periodic payments received from private insurance annuities and trust funds..	\$ _____	\$ _____	\$ _____	\$ _____
2. Payments received from disability income insurance.....	\$ _____	\$ _____	\$ _____	\$ _____
3. Alimony and child support.....	\$ _____	\$ _____	\$ _____	\$ _____
4. All other income not reported elsewhere. (Include excess of medical insurance payments over premiums paid in year.).....	\$ _____	\$ _____	\$ _____	\$ _____
5. TOTAL (items 1 through 14).....	\$ _____	\$ _____	\$ _____	\$ (K-6)
6. Receipts from settlement or surrender of life or annuity policies.....	\$ _____	\$ _____	\$ _____	\$ (L-3)
7. Other money received: Inheritances, bequests, lump-sum settlements from casualty insurance, etc.....	\$ _____	\$ _____	\$ _____	\$ (K-21)

E. PERSONAL TAXES AND OCCUPATIONAL EXPENSES PAID DIRECTLY

ITEM	Total Expense in 1964
PERSONAL TAXES paid directly in 1964	
1. Federal income tax paid but <u>not</u> deducted from pay.....	\$ _____
2. State income taxes paid but not deducted from pay.....	\$ _____
<u>Minus</u> 3. Income tax refunds received in 1964.....	\$ (K-7)
4. <u>Personal</u> property taxes (Do <u>not</u> include taxes on real estate.),.....	\$ _____
5. Other <u>personal</u> taxes.....	\$ _____
6. Total of items 1, 2, 4 and 5 minus 3	\$ (K-8)
OCCUPATIONAL EXPENSES paid directly in 1964	
7. Union dues and assessments <u>not</u> deducted from pay.....	\$ _____
8. Business and professional association dues.....	\$ _____
9. Tools, supplies, and equipment purchased in connection with occupation as employee or technician. (Exclude expenses of unincorporated business or profession reported earlier.).....	\$ _____
10. Other occupational expenses.....	\$ _____
11. Total of items 7 through 10.....	\$ (K-9)

F. CHANGE IN INVESTMENT IN AUTOMOBILES OWNED IN 1964 PRIMARILY FOR FAMILY USE

ITEM	#1	#2	#3 and others	All cars
Automobiles bought in 1964:				
1. Purchase price of auto (without extras)	\$ _____	\$ _____	\$ _____	\$ _____
2. Price of extra equipment (radio, heater, etc.).....	\$ _____	\$ _____	\$ _____	\$ _____
3. Trade-in allowance.....	\$ _____	\$ _____	\$ _____	\$ _____
4. Cash payment at time of purchase.....	\$ _____	\$ _____	\$ _____	\$ _____
5. Charges for financing purchase.....	\$ _____	\$ _____	\$ _____	\$ _____
6. <u>Total</u> (1, 2, and 5 minus 3).....	\$ _____	\$ _____	\$ _____	\$ _____
7. Gross sale price of car sold in 1964 (not traded in).....	\$ _____	\$ _____	\$ _____	\$ (L-4)
Payments on automobiles owned at any time in 1964:				
8. Amount of monthly payment.....	\$ _____	\$ _____	\$ _____	\$ _____
9. Number of payments made in 1964.....	\$ _____	\$ _____	\$ _____	\$ _____
10. Other payments made in 1964.....	\$ _____	\$ _____	\$ _____	\$ _____
11. <u>Total</u> (8 times 9 plus 10).....	\$ _____	\$ _____	\$ _____	\$ _____
12. <u>Total</u> (6 minus 4 minus 11)(enter + or -)	\$ _____	\$ _____	\$ _____	\$ If minus--(L-5) If plus--(L-6)

G. RECEIPTS FROM RENTAL PROPERTY, FROM ROOMERS AND BOARDERS,
OR AS RENT-FREE USE OF DWELLING

If you did not rent property or rooms or take in boarders or occupy
a rent-free home, at any time in 1964, skip this section.

ITEM	Gross receipts (a)	Expenses (b)	Net received in 1964 (c)
RENTS RECEIVED FROM REAL ESTATE			
. Total rent payments received (less agent's commission).....	\$ _____	XX	XX
. Your payments for rental property:			
a. Heat, electricity, gas, water, janitor service, furnishings, other.....	XX	\$ _____	XX
b. Property taxes, insurance, ground rent, other current expenses, any settlement charges on property bought in 1964, your settlement costs and realtor's commission if you sold any rental property.....	XX	\$ _____	XX
c. Financing costs such as interest, mortgage insurance, refinancing.....	XX	\$ _____	XX
d. Repairs, replacements, maintenance (outside painting, roof repairs, other outside repairs, redecorating, refinishing floors; repairs and replacement by electricians, plumbers, furnacemen, carpenters, and the like.).....	XX	\$ _____	XX
Subtotal.....	XX	\$ _____	XX
. If total for item 1 is larger than item 2, enter net income in column (c).....	XX	XX	(K-10) \$ + _____
. If item 2 is larger than item 1, enter net loss on this line in column (c).....	XX	XX	(K-11) \$ - _____
RECEIPTS FROM ROOMERS AND BOARDERS			
. Persons rooming and boarding.....	\$ _____	XX	XX
. Persons boarding only.....	\$ _____	XX	XX
. Persons rooming only.....	\$ _____	XX	XX
. Total (5 through 7).....	XX	XX	(K-12) \$ _____
RENTAL VALUE OF RENT-FREE PROPERTY			
. If family received any rent as pay, about what was its rental value for the time used?.....	XX	XX	(K-13) \$ _____

H. CHANGE IN INVESTMENT IN DWELLING AND OTHER REAL ESTATE IN 1964

If no family member owned real estate in 1964 -- skip this section.

ITEM	Amount
1. For property owned in 1964, if refinancing increased amount of mortgage, how much was it increased?.....	<div style="border: 1px solid black; padding: 2px;">(L-7)</div> \$ _____
2. Special assessment paid on property owned in 1964.....	<div style="border: 1px solid black; padding: 2px;">(L-8)</div> \$ _____
PRINCIPAL PAID IN 1964 ON MORTGAGES OR TRUSTS:	
3. on first mortgages.....	\$ _____
4. on second mortgages.....	\$ _____
5. Total expense for improvement on property, both rented and home dwelling: (Include completing unfinished room, new bathroom or the like; additions such as new porch, garage, room; general remodeling; installation of central air conditioning; improvements for lawn and landscaping; new fences, walls, walks, patios; other improvements to buildings and grounds).....	\$ _____
6. Cash-down payment or outlay at time of purchase for property bought in 1964.....	\$ _____
7. Subtotal of Items 3, 4, 5, 6.....	<div style="border: 1px solid black; padding: 2px;">(L-9)</div> \$ _____
8. Gross sales price of property sold in 1964.....	<div style="border: 1px solid black; padding: 2px;">(L-10)</div> \$ _____
9. Amount of loan balance paid off or assumed by purchaser on property sold in 1964.....	\$ _____
10. Amount of trust retained by family on property sold in 1964, at time of sale.....	\$ _____
11. Subtotal of Items 9 and 10.....	<div style="border: 1px solid black; padding: 2px;">(L-11)</div> \$ _____
12. Payments (excluding interest) received from time of sale to December 31, 1964 on property sold in 1964....	<div style="border: 1px solid black; padding: 2px;">(L-12)</div> \$ _____

I. SALES OF MISCELLANEOUS ITEMS AND CHANGES IN BILLS OUTSTANDING from Jan. 1 to Dec. 31, 1964

ITEM	Receipts from items sold (a)	Changes in bills owed between Jan. 1, 1964 and Dec. 31, 1964	
		Net decrease (b)	Net increase (c)
ITEMS SOLD			
	K-14		
1. Food produced for family use but sold.	\$ _____	XXX	XXX
2. Family members' clothing items sold...	\$ _____	XXX	XXX
3a Boats and boating equipment sold.....	\$ _____	XXX	XXX
b Recreation equipment sold (including playground, woodworking, musical, photographic, etc.).....	\$ _____	XXX	XXX
c Books and reading matter sold.....	\$ _____	XXX	XXX
4. House furnishings or household equip- ment owned by family and sold.....	\$ _____	XXX	XXX
BILLS OUTSTANDING			
5. Interest overdue on mortgages.....	XXX	\$ _____ OR	\$ _____
5. Rent overdue.....	XXX	\$ _____ OR	\$ _____
7. Installments and other debts for			
a. Improvements, repairs, replacements on owned home or rental property...	XXX	\$ _____ OR	\$ _____
b. Utilities (incl. gas, electricity, fuel).....	XXX	\$ _____ OR	\$ _____
c. Housefurnishings and equipment.....	XXX	\$ _____ OR	\$ _____
3. Food or restaurant bills.....	XXX	\$ _____ OR	\$ _____
4. Clothing, fabric and materials, cleaning or laundry bills.....	XXX	\$ _____ OR	\$ _____
6. Bills for auto operation and main- tenance (include gas).....	XXX	\$ _____ OR	\$ _____
8. Medical and dental bills.....	XXX	\$ _____ OR	\$ _____
9. Bills for education, recreation, and reading (include installments).....	XXX	\$ _____ OR	\$ _____
10. Funeral, cemetery, and other burial expenses.....	XXX	\$ _____ OR	\$ _____
	L-13	L-14	L-15
11. TOTALS for items 2 - 13.....	\$ _____	\$ _____	\$ _____

J. CHANGES IN OTHER FAMILY SAVINGS AND IN OTHER DEBTS; STOCK AND BOND TRANSACTIONS

ITEM	Column A	Column B	Column C	Column D
	Total on January 1, 1964	Total on December 31, 1964	If the item in Column A is larger than B, show difference here	If the item in Column B is larger than A, show difference here
I SAVINGS:				
1. Cash in banks, savings and loan shares, credit union shares, postal savings, and cash on hand.....	\$ _____	\$ _____	\$ _____ OR _____	\$ _____
2. Money owed to family members by persons outside the family (exclude money owed to family from sales of real estate in 1964).....	\$ _____	\$ _____	\$ _____ OR _____	\$ _____
3. Other savings.....	\$ _____	\$ _____	\$ _____ OR _____	\$ _____
4. Total (items 1-3).....	\$ _____	\$ _____	\$ (L-16)	\$ (L-17)
II DEBTS NOT REPORTED IN OTHER SECTIONS OF THE WORKSHEETS:				
5. Amount owed on taxes.....	\$ _____	\$ _____	\$ _____ OR _____	\$ _____
6. Money owed to persons outside the family, to banks, brokers, loan companies, insurance companies, credit unions, etc. (include interest and principal due but exclude mortgages).....	\$ _____	\$ _____	\$ _____ OR _____	\$ _____
7. Other debts than those included in other sections of these worksheets.....	\$ _____	\$ _____	\$ _____ OR _____	\$ _____
8. Total (items 5-7).....	\$ _____	\$ _____	\$ (L-18)	\$ (L-19)

J. CHANGES IN OTHER FAMILY SAVINGS: STOCK AND BOND TRANSACTIONS

ITEM	Column A	Column B	Column C	Column D
	Held on Jan. 1, 1964 (purchase price)	Held on Dec. 31, 1964 (purchase price)	If the item in Column A is larger than B, show difference here	If the item in Column B is larger than A, show difference here
I CHANGE IN STOCKS AND BONDS OWNED, Jan. 1 to Dec. 31				
U.S. SAVINGS BONDS:				
9. Purchased in 1964, held Dec. 31.....	xxx	\$ _____	xxx	xxx
10. Held Jan. 1, sold in 1964 (excluding interest).....	\$ _____	xxx	xxx	xxx
STOCKS, OTHER BONDS, AND MUTUAL SHARES:				
11. Purchased in 1964, held Dec. 31.....	xxx	\$ _____	xxx	xxx
12. Held Jan. 1, sold in 1964.....	\$ _____	xxx	xxx	xxx
13. <u>Total (items 9 - 12)</u>	\$ _____	\$ _____	\$ (L-20) OR	\$ (L-21)
V STOCKS AND BONDS BOTH PURCHASED AND SOLD IN 1964 (Short term gains or losses)				
14. Bonds (other than U.S. Savings) purchased and sold or retired by company.....	\$ _____	\$ _____	\$ _____ OR	\$ _____
15. Stocks and mutual fund shares.....	\$ _____	\$ _____	\$ _____ OR	\$ _____
16. <u>Total (items 14 & 15)</u>	xxx	xxx	\$ (K-15)	\$ (K-16)

K. INCOME SUMMARY SHEET (TO BE RETURNED TO RESPONDENT)

Collect totals from other parts of worksheet as called. The letter refers to the section. For example, the first item under receipts calls for the total amount as it appears in Section A, Item 1, Column (b) on page 1.

Item (a)	Page (b)	Section (c)	Item No. (d)	Col. (e)	Deduc- tions (f)	Description of Item (g)	Receipts (h)	
K-1.	1	A	1	b	xxx	Wages and salaries	\$ _____	
K-2.	1	A	1	c	\$ _____	Federal and state income taxes withheld	xxx	
K-3.	1	A	1	d	\$ _____	Union dues and assessments withheld	xxx	
K-4.	2	B	4	total	xxx	Earnings, unincorp. business or profession, net <u>profit</u>	\$ _____	
K-5.	2	B	4	total	\$ _____	Earnings, unincorp. business or profession, net <u>loss</u>	xxx	
K-6.	3	D	15	total	xxx	Money income from other sources	\$ _____	
K-7.	4	E	3		xxx	Income tax refund	\$ _____	
K-8.	4	E	6		\$ _____	Personal taxes <u>not</u> withheld	xxx	
K-9.	4	E	11		\$ _____	Other occupational expenses	xxx	
K-10.	5	G	3		xxx	Rents received -- profits (item 3)	\$ _____	
K-11.	5	G	4		\$ _____	Net losses on rentals (item 4)	xxx	
K-12.	5	G	8	c	xxx	Roomers and boarders	\$ _____	
K-13.	5	G	9	c	xxx	Rental value, rent-free property	\$ _____	
K-14.	7	I	1	a	xxx	Home-produced food sold	\$ _____	
K-15.	9	J	16	c	\$ _____	Stocks and bonds-losses	xxx	
K-16.	9	J	16	d	xxx	Stocks and bonds-gains	\$ _____	
K-17.....						For item 17, total column <u>h</u>	\$ _____	
K-18.	For item 18, total column <u>f</u>					\$ _____		
K-19.	For item 19, NET INCOME AFTER PERSONAL TAXES, subtract item 18 from item 17 and enter here.....						\$ _____	
K-20.	For item 20, NET INCOME BEFORE TAXES, add to item 19 the amounts in items 2 and 8.....						\$ _____	
K-21.	Enter the total from section D, item 17 (page 3) here.....						\$ _____	

L. SAVINGS SUMMARY SHEET (TO BE RETURNED TO RESPONDENT)

Line (a)	Page (b)	Section (c)	Item No. (d)	Col. (e)	Savings increase (f)	Description of item (g)	Savings decrease (h)
-1.	2	C	1	total	\$ _____	Unincorporated business, profession, farm	xxx
-2.	2	C	2	total	xxx	Unincorporated business, profession, farm	\$ _____
-3.	3	D	16	total	xxx	Settlement of life, annuity policies	\$ _____
-4.	4	F	7		xxx	Cars sold, not traded in	\$ _____
-5.	4	F	12		\$ _____	Less owed on cars (If a minus sign)	xxx
-6.	4	F	12		xxx	More owed on cars (If a plus sign)	\$ _____
-7.	6	H	1		xxx	Increase in mortgage	\$ _____
-8.	6	H	2		\$ _____	Special assessment on property	xxx
-9.	6	H	7		\$ _____	Principal payments, improvements, cash payment on property bought	xxx
10.	6	H	8		xxx	Gross sales price on property sold	\$ _____
11.	6	H	11		\$ _____	Loan paid off and mortgage held on property sold	xxx
12.	6	H	12		xxx	Payments received on principal of property sold	\$ _____
13.	7	I	14	a	xxx	Miscellaneous items sold	\$ _____
14.	7	I	14	b	\$ _____	Net paid on outstanding bills	xxx
15.	7	I	14	c	xxx	Net increase in bills owed	\$ _____
16.	8	J	4	c	xxx	Decrease in savings and debts due you	\$ _____
17.	8	J	4	d	\$ _____	Increase in savings and debts due you	xxx
18.	8	J	8	c	\$ _____	Decrease in other debts you owe	xxx
19.	8	J	8	d	xxx	Increase in other debts you owe	\$ _____
20.	9	J	13	c	xxx	Decrease in securities held	\$ _____
21.	9	J	13	d	\$ _____	Increase in securities held	xxx

22. For item 22 total col. f. \$ _____

23. For item 23 total column h \$ _____

24. If item 22 is larger than item 23 enter difference here.....
 This is your gain in net worth, excluding changes in current value of capital assets held throughout the year \$

25. If item 23 is larger than item 22, enter difference here.....
 This indicates a decrease in net worth, excluding change in value of capital assets held throughout the year. \$

M. INTERVIEWER'S CHECK SHEET

ITEM	Amount	
M-1. Total receipts in col. h of Sec. K	\$ _____	Check K item 17
M-2. Total deductions in col. f of Sec. K	\$ _____	Check K item 18
M-3. Total in item 1 minus item 2 (net income after taxes)	\$ _____	Check K item 19
M-4. Total in item 3 plus A 1 c (K line 2) and E 2 (K. line 3) (net income before taxes)	\$ _____	Check K item 20
M-5. Other money received (Sec. D item 17)	\$ _____	Check K item 21
M-6. Total savings <u>increases</u> in col. f of Sec. L	\$ _____	Check L item 22
M-7. Total savings <u>decreases</u> in col. h of Sec. L	\$ _____	Check L item 23
M-8. If item 6 is larger than item 7, enter difference here (Incr. net worth)	\$ + _____	Check L item 24
M-9. If item 7 is larger than item 6, enter difference here (Decr. net worth)	\$ - _____	Check L item 25
M-10. Contribution of wife's wages and salaries (Obtain from Sec. A line 2 b)	\$ _____	

FOR OFFICE USE ONLY

11. Net income after taxes (item 3)	\$ _____	
12. Other money received (item 5)	\$ _____	
13. If net decrease, insert item 9	\$ _____	
14. Total 11, 12, 13	\$ _____	
15. If net increase, insert item 8		\$ _____
16. Insert total of 11 plus 12 minus 15		\$ _____
17. Food (excluding alcoholic beverages)		\$ _____
18. Estimate for nonfood expenditures		\$ _____
19. N.W.	_____	

Schedule G FOOD BUYING PRACTICES

We're interested in several things related to the groceries bought by you and other members of your household last week.

FOR EACH DAY OF THE PAST WEEK, ASK:

Could you tell me if you or anyone in your household bought any groceries on _____? "RECORD "X" UNDER "YES", "NO", OR "DK".
 (DAY)

FOR EACH DAY WITH A "YES" ANSWER, ASK:

At how many different stores did you buy any groceries on _____?
 (DAY)

RECORD ANSWER UNDER "NUMBER STORES".

DAY	YES	NUMBER STORES	NO	DON'T KNOW
MONDAY		()		
TUESDAY		()		
WEDNESDAY		()		
THURSDAY		()		
FRIDAY		()		
SATURDAY		()		
SUNDAY		()		

TOTAL NO. STORES _____

A SEPARATE ANSWER SHEET (PAGE 2) SHOULD BE USED FOR EACH STORE WHERE THE FAMILY BOUGHT ANY GROCERIES ON EACH DAY PURCHASES WERE MADE.

BE SURE TOTAL NUMBER OF STORES FOR THE WEEK AGREES WITH THE TOTAL NUMBER OF PAGE 2 SHEETS FOR QUESTIONS 1-4.

NOTES:

I'd like some information about each store where you shopped for groceries last week. Let's begin with Monday and continue through the week.

You said someone shopped on _____. **RECORD DAY OF WEEK**

1. At which store did you shop? _____
(NAME OF STORE)

2. Who all went to the store?.....Anyone else? **CIRCLE ANSWER**

- | | |
|--------------------------------|--|
| 1. WIFE, ALONE | 7. HUSBAND, WIFE & CHILD OR CHILDREN |
| 2. HUSBAND, ALONE | 8. HOUSEHOLD HELP OR OTHER FAMILY MEMBER |
| 3. WIFE AND HUSBAND | 9. DON'T KNOW |
| 4. WIFE OR CHILDREN, ALONE | 10. OTHER _____ (SPECIFY) |
| 5. WIFE & CHILD OR CHILDREN | 11. NO ONE, ORDER WAS DELIVERED |
| 6. HUSBAND & CHILD OR CHILDREN | |

2a. **IF ORDER WAS DELIVERED (11, IN QUESTION 2), ASK:**

Was the order phoned in? **RECORD "X".**
YES ____ (1), NO ____ (2), DON'T KNOW ____ (9)

IF SOMEBODY WENT TO STORE

2b. About what time of day did _____ enter the store?
(YOU, THEY, ETC.)

Was it... **CIRCLE ANSWER**

Before _____ Don't
noon _____ Noon to 3 pm _____ 3 pm to 6 pm _____ After 6 pm? _____ know _____

3. About how much was the total cost of these purchases? _____
(\$ AND CENTS)

4. Did you happen to charge the order? **RECORD "X".**

YES ____ (1), NO ____ (2), DON'T KNOW ____ (9)

NOTES FOR THIS STORE:

We're interested in evening or week-end meals eaten away from home last week by you and other members of your family together or separately.

Did any of you purchase any such meals last week? RECORD "X".

YES _____ (1), NO _____ (2), DON'T KNOW _____ (9)

IF YES, ASK:

How many times were such meals purchased? _____ (NUMBER)

USE A SEPARATE ANSWER SHEET FOR EACH TIME MEALS WERE EATEN OUT IN THE EVENING OR OVER THE WEEK-END. (PAGE 4)

I'd like some information about the _____ of these meals.
(1st, 2nd, 3rd, ETC.)

7. At what kind of place did you eat?

HAND RESPONDENT CARD G-7, A SMALL WHITE CARD, RECORD "X" BELOW

- _____ 1. Cafeteria
 _____ 2. Low to medium-priced restaurant
 _____ 3. Medium to high-priced restaurant
 _____ 4. Supper or night club (with entertainment)
 _____ 5. Employee food service (cafeteria or restaurant)
 _____ 6. School or university
 _____ 7. Drive-in
 _____ 8. Other _____ (SPECIFY)
 _____ 9. Don't know

8. Was that in the Twin Cities Metropolitan area? RECORD "X"

YES _____ (1), NO _____ (2), DON'T KNOW _____ (9)

9. How many members of your family ate there? _____
(NUMBER)

9a. Was anyone outside the family included? RECORD "X"

YES _____ (1), NO _____ (2), DON'T KNOW _____ (9)

IF YES, ASK: How many? _____ (NUMBER)

Did you or other family members pay for their food and beverages?

RECORD "X"

YES _____ (1), NO _____ (2), DON'T KNOW _____ (9)

10. About how much did it cost your family for meals and beverages, including tips? _____ (\$ AND CENTS)

11. Was that a week-day or Saturday or Sunday? RECORD "X"
 _____ WEEK-DAY _____ SATURDAY OR SUNDAY _____ DON'T KNOW

12. What was the occasion for eating out? _____

NOTES:

-CONTINUED

13. Consider your main grocery shopping trip. What proportion of the total number of items purchased are usually on some kind of a shopping list? Would you say it's.... RECORD "X"
- | | |
|---|---|
| _____ 1. Almost all items
_____ 2. More than half
_____ 3. About half | _____ 4. Less than half
_____ 5. Almost none |
|---|---|

HAND RESPONDENT CARD G-14. (SMALL WHITE CARD)

14. We're interested in what sources of information you use to help with your grocery shopping. I'll read the sources listed on the card and would like you to tell me which one you use most often... MARK "1"
 Which do you use second most often?..... MARK "2"
 How about third most often?..... MARK "3"
 Which of the others do you ever use?..... MARK WITH "***"

- | | |
|---|--|
| _____ 1. Actual shopping in store
_____ 2. Sales people
_____ 3. Other people
_____ 4. Radio
_____ 5. Television
_____ 6. Newspaper ads
_____ 7. Magazine ads | _____ 8. Store flyers (free papers delivered to your door)
_____ 9. Coupons in the mail
_____ 10. Newspaper and/or magazine <u>articles</u> (not ads)
_____ 11. Other _____
(RECORD) |
|---|--|

15. Are you or anyone in your family on a special diet which requires and/or eliminates certain kinds of foods? RECORD "X"
 YES _____ (1), NO _____ (2), DON'T KNOW _____ (9)

IF YES, ASK:

Who?	Is _____ trying to: <u>gain</u> <u>lose</u> <u>weight?</u> <u>weight?</u> RECORD "X"	Not on a weight diet	Could you tell me what kinds of foods are required?	What kinds of foods are eliminated from his or her diet?

16. In what country were your parents born? How about your husband's?
- | | |
|--|--|
| a. Wife's father _____
b. Wife's mother _____ | c. Husband's father _____
d. Husband's mother _____ |
|--|--|

17. As you know some people's religion affects their food habits. Does your religion affect your family's food habits?
 YES _____ (1), NO _____ (2), DON'T KNOW _____ (9)

IF YES, ASK: Would you tell me how? _____ RECORD

H. HOUSING PATTERNS

Office
Use

1a. Did your family live in this same house or apartment on Dec. 31, 1964?
YES _____ (1) NO _____ (-)

IF NO, ASK: b. Where did you live? RECORD "X" BELOW

ANOTHER IN THIS MET. AREA _____ (2) IN A DIFFERENT STATE _____ (4)
IN ANOTHER MINNESOTA TOWN _____ (3) OTHER (SPECIFY) _____ (5)

2. Did you own or did you rent the place you lived in on Dec. 31, 1964?

OWNED _____ (1) RENTED _____ (2) OTHER (SPECIFY) _____ (3)

IF OWNED, ASK QUESTIONS 3 THROUGH 7

IF NOT OWNED, ASK QUESTIONS 8 THROUGH 10

ASK ALL: QUESTIONS 11 THROUGH 17 ON OTHER SIDE

IF OWNED

3. Did you own your place the entire year (1964) or did you rent this or another place for part of the year?

OWNED ALL YEAR _____ (1) RENTED PART YEAR _____ (2) OTHER (SPECIFY) _____ (3)

4. When did you buy your home? _____ (YEAR)

5. About how much was your down payment? \$ _____

6. About how much would you estimate is the market value of your place?
\$ _____

7. About how much would you estimate your house would rent for, that is the rent per month, unfurnished?
\$ _____
(PER MONTH)

IF NOT OWNED

8. About how much was your rent for December, 1964? \$ _____
(RECORD TO THE NEAREST DOLLAR)

IF RENT FREE, ASK:

9. About what was the monthly rental value of your place for Dec. 1964 \$ _____

ASK ALL RENTERS:

10. Which of the following were included in your rent? RECORD "X"

____ (1)heat ____ (4)water ____ (7)kitchen appliances
____ (2)electricity ____ (5)some furniture ____ (8)other (SPECIFY)
____ (3)gas for cooking ____ (6)all furniture

TURN PAGE OVER

Office
Use

ASK ALL: DESCRIPTION OF HOUSING OCCUPIED ON DECEMBER 31, 1964.

1. What type of housing do you have? RECORD "X" BELOW.
house - one family _____(1) apartment _____(3) trailer _____(4)
house - duplex _____(2) room(s) _____(4) Other(SPECIFY) (5)

2. How many bedrooms do you have? _____(NUMBER)

3. Does your place have a separate library or study? YES _____(1) NO _____(2)

4. Does it have a separate recreation room? YES _____(1) NO _____(2)

5. How many complete bathrooms do you have? _____(NUMBER)

6. How many half-baths do you have? _____(NUMBER)

7a. Did you occupy a vacation home at any time during 1964?

YES _____(1) NO _____(2)

IF YES, ASK:

b. Did you own or rent it? OWNED _____ RENTED _____

OTHER (SPECIFY) _____

NOTE: IF FAMILY OCCUPIED MORE THAN ONE VACATION HOME, ASK HOW MANY OF THESE WERE OWNED, HOW MANY WERE RENTED, AND SPECIFY "OTHER" (SUCH AS BORROWED) FOR EACH IN THIS CATEGORY. RECORD BELOW.

_____ NUMBER OWNED _____ NUMBER RENTED _____ NUMBER "OTHER" (SPECIFIED)

NOTES:

Schedule I-FAMILY HISTORY

For Office
Use Only

Now I'd like to ask you some questions about a few things that have happened in your family over the years.

WIFE'S FATHER:

1. What was your own father's occupation for the greatest share of his life?

Title of job? _____

What were some of his duties? _____

2. What was the last grade he completed in school? _____ (GRADE)

HUSBAND'S FATHER:

3. What was your husband's father's occupation for the greatest share of his life?

Title of job? _____

What were some of his duties? _____

4. What was the last grade he completed in school? _____ (GRADE)

YOUR HUSBAND:

5. About what year did your husband leave school? _____ (YEAR)

6. About what year did he get his first full-time job? _____ (YEAR)

7. What kind of job was it? Title of job? _____

What were some of his duties? _____

8. Approximately what was his total income that first year he worked full time? \$ _____

9. Has your husband had any job related training or education for his present or a future job since he finished his regular schooling?

YES _____ (1) NO _____ (2) DON'T KNOW _____ (9)

IF YES, ASK FOR EACH:

What kinds of training has he had? About how many months did it take?

(1) _____ (MONTHS)

(2) _____

(3) _____

(4) _____

For Office
Use Only

10. What kind of a job does your husband expect to have 5 years from now?

Job title? _____

What do you expect his duties will be 5 years from now? _____

YOU (THE WIFE):

11a. Did you ever work full-time after you were married? YES ___ (1) NO ___ (2)

IF YES:

b About how many years have you worked full-time since your marriage?

_____ NUMBER OF YEARS.

c How many of these years were after the birth of your first child?

_____ NUMBER OF YEARS.

12a. Did you ever work part-time after your marriage? YES ___ (1) NO ___ (2)

IF YES:

b About how many years have you worked part-time since your marriage?

_____ NUMBER OF YEARS.

c How many of these years were after the birth of your first child?

_____ NUMBER OF YEARS.

13a. Have you had any job-related training or education for your present or a future job since you finished your regular schooling?

YES ___ (1) NO ___ (2)

IF YES, ASK FOR EACH:

b. What kinds of training have you had? About how many months did it take?

(1) _____ (MONTHS)

(2) _____

(3) _____

(4) _____

14a. Do you, yourself, plan to be working 5 years from now?

YES ___ (1) NO ___ (2) DON'T KNOW ___ (9)

IF YES, ASK:

b. What kind of a job do you expect to have in 5 years?

Job title? _____

What do you think your duties will be? _____

For Office
Use Only

YOUR CHILDREN:

HAVE RESPONDENT REPEAT NAME, SEX AND AGE OF EACH CHILD UNDER 25 AND ASK FOR EACH

15. Judging by his (or her) interests, how much education do you plan for _____ (NAME) _____ ?

NAME SEX AGE EDUCATION

(1)	_____	_____	_____	_____
(2)	_____	_____	_____	_____
(3)	_____	_____	_____	_____
(4)	_____	_____	_____	_____
(5)	_____	_____	_____	_____
(6)	_____	_____	_____	_____
(7)	_____	_____	_____	_____
(8)	_____	_____	_____	_____

HOMES:

16a. About how many times have you moved from one house or apartment to another since your marriage? _____ NUMBER MOVES

IF FAMILY HAS MOVED, ASK:

b. When did you last move? _____ (YEAR)

c. Were any of your moves over 300 miles?

YES _____ (1) NO _____ (2) DON'T KNOW _____ (9)

IF YES, ASK:

d. How many were over 300 miles? _____ NUMBER MOVES

17. Have you ever lived on a farm or in a small town, which had less than 2,500 people or so, since your marriage?

YES _____ (1) NO _____ (2) DON'T KNOW _____ (9)

INCOME OVER THE YEARS:

18. Approximately what was your total family income (excluding "other money received" such as inheritances, insurance, settlements) the first year of your marriage?

HUSBAND'S INCOME? \$ _____

WIFE'S INCOME? \$ _____

TOTAL INCOME? \$ _____

HAND RESPONDENT CARD I

19. How did your family income in 1964 compare with the family income 5 years ago, that is in 1959? Just read the appropriate number from the card.

ENTER CODE NUMBER FROM CARD I-A _____

20. How did your family income in 1964 compare with the family income the year before, that is 1963? Just read the appropriate number from the card. ENTER CODE NUMBER FROM CARD I-A _____

21. What do you expect your 1965 family income will be in comparison with 1964's? Read the number from the card? ENTER CODE FROM CARD I-A _____

22. What do you expect your family income will be in 1969, compared with last year's? Again, just give me the number on the card.

ENTER CODE NUMBER FROM CARD I-A _____

23a. In what year was your family income at its peak? YEAR _____

IF ANSWER IS OTHER THAN 1964, ask:

b. How did your family income that year compare with that of 1964?

ENTER CODE NUMBER FROM CARD I-A _____

24. How satisfied would you say you are with your present financial status? Are you:

1. Very satisfied
2. Satisfied
3. Undecided or neutral
4. Unsatisfied
5. Very unsatisfied?

ENTER CODE FROM CARD I-B _____.

ASK RESPONDENT TO TURN CARD I OVER

25. Compared with others would you say you are a: (1) high saver, (2) above average saver, (3) average saver, (4) below average saver, (5) low saver? Just give me the number from I-C on the card.

ENTER CODE FROM CARD I-C _____

26. Do you think your family will buy more, less, or about the same amount of goods and services in 1965 as you did in 1964?

1. MORE
2. LESS
3. ABOUT THE SAME
9. DON'T KNOW

CIRCLE RESPONSE

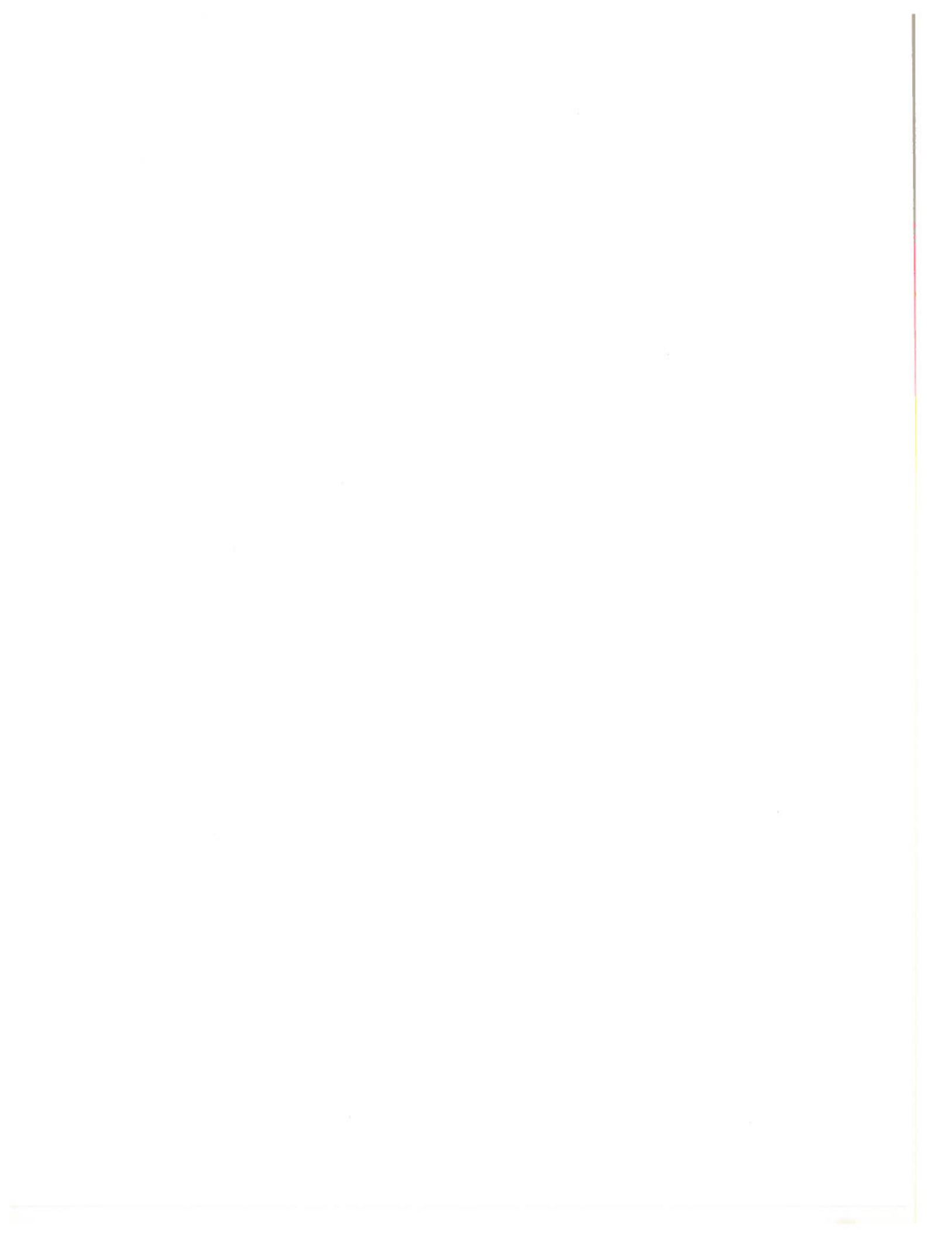
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